City of Valdez

212 Chenega Ave.
Valdez, AK 99686

Meeting Agenda - Final

Planning and Zoning Commission

Wednesday, March 14, 2018 | **7:00 PM** | **Council Chambers**

Regular Meeting

REGULAR AGENDA - 7:00 PM

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

1. Approval of the Planning & Zoning Commission Regular Meeting Minutes of February 28, 2018.

IV. PUBLIC BUSINESS FROM THE FLOOR

V. UNFINISHED BUSINESS

1. Unfinished Business: Approval of Conditional Use Permit #18-01 for an Additional 50,000 Barrel Unleaded Gasoline Storage Tank Located at the Existing Petro Star Tank Facility at 204 W. Egan Drive, Track J, Port Valdez Subdivision, Submitted by Valdez Petroleum Terminal, Petro Star Inc.

VI. NEW BUSINESS

1. North Sawmill Drive Extension. Recommendation to City Council to Fund for 2019.

2. Approval of Recommendation to City Council to Authorize Land Use Permit #18-01 with Pacific Pile & Marine for Six Months on Tract G, Harbor Subdivision.

3. Rydor Enterprises - Alpetco Road Proposal.

VII. REPORTS

1. 2018 Priorities and Goals of the Planning and Zoning Commission

2. 2017 Community Development Annual Report

VIII. COMMISSION BUSINESS FROM THE FLOOR

VIIII. ADJOURNMENT

212 Chenega Ave.
Valdez, AK 99686

City of Valdez

Agenda Statement

File #:	18-0110 **Version:** 1		
Type:	Minutes	**Status:**	Agenda Ready
File created:	3/6/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	Approval of the Planning & Zoning Commission Regular Meeting Minutes of February 28, 2018.		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	Planning and Zoning Meeting Minutes 02-28-2018 Alpetco Road		

Date	Ver.	Action By	Action	Result

ITEM TITLE:
Approval of the Planning & Zoning Commission Regular Meeting Minutes of February 28, 2018.

SUBMITTED BY: Sue Moeller, Senior Administrative Assistant

FISCAL NOTES:

Expenditure Required: N/A
Unencumbered Balance: N/A
Funding Source: N/A

RECOMMENDATION:

Approve the Planning and Zoning Commission Regular Meeting Minutes of February 28, 2018.

SUMMARY STATEMENT:

Draft regular meeting minutes attached for Commission review and approval.

Agenda Statement

File #:	18-0111 **Version:** 1		
Type:	Unfinished Business	**Status:**	Agenda Ready
File created:	3/8/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	Unfinished Business: Approval of Conditional Use Permit #18-01 for an Additional 50,000 Barrel Unleaded Gasoline Storage Tank Located at the Existing Petro Star Tank Facility at 204 W. Egan Drive, Track J, Port Valdez Subdivision, Submitted by Valdez Petroleum Terminal, Petro Star Inc.		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	Findings and Conslusions 3-14-18		

Date	Ver.	Action By	Action	Result

ITEM TITLE:

Unfinished Business: Approval of Conditional Use Permit #18-01 for an Additional 50,000 Barrel Unleaded Gasoline Storage Tank Located at the Existing Petro Star Tank Facility at 204 W. Egan Drive, Track J, Port Valdez Subdivision, Submitted by Valdez Petroleum Terminal, Petro Star Inc.

SUBMITTED BY: Rochelle Rollenhagen, Community Development Senior Planner

FISCAL NOTES:

Expenditure Required: N/A
Unencumbered Balance: N/A
Funding Source: N/A

RECOMMENDATION:

Staff recommends Conditional Use Permit #18-01 be postponed until additional fire and explosion information is acquired and that Petro Star submit their Alaska registered design professionals plan for the project.

SUMMARY STATEMENT:

On February 28, 2018, the City of Valdez Planning and Zoning Commission held a public hearing on application #18-01 for a conditional use permit for an additional unleaded gasoline storage tank at the Petro Star tank facility located at 204 W. Egan Drive. This proposed tank farm expansion includes switching two existing internal floating roof storage tanks from regular unleaded to premium unleaded gasoline and modifying the existing truck rack. Although during the hearing, there was no public comment, a verbal comment of concern was expressed directly to staff. A member of the public was concerned about the proximity of the proposed tank expansion to the existing Copper Valley Electric plant. During that meeting, the Commission postponed the decision until the March 14, 2018

meeting, pending further safety information on a potential fire or explosion that an additional 50,000 barrel gasoline tank may incur.

Staff reviewed the proposed site plan with City of Valdez Fire Chief, Tracy Raynor. Chief Raynor stated he is not an explosives expert but recommended two additional fire hydrants be located inside the gates, one at each entrance. He also suggested the American Petroleum Institute (API) and/or the State Fire Marshall for a professional review of the proposal.

API offers a Process Safety Site Assessment Program; however, Petro Star itself must apply for the assessment. More information on the program can be found at:

<http://www.api.org/products-and-services/site-safety>
The State Fire Marshall's office (SFM) responded that the Planning & Zoning Commission should review the Petro Star Alaska registered design professionals plan for the area. Petro Star has not yet submitted this plan to the SFM's office for review. The timeline for a SFM review is at least four weeks, but as summer draws closer the reviews can take up to two months. He said that requiring Petro Star's professional design plan is a reasonable request for any permitting authority such as the Planning & Zoning Commission.
The consideration of this CUP requires a major land use decision by the Commission. By its very nature, a petroleum tank farm should not be located in a population center for many reasons. The health, safety and welfare of the town are the main concerns, but the associated impacts of tanker traffic through the City of Valdez should also be considered.
Granting this CUP may lock the tank farm in the existing location for many years. The facility has been in this location for decades and the citizenry accepts and realizes its function. If Petro Star commits to increasing its infrastructure, they will not be moving. However, if Petro Star is denied this CUP, the expansion of the facility will not continue. It may lead Petro Star to consider an alternative location for this expansion - potentially a location that will have fewer impacts on the quality of life of the people of Valdez.
It is important to remember that the Planning & Zoning Commission should not consider economic impacts in their decision. Health, safety and welfare should always be the main focus of any Planning & Zoning Commission decision, as it's never prudent to promote and regulate at the same time.

Agenda Statement

File #:	18-0112 **Version:** 1		
Type:	New Business	**Status:**	Agenda Ready
File created:	3/5/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	North Sawmill Drive Extension. Recommendation to City Council to Fund for 2019.		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	N. Sawmill Dr - Map Letter to COV concerning Sawmill Road-Minish Capital Improvement Project Request 7-2002 Unpermitted access routes VMHP-Letter Sawmill Road & Sewer 90% Drawings-2011 Sawmill Drive Traffic Analysis Final 6-17-10 N. Sawmill Dr Utilities-01 N. Sawmill Dr. Utilities-02 Sawmill-Atigun plat 99-11		

Date	Ver.	Action By	Action	Result

ITEM TITLE:

North Sawmill Drive Extension. Recommendation to City Council to Fund for 2019.
SUBMITTED BY: Paul Nylund - Interim Director, Community Development

FISCAL NOTES:

Expenditure Required: $500,000 est.
Unencumbered Balance: Click here to enter text.
Funding Source: CIP fund

RECOMMENDATION:

Approve a recommendation to City Council in favor of funding the North Sawmill Drive extension to the intersection of Atigun Dr and Salcha Way, for 2019.

SUMMARY STATEMENT:

In 2002 the City of Valdez did considerable improvements to the Mineral Creek Loop water system, and this included the addition of a 12” water main within the platted right-of-way that connects N. Sawmill Dr. to the intersection of Salcha Way and Atigun Dr. The northern most portion of the N. Sawmill right of way was grubbed and cleared as part of this infrastructure expansion. This allowed

traffic to utilize this unofficial roadway, to the extent that the city has had to create and maintain a gravel berm to block traffic from using it.

City administration submitted a Capital Improvement Project Request form in 2002 (attached) and the project was not funded by the City Council. In 2003 the residents and neighbors of Valdez Mobile Home Park (VMHP) petitioned the City of Valdez for N. Sawmill Dr to be extended to the intersection of Atigun Rd. and Salcha Way. This petition requested that the project be funded for 2014, as the project was proposed for 2012 and 2013 as well, but the City Council decided not to fund it. The petition had 116 signatures (attached).

This project was picked up again in earnest in 2010. A traffic analysis was conducted (attached), and the project was 90% designed, including an expansion of the sanitary sewer system (see attachment). The construction was not funded and the design package remains on the shelf today.

In 2017 the City of Valdez Community Development Department sent a courtesy letter to VMHP regarding two unpermitted driveways that have developed on to the unimproved right of way of N. Sawmill Dr. (see attachment). These unpermitted driveways were in violation of Chapter 12 of Valdez Municipal Code, which states the following:

> **12.04.030 Highways or driveways serving more than one parcel of land.**
> A. No person shall construct or permit to be constructed within the city any highway or driveway arranged or planned to serve more than one parcel of land used for residential purposes, unless a permit shall first be obtained from the city engineer.
> B. No such permit shall be issued until the plans and specifications for such highway or driveway shall be approved by the city engineer as to specifications, and by the planning commission as to location, width and general plan. (Prior code § 23-3)

This project is again gaining public interest, and there have been multiple requests to bring it back and recommend that City Council fund this project for 2019. Allen Minish brought it before the Planning and Zoning Commission under public business from the floor on December 13th, 2017, and requested that it be revived and reconsidered. Mr. Minish also submitted a letter of support for this project (attached). On March 1st, 2018, City Administration met with the managers of VMHP, Deanna and Allen Cox, and they requested the same as Mr. Minish. Administration requested that it be added to the agenda for the next P&Z commission meeting, which would be March 14th.

This project is consistent with the City Of Valdez's Comprehensive Plan

> **Goal - Transportation:** Provide for safe, efficient, and environmentally sound transportation systems to, from, and within the community.
>
> **Objective** - Provide alternative access routes for safety and emergency preparedness needs.
>
> **Objective** - Provide for motorist safety by limiting access points along major streets and highways.
>
> **Goal - Community Facilities and Services:** Provide for the maximum range of community services and facilities in appropriate locations consistent with the community's desire and ability to fund these.

Objective - Maximize the community's investments in existing community facilities.

This project has been included on the Capital Improvements Project (CIP) wish list for 2019 and beyond, that Community Development submitted to the Capital Facilities department on February 15th, 2018. In order to be funded and completed, this project is subject to the CIP budget approval process for 2019, which will be conducted by the Valdez City Council in autumn of 2018.

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Agenda Statement

File #:	18-0113 **Version:** 1		
Type:	New Business	**Status:**	Agenda Ready
File created:	3/8/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	Approval of Recommendation to City Council to Authorize Land Use Permit #18-01 with Pacific Pile & Marine for Six Months on Tract G, Harbor Subdivision.		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	Attachment 1 Land Use Permit Application Attachment 2 PPM Shot Rock Materials and Haul Road Plan Attachment 3 Tract G Harbor Subdivision Attachment 4 Small Boat Harbor and Tract G Map Attachment 5 Sea Otter Dredge Stockpile Plan Map 1 Attachment 6 Sea Otter Dredge Stockpile Plan Map 2 Attachment 7 Pacific Pile and Marine DOT Permits Attachment 8 PPM LUP 1801 Additional Land Use Permit Conditions		

Date	Ver.	Action By	Action	Result

ITEM TITLE:

Approval of Recommendation to City Council to Authorize Land Use Permit #18-01 with Pacific Pile & Marine for Six Months on Tract G, Harbor Subdivision.

SUBMITTED BY: Kate Huber, Community Development Planning Technician.

FISCAL NOTES:

Expenditure Required: N/A.
Unencumbered Balance: N/A.
Funding Source: N/A.

RECOMMENDATION:

Give recommendation to City Council to authorize Land Use Permit #18-01 with Pacific Pile & Marine for six months on Tract G, Harbor Subdivision for the continued storage of shot rock and dredge materials during phase 2 of the new Small Boat Harbor project.

SUMMARY STATEMENT:

As a part of the Pacific Pile & Marine (PPM) contract with the City of Valdez for work during phase 2 of the new Small Boat Harbor project, PPM estimates to use 20,000 cubic yards of shot rock

materials currently stored on Tract G, Harbor Subdivision. PPM may also use Tract G as a selective disposal site for rock materials removed from the project. Disposal quantity will vary greatly but could be up to 50,000 cubic yards. (See attachments 1 and 2 for permit application and material use and haul plan.)

Tract G, known commonly as the former location of the Sea Otter RV Park, is zoned light industrial and is owned by the City. (See attachment 3.) In 2015, City Council approved a land use permit and a conditional use permit for Harris Sand & Gravel (HSG) who was contracted for Phase 1 of the project. Under those permits, HSG transported materials to Tract G and set up temporary screening and crushing plants for processing rock. At this time, PPM does not plan to screen and crush materials. If those activities will need to take place, a conditional use permit will be sought. PPM and has obtained permits from DOT for the transport of materials between Tract G and the harbor project location. (See attachments 4-7 for site plan, maps and permits.)

A land use permit is used in place of a short-term lease when an area will be utilized for a short duration without any permanent improvements made. Typically there is a daily or monthly fee associated with a land use permit. Because this permit is part of a City contract, the fee is waived.

If the recommendation is made by Planning and Zoning, a resolution to approve the permit will be considered by City Council at the next meeting. Pacific Pile and Marine wishes to begin the work authorized by this permit on March 21st, 2018, following the Council meeting on March 20th. The original permit application lists March 15th as the start date. This date was changed by PPM to accommodate the permit approval process and a delay in barge schedule.

After a resolution is passed by Council to approve the land use permit, staff will draft an agreement utilizing standard land use permit language with the additional project-specific conditions (See attachment 8). The list was established by the City of Valdez Capital Facilities Department and Arcadis with input from the Public Works and Ports and Harbor Department. PPM has reviewed and agreed to the additional conditions.

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Agenda Statement

File #:	18-0114 **Version:** 1		
Type:	Discussion Item	**Status:**	Agenda Ready
File created:	3/8/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	Rydor Enterprises - Alpetco Road Proposal.		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	Alpetco Road Proposal - Text Alpetco road aerial photo Rydor-Bridge easement-council packet		

Date	Ver.	Action By	Action	Result

ITEM TITLE:
Rydor Enterprises - Alpetco Road Proposal.
SUBMITTED BY: Paul Nylund; Interim Director, Community Development

FISCAL NOTES:

Expenditure Required: N/A
Unencumbered Balance: N/A
Funding Source: N/A

RECOMMENDATION:

Listen to proposal from Rydor Enterprises on their plans to establish a right-of-way for Alpetco Road. Determine future actions to be taken.

SUMMARY STATEMENT:

At the February 28th, 2018 regular meeting of the Planning and Zoning (P&Z) Commission, during public business from the floor, Rydor Enterprises made a presentation to the commission regarding their plans for Alpetco Road. The presentation generated considerable discourse, and it was recommended that this be brought back to the commission as a discussion item at the next meeting.

See attachments for specifics regarding past associated efforts, and the proposed next steps.

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Agenda Statement

File #:	18-0115 **Version:** 1		
Type:	Report	**Status:**	Agenda Ready
File created:	3/1/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	2018 Priorities and Goals of the Planning and Zoning Commission		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	Planning and Zoning Commission Priorities-Goals 2018		

Date	Ver.	Action By	Action	Result

ITEM TITLE:
2018 Priorities and Goals of the Planning and Zoning Commission
SUBMITTED BY: Paul Nylund - Interim Director

FISCAL NOTES:

Expenditure Required: N/A
Unencumbered Balance: N/A
Funding Source: N/A

RECOMMENDATION:

Receive and file

SUMMARY STATEMENT:

2018 priorities and Goals of the Planning and Zoning Commission attached for review.

212 Chenega Ave.
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City of Valdez

Agenda Statement

File #:	18-0116 **Version:** 1		
Type:	Report	**Status:**	Agenda Ready
File created:	3/5/2018	**In control:**	Planning and Zoning Commission
On agenda:	3/14/2018	**Final action:**	
Title:	2017 Community Development Annual Report		
Sponsors:			
Indexes:			
Code sections:			
Attachments:	2017 Community DevelopmentAnnual Report		

Date	Ver.	Action By	Action	Result

ITEM TITLE:
2017 Community Development Annual Report
SUBMITTED BY: Paul Nylund - Interim Director

FISCAL NOTES:

Expenditure Required: N/A
Unencumbered Balance: N/A
Funding Source: N/A

RECOMMENDATION:

Receive and File

SUMMARY STATEMENT:

2017 Community Development annual report attached for commission review.

City of Valdez

212 Chenega Ave.
Valdez, AK 99686

Planning and Zoning Commission

Meeting Minutes – Draft
Council Chambers

Wednesday, February 28, 2018

Work Session - Commission Goals 6:00pm

1. Priorities and Goals Work Session

REGULAR AGENDA - 7:00 PM

I. CALL TO ORDER

II. ROLL CALL

Present 7 -	Chair Jess Gondek
	Chair Pro Tempore Harold Blehm
	Commission Member Brandon Reese
	Commission Member Don Haase
	Commission Member Roger Kipar
Excused 2 -	Commission Member Grant Uren
	Vacancy
Also Present:	Interim Director Paul Nylund
	Senior Planner Rochelle Rollenhagen
	Senior Administrative Assistant Sue Moeller

III. APPROVAL OF MINUTES

1. Approval of the Planning & Zoning Commission Regular Meeting Minutes of February 14, 2018.

The Motion to approve the Planning & Zoning Commission Regular Meeting Minutes of February 14, 2018 was moved by Commissioner Reese and seconded by Commissioner Haase. The minutes were approved as written by the following vote:

Yeas -	Chair Jess Gondek
	Chair Pro Tempore Harold Blehm
	Commission Member Brandon Reese
	Commission Member Don Haase
	Commission Member Roger Kipar
Excused 2 -	Commission Member Grant Uren
	Vacancy

IV. PUBLIC BUSINESS FROM THE FLOOR

Ryan McCune and Nate Smith made a presentation about getting an easement in place for the purposes of accessing their property (see attached map - Alpetco Rd.). At the Commission's direction, Interim Director Paul Nylund agreed to meet with Ryan McCune to gather more information about their proposal, in anticipation of presenting it as a discussion item at a future meeting.

V. PUBLIC HEARINGS

1. Public Hearing on Conditional Use Permit Application #18-01 for an Additional 50,000 Barrel Regular Unleaded Gasoline Tank and Associated Facilities Located at the existing Petro Star Tank Farm facility, 402 W. Egan Drive, submitted by Valdez Petroleum Terminal, Petro Star Inc.

There was no public comment on CUP #18-01.

VI. NEW BUSINESS

1.To approve Conditional Use Permit application #18-01 for an additional 50,000 barrel regular unleaded gasoline tank and associated facilities located at the existing Petro Star Tank Farm facility, 402 W. Egan Drive, submitted by Valdez Petroleum Terminal, Petro Star Inc.

MOTION: Commission Member Haase moved, seconded by Commission Member Reese, to Approve CUP# 18-01 for Valdez Petroleum Terminal, Petro Star Inc. with the following conditions:

1. All necessary local, state and federal permits must be received prior to the issuance of the CUP;

2. The tank shall be located north of the planned siting to accommodate access to the rear of the tank. The Valdez Fire Department shall determine the distance.

3. Two fire hydrants shall be moved inside the gated facility to accommodate immediate fire suppression capability. The Valdez Fire Department shall determine the location.

4. Use Within Twelve Months Required. In conformance with Valdez Municipal Code Section 17.06.070 (B), any conditional use, variance or exception approved by the Planning and Zoning Commission shall be conditional upon the privilege granted being utilized within twelve months after the effective date of the approval. In the event construction work is involved, it must actually commence within the stated period and must be diligently pursued to completion; otherwise the approval is automatically voided. Any substantial change to the plans or building proposal shall require resubmission to the Planning and Zoning Commission.

In opening the discussion, Commissioner Kipar asked what the current storage capacity at the Tank Farm was; Lisa Lewis, Director of Compliance for Petro Star, answered 4500 barrels of gasoline. Chair Gondek asked if Staff had anything to report. Senior Planner Rochelle Rollenhagen referred the Commission to the meeting packet for information on the Findings and Conclusions of Staff, as well as supplemental questions from Staff and the responses made by Petro Star. Commissioner Haase asked about the conditions to the CUP, in particular the requirement to move the tank north of the planned site. He asked the representatives of Petro Star if they had any concerns with that condition. Angela Speight, Vice President and General Counsel for Petro Star, responded that this was the first that she was aware that there were conditions to the CUP. Ms. Speight asked how far north the tank would need to be moved. Ms. Rollenhagen responded that the Valdez Fire Department had reviewed the plans and determined that moving the tank would allow for better access to the back of the tank-the exact distance would be determined after a discussion with the State Fire Marshall's office in conjunction with the Valdez Fire Chief. Ms. Speight noted that the tank design has a foam chamber system that the Fire Department would be able to hook into on the more accessible side of the tank, and that is a top side foam system. Commissioner Blehm asked about the second condition – the moving of the fire hydrant. Ms. Lewis pointed out the CUP issued in 1999 did not include moving the fire hydrants as the recommendation had never been moved

forward by the Commission or the Fire Department. Ms. Lewis went on to reiterate that the tank had the subsurface foam system where the Fire Department can come in and hook up for all the non-floating roof tanks. All the floating roof tanks have the top side chambers in the event that there is a break in the seal of the floating roof or if there is a fire, that system will suppress it along the perimeter of the seal. Ms. Rollenhagen suggested that if the Commission were to move forward on this CUP, that the specific details of condition number three be at the discretion of the Valdez Fire Department after their formal review. Ms. Lewis asked if Staff were aware that the tank did have the subsurface foam system included as the fire suppression when they recommended the location of the hydrants. Ms. Rollenhagen replied that the Petro Star application and narrative had been read by the Fire Chief. Commissioner Reese added that it was not just the subsurface injections of the actual tank to consider but also peripheral things that are going to need to be cooled, thus the need for the hydrants.

Commissioner Kipar asked how Petro Star would handle the fumes should the seal fail. Ms. Speight responded that the floating roof of the tank did not allow for vapors to accumulate because it moves with the volume of the tank. Commissioner Kipar voiced his concern about having such a large amount of fuel stored in the middle of town given the ramifications should damage from a tsunami or earthquake happen at the Tank Farm. In response, Ms. Speight mentioned that Petro Star had a US Coast Guard approved manual, regular inspections, an EPA Federally approved response plan, as well as Petro Star's contingency plan. Commissioner Reese asked if the seal fails and then the fire is put out, you have a release of vapor- what are you going to do? The only way to contain that vapor is if it's on fire, so you'd have to just let it burn to have any 'containment' of vapor. So the idea that if a seal fails, the China cap will put the fire out, but then you've got a vapor problem. Commissioner Blehm recalled the CUP in 1999, at which time he was still working for the Fire Department. He recalled a lot of heartburn over that Tank Farm, and one of the reasons that the CUP was put in place was in the event that Petro Star ever came back for additional tanks the City would be able to review the request. Commissioner Blehm asked if Petro Star had considered placing this tank anywhere else. Why could it not be stored at the refinery on Dayville Road? Ms. Speight responded that the fuel was coming via ocean going barge- to store it at VPT makes the most sense to be able to then sell it directly from the truck rack. In fact, moving it to the Refinery would be putting more fuel on the road. Ms. Speight added that it was hoped that some of the sales would be to gas stations in Valdez, cutting the cost of gas to the consumer. Ms. Lewis said that she understood the concern with the mobile aspect of fuel movement, where the fire would travel. Petro Star would be a stationary source with an internal floating roof that has a seal. When referring to a breakage of the seal, Ms. Lewis said she was talking about a small failure on the seal that will not introduce all 50,000 barrels into the atmosphere. So when you're talking about a vapor release, this will happen after the fire is complete, and will not be the contents of the whole tank.

Commissioner Kipar pointed out that even with the highest standards of safety, a tanker just recently landed in the ditch. This fuel will travel through town.

Commission Haase pointed out that gas stations were already hauling their fuel through town to fill their tanks as it is. How is it different if it's coming from this tank as opposed to coming from Anchorage or Fairbanks? Commissioner Kipar said that it was having the fuel stored in town. Ms. Lewis pointed out that all the gasoline to supply the gas stations is currently being hauled in from Glennallen. She said that Valdez has gas stations with underground storage tanks full of premium and unleaded gasoline – environmentally and safety wise, Petro Star is a

better option than hauling fuel in from Glennallen. Commissioner Reese said that the location was making the difference, and he felt that that was where the reservations were coming from. Ms. Lewis said that the Fire Department participated in drills, so that if there is a response, they would know what is going to happen, how it's going to happen, and what needs to be done. Commissioner Reese said that that type of planning was standard with fuel storage facilities, some so much larger than Valdez. That being said, accidents still happen. Rich Corcoran, Valdez Petro Star Manager, appreciated the concern voiced by the Commission and attested to the safety protocol in place at Petro Star. This is what they do on a daily basis - it's a lot of product being moved and a lot of attention every day being paid to safety and protocol. He contends that often times the big issues affecting tanks are more commonly seen in the lower 48, such as lightening strikes and high heat issues. The safety record at Petro Star speaks for itself.

Commissioner Haase felt that this was a good idea for Valdez. He said he was concerned about the two conditions put on by the Fire Department and asked Staff how soon Petro Star could get answers to the questions about the two fire hydrants, their placement, and how far the tank needs to be moved to the north. Commissioner Haase asked if that information would be available at the next meeting. Ms. Rollenhagen declined to commit the Fire Department to a specific timeline without them being present, but thought that a formal review could possibly be done by the next meeting. Commissioner Haase added that this leaves Petro Star not knowing what the extra costs will be and this might end up killing the project. It would make Commissioner Haase fell better knowing what it was the Commission was asking of Petro Star in terms of the conditions for use.

The motion was made by Commissioner Haase, seconded by Commissioner Reese to postpone further discussion until the next regularly scheduled Planning and Zoning Meeting on March 14, 2018. The motion passed after the following discussion:

Commissioner Kipar said that he was uncomfortable voting on this proposal without more public comment and input. Commissioner Haase asked the applicant if they had any heartburn with postponing, or was this time crunch for them. Ms. Speight replied that they would like to get their permitting moved forward, but were unable to do that until the Commission approves the permit, so this will delay their ability to submit the permitting packets. That being the case, Commissioner Haase asked it Petro Star would prefer a vote tonight, with the open ended conditions in there, or would they rather wait, and have more firm answers before the Commission voted. Ms. Speight and Ms. Lewis said they would like the opportunity to work with the fire department, as this was the first that they had heard either of these recommendations.

Yeas - Chair Jess Gondek
Chair Pro Tempore Harold Blehm
Commission Member Brandon Reese
Commission Member Don Haase
Commission Member Roger Kipar
Excused 2 - Commission Member Grant Uren
Vacancy

VII. COMMISSION BUSINESS FROM THE FLOOR

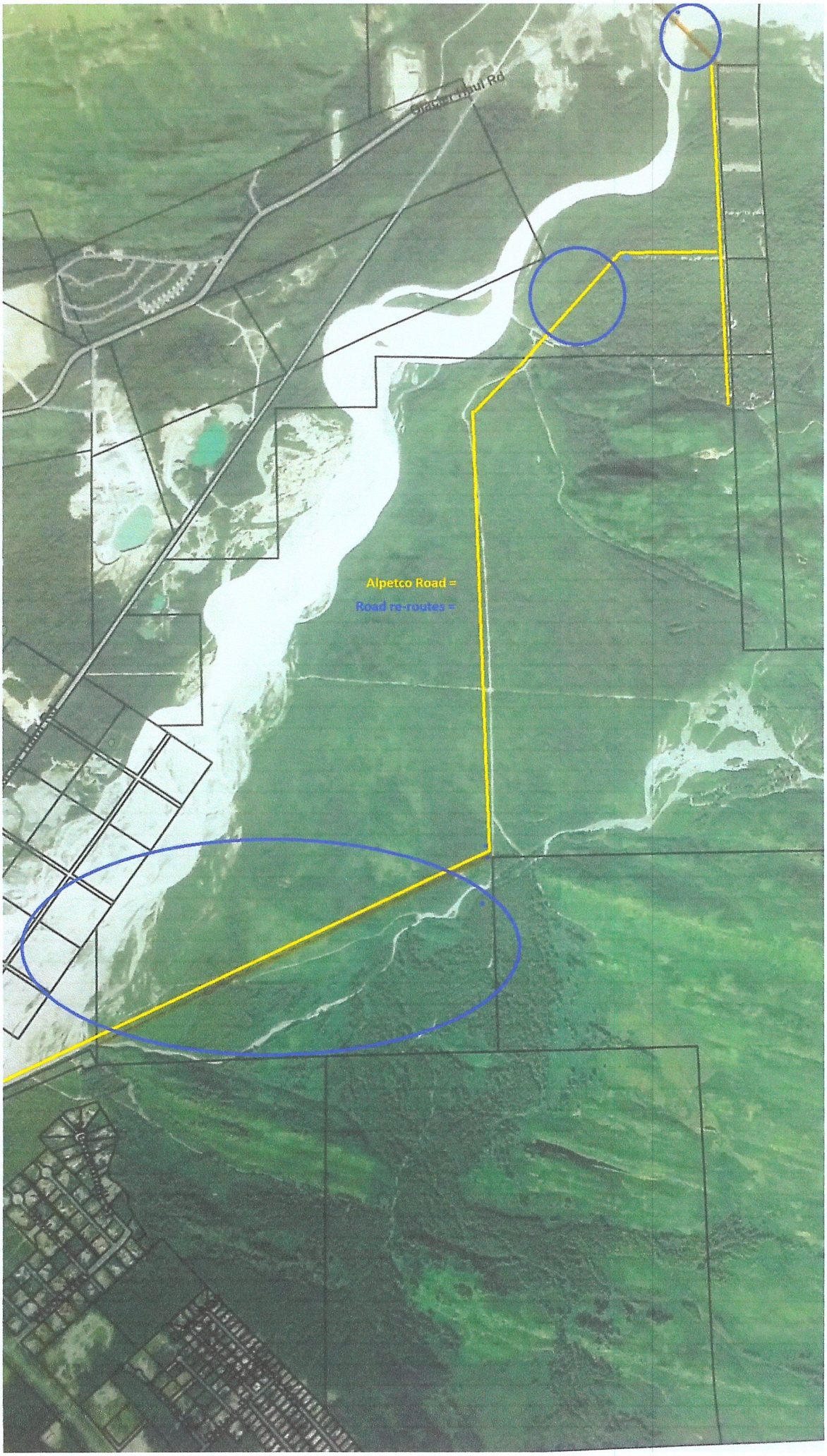
Commissioner Kipar appreciated that the Commission was able to hear new plans put forth by community members. He hoped that the Commission would be able to accelerate the process to encourage new ideas.

Commissioner Reese noted that the Commission did not like to have to postpone anything – it's in an effort to do it right that this occurred. Hopefully a couple of weeks would not be too long for Petro Star and by the next meeting, the Commission should have the information needed to make a decision.

Commissioner Haase said that he did run into Commissioner Weaver over the weekend. Commissioner Weaver expressed his sorrow that he could not be here for his final meeting and to say goodbye to everyone in person, and wished all well. He said that he really enjoyed his time on the Commission.

VIII. ADJOURNMENT

With there being no further business, Chair Gondek adjourned the meeting at approximately 8:10pm.


Alpetco Road =
Road re-routes =
N

City of Valdez, Alaska
Planning & Zoning Commission
Conditional Use Permit
Proposed Findings & Conclusions

VMC Section 17.04.420 Conditional use.

"Conditional use" means a provision which allows for flexibility within this chapter by permitting certain specified uses in zoning districts where such uses are generally considered appropriate, but only after additional conditions and safeguards are applied to ensure their compatibility with permitted principal uses. (Ord. 03-15 § 1 (part): prior code § 30-8(b) (part))

Date: March 14, 2018
File No.: CUP #18-01
To: Planning & Zoning Commission
From: Rochelle Rollenhagen, Senior Planner
CUP: 50,000 barrel regular unleaded gasoline tank and associated facilities

General Information

Applicant: Valdez Petroleum Terminal, Petro Star Inc.
Property Owner: Petro Star Inc.
Property Address: Valdez Petroleum Terminal, 402 W. Egan Dr., Valdez AK 99686
Legal Description: TRACT J, Port Valdez Subdivision
PIDN:
Parcel Size:
Zoning: Light Industrial
Utility Service: Copper Valley Electric
Existing Land Use: Petro Star Petroleum Tank Farm
Access: W. Egan Drive
Surrounding Land Use:

North: Egan Drive, Mineral Creek Court Mobile Home Park, Copper Valley Electrical and Telephone/Light Industrial Zoning District

South: Undeveloped/Single Family Residential Zoning District

East: Anderson Plumbing & Heating, North Pacific Fuel, vacant lots /General Commercial Zoning District

West: Undeveloped (appears to be used for storage) owned by Petro Star/Light Industrial Zoning

Project Description and Background Summary

Originally, a conditional use permit was granted to Petro Star in 1994 and amended to include another tank in 1999. Located in the Light Industrial Zoning District, a conditional use permit for this proposed tank expansion is required per Section 17.36.040 E. Hazardous, Volatile and Flammable Storage and Distribution. The permit issued in 1999 and associated documents are attached.

The Planning and Zoning Commission held a Public Hearing on this application on February 28, 2018 and postponed the decision because of lack of solid safety information from the applicant. Staff has researched the issue and now submits new findings and conclusions.

Findings

The Director of Community Development shall make findings on an application for a conditional use permit. The Planning and Zoning Commission shall review and adopt the findings unless it finds by a preponderance of the evidence that the findings are in error. The director's findings are:

1. Is the requested permit proper according to the Conditional Uses for the zoning district?

Yes. Chapter 17.36 L-I Light Industrial District allows for the storage and distribution of hazardous, volatile and flammable substances as a Conditional Use.

2. Is the application complete?

No. Although a site plan and answers to supplemental questions were submitted for the February 28, 2018 hearing, the department is requesting Petro Star's Alaska registered design development professional's plan for this additional fuel storage. Considering the magnitude of this project the Commission requires professional design development detail to make this decision. The State Fire Marshal Office stated that Petro Star would definitely have this type of design plans as they need to submit this for the State Fire Marshal review. He also stated that if not yet complete, the design plans should completed soon. If the plans were submitted today it would take at least 4 weeks for a State Fire Marshal review.

17.50.030 Applications—Requirements.

A. A person intending to apply for a conditional use under this section shall submit the proposed project data to the community & economic development department. The community & economic development department shall contact the applicable agencies and utilities to allow them the opportunity to comment. The agencies to be contacted may include but not be limited to:

1. City public works department for water and sewer and snow removal;
2. City engineering department;
3. City building inspector;
4. State Highway Department, if applicable;

5. Local electricity utility;
6. City fire department;
7. Local telephone utility; and
8. Cable TV utility.

B. It is recommended that the application be accompanied by the following materials:

1. Narrative Documentation.

a. A legal description of all properties involved in the projects;

b. A statement of the objectives expected to be achieved by the project for the consumer and the public;

c. A detailed description of all aspects of the project, including land use, building types and sizes, population density, parking and traffic circulation, building coverage and other information which the applicant feels would assist the planning and zoning commission in making this decision; and

d. The community development department shall provide the proposed findings and conclusions for consideration by the planning and zoning commission. The proposed findings and conclusions will include comments and issues presented by the reviewing agencies along with a list of any unresolved issues.

2. Site Plans and Supporting Drawings.

a. As appropriate, details of the proposed project showing land use layout, building location, vehicular and pedestrian circulation, open space and recreation area, parking layout, schematic sewer and water layout, and any other information necessary to adequately describe the project;

b. A preliminary subdivision plat showing proposed lot and dedicated street layout;

c. A site grading and drainage plan including existing and proposed topography; and

d. Utilities. (Ord. 97-11 § 1: prior code § 30-44)

3. Does the proposed development follow the other requirements of the City of Valdez land use code?

The land use code for the City of Valdez is Title 17 Zoning of the Valdez Municipal Code. This permit is being pursued in conformance with Title 17 as storage and distribution of hazardous, volatile and flammable substances is a conditional use within the Light Industrial Zoning District, Chapter 17.36.

4. Will the proposed development materially endanger the public health or safety?

The applicants state that they will maintain the current mitigating factors that are already in place at the existing facility. They state that the proposed tank design will meet all current code requirements and will feature an internal floating roof that will minimize vapor emissions and fire hazard. They also state that the tank will be equipped with a top-side fire foam chamber system and piping that will allow the fire department to inject foam in the event of a fire.

The Planning and Zoning Commission should be able to review these assertions. Petro Star will need to prove these statements at the State Fire Marshal level. It is reasonable to request a professional design for this addition to the existing tank storage facility.

5. Will the proposed project substantially decrease the value of or be out of harmony with property in the neighboring area?

This is an increase in fuel storage at an existing tank farm facility. Although not an ideal location for the facility, the increase in storage, according to the applicant, will have a de minimis affect. Petro Star states that currently there are approximately 60 tank trunks that serve the facility in a 24 hour period. The additional tank will increase tanker truck traffic by 2-3 trucks per day.

6. Will the proposed project be in general conformity with the Valdez Comprehensive Plan, or other officially adopted plans?

To staff's knowledge, the only plan governing this area is the Comprehensive Plan. The following goals and objectives are relevant to the proposed CUP, and are compatible with the Comprehensive Plan.

Comprehensive Plan - Overall Goal

To create an atmosphere that will encourage stable economic development in Valdez while enhancing the quality of life. Improvements should be made to all elements that give the community its' character. This would include enhancing the economic productivity and diversification of the region to assure continued economic prosperity; providing for public safety and the economic welfare of the community when siting future industrial, commercial, residential, and public land uses; enhancing the scenic beauty, uniqueness and historic significance of the Valdez area; and opening up new land for residential, commercial, and industrial land.

Lifestyle

Goal -: Provide for a maximum freedom of choice for people to engage in the cash economy and use local natural resources to supplement their selected economic lifestyles.

Objective - Increase local employment opportunities.

Objective - Enhance the skills of the local labor force.

Economic Development

Goal -: Encourage the development of a broad-based economy in Valdez.

Objective – Develop a community plan, which accommodates resource related industrial development that meets desires of community residents.

Objective - Strive to create an atmosphere in the community that is conducive to commercial and industrial development.

Land Use
Goal -: Provide a community land use pattern that is compatible with existing land use patterns in the community, which is physically safe, environmentally sensitive, and consistent with the provisions and requirements of the Valdez Coastal Management Program.

Staff Comment: The Petro Star tank facility has been in existence for decades, and tanker trucks are a given on the Richardson Highway, traveling through town every half hour. It is debatable whether this industrial use is compatible with the existing community footprint. Tankers travel through the City of Valdez at a rate of almost 3 per hour, 24 hours a day, to a hazardous industrial facility located adjacent to the city's electrical plant, telecommunications office and a mobile home park with at least 25 homes.

Objective - Provide for the adequate separation of incompatible land uses.

Staff Comment: This objective has not been met. It is not only that an industrial petroleum storage facility is located on the main arterial in the middle of the community that makes the use incompatible. It is the facilitation of the use, i.e. the transport of the product that also does not provide for the adequate separation of incompatible uses.

Objective – Prohibition of the location/construction of structures in hazardous or environmentally sensitive areas.

Industrial Land Use
Goal -: Provide for industrial land uses so that they limit impacts on adjacent land uses and the environment, and yet have safe and convenient access to the major transportation facilities they require.

Objective - Encourage the consolidation of industrial land use activities.

Objective - Provide buffers between industrial and other land uses as a means to restrict the hazardous and/or nuisance aspects of industrial uses.

Objective – Control undesirable air and water emissions of industrial and uses.

7. Are any of the following criteria such to materially endanger the public health or safety: topography, slope and soil stability, geophysical hazards, surface and subsurface drainage and water quality?
The location of the tank farm does not appear to be in an environmentally sensitive setting.

8. Will the proposed project require the enlargement, upgrading or extending of public utilities or service systems?
The City has no indication this project will increase the load on public utilities or service systems. No comment has been received from Copper Valley Electric. The tangible impact of 60 plus tankers per day on the Richardson Highway has not been analyzed.

Decision of the Commission

The Planning and Zoning Commission may, regardless of the above findings conditionally approve or deny the permit. The Commissioners' own independent review of information submitted at the public hearing and additional information requested provides the basis for the decision. The decision needs supportive findings based on factors associated with the same questions answered in the Director's Findings.

Staff Recommendation

Staff recommends Conditional Use Permit #18-01 be postponed until additional fire and explosion information is acquired and that Petro Star submit the Petro Star Alaska registered design professionals plan for the project.

N. Sawmill Dr.

0 250 500 1,000 Feet

All features associated with this map are subject to the COV Disclaimer for Accuracy and Use

Wrangell Mountain Technical Services
P.O. Box 118, Mile 32.1 Edgerton Highway, Chitina, Alaska 99566
907-823-2280 (Office/Home) 907-259-2280 (Cell) WrangellMTS@yahoo.com

March 4, 2018

Paul Nylund, Interim Director
Community Development
P O Box 307
Valdez, Alaska 99686

Re: Sawmill Drive, Atigun Drive and Salcha Way Intersection Development

Dear Mr. Nylund

The intersection at Atigun Drive and Salcha Way has become an increasingly busy intersection.

In 2013 Atigun Drive was improved and the connecting Rudolph Street developed this increased the traffic flow on the southern end of Atigun Drive and the connecting Salcha Way.

For years Southcentral Trailer Park at the corner of Atigun Drive and Salcha Way filled in the ditch with snow during the winter and in 2015 filled in the ditch with gravel creating another access into the trailer park. This access at times does create a hazard.

If Airport Industrial Park ever gets developed the traffic on Atigun Drive will become overwhelming.

The extension of Sawmill Drive was looked into back in 2010 due to issues with the intersection back then. A design was created back then just to resolve the intersection issues and need to extend the sewer system up Sawmill Drive.

In connecting the Sawmill Drive to Atigun Drive this will also improve fire and police access to all the trailer parks and homes in the area.

I am happy to hear that the issue is being presented to city council and support this improvement to the city.

Sincerely,

Allen Minish, PLS, PE

Capital Improvement Project Request Form

Department/Organization: Administration Date: July 11, 2002

Capital Improvement Project Committee Project Number: 29

Capital Improvement Project Committee Score/Rank: _____

PROJECT DESCRIPTION

1. Project Title: Sawmill Drive Extension

2. Location: Sawmill Drive, Richardson Business Park/Airport Industrial Park

3. Description (Scope of Work, including quantities): Extend Sawmill Drive approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way.

4. Purpose: The majority of the right-of-way was cleared and grubbed to accommodate the installation of the 12-inch water line as part of the Mineral Creek Water Improvements Project. By extending the driving surface to Salcha Way and Atigun Drive it would provide an alternate access to and from the two Mobile Home Parks in that area as well as the other lots recently made accessible in the Airport Industrial Park (end of Atigun Drive). The City will continue to block access from the cul-de-sac end of Sawmill Drive and Valdez Mobile Home Park until the driving surface is brought up to those standards identified in Valdez City Code.

5. Justification: Since this access has been opened there is already a fairly steady flow of traffic through this area. Traffic flows will only continue to increase. Unless the City substantially blocks this access it will be utilized even though it is not an approved road with an acceptable driving surface.

GOAL CONTRIBUTION - **Capital improvement proposals that would help achieve the City's goals and the policies of The City of Valdez Comprehensive Plan, meet program objectives and ensure maintenance of the City's infrastructure systems, and an equitable delivery of municipal services, may be evaluated for their general goal/program contributions.**

1. How would this project help achieve any of the City's eight goals and the policies of The City of Valdez Comprehensive Plan? This project would provide an alternate access for two Mobile Home Parks in the area as well as the Airport Industrial Park Subdivision. It could also increase the value of frontage property along Sawmill Drive that currently just dead-ends at a cul-de-sac.

2. Where/How does this project fit into your departments/organizations 5-year plan? This project was proposed for the 2002 CIP Budget but the City Council opted not to fund it because it would not access any new City owned property.

3. If this project were not funded this year how would it effect the operation of your department/organization? The Public Works Department may have some small expenses in maintain the gravel berm placed at each end blocking access through the area.

PRIORITIES - Capital improvement proposals that can be identified with specific priorities in the Priorities Process and the City of Valdez Comprehensive Plan are to be recognized for their potential value to those priorities.

1. Level of Need. Proposals may be evaluated as either *essential*, *important* or *desirable* for the delivery of required City services. Desirable

   a. why? I don't believe that it is a project that must be done or would have any major impact if it were not constructed.

2. Multi-year Project. Is this the second or subsequent year of a previously approved project; an integral part of a multi-year project or an inseparable part of a larger improvement; and completion of the whole project would be jeopardized if the project is not funded? NO

   b. why?

QUANTITATIVE CRITERIA – Provides for the evaluation of capital improvement projects in terms of 5 quantitative measures.

1. Should a point be given for Employee Safety? Include copies of specific codes to be addressed and/or specific documented events and how they will be corrected by the proposed project. NO.

2. Should a point be given for Facility Maintenance or Improvements? Include documentation of escalating repair/minor maintenance costs and/or substantiate that equipment/device has reached it expected life span. NO

3. Should a point be given for the Leveraging of City Funds? Provide documentation of existing Grant(s) and identify all local match requirements, provide documentation of proposed grant(s) and indicate how it would affect the project if we were not awarded the grant. NO.

4. Should a point be given for Reducing a City Expense Line Item? Provide documentation of proposed cost savings and/or timeline in which project will pay for itself as a result of increased efficiencies and/or reduced annual maintenance costs. NO.

5. Should a point be given for Increasing a City Revenue Line Item? Provide documentation of anticipated revenues. NO.

QUALITATIVE CRITERIA – Provides for the evaluation of capital improvement projects in terms of 2 qualitative measures.

1. Should a point be given for Public Benefit and why? YES. It would provide an alternate access to two Mobile Home Parks in the area as well as the Airport Industrial Park Subdivision. It could also increase the value of frontage property along Sawmill Drive that currently just dead-ends at a cul-de-sac.

2. Should a point be given for Future Planning Capabilities? NO.

CAPITAL COST

Estimated Design cost $11,000.00 estimated by CRW Engineering
Estimated Construction cost $85,000 (gravel) estimated by CRW Engineering
Additional $65,000 to pave entire length of Sawmill (Highway to new intersection)

OPERATING COST

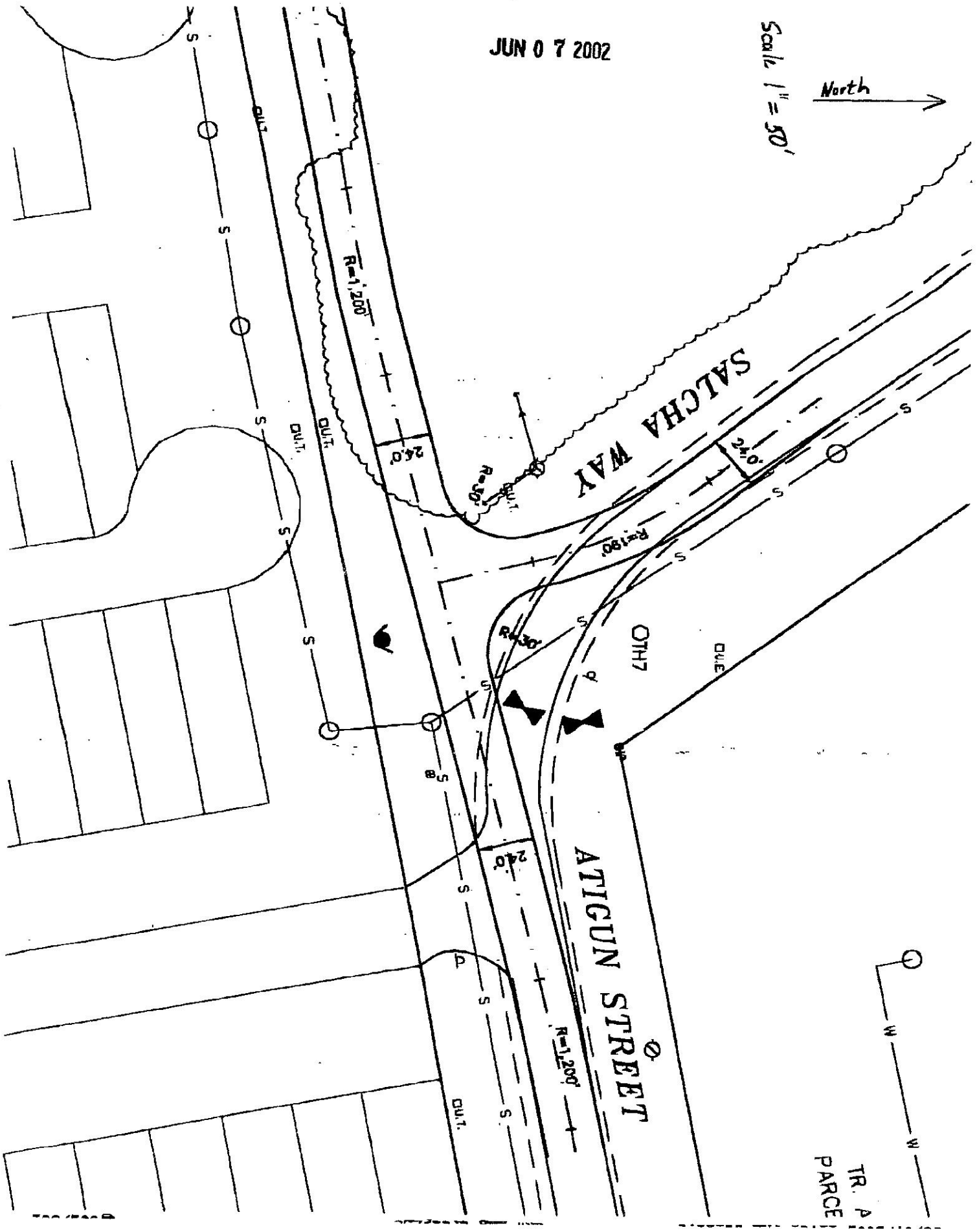
Estimated Annual Operating cost $0 estimated by
Estimated Annual Maintenance cost $3500 estimated by Engineering/Street

TOTAL COST $96,000 (gravel) or $161,000 (paved)
Anticipated lifetime of the project 20 years

PRIORITY

A. What priority number does your department/organization assign to this project among those being requested at this time? 3

B. What are your reasons for attaching this priority rating to this project? Hospital and School project funding are our top priorities.


JUN 0 7 2002
Scale 1" = 50'
North
SALCHA WAY
ATIGUN STREET
OTH7
R=1,200'
R=30'
R=180'
24.0'
OUT
TR. A
PARCE

We the undersigned residents and neighbors of Valdez Mobile Home Park are petitioning the City of Valdez to have Sawmill Road extended approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way by the Fall of 2004.

This extension would give the residents of Valdez Mobile Home Park, Glacier View Mobile Home Park as well as residents of the Airport Industrial Park an additional access to Richardson Highway should there be a blockage on either Airport Road or Salcha Way. It will also allow residents and their children a safe access to reach the bike-path without having to obstruct traffic on Salcha Way.

We understand that the project is not budgeted for 2003, however; we want it to be budgeted by Fall of 2004. We are not asking for the extension to be paved just to be brought up to code as Sawmill Drive Extension project has been proposed for the last 2 CIP Budget years but the City Council has not seen fit to fund this project.

We also petition that the current dirt blockage to be removed until the upgrade is possible, allowing an immediate and safe access.

Name	Signature	Box #	Date
Donna Waller	Donna Waller	508	5/20/03
RAY RICHARDS	Ray Richards	3643	5/23/03
DICK DORE	DICK DORE	2147	5/23/03
Edward L Jones	Edward Jones	933	5-23-03
Tom Morgan	Tom Morgan	3722	5-26-03
Michael Curtis	MICHAEL CURTIS	1534	5-26-03
Michael Curtis	Michael Curtis	508	5-26-03
Patrick morgan	Patrick morgan	3722	5/26/03
Janet L. Morgan	JANET L. Morgan	3722	5/26/03
Rayann Dancer	Rayann Dancer	3028	5/26/03
Gary Wattinger	Gary Wattinger	3074	5-26-03
Tisha Langseth		3512	5/27/03
Elizabeth Williams	Elizabeth Williams	1277	5/27/03
Jennifer Chaffin	Jennifer Chaffin	547	5/27/03
Bob Hall		508	5/27/03
Gary A. Kimball	Gary A. Kimball	1497	5-27-03
Brandon Kilian		1767	5-28-03
Michael Rosenwood	Michael Rosenwood	1529	5-29-03
Laurie Pray		367	5-29-03
DANA L. McCAIN	Dana L McC	5606	5/30/03

We the undersigned residents and neighbors of Valdez Mobile Home Park are petitioning the City of Valdez to have Sawmill Road extended approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way by the Fall of 2004.

This extension would give the residents of Valdez Mobile Home Park, Glacier View Mobile Home Park as well as residents of the Airport Industrial Park an additional access to Richardson Highway should there be a blockage on either Airport Road or Salcha Way. It will also allow residents and their children a safe access to reach the bike-path without having to obstruct traffic on Salcha Way.

We understand that the project is not budgeted for 2003, however; we want it to be budgeted by Fall of 2004. We are not asking for the extension to be paved just to be brought up to code as Sawmill Drive Extension project has been proposed for the last 2 CIP Budget years but the City Council has not seen fit to fund this project .

We also petition that the current dirt blockage to be removed until the upgrade is possible, allowing an immediate and safe access.

Name	Signature	Box #	Date
Louise Anderson	Louise Anderson	Box 2180	5/30
Wendy Clubb	WendiKay Clubb	Box 3507	5/30/03
Kyla Hughes	Kyla Hughes	Box 1448	5/30/03
Dede Gibson	Dede Gibson	Box 2021	5/30/03
Karen Hase	Karen Hase	Box 2021	5/30/03
Norman Rogers	Norman Rogers	Box 1448	5/30/03
Miranda Kompkoff	Miranda Kompkoff	Box 2714	5-30-03
Pellye Irons	Pellye Irons	Box 2914	5 30 03
Cory Stanhope		Box 1990	5 30 03
Crystal Lyft	Crystal Lyft	PO Box 3665	5/30/03
Kurt Mickelson	Kurt Mickelson	Box 3726	5/30/03
Sandy Hartman		PBB 142	5/30/03
Olga Clubb	Olga Clubb	Box 3507	5/30-03
Kathryn Katelnikoff		2093	05/3/03
Donald Kompkoff Jr	Don Kompkoff JR	494	05/30/03
Colette LaBonte	Colette LaBonte	3202	5-30-03
Mike Tucker	Mike Tucker	Box 1881	5 31 03
Steve Metcalf	Steve Metcalf	Box 1958	5-31-03
Jeff Johnson		1396	5-31-03
Darcy Rossenberg	Darcy Rossenberg	Box 1066	5-31-03
Daniel L. Nichols	Daniel L. Nichols	Box 831	5-31-03
Tammy Hrgol	Tammy Hrgol	Box 2437	5-31-03

OVER

We the undersigned residents and neighbors of Valdez Mobile Home Park are petitioning the City of Valdez to have Sawmill Road extended approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way by the Fall of 2004.

This extension would give the residents of Valdez Mobile Home Park, Glacier View Mobile Home Park as well as residents of the Airport Industrial Park an additional access to Richardson Highway should there be a blockage on either Airport Road or Salcha Way. It will also allow residents and their children a safe access to reach the bike-path without having to obstruct traffic on Salcha Way.

We understand that the project is not budgeted for 2003, however; we want it to be budgeted by Fall of 2004. We are not asking for the extension to be paved just to be brought up to code as Sawmill Drive Extension project has been proposed for the last 2 CIP Budget years but the City Council has not seen fit to fund this project .

We also petition that the current dirt blockage to be removed until the upgrade is possible, allowing an immediate and safe access.

Name	Signature	Box #	Date
Howard M Brewi	Howard M Brewi	3031	30 May 2003
ROBERT CARLTON	Robert Carlton	1281	6/2/03
Susie Holisapple	Susie Holisapple	1580	6/2/03
Melanie Scott	Melanie Scott	3249	6-2-03
Rich Hanson	Rich Hanson	3169	6/2/03

We the undersigned residents and neighbors of Valdez Mobile Home Park are petitioning the City of Valdez to have Sawmill Road extended approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way by the Fall of 2004.

This extension would give the residents of Valdez Mobile Home Park, Glacier View Mobile Home Park as well as residents of the Airport Industrial Park an additional access to Richardson Highway should there be a blockage on either Airport Road or Salcha Way. It will also allow residents and their children a safe access to reach the bike-path without having to obstruct traffic on Salcha Way.

We understand that the project is not budgeted for 2003, however; we want it to be budgeted by Fall of 2004. We are not asking for the extension to be paved just to be brought up to code as Sawmill Drive Extension project has been proposed for the last 2 CIP Budget years but the City Council has not seen fit to fund this project .

We also petition that the current dirt blockage to be removed until the upgrade is possible, allowing an immediate and safe access.

Name	Signature	Box #	Date
KAIPO DANIELS	Kaipo Daniels	405	21 MAY 2003
SHEILA MANN	Sheila Mann	2771	21 MAY 2003
Echo Speas	Echo Speas	1070	21 May 2003
Jennifer Joplin	Jennifer Joplin	3288	21 May 2003
Katie Keeton	Katie Keeton	454	21 May 2003
Deanna Cox	Deanna Cox	3325	5-23-03
Sandra Cox	Sandra Cox	2374	5/27/03
Pete M. Hs	Pete M. Hs	2945	5/29/03
SHERRY OLDS	Sherry Olds	1033	5/29/03
Margery O'Donnell	MARGERY O'DONNELL	2838	5/29/03
Margaret D. Hursh	Margaret D. Hursh	233	5-29-03
Norman Rogers	Norman Rogers	1448	5-29-03

We the undersigned residents and neighbors of Valdez Mobile Home Park are petitioning the City of Valdez to have Sawmill Road extended approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way by the Fall of 2004.

This extension would give the residents of Valdez Mobile Home Park, Glacier View Mobile Home Park as well as residents of the Airport Industrial Park an additional access to Richardson Highway should there be a blockage on either Airport Road or Salcha Way. It will also allow residents and their children a safe access to reach the bike-path without having to obstruct traffic on Salcha Way.

We understand that the project is not budgeted for 2003, however; we want it to be budgeted by Fall of 2004. We are not asking for the extension to be paved just to be brought up to code as Sawmill Drive Extension project has been proposed for the last 2 CIP Budget years but the City Council has not seen fit to fund this project .

We also petition that the current dirt blockage to be removed until the upgrade is possible, allowing an immediate and safe access.

Name	Signature	Box #	Date
Louis Vlasoff		3726	5-30-03
Kalvin Kompkoff		522	5-30-03
Shawn Barnes		3726	5-30-03
Richard C. Rosebery		2784	5/30/03
PATRICK O'DONNELL		2838	5/31/03
		3482	5/31/03
Michael Kompkoff		3733	6/1/03
Tom HALE		2720	6/2/03
Annalie Logsdon		3026	6/2/03
Mike Burzinski		3504	6-2-03
Billy RUTHERFORD		1085	6-2-03
Douglas Cramer		1164	6-2-03
Tim MOELLER		1362	6-2-03
Lucinda Totemoff		3211	6-2-03
Ernest Ebalhart		2383	6-2-03

We the undersigned residents and neighbors of Valdez Mobile Home Park are petitioning the City of Valdez to have Sawmill Road extended approximately 1000 ft. to connect at intersection of Atigun Drive and Salcha Way by the Fall of 2004.

This extension would give the residents of Valdez Mobile Home Park, Glacier View Mobile Home Park as well as residents of the Airport Industrial Park an additional access to Richardson Highway should there be a blockage on either Airport Road or Salcha Way. It will also allow residents and their children a safe access to reach the bike-path without having to obstruct traffic on Salcha Way.

We understand that the project is not budgeted for 2003, however; we want it to be budgeted by Fall of 2004. We are not asking for the extension to be paved just to be brought up to code as Sawmill Drive Extension project has been proposed for the last 2 CIP Budget years but the City Council has not seen fit to fund this project .

We also petition that the current dirt blockage to be removed until the upgrade is possible, allowing an immediate and safe access.

Name	Signature	Box #	Date
Nichole Kisee	Nichole Kisee	1477	5/19/03
Ruth Dibbs	Ruth Dibbs	2645	5-19-03
Dana C. Stanton	Dana C Stanton	1223	5/19/03
Jolene A. Elkins	Jolene A Elkins	2646	5/19/03
Darrell N	Darrell N	1579	5/19/03
Sue McCain	Sue McCain	1827	5/19/03
David Gittins	David Gittins	2664	5/19/03
Jess Britt	Jess Britt	2553	5-19-03
Rosie Bakus	Rosie Bakus	3653	5-19-03
James McCay		2523	5.21.03
Thomas Rich		1122	5/22/03
Dawn Clinic	Dawn Clinic	3615	5/23/03
Xiaoqing Dalen	Xiaoqing Dalen	862	5/23/03

Josh Gonka	Box 896	5-31-03
JEFF V. HOSKINS	Box 392	5-31-03
JASON STANTON	Box 665	5-31-2003
STEVE ALLEY SN.	Box 921	5-21-03
Rusty Hoad	Box 1086	5-31-03
Ester Bermudez	Box 3123	5-31-03
Bill Harris	Box-6	5/31/03
Ed James	Box 154 Tok AK	5-31-03
Debra James	Box 154 TOK	5-31-03
	Box 982	5-31-03
Tony Booth	Box 3412	5-31-03
James Crawford	Box 3408	5-31-03
Lana Smith	Box 92	5-31-03
Jim Adam	Box 2563	5-31-03
Shane Stewart	Box 554	5-31-03
Brandon Kilian	Box 1767	5-31-03
Tammy Woods	Box 1284	5-31-03
Rob Appelhans	Box 2802	6-1-03
TONY IMPERIAL	Box 2087	6-1-03
Cindy Heston	POB 3427	6-1-03
Jim M. Schmit	PO 241	6-1-03
	Box 2374	6-1-03
Stephen Burda	Box 3112	6-1-03
A.J. Kiser	Box 3646	6-1-03
	Box 2583	6-1-03
	Box 983	6-1-03
	Box 2255	6-1-03
	Box 3583	6-2-03

City of Valdez
ALASKA
Department of Community Development

Valdez MHP LLC
PO Box 4538
Durango, CO 81302

C/O Mr. and Ms. Cox
PO Box 3325
Valdez, AK 6686

To Whom It May Concern:

This is a follow-up letter to the courtesy call that was placed on April 23, 2017 from Community Development Staff to Mr. and Ms. Cox about two unpermitted access routes adjacent to Valdez Mobile Home Park. The unpermitted access routes are in violation of Chapter 12 of Valdez Municipal Code, which states the following:

> **12.04.030 Highways or driveways serving more than one parcel of land.**
>
> A. No person shall construct or permit to be constructed within the city any highway or driveway arranged or planned to serve more than one parcel of land used for residential purposes, unless a permit shall first be obtained from the city engineer.
>
> B. No such permit shall be issued until the plans and specifications for such highway or driveway shall be approved by the city engineer as to specifications, and by the planning commission as to location, width and general plan.

It has been brought to our attention that an unpermitted driveway has been created along Atigun Drive that crosses over a bike/pedestrian sidewalk at the corner of Atigun Drive and Salcha Way. Due to the safety hazard of this driveway, the City will be placing barriers along the bike path to prevent vehicular traffic from crossing over the bike path.

The location of concern is shown on Figure 1. Please inform your residents that they are to use the three permitted driveways along Atigun Drive.

The City will also place barriers to prevent through traffic from Atigun Drive onto N. Sawmill Drive. Once again, this access route is serving more than one parcel of land (mobile home space) and has not gone through the appropriate permitting process, see Figure 2. Should the City decide to approve the future extension of N. Sawmill Drive to connect with Salcha Way, the project will need to go through the appropriate City Council Capital Project approval process. If approved an official road extension will need to be platted through the Planning and Zoning Commission; and the Capital Facilities department will oversee professional design and construction of the road so it meets code and design standards.

Figure 1: Unpermitted access driveway crossing over bike path.

Figure 1: Unpermitted access onto N Sawmill Drive

If you have any further questions, please don't hesitate to call at 907-834-4350. Thank you for your time and understanding.

Sincerely,

AnnMarie Lain CFM
Senior GIS | Planning Technician
Community Development
☎907.834.3450 | ✉ alain@ci.valdez.ak.us

SAWMILL DRIVE ROAD EXTENSION
VALDEZ, ALASKA
SANITARY SEWER MAINLINE EXTENSION
&
STREET IMPROVEMENTS

MARCH 30TH, 2012

F. ROBERT BELL & ASSOCIATES
801 W. FIREWEED LN; #201
ANCHORAGE, AK 99503
(907) 274-5257

USGS QUADRANGLES VALDEZ (A-6 & A-7) SCALE 2"= 1 MILE

VICINITY MAP

CALL BEFORE YOU DIG

CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION THE FOLLOWING IS A PARTIAL LIST:

CITY OF VALDEZ PUBLIC WORKS	835-4473
VALDEZ WATER	835-2997
CVEA	835-4301
CROWLEY	835-4558
LOCATE CENTER OF ALASKA:	
STATEWIDE	1-800-478-3121

CAUTION

EXISTING UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

JOB NUMBER: 2010-1534
SCALE: AS SHOWN

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

VICINITY MAP, LEGEND & GENERAL NOTES

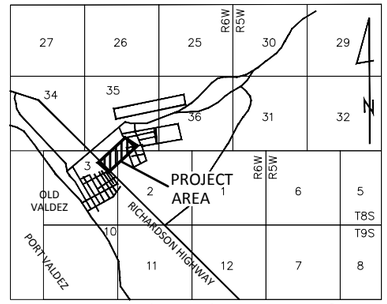
SHEET:
C0.00

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE INSTALLED AS SPECIFIED IN THE MOST CURRENT EDITION OF THE CITY OF VALDEZ STANDARD CONSTRUCTION SPECIFICATIONS FOR STREETS–DRAINAGE–UTILITIES–PARKS (CVSS).
2. THE CONTRACTOR IS REQUIRED TO COMPLY WITH CITY OF VALDEZ NOISE AND HOURS OF OPERATION REQUIREMENTS.
3. HOURS OF CONSTRUCTION SHALL BE FROM 7 A.M. TO 8 P.M.
4. UNDERGROUND CABLE AND TELEPHONE UTILITIES WERE LOCATED BY THE LOCAL UTILITY COMPANIES AND ARE SHOWN ON THIS DRAWING. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
5. WATER AND SEWER UTILITIES SHOWN ON THIS PLAN ARE COPIED FROM MUNICIPAL GIS MAPPING PROVIDED BY THE VALDEZ CITY ENGINEER AND ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
6. ALL ORGANIC MATERIALS SHALL BE CLEARED AND REMOVED FROM THE SITE. ONLY CLASSIFIED FILL MATERIALS SHALL BE USED.
7. ALL MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN A LEGAL MANNER. CONTRACTOR IS TO PROVIDE CERTIFICATION AND RECEIPTS OF THE DISPOSAL LOCATION(S) TO THE OWNER.
8. CLASSIFIED FILLS SHALL BE HAULED FROM A CERTIFIED SITE AND SHALL MEET THE REQUIREMENTS OF SECTION 20.05 OF 2003 EDITION OF CVSS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND MUNICIPAL LAWS THAT PROHIBIT UNPERMITTED DISCHARGE OF POLLUTANTS, INCLUDING SEDIMENTS, THAT ARE A RESULT OF EROSION AND OTHER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONDUCT ALL WORK SO SEDIMENT IS NOT TRANSPORTED ONTO THE ROADWAY OR ADJACENT PROPERTY. AT A MINIMUM, THE CONTRACTOR SHALL SWEEP UP ANY SEDIMENT TRACKED ONTO PAVED SURFACES IN PUBLIC RIGHT–OF–WAY WITHIN 24 HOURS OF THE TRACKING TO MINIMIZE THE WASH–OFF OF SEDIMENT INTO THE STORM DRAINS OR WATERWAYS.
10. CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND SUBMIT IT TO A.D.E.C. AND E.P.A. AND CITY OF VALDEZ FOR REVIEW AND APPROVAL. DURING ALL CONSTRUCTION PHASES A.D.E.C., E.P.A. AND CITY OF VALDEZ INSPECTORS MAY AT ANY TIME REQUEST THE SUBMITTAL OF THIS DOCUMENT.
11. ALL CLASSIFIED FILLS SHALL BE INSTALLED IN 12" LIFTS (MAXIMUM) AND COMPACTED TO 95% OF MAXIMUM DENSITY.
12. ALL FINISH GRADE SLOPES SHALL NOT EXCEED A 2H:1V RATIO.
13. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE WITHIN ALL CONSTRUCTION AREAS. NO WATER SHALL BE PERMITTED TO DRAIN OR POND ONTO ADJACENT PROPERTIES.
14. CONTRACTOR SHALL PROTECT ALL STRUCTURES, INCLUDING BUT NOT LIMITED TO BUILDINGS, POLES, FENCES, SIGNS, UTILITY PEDESTALS, ETC., WHICH HAVE NOT BEEN DESIGNATED FOR REMOVAL.
15. IMPACTS TO UTILITIES, STRUCTURES, AND MAILBOXES WILL REQUIRE COORDINATION WITH THE UTILITY COMPANY, PROPERTY OWNER AND POST OFFICE. IF REQUIRED FOR CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL REMOVE AND REPLACE ANY STRUCTURES, UTILITY PEDESTALS, FENCES, MAILBOXES AND PAVEMENTS TO THEIR ORIGINAL CONDITION. ANY SPECIAL PROVISIONS MUST BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY OR PROPERTY OWNER.
16. ALL DISTURBED AREAS AND DITCHES SHALL NOT BE SEEDED IF GRADES ARE LESS THEN 1%. REPLACE EXISTING ONLY.
17. ANY CHANGE TO THE PROPOSED SOURCE OF FILL, OR DISPOSAL LOCATION, FOR EXCAVATED MATERIALS WILL REQUIRE A CHANGE ORDER WITH CITY OF VALDEZ PUBLIC WORKS DEPARTMENT.
18. ALL SANITARY SEWER MANHOLES AND WATER SERVICE VALVE BOXES LOCATED DURING CONSTRUCTION OF THE ROAD SHALL BE RAISED TO JUST BELOW FINISHED GRADE PER CITY OF VALDEZ STANDARD SPECIFICATIONS SECTIONS 50.03 AND 60.10 RESPECTIVELY.
19. FOR ALL SEWER CONSTRUCTION, CONTRACTOR TO USE CITY OF VALDEZ APPROVED PLANS (SHEETS C6.00 TO C6.04).
20. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL PAVED STREETS AND EXISTING UTILITIES, ANY DAMAGE TO EXISTING STREETS OR EXISTING UTILITIES CAUSED BY THE CONTRACTORS OPERATIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
21. ALL PORTIONS OF THE EXISTING BIKE TRAIL DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AND TIED INTO THE NEW ROAD SECTION PER CITY OF VALDEZ STANDARD SPECIFICATIONS DETAIL 20–6.
22. ALL SIGNS SHALL BE INSTALLED PER CITY OF VALDEZ STANDARD SPECIFICATIONS SECTION 70.14.
23. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL SHOW THE LOCATIONS OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ON THE REDLINE RECORD DRAWINGS AND SUBMIT THEM ALONG WITH THE FIELD INSPECTION NOTES TO THE ENGINEER FOR PREPARATION OF THE FINAL AS–BUILT DRAWINGS.
24. MAINTAIN A MINIMUM OF 36–INCHES OF VERTICAL SEPARATION BETWEEN ANY STORM SEWER (STORM DRAIN OR FOOTING DRAIN) AND WATERLINE (MAINS OR SERVICES) OR SANITARY SEWER (MAINS OR SERVICES). IF 36–INCHES CANNOT BE MAINTAINED, PROVIDE A MINIMUM OF 4–INCH THICK INSULATION.
25. ALL WATER/SEWER PIPE INSULATION SHALL BE RIGID BOARD, HIGH DENSITY EXTRUDED POLYSTYRENE, MIN. 60 P.S.I., FOR UNDERGROUND INSTALLATIONS EQUIVALENT TO R–20 PER FOUR (4) INCH THICK INSULATION, OR APPROVED EQUAL.
26. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACTOR RECORD DRAWINGS. CONTRACTOR SHALL RECORD FIELD INSTALLATION NOTES OF CONSTRUCTED IMPROVEMENTS AND ENCOUNTERED UTILITIES FOR SUBMITTAL WITH RECORD DRAWING PLANS.
27. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRECONSTRUCTION CONDITION.
28. IN CASE OF CONFLICT BETWEEN STATIONING LOCATION OF PIPE OR FITTINGS, USE DIMENSIONED LOCATIONS RELATIVE TO THE CENTERLINE AND PROPERTY LINE, THE DIMENSIONED LOCATIONS SHALL GOVERN.
29. THE CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH RECORD DRAWING PLANS PRIOR TO CONTRACT FINAL PAYMENT.
30. CONTRACTOR SHALL FIELD INSTALL "MEG–A–LUG" JOINT RESTRAINT ON ALL MECHANICAL JOINTS.
31. CONTRACTOR SHALL USE DUCTILE IRON PIPE (DIP) LONG SOLID SLEEVES WITH RESTRAINED JOINTS TO FACILITATE CONNECTING DIP TO DIP OF SAME SIZE.
32. ALL DUCTILE AND CAST IRON PIPE AND FITTINGS SHALL BE ENCASED IN 8–MILS OF POLYETHYLENE WRAP, AS PER CVSS SECTION 50.13 "POLYETHYLENE ENCASEMENT."
33. CONTRACTOR SHALL MAINTAIN A MINIMUM OF TEN (10) FEET HORIZONTAL AND EIGHTEEN (18") INCHES VERTICAL SEPARATION BETWEEN WATER AND STORM OR SANITARY SEWER MAINS AND SERVICES (AS MEASURED FROM OUTSIDE TO OUTSIDE OF PIPE). SANITARY AND STORM SEWER PIPE JOINTS SHALL BE PLACED AT LEAST 9–FEET FROM ANY WATERLINE CROSSING.

SURVEY NOTES

1. THE FIELD SURVEY WAS PERFORMED BY F.ROBERT BELL & ASSOCIATES, ON JUNE 5TH, 2010.
2. BASIS OF BEARING IS N28°36'58"E (PER PLAT 97–15) BETWEEN FOUND MONUMENTS AS SHOWN ON SHEET C1.01.
3. ASSUMED BASIS OF COORDINATES (PNT# 160 N:31266.39 E:23094.92) LOCATED AT THE SOUTHEAST CORNER LOT 1B, BLOCK 4 OF RICHARDSON BUSINESS PARK PHASE 4.
4. BASIS OF ELEVATION IS FRB PNT#50 A FOUND OPC WITH AN ASSUMED ELEVATION OF 100.0'
5. UNDERGROUND UTILITY LOCATE REQUESTS WERE COORDINATED BY LOCATE CENTER OF ALASKA.



USGS QUADRANGLES VALDEZ (A–6 & A–7) SCALE 1"= 1 MILE

DRAINAGE PATTERNS

1. EXISTING DRAINAGE PATTERNS FOR THIS PROJECT IS GENERALLY FROM THE NORTHEAST TO THE SOUTHWEST ALONG SAWMILL DRIVE R.O.W. THE EXISTING DITCHES ARE SHALLOW AND PROVIDE INTERMITTENT CONNECTIVITY. THE EXISTING SOILS ARE VERY FREE DRAINING AND HAVE HISTORICALLY HAD VERY FEW PONDING ISSUES.
2. THE NEW DRAINAGE PATTERN WILL CONTINUE ALONG THE SAWMILL DRIVE R.O.W. IN THE SAME DIRECTION AS THE EXISTING DRAINAGE. THE DITCHES WILL BE UPGRADED TO PROMOTE FLOW OF RUNOFF.
3. EXISTING CULVERTS WILL BE REMOVED AND REPLACED AT EXISTING DRIVEWAYS AND ROAD INTERSECTIONS TO PROMOTE DRAINAGE CONNECTIVITY.

LEGEND

- FOUND 2–1/2" ALUMINUM CAP
- FOUND OPC
- FOUND REBAR
- (#–##) RECORD PLAT #
- (M) MEASURED
- CMP CORRUGATED METAL PIPE
- FES FLARED END SECTION
- DIP DUCTILE IRON PIPE
- ROW RIGHT–OF–WAY
- INV INVERT
- ELEV ELEVATION
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- SIGN
- UTILITY POLE
- BOLLARD
- WATER VALVE
- FIRE HYDRANT
- COMMUNICATIONS PEDESTAL
- EXISTING UTILITY POLE
- CULVERT (EXISTING)
- CULVERT (PROPOSED)
- B.O.P. BEGINNING OF PROJECT
- E.O.P. END OF PROJECT
- 110.0' CONTOURS (EXISTING)
- 110.0' CONTOURS (PROPOSED)
- W WATER
- S SEWER
- E UNDERGROUND ELECTRIC
- G UNDERGROUND GAS
- T UNDERGROUND TELEPHONE
- O/HU EXISTING OVERHEAD UTILITY
- RIGHT–OF–WAY CENTERLINE
- GRAVEL SHOULDER
- GRAVEL TOE
- EXISTING BUILDING
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- GRAVEL (EXISTING)

SHEET INDEX	
SHEET NO.	TITLE
C0.00	COVER SHEET
C0.01	VICINITY MAP, LEGEND AND GENERAL NOTES
C1.00	SURVEY CONTROL – WEST END OF PROJECT
C1.01	SURVEY CONTROL – EAST END OF PROJECT
C2.00	EXISTING SITE/DEMOLITION PLAN
C2.01	EXISTING SITE/DEMOLITION PLAN (CONT.)
C2.02	EXISTING SITE/DEMOLITION PLAN (CONT.)
C3.00	PLAN & PROFILE STA 0+00 TO 10+00
C3.01	PLAN & PROFILE STA 10+00 TO 21+00
C3.02	PLAN & PROFILE STA 21+00 TO 28+58
C4.00	SIGNAGE PLAN
C5.00	DETAIL SHEETS – STREET IMPROVEMENTS
C6.00	SEWER MAINLINE EXTENSION – NOTES & MAPS
C6.01	SEWER PLAN & PROFILE – STA 10+00 TO 21+00
C6.02	SEWER PLAN & PROFILE – STA 21+00 TO 32+00
C6.03	SEWER PLAN & PROFILE – STA 32+00 TO END
C6.04	DETAIL SHEETS – SEWER IMPROVEMENTS

CALL BEFORE YOU DIG

CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION THE FOLLOWING IS A PARTIAL LIST:

CITY OF VALDEZ PUBLIC WORKS	835–4473
VALDEZ WATER	835–2997
CVEA	835–4301
CROWLEY	835–4558
LOCATE CENTER OF ALASKA:	
STATEWIDE	1–800–478–3121

CAUTION

EXISTING UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

STATE OF ALASKA 49TH
DANIEL SIMPSON CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:
REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

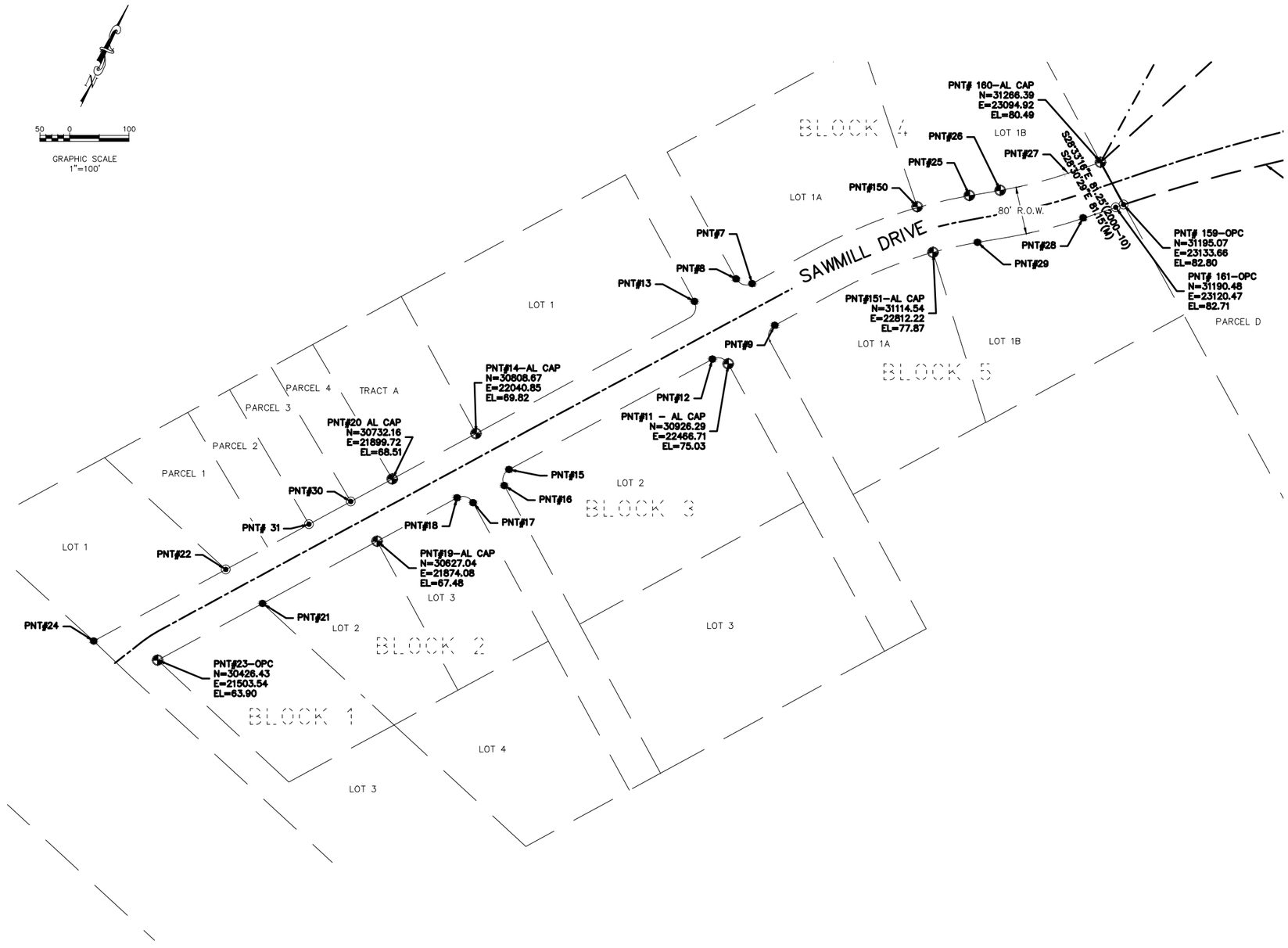
JOB NUMBER: 2010–1534
SCALE: AS SHOWN

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

VICINITY MAP, LEGEND & GENERAL NOTES

F. Robert Bell & Associates
SURVEY AND LAND DIVISION
BOX 87, VALDEZ, ALASKA 99686-0087
PHONE (907) 835-4320

SHEET:
C0.01



LEGEND

- FOUND 2–1/2" ALUMINUM CAP
- FOUND OPC
- FOUND REBAR
- (#–##) RECORD PLAT NUMBER
- (M) MEASURED

CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
7	31061.82	22506.95	75.40	FND RBR
8	31069.82	22479.73	75.56	FND RBR
9	30991.50	22545.08	75.43	FND RBR
10	31190.52	23120.49	82.70	CK 161
11	30926.29	22466.71	75.03	FND AC
12	30934.26	22439.78	74.45	FND RBR
13	31031.65	22409.40	74.41	FND RBR
14	30808.67	22040.85	69.82	FND AC
15	30747.97	22096.54	70.32	FND RBR
16	30720.89	22088.62	69.89	FND RBR
17	30692.17	22035.98	69.51	FND RBR
18	30700.25	22008.83	69.23	FND RBR
19	30627.04	21874.08	67.48	FND AC
20	30732.16	21899.72	68.51	FND AC
21	30521.98	21680.70	65.80	FND RBR
22	30579.22	21618.75	63.81	FND OPC
23	30426.43	21503.54	63.90	FND AC
24	30458.56	21395.71	62.95	FND RBR
25	31210.42	22873.60	77.87	FND AC
26	31219.19	22925.57	79.75	FND AC
27	31248.10	23040.00	80.04	FND RBR
28	31172.55	23065.49	80.51	FND RBR
29	31131.26	22887.13	78.58	FND RBR
30	30693.91	21829.56	67.22	FND OPC
31	30655.77	21759.16	66.43	FND OPC
50	31602.15	24582.52	100.00	FND OPC
51	32055.94	23525.69	101.60	FND OPC
151	31114.54	22812.21	77.87	FND AL CAP
159	31195.07	23133.66	82.80	FND YPC
160	31266.39	23094.92	80.49	FND AL CAP

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:
REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE
VALDEZ, AK 99686

JOB NUMBER: 2010–1534
SCALE: AS SHOWN

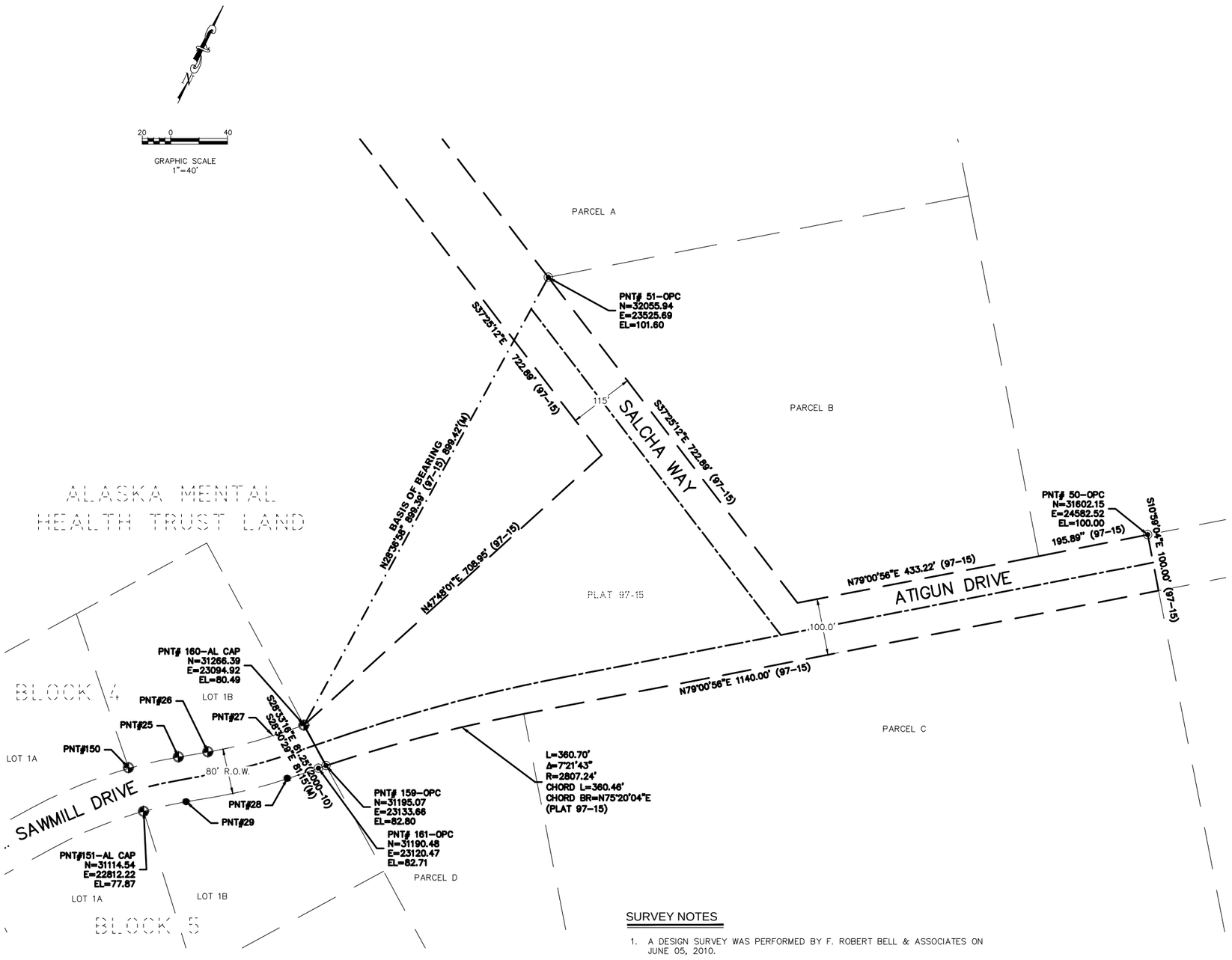
DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

SURVEY CONTROL
WEST END OF PROJECT

F. Robert Bell & Associates
CONSULTING ENGINEERS AND LAND SURVEYORS
825 WEST 8TH AVENUE, SUITE 201
ANCHORAGE, ALASKA 99501–1931
PHONE (907) 274–4521

SHEET:
C1.00



LEGEND

- FOUND 2-1/2" ALUMINUM CAP
- FOUND OPC
- FOUND REBAR
- (#-##) RECORD PLAT NUMBER
- (M) MEASURED

SURVEY NOTES

1. A DESIGN SURVEY WAS PERFORMED BY F. ROBERT BELL & ASSOCIATES ON JUNE 05, 2010.
2. BASIS OF COORDINATES IS POINT 160, A FOUND ALUMINUM CAP LOCATED NEAR THE WEST END OF THE PROJECT AREA. COORDINATES ARE IN A LOCAL COORDINATE SYSTEM. THE COORDINATES FOR THIS POINT IS (N31266.39; E23094.92; EL80.49).
3. BASIS OF BEARING IS BETWEEN THE FOUND ALUMINUM CAP (PNT 160) AND THE FOUND ORANGE PLASTIC CAP (PNT 51). THE BEARING IS N28°36'58"E. THE MEASURED HORIZONTAL GROUND DISTANCE WAS 899.42' <RECORD DISTANCE IS 899.39'>.
4. BASIS OF VERTICAL DATUM IS POINT 50 A FOUND ORANGE PLASTIC CAP WITH AN ASSUMED ELEVATION OF 100.00.

CONTROL POINT TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
25	31210.42	22873.60	77.87	FND AC
26	31219.19	22925.57	79.75	FND AC
27	31248.10	23040.00	80.04	FND RBR
28	31172.55	23065.49	80.51	FND RBR
29	31131.26	22887.13	78.58	FND RBR
50	31602.15	24582.52	100.00	FND OPC
51	32055.94	23525.69	101.60	FND OPC
150	31191.31	22785.37	79.01	FND AL CAP
151	31114.54	22812.21	77.87	FND AL CAP
159	31195.07	23133.66	82.80	FND YPC
160	31266.39	23094.92	80.49	FND AL CAP
161	31190.48	23120.47	82.71	FND OPC

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE
VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

JOB NUMBER: 2010-1534
SCALE: AS SHOWN

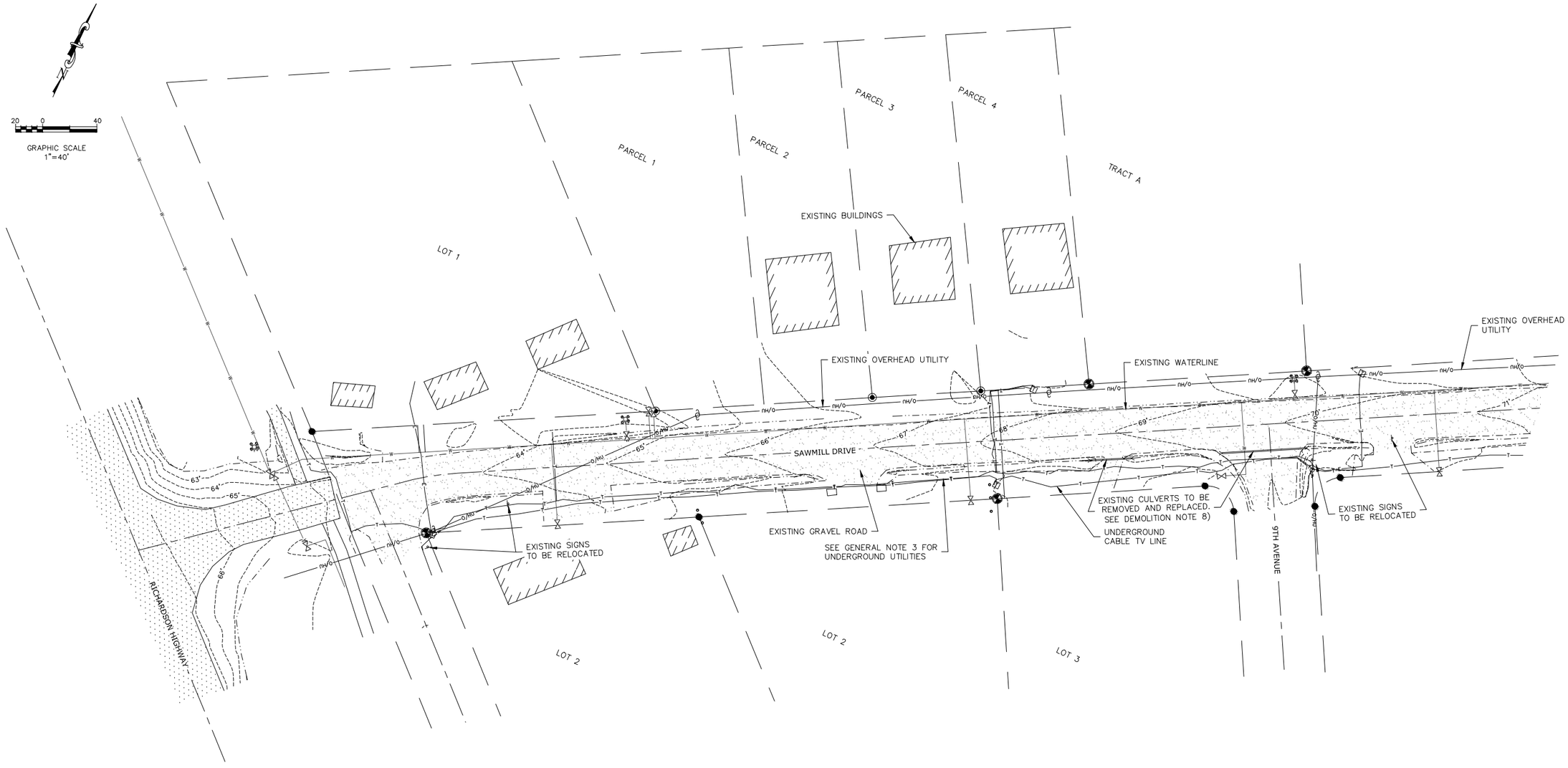
SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

SURVEY CONTROL
EAST END OF PROJECT

F. Robert Bell & Associates
ENGINEERS AND LAND SURVEYORS
1500 W. BENSON BLVD., SUITE 201
ANCHORAGE, ALASKA 99503-1629
PHONE (907) 274-4351

SHEET:
C1.01

F.R. BELL & ASSOCIATES



GENERAL NOTES - EXISTING SITE

1. THE AREA DESIGNATED FOR THE SAWMILL DRIVE EXTENSION IS GENERALLY A NON-VEGETATED GRAVEL SURFACE WITH THE EXISTING SITE DRAINAGE GENERALLY SLOPING FROM EAST TO WEST.
2. THE SAWMILL DRIVE TIE-IN ON THE WEST SIDE OF THE PROJECT IS A 24' GRAVEL DRIVE WITHIN A 80FT WIDE R.O.W. THE ATIGUN DRIVE/SALCHA ROAD TIE-IN ON THE EAST SIDE OF THE PROJECT IS A 24' WIDE PAVED ROAD SECTION WITHIN A 100FT WIDE R.O.W.
3. UNDERGROUND CABLE AND TELEPHONE UTILITIES WERE LOCATED BY THE LOCAL UTILITY COMPANIES AND ARE SHOWN ON THIS DRAWING.
4. WATER AND SEWER UTILITIES SHOWN ON THIS PLAN ARE COPIED FROM MUNICIPAL GIS MAPPING PROVIDED BY THE VALDEZ CITY ENGINEER AND ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
5. THE BUILDING OUTLINES AND PAVED/GRAVEL ROADS SHOWN ON PARCEL C WERE NOT SURVEYED AS PART OF THIS DESIGN. FEATURES SHOWN ARE BASED ON A GOOGLE AERIAL MAP OF THE AREA AND ARE SHOWN FOR REFERENCE PURPOSES ONLY.
6. THERE IS NO EXISTING CONNECTIVITY BETWEEN SAWMILL DRIVE ON THE WEST SIDE OF THE PROJECT AREA AND THE ROADS SHOWN ON PARCEL C.

DEMOLITION NOTES

1. THE EXISTING TREES AND BRUSH SHALL BE CLEARED AND GRUBBED 40 FEET FROM CENTERLINE OF THE PROPOSED SAWMILL DRIVE EXTENSION FROM STA 18+75 TO 26+00..
2. THE EXISTING TREES AND BRUSH SHALL BE CLEARED AND GRUBBED 30 FEET FROM CENTERLINE OF THE PROPOSED SAWMILL DRIVE EXTENSION FROM STA 0+00 TO 18+75.
3. A PORTION OF THE EXISTING PAVED CURVE CONNECTING ATIGUN DRIVE AND SALCHA ROAD WILL BE REMOVED AS PART OF THE REDESIGN OF THE SAWMILL DRIVE EXTENSION. THIS AREA SHALL HAVE THE PAVEMENT REMOVED AND THE AREA RE-GRADED.
4. ALL CLEARING AND GRUBBING SHALL MEET THE CITY OF VALDEZ STANDARD SPECIFICATIONS (SECTION 20.03).
5. ALL EXISTING PAVEMENT DEMOLITION REQUIRED FOR THIS PROJECT SHALL BE COMPLETED PER CITY OF VALDEZ STANDARD SPECIFICATIONS (SECTION 20.19).
6. IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS THAT ARE NOT SCHEDULED TO BE REUSED AS PART OF THE ON-SITE CONSTRUCTION AT LEGAL DUMPING AREAS, OR OTHER SITE(S) APPROVED BY THE CITY OF VALDEZ ENGINEER.
7. UNDERGROUND UTILITIES TO BE RELOCATED 36" BELOW GRADE TO MEET THE CITY OF VALDEZ STANDARD SPECIFICATIONS.
8. ALL EXISTING DRIVEWAY CULVERTS TO BE REMOVED AND REPLACED PER SHEETS C3.00 TO C3.02 AND DETAIL 5 ON SHEET C5.00.

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE
VALDEZ, AK 99686

DRAWN BY: CLB
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JOB NUMBER: 2010-1534
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SCALE: AS SHOWN
FIELD BOOK: N/A

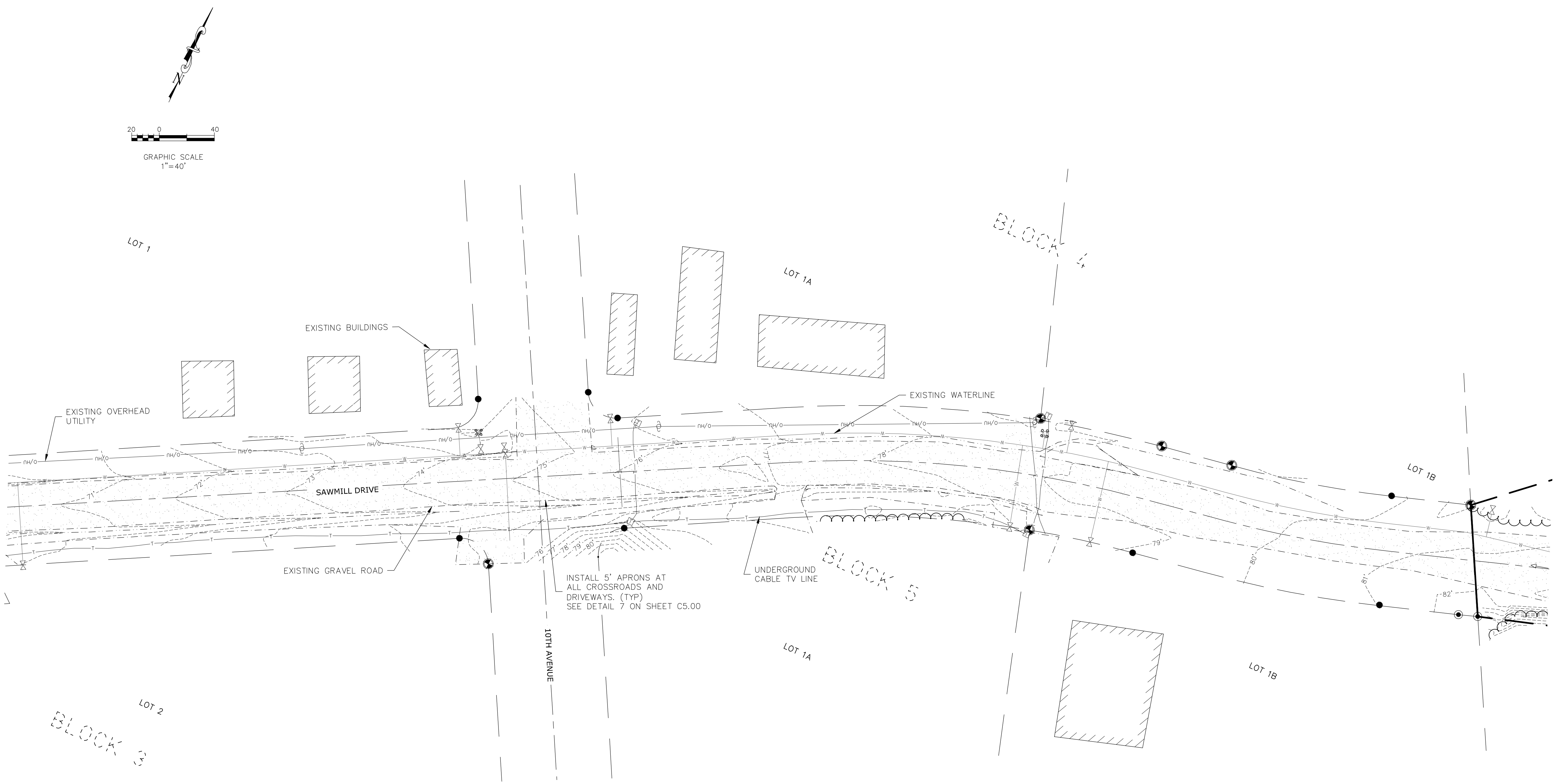
SAWMILL DRIVE UPGRADE
& SEWER MAINLINE EXTENSION

EXISTING SITE PLAN
WEST END OF PROJECT

F. Robert Bell & Associates
ENGINEERING AND SURVEYING
PO BOX 82, VALDEZ, ALASKA 99686-0082
PHONE (907) 835-4551

SHEET:
C2.00

F.R. BELL & ASSOCIATES



GENERAL NOTES - EXISTING SITE

1. THE AREA DESIGNATED FOR THE SAWMILL DRIVE EXTENSION IS GENERALLY A NON-VEGETATED GRAVEL SURFACE WITH THE EXISTING SITE DRAINAGE GENERALLY SLOPING FROM EAST TO WEST.
2. THE SAWMILL DRIVE TIE-IN ON THE WEST SIDE OF THE PROJECT IS A 24' GRAVEL DRIVE WITHIN A 80FT WIDE R.O.W. THE ATIGUN DRIVE/SALCHA ROAD TIE-IN ON THE EAST SIDE OF THE PROJECT IS A 24' WIDE PAVED ROAD SECTION WITHIN A 100FT WIDE R.O.W.
3. UNDERGROUND CABLE AND TELEPHONE UTILITIES WERE LOCATED BY THE LOCAL UTILITY COMPANIES AND ARE SHOWN ON THIS DRAWING.
4. WATER AND SEWER UTILITIES SHOWN ON THIS PLAN ARE COPIED FROM MUNICIPAL GIS MAPPING PROVIDED BY THE VALDEZ CITY ENGINEER AND ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
5. THE BUILDING OUTLINES AND PAVED/GRAVEL ROADS SHOWN ON PARCEL C WERE NOT SURVEYED AS PART OF THIS DESIGN. FEATURES SHOWN ARE BASED ON A GOOGLE AERIAL MAP OF THE AREA AND ARE SHOWN FOR REFERENCE PURPOSES ONLY.
6. THERE IS NO EXISTING CONNECTIVITY BETWEEN SAWMILL DRIVE ON THE WEST SIDE OF THE PROJECT AREA AND THE ROADS SHOWN ON PARCEL C.

DEMOLITION NOTES

1. THE EXISTING TREES AND BRUSH SHALL BE CLEARED AND GRUBBED 40 FEET FROM CENTERLINE OF THE PROPOSED SAWMILL DRIVE EXTENSION FROM STA 18+75 TO 26+00..
2. THE EXISTING TREES AND BRUSH SHALL BE CLEARED AND GRUBBED 30 FEET FROM CENTERLINE OF THE PROPOSED SAWMILL DRIVE EXTENSION FROM STA 0+00 TO 18+75.
3. A PORTION OF THE EXISTING PAVED CURVE CONNECTING ATIGUN DRIVE AND SALCHA ROAD WILL BE REMOVED AS PART OF THE REDESIGN OF THE SAWMILL DRIVE EXTENSION. THIS AREA SHALL HAVE THE PAVEMENT REMOVED AND THE AREA RE-GRADED.
4. ALL CLEARING AND GRUBBING SHALL MEET THE CITY OF VALDEZ STANDARD SPECIFICATIONS (SECTION 20.03).
5. ALL EXISTING PAVEMENT DEMOLITION REQUIRED FOR THIS PROJECT SHALL BE COMPLETED PER CITY OF VALDEZ STANDARD SPECIFICATIONS (SECTION 20.19).
6. IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS THAT ARE NOT SCHEDULED TO BE REUSED AS PART OF THE ON-SITE CONSTRUCTION AT LEGAL DUMPING AREAS, OR OTHER SITE(S) APPROVED BY THE CITY OF VALDEZ ENGINEER.
7. UNDERGROUND UTILITIES TO BE RELOCATED 36" BELOW GRADE TO MEET THE CITY OF VALDEZ STANDARD SPECIFICATIONS.

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

REVISION: | DATE:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

JOB NUMBER: 2010-1534
SCALE: AS SHOWN
DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

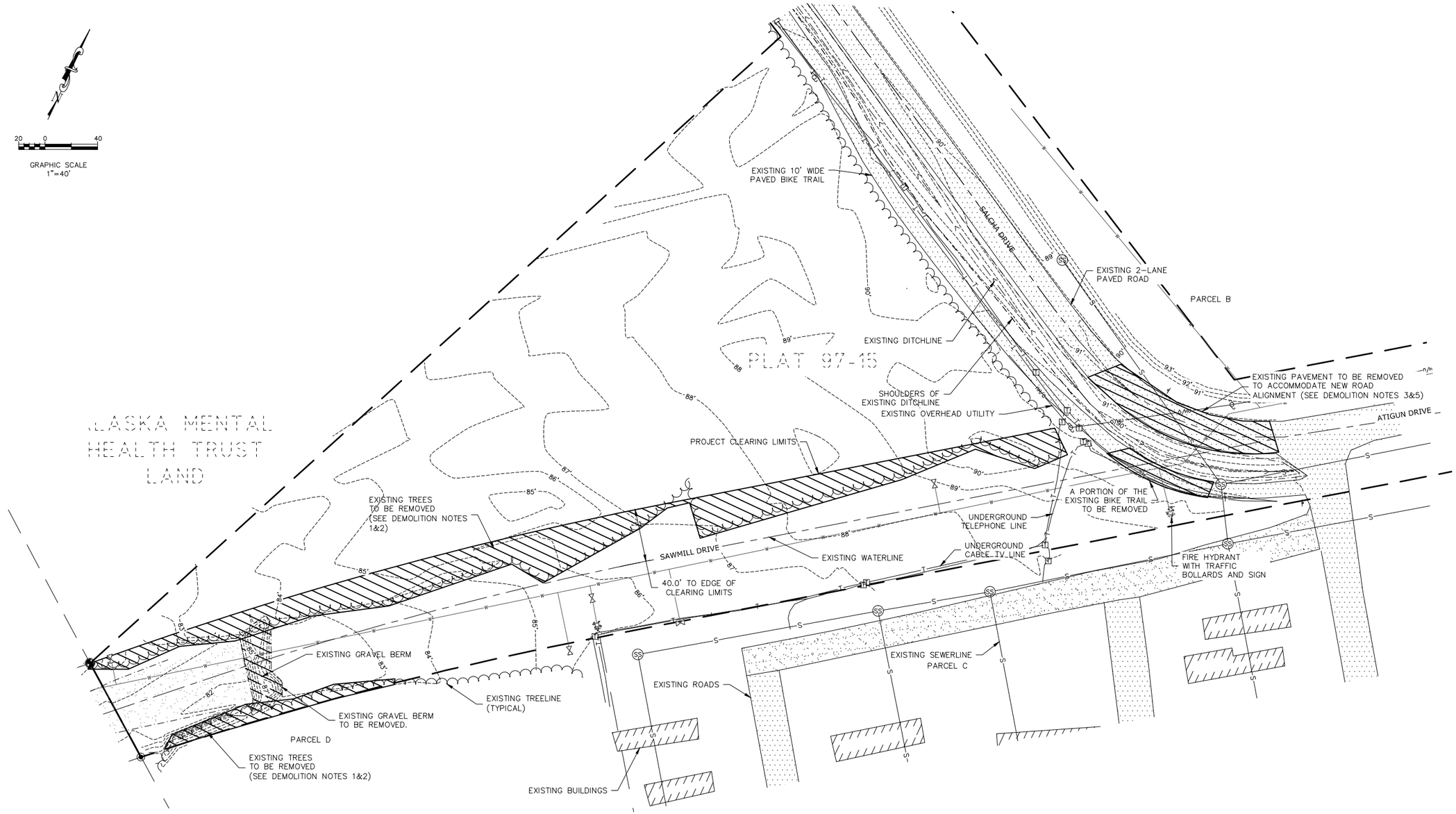
SAWMILL DRIVE UPGRADE
& SEWER MAINLINE EXTENSION

EXISTING SITE PLAN (CONTINUED)
MIDDLE SECTION OF PROJECT

F. Robert bell and assoc.

SHEET:
C2.01

F.R. BELL & ASSOCIATES



SAWMILL DRIVE - STA: 18+00 TO 27+91.33

SCALE: 1-40

GENERAL NOTES - EXISTING SITE

1. THE AREA DESIGNATED FOR THE SAWMILL DRIVE EXTENSION IS GENERALLY A NON-VEGETATED GRAVEL SURFACE WITH THE EXISTING SITE DRAINAGE GENERALLY SLOPING FROM EAST TO WEST.
2. THE SAWMILL DRIVE TIE-IN ON THE WEST SIDE OF THE PROJECT IS A 24' GRAVEL DRIVE WITHIN A 80FT WIDE R.O.W. THE ATIGUN DRIVE/SALCHA ROAD TIE-IN ON THE EAST SIDE OF THE PROJECT IS A 24' WIDE PAVED ROAD SECTION WITHIN A 100FT WIDE R.O.W.
3. UNDERGROUND CABLE AND TELEPHONE UTILITIES WERE LOCATED BY THE LOCAL UTILITY COMPANIES AND ARE SHOWN ON THIS DRAWING.
4. WATER AND SEWER UTILITIES SHOWN ON THIS PLAN ARE COPIED FROM MUNICIPAL GIS MAPPING PROVIDED BY THE VALDEZ CITY ENGINEER AND ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
5. THE BUILDING OUTLINES AND PAVED/GRAVEL ROADS SHOWN ON PARCEL C WERE NOT SURVEYED AS PART OF THIS DESIGN. FEATURES SHOWN ARE BASED ON A GOOGLE AERIAL MAP OF THE AREA AND ARE SHOWN FOR REFERENCE PURPOSES ONLY.
6. THERE IS NO EXISTING CONNECTIVITY BETWEEN SAWMILL DRIVE ON THE WEST SIDE OF THE PROJECT AREA AND THE ROADS SHOWN ON PARCEL C.

DEMOLITION NOTES

1. THE EXISTING TREES AND BRUSH SHALL BE CLEARED AND GRUBBED 40 FEET FROM CENTERLINE OF THE PROPOSED SAWMILL DRIVE EXTENSION FROM STA 18+75 TO 26+00..
2. THE EXISTING TREES AND BRUSH SHALL BE CLEARED AND GRUBBED 30 FEET FROM CENTERLINE OF THE PROPOSED SAWMILL DRIVE EXTENSION FROM STA 0+00 TO 18+75.
3. A PORTION OF THE EXISTING PAVED CURVE CONNECTING ATIGUN DRIVE AND SALCHA ROAD WILL BE REMOVED AS PART OF THE REDESIGN OF THE SAWMILL DRIVE EXTENSION. THIS AREA SHALL HAVE THE PAVEMENT REMOVED AND THE AREA RE-GRADED.
4. ALL CLEARING AND GRUBBING SHALL MEET THE CITY OF VALDEZ STANDARD SPECIFICATIONS (SECTION 20.03).
5. ALL EXISTING PAVEMENT DEMOLITION REQUIRED FOR THIS PROJECT SHALL BE COMPLETED PER CITY OF VALDEZ STANDARD SPECIFICATIONS (SECTION 20.19).
6. IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS THAT ARE NOT SCHEDULED TO BE REUSED AS PART OF THE ON-SITE CONSTRUCTION AT LEGAL DUMPING AREAS, OR OTHER SITE(S) APPROVED BY THE CITY OF VALDEZ ENGINEER.
7. UNDERGROUND UTILITIES TO BE RELOCATED 36" BELOW GRADE TO MEET THE CITY OF VALDEZ STANDARD SPECIFICATIONS.

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

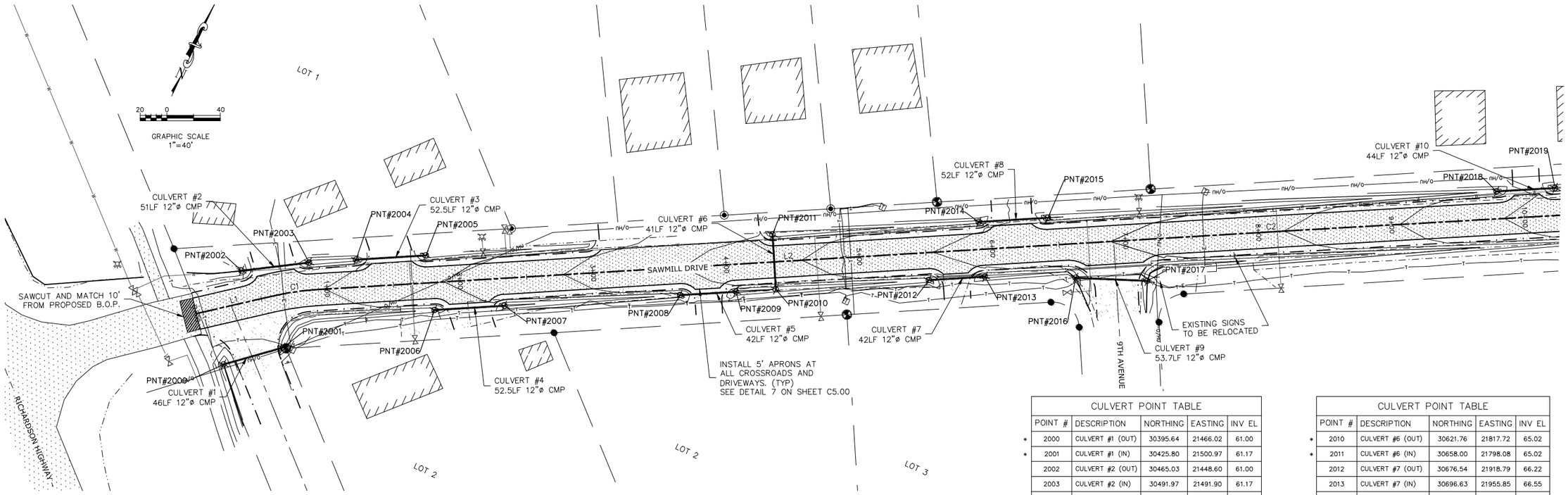
JOB NUMBER: 2010-1534
SCALE: AS SHOWN

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

EXISTING SITE PLAN (CONTINUED)
EAST END OF PROJECT

F. Robert Bell and Associates
ENGINEERING AND SURVEYING
1501 W. 31ST AVENUE, SUITE 201
ANCHORAGE, ALASKA 99503-1629
PHONE (907) 274-4351

SHEET:
C2.02



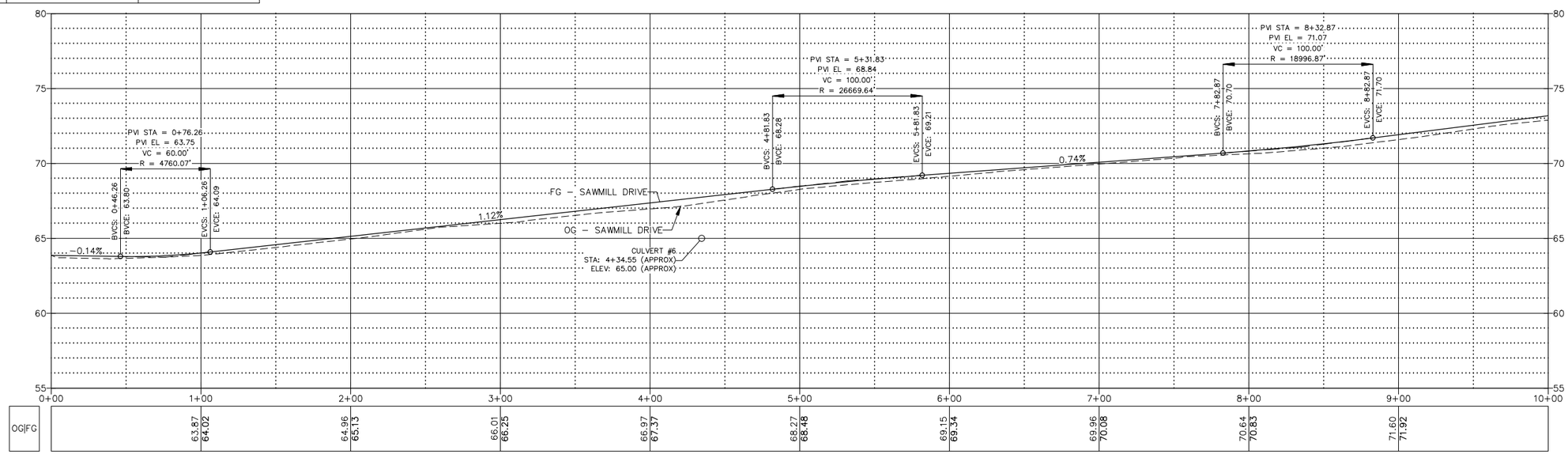
LINE TABLE: SAWMILL DRIVE				
	LINE#	LENGTH	DIRECTION	START NORTHING/EASTING	END NORTHING/EASTING
B.O.P.	L1	59.17	N52° 00' 59.79"E	(21431.43,30421.53)	(21478.07,30457.94)
	L2	709.04	N61° 32' 14.25"E	(21505.84,30476.13)	(22129.17,30814.05)
	L3	557.92	N61° 43' 30.53"E	(22143.60,30821.84)	(22634.95,31086.12)
	L4	65.24	N79° 53' 59.28"E	(22873.61,31169.18)	(22937.84,31180.62)
	L5	130.33	N71° 18' 14.77"E	(23053.98,31210.43)	(23177.43,31252.21)
	L6	534.54	N79° 00' 56.00"E	(23541.43,31348.66)	(24066.18,31450.51)
	L7	112.58	N36° 56' 49.54"W	(23914.70,31421.11)	(23847.03,31511.08) E.O.P.

CURVE TABLE: SAWMILL DRIVE					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START NORTHING/EASTING	END NORTHING/EASTING
C1	200.00	33.233	N56° 46' 37.02"E	(21478.07,30457.94)	(21505.84,30476.13)
C2	5000.00	16.394	N61° 37' 52.39"E	(22129.17,30814.05)	(22143.60,30821.84)
C3	800.00	253.766	N70° 48' 44.90"E	(22634.95,31086.12)	(22873.61,31169.18)
C4	800.00	120.019	N75° 36' 07.02"E	(22937.84,31180.62)	(23053.98,31210.43)
C5	2800.00	376.853	N75° 09' 35.39"E	(23177.43,31252.21)	(23541.43,31348.66)

CULVERT POINT TABLE					
	POINT #	DESCRIPTION	NORTHING	EASTING	INV EL
*	2000	CULVERT #1 (OUT)	30395.64	21466.02	61.00
*	2001	CULVERT #1 (IN)	30425.80	21500.97	61.17
	2002	CULVERT #2 (OUT)	30465.03	21448.60	61.00
	2003	CULVERT #2 (IN)	30491.97	21491.90	61.17
	2004	CULVERT #3 (OUT)	30508.83	21522.91	61.53
	2005	CULVERT #3 (IN)	30533.85	21569.06	62.11
	2006	CULVERT #4 (OUT)	30499.51	21592.20	62.16
	2007	CULVERT #4 (IN)	30524.53	21638.35	62.75
	2008	CULVERT #5 (OUT)	30587.41	21754.38	64.22
	2009	CULVERT #5 (IN)	30607.49	21791.41	64.69

CULVERT POINT TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	INV EL
* 2010	CULVERT #6 (OUT)	30621.76	21817.72	65.02
* 2011	CULVERT #6 (IN)	30658.00	21798.08	65.02
2012	CULVERT #7 (OUT)	30676.54	21918.79	66.22
2013	CULVERT #7 (IN)	30696.63	21955.85	66.55
2014	CULVERT #8 (OUT)	30731.87	21934.34	66.53
2015	CULVERT #8 (IN)	30756.66	21980.06	66.92
2016	CULVERT #9 (OUT)	30724.66	22017.90	67.50
2017	CULVERT #9 (IN)	30745.23	22067.54	68.11
2018	CULVERT #10 (OUT)	30916.81	22276.65	70.19
2019	CULVERT #10 (IN)	30937.65	22315.40	70.75

* FLARES NOT TO BE INSTALLED AT THE INLET AND OUTLET OF THE PIPE.



SAWMILL DRIVE EXTENSION – STA 0+00 TO 10+00

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE
VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

JOB NUMBER: 2010-1534
SCALE: AS SHOWN

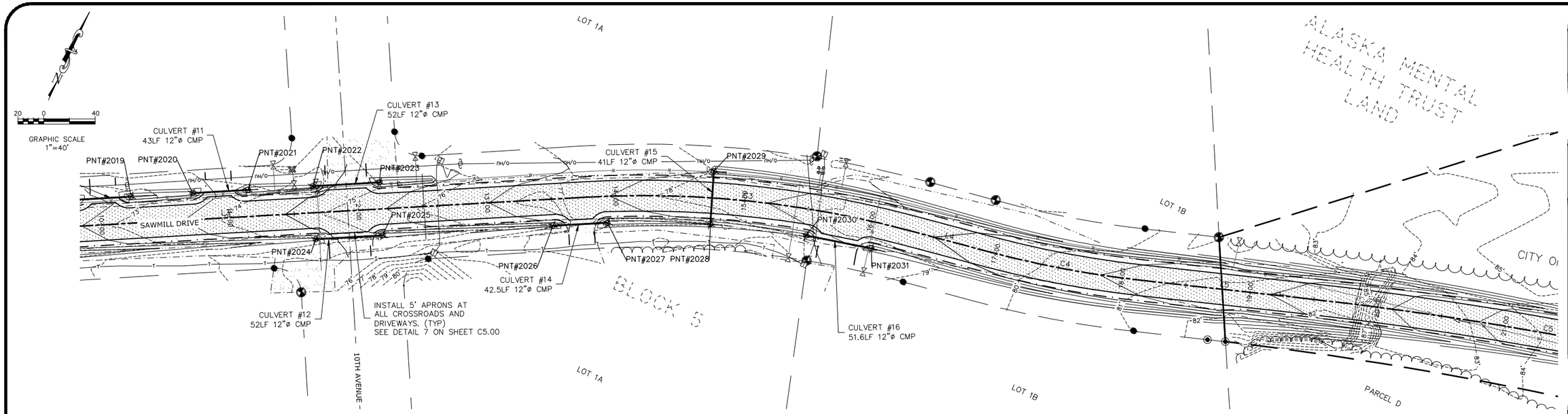
SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

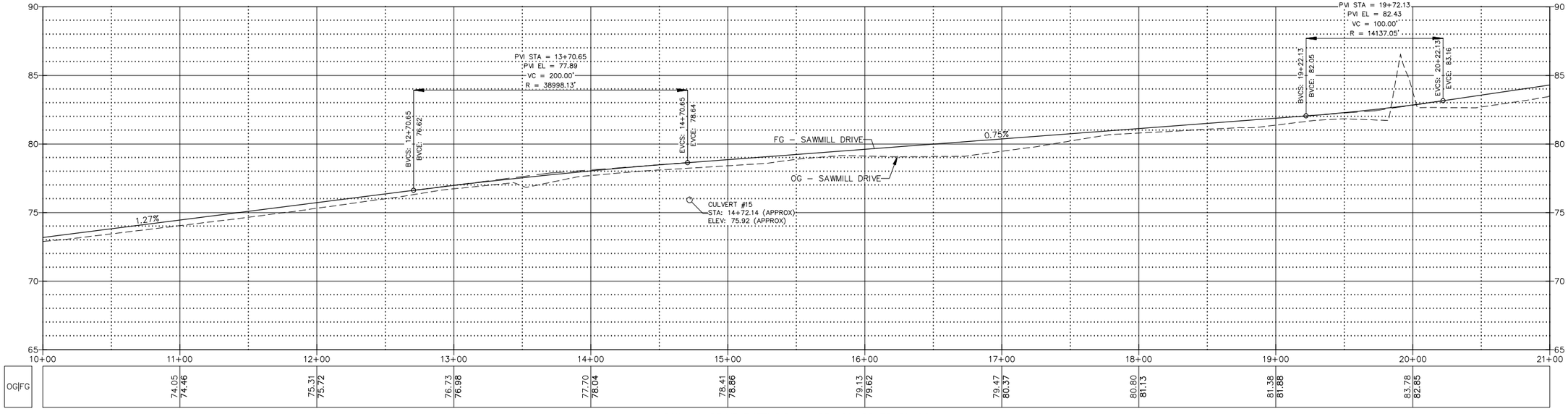
ROAD PLAN AND PROFILE
STA 0+00 TO 10+00

F. Robert Bell and Associates, Inc.
ENGINEERS AND LAND SURVEYORS
3601 C STREET, SUITE 1424
ANCHORAGE, ALASKA 99503-5961
PHONE (907) 561-1011

SHEET:
C3.00

F.R. BELL & ASSOCIATES





SAWMILL DRIVE EXTENSION – STA 10+00 TO 21+00

LINE TABLE: SAWMILL DRIVE					
	LINE#	LENGTH	DIRECTION	START NORTHING/EASTING	END NORTHING/EASTING
B.O.P.	L1	59.17	N52° 00' 59.79"E	(21431.43,30421.53)	(21478.07,30457.94)
	L2	709.04	N61° 32' 14.25"E	(21505.84,30476.13)	(22129.17,30814.05)
	L3	557.92	N61° 43' 30.53"E	(22143.60,30821.84)	(22634.95,31086.12)
	L4	65.24	N79° 53' 59.28"E	(22873.61,31169.18)	(22937.84,31180.62)
	L5	130.33	N71° 18' 14.77"E	(23053.98,31210.43)	(23177.43,31252.21)
	L6	534.54	N79° 00' 56.00"E	(23541.43,31348.66)	(24066.18,31450.51)
	L7	112.58	N36° 56' 49.54"W	(23914.70,31421.11)	(23847.03,31511.08) E.O.P.

CURVE TABLE: SAWMILL DRIVE					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START NORTHING/EASTING	END NORTHING/EASTING
C1	200.00	33.233	N56° 46' 37.02"E	(21478.07,30457.94)	(21505.84,30476.13)
C2	5000.00	16.394	N61° 37' 52.39"E	(22129.17,30814.05)	(22143.60,30821.84)
C3	800.00	253.766	N70° 48' 44.90"E	(22634.95,31086.12)	(22873.61,31169.18)
C4	800.00	120.019	N75° 36' 07.02"E	(22937.84,31180.62)	(23053.98,31210.43)
C5	2800.00	376.853	N75° 09' 35.39"E	(23177.43,31252.21)	(23541.43,31348.66)

CULVERT POINT TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	INV EL
2020	CULVERT #11 (OUT)	30960.39	22357.67	71.35
2021	CULVERT #11 (IN)	30980.76	22395.54	71.90
2022	CULVERT #12 (OUT)	31004.68	22440.02	72.54
2023	CULVERT #12 (IN)	31029.33	22485.85	73.20
2024	CULVERT #13 (OUT)	30968.38	22459.54	72.54
2025	CULVERT #13 (OUT)	30993.03	22505.37	73.20
2026	CULVERT #14 (OUT)	31055.77	22622.03	74.80
2027	CULVERT #14 (IN)	31075.77	22659.59	75.23
* 2028	CULVERT #15 (OUT)	31108.38	22732.48	75.93
* 2029	CULVERT #15 (IN)	31146.82	22717.60	75.93
2030	CULVERT #16 (OUT)	31132.06	22803.63	76.51
2031	CULVERT #16 (IN)	31144.34	22853.78	76.91

* FLARES NOT TO BE INSTALLED AT THE INLET AND OUTLET OF THE PIPE.

CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
7	31061.82	22506.95	75.40	FND RBR
8	31069.82	22479.73	75.56	FND RBR
9	30991.50	22545.08	75.43	FND RBR
10	31190.52	23120.49	82.70	CK 161
11	30926.29	22466.71	75.03	FND AC
12	30934.26	22439.78	74.45	FND RBR
13	31031.65	22409.40	74.41	FND RBR
14	30808.67	22040.85	69.82	FND AC
15	30747.97	22096.54	70.32	FND RBR
16	30720.89	22088.62	69.89	FND RBR
17	30692.17	22035.98	69.51	FND RBR
18	30700.25	22008.83	69.23	FND RBR
19	30627.04	21874.08	67.48	FND AC
20	30732.16	21899.72	68.51	FND AC
21	30521.98	21680.70	65.80	FND RBR
22	30579.22	21618.75	63.81	FND OPC
23	30426.43	21503.54	63.90	FND AC
24	30458.56	21395.71	62.95	FND RBR
25	31210.42	22873.60	77.87	FND AC
26	31219.19	22925.57	79.75	FND AC
27	31248.10	23040.00	80.04	FND RBR
28	31172.55	23065.49	80.51	FND RBR
29	31131.26	22887.13	78.58	FND RBR
30	30693.91	21829.56	67.22	FND OPC
31	30655.77	21759.16	66.43	FND OPC
50	31602.15	24582.52	100.00	FND OPC
51	32055.94	23525.69	101.60	FND OPC
151	31114.54	22812.21	77.87	FND AL CAP
159	31195.07	23133.66	82.80	FND YPC
160	31266.39	23094.92	80.49	FND AL CAP

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE
VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

JOB NUMBER: 2010-1534
SCALE: AS SHOWN

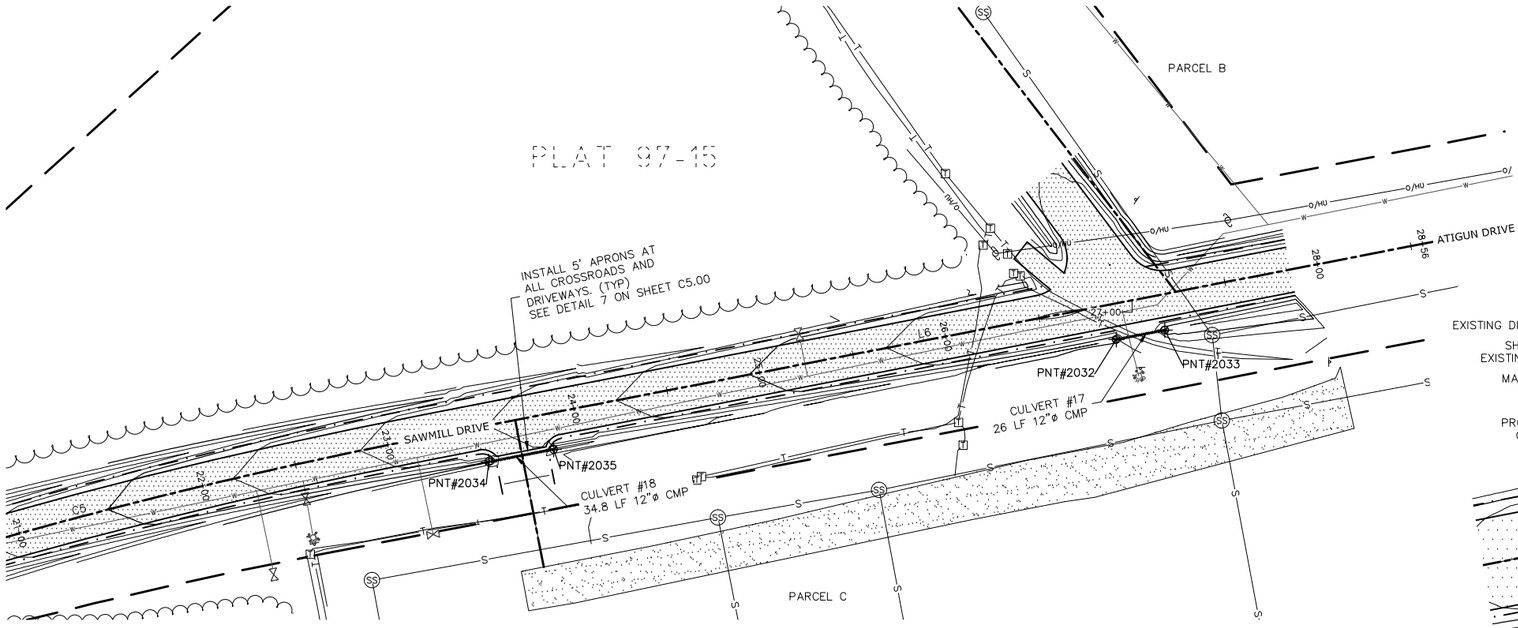
SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

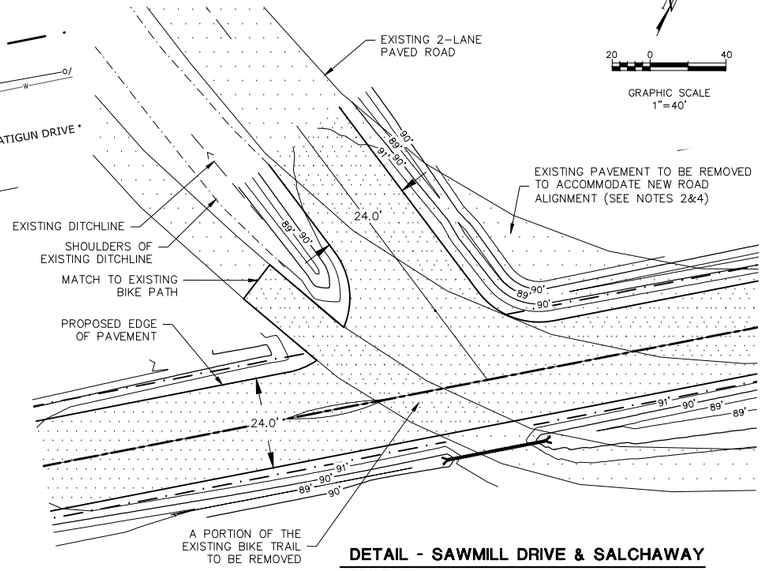
ROAD PLAN AND PROFILE
STA 10+00 TO 21+00

F. Robert Bell and Associates
ENGINEERING AND LAND SURVEYING
310 K STREET, SUITE 200
ANCHORAGE, ALASKA 99501-2030
PHONE (907) 274-3551

SHEET:
C3.01

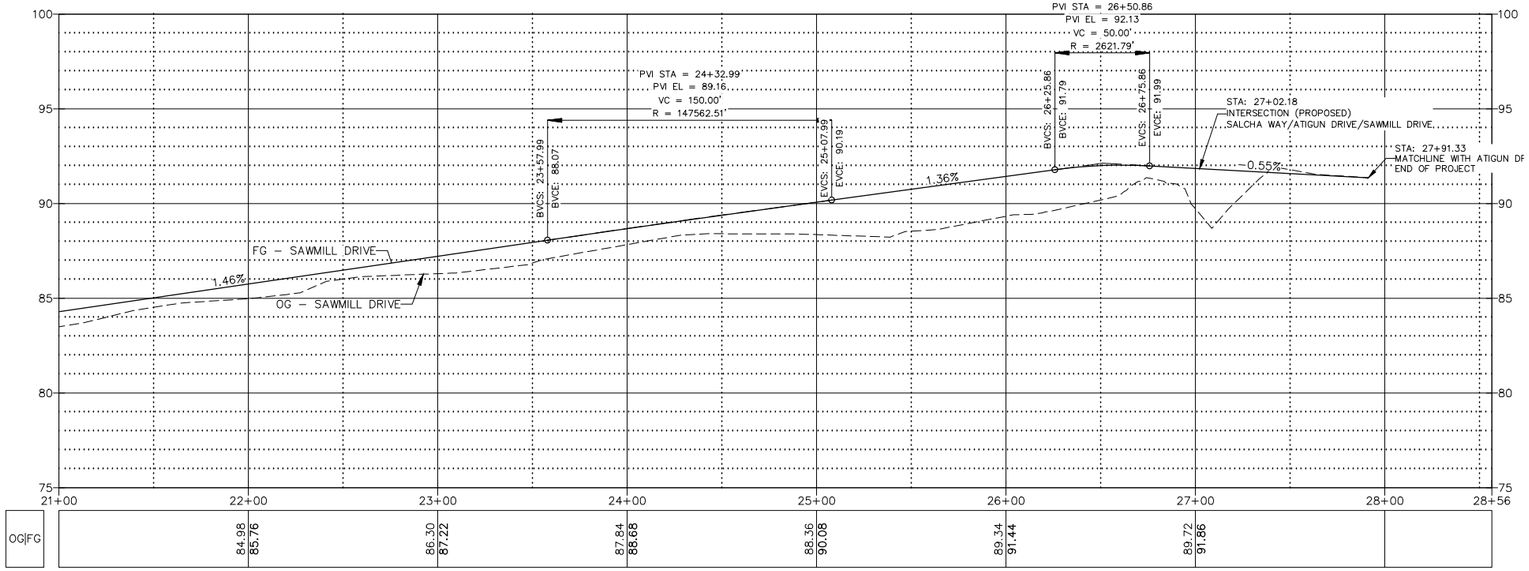
F.R. BELL & ASSOCIATES



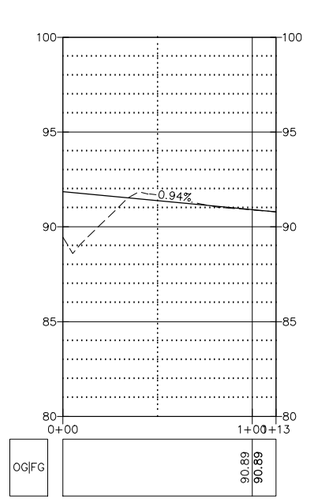


DETAIL - SAWMILL DRIVE & SALCHAWAY

SCALE: 1:20



SAWMILL DRIVE EXTENSION – STA 21+00 TO 28+56



PV –Salcha Drive

LINE TABLE: SAWMILL DRIVE				
LINE#	LENGTH	DIRECTION	START NORTHING/EASTING	END NORTHING/EASTING
L1	59.17	N52° 00' 59.79"E	(21431.43,30421.53)	(21478.07,30457.94)
L2	709.04	N61° 32' 14.25"E	(21505.84,30476.13)	(22129.17,30814.05)
L3	557.92	N61° 43' 30.53"E	(22143.60,30821.84)	(22634.95,31086.12)
L4	65.24	N79° 53' 59.28"E	(22873.61,31169.18)	(22937.84,31180.62)
L5	130.33	N71° 18' 14.77"E	(23053.98,31210.43)	(23177.43,31252.21)
L6	534.54	N79° 00' 56.00"E	(23541.43,31348.66)	(24066.18,31450.51)
L7	112.58	N36° 56' 49.54"W	(23914.70,31421.11)	(23847.03,31511.08)

B.O.P. E.O.P.

CURVE TABLE: SAWMILL DRIVE					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START NORTHING/EASTING	END NORTHING/EASTING
C1	200.00	33.233	N56° 46' 37.02"E	(21478.07,30457.94)	(21505.84,30476.13)
C2	5000.00	16.394	N61° 37' 52.39"E	(22129.17,30814.05)	(22143.60,30821.84)
C3	800.00	253.766	N70° 48' 44.90"E	(22634.95,31086.12)	(22873.61,31169.18)
C4	800.00	120.019	N75° 36' 07.02"E	(22937.84,31180.62)	(23053.98,31210.43)
C5	2800.00	376.853	N75° 09' 35.39"E	(23177.43,31252.21)	(23541.43,31348.66)

CULVERT POINT TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	INV EL
2032	CULVERT #17 (OUT)	31400.02	23904.34	89.22
2033	CULVERT #17 (IN)	31404.97	23929.87	89.08
2034	CULVERT #18 (OUT)	31335.44	23573.06	84.84
2035	CULVERT #18 (IN)	31342.08	23607.25	85.71

CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
7	31061.82	22506.95	75.40	FND RBR
8	31069.82	22479.73	75.56	FND RBR
9	30991.50	22545.08	75.43	FND RBR
10	31190.52	23120.49	82.70	CK 161
11	30926.29	22466.71	75.03	FND AC
12	30934.26	22439.78	74.45	FND RBR
13	31031.65	22409.40	74.41	FND RBR
14	30808.67	22040.85	69.82	FND AC
15	30747.97	22096.54	70.32	FND RBR
16	30720.89	22088.62	69.89	FND RBR
17	30692.17	22035.98	69.51	FND RBR
18	30700.25	22008.83	69.23	FND RBR
19	30627.04	21874.08	67.48	FND AC
20	30732.16	21899.72	68.51	FND AC
21	30521.98	21680.70	65.80	FND RBR
22	30579.22	21618.75	63.81	FND OPC
23	30426.43	21503.54	63.90	FND AC
24	30458.56	21395.71	62.95	FND RBR
25	31210.42	22873.60	77.87	FND AC
26	31219.19	22925.57	79.75	FND AC
27	31248.10	23040.00	80.04	FND RBR
28	31172.55	23065.49	80.51	FND RBR
29	31131.26	22887.13	78.58	FND RBR
30	30693.91	21829.56	67.22	FND OPC
31	30655.77	21759.16	66.43	FND OPC
50	31602.15	24582.52	100.00	FND OPC
51	32055.94	23525.69	101.60	FND OPC
151	31114.54	22812.21	77.87	FND AL CAP
159	31195.07	23133.66	82.80	FND YPC
160	31266.39	23094.92	80.49	FND AL CAP

STATE OF ALASKA 49TH
DANIEL SIMPSON CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

JOB NUMBER: 2010-1534
SCALE: AS SHOWN

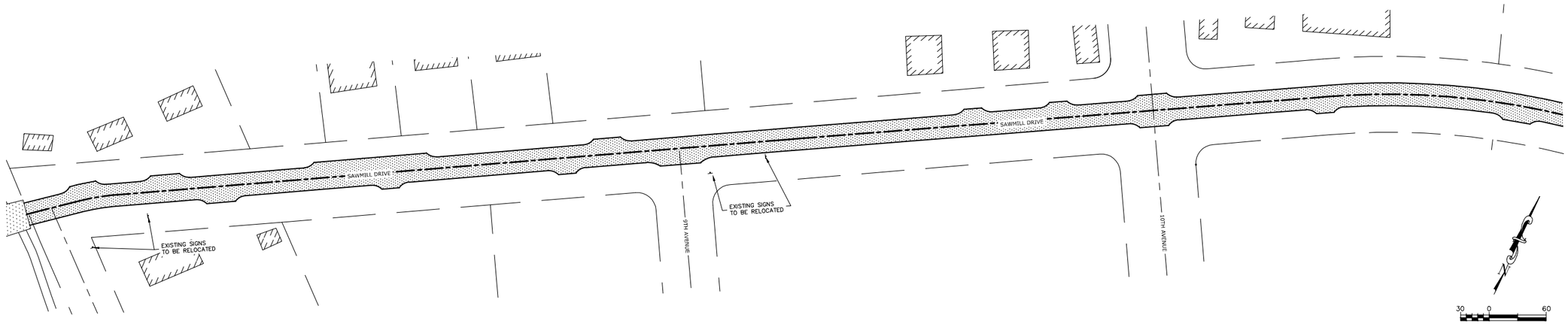
SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

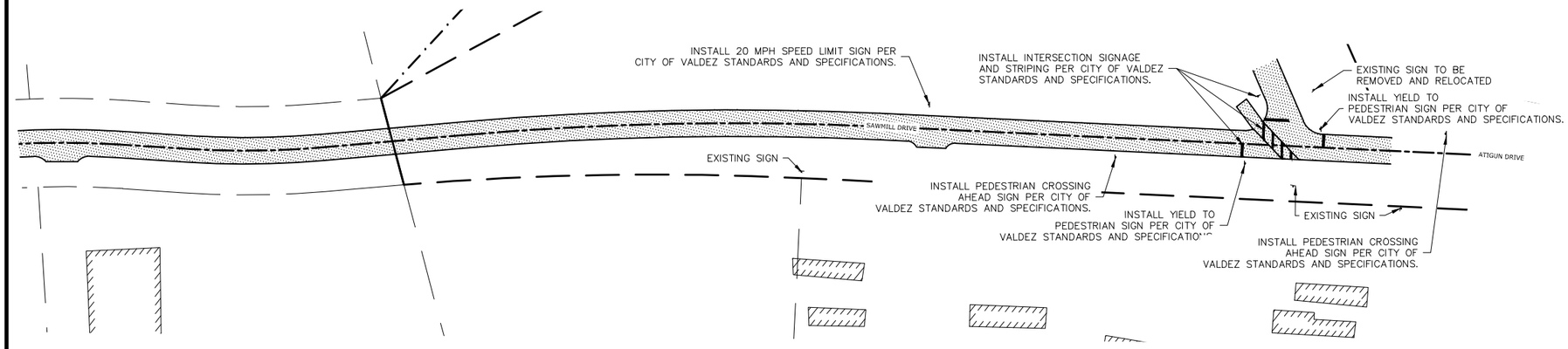
ROAD PLAN AND PROFILE
STA 21+00 TO 28+56 &
SALCHA DRIVE INTERSECTION REDESIGN

F. Robert Bell & Associates
3940 FAIRBANKS ST., SUITE 201
ANCHORAGE, ALASKA 99503-1561
PHONE (907) 344-4327

SHEET:
C3.02

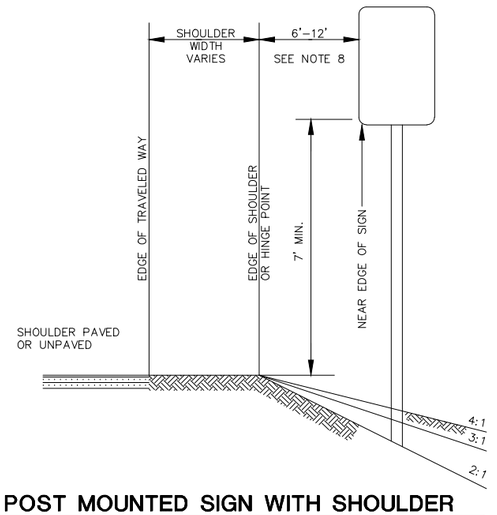
F.R. BELL & ASSOCIATES





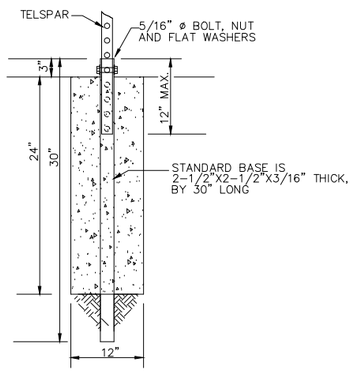
LEGEND

- EXISTING SIGN LOCATION
- PROPOSED SIGN LOCATION
- RIGHT-OF-WAY CENTERLINE
- EXISTING PAVEMENT
- PROPOSED PAVEMENT



POST MOUNTED SIGN WITH SHOULDER

SCALE: NTS — MASS DETAIL 70-20



CONCRETE FOUNDATION FOR SIGN POST

SCALE: NTS — MASS DETAIL 70-31

NOTES

1. ALL SIGNS TO BE INSTALLED PER M.A.S.S. SPECIFICATIONS. AND M.A.S.S. DETAIL 70-31.
2. PAVEMENT STRIPING AND MARKINGS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND ARE NOT SHOWN TO SCALE. ALL PAVEMENT STRIPING AND MARKINGS ARE TO TO MEET M.A.S.S. SIZING AND CONSTRUCTION CRITERIA UNLESS OTHERWISE NOTED IN THESE PLANS.
3. WHEN THE SIDE LACKS EDGE LINES, BEGIN AND END THE MAIN STREET EDGE LINES AT THE MAIN STREET PAVEMENT RETURNS AND EXTEND THE TOP BAR TO THE EDGE OF PAVEMENT AS SHOWN IN THE 'UNCURBED RETURN WITHOUT PATHWAY' DETAIL.
4. INSTALL DETECTABLE WARNING TILES IN PATHWAYS AT THE LOCATIONS SHOWN. INSTALL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
5. BREAK THE MAIN STREET CENTERLINE MARKINGS AT SIDE STREET INTERSECTIONS ONLY WHEN LEFT TURN LANES ARE PROVIDED. OTHERWISE, INSTALL THEM CONTINUOUSLY THROUGH THE INTERSECTION.
6. LOCATE STOP SIGNS TO THEY ARE:
   A. VISIBLE TO APPROACHING TRAFFIC AND
   B. AS NEAR TO THE STOP BAR AS PRACTICABLE.
7. WHEN THE SIDE STREET LACKS THE RIGHT OF WAY TO INSTALL THE STOP SIGN AT THE 13.5' OFFSET, REDUCE THE OFFSET TO FIT THE SIGN WITHIN THE RIGHT OF WAY. IF SIGHT OBSTRUCTIONS OBSCURE THE SIGN, RELOCATE THE SIGN SO IT IS VISIBLE.
8. UNLESS SHOWN OTHERWISE ON DRAWINGS, THE STANDARD SIGN OFFSET IS 12'. THE MINIMUM IS 6'.
9. IF SIGNS EXTEND OVER SIDEWALKS, THE MINIMUM VERTICAL CLEARANCE IS 7'-0".
10. ADD 6" TO MOUNTING HEIGHT ON UNPAVED ROADS.
11. IF SIGNS EXTEND OVER BIKE PATHS, THE MINIMUM VERTICAL CLEARANCE IS 8'-0".
12. PAINT ALL SIGN MOUNTING FASTENERS ON SIGN FACE A COLOR MATCHING THE SIGN FACE.
13. ATTACH ALL SIGNS ZEES AND BRACES MOUNTED TO THE POSTS WITH 5/16" BOLTS WITH SELF-LOCKING NUTS.

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

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ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

DRAWN BY: CLB
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DATE: 5/18/11
FIELD BOOK: N/A

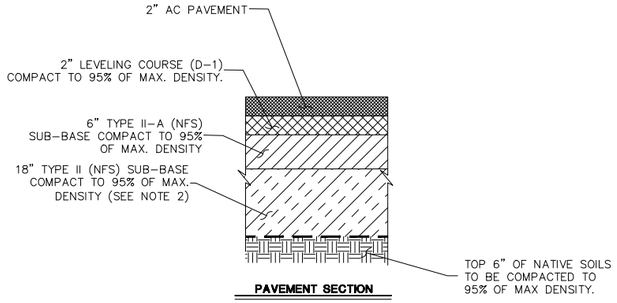
JOB NUMBER: 2010-1534
SCALE: AS SHOWN

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

SIGNAGE PLAN

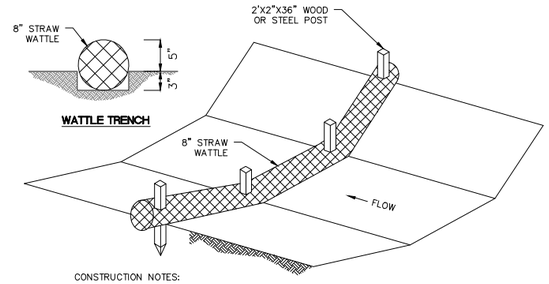
F. Robert Bell & Associates, Inc.
CIVIL ENGINEERS AND LAND SURVEYORS
3601 C STREET, SUITE 1322
ANCHORAGE, ALASKA 99503-3981
PHONE (907) 274-5251

SHEET:
C4.00



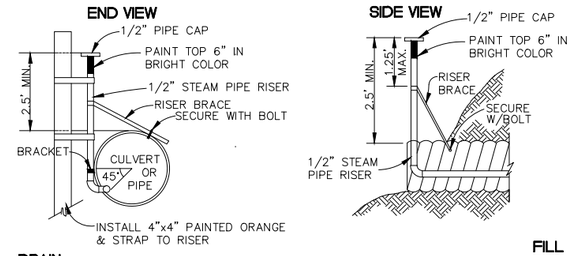
NOTES
1. ALL BACKFILLED MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 12".
2. THE NATIVE MATERIAL THAT CONSTITUTES THE EXISTING GRAVEL SECTION OF SAWMILL DRIVE CAN BE USED IN PLACE OF THE TYPE II & TYPE IIA BACKFILL UPON APPROVAL OF CITY OF VALDEZ PUBLIC WORKS ENGINEER.

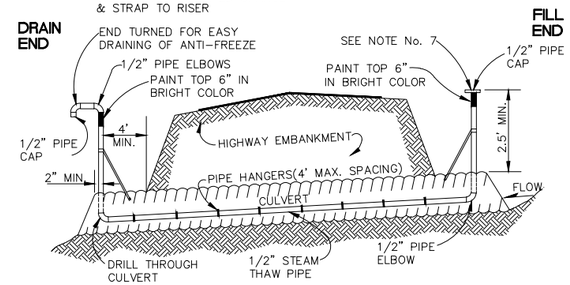
1 C5.00 TYPICAL PAVEMENT SECTION
SCALE: NTS



CONSTRUCTION NOTES:
1. CHECK DAMS TO REMAIN UNTIL VEGETATION IS IN PLACE TO STABILIZE SLOPES AND REDUCE SEDIMENT DISCHARGES.
2. INSTALL EVERY 100 FEET, OR AS NEEDED, IN DITCHES.
3. STRAW WATTLES SHALL BE EMBEDDED 3 INCHES.
4. 2"X2" STAKES SHALL BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE. AT LEAST 3 INCHES OF STAKE MUST BE LEFT PROTRUDING ABOVE THE WATTLE.

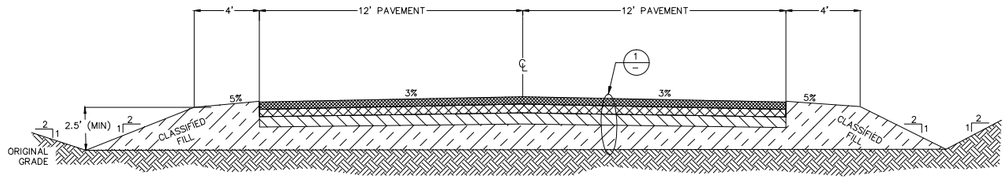
4 C5.00 DETAIL - WATTLE CHECK DAM
SCALE: NTS



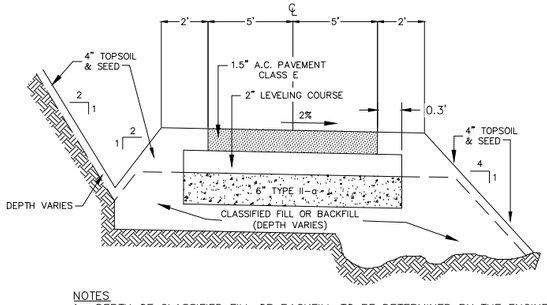


NOTES:
1. ALL MAINLINE PIPES AND STAND PIPES TO BE STANDARD GALVANIZED STEEL PIPE A.S.T.M. A-120-69 WITH STANDARD FITTINGS.
2. THAW PIPE TO BE FILLED WITH ANTI-FREEZE AND THE ENDS CAPPED.
3. MAXIMUM LENGTH OF THAW PIPE ALLOWABLE IS 40 FT.
4. STAND PIPE SHALL BE LOCATED IN SUCH A WAY AS TO MINIMIZE DAMAGE FROM SNOW REMOVAL EQUIPMENT.
5. THAW PIPE SHALL BE INSTALLED 45° BELOW FLOWLINE.
6. RISER BRACES TO BE 1/2" ANGLE IRON OR EQUIVALENT.
7. THE FILL END SHOULD BE 1' HIRER THAN THE DRAIN END FOR EASY DRAINING.

6 C5.00 CULVERT THAW PIPES
SCALE: NTS

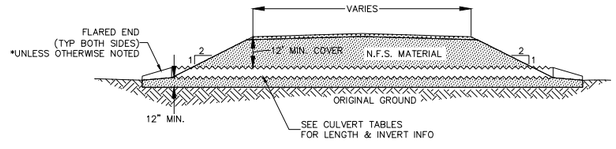


2 C5.00 SECTIONS - TYPICAL 24' WIDE STRIP PAVING
SCALE: NTS



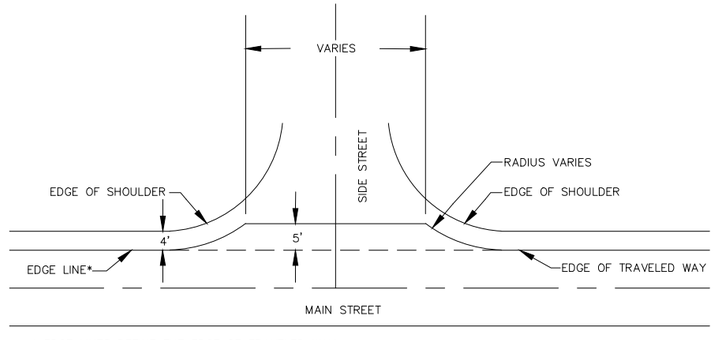
NOTES
1. DEPTH OF CLASSIFIED FILL OR BACKFILL TO BE DETERMINED BY THE ENGINEER
2. DEPTH OF THE DITCH SHALL BE AS NECESSARY FOR POSITIVE DRAINAGE AS DIRECTED BY THE ENGINEER.
3. CROSS CULVERTS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

3 C5.00 SECTIONS - TYPICAL BIKE TRAIL
SCALE: NTS



NOTES:
1. CORRUGATED METAL PIPE SHALL BE USED. SEE CULVERT TABLES ON PLAN & PROFILE SHEETS FOR DIAMETERS AND INVERT INFORMATION.
2. FLARES SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE PIPE.
3. ALL FILL MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.
4. ALL GRAVEL FILL MATERIAL WILL BE NON-FROST SUSCEPTIBLE (NFS), A MIXTURE OF SAND AND GRAVEL CONTAINING SIX PERCENT OR LESS MATERIAL FINER THAN #200 SIEVE SIZE.
5. CULVERT NO.'S 1, 6, AND 15 WILL NOT REQUIRE FLARED ENDS

5 C5.00 DETAIL - TYPICAL CULVERT
SCALE: NTS



* EDGE LINES DEFINE THE EDGE OF TRAVELED WAY

7 C5.00 TYPICAL UNCURBED PAVEMENT APRON
SCALE: NTS

STATE OF ALASKA 49TH
DANIEL SIMPSON CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:
REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

DRAWN BY: CLB
CHECKED BY: DDS
DATE: 5/18/11
FIELD BOOK: N/A

JOB NUMBER: 2010-1534
SCALE: AS SHOWN

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

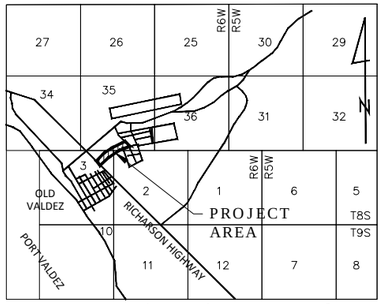
DETAILS - STREET IMPROVEMENTS

F. Robert Bell & Associates, Inc. ENGINEERING AND LAND SURVEYING 550 E. 36TH AVE., SUITE 300 ANCHORAGE, ALASKA 99503-4181 PHONE (907) 258-4551

SHEET:
C5.00

SAWMILL DRIVE ROAD EXTENSION
VALDEZ, ALASKA
SANITARY SEWER MAINLINE EXTENSION

March 30th, 2012



USGS QUADRANGLES VALDEZ (A-6 & A-7) SCALE 1"= 1 MILE

VICINITY MAP

F. ROBERT BELL & ASSOCIATES
801 W. FIREWEED LN; #201
ANCHORAGE, AK 99503
(907) 274-5257

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE INSTALLED AS SPECIFIED IN THE MOST CURRENT EDITION OF THE CITY OF VALDEZ STANDARD CONCRUCTION SPECIFICATIONS FOR STREETS-DRAINAGE-UTILITIES-PARKS (CVSS).
2. MAINTAIN A MINIMUM OF 36-INCHES OF VERTICAL SEPARATION BETWEEN ANY STORM SEWER (STORM DRAIN OR FOOTING DRAIN) AND WATERLINE (MAINS OR SERVICES) OR SANITARY SEWER (MAINS OR SERVICES). IF 36-INCHES CANNOT BE MAINTAINED, PROVIDE A MINIMUM OF 4-INCH THICK INSULATION.
3. ALL WATER/SEWER PIPE INSULATION SHALL BE RIGID BOARD, HIGH DENSITY EXTRUDED POLYSTYRENE, MIN. 60 P.S.I., FOR UNDERGROUND INSTALLATIONS EQUIVALENT TO R-20 PER FOUR (4) INCH THICK INSULATION, OR APPROVED EQUAL.
4. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACTOR RECORD DRAWINGS. CONTRACTOR SHALL RECORD FIELD INSTALLATION NOTES OF CONSTRUCTED IMPROVEMENTS AND ENCOUNTERED UTILITIES FOR SUBMITTAL WITH RECORD DRAWING PLANS.
5. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRECONSTRUCTION CONDITION.
6. IN CASE OF CONFLICT BETWEEN STATIONING LOCATION OF PIPE OR FITTINGS, USE DIMENSIONED LOCATIONS RELATIVE TO THE CENTERLINE AND PROPERTY LINE, THE DIMENSIONED LOCATIONS SHALL GOVERN.
7. THE CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH RECORD DRAWING PLANS PRIOR TO CONTRACT FINAL PAYMENT.
8. ALL DUCTILE AND CAST IRON PIPE AND FITTINGS SHALL BE ENCASED IN 8-MILS OF POLYETHYLENE WRAP, AS PER CVSS SECTION 50.13 "POLYETHYLENE ENCASEMENT."
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND MUNICIPAL LAWS THAT PROHIBIT UNPERMITTED DISCHARGE OF POLLUTANTS, INCLUDING SEDIMENTS, THAT ARE A RESULT OF EROSION AND OTHER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONDUCT ALL WORK SO SEDIMENT IS NOT TRANSPORTED ONTO THE ROADWAY OR ADJACENT PROPERTY. AT A MINIMUM, THE CONTRACTOR SHALL SWEEP UP ANY SEDIMENT TRACKED ONTO PAVED SURFACES IN PUBLIC RIGHT-OF-WAY WITHIN 24 HOURS OF THE TRACKING TO MINIMIZE THE WASH-OFF OF SEDIMENT INTO THE STORM DRAINS OR WATERWAYS.
10. CONTRACTOR SHALL MAINTAIN A MINIMUM OF TEN (10) FEET HORIZONTAL AND EIGHTEEN (18") INCHES VERTICAL SEPARATION BETWEEN WATER AND STORM OR SANITARY SEWER MAINS AND SERVICES (AS MEASURED FROM OUTSIDE TO OUTSIDE OF PIPE). SANITARY AND STORM SEWER PIPE JOINTS SHALL BE PLACED AT LEAST 9-FEET FROM ANY WATERLINE CROSSING.

SANITARY SEWER NOTES

1. EXISTING CUSTOMERS SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS IN ADVANCE OF SANITARY SEWER SERVICE INTERRUPTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SANITARY SEWER SERVICE TO THE EXISTING CUSTOMERS IF DEEMED NECESSARY BY THE ENGINEER. (TEMPORARY SEWER SERVICE NEEDS CITY OF VALDEZ REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.)
2. THE MANHOLE SHALL BE A TYPE A MANHOLE PER CVSS DETAIL 50-1.
3. MANHOLE SHALL HAVE A MINIMUM OF ONE-SIX (6") INCH GRADE RING. MAXIMUM GRADE RING ADJUSTMENT SHALL NOT EXCEED EIGHTEEN (18") INCHES.
4. ALL SANITARY SEWER MAINS SHALL BE CLASS 50, DUCTILE IRON PIPE.
5. SANITARY SEWER SERVICES SHALL BE 4-INCH DIP UNLESS NOTED ON PLANS WITH A MINIMUM SLOPE FOR 6-INCH SERVICES TO BE 1% AND FOR 4-INCH SERVICES TO BE 2%.
6. SANITARY SEWER SERVICES SHALL BE PLACED NO CLOSER THAN: 15 FEET HORIZONTALLY MEASURED TO ANY FIRE HYDRANT OR FIRE HYDRANT LEG; 10 FEET HORIZONTALLY MEASURED TO ANY WATER MAIN, WATER SERVICE, STORM SEWER, FOOTING DRAIN, STREET LIGHT, TRANSFORMER PAD, ELECTRICAL/TELEPHONE/CABLE BOX; AND 5 FEET HORIZONTALLY MEASURED TO ANY SIDE LOT LINE.
7. ALL BEDDING SHALL BE CLASS 'C'.
8. SEWER MAIN AND SERVICE TRENCHES AND BEDDING SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.
9. THE CONTRACTOR SHALL RELOCATE ANY SEWER SERVICE CONNECTIONS INSTALLED WITH LESS THAN MINIMUM STANDARD MEASURED DISTANCES PRIOR TO FINAL ACCEPTANCE BY THE CITY OF VALDEZ.
10. ALL PORTIONS OF THE SEWER SERVICE WITH LESS THAN 8' OF COVER SHALL BE INSULATED WITH 4" OF RIGID BOARD INSULATION.
11. LATERAL SEWER SERVICE CONNECTION LOCATIONS SHALL BE APPROVED BY THE CITY OF VALDEZ DURING CONSTRUCTION OF SEWER MAIN LINE..

SURVEY NOTES

1. BASIS OF BEARING IS N28°36'58"E (PER PLAT 97-15) BETWEEN FOUND MONUMENTS AS SHOWN ON SHEET C1.0.1.
2. BASIS OF COORDINATES IS POINT 160, A FOUND ALUMINUM CAP LOCATED NEAR THE WEST END OF THE PROJECT AREA. COORDINATES ARE IN A LOCAL COORDINATE SYSTEM. THE COORDINATES FOR THIS POINT IS (N31266.39; E23094.92; EL80.49).
3. BASIS OF VERTICAL DATUM IS POINT 50 A FOUND ORANGE PLASTIC CAP WITH AN ASSUMED ELEVATION OF 100.00.
4. THE FIELD SURVEY WAS PERFORMED BY FR BELL & ASSOCIATES ON JUNE 5TH, 2010.
5. UNDERGROUND UTILITY LOCATE REQUESTS WERE COORDINATED BY LOCATE CENTER OF ALASKA.

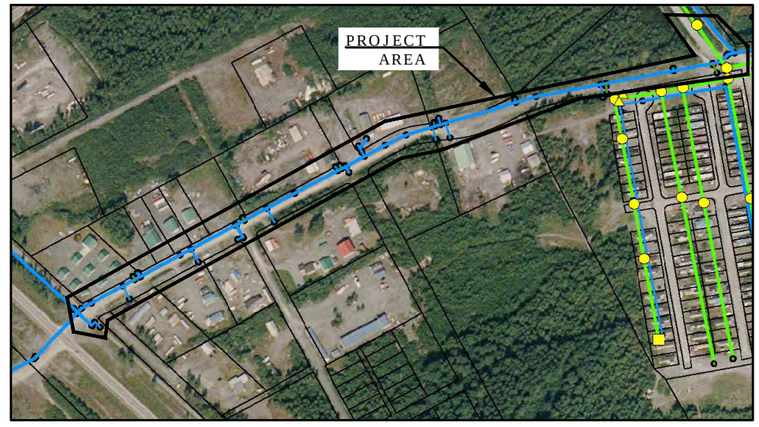
CALL BEFORE YOU DIG

CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION THE FOLLOWING IS A PARTIAL LIST:

CITY OF VALDEZ PUBLIC WORKS	835-4473
VALDEZ WATER	835-2997
CVEA	835-4301
CROWLEY	835-4558
LOCATE CENTER OF ALASKA:	
STATEWIDE	1-800-478-3121

CAUTION

EXISTING UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.



WATER/SEWER KEY MAP

SCALE: NTS

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE VALDEZ, AK 99686

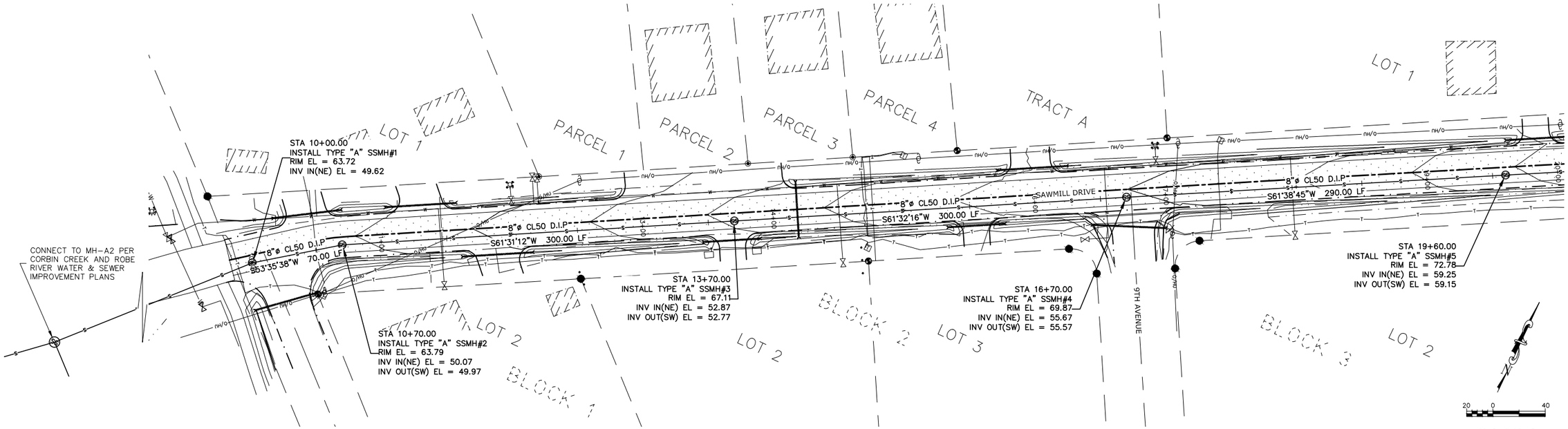
JOB NUMBER: 2010-1534
SCALE: AS SHOWN

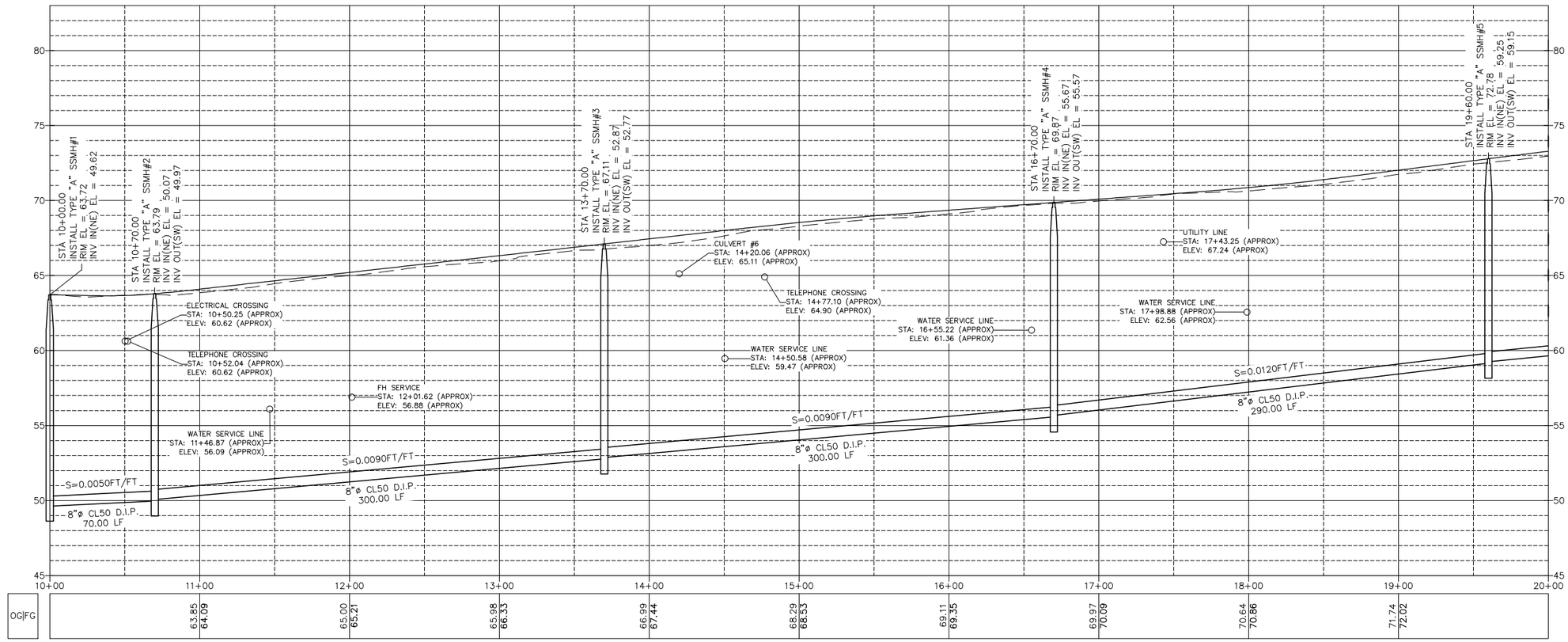
DRAWN BY: MSB
CHECKED BY: DS
DATE: 3/30/12
FIELD BOOK: N/A

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION
NOTES & MAPS

F. Robert bell assoc. inc.
CONSULTING AND LAND SURVEYORS
801 WEST FIREWEED LANE, SUITE 201
ANCHORAGE, ALASKA 99503-7901
PHONE (907) 274-5257

SHEET:
C6.00





SAWMILL DRIVE - PROPOSED SEWER

STA: 10+00 TO 20+00

F.R. BELL & ASSOCIATES

STATE OF ALASKA 49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

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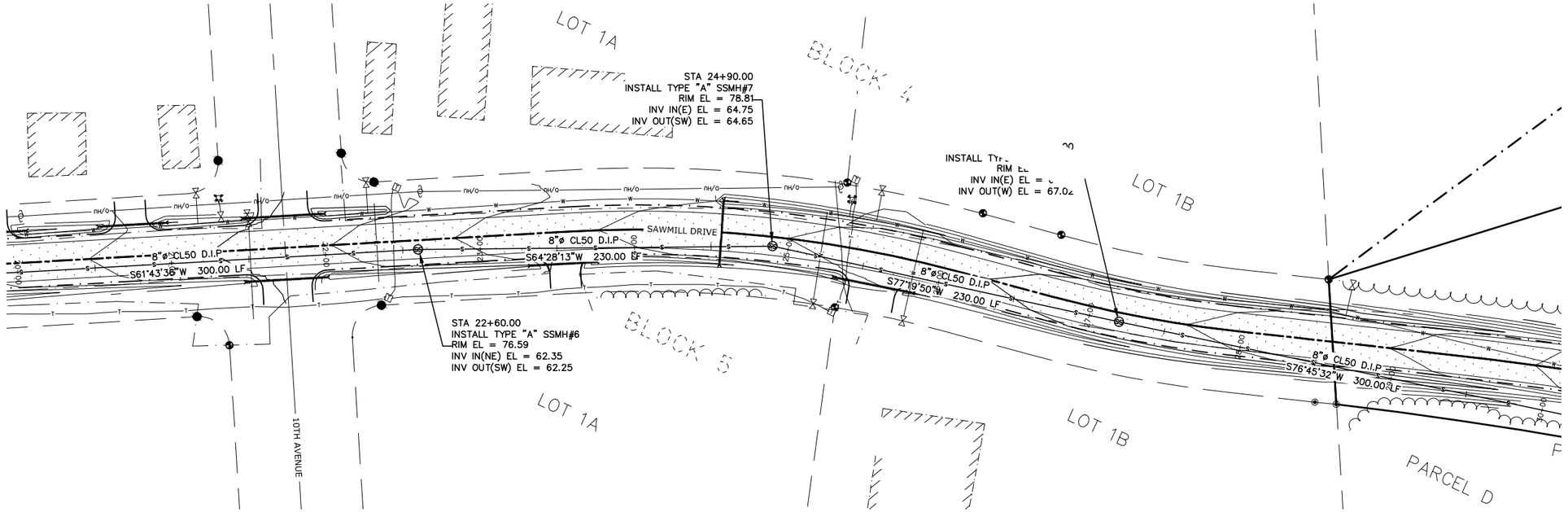
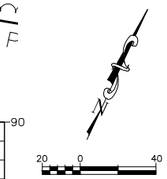
SAWMILL DRIVE UPGRADE
& SEWER MAINLINE EXTENSION

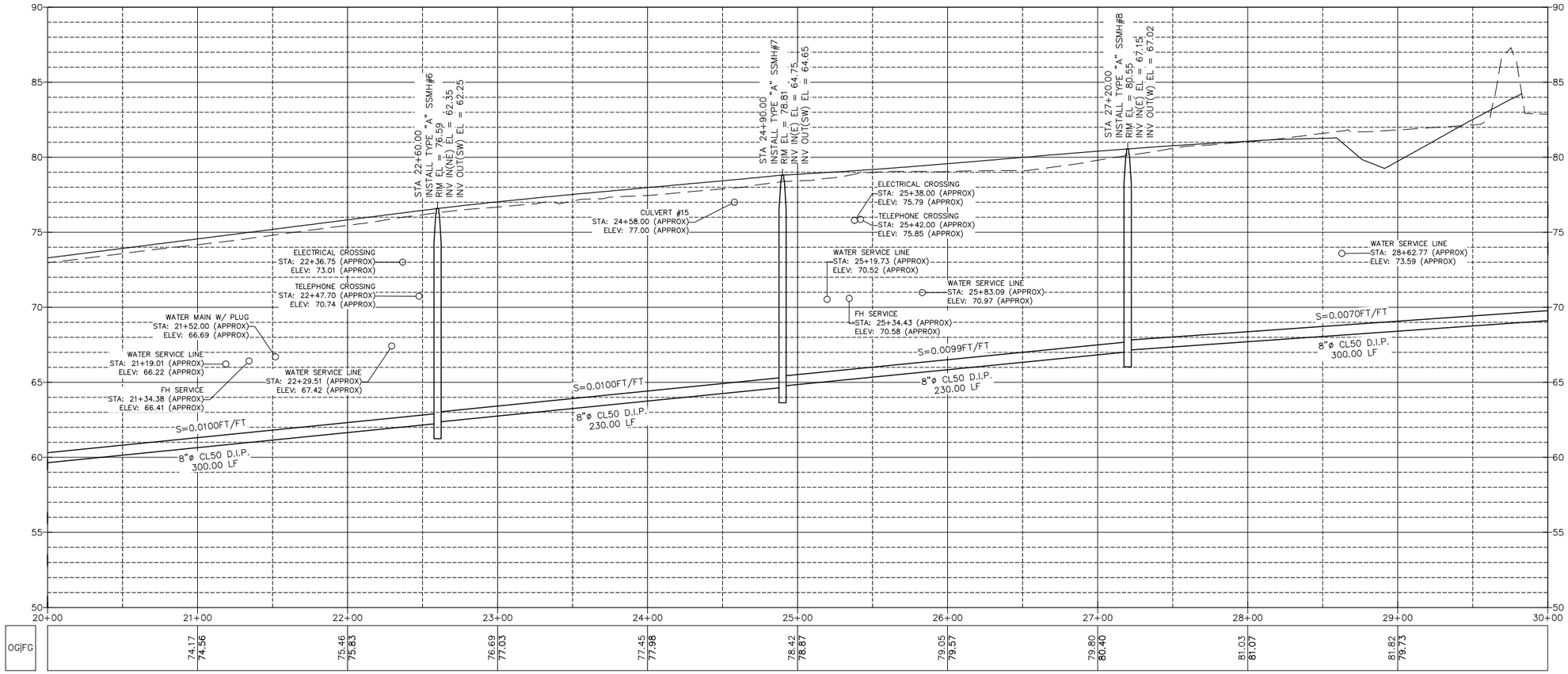
PLAN & PROFILE
STA 10+00 TO 20+00

F. Robert Bell & Associates
CIVIL ENGINEERS AND LAND SURVEYORS
840 K STREET, SUITE 301
ANCHORAGE, ALASKA 99501-1921
PHONE (907) 274-4327

SHEET:
C6.01







SAWMILL DRIVE - PROPOSED SEWER

STA: 20+00 TO 30+00

STATE OF ALASKA
49TH
DANIEL SIMPSON
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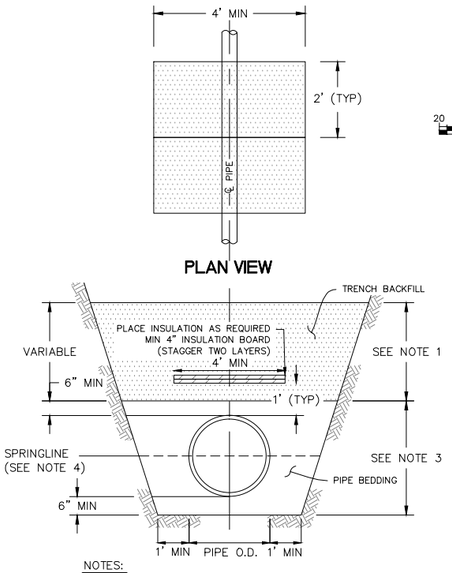
SAWMILL DRIVE UPGRADE
& SEWER MAINLINE EXTENSION

PLAN & PROFILE
STA 20+00 TO 30+00

F. Robert Bell & Associates
CONSULTING AND SURVEYING
6111 E. TUDOR ROAD, SUITE 201
ANCHORAGE, ALASKA 99507-1601
PHONE (907) 274-5627

SHEET:
C6.02

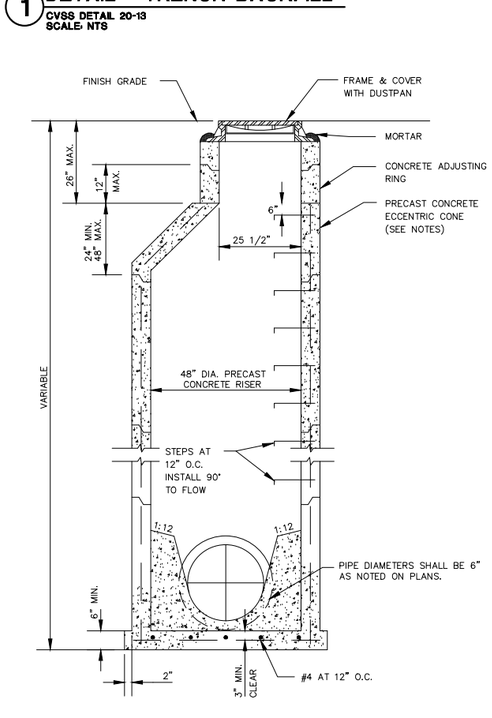


NOTES:

1. ALL TRENCH BACKFILL MATERIAL PLACED SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY.
2. TRENCH WALLS SHALL HAVE MAXIMUM SIDE SLOPES OF 1.5:1.
3. CLASS "C" BEDDING.
4. BEDDING TO SPRING LINE ONLY WHEN DUCTILE IRON PIPE IS INSTALLED.

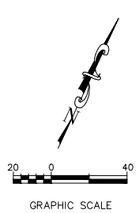
(1) DETAIL - TRENCH BACKFILL

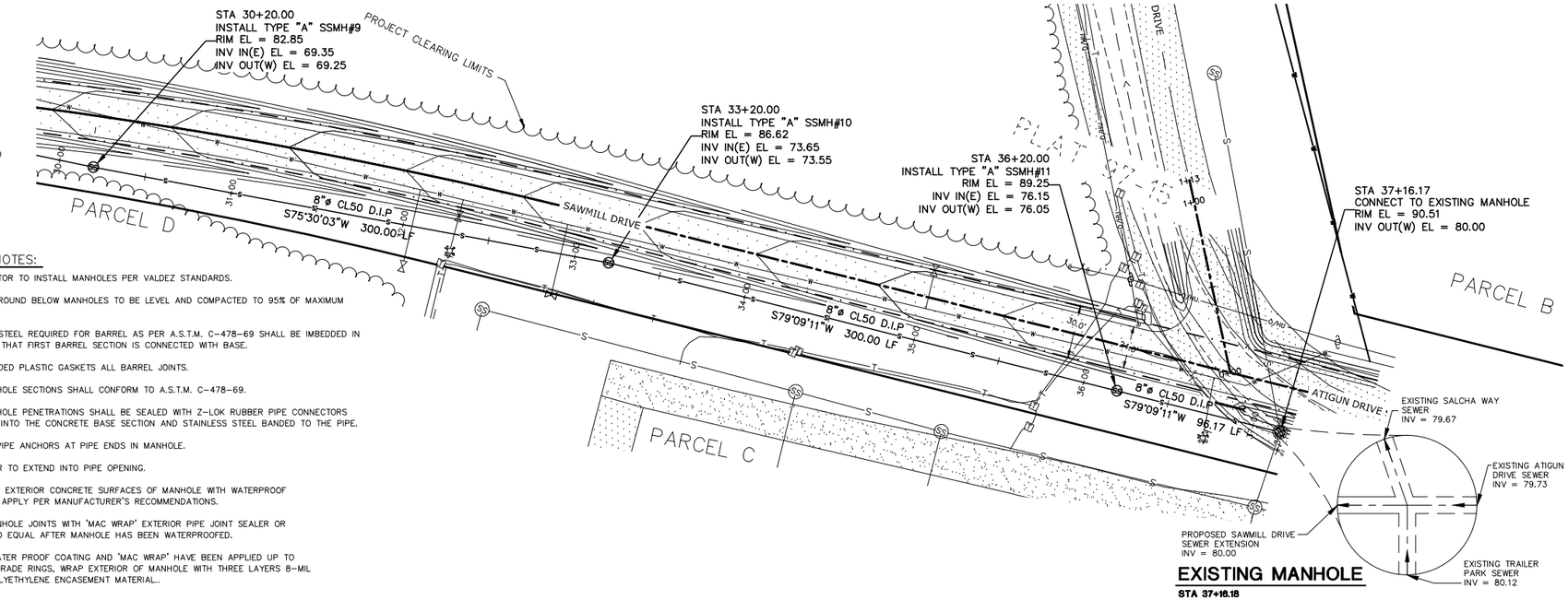
CVSS DETAIL 20-13
SCALE: NTS



(2) DETAIL - TYPE 'A' SANITARY SEWER MANHOLE

CVSS DETAIL 50-1
SCALE: NTS



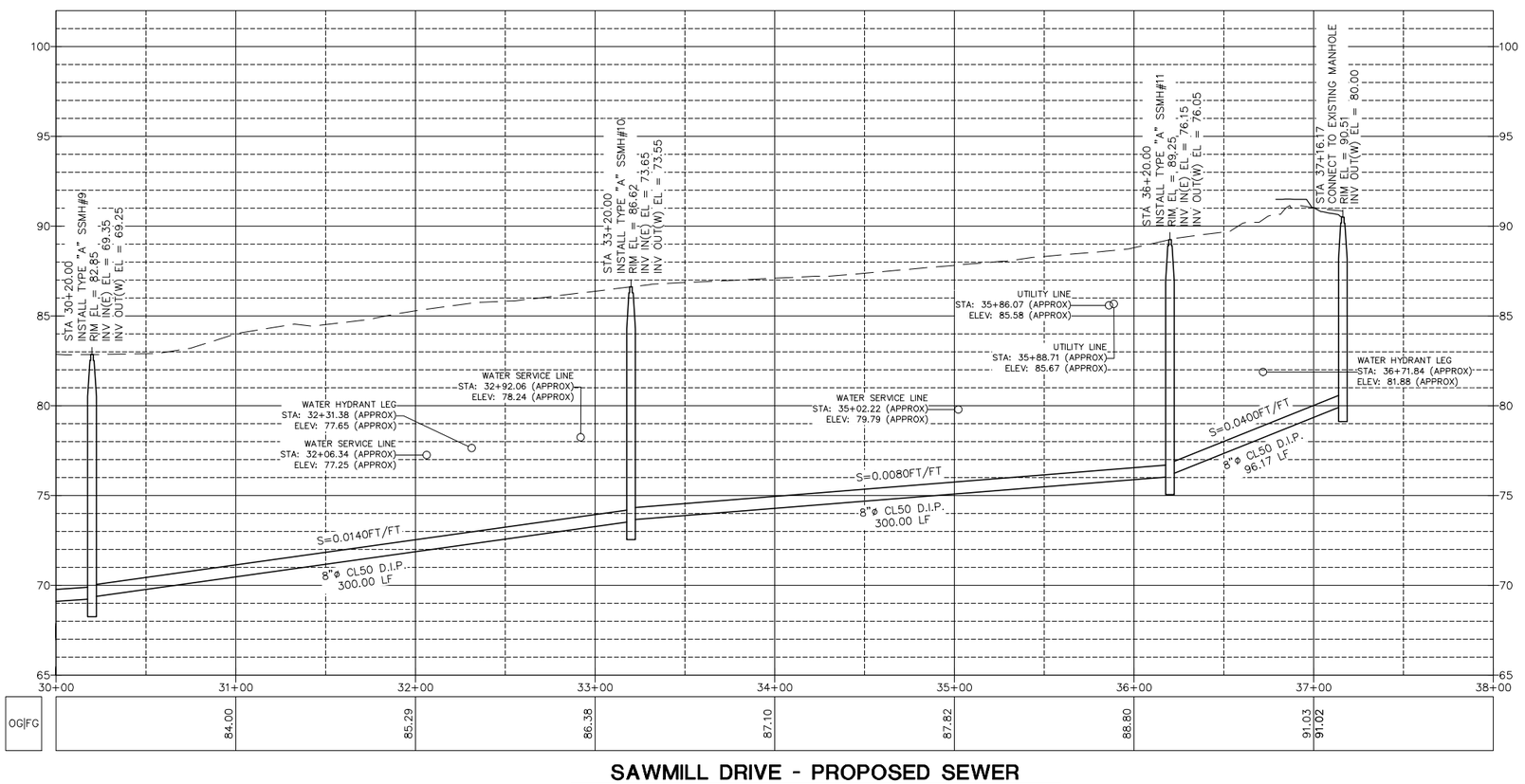


DETAIL NOTES:

1) CONTRACTOR TO INSTALL MANHOLES PER VALDEZ STANDARDS.
2) NATIVE GROUND BELOW MANHOLES TO BE LEVEL AND COMPACTED TO 95% OF MAXIMUM DENSITY.
3) MINIMUM STEEL REQUIRED FOR BARREL AS PER A.S.T.M. C-478-69 SHALL BE IMBEDDED IN BASE SO THAT FIRST BARREL SECTION IS CONNECTED WITH BASE.
4) PRE-MOLDED PLASTIC GASKETS ALL BARREL JOINTS.
5) ALL MANHOLE SECTIONS SHALL CONFORM TO A.S.T.M. C-478-69.
6) ALL MANHOLE PENETRATIONS SHALL BE SEALED WITH Z-LOK RUBBER PIPE CONNECTORS PRECAST INTO THE CONCRETE BASE SECTION AND STAINLESS STEEL BANDED TO THE PIPE.
7) INSTALL PIPE ANCHORS AT PIPE ENDS IN MANHOLE.
8) NO REBAR TO EXTEND INTO PIPE OPENING.
9) COAT ALL EXTERIOR CONCRETE SURFACES OF MANHOLE WITH WATERPROOF COATING. APPLY PER MANUFACTURER'S RECOMMENDATIONS.
10) SEAL MANHOLE JOINTS WITH 'MAC WRAP' EXTERIOR PIPE JOINT SEALER OR APPROVED EQUAL AFTER MANHOLE HAS BEEN WATERPROOFED.
11) AFTER WATER PROOF COATING AND 'MAC WRAP' HAVE BEEN APPLIED UP TO TOP OF GRADE RINGS, WRAP EXTERIOR OF MANHOLE WITH THREE LAYERS 8-MIL THICK POLYETHYLENE ENCASEMENT MATERIAL..

EXISTING MANHOLE

STA 37+16.18



SAWMILL DRIVE - PROPOSED SEWER

STA: 30+00 TO 38+00

STATE OF ALASKA
49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

DATE:

REVISION:

CLIENT: CITY OF VALDEZ
ADDRESS: 212 CHENEGA AVE
VALDEZ, AK 99686

DRAWN BY: MSB
CHECKED BY: DS
DATE: 3/30/12
FIELD BOOK: N/A

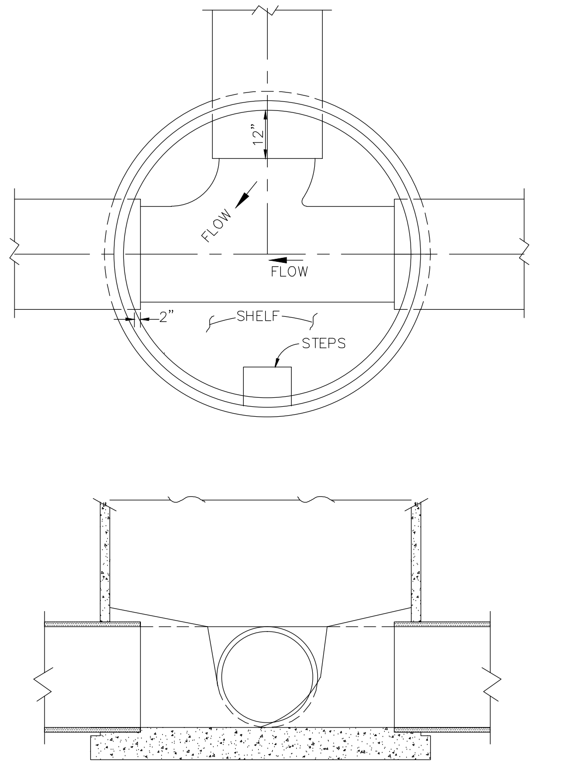
JOB NUMBER: 2010-1534
SCALE: AS SHOWN

SAWMILL DRIVE UPGRADE & SEWER MAINLINE EXTENSION

PLAN & PROFILE
STA 30+00 TO 37+20

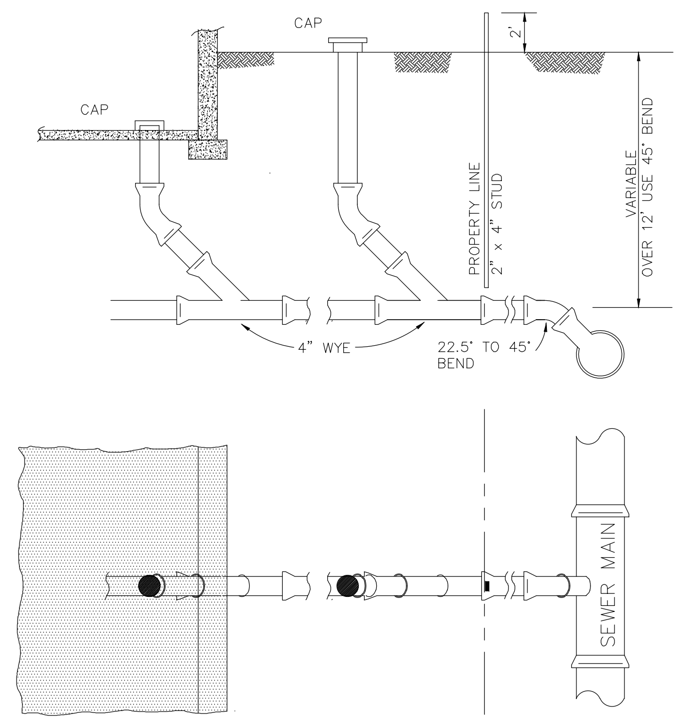
F. Robert Bell and Associates, Inc.
ENGINEERS AND SURVEYORS
ANCHORAGE, ALASKA 99503-1630
PHONE (907) 274-4251

SHEET:
C6.03



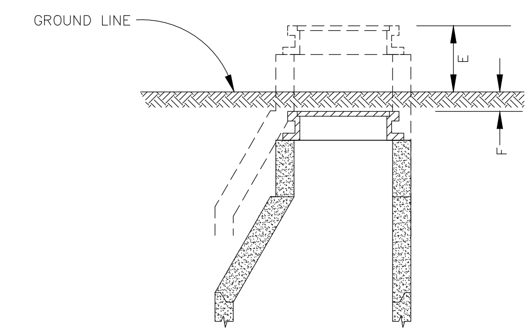
TYPE A AND B MANHOLE BASEPLAN

SCALE: NTS



SEWER CONNECTION SERVICE

SCALE: NTS



LOCATION	E	F
BACKYARDS, GRAVEL STREETS, AND ALLEY AREAS WHERE TRAVELED.		6"-12"
UNDEVELOPED AND SWAMPY AREAS.	24" MIN	
HIGHWAY R.O.W.S OUTSIDE TRAFFIC AREAS.	6"	
PAVED STREETS.		1/2"

MANHOLE HEIGHTS

SCALE: NTS

STATE OF ALASKA
49TH
DANIEL SIMPSON
CE 8216
REGISTERED PROFESSIONAL ENGINEER

REVISION:

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DATE: 3/30/12
FIELD BOOK: N/A

SAWMILL DRIVE UPGRADE
& SEWER MAINLINE EXTENSION

DETAILS - SEWER IMPROVEMENTS

F. Robert bell & assoc.
ENGINEERS AND LAND SURVEYORS

SHEET:

C6.04

Sawmill Drive Extension

Traffic Impact Analysis
Final Report

June 17, 2010

Prepared for:

The City of Valdez
And
F. Robert Bell and Associates

By:

Kinney Engineering, LLC
750 West Dimond Blvd., Suite 203
Anchorage, AK 99515
907 346-2373
Randy Kinney, P.E., PTOE

Table of Contents

Tables

Figures

ACRONYMS AND ABBREVIATIONS

These acronyms and abbreviations may be used throughout this document.

AADT, ADT	Average Annual Daily Traffic, Annual Daily Traffic
AAC	Alaska Administrative Code
AASHTO	American Association of State Highway and Transportation Officials
ADOT/ (&)PF, or DOT(/)(&)PF	Alaska Department of Transportation and Public Facilities
DD, DDHV	Directional Distribution, DD Hourly Volume
EB, EBL,EBLT	Eastbound, eastbound left turn
FT.,ft.,Ft.	Feet or foot (length)
GDHS	Geometric Design of Highways and Streets (Reference)
HCM, HCM2000	Highway Capacity Manual 2000 (Reference)
HCS, HCS2000	Highway Capacity Software
Hr.,hr.,H., h.	Hour(s)
Hwy	Highway
ISD	Intersection Sight Distance
ITE	Institute of Transportation Engineers
LOS	Level of Service (performance grade)
LRTP	Long Range Transportation Plan
LT, L	Left turn(s)
MEV, MVM	Million Entering Vehicles, Million Vehicle Miles
Mph, MPH, mph	Miles Per Hour
MUTCD	Manual of Uniform Traffic Control Devices
NB, NBL, NBLT	Northbound, northbound left turn
NCHRP	National Cooperative Highway Research Program
NPS	National Park Service
pcu	Passenger car unit(s)
PHF	Peak Hour Factor
Ped	Pedestrian
Pkwy	Parkway
PSD	Pedestrian Sight Distance
PTR	Permanent Traffic Recorder
Rd, RD	Road
RT, R	Right turn(s)
SB, SBL, SBLT	Southbound, southbound left turn
S, Sec	Second
Sf, SF	Square feet
SSD	Stopping Sight Distance
St, ST	Street
T, Th, Thru	Through
TRB	Transportation Research Board

These acronyms and abbreviations may be used throughout this document.

TIA	Traffic Impact Analysis
TWSC	Two-way-stop-control (2 stopped approaches)
UCL	Upper Control Limit
v/c,V/C	Volume to Capacity Ratio
Veh,v	Vehicle(s)
Vol	Volume
WB, WBL, WBLT	Westbound, westbound left turn

EXECUTIVE SUMMARY

This traffic impact study is being prepared for the City of Valdez to assess the impacts of the Sawmill Drive extension on area roadways and intersections. The proposed extension of Sawmill Drive will create a new intersection with Salcha Way, and will provide new circulation routes for existing and future developments. The street has an expected construction year of 2010, and an assumed design year of 2020. The work in the study included:

- Traffic data collection (volume, speed, sight distance).
- Review and assimilation of historic traffic volume information.
- Review and analysis of historic crash data.
- Review of the area planning background.
- Analysis of projected development including trip generation and distribution.
- Operational and capacity analyses of background conditions and conditions with future developments.

Two options were considered for the connection of the Sawmill Drive extension to Salcha Way/Atigun Drive. The first option would connect the extension at the existing corner where Atigun Drive turns into Salcha Way. The second option would be a new connection further to the north along Salcha Way across from the ball field. Based on volumes and sight distance it is recommended that the connection of the extension be made at the existing intersection of Salcha Way and Atigun Drive, with Salcha Way the stop controlled approach.

Sawmill Drive is currently functions local road with an unpaved surface and no outlet at its eastern terminus. The proposed extension will create a connection with the local road network at Salcha Way that will likely change the functional class of Sawmill Drive. After the connection, Sawmill Drive will likely function as a Minor Collector carrying traffic from local roads to the Richardson Highway which is a Principal Arterial. This connection to the Richardson Highway is expected to shift local traffic that currently uses Salcha Way to access the Richardson Highway via Valdez Airport Road, to the new extended Sawmill Drive.

Historical data was gathered from both population based and traffic based sources to determine what the background growth rate should be. It was found that data sources show an unchanging or declining growth rate. As such no background growth is applied, only a redistribution of traffic within the study area in the opening year.

In addition to the redistribution of area traffic, there are several developments expected to increase traffic generated along Atigun Drive and in the vicinity of Sawmill Drive. Expected development includes expansion of two mobile home parks, and the new development of an approximately 70 acre industrial subdivision on Atigun Drive. In the vicinity of Sawmill Drive there is potential for the addition of a number of single family residences. Kinney

Engineering, LLC (KELLC) estimated the potential trips generated by the new developments. These additional trips were then added to area roadway traffic to arrive at 2020 volumes.

The 2020 traffic numbers were then used to assess the levels of service at area intersections. Based on predicted turning movement volumes at these intersections KELLC checked whether signal warrants were met and evaluated whether auxiliary turn lanes would be required. It was found that none of the area intersections are likely to meet signal warrants in the future according to the Cal Trans method of evaluating intersections for warrants based on future volumes. Approaches to the intersections were evaluated based on NCHRP guidelines, operational levels of service, and crash history to determine whether turn lanes were recommended. Several auxiliary lanes are recommended and those lanes are presented in Exhibit 1.

The Salcha Way segment had a high crash rate when compared to similar roadways during the 10 year study period. Out of the 4 crashes that occurred on this segment, 3 of them were under snow and ice conditions. It can be concluded that Salcha Way's high crash rate may overstate the safety problems on the street, especially since all were property damage only, and most occurred on poor road conditions. Severity was overrepresented during the study period for the intersection of the Richardson Highway and Valdez Airport Road. The rear end and overtaking sideswipe crash rates will benefit from the construction of auxiliary lanes to remove turning vehicles from the through traffic.

As part of the construction of the new connection between the Sawmill Drive extension and the Atigun Drive/Salcha Way intersection, the existing pathway on the east side of Salcha Way will need to be reconfigured to accommodate the intersection improvements. In addition, since there is a substantial residential development planned in this area, a new pathway along the Sawmill Drive extension should be considered for future implementation to provide a direct corridor to the Richardson Highway facilities and promote non-motorized travel.

If the future development is limited to residential dwellings, without the industrial development, then the roadway would function as a residential or neighborhood collector. The Municipality of Anchorage has developed standards for collector streets which could be applied to this roadway. Under that methodology, Anchorage would require 10-foot lanes and 3.5-foot shoulders and curb/gutters for the collector. This strip paved section could be adapted to provide striped 10-foot lanes, 2-foot paved shoulders, and 4-foot gravel shoulders.

Upon development of the industrial area, both the volumes and percentage of trucks would increase, and the above described section may be inadequate. With increased trucks and volume, 12-foot lanes with additional paved shoulder width (4 to 8 feet) would be recommended.

It is recommended that the surface of Sawmill Drive should be paved along its entirety. It is also recommended that lighting should be provided for the project intersections (on the

Richardson Highway) that have left turn lanes, to illuminate the left turn lanes from the beginning of the widening taper.

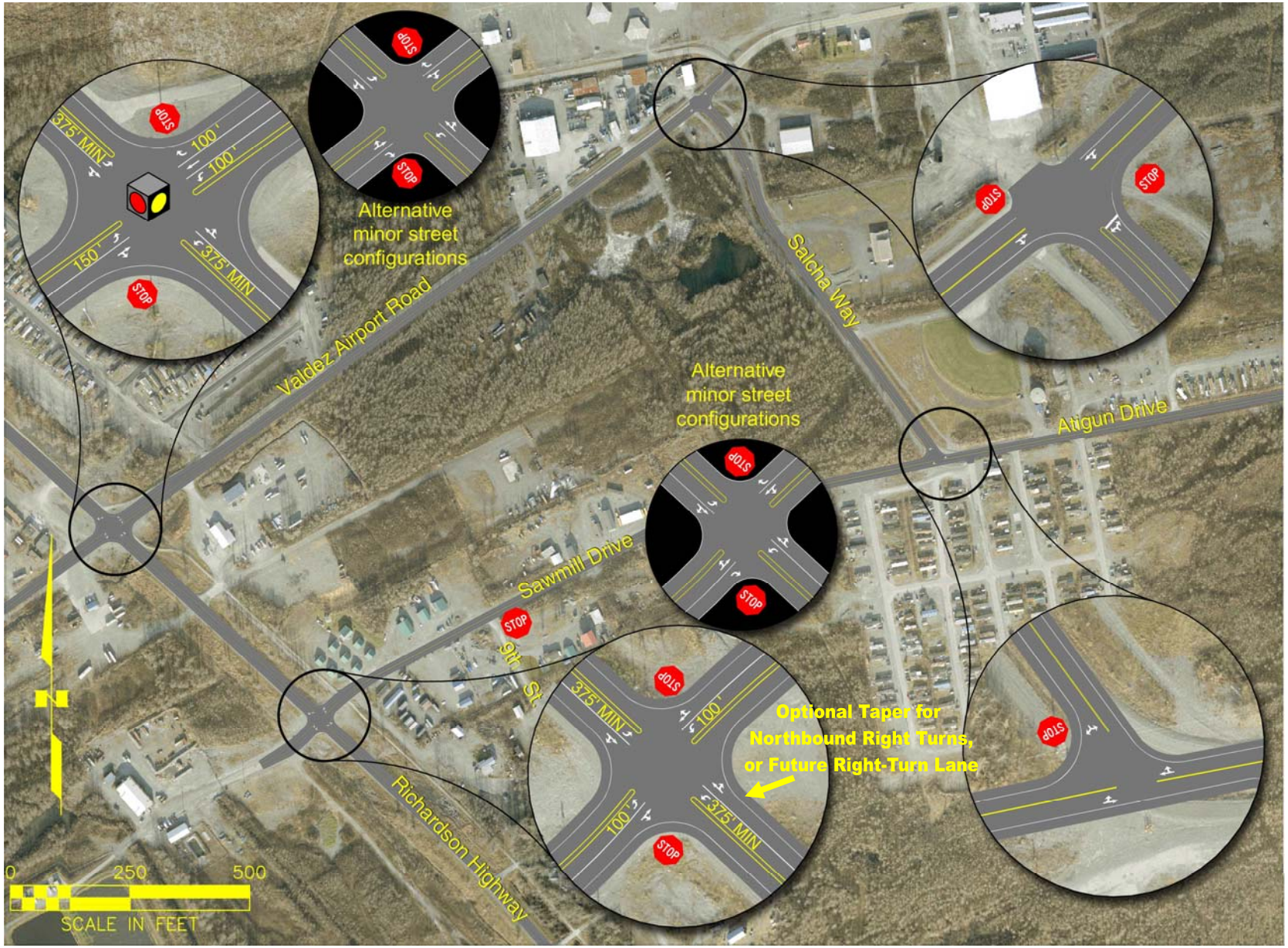


Exhibit 1- Recommended Alternative

1 INTRODUCTION

1.1 Project Description and Location

This Traffic Impact Analysis addresses the future extension of Sawmill Drive to connect with Salcha Way in Valdez Alaska. The project location is presented in the following figure followed by a graphic of the traffic impact study area.

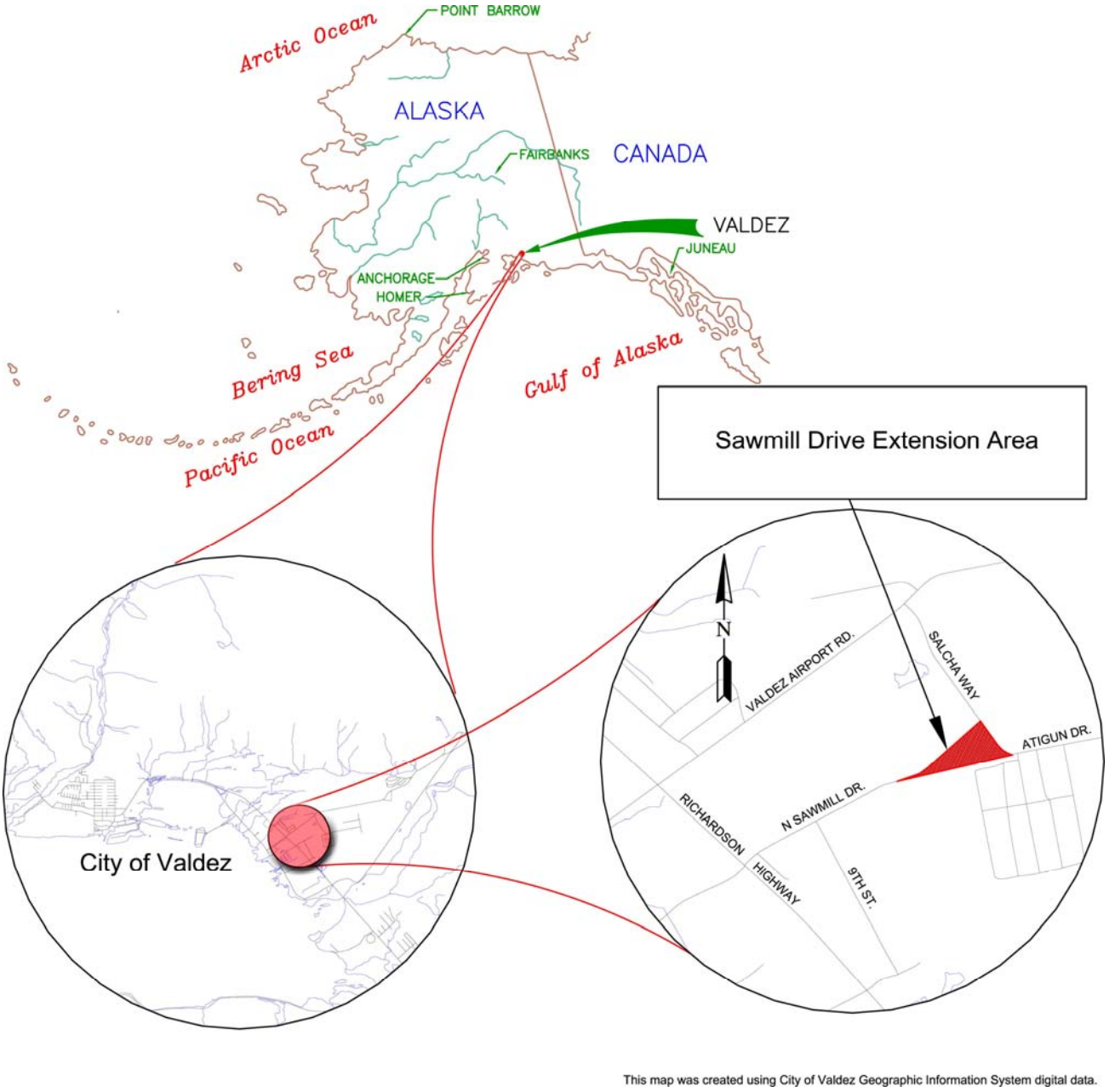


Figure 1- Location and Vicinity Map

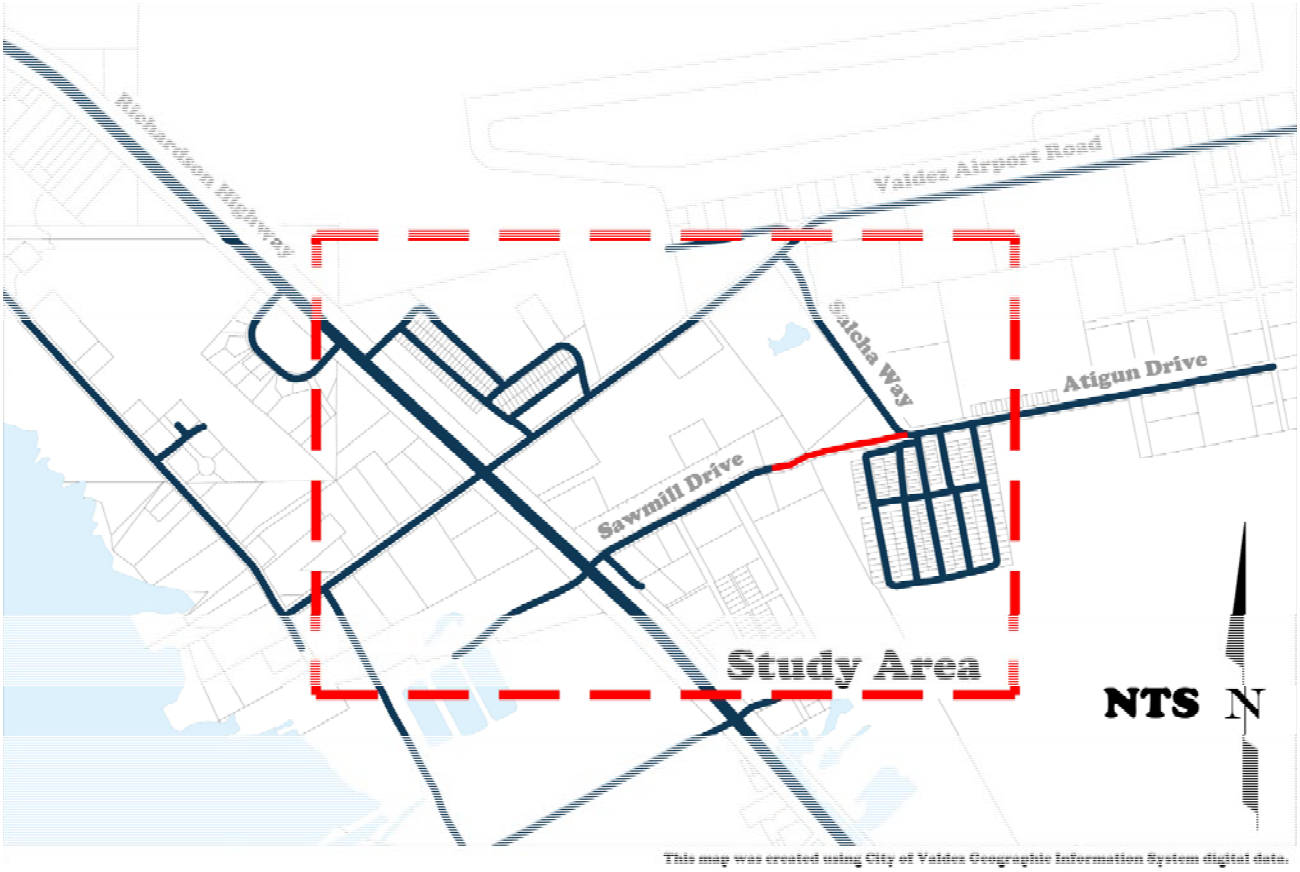


Figure 2- Traffic Impact Study Area

1.2 Proposed Development Overview

The City of Valdez proposes to extend Sawmill Drive to Salcha Way/Atigun Drive. This traffic impact study is being prepared for the City of Valdez to assess the impacts of the extension on area roadways and intersections. The proposed extension of Sawmill Drive will create a new "T" intersection with Salcha Way. This intersection will be stop controlled on the Salcha Way approach and uncontrolled on the eastbound and westbound approaches.

The area of the proposed extension is conceptually presented in the following figure.

Figure 3- Proposed Location of the Sawmill Drive Extension

1.3 Traffic Impact Analysis Issues

The extension of Sawmill Drive to Salcha way will redistribute existing traffic patterns and increase connectivity. It is likely that trips generated from the existing mobile home parks on the north and south side of Atigun Drive will use the new connection to access the Richardson Highway. This traffic is currently required to go north on Salcha Way and make a left at Valdez Airport Road to access the Richardson Highway. This change in circulation is likely to impact the Richardson Highway intersections with Sawmill Drive and with Valdez Airport Road as well. There are also several developments planned for the study area that are expected to increase area traffic. This traffic impact analysis will study the projected impacts of these changes to area intersections.

1.4 Analysis and Design Years

For purposes of this analysis, the study area's roadway network will be evaluated for the following years.

- **2008**- This year represents the current traffic conditions (base year) prior to any Sawmill Drive Extension Construction.
- **2010**- Sawmill Drive Extension Opening year
- **2020**- Sawmill Drive Extension Design Year.

2 INVENTORY OF EXISTING CONDITIONS

2.1 Streets and Intersections

2.1.1 Functional Classification of Existing Roadways

The American Association of State Highways and Transportation Officials (AASHTO) *A Policy on the Geometric Design of Highways and Streets (GDHS)* is a primary reference for roadway design. AASHTO and other agencies generally classify streets under one of three functional classes. Arterials are designed to carry large volumes at an efficient speed. Local streets serve the terminal ends of a trip. Collector streets gather and distribute trips between local streets and arterials. AASHTO and other agencies further provide sub-categories of the broad classes. For example arterials may be classified as freeways, expressways, principal or minor arterials and collectors may include major and minor collectors.

AASHTO indicates that the arterial's main system function is mobility, the local street's main function is landside access, and that collectors offer a balance of access and mobility. The following figure illustrates mobility and access by classification, and is adapted from AASHTO's Exhibit 1-5 in the *Policy*. It also conceptually annotates street sub-categories upon the continuum of the access-mobility function.

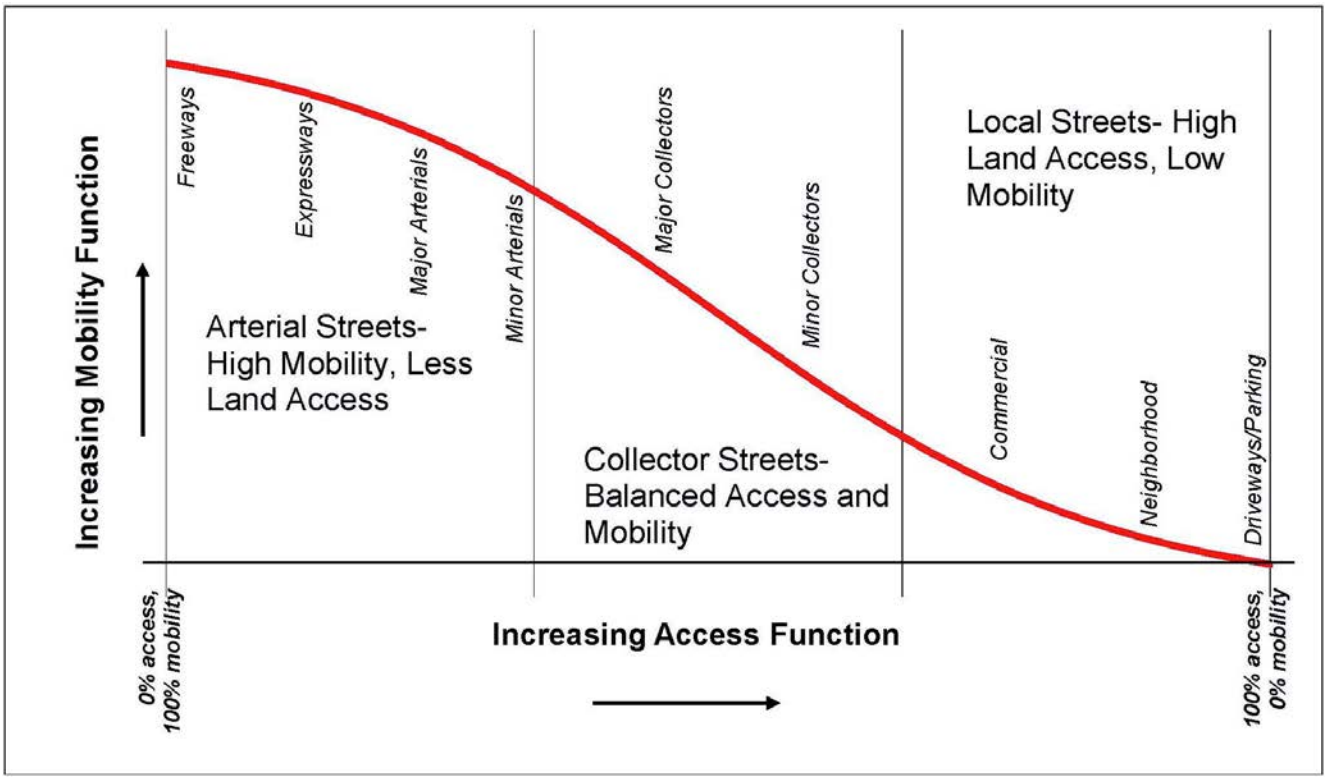


Figure 4- Functional Classification Mobility and Access Relationship

A good street system encourages a hierarchy of movement. The local street is at the bottom of the hierarchy and the arterial is at the top. For the most efficient travel, the motorist moves up and down the street hierarchy to spend as little time as possible in the lower levels and the most time possible at the arterial level. As such, the most desirable hierarchical movement would be from driveway or parking lot to local street to collector to arterial, and vice-versa upon nearing the destination. It is less desirable, although somewhat common, to connect local streets directly to arterial streets because the hierarchical movement is violated, and in doing so it can result in operational and safety issues.

The Alaska Department of Transportation and Public Facilities (ADOT&PF) provides functional classifications for their roadways, as well as many local jurisdiction roadways. The functional classification of the Richardson Highway is a Rural Principal Arterial (similar to Major Arterial in Figure 4). The functional classification of Valdez Airport Road is Rural Major Collector west of Salcha Way and Rural Minor Collector east of Salcha Way. All other roads in the study area are functionally classified as Local Roads.

The area label "rural" has the consequence of higher levels of service (performance measure) than roadway in an "urban" or "suburban" setting. From a practical standpoint, these facilities are in a small urban area, and therefore less restrictive performance measures should apply.

2.1.2 Street Typical Sections

The following table presents the lane and shoulder width for the roadways within the study area.

Roadway	Lane Width	Shoulder Width
Richardson Highway	12	4
Sawmill Drive	Gravel Approximately 24 Foot Top	
Airport Road	12	4
Salcha Way	12	1
Atigun Drive	12	1
9th Street	Gravel Approximately 24 Foot Top	

Table 1- Roadway Lane and Shoulder Dimensions

2.1.3 Intersections

The existing conditions are presented in the following figure including the existing intersection lane configurations and intersection controls.

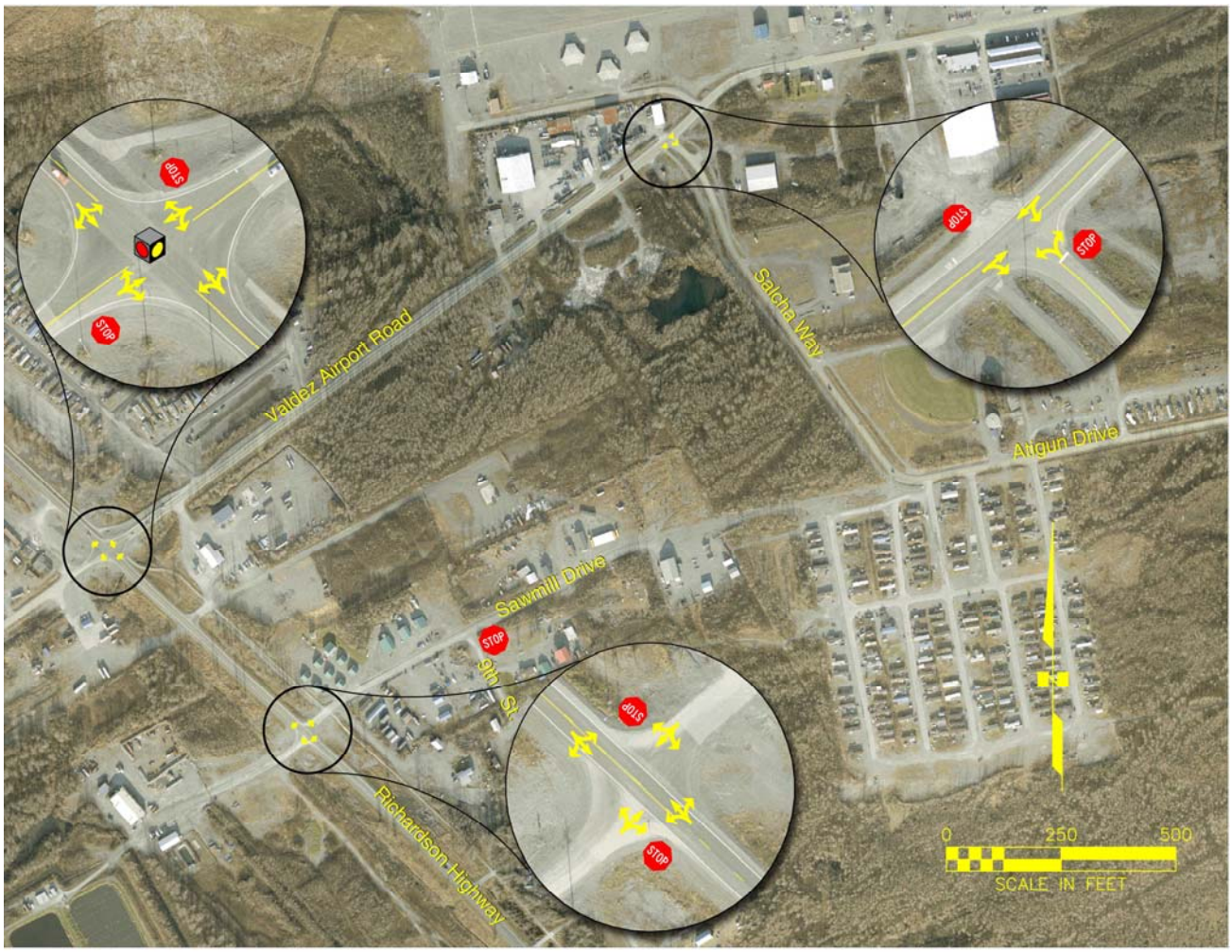


Figure 5- Existing Conditions

2.1.4 Public Transit

There are no modes of public transit in the study area.

2.1.5 Pedestrian and Bicycle Facilities

There is a bike path on the east side of the Richardson Highway, the north side of Valdez Airport Road, and the west side of Salcha Way within the study area. There are no pedestrian or bicycle facilities currently along Sawmill Drive or Atigun Drive other than sharing the roadway with motorists.

3 EXISTING TRAFFIC CONDITIONS

Kinney Engineering collected volume and speed data in Valdez during March 2010, and compiled existing volume data from ADOT&PF references. The locations of field studies are presented in the following figure. Hand held radar collectors on the Richardson Highway indicate zones of speed studies. Radar recorder symbols indicate the location of radar traffic data collectors that are capable of continuous collection of speed, volume, vehicle type and gap data.

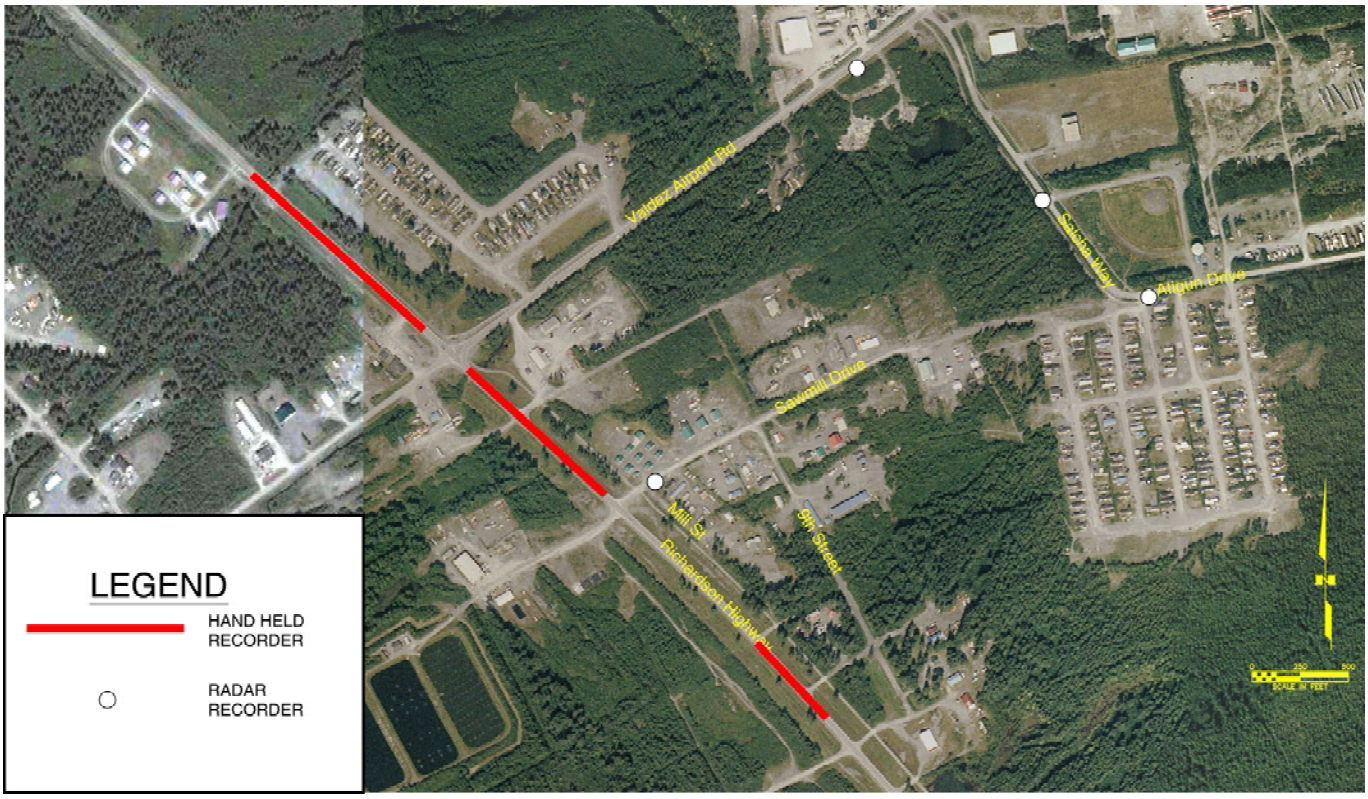


Figure 6- Collection Locations (March 2010)

3.1 Turning Movement Volumes

Figure 7 presents the existing turning movement volumes counted at area intersections in March 2010.

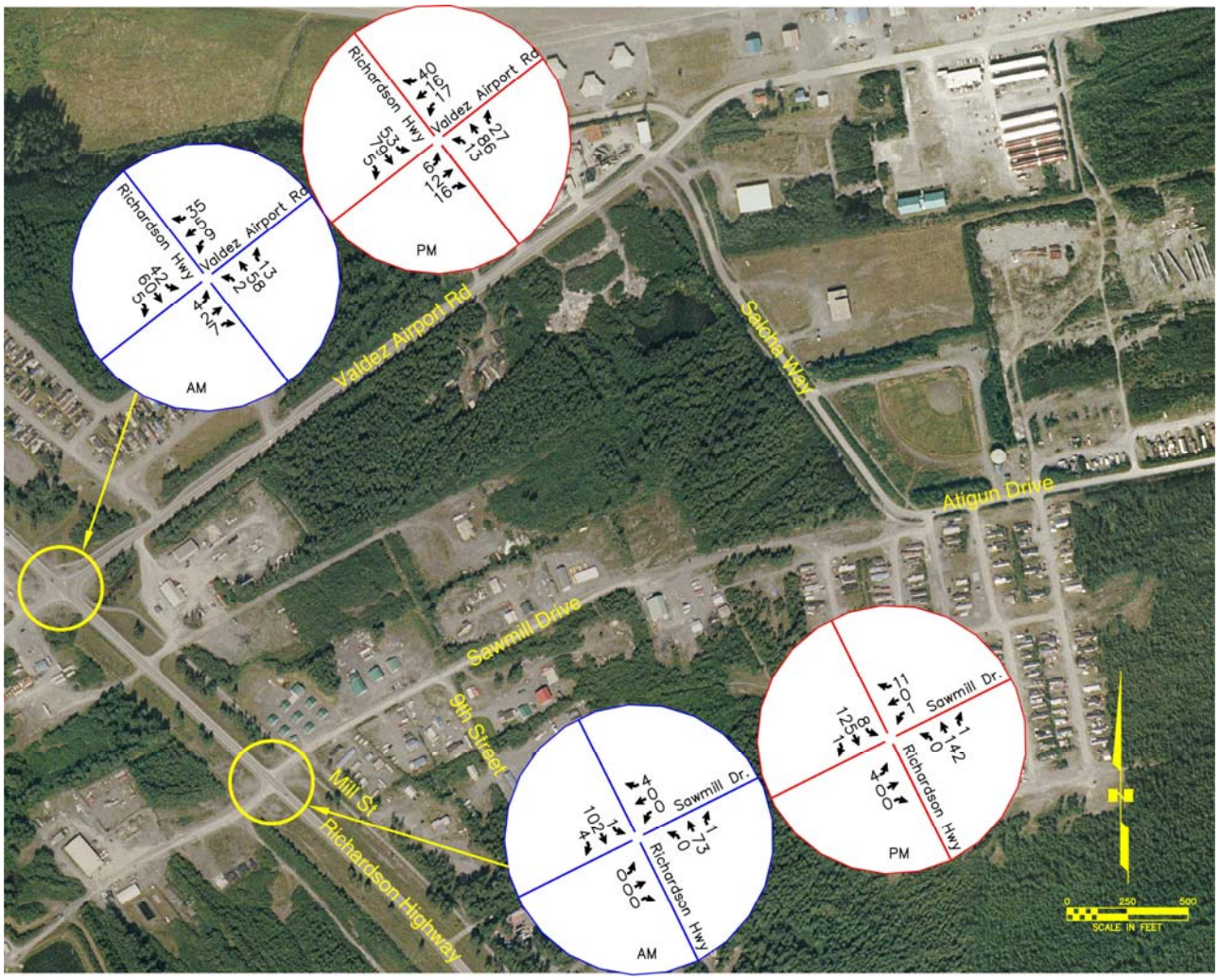


Figure 7- March 2010 Turning Movement Counts

This turning movement data also yield truck counts and peak hour factors which are used to convert hourly volumes to peak 15-minute traffic flow rates. The average truck percentage at the Richardson/Airport Road intersection was about 2% of total entering traffic. The peak hour factor varied by movement but was about 0.82 for the entire intersection. These parameters were applied to capacity analysis models.

3.2 Speed Study

3.2.1 Richardson Highway

There were spot speed studies (with radar gun) at three locations on the Richardson Highway. One was located south of the Sawmill Road intersection, one was located between the Sawmill Drive intersection and the Valdez Airport Road intersection and one was located north of the Valdez Airport Road intersection. Figure 6 on page 8**Error! Reference source not found.** presents the data collection locations. The following

table summarizes speed information by direction for the time that the machines were deployed.

Richardson Highway Speed Data	Location/Direction					
	South of the Sawmill Drive Intersection		Between the Sawmill Drive Intersection and the Valdez Airport Road Intersection		North of the Valdez Airport Road Intersection	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Posted	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH	55 MPH
Average	55 MPH	53 MPH	53 MPH	51 MPH	54 MPH	53 MPH
85th Percentile	59 MPH	59 MPH	57 MPH	56 MPH	57 MPH	57 MPH
Observations	51	54	100	115	110	79

Table 2- Richardson Highway Speed Study Results

The 85th percentile speeds vary along the Richardson Highway. The posted speed, 55 MPH, is a good representation of the 85th percentile speed and should be applied to existing conditions analysis.

3.2.2 Sawmill Drive

A radar traffic data collector was deployed on Sawmill Drive (see Figure 6 on page 8). The counter was in place for two days and continuously collected traffic volume, speed, gap, and type information. The following table summarizes speed information by direction for the time that the machine was deployed.

Sawmill Drive	Eastbound	Westbound
Posted	20 MPH	20 MPH
Average	22 MPH	22 MPH
85th Percentile	25 MPH	27 MPH
Observations	56	60

Table 3- Sawmill Drive Speed Study Results

The 85th percentile speed is between 25-27 mph for Sawmill Drive, which substantially exceeds the posted speed limit. The 85th percentile speed, say 30 mph should be applied to existing conditions analysis in place of the existing posted speed.

3.2.1 Salcha Way

A radar traffic data collector was deployed on Salcha Way (see Figure 6 on page 8). The counter was in place for two days and continuously collected traffic volume, speed, gap, and type information. The following table summarizes speed information by direction for the time that the machine was deployed.

Salcha Way	Southbound	Northbound
Posted	30 MPH	30 MPH
Average	24 MPH	26 MPH
85th Percentile	28 MPH	31 MPH
Observations	277	235

Table 4- Salcha Way Speed Study Results

The 85th percentile speed is between 25-27 mph for Sawmill Drive. The 30 MPH posted speed is a good representation of the 85th percentile speed and should be applied to existing conditions analysis.

3.2.2 Atigun Drive

A radar traffic data collector was deployed on Atigun Drive (see Figure 6 on page 8). The counter was in place for two days and continuously collected traffic volume, speed, gap, and type information. The following table summarizes speed information by direction for the time that the machine was deployed.

Atigun Drive	Eastbound	Westbound
Posted	20 MPH	20 MPH
Average	21 MPH	21 MPH
85th Percentile	27 MPH	27 MPH
Observations	224	236

Table 5- Atigun Drive Speed Study Results

The 85th percentile speed is 27 mph for both directions on Atigun Drive, which substantially exceeds the posted speed limit. For analyses purposes, a 30 MPH speed should be applied to existing conditions analysis in place of the existing posted speed.

3.2.3 Valdez Airport Road

A radar traffic data collector was deployed on Valdez Airport Road (see Figure 6 on page 8). The counter was in place for two days and continuously collected traffic volume, speed, gap, and type information. The following table summarizes speed information by direction for the time that the machine was deployed.

Valdez Airport Road	Eastbound	Westbound
Posted	35 MPH	35 MPH
Average	37 MPH	37 MPH
85th Percentile	40 MPH	40 MPH
Observations	739	760

Table 6- Valdez Airport Road Speed Study Results

The 85th percentile speed is 40 mph for both directions of Valdez Airport Road, which exceeds the posted speed limit. The 85th percentile speed should be applied to existing conditions analysis in place of the existing posted speed.

3.3 Traffic Volumes

3.3.1 Average Annual Daily Traffic

The following table presents average annual daily traffic (AADT) that has been recorded by the State of Alaska Department of Transportation and Public Facilities, and published in the annual *Northern Region Traffic Volume Report*.

Location	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average
190000 Richardson Highway												
Mineral Creek Loop	6,050	5,350	5,500	5,713	5,925	5,375	5,275	4,650	5,080	4,550	4,095	5,233
Valdez Airport Road	4,650	3,725	3,725	3,950	4,175	3,750	3,000	3,725	3,400	3,745	3,240	3,735
191000 Valdez Airport Road												
Richardson Highway	3,350	2,700	2,700	2,588	2,475	2,525	2,550	2,625	2,560	1,950	1,845	2,533
Salcha Way	725	575	575	575	575	575	575	600	575	500	500	577

Table 7- Study Area Roadways AADT History

3.3.2 2009 State Counts

There is a permanent traffic recorder (PTR) on the Richardson Highway at mile point 0.543, approximately 3 miles from the study area (Valdez Airport Road is at MP 3.426). The mile point 0.543 PTR data was used to determine the peak daily traffic volumes. This volume of vehicles is used as the basis for future volume predictions. The data used to determine the peak volume is included in Appendix E- PTR Data, Richardson Highway. The historical data indicates that AADT has been trending downward over the ten years of data. The average rate of decline over all roadways has been approximately -2%.

3.3.3 March 2009 Daily Volume Counts

Daily volume data for Salcha Way and Atigun Drive was collected by radar traffic data recorders located as shown in Figure 6 on page 8. The 2010 daily volume for these streets are summarized in Figure 12 on page 26 as 2010 “no-build” volumes.

4 TRAFFIC SAFETY ANALYSIS

4.1 Substantive Safety Evaluation, Crash History

Crash data was collected from ADOT&PF for the 10 most recent years that are available, 1999 to 2008. Three intersections and two segments were analyzed to determine if they had statistically higher crash rates than state populations during the study period. Table 9 below summarizes the crash rates for the intersections and segments evaluated.

Rate analysis is especially useful when there is a population of facilities to which we can compare the study area. ADOT&PF develops and distributes statewide populations for segments and intersections. A method known as the Rate Quality Control Method establishes an upper control limit (UCL) to determine if the facility's accident rate is significantly higher than accident rates in facilities with similar characteristics. If the UCL is exceeded, we would conclude that the high crash rate is not solely due to chance, and that there are truly crash issues at the location. Appendix B- Crash Evaluation Methodology discusses crash evaluation methods and the UCL computation further.

Segment	Segment Crashes 1999 to 2008	Segment Length (Miles)	Ave AADT 1999 to 2008	Million Vehicle Miles (MVM)	Crashes / MVM	State Population	UCL @ 95.00 % Conf	Above Average ?	Above Critical ?
Airport Rd, Richardson Hwy to Salcha Wy	1	0.472	2452	4.224	0.237	1.436	2.513	no	no
Salcha Wy, Valdez Airport Rd to Atigun Dr	4	0.362	500 (esti-mated)	0.661	6.055	0.934	3.647	yes	yes

Table 8- Segment Crashes and Crash Rates, 1999 to 2008

Intersection	Crashes	Crashes / MEV	State Populations Average Rate for Similar Intersections Crashes / MEV	UCL @ 95.00% Confidence Crashes / MEV	Above Average ?	Above Critical ?	Safety Index
Valdez Airport Rd and Richardson Hwy	20	.927	0.736	1.063	yes	no	0.87
Sawmill Dr and Richardson Hwy	0	0.000	0.736	1.161	no	no	0.00
Valdez Airport Rd and Salcha Wy	1	0.182	0.582	1.208	no	no	0.15

Table 9- Intersection Crashes and Crash Rates, 1999 to 2008

4.1.1 Salcha Way Segment from Valdez Airport Road to Atigun Drive

As shown in Table 8 and the segment of Salcha Way from its intersection with Valdez Airport Road to Atigun Drive is the only segment or intersection with a crash rate above the upper control limit (UCL) of the State populations for similar roadway segments. The following is an analysis of the crash severity along the segment of Salcha Way from Valdez Airport Road to Atigun Drive and the intersection of the Richardson Highway with Valdez Airport Road.

Severity	Number	% of Total	Population %	Statistical Significance at an α=0.05
Property Damage Only	4	100%	71.62%	Not significant.

Table 10- Salcha Way Segment from Valdez Airport Road to Atigun Drive Crash Severity Overview

All four crashes during the study period resulted in property damage only. Though the percentage of crashes is above population proportions, it is not statistically overrepresented. There is not a severity issue along this segment.

The following table summarizes crash types on this segment.

Crash Type	Number
Ditch	1
Head On	1
Parked	1
Snowberm	1
Total for Intersection	4

Table 11- Salcha Way Segment from the Intersection with Airport Road to Atigun Drive Overrepresented Crashes, 1999 to 2008

One of these crashes was within the 180-foot radius curve area where Salcha Way sweeps into Atigun Drive and it occurred under icy road conditions. The normal design speed for this curve is about 22 to 25 mph, which is less than the recorded 85^{th} percentile speeds presented in Table 4 and Table 5. The other three were on the north end of the project, also within curves, and two of these three occurred under snow and ice conditions. Severity of these collisions is limited to property damage only.

It can be concluded that Salcha Way's very high crash rate may overstate the safety problems on the street, especially since all were property damage only, and most occurred on poor road conditions.

4.1.2 Richardson Highway Intersection with Valdez Airport Road

Table 9 indicates that the Richardson Highway Intersection with Valdez Airport Road is higher than average, with about 2 crashes per year, but does not exceed the UCL for the intersection. The following table summarizes the Richardson Highway/Valdez Airport Road severity history.

Severity	Number	%	SOA Population %	Statistical Significance at an α=0.05
Major Injury	3	15%	2.85%	Major Injury crashes are significant
Minor Injury	3	15%	24.96%	Not Significant
Property Damage Only	14	70%	71.62%	Not Significant

Table 12- Richardson Highway Intersection with Valdez Airport Road Crash Severity Overview

The following table summarizes crash types.

Crash Type	Major Injury	Minor Injury	Property Damage Only	Total
Ditch			1	1
Head On			2	2
Parked			1	1
Rear End		2	5	7
Right Angle	3	1	2	6
Sideswipe			2	2
Utility Post			1	1
Grand Total	3	3	14	20

Table 13- Richardson Highway Intersection with Valdez Airport Road Crash Type and Severity

Major injury crashes are statistically overrepresented at the Richardson Highway/Valdez Airport Road when compared to State of Alaska severity trends. Out of the 3 major injury crashes the driver of vehicle one was cited with negligent driving. Vehicle one is normally coded as the vehicle causing the crash. No ticket was issued in the third crash but driver inattention was cited as the human circumstance. All three of these crashes were right angle crashes which may be mitigated by reducing the number of conflicts at the intersection.

Rear-end and same-direction sideswipe crashes often have the same contributing factors. These types accounted for 9 of the 20 crashes at this intersection. Of those, seven occurred on the Richardson Highway northbound and southbound approaches. The following table summarizes involved vehicles' pre-actions on the Richardson Highway approaches.

	Vehicle 2 Action Or Pre-Action					
Vehicle 1 Action Or Pre-Action	**Changing Lanes**	**Slowing**	**Stopped**	**Straight Ahead**	**Turning Right**	**Row Total**
Entering Traffic Lane				1		1
Skidding	1		1			2
Slowing		1				1
Stopped				1		1
Straight Ahead					1	1
Turning Right				1		1
Column Total	1	1	1	3	1	**7**

Table 14- Richardson Highway Intersection with Valdez Airport Road Pre-Actions of Rear-End and Sideswipe Involved Drivers

As shown in this table, one or both of the involved drivers on the Richardson Highway approaches were stopping or slowing. These pre-actions on a highway's free flow approaches indicates that rear-end and sideswipe crashes may be caused by through vehicles colliding with decelerating left- or right-turning target vehicles. In fact, two crashes explicitly involved right-turning vehicles, and both of these crashes involved northbound vehicles. Left-turns are often not recorded as pre-actions because the police report only notes the actions at instant of the collision, without regard of the intentions.

Six of the intersection crashes were right-angle types of crashes involving vehicles from the orthogonal approaches of the intersection. Five of these collisions had citations of failure to yield or negligent driver. Sight distances and high volumes may contribute to minor approach driver errors in selecting suitable gaps to enter the main highway. At this location, though, the drivers have adequate sight distance, and the volumes are not excessively high.

4.2 Compliance with Sight Distance Standards (Nominal Safety)

American Association State Highway Transportation Officials' (AASHTO) G*eometric Design of Highway and Streets* (GDHS) Chapter 9 discusses intersection sight distance (ISD) in which a sight triangle is formed by conflicting approach vehicles. Minimum ISD for the stop-controlled approach is the stopping sight distance (SSD) along the major, uncontrolled street. This would allow major street vehicles time to adjust speeds or stop in the case where an egress movement from the minor street fails to yield properly.

A more conservative and desirable design condition would provide ISD to allow the minor-approach vehicle to view main road vehicles and select safe gaps for egress maneuvers. The vehicles on the stop sign controlled approach are under Case B ISD, which is the most restrictive condition, and generally controls for when the main street is two-way traffic flow. The minor approach vertex of ISD sight triangle is 15 feet from the travel way, at a height of 3.5 feet. The major approach vertex of the sight triangle is at the center of the approach lane at a 3.5-foot height and the sight distance is the minimum ISD or desirable Case B distance. The following table presents the field measured sight distance, the required sight

distance for stopping and the required sight distance for the Case B1 (left turn from stop) condition at the intersections within the study area.

		Sight Distance in Feet		
Roadway	**85th Percentile Speed in MPH**	**Stopping (Minimum Intersection Sight Distance)**	**Case B1 (left turn from side street)**	**Measured Sight Distance from Intersection**
Richardson Highway SB	55	495	610	>1000
Richardson Highway NB	55	495	610	>1000
Valdez Airport Road at Salcha Way EB	40	305	445	335
Valdez Airport Road at Salcha Way WB	40	305	445	>1000
Atigun Drive at Salcha Way	30	200	335	>1000

Table 15- Sight Distance Summary

The field measured sight distance exceeds both minimum and desirable sight distance for all cases except for the intersection of Valdez Airport Road and Salcha Way which meets minimum sight distance.

5 PLANNING

5.1 Land Use and Zoning

The following graphic presents the current land use and zoning for the study area. Much of the study area is zoned light industrial with mixed land use largely consisting of government, single family residence, and commercial.

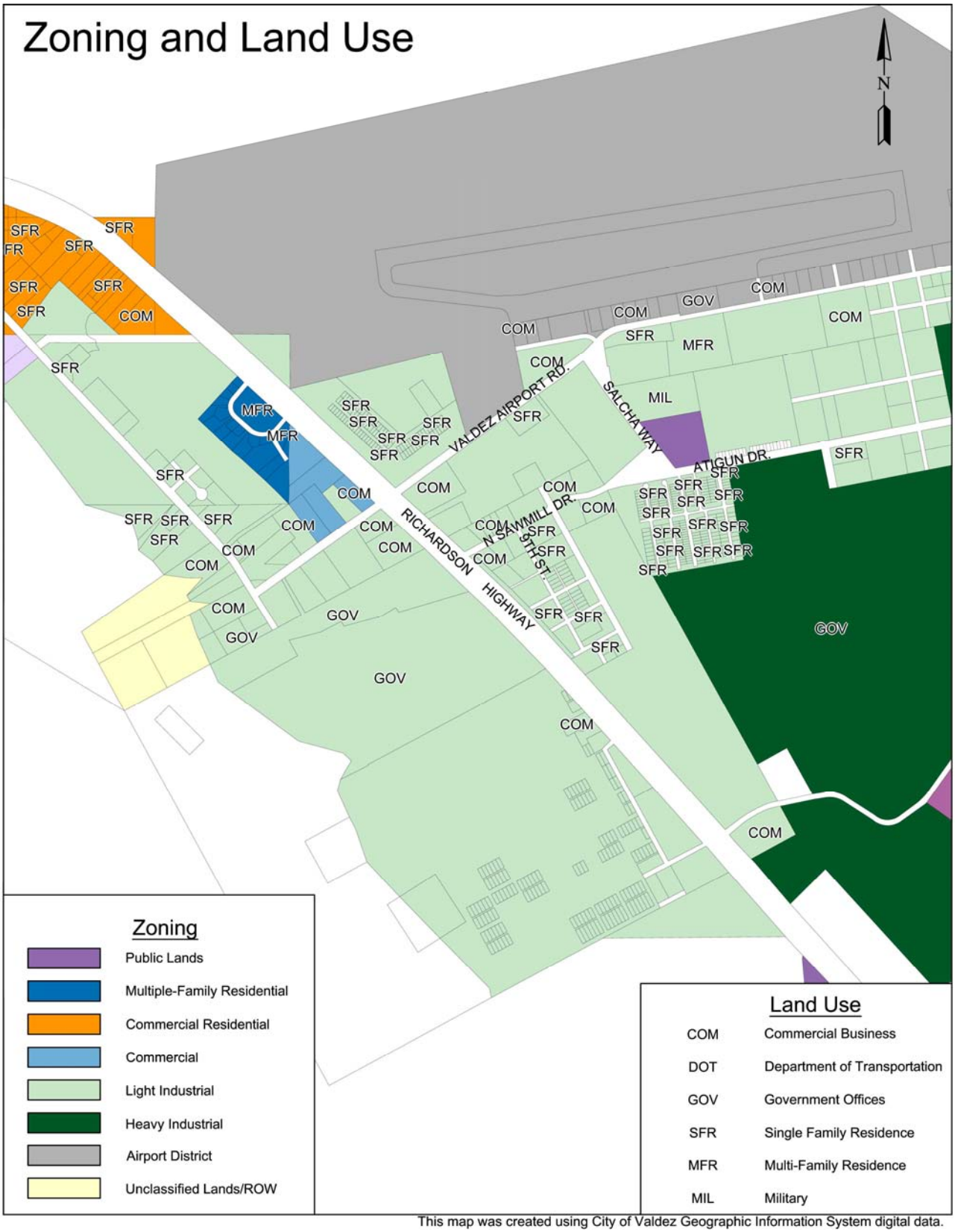


Figure 8- Study Area Land Use and Zoning

5.2 Potential Airport Industrial Subdivision

The following graphic presents the potential development of the Airport Industrial Subdivision.

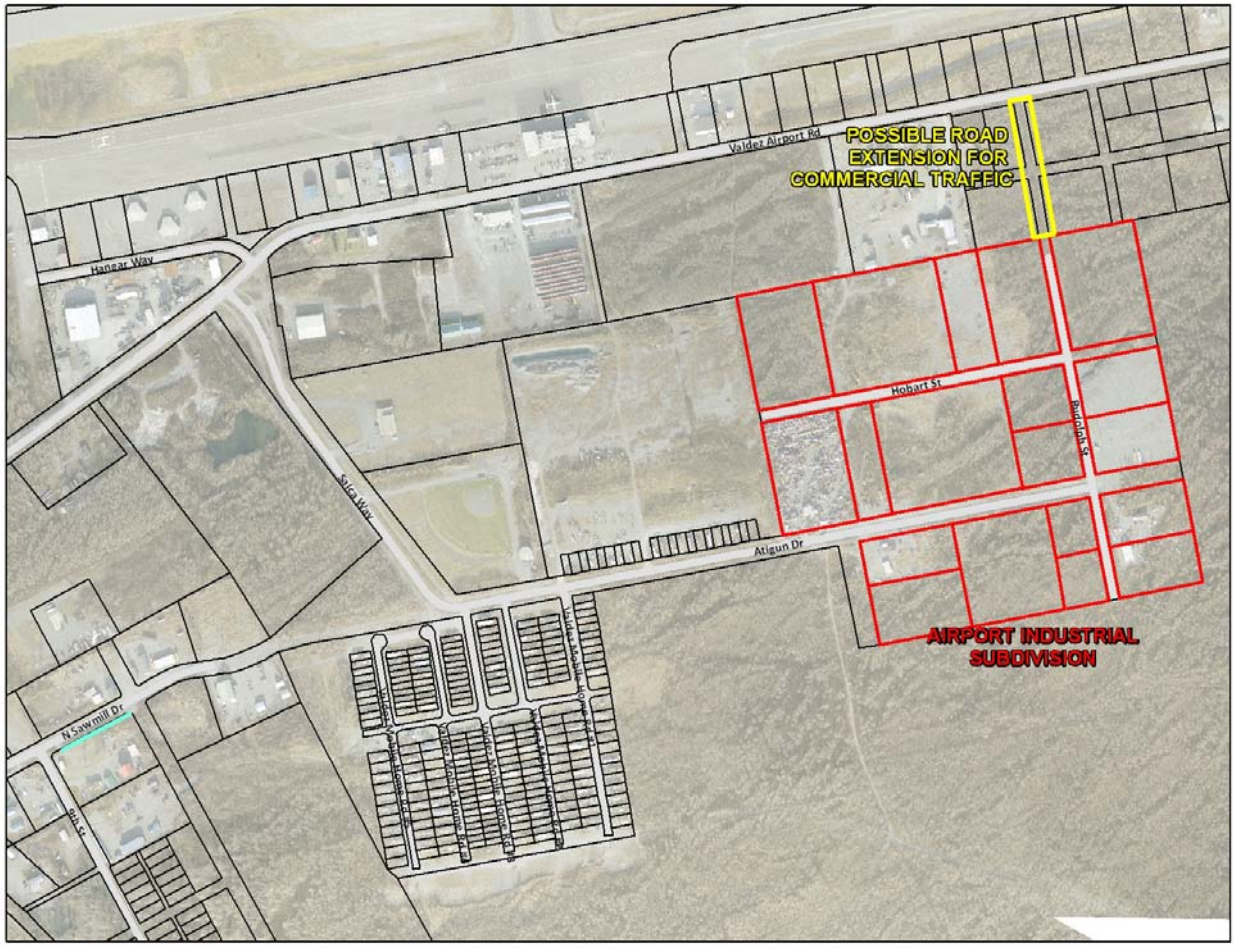


Figure 9- Airport Industrial Subdivision

Traffic generated by this development will be included in the design year model as the connection to the Valdez Airport road is not guaranteed and this traffic may need to use Atigun Drive to Salcha Way. Discussion of the trips expected to be generated by this development and their distribution to area roadways is included in Section 6.1.3.

5.3 Other Potential Development

The following graphic presents the study area with potential trip generating future development areas labeled.

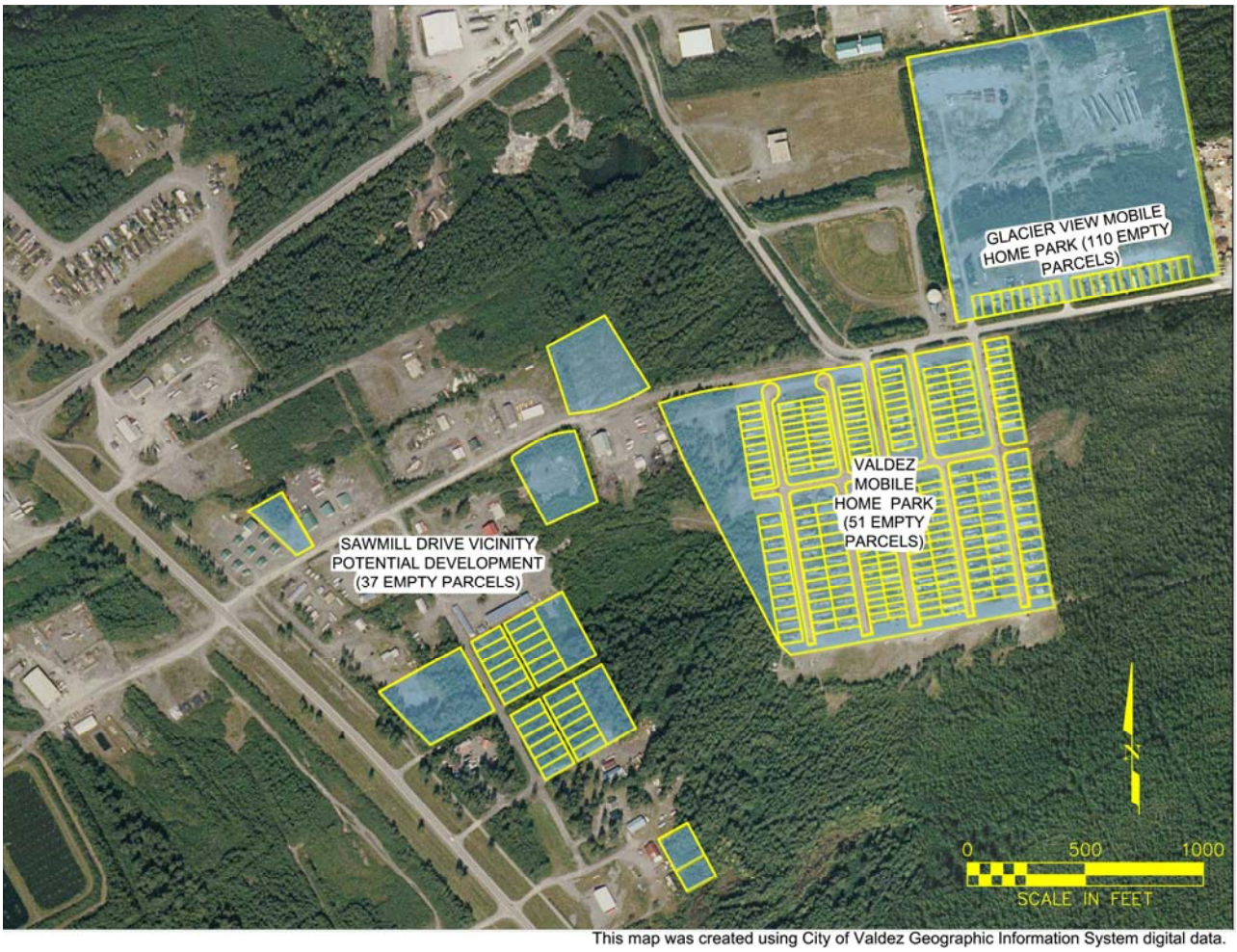


Figure 10- Potential Residential Development

5.3.1 Glacier View Mobile Home Park

As shown in Figure 10 the glacier View Mobile Home Park has the potential to develop 110 existing unoccupied parcels. This potential development and the related trips that will be generated are discussed further in Section 6.1.3.

5.3.2 Valdez Mobile Home Park

The Valdez Mobile Home Park shown in Figure 10 above currently has 51 unoccupied parcels which may develop into trip generating residences within the design horizon. These trips are discussed further in Section 6.1.3.

5.3.3 Sawmill Drive Vicinity

As shown in Figure 10, the vicinity of Sawmill Drive between Salcha Way and the Richardson Highway has the potential to develop multiple unoccupied lots. There are 37 lots that may develop into single family residences within the design horizon of this study. These lots and their contribution to future traffic volumes are discussed further in Section 6.1.3.

5.4 Valdez Population Based Studies

There are no travel demand models for Valdez. As such, this analysis uses population forecasts as a surrogate for general background traffic forecasts.

5.4.1 Alaska Economic Trends, October 2007

The Alaska Department of Labor and Workforce Development prepared a population projection for the state of Alaska and each of its major regions in October of 2007. This document predicts an average annual growth rate of 0.00% in the Valdez-Cordova census area for the period from 2007 to 2030.

5.4.2 Census History

The Valdez population was reported as 4068 in 1990 and 4036 in 2000. The population over this ten year period declined by 0.79% according to the census data.

6 TRAFFIC MODELS AND VOLUME PREDICTIONS

6.1 AADT

6.1.1 Background Traffic AADT Volumes

Kinney Engineering collected field data including turning movement counts and radar volume data to supplement the historical AADT and PTR data provided by the State ADOT&PF.

The permanent traffic recorder (PTR) on the Richardson Highway was used to establish peak hour volumes from AADT. Conversely, Kinney Engineering also used this data to derive conversions of peak hour volumes to AADT. The collected field data and historical data were then used to calculate a 2010 base volume for the existing condition. This base model is the model used to redistribute traffic for the 2010 build model and to add future development volumes for the 2020 build models.

6.1.2 Background Traffic Growth Rate

As discussed previously the population and historic AADT have shown a 0.79% negative growth rate for Valdez in the past years. As such, it is assumed that the background traffic may continue on this trend, and overall the community populations will remain reasonably close to current populations. Therefore, the base volumes in the model are not increased over time throughout the model. The build option simply redistributes the background 2010 AADT from another area of town to reflect the addition of the new connection between Sawmill Drive and Salcha Way.

6.1.3 Trip Generation and 2020 Traffic Models

As stated previously the background traffic is not expected to increase due to increases in population. However, several areas affecting the study area road network are expected to shift the location of trip generation sources through development. As shown in Section 5 a light industrial subdivision is expected to be developed at the eastern end of Atigun Drive. Also, the existing trailer courts on Atigun Drive and some of the properties along Sawmill Drive have development potential. The 2020 design year model accounts for these potential developments and assumes that they will develop within the planning horizon for this project. As opposed to the expected population growth for the entire area of Valdez, this potential for development is expected to be confined to the study area. The following sections discuss the trip generation methodology and results for these developments.

The Institute of Transportation Engineers (ITE) publishes the Trip Generation Manual. The version used for this study is the 8th Edition. Historical data was gathered by ITE and categorized according to land use such as single family residence or industrial park. For each of these categories data was accumulated and plotted on graphs with differing parameters such as acreage, population, or number of parcels. A regression line was then

created to represent the data and its corresponding equation presented in the charts. These equations are then used to predict the number of trips expected by a future development.

The following table summarizes the units used, number of units, and expected trips generated by those units based on the trip generation manual charts for each of the expected trip generators.

				Trips Generated				
Trip Generator	**Category**	**Units**	**Potential Expansion Units**	**AADT**	**AM Peak Entering**	**AM Peak Exiting**	**PM Peak Entering**	**PM Peak Exiting**
Airport Industrial Subdivision	Industrial Park	Acres	74	4114	429	110	102	383
Valdez Mobile Home Park	Mobile Home Park	Parcels	51	458	6	26	21	13
Glacier View Mobile Home Park	Mobile Home Park	Parcels	110	664	11	42	41	27
Sawmill Drive Area	Single Family Detached Housing	Parcels	37	416	9	26	10	5

Table 16- AADT, AM, and PM Peak Hour Trips Generated by Expected Development

The additional trips were then added to the 2010 build model to determine the future AADT numbers. The following graphic depicts the distribution of new traffic generated by the above trip generators per hundred vehicles to illustrate how the new traffic filtered through the roadway network to and from the trip generators.

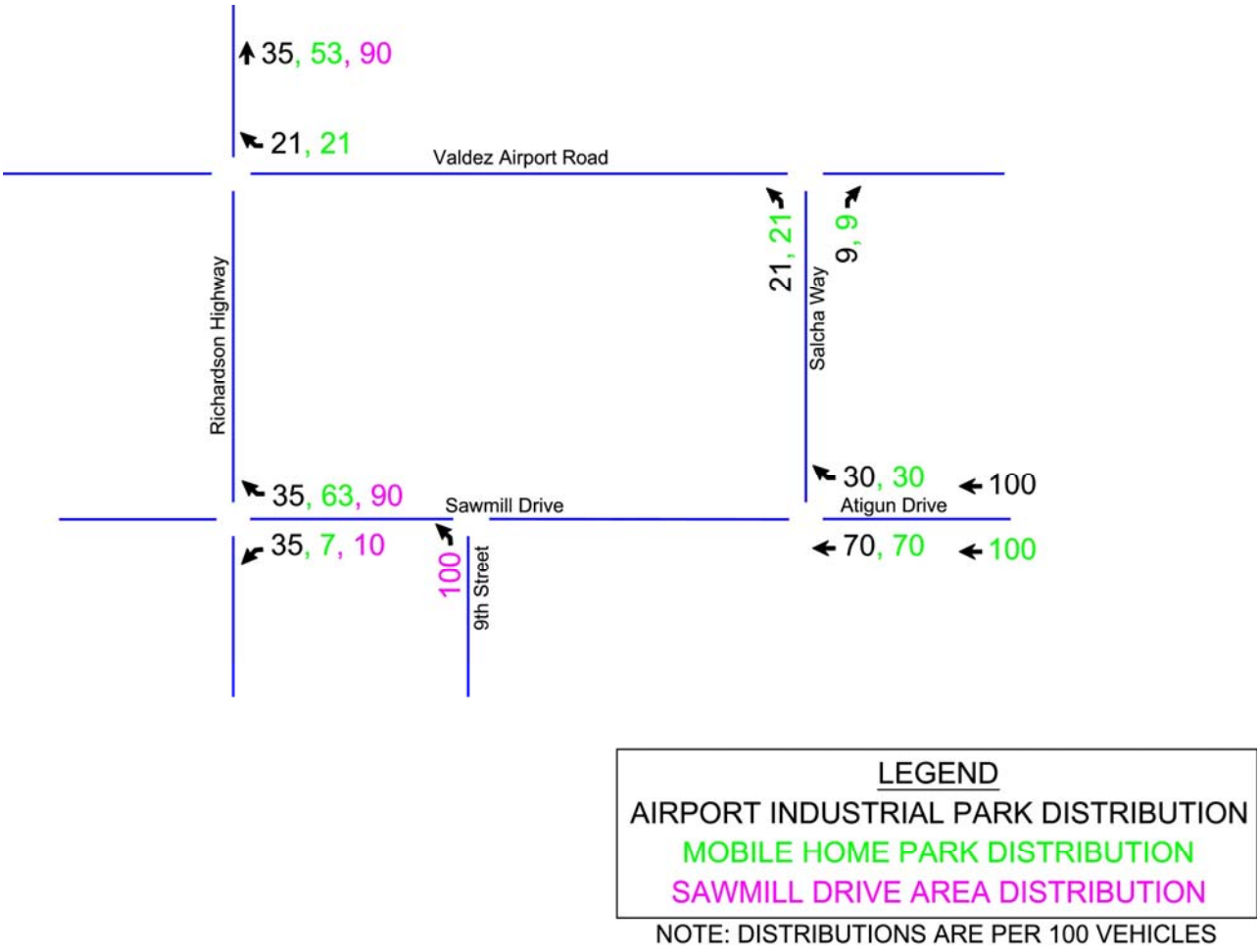


Figure 11- Development Traffic Distribution

Based on the additional traffic numbers the following graphic was prepared to illustrate the expected AADT for the 2010 base model, the 2010 build model, the 2020 build model and a modification of the 2020 build model that does not include trips generated by the Airport Industrial park subdivision.

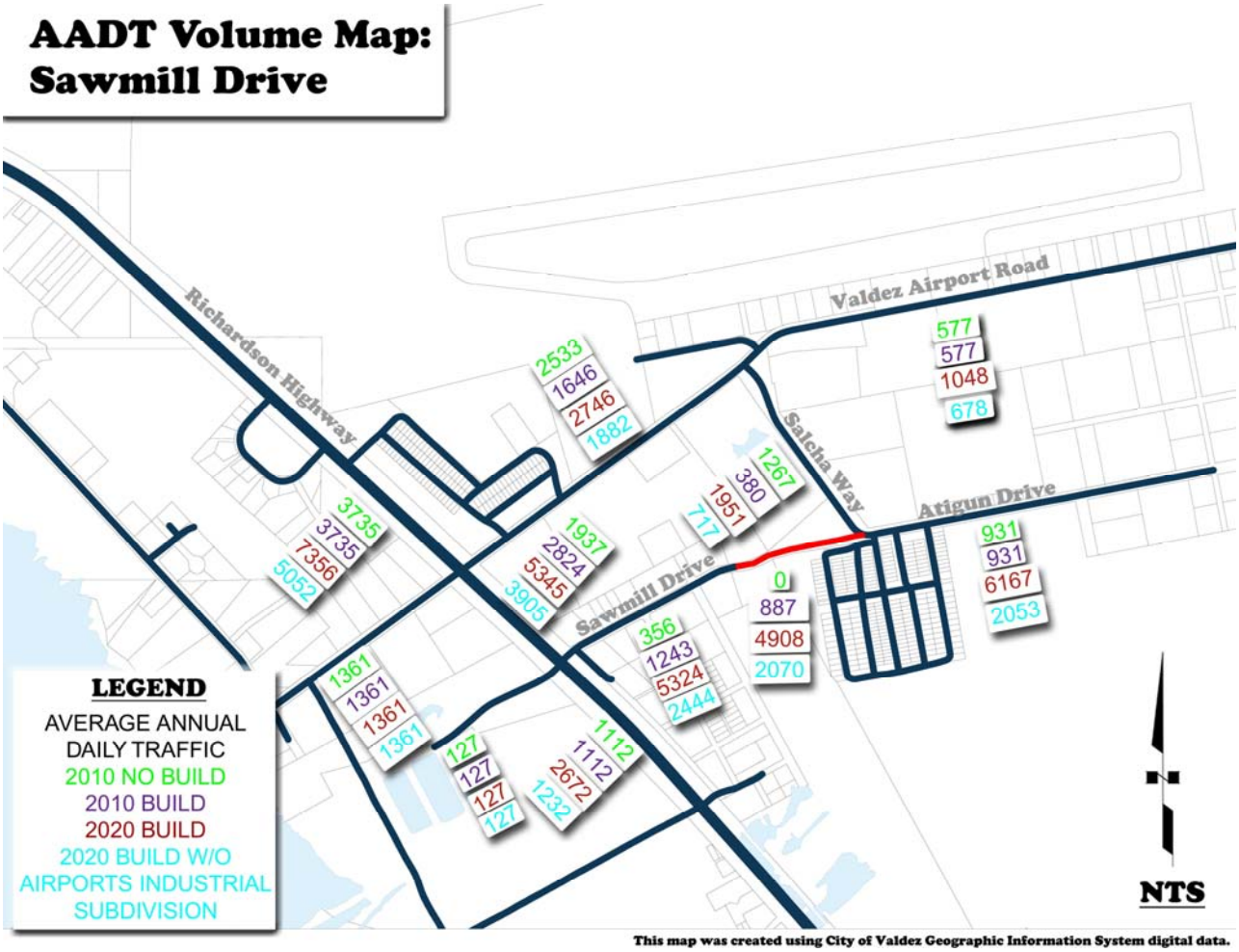


Figure 12- Base and Future Traffic Model AADT

The following section discusses the operational impact analysis that Kinney Engineering performed to assess the impacts of the above traffic volumes on the roadway network.

7 ALTERNATIVE ANALYSIS AND RECOMMENDATIONS

7.1 Sawmill Drive Extension Functional Classification

Sawmill Drive will collect and distribute traffic from the intersecting local streets and individual properties to the east of Richardson Highway. As such, the street is in a collector position within the area's street network in which the hierarchical system of traffic flow; local to collector to arterial and vice-versa; would be attained. As shown in Figure 12 on page 26, the 2020 AADT on Salcha Drive would be between 2,500 and 5,300, depending upon the development level, which is within the collector road volume range (Anchorage collectors range from 2,000 to 10,000 AADT). In recognition of these factors, Sawmill Drive will likely function as a minor collector and it is recommended that this project use that functional classification.

7.2 Sawmill Drive Typical Section

It has been proposed by the City that Sawmill Drive be constructed with a 24-foot driving surface. As will be discussed under Section 7.3 below, pavement is recommended for this street.

If the future development is limited to residential dwellings, without the industrial development, then the roadway would function as a residential or neighborhood collector. The Municipality of Anchorage has developed standards for collector streets which could be applied to this roadway. Under that methodology, with an AADT of 2,500 (rounded), 2% trucks (observed), 50/50 directional split, and 10% design hour volume (estimated), Anchorage would require 10-foot lanes and 3.5-foot shoulders and curb/gutters for the collector. This strip paved section could be adapted to provide striped 10-foot lanes, 2-foot paved shoulders, and 4-foot gravel shoulders.

Upon development of the industrial area, both the volumes and % trucks would increase, and the above described section would be inadequate. With increased trucks and volume, 12-foot lanes with additional paved shoulder width (4 to 8 feet) would be recommended.

7.3 Sawmill Drive Surface

The existing surface of Sawmill Drive is gravel. It has been shown that the new extension is expected to significantly increase the traffic using Sawmill Drive. The 2010 build AADT is estimated to be 1243 AADT with 5345 AADT in the 2020 design year. Guidance concerning the decision to pave or not to pave the roadway can be found in FHWA publication number FHWA-CFL/TD-05-004, Context Sensitive Roadway Surfacing

Selection Guide. This publication is intended to aid designers in making decisions concerning what type of surface treatment to apply on a given roadway based on the roadway use, setting, traffic parameters etc. Pertinent tables from this publication are shown below.

Design Volume (Vehicles/day)	Suggested Descriptive Term	Design Speed (mph)	
		Preferred	Minimum
< 200	Very Low	40	30
200 – 400	Low	50	40
400 – 1000	Medium	50	40
1000 – 4000	High	55	45
4000 – 8000		60	50
>8000		60	50

Table 17- Volume Classifications

Road Surfacing Type	Traffic			
	Very Low	Low	Medium	High
Asphalt Surfacing (non-structural)				
Cape Seal	A	A	A	B
Chip Seal	A	A	A	B
Chip Seal over Geotextile	A	A	A	B
Fog Seal	A	A	B	C
Microsurfacing	A	A	A	A
Multiple Surface Treatments (Seals)	A	A	A	B
Open Graded Friction Course	A	A	A	A
Otta Seal	A	A	B	C
Sand Seal	A	A	B	C
Scrub Seal	A	A	A	C
Slurry Seal	A	A	A	B
Ultrathin Friction Course	A	A	A	A
Asphalt Surfacing (structural)				
Cold Mix Asphalt Concrete Pavement	A	A	A	B
Hot Asphalt Concrete Pavement (HACP)	A	A	A	A
Exposed Aggregate HACP	A	A	B	C
Imprinted / Embossed HACP	A	A	B	C
Pigmented HACP	A	A	A	A
Porous HACP	A	A	C	X
Resin Modified Pavement	A	A	A	A
Synthetic Binder Concrete Pavement	A	A	A	A
Portland Cement Concrete (PCC) Surfacings				
Cellular PCC	A	A	B	X
Portland Cement Concrete Pavement (PCCP)	A	A	A	A
Exposed Aggregate PCCP	A	A	A	B
Pigmented PCCP	A	A	A	B
Porous PCCP	A	A	A	C
Stamped PCCP	A	A	B	C
Roller Compacted Concrete	A	A	A	B
Whitetopping	A	A	A	A
Unbound & Mechanically Stabilized Surfacings				
Cellular Confinement	B	B	C	X
Fiber Reinforcement	B	C	X	X
Geotextile/Geogrid Reinforcement	B	C	C	X
Gravel (crushed or uncrushed)	B	C	X	X
Sand	C	X	X	X
Other Stabilized Surfacings				
Chlorides	B	C	X	X
Clay Additives	B	C	X	X
Electrolyte Emulsions	B	C	X	X
Enzymatic Emulsions	B	C	X	X
Lignosulfonates	B	C	X	X
Organic Petroleum Based Emulsions	B	C	C	X
Synthetic Polymer Emulsions	A	B	C	X
Tree Resin Emulsions	A	B	C	X
Unit Surfaces				
Brick Pavers	A	A	B	C
Natural Stone Cobbles	B	B	C	X
Unit Pavers	A	A	A	A
Porous Unit Pavers	B	B	B	C
Recycling Alternatives				
Hot In-Place Recycling	A	A	A	A
Recycled HACP	A	A	A	A

A:	**Highly suitable**
B:	**Acceptable for use**
C:	**Not ideal, but can be used**
X:	**Not suitable**
	Not applicable

Table 18- Suggested Suitability Designations for Screening Stage

These AADT values place Sawmill Drive in the "high" category according to this guidance. Based on this information, these volumes limit the surfacing choices to the following list assuming that only "highly suitable" treatments are acceptable.

- Microsurfacing
- Ultrathin Friction Course
- Hot Asphalt Concrete Pavement(HACP)
- Pigmented HACP
- Resin Modified Pavement
- Synthetic Binder Concrete Pavement
- Portland Cement Concrete Pavement
- Whitetopping
- Unit Pavers
- Hot In-Place Recycling
- Recycled HACP

Some of these surface treatments may be eliminated early in the selection process based on cost or practicality such as unit pavers or hot in-place recycling. All of the "highly suitable" treatments for Sawmill Drive involve some form of paved surface treatment. Unbound, mechanically stabilized, and other stabilized surfaces are not considered "highly suitable" for this volume of traffic. It is recommended to construct a paved surface treatment on Sawmill Drive throughout its length. The selection of the final design surface is beyond the scope of this document and should be determined during final design.

7.4 Pedestrian and Bicycle Facilities

As part of the construction of the new connection between the Sawmill Drive extension and the Atigun Drive/Salcha Way intersection, the existing pathway on the east side of Salcha will need to be reconfigured to accommodate the intersection improvements. In addition, since there is a substantial residential development planned in this area, a new pathway along the Sawmill Drive extension should be considered for future implementation to provide a direct corridor to the Richardson Highway facilities and promote non-motorized travel.

7.5 Intersection Configuration and Control

7.5.1 Peak Hour Turning Movement Volumes

The following graphics present the peak turning movement volumes calculated for the 2010 no-build, 2010 build, 2020 build, and 2020 build alternative without the Industrial Airport subdivision development.

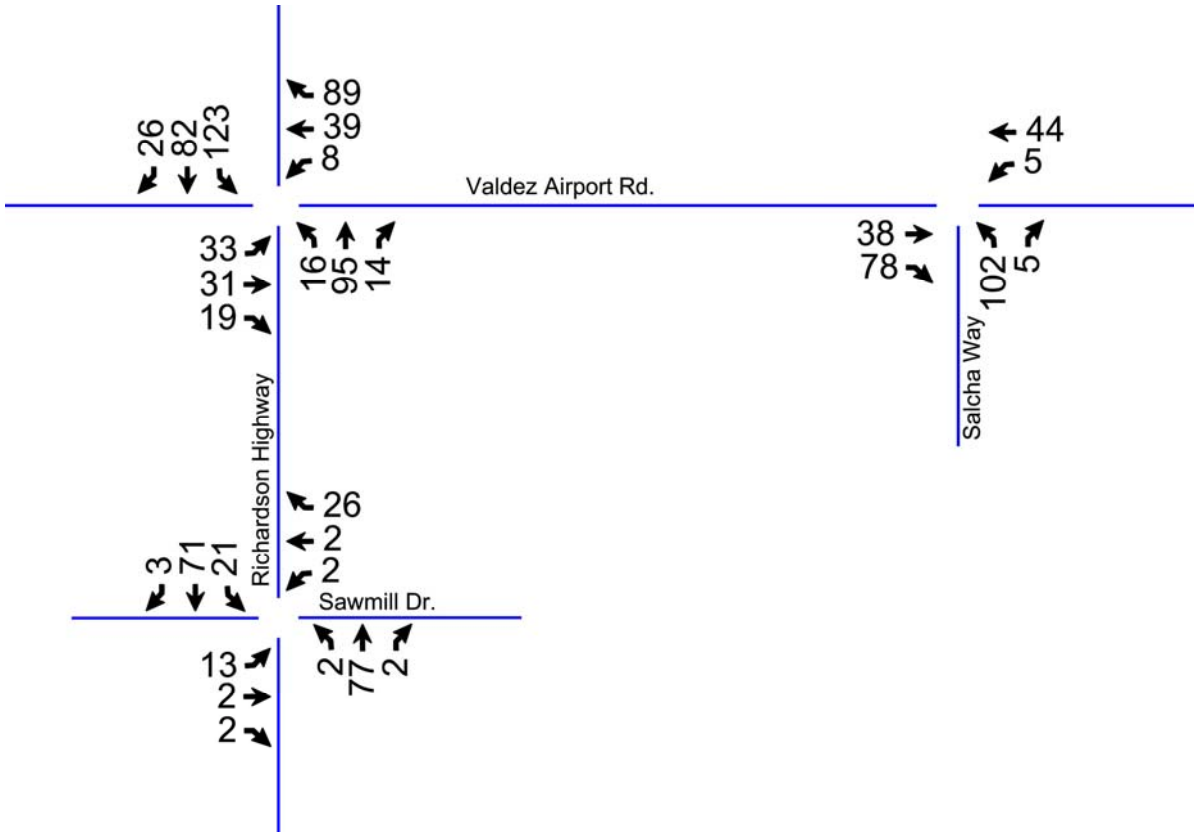


Figure 13- Peak Hour Turning Movements, 2010 Base

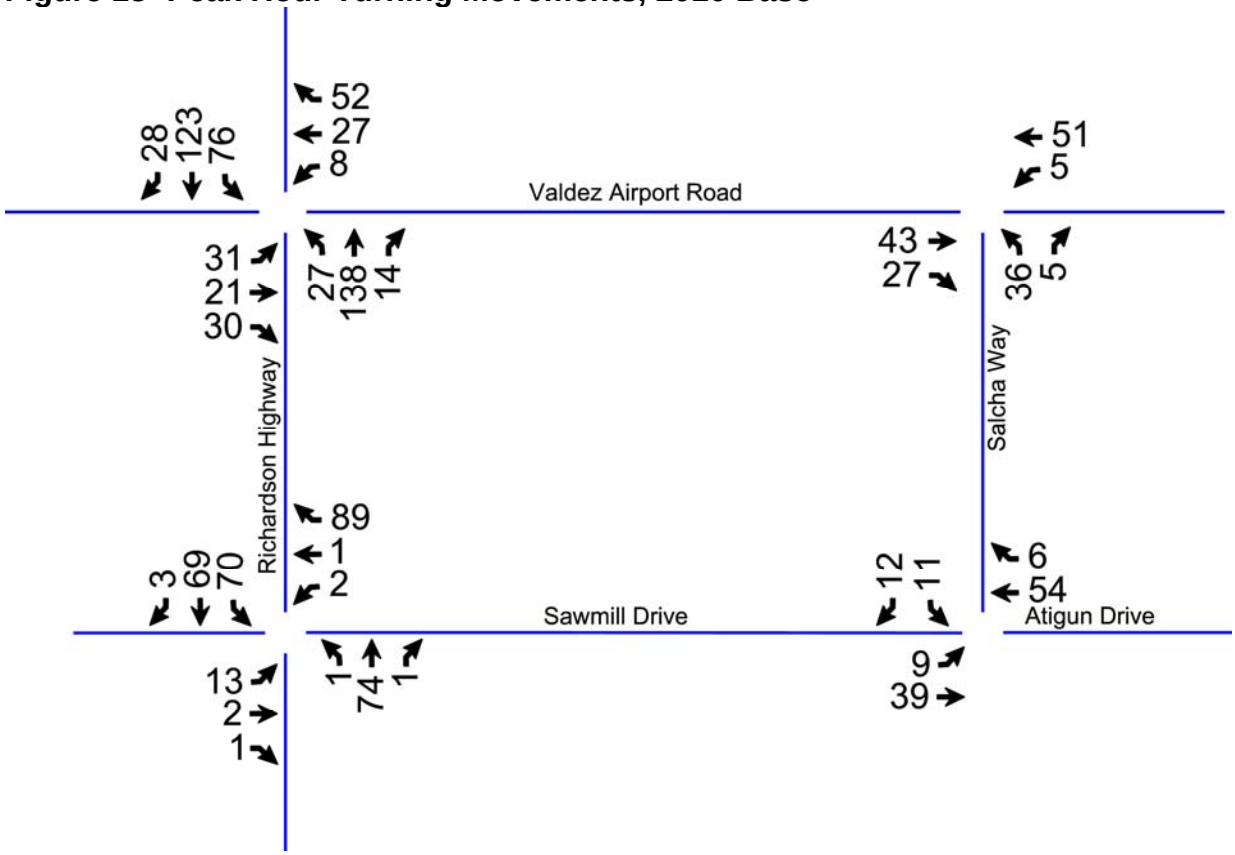


Figure 14- Peak Hour Turning Movements, 2010 Build

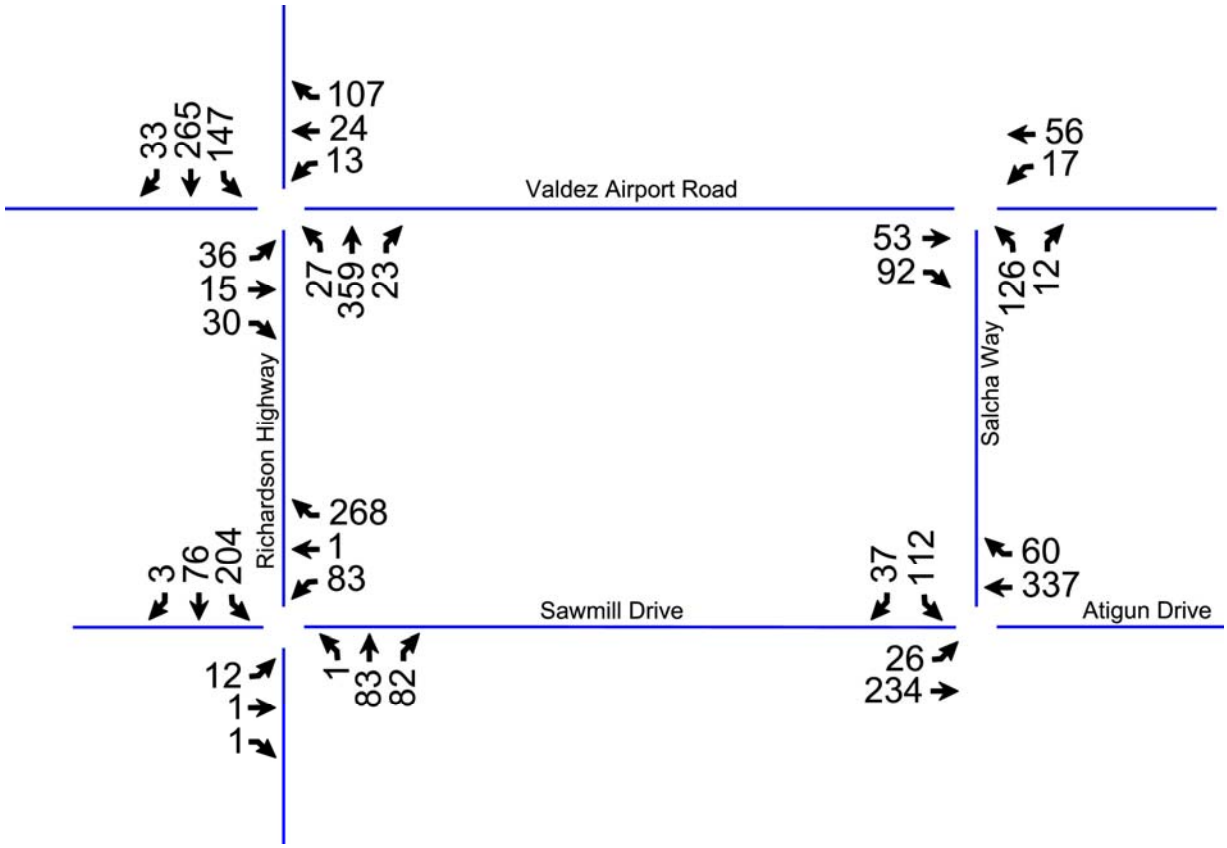


Figure 15- Peak Hour Turning Movements, 2020 Build

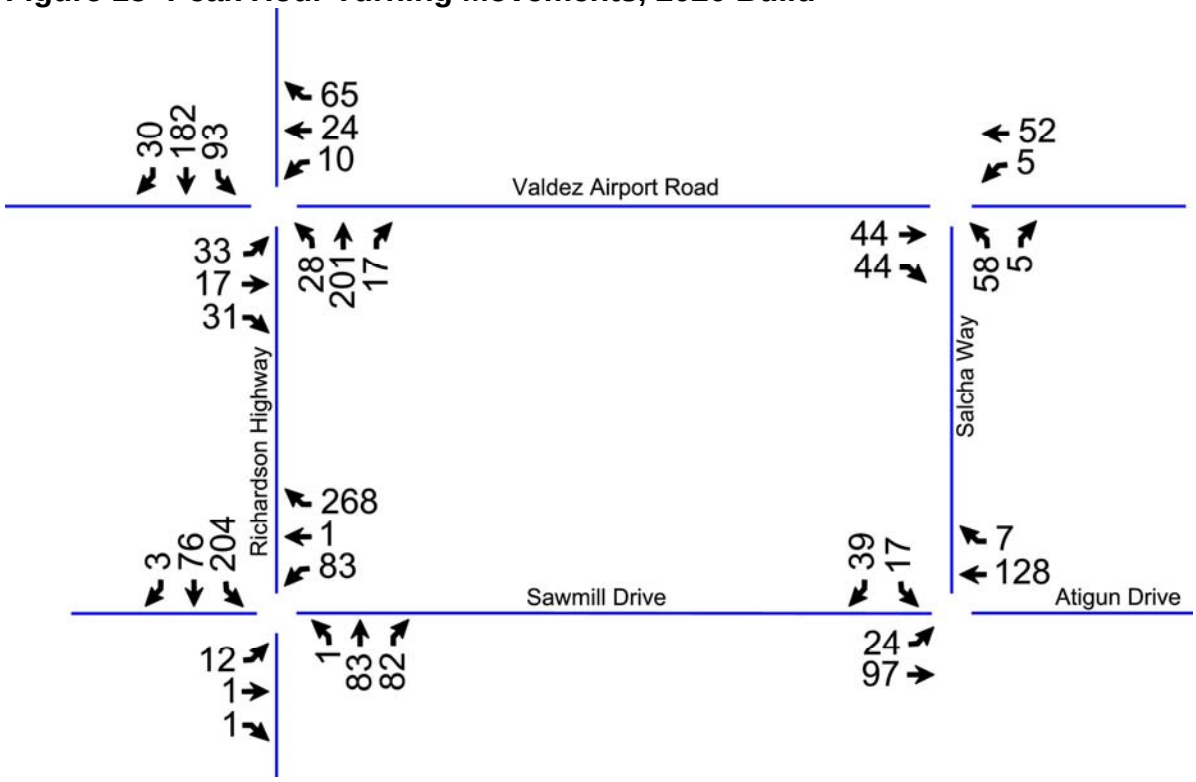


Figure 16- Peak Hour Turning Movements, 2020 build - No Industrial Airport Subdivision

7.5.2 Future Signal Warrants

An option for intersection control other than the two way stop controlled condition described above is to install a traffic signal. Although a traffic signal may provide a higher level of service for the minor approaches, it would impose delay to the major approach traffic.

Intersections must meet specific thresholds to warrant a traffic signal. Appendix C-Intersection Signal Warrants presents signal warrant analysis methodology for evaluating whether an intersection warrants a signal.

A future signal warrant analysis was conducted using the Cal-Trans method of evaluating whether a signal will likely meet future warrants based on predicted traffic volumes for the intersections of the Richardson Highway with both Sawmill Drive and Valdez Airport Road. No warrants are likely to be met based on predicted traffic volumes.

7.5.3 Intersection Auxiliary Lanes

7.5.3.1 Left Turn Lanes on Major Approaches of Unsignalized Intersections

Major approaches of unsignalized intersections are free-flow, but the left-turning vehicles within a shared movement lane must stop and yield to oncoming through traffic and thus become targets for rear-end collisions. Left-turn auxiliary lanes will separate conflicts between stopped or slowing left-turning vehicles and the through traffic stream; which decreases potential rear-end crashes, as well as reduces delay for through traffic. As discussed under Section 4.1.2 on page 15, most, at least 5 rear-end and sideswipe collisions during the study period were attributed to left-turning vehicles on the major highway approaches at the Richardson/Valdez Airport intersection; all of which would have been correctable by left-turn lanes. The ADOT&PF's Highway Safety Improvement Program Handbook lists a crash reduction factor of 50% for left-turn lanes on the major street approach of unsignalized urban intersections.

Exhibit 9-75 on page 685 of the AASHTO A Policy on the Geometric Design of Highways and Streets, provides a guide for left turn lanes on two way highways based on volumes. This methodology is also presented in NCHRP 457 by a spreadsheet tool (Figure 2-5). The following table presents the left turn lane analysis based on the AASHTO procedure. The computations of the NCHRP 457 spreadsheet tool are presented in Appendix A-Auxiliary Turn Lane Analysis.

Approach	Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)	Left Turn Volume (veh/h)	% of Left Turns	Left Turn Lane Recommended? See note 1
Southbound Richardson Highway at Valdez Airport Road	55	313	445	147	33.03%	Yes
Northbound Richardson Highway at Valdez Airport Road	55	298	338	25	7.40%	No
Southbound Richardson Highway at Sawmill Drive	55	165	283	204	72.08%	Yes
Northbound Richardson Highway at Sawmill Drive	55	79	166	1	0.60%	No
Westbound Valdez Airport Road at Salcha Way	40	145	73	17	23.29%	No
Eastbound Sawmill Drive at Salcha Way	30	397	260	26	10.00%	No
Note 1: Decision based on using the data with AASHTO Exhibit 9-75, page 685 of the Policy on the Geometric Design of Highways and Streets (also known as the "Green Book")						

Table 19 - Left Turn Lane Analysis (Based Upon 2020 Full Build Scenario)

Both southbound approaches to the intersections of the Richardson highway with Valdez Airport Road and with Sawmill Drive should have left turn lanes according to AASHTO. AASHTO recommends that whenever practical left-turning traffic should be removed from the through lanes. When a left turn lane is required on an approach but not the opposing approach it is practical to install a left turn lane on the opposing approach since the pavement width is provided and a left turn lane can be installed on the opposing approach with less costs and less impacts than if the lane were installed separately. As such a left turn lane is recommended for the northbound Richardson Highway Approaches to the intersections with Sawmill Drive and with Valdez Airport Road.

7.5.3.2 Right-Turn Lanes on Major Approaches of Unsignalized Intersections

Right-turning vehicles on the major approaches of unsignalized intersections slow to complete the turn, and create a differential speed conflict with following through vehicles. If volumes and speeds are high enough to create significant conflict frequencies, then rear end crashes may result. More importantly, if the turns are unexpected, as could be the case on a rural or suburban two-lane highway, the potential would increase as well. As discussed under Section 4.1.2 on page 15, at least 2 rear-end and sideswipe collisions during the study period were attributed to right-turning vehicles on the major highway northbound approach at the Richardson/Valdez Airport intersection; all of which are correctable by right-turn lanes. Northbound right-turners may be more susceptible to collisions, because northbound drivers may not be fully aware that they've entered in the suburban part of Valdez and turning vehicles are not expected. The ADOT&PF's Highway Safety Improvement Program Handbook lists a crash reduction factor of 24% for right-turn

lanes on the major street approach of unsignalized rural intersections (no listing for urban or suburban intersections).

Both NCHRP 457 (Figure 2-6) and NCHRP's Report 279, *Intersection Channelization Design Guide*, Figure 4-23 present guidelines for installation of right-turn lanes on two-lane highways. Both of these guidelines compare general cost of right-turn lanes and However, the NCHRP 457 method is founded on right-turns in rural environments, and may not apply to this section of the Richardson Highway. As such, the NCHRP 279 methodology was applied to the major approaches right-turn 2020 design volumes for the Richardson Highway.

Since Valdez Airport Road, Sawmill Drive, and Salcha Way are lower speed roads, this analysis would not apply, and instead, capacity requirements determine right-turn lane needs.

The Richardson Highway approach analyses are presented in Appendix A- Auxiliary Turn Lane Analysis. No full width right turn lanes are recommended by the application of these guidelines. The procedure recommends a tapered right-turn treatment for the northbound approach for the Richardson Highway/Sawmill intersection.

7.5.4 Unsignalized Intersection Operational Analysis

The intersections within the study area are modeled as two-way stop controlled intersections where the minor approaches are stop controlled. With regards to vehicular operational quality, the primary performance measure is level of service, with levels A (best, free-flow) through F (failed, long delays). The methodology for unsignalized intersections only computes LOS for the minor movements of the intersection, which include the minor street approaches under sign control, or major movements that must yield to oncoming traffic, such as left-turning traffic. Unsignalized LOS is defined as follows (HCM Exhibit 17-2):

- LOS A: ≤10 seconds of control delay per vehicle
- LOS B: >10 and ≤15 seconds of control delay per vehicle
- LOS C: >15 and ≤25 seconds of control delay per vehicle
- LOS D: >25 and ≤35 seconds of control delay per vehicle
- LOS E: >35 and ≤50 seconds of control delay per vehicle
- LOS F: >50 seconds of control delay per vehicle

AASHTO's GDHS 2004, Exhibit 2-32 provides guidelines for design levels of service of functionally classed facilities which indicate that urban or suburban collectors may have a LOS of D. Therefore, all minor streets should have a LOS D or better through the design year. Richardson Highway, an arterial that is in a suburban setting within Valdez, should have a LOS of C or better to comply with AASHTO's guidelines.

An HCM unsignalized intersection analysis was performed to estimate the level of service (LOS) for each of the stop controlled approaches. Auxiliary turning lanes are added to the

major approaches of the Richardson Highway intersections based on the recommendations discussed under Sections 7.5.3.2 and 7.5.3.1 above. In addition, auxiliary lanes were added to the cross street intersections to optimize approach levels of service to the extent feasible for the forecasted traffic under the 2020 full development scenario. Figure 17 on page 37 presents the future lane configurations that would be recommended for 2020 full development.

The approach LOS for each of the minor approaches within the study area is summarized in Table 20 on page 38. These LOS are for the minor street lane intersection approach configuration alternatives shown where a minor approach left turn lane is not shared. If the secondary alternative were to be implemented, that is the approach would have a shared through/left and right-turn lane configuration for the stopped approach, the right-turn LOS improves but the through/left LOS declines.

The HCM unsignalized intersection analysis using Synchro is presented in Appendix D-Capacity Analysis Reports

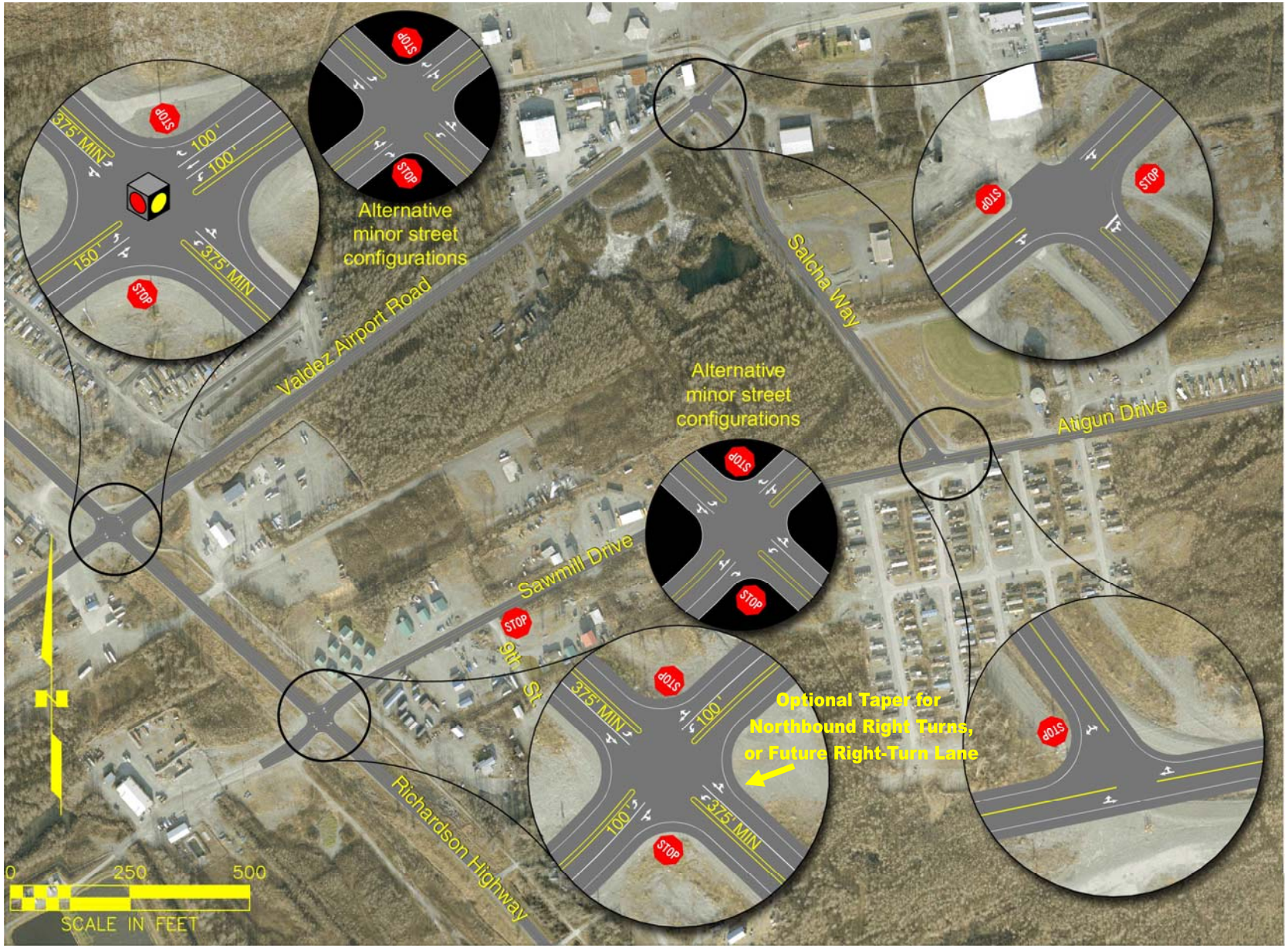


Figure 17- Recommended Lane Configurations, for 2020 Full Development

Intersection	Approach/Movement	2010	2010 Build, No Improvements to Existing Intersections	2020 Full Development (Design Case, Figure 17)	2020 Without Industrial Park No Improvements to Existing Intersections	2021 Without Industrial Park, with Improved Intersections
Richardson Highway at Valdez Airport Road	Westbound Left	C (1 Lane)	C (1 Lane)	F *	C (1 Lane)	D
	Westbound Through			E *		C (Thru/Rt in 1 lane)
	Westbound Right			B *		
	Eastbound Left	D (1 Lane)	C (1 Lane)	F **	E (1 Lane)	E
	Eastbound Through & Right			C **		B
Richardson Highway at Sawmill Drive	Westbound Left	A (1 Lane)	A (1 Lane)	C	A (1 Lane)	B
	Westbound Through & Right			B		A
	Eastbound Left	B (1 Lane)	B (1 Lane)	E ***	C (1 Lane)	C
	Eastbound Through & Right			B ***		B
Valdez Airport Road at Salcha Way	Northbound (all movements)	A	A	B	A	A
Salcha Way at Sawmill Drive	Southbound (all movements)		A	C	A	A

* Approach LOS is C
**Approach LOS is F
***Approach LOS is E

Table 20- Unsignalized Intersections Level of Service by Approach Lane Group

For the design horizon year of 2020 two alternative scenarios were analyzed to assess the impacts of full development of the planned Airport Industrial Park. Table 20 illustrates that upon full development of the Airport Industrial Park, the Richardson Highway intersection minor approach level of service is below desirable minimums even with the installation of additional turn lanes on the approaches to these intersections.

7.5.4.1 Auxiliary Turn Lane Geometry

Auxiliary lanes on major road, free-flow approaches should accommodate queues, and in-lane deceleration for design speeds that are greater than 35 mph (Highway Preconstruction Manual, Section 1150). Where design speeds are 35 mph or less, Section 1150 only requires the lane to be long enough to store queues.

The desirable length of an auxiliary turn lane on a free-flow approach would allow a vehicle to enter the back of the lane at the design speed, and decelerate to a stop behind the 95th percentile queue. A minimum lane length is developed by assuming that the vehicle enters the bay taper at a speed that is 10 mph slower than the design speed, and then begins deceleration at about 2/3 through the bay taper. The auxiliary lane length, then, is the sum of the lane needed for reduced deceleration length and the 95th percentile queue. The minimum lane length is 100 feet.

For approaches that are under stop sign control, auxiliary lanes are only required to be long enough to store queues.

The following table summarizes the recommended components of right and left turn lanes for the 2020 full development configuration that is presented in Figure 17 on page 37.

	NBL	SBL	EBL	WBL	WBR
Richardson Highway & Valdez Airport Road					
Queues (ft.)	25	25	155	25	30
Minimum Lane Length (ft.)	375	375	150	100	100
Desirable Lane Length (ft.)	600	600	150	100	100
Bay Taper Rate	15:1	15:1	6:1	6:1	6:1
Richardson Highway & Sawmill Drive					
Queues (ft.)	25	25	25	40	
Minimum Lane Length (ft.)	375	375	100	100	
Desirable Lane Length (ft.)	600	600	100	100	
Bay Taper Rate	15:1	15:1	6:1	6:1	

Table 21- Auxiliary Lanes Components

7.5.4.2 Sawmill Drive/ Salcha Way/Atigun Drive Intersection Configuration

Two options were considered for the connection of the Sawmill Drive extension to Salcha Way/Atigun Drive. The first option would connect the extension at the existing corner where Atigun Drive turns into Salcha Way. The second option would be a new connection further to the north along Salcha Way across from the ball field.

The expected volumes using the extended Sawmill Drive are high when compared to the volumes expected on Salcha Way. Particularly for the 2020 build assuming full development of the trailer parks and airport subdivision. This volume condition supports connecting at the existing corner since the higher volumes using the extension would be under a free-flow condition with Salcha Way as the stopped approach. Connecting at the existing corner also provides unobstructed sight lines for the stop controlled Salcha Way approach. Connecting further to the north would mean that the existing corner was within the sight lines of a vehicle stopped on Sawmill Drive which may restrict sight distance particularly during the winter when snow is banked on the side of the road. As such it is recommended to connect the Sawmill Drive extension at the existing corner where Atigun Drive turns into Salcha Way.

7.6 Lighting

According to “The Traffic and Safety Features Design Guide (preferred design practices), version 1” prepared by ADOT in April of 2005….the preferred practices concerning intersection illumination is to “*Use a minimum of 2 fixtures to provide silhouette lighting at any intersection with auxiliary turn lanes” and “All LT pockets from the beginning point of the lane shift and widening taper to the intersection.”* As such, lighting should be provided for the project intersections to illuminate the left turn lanes from the beginning of the widening taper.

APPENDIX A- AUXILIARY TURN LANE ANALYSIS

Left-Turn Lane Guidelines with NCHRP 457 Spreadsheet Tools

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

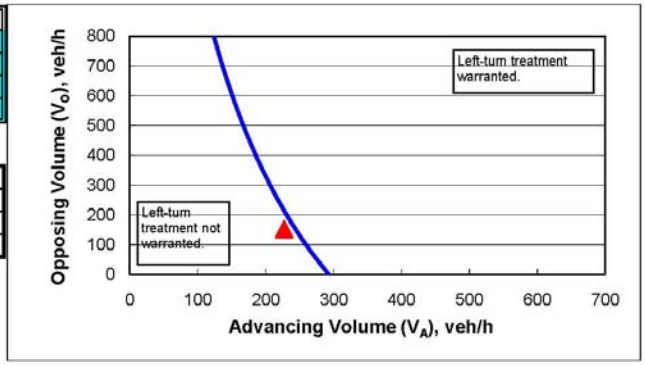
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	33%
Advancing volume (V_A), veh/h:	227
Opposing volume (V_O), veh/h:	152

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	244
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 18- Left Turn Lane Analysis, Southbound Richardson Highway at Valdez Airport Road, Design Year (2020)

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

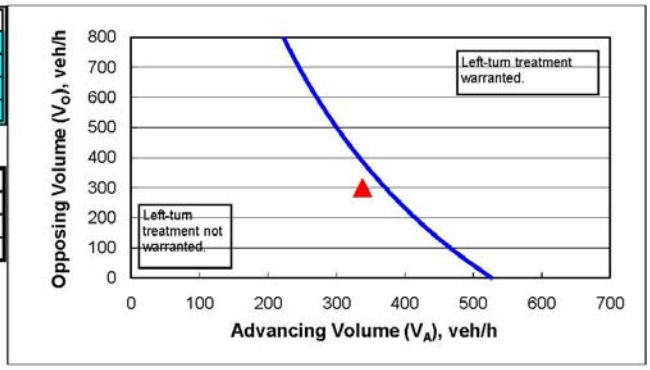
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	338
Opposing volume (V_O), veh/h:	298

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	372
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 19- Left Turn Lane Analysis, Northbound Richardson Highway at Valdez Airport Road, Design Year (2020)

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

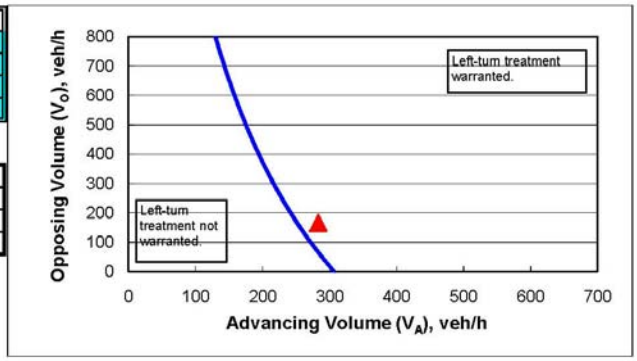
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	72%
Advancing volume (V_A), veh/h:	283
Opposing volume (V_O), veh/h:	165

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	252
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane , s:	1.9

Figure 20- Left Turn Lane Analysis, Southbound Richardson Highway at Sawmill Drive, Design Year (2020)

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

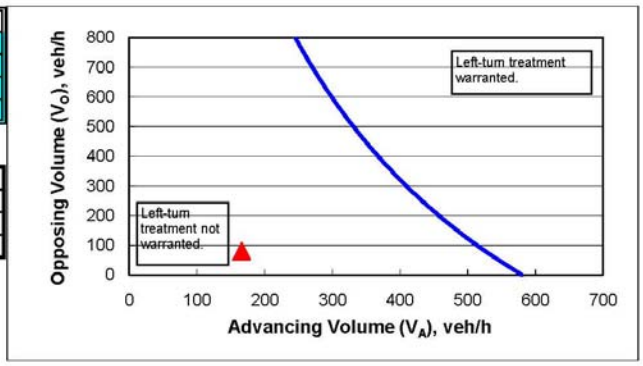
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	166
Opposing volume (V_O), veh/h:	79

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	526
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane , s:	1.9

Figure 21- Left Turn Lane Analysis, Northbound Richardson Highway at Sawmill Drive, Design Year (2020)

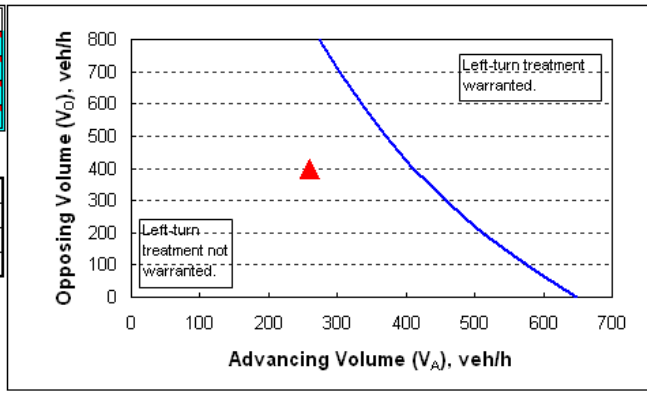
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	10%
Advancing volume (V_A), veh/h:	260
Opposing volume (V_O), veh/h:	400

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	411
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 22- Left Turn Lane Analysis, Eastbound Sawmill Drive at Salcha Way, Design Year (2020)

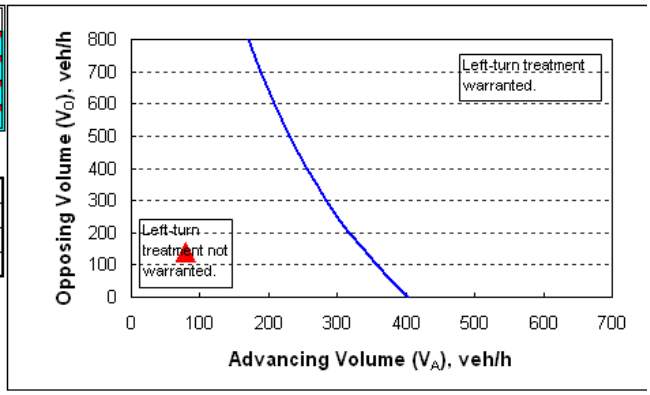
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	25%
Advancing volume (V_A), veh/h:	80
Opposing volume (V_O), veh/h:	140

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	340
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

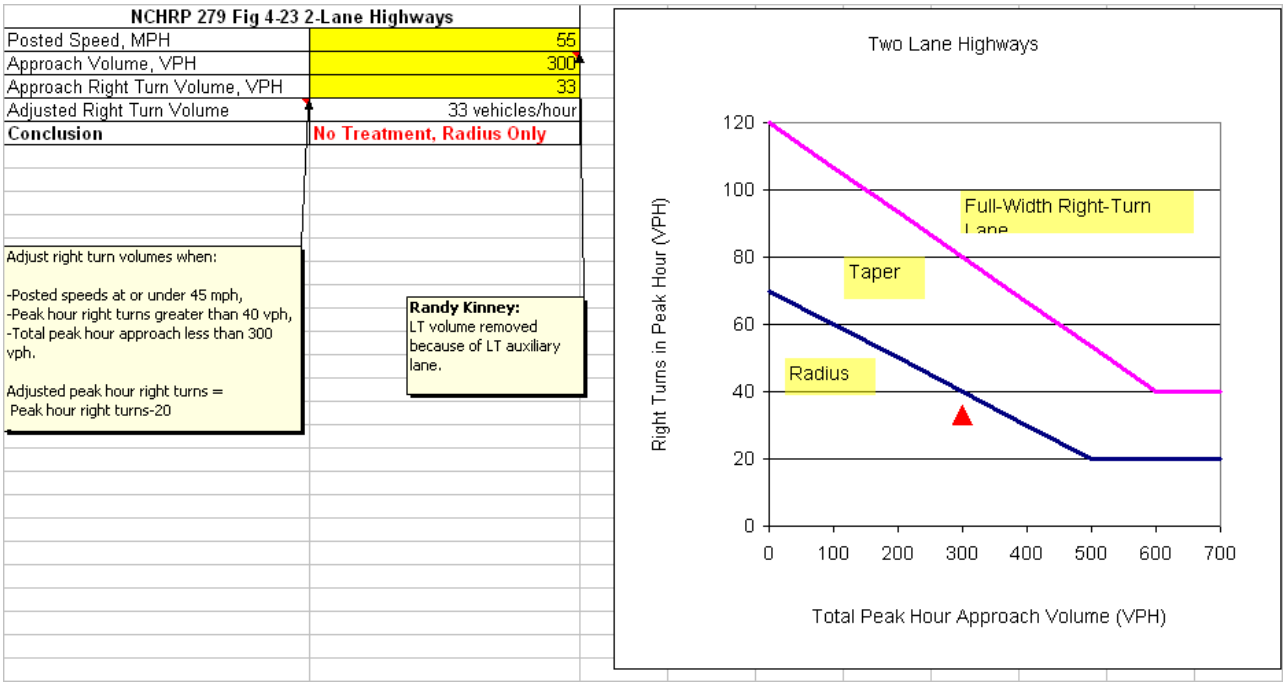


CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 23- Left Turn Lane Analysis, Westbound Valdez Airport Road at Salcha Way, Design Year (2020)

Right-Turn Lane Guidelines with NCHRP 279 Spreadsheet Tools



NCHRP 279 Fig 4-23 2-Lane Highways	
Posted Speed, MPH	55
Approach Volume, VPH	300
Approach Right Turn Volume, VPH	33
Adjusted Right Turn Volume	33 vehicles/hour
Conclusion	**No Treatment, Radius Only**

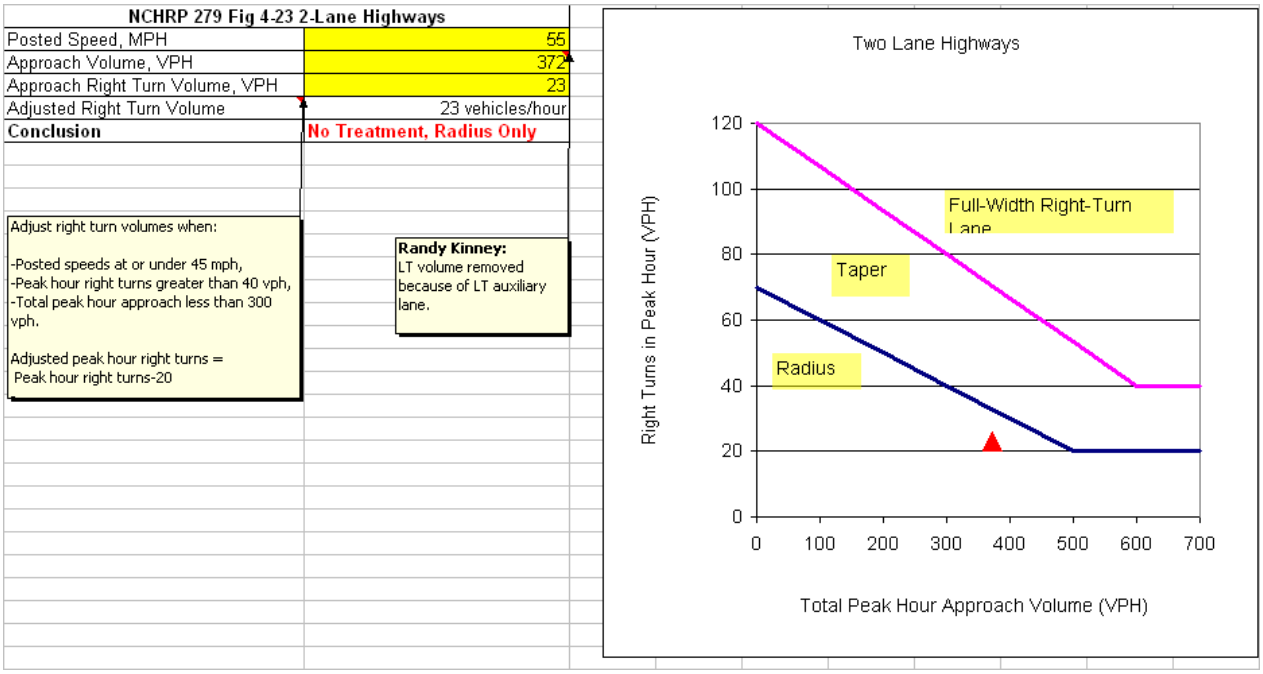
Adjust right turn volumes when:

-Posted speeds at or under 45 mph,
-Peak hour right turns greater than 40 vph,
-Total peak hour approach less than 300 vph.

Adjusted peak hour right turns = Peak hour right turns-20

Randy Kinney: LT volume removed because of LT auxiliary lane.

Figure 24- Right Turn Lane Analysis, Southbound Richardson Highway at Valdez Airport Road, Design Year (2020)



NCHRP 279 Fig 4-23 2-Lane Highways	
Posted Speed, MPH	55
Approach Volume, VPH	372
Approach Right Turn Volume, VPH	23
Adjusted Right Turn Volume	23 vehicles/hour
Conclusion	**No Treatment, Radius Only**

Adjust right turn volumes when:

-Posted speeds at or under 45 mph,
-Peak hour right turns greater than 40 vph,
-Total peak hour approach less than 300 vph.

Adjusted peak hour right turns = Peak hour right turns-20

Randy Kinney: LT volume removed because of LT auxiliary lane.

Figure 25- Right Turn Lane Analysis, Northbound Richardson Highway at Valdez Airport Road, Design Year (2020)

NCHRP 279 Fig 4-23 2-Lane Highways	
Posted Speed, MPH	55
Approach Volume, VPH	79
Approach Right Turn Volume, VPH	3
Adjusted Right Turn Volume	3 vehicles/hour
Conclusion	**No Treatment, Radius Only**

Adjust right turn volumes when:

-Posted speeds at or under 45 mph,
-Peak hour right turns greater than 40 vph,
-Total peak hour approach less than 300 vph.

Adjusted peak hour right turns =
Peak hour right turns-20

Randy Kinney:
LT volume removed because of LT auxiliary lane.

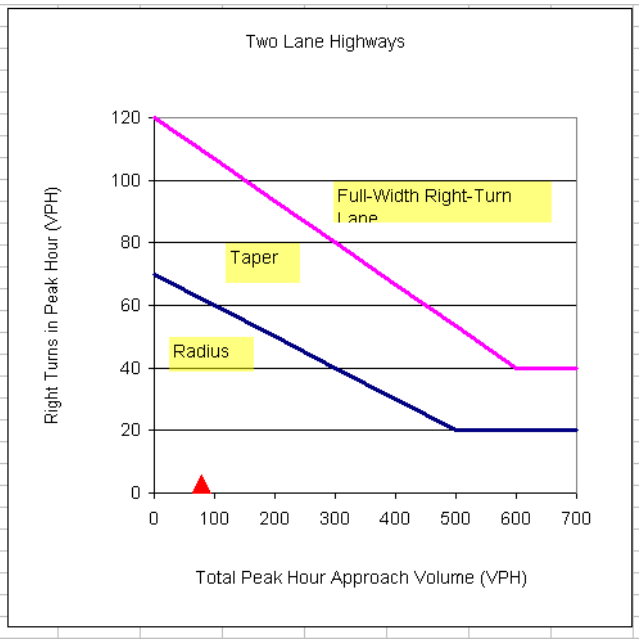


Figure 26- Right Turn Lane Analysis, Southbound Richardson Highway at Sawmill Drive, Design Year (2020)

NCHRP 279 Fig 4-23 2-Lane Highways	
Posted Speed, MPH	55
Approach Volume, VPH	165
Approach Right Turn Volume, VPH	82
Adjusted Right Turn Volume	82 vehicles/hour
Conclusion	**Taper Only**

Adjust right turn volumes when:

-Posted speeds at or under 45 mph,
-Peak hour right turns greater than 40 vph,
-Total peak hour approach less than 300 vph.

Adjusted peak hour right turns =
Peak hour right turns-20

Randy Kinney:
LT volume removed because of LT auxiliary lane.

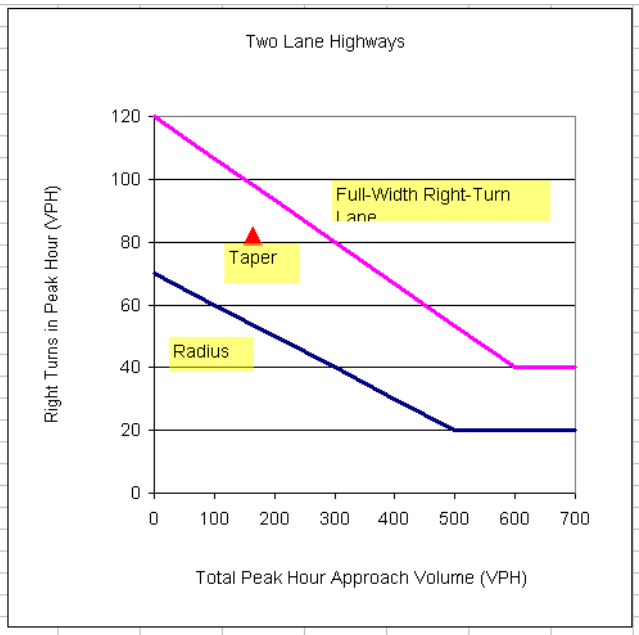


Figure 27- Right Turn Lane Analysis, Northbound Richardson Highway at Sawmill Drive, Design Year (2020)

Turn Lane Geometric Computations (Richardson Highway)

The following figure presents the turn lane geometry template for application of the values shown in the turn lane geometry computation tables.

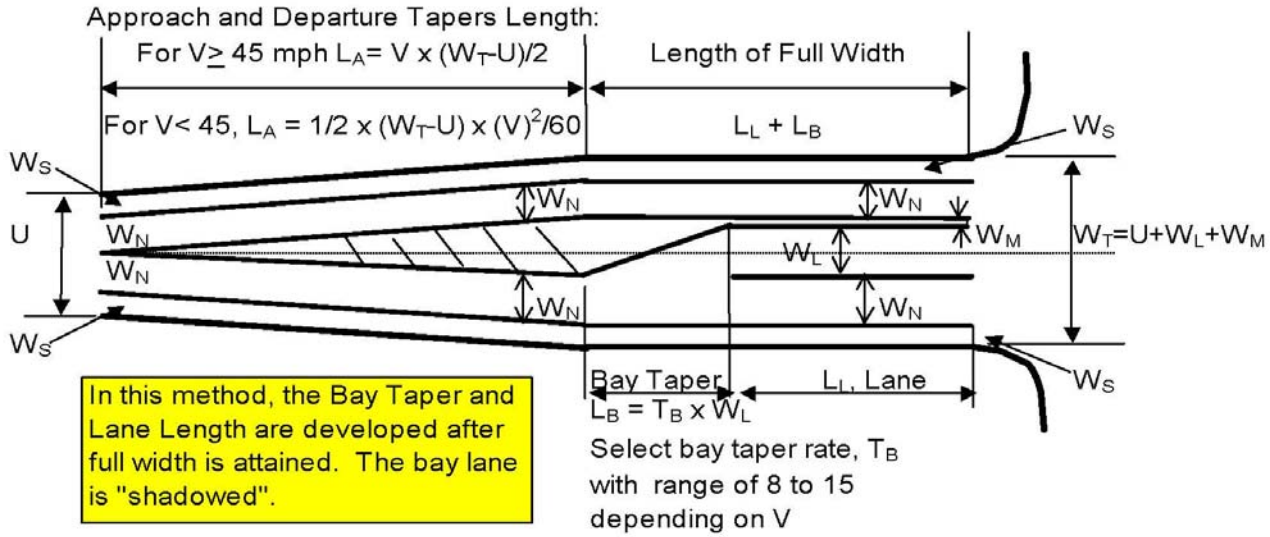


Figure 28- Turn Lane Geometry Template

Input

$U=2W_S+2W_N$	40.00 feet	
W_M	4.00 feet	
W_L	12.00 feet	
W_S	8.00 feet	
V (posted)	55 mph	
L_L	375.00 feet	See Lane Comps

Output

W_T	56.00 feet
T_B	15.0 : 1
L_A	440.00 feet
T_A	55.0 : 1
Y	5.43 feet
X	298.57 feet
L_B	141.43 feet
$L_A + L_L$	815.00

.

Table 22- Turn Lane Geometry Calculation, 60 MPH (Minimum Lane)

APPENDIX B- CRASH EVALUATION METHODOLOGY

The accident evaluation methodology uses elements from the *Highway Safety Improvement Program Handbook* by ADOT&PF, and NCHRP Report 162 from Transportation Research Board, *Methods for Evaluating Highway Safety Improvements* by John C. Laughland, *et al.,* National Research Council, Washington, D.C. 1975.

Intersection accident rates are calculated with the following formula:

Equation A1. $$R = \frac{1{,}000{,}000 \times A}{365 \times N \times V}$$

The variables in this equation are:

R= Accident rate for the intersection expressed as accidents per million entering vehicles (MEV),
A= Frequency of accidents in the study period,
N= Number of years of data,
V= Traffic volumes entering the intersection daily, usually ½ of the sum of the Average Annual Daily Traffic (AADT) volumes on the intersection's legs for two way approaches, or the sum of entering AADT volumes on one-way approaches.

Segment rates are defined as:

Equation A2. $$R = \frac{1{,}000{,}000 \times A}{365 \times N \times ADT \times L}$$

R= Accident rate for the intersection expressed as accidents per million vehicle miles (MVM),
A= Frequency of accidents in the study period,
N= Number of years of data,
ADT= Segment Average Annual Daily Traffic (AADT) volumes, both directions.
L= Segment length, miles

Rate analysis is especially useful when there is a population of facilities to which we can compare the study area. ADOT&PF has developed statewide populations for segments and intersections, and provides this data in the HSIPHB and supplements and the annual *Traffic Accident Report*.

We can calculate accident rates using Equation A1 or A2 to compare the facility to the corresponding like State of Alaska accident populations. However, by only comparing the rate of the facility under analysis to an average, we may erroneously infer that those facilities with higher than average rates are problem areas.

Instead, we would like to establish an upper limit for the rate that is our threshold of concern. The Rate Quality Control Method establishes an upper control limit (UCL) to determine if the facility's accident rate, as calculated in Equation 1, is significantly higher than accident rates in facilities with similar characteristics. The UCL is determined statistically as a function of the statewide average accident rate for the facility category (i.e., highway or intersection) and the vehicle exposure at the location being considered. UCL is calculated with the following equation:

Equation A3. $$UCL = Ra + Z \times \sqrt{\frac{Ra}{M}} + \frac{1}{2 \times M},$$

The variables in this equation are:

R_a= Average Accident Rate for the population in accidents per MEV (intersections) or accidents per MVM (road segments);
M= Facility Exposure in MEV for the intersections or MVM for roadway section;
Z= Normal Distribution Transformation Variable (1.64 for 95% confidence)

Intersections or segments with rates that exceed the UCL are considered truly to have an accident rate above average.

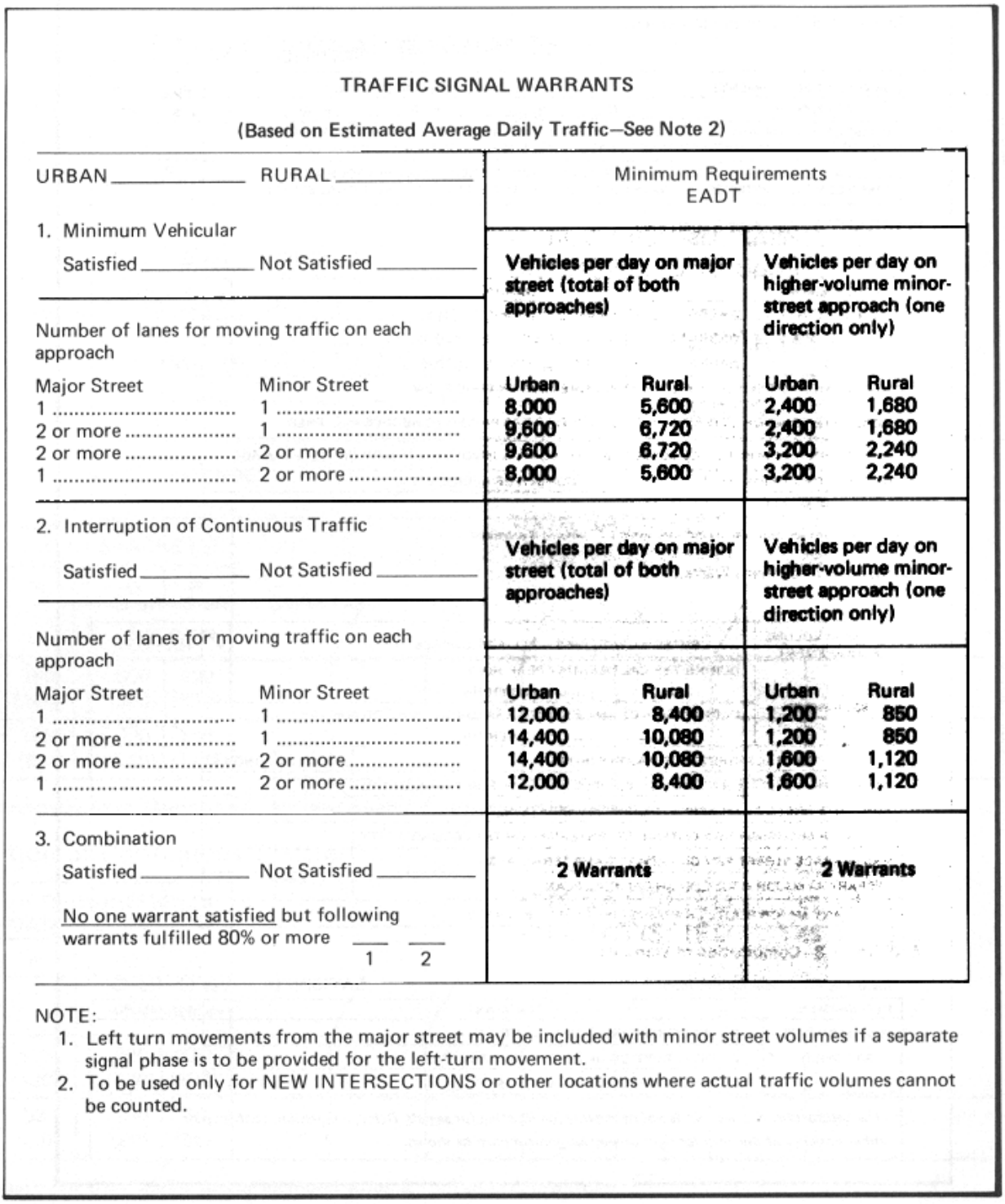
APPENDIX C- INTERSECTION SIGNAL WARRANTS

The Manual on Uniform Traffic Control Devices (MUTCD) uses warrants to determine if signal may be used in traffic control. Meeting one or more of the warrants doesn't necessarily mandate a signal, especially where other, less restrictive remedies can be used. The warrants include:

- Warrant 1- Eight-Hour Volume
- Warrant 2- Four-Hour Volume
- Warrant 3- Peak Hour Volume
- Warrant 4- Minimum Pedestrian Volumes
- Warrant 5- School Crossings
- Warrant 6- Coordinated Signal System
- Warrant 7- Crash Experience
- Warrant 8- Roadway Network

The MUTCD warrant system described above only evaluates recent or current conditions. Cal-Trans has a methodology for future signal warrants based that is presented in the Institute of Transportation Engineers (ITE) *Manual of Traffic Signal Design*, Second Edition, by James H. Kell and Iris J. Fullerton. The method uses future estimated average daily traffic (in this case AADT from the demand models) as the input variables and estimates whether the intersection with future estimated average daily traffic would meet the Manual of Uniform Traffic Control Devices signal Warrant 1, Condition A- Minimum Vehicular Volume; Condition B- Interruption of Continuous Traffic; and the combination of warrants allowed in MUTCD procedure.

The method uses future estimated average daily traffic as the input variables and includes the sum of both approach volumes, or AADT for the major road; and highest minor approach entering AADT volume. The following figure provides volume thresholds for the Cal-Trans method from *Manual of Traffic Signal Design*



TRAFFIC SIGNAL WARRANTS

(Based on Estimated Average Daily Traffic—See Note 2)

URBAN _____ RURAL _____

	Minimum Requirements EADT			
1. Minimum Vehicular Satisfied _____ Not Satisfied _____	**Vehicles per day on major street (total of both approaches)**		**Vehicles per day on higher-volume minor-street approach (one direction only)**	
Number of lanes for moving traffic on each approach Major Street / Minor Street	**Urban**	**Rural**	**Urban**	**Rural**
1 / 1	**8,000**	**5,600**	**2,400**	**1,680**
2 or more / 1	**9,600**	**6,720**	**2,400**	**1,680**
2 or more / 2 or more	**9,600**	**6,720**	**3,200**	**2,240**
1 / 2 or more	**8,000**	**5,600**	**3,200**	**2,240**
2. Interruption of Continuous Traffic Satisfied _____ Not Satisfied _____	**Vehicles per day on major street (total of both approaches)**		**Vehicles per day on higher-volume minor-street approach (one direction only)**	
Number of lanes for moving traffic on each approach Major Street / Minor Street	**Urban**	**Rural**	**Urban**	**Rural**
1 / 1	**12,000**	**8,400**	**1,200**	**850**
2 or more / 1	**14,400**	**10,080**	**1,200**	**850**
2 or more / 2 or more	**14,400**	**10,080**	**1,600**	**1,120**
1 / 2 or more	**12,000**	**8,400**	**1,600**	**1,120**
3. Combination Satisfied _____ Not Satisfied _____ No one warrant satisfied but following warrants fulfilled 80% or more ___ ___ (1 2)	**2 Warrants**		**2 Warrants**	

NOTE:
1. Left turn movements from the major street may be included with minor street volumes if a separate signal phase is to be provided for the left-turn movement.
2. To be used only for NEW INTERSECTIONS or other locations where actual traffic volumes cannot be counted.

Figure 29- Appendix E: CALTRANS Future EADT Signal Warrant Method

APPENDIX D- CAPACITY ANALYSIS REPORTS

3: Valdez Airport Road & Salcha Way	Direction, Lane #		EB 1 -T&R	WB 1 -L&T	NB 1 -L&R	
	Volume Total	flow rate, (Vol/PHF)	85	68	50	
	Volume Left	flow rate, (Vol/PHF)	0	6	44	
	Volume Right	flow rate, (Vol/PHF)	33	0	6	
	cSH		1700	1511	862	
	Volume to Capacity		0.05	0	0.06	
	Queue Length 95th (ft)		0	0	5	
	Control Delay (s)		0	0.7	9.4	
	Lane LOS			A	A	
	Approach Delay (s)		0	0.7	9.4	
	Approach LOS				A	
4: Atigun Drive & Salcha & Sawmill	Direction, Lane #		EB 1 -L&T	WB 1 -T&R	SB 1 -L&R	
	Volume Total	flow rate, (Vol/PHF)	59	73	28	
	Volume Left	flow rate, (Vol/PHF)	11	0	13	
	Volume Right	flow rate, (Vol/PHF)	0	7	15	
	cSH		1527	1700	918	
	Volume to Capacity		0.01	0.04	0.03	
	Queue Length 95th (ft)		1	0	2	
	Control Delay (s)		1.4	0	9	
	Lane LOS		A		A	
	Approach Delay (s)		1.4	0	9	
	Approach LOS				A	
5: Valdez Airport Road & RichardsonHigh	Direction, Lane #		EB 1 -L&T&R	WB 1 -L&T&R	NB 1 -L&T&F	SB 1 -L&T&
	Volume Total	flow rate, (Vol/PHF)	143	125	292	315
	Volume Left	flow rate, (Vol/PHF)	62	11	42	97
	Volume Right	flow rate, (Vol/PHF)	53	73	31	44
	cSH		338	473	1352	1315
	Volume to Capacity		0.42	0.26	0.03	0.07
	Queue Length 95th (ft)		51	26	2	6
	Control Delay (s)		23.2	15.3	1.3	2.9
	Lane LOS		C	C	A	A
	Approach Delay (s)		23.2	15.3	1.3	2.9
	Approach LOS		C	C		
10: Sawmill Drive & RichardsonHighway	Direction, Lane #		EB 1 -L&T&R	WB 1 -L&T&R	NB 1 -L&T&F	SB 1 -L&T&
	Volume Total	flow rate, (Vol/PHF)	20	112	93	173
	Volume Left	flow rate, (Vol/PHF)	16	2	1	85
	Volume Right	flow rate, (Vol/PHF)	1	109	1	4
	cSH		461	945	1508	1503
	Volume to Capacity		0.04	0.12	0	0.06
	Queue Length 95th (ft)		3	10	0	5
	Control Delay (s)		13.1	9.3	0.1	3.9
	Lane LOS		B	A	A	A
	Approach Delay (s)		13.1	9.3	0.1	3.9
	Approach LOS		B	A		

Figure 30- HCM Unsignalized Analysis, Development (2010)

3: Valdez Airport Road & Salcha Way	Direction, Lane #		EB 1 -T&R	WB 1 -L&T	NB 1-R						
	Volume Total	flow rate, (Vol/PHF)	177	89	168						
	Volume Left	flow rate, (Vol/PHF)	0	21	154						
	Volume Right	flow rate, (Vol/PHF)	112	0	15						
	cSH		1700	1399	760						
	Volume to Capacity		0.1	0.01	0.22						
	Queue Length 95th (ft)		0	1	21						
	Control Delay (s)		0	1.9	11.1						
	Lane LOS			A	B						
	Approach Delay (s)		0	1.9	11.1						
	Approach LOS				B						
4: Atigun Drive & Salcha & Sawmill	Direction, Lane #		EB 1 -L&T	WB 1 -T&R	SB 1 -L&R						
	Volume Total	flow rate, (Vol/PHF)	317	484	182						
	Volume Left	flow rate, (Vol/PHF)	32	0	137						
	Volume Right	flow rate, (Vol/PHF)	0	73	45						
	cSH		1079	1700	387						
	Volume to Capacity		0.03	0.28	0.47						
	Queue Length 95th (ft)		2	0	61						
	Control Delay (s)		1.1	0	22.3						
	Lane LOS		A		C						
	Approach Delay (s)		1.1	0	22.3						
	Approach LOS				C						
5: Valdez Airport Road & RichardsonHigh	Direction, Lane #		EB 1-L	EB 2 -T&R	WB 1-L	WB 2 -T	WB 3-R	NB 1-L	NB 2 -T&R	SB 1-L	SB 2 -T&R
	Volume Total	flow rate, (Vol/PHF)	66	72	18	36	151	38	511	188	426
	Volume Left	flow rate, (Vol/PHF)	66	0	18	0	0	38	0	188	0
	Volume Right	flow rate, (Vol/PHF)	0	49	0	0	151	0	49	0	52
	cSH		49	267	82	117	581	1134	1700	1054	1700
	Volume to Capacity		1.34	0.27	0.22	0.31	0.26	0.03	0.3	0.18	0.25
	Queue Length 95th (ft)		153	26	20	30	26	3	0	16	0
	Control Delay (s)		375.9	23.4	61.3	48.9	13.4	8.3	0	9.2	0
	Lane LOS		F	C	F	E	B	A		A	
	Approach Delay (s)		192.2		23.9			0.6		2.8	
	Approach LOS		F		C						
10: Sawmill Drive & RichardsonHighway	Direction, Lane #		EB 1-L	EB 2 -T&R	WB 1-L	WB 2 -T&R	NB 1-L	NB 2 -T&R	SB 1-L	SB 2 -T&R	
	Volume Total	flow rate, (Vol/PHF)	15	2	101	328	1	201	249	96	
	Volume Left	flow rate, (Vol/PHF)	15	0	101	0	1	0	249	0	
	Volume Right	flow rate, (Vol/PHF)	0	1	0	327	0	100	0	4	
	cSH		116	411	282	888	1497	1700	1371	1700	
	Volume to Capacity		0.13	0.01	0.36	0.37	0	0.12	0.18	0.06	
	Queue Length 95th (ft)		10	0	39	43	0	0	17	0	
	Control Delay (s)		40.3	13.8	24.7	11.4	7.4	0	8.2	0	
	Lane LOS		E	B	C	B	A		A		
	Approach Delay (s)		36.5		14.5		0		5.9		
	Approach LOS		E		B						

Figure 31- HCM Unsignalized Analysis, Development (2020)

3: Valdez Airport Road & Salcha Way	Direction, Lane #		EB 1 -T&R	WB 1 -L&T	NB 1 -L&R					
	Volume Total	flow rate, (Vol/PHF)	107	70	77					
	Volume Left	flow rate, (Vol/PHF)	0	6	71					
	Volume Right	flow rate, (Vol/PHF)	54	0	6					
	cSH		1700	1483	842					
	Volume to Capacity		0.06	0	0.09					
	Queue Length 95th (ft)		0	0	8					
	Control Delay (s)		0	0.7	9.7					
	Lane LOS			A	A					
	Approach Delay (s)		0	0.7	9.7					
	Approach LOS				A					
4: Atigun Drive &	Direction, Lane #		EB 1 -L&T	WB 1 -T&R	SB 1-R					
	Volume Total	flow rate, (Vol/PHF)	148	165	68					
	Volume Left	flow rate, (Vol/PHF)	29	0	21					
	Volume Right	flow rate, (Vol/PHF)	0	9	48					
	cSH		1414	1700	795					
	Volume to Capacity		0.02	0.1	0.09					
	Queue Length 95th (ft)		2	0	7					
	Control Delay (s)		1.6	0	10					
	Lane LOS		A		A					
	Approach Delay (s)		1.6	0	10					
	Approach LOS				A					
5: Valdez Airport Road & RichardsonHigh	Direction, Lane #		EB 1-L	EB 2 -T&R	WB 1-L	WB 2 -T&R	NB 1-L	NB 2 -T&R	SB 1-L	SB 2 -T&R
	Volume Total	flow rate, (Vol/PHF)	66	77	14	127	43	357	119	304
	Volume Left	flow rate, (Vol/PHF)	66	0	14	0	43	0	119	0
	Volume Right	flow rate, (Vol/PHF)	0	54	0	92	0	38	0	48
	cSH		145	444	175	436	1257	1700	1202	1700
	Volume to Capacity		0.46	0.17	0.08	0.29	0.03	0.21	0.1	0.18
	Queue Length 95th (ft)		52	16	6	30	3	0	8	0
	Control Delay (s)		49.1	14.8	27.3	16.6	8	0	8.3	0
	Lane LOS		E	B	D	C	A		A	
	Approach Delay (s)		30.6		17.7		0.9		2.3	
	Approach LOS		D		C					
10: Sawmill Drive & RichardsonHighway	Direction, Lane #		EB 1-L	EB 2 -T&R	WB 1-L	WB 2 -T&R	NB 1-L	NB 2 -T&R	SB 1-L	SB 2 -T&R
	Volume Total	flow rate, (Vol/PHF)	15	2	5	202	1	96	160	90
	Volume Left	flow rate, (Vol/PHF)	15	0	5	0	1	0	160	0
	Volume Right	flow rate, (Vol/PHF)	0	1	0	201	0	4	0	4
	cSH		254	584	437	955	1505	1700	1497	1700
	Volume to Capacity		0.06	0	0.01	0.21	0	0.06	0.11	0.05
	Queue Length 95th (ft)		5	0	1	20	0	0	9	0
	Control Delay (s)		20	11.2	13.3	9.8	7.4	0	7.7	0
	Lane LOS		C	B	B	A	A		A	
	Approach Delay (s)		18.8		9.9		0.1		4.9	
	Approach LOS		C		A					

Figure 32- HCM Unsignalized Analysis, Development without Industrial Park (2020)

3: Valdez Airport Road & Salcha Way	Direction, Lane #		EB 1 -T&R	WB 1 -L&T	NB 1 -L&R	
	Volume Total	flow rate, (Vol/PHF)	107	70	77	
	Volume Left	flow rate, (Vol/PHF)	0	6	71	
	Volume Right	flow rate, (Vol/PHF)	54	0	6	
	cSH		1700	1483	842	
	Volume to Capacity		0.06	0	0.09	
	Queue Length 95th (ft)		0	0	8	
	Control Delay (s)		0	0.7	9.7	
	Lane LOS			A	A	
	Approach Delay (s)		0	0.7	9.7	
	Approach LOS				A	
4: Atigun Drive &	Direction, Lane #		EB 1 -L&T	WB 1 -T&R	SB 1-R	
	Volume Total	flow rate, (Vol/PHF)	148	165	68	
	Volume Left	flow rate, (Vol/PHF)	29	0	21	
	Volume Right	flow rate, (Vol/PHF)	0	9	48	
	cSH		1414	1700	795	
	Volume to Capacity		0.02	0.1	0.09	
	Queue Length 95th (ft)		2	0	7	
	Control Delay (s)		1.6	0	10	
	Lane LOS		A		A	
	Approach Delay (s)		1.6	0	10	
	Approach LOS				A	
5: Valdez Airport Road & RichardsonHigh	Direction, Lane #		EB 1 -L&T&R	WB 1 -L&T&R	NB 1 -L&T&F	SB 1 -L&T&
	Volume Total	flow rate, (Vol/PHF)	143	141	400	423
	Volume Left	flow rate, (Vol/PHF)	66	14	43	119
	Volume Right	flow rate, (Vol/PHF)	54	92	38	48
	cSH		223	377	1257	1202
	Volume to Capacity		0.64	0.38	0.03	0.1
	Queue Length 95th (ft)		97	43	3	8
	Control Delay (s)		46.3	20.2	1.2	3.1
	Lane LOS		E	C	A	A
	Approach Delay (s)		46.3	20.2	1.2	3.1
	Approach LOS		E	C		
10: Sawmill Drive & RichardsonHighway	Direction, Lane #		EB 1 -L&T&R	WB 1 -L&T&R	NB 1 -L&T&F	SB 1 -L&T&
	Volume Total	flow rate, (Vol/PHF)	17	207	98	250
	Volume Left	flow rate, (Vol/PHF)	15	5	1	160
	Volume Right	flow rate, (Vol/PHF)	1	201	4	4
	cSH		276	929	1505	1497
	Volume to Capacity		0.06	0.22	0	0.11
	Queue Length 95th (ft)		5	21	0	9
	Control Delay (s)		18.9	10	0.1	5.2
	Lane LOS		C	A	A	A
	Approach Delay (s)		18.9	10	0.1	5.2
	Approach LOS		C	A		

Figure 33- HCM Unsignalized Analysis, Development without Industrial Park, Unimproved Existing Intersections (2020)

APPENDIX E- PTR DATA, RICHARDSON HIGHWAY

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
FIXED RECORDER REPORT 2008

SITE 11100071 ROUTE 190000 MP 0.543
*** VALDEZ *** RICHARDSON HIGHWAY AT VALDEZ (NB)

MONTH	MADT	%	6-10	(10-6)	MON	TUE	WED	THU	FRI	WKDY	SAT	SUN
JAN	1746	81	90	10	106.7	100.8	107.6	111.9	113.5	108.1	86.8	72.5
FEB	1806	83.8	90.6	9.4	102.9	111.4	108.4	112.1	110.1	109	84.1	71.2
MAR	1900	88.2	90.3	9.7	101.8	105.8	107.3	107.2	111.3	106.7	91.7	75.1
APR	2013	93.4	90.6	9.4	107.7	107.5	106.6	107.4	109.7	107.8	86.4	74.5
MAY	2339	108.5	90.5	9.5	98.8	104	104.6	102.2	109.6	103.8	97.9	82.7
JUN	2554	118.5	90.2	9.8	103.4	102.4	104.2	106.1	108.9	105	93.4	81.6
JUL	2849	132.2	89.7	10.3	100.1	102.6	101.7	104.6	104.9	102.8	97.3	88.9
AUG	2850	132.3	90	10	103.8	99	101.6	100.9	107.3	102.5	96.7	90.6
SEP	2284	106	90.6	9.4	108.6	104.7	104.9	104.5	109.2	106.4	91.3	76.7
OCT	2024	93.9	90.9	9.1	105	107.7	110.3	106.5	108.7	107.6	89.1	72.8
NOV	1813	84.1	90.1	9.9	111.1	110.8	111.5	99.7	105.2	107.7	89.2	72.3
DEC	1680	78	89.6	10.4	111.2	110	109.9	96.8	109.1	107.4	88.3	74.5
ANN	2155		90.3	9.7	105.1	105.6	106.6	105	109	106.2	91	77.8

HISTORICAL DATA

2008	2155
2007	2334
2006	2539
2005	2395
2004	2491
2003	2572
2002	2657
2001	2713
2000	2724
1999	2643
1998	2745
1997	2808
1996	2747
1995	2858
1994	2998
1993	2701
1992	2581
1991	2515
1990	2558

HIGHEST DAYS

1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	AVG
3192	3092	3092	3084	3079	3041	3038	3038	3032	3023	3071
29-Aug	3-Jul	29-Jul	11-Aug	2-Jul	18-Aug	8-Aug	15-Jul	15-Aug	1-Aug	
148.1	143.5	143.5	143.1	142.9	141.1	141	141	140.7	140.3	142.5

HIGHEST HOURS

1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	20TH	30TH	40TH	50TH	AVG
284	279	276	275	274	273	271	270	269	268	258	250	244	242	274
11	17	18	18	18	18	18	18	18	18	18	19	18	18	
1-Sep	3-Aug	21-May	27-May	17-Jun	23-Jun	10-Jul	24-Jun	22-May	11-Jul	28-Jul	29-Aug	3-Jun	4-Aug	
13.2	12.9	12.8	12.8	12.7	12.7	12.6	12.5	12.5	12.4	12	11.6	11.3	11.2	12.7

PERCENT BY HOUR

100	200	300	400	500	600	700	800	900	1000	1100	1200
0.9	0.6	0.4	0.4	1	3	3.1	4.2	4.5	4.5	5.3	5.9
1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
7.2	7.1	6.5	7.2	7.9	8.4	6.3	4.8	4.1	3.3	2.1	1.4

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
FIXED RECORDER REPORT 2008

SITE 11100071 **ROUTE** 190000 **MP** 0.543

***** VALDEZ *** RICHARDSON HIGHWAY AT VALDEZ (COMBINED)**

MONTH	MADT	%	6-10	(10-6)	MON	TUE	WED	THU	FRI	WKDY	SAT	SUN
JAN	3494	81.2	91.1	8.9	107.3	100.5	107.7	111.3	113.9	108.1	87	72.2
FEB	3611	83.9	91.7	8.3	103.7	111.3	108.5	112.2	109.4	109	84.1	70.8
MAR	3806	88.4	91.3	8.7	102.5	105.6	107.4	106.6	111.6	106.7	92.1	74.2
APR	4024	93.5	91.7	8.3	108.2	107.4	106.7	107.1	109.4	107.8	86.8	74.3
MAY	4628	107.5	91.2	8.8	99.6	104.8	105.8	104	112.2	105.3	91.3	82.3
JUN	5123	119	91	9	103.6	102.5	104.2	105.7	108.9	105	94.1	81.1
JUL	5706	132.5	90.4	9.6	100.1	102.4	101.1	105.6	106.4	103.1	98.3	86.2
AUG	5704	132.5	91	9	102.6	98.8	101.4	102.1	109.3	102.8	98	87.8
SEP	4541	105.5	92.1	7.9	106.9	104.7	105.4	105.1	109.5	106.3	92.2	76.2
OCT	4048	94	92.3	7.7	105.7	107.5	110	106.6	108.3	107.6	89.1	72.8
NOV	3620	84.1	91.4	8.6	112.1	110.6	111.2	99.1	104.9	107.6	89.3	72.9
DEC	3358	78	90.9	9.1	112	110.2	109.8	96.5	108.8	107.5	88.7	74
ANN	4305		91.3	8.7	105.4	105.5	106.6	105.2	109.4	106.4	90.9	77.1

HISTORICAL DATA	
2008	4305
2007	4694
2006	5219
2005	4790
2004	4971
2003	5140
2002	5307
2001	5420
2000	5443
1999	5281
1998	5470
1997	5599
1996	5475
1995	5693
1994	5986
1993	5395
1992	5146
1991	5054
1990	5053
1989	7241
1988	3454
1987	3376
1986	3447
1985	3270
1984	3531

HIGHEST DAYS

1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	AVG
6533	6387	6263	6224	6186	6148	6127	6119	6102	6090	6218
29-Aug	3-Jul	15-Aug	8-Aug	2-Jul	30-Aug	1-Aug	11-Jul	29-Jul	15-Jul	
151.8	148.4	145.5	144.6	143.7	142.8	142.3	142.1	141.7	141.5	144.4

HIGHEST HOURS

1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	20TH	30TH	40TH	50TH	AVG
558	544	539	530	528	528	526	525	521	520	513	507	501	497	532
18	18	18	18	18	18	18	19	18	17	18	18	18	18	
10-Jul	28-Aug	18-Jul	25-Jun	11-Jul	9-Jul	8-Jul	1-Aug	19-Aug	29-Aug	17-Jun	8-Aug	25-Jul	2-Jul	
13	12.6	12.5	12.3	12.3	12.3	12.2	12.2	12.1	12.1	11.9	11.8	11.6	11.5	12.4

PERCENT BY HOUR

100	200	300	400	500	600	700	800	900	1000	1100	1200
0.8	0.5	0.4	0.4	0.8	2.4	2.8	4.9	4.8	4.8	5.4	6.2

1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
6.9	6.8	6.5	7.1	7.7	8.7	7.2	4.8	3.7	3	2	1.3

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
FIXED RECORDER REPORT 2008

SITE 11100071 **ROUTE** 190000 **MP** 0.543

***** VALDEZ *** RICHARDSON HIGHWAY AT VALDEZ (SB)**

MONTH	MADT	%	6-10	(10-6)	MON	TUE	WED	THU	FRI	WKDY	SAT	SUN
JAN	1749	81.3	92.2	7.8	107.8	100.2	107.8	110.7	114.3	108.2	87.2	71.8
FEB	1804	83.9	92.8	7.2	104.5	111.2	108.6	112.3	108.9	109.1	84.2	70.5
MAR	1905	88.6	92.2	7.8	103.3	105.5	107.5	106	111.9	106.8	92.7	73.4
APR	2011	93.5	92.8	7.2	108.7	107.3	106.7	106.8	109	107.7	87.2	74.2
MAY	2289	106.5	92	8	100.4	105.6	107	105.8	114.9	106.7	84.6	81.8
JUN	2569	119.5	91.7	8.3	103.8	102.6	104.1	105.2	108.8	104.9	94.8	80.7
JUL	2857	132.9	91.2	8.8	100	102.2	100.4	106.5	107.9	103.4	99.3	83.6
AUG	2854	132.7	92	8	101.3	98.7	101.3	103.2	111.3	103.2	99.3	84.9
SEP	2257	105	93.5	6.5	105.2	104.8	105.8	105.6	109.8	106.2	93.1	75.7
OCT	2023	94.1	93.7	6.3	106.3	107.4	109.7	106.6	108	107.6	89.2	72.9
NOV	1808	84.1	92.8	7.2	113	110.4	110.9	98.5	104.6	107.5	89.4	73.4
DEC	1679	78.1	92.3	7.7	112.8	110.2	109.7	96.1	108.5	107.5	89	73.4
ANN	2150		92.4	7.6	105.6	105.5	106.6	105.3	109.8	106.6	90.8	76.4

HISTORICAL DATA

2008	2150
2007	2360
2006	2522
2005	2395
2004	2488
2003	2568
2002	2650
2001	2707
2000	2719
1999	2638
1998	2725
1997	2791
1996	2728
1995	2835
1994	2989
1993	2694
1992	2565
1991	2539
1990	2571

HIGHEST DAYS

1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	AVG
3341	3295	3231	3186	3152	3113	3110	3107	3104	3061	3170
29-Aug	3-Jul	15-Aug	8-Aug	30-Aug	4-Jul	11-Jul	2-Jul	1-Aug	18-Jul	
155.4	153.3	150.3	148.2	146.6	144.8	144.7	144.5	144.4	142.4	147.4

HIGHEST HOURS

1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	20TH	30TH	40TH	50TH	AVG
303	300	294	294	291	289	288	287	287	284	279	272	268	260	292
18	19	19	19	18	18	19	19	18	18	17	18	19	19	
28-Aug	11-Aug	15-Aug	7-Aug	12-Jul	18-Jul	23-Aug	18-Aug	10-Jul	4-Sep	3-Jul	15-Aug	22-Jul	25-Jul	
14.1	14	13.7	13.7	13.5	13.4	13.4	13.3	13.3	13.2	13	12.7	12.5	12.1	13.6

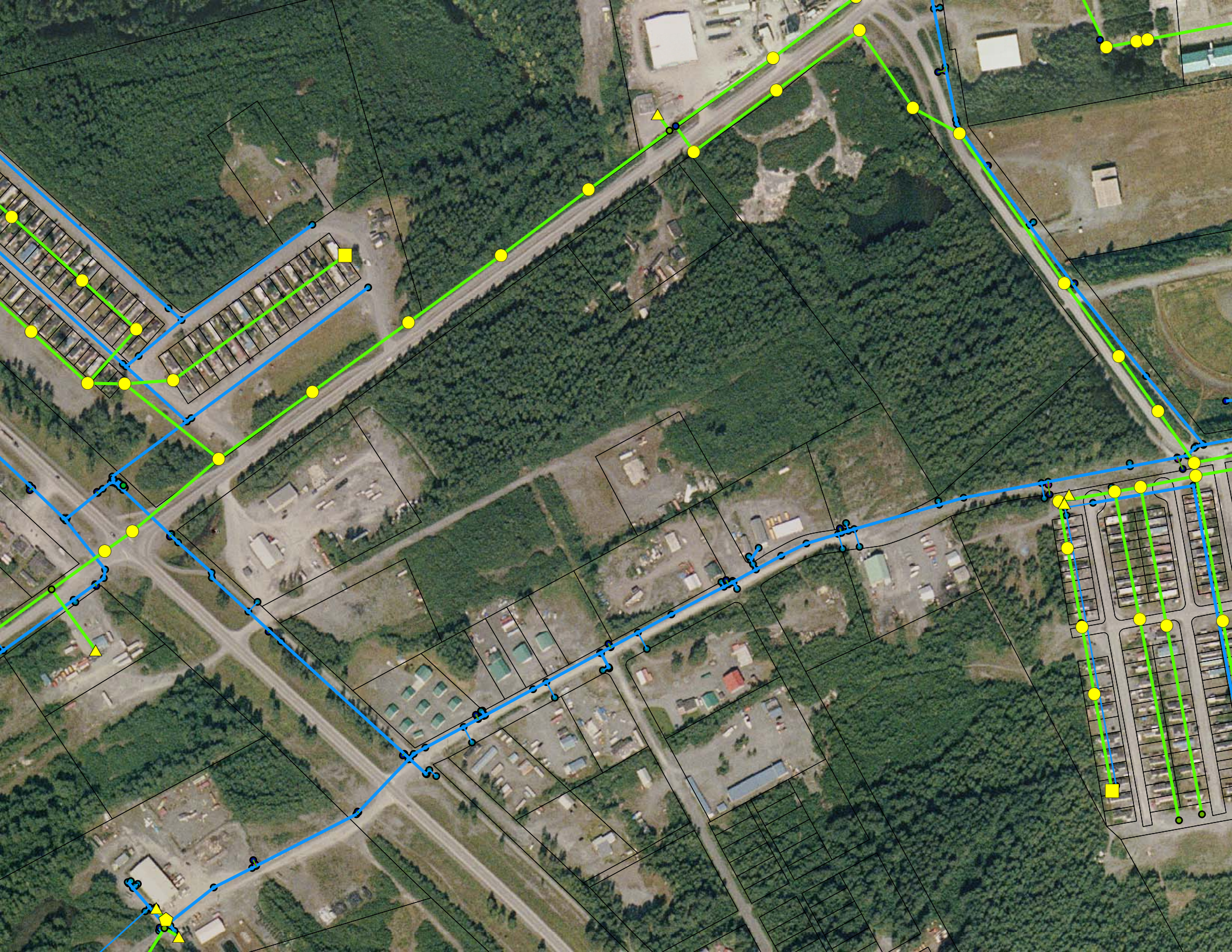
PERCENT BY HOUR

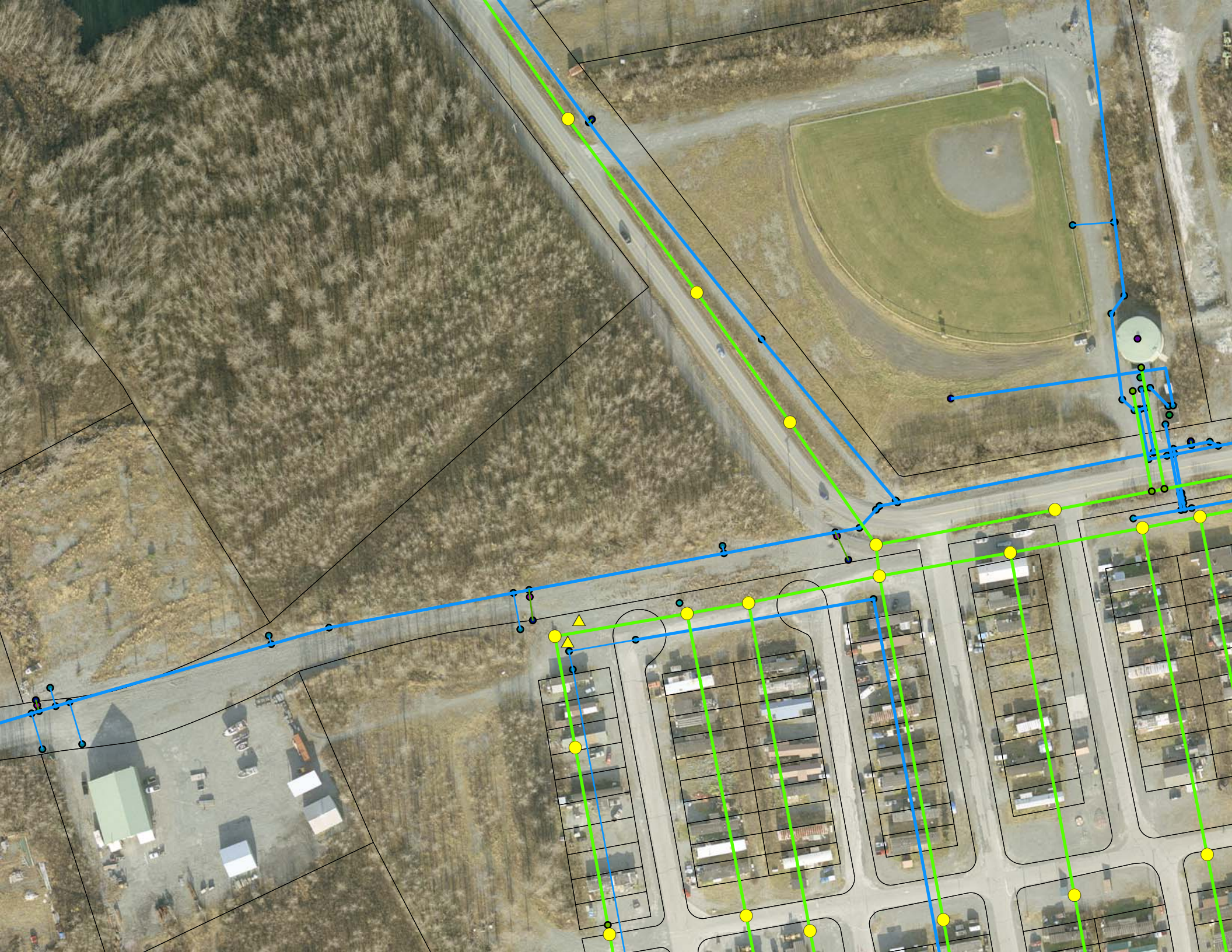
100	200	300	400	500	600	700	800	900	1000	1100	1200
0.7	0.5	0.4	0.4	0.5	1.8	2.5	5.6	5.2	5	5.4	6.4

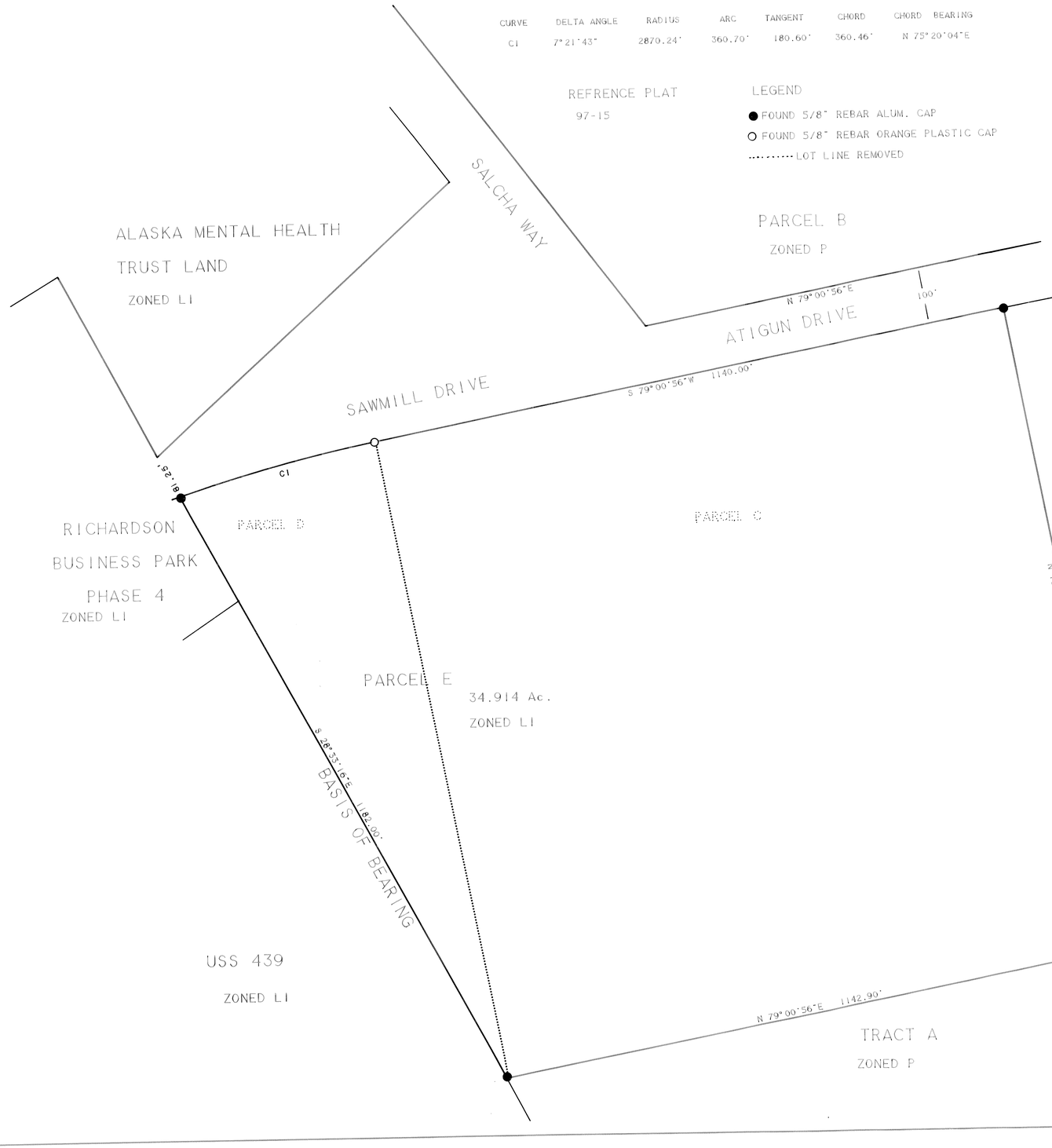
1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
6.7	6.5	6.5	7.1	7.6	9	8.2	4.7	3.3	2.8	2	1.2

APPENDIX F- REFERENCES

- *Geometric Design of Streets and Highways*, 2001, (GDSH) AASHTO (AASHTO).
- National Cooperative Highway Research Program (NCHRP) Report 162, *Methods for Evaluating Highway Safety Improvements*, Laughland, et. al.
- *Alaska Traffic Accidents* published yearly by ADOT&PF
- *Highway Capacity Manual*, (HCM2000) TRB, 2000.
- *Manual of Traffic Signal Design*, Second Edition, by James H. Kell and Iris J. Fullerton, Institute of Transportation Engineers (ITE).
- NCHRP Report 457, *Engineering Study Guide for Evaluating Intersection Improvements*, Bonneson and Fountaine, 2001.
- NCHRP Synthesis 225, *Left-turn Treatments at Intersections*, Pline, 1996.
- NCHRP Report 279, *Intersection Channelization Guide*, Neuman, 1985.
- Manual on Uniform Traffic Control Devices 2003 (MUTCD), FHWA.
- *Highway Capacity Software 2000* (HCS), McTrans
- Synchro and SimTraffic, Trafficware.
- *The Highway Safety Improvement Program* (HSIP) *Handbook* by ADOT&PF, 2010; and annual crash rate updates.
- *Northern Region Annual Traffic Volume Report* published by ADOT&PF.
- *Economic Projections For Alaska And The Southern Railbelt 2005–2030*, Institute of Social and Economic Research 2005
- Alaska Economic Trends *Population Projections, 2007 to 2030*, Alaska Department of Labor and Workforce Development, Research and Analysis Section, October 2007
- *Access Management Manual* , TRB, 2003
- "The Traffic and Safety Features Design Guide (preferred design practices), version 1" prepared by ADOT in April of 2005
- *Trip Generation, 8th Edition,* ITE
- *Standard Details,* City of Valdez., 2003.
- *Design Criteria Manual,* Municipality of Anchorage, 2007.







CERTIFICATE of REGISTERED LAND SURVEYOR

I Clyde E. Ruhl, REGISTERED LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS PLAT REPRESENTS THE SURVEY PERFORMED UNDER MY SUPERVISION, AND THAT ALL DISTANCES AND BEARINGS SHOWN HEREON ARE CORRECT TO THE BEST OF MY BELIEF.

SIGNED Clyde E. Ruhl
REGISTERED LAND SURVEYOR 3098-S

STATE OF ALASKA — Clyde E. Ruhl 3098 S — REGISTERED LAND SURVEYOR

PLANNING and ZONING COMMISSION

THIS PLAT CONFORMS TO THE REQUIREMENTS OF THIS COMMISSION AND IS HEREBY APPROVED.

SIGNED Gary D. Dunham DATE 4/2/99
CHAIRMAN
PLANNING AND ZONING COMMISSION

CERTIFICATE of PAYMENT of TAXES

I SHERI L. Pierce, CITY CLERK FOR THE CITY OF VALDEZ, ALASKA, DO HEREBY CERTIFY THAT ALL TAXES LEVIED AGAINST THE PROPERTY REPRESENTED BY THIS PLAT ARE PAID AS OF June 23, 1999

CITY CLERK Sheri L. Pierce DATE 6/23/99

SEAL OF THE CITY OF VALDEZ, ALASKA INC. 1901

CERTIFICATE of OWNERSHIP and DEDICATION

WE, Bering Straits Dev. Corp. DO HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT WE HEREBY ADOPT THIS PLAT OF LAND DIVISION, AND DEDICATE ALL THE EASEMENTS SHOWN HEREON TO THE PUBLIC IN PERPETUITY FOR USE AS ROAD AND UTILITY EASEMENTS.

SIGNED Vernon R. Olson DATE 6/1/99

SIGNED _____ DATE _____

ACKNOWLEDGEMENT of NOTARY

STATE OF ALASKA, THIRD JUDICIAL DISTRICT

THIS IS TO CERTIFY THAT ON THIS 1st DAY OF June
BEFORE ME, A NOTARY OF THE PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED
Vernon R. Olson
WHO SIGNED THIS PLAT AS OWNER OF THIS PROPERTY.
NOTARY of the PUBLIC _____
MY COMMISSION EXPIRES 04.26.2000

99-11
RECORDED FILED $20-
VALDEZ REC. DIST.
DATE 6/24 1999
TIME 1:41 P M
Recorded by CITY
Address BOX 307
VALDEZ AK 99686

PREPARED FOR	SURVEYOR:
BERING STRAITS DEV. CO. BOX 1309 VALDEZ. ALASKA 99686	CERCO ENGINEERING BOX 513 VALDEZ. ALASKA 99686

RESUBDIVIDE PARCELS C&D INTO PARCEL E OF TRACT A, ASLS 79-116

SEC. 35. T8S. R6W. C.R.M.

FILE:	DRAWN & CHECKED:
A:\SCT1	J.L.R. C.E.R.
SURVEYED: 4-30-97	SCALE: 1" = 100'

FEE: $50.00
(Waived 2017 per
Resolution #12-72)

CITY OF VALDEZ
LAND USE PERMIT APPLICATION FORM

File No._____ Date Recv'd._____

Directions:

1. Please type or print legibly.
2. Please submit this application form to the Office of Community & Economic Development, P.O. Box 307, Valdez, Alaska 99686.
3. Please answer all questions on this form, or put N/A (not applicable) in the spaces provided, as the answer applies.

****

Applicant name: PACIFIC PILE + MARINE

Mailing address: 700 SOUTH RIVERSIDE DRIVE

City, State, Zip: SEATTLE WA 98108

Daytime telephone: 206-331-3873

SIGNATURE: [signature]

******

Representative name: ANDREW ROMINE

Mailing address: 4753 WEST 80TH AVE

City, State, Zip: ANCHORAGE AK 99502

Daytime telephone: 907-360-4580

******

Legal Description of Property Affected by Application:

Located in Township_____ Range_____ Section_____, CRM
Lot/Block/Tract/Subd. TRACT G, HARBOR ~~Plat #~~ SUBDIVISION
Other description_____
Tax #_____ Size of Property_____

Type of business to be placed on the property:_____
SELECTIVE MINING OF OWNER FURNISHED SHOT ROCK FOR USE ON VALDEZ HARBOR PH II PROJECT. SELECTIVE DISPOSAL SITE FOR ROCK MATERIALS REMOVED FROM PROJECT. CONTRACT SPECIFIED LOCATION
Size of temporary building(s) to be placed on the property:_____

Duration of lease requested (6 months maximum): 10 MOS. STARTING 3/15

Special lease requirements:_____

*****

Submitted materials attached - The following submitted materials must be submitted when applying for a lease on City land.

SEA OTHER PARCEL

_____ 1. Plot Plan – A drawing of the proposed lease property showing:

Attached a. Size of lot (to scale)

NA b. Placement and size of buildings, storage units, miscellaneous structures planned (to scale)

NA c. Water & sewer lines, locations of septic tanks, if needed

NA d. Parking spaces (numbered on the drawing with a total number indicated.

_____ 2. Fees – All applicable fees must be submitted prior to the execution of a lease.

ok 3. Liability Insurance – The Permittee shall, at its own expense, maintain and keep force during the terms of this Permit adequate insurance to protect both Valdez and Permittee against comprehensive public liability claims arising from the use of the property in the minimum limit of ONE

*will be provided upon approval. PM has provided

this document for previous LUP #17-01

MILLION DOLLARS ($1,000,000) combined single limit to protect against liability for personal injury, death or property damage.

_____ 4. Financial Data – The applicant is a:

Sole proprietorship _____

Partnership X

Corporation _____

Other (Please explain)_____

_____ 5. Partnership Statement – If applicant is a partnership, answer the following:

a. Date of Organization 4/2008

b. General partnership ( ) / Limited partnership (X)

c. Statement of partnership recorded? (X) yes ( ) no

Where DELEWARE

d. Has the partnership done business in Alaska?

(X) yes ( ) no

When 2008 - CURRENT
Where ALL LOCATIONS - COASTAL

e. Name, address and partnership share of each general and limited partner. If a partner is a corporation, complete page for corporation.

Limited/ General	Name	Address	Share
LIMITED	Wilbur Clark	700 S Riverside DR	72%
LIMITED	Mike Mansfield	"	10%
LIMITED	Chris Willis	"	10 10%
LIMITED	PPM MGMT	"	8%

f. Attach a complete copy of the partnership agreement.

NA 6. Corporation Statement–If applicant is a corporation, answer the following:

a. Date of incorporation_____

b. Where incorporated_____

c. Is the corporation authorized to do business in Alaska?

( ) yes ( ) no

If so, as of what date _____

d. The corporation is held:

Publicly ( ) Privately ( )

e. If publicly held, how and where is the stock traded?

_____

_____

_____

_____

f. Furnish the name, title, and address of each officer and in addition, the same information for each principal stockholder owning more than ten percent of the corporation.

Name	Title	Address	Share

g. Furnish the names of the officers specifically authorized to execute contracts and other corporate commitments under the corporate articles and/or by-laws.

_____

_____

Phase 2 New Harbor Development – Inner Harbor Facilities

Project # 31-6450/Contract #1283

PPM Shot Rock Materials Use, Dredge Materials and Haul Road Plan

As a part of our Contract with the City of Valdez PPM plans to use up to 20,000 CY of shot rock materials from the Sea Otter parcel for use as temporary road and pad during the rock demolition and dredging work on the project. These materials are pre-approved for use on the project by Contract.

Materials will be loaded to trucks using either an excavator or loader. It is likely that temporary stockpiles will be developed at the Sea Otter parcel to facilitate truck loading.

PPM plans on using up to three off road haul trucks for transporting the materials from the Sea Otter parcel to the project and the same three trucks to haul materials back from the project to the Sea Otter parcel. Materials hauled back to the Sea Otter parcel will be in compliance with project requirements. Trucks will travel along South Harbor Drive from the intersection of Kennicot Avenue and South Harbor Drive to the end of South Harbor Drive.

It is estimated that up to three trucks will be used to haul materials to and from site. Each truck can make 5-6 round trips per hour which will yield approximately 75 CY per hour delivered to the site per truck. The number of trucks and haul days will be determined by the site needs. It is likely that at the start of the project we will move a considerable amount of the materials to the site for use on the temporary road and anticipate this work will take approximately 10 days. Random load as necessary will be hauled to the site as needed after the initial work.

For rock disposal from the site to the Sea Otter parcel we anticipate that the work will be intermittent during the rock removal process but the same trucks will be used to facilitate this work. Haul times will be similar to those discussed above. Site conditions will determine how much materials will be hauled back to the Sea Otter parcel. PPM estimates that up to 50,000 CY of materials may be disposed of at the Sea Otter parcel. Our contract for the project does not restrict the amount of materials disposed of at the Sea Otter parcel – although any materials returned are required to contain the specified fines limitations. PPM will coordinate with the City of Valdez for location of materials hauled from project.

To mitigate road contamination (silts/sands) steel grating (cattleguard) and quarry spalls/filter rock (3-8" broken rock) will be placed at the road outlet from the project site to help clean truck tires. The location of the cattle guard and rock will be determined on site by our Superintendent but will be within the project limits. In the event that mud materials are found on the roads after hauling work the roads will be swept with use of a water truck and standard angled sweeper unit that will sweep debris to the road edges.

Signage will be deployed at entrance and exit points to notify traffic of the trucks on days that hauling is planned. All trucks will obey posted speed limit signs.

PPM is in the process of getting permits for use of off road trucks to haul materials to and from the site. Off road trucks are necessary due to the shot rock materials that are to be used for the temporary road and site access. A sample permit (from previous project) is attached for your review.

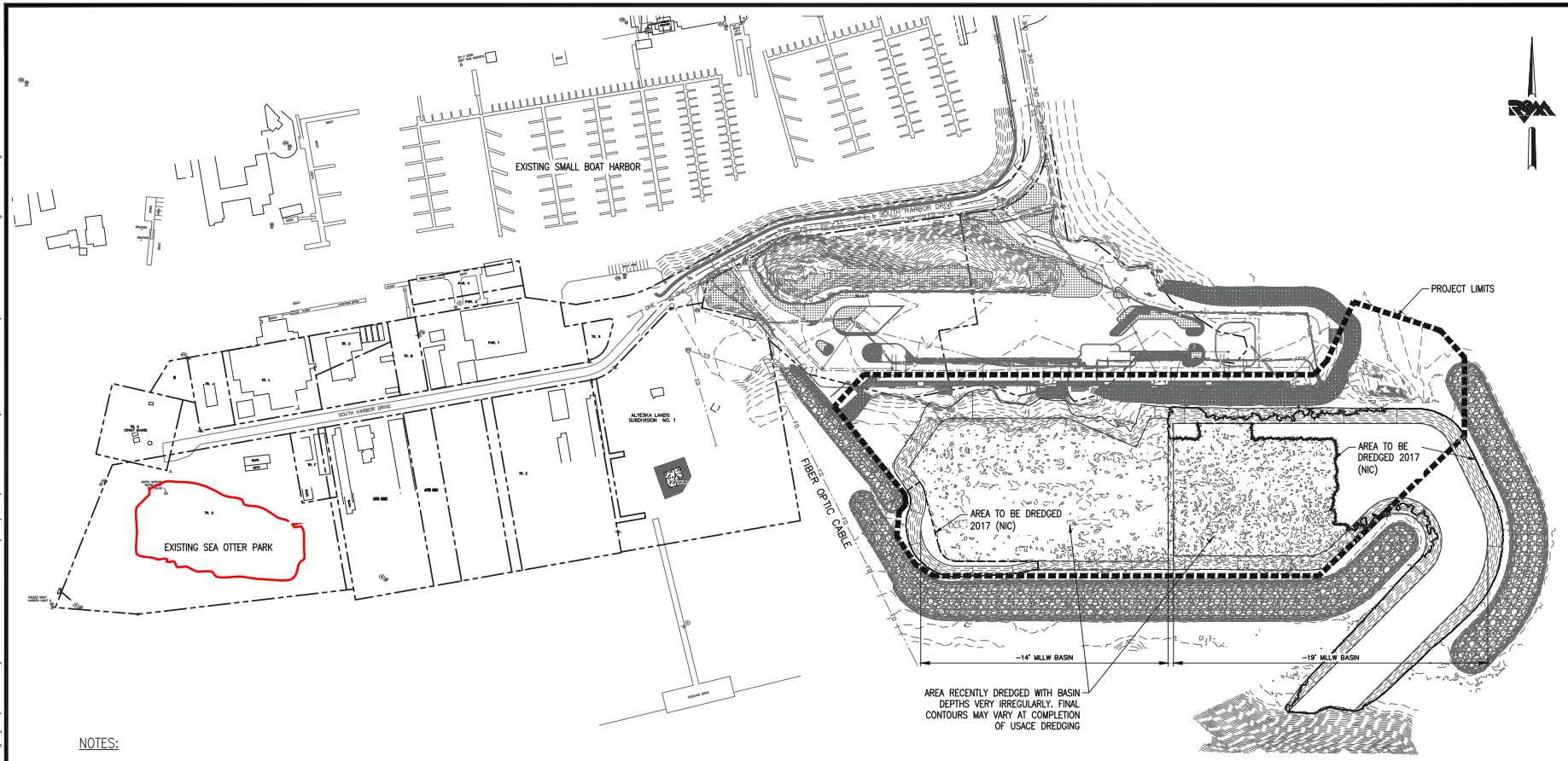
Tract G Harbor Subdivision

CITY OF VALDEZ, ALASKA
OPPORTUNITIES IN EVERY SEASON

All features on this map are subject to the City of Valdez disclaimer for accuracy and use.

0 70 140 280 Feet

N
W E
S



NOTES:

1. THE INFORMATION PROVIDED IS PARTIALLY BASED ON A SURVEY PERFORMED BY R&M CONSULTANTS, INC. (R&M) FROM JULY 16 TO JULY 19, 2014. FIELD SURVEY INFORMATION FOR THIS SURVEY IS LOCATED IN R&M FIELD BOOK NO. 1894.01, PAGES 1 THROUGH 19.
2. ALL UNDERGROUND UTILITIES SHOWN WERE MARKED BY LOCATORS AND SURVEYED AS MARKED. THE SURVEYOR MAKES NO GUARANTEES THAT ALL UTILITIES IN THE AREA WERE MARKED. SEWER MANHOLES ARE SHOWN AT THE CENTER OF THE STRUCTURE.
3. THE 2012 WRANGELL MOUNTAIN TECHNICAL SERVICES SURVEY WAS TRANSLATED TO THE PROJECT COORDINATE SYSTEM USING POINT 708(VH-3) AS A BASE POINT AND HOLDING THE LINE BETWEEN 708(VH-3) AND 711(VH-6).
4. ALL PROPERTY BOUNDARY INFORMATION SHOWN BASED ON 2000 TNH SURVEY.
5. TOPOGRAPHIC INFORMATION IS BASED ON AS-BUILT SURVEYS FROM 2016 PHASE 1 HARBOR UPLANDS DEVELOPMENT PROJECT AND USACE BASIN AND BREAKWATER CONSTRUCTION AT END OF THE 2016 CONSTRUCTION SEASON.
6. BREAKWATER PLANS (NOT AS-BUILT) ARE SHOWN FROM USACE CONSTRUCTION PLANS, 2015.

1 EXISTING SITE PLAN

Scale: 1" = 150'

0 150 300
FEET

STATE OF ALASKA 49TH
John Odey
SE 14151
5/23/2017
Registered Professional Engineer

R&M CONSULTANTS, INC.
9101 Vanguard Drive
Anchorage, Alaska 99507
rmconsult.com• email@rmconsult.com
phone: 907.522.1707 • fax: 907.522.3403
CORPORATE AUTHORIZATION NUMBER AECC111

City of Valdez
NEW HARBOR DEVELOPMENT
INNER HARBOR FACILITIES

CITY OF VALDEZ, ALASKA • GATEWAY TO THE NORTH

No.	Description	Date

Drawn By: SL
Checked By: KN/JD
Date: JUNE 23, 2017
Phase: CONFORMED DOCUMENTS
Project No: 1894.01
SHEET TITLE: EXISTING SITE PLAN
SHEET NO: 09 OF 131

G3.1

LANDSCAPE BOULDERS, AVAILABLE FOR PHASE 2

MATERIAL END-DUMPED FROM RESTORATION OF WMC STAGING AREA. FOR USE BY PHASE 2 CONTRACTOR OR CITY HAUL OFFSITE/RELOCATE.

LEGEND

- BOUNDARY LINE THIS SURVEY
- BUILDINGS
- CONTOUR MAJOR
- CONTOUR MIINOR

MAINTAIN 30' ACCESS

TYPE IIA STOCKPILE, FOR CITY. OR CITY APPROVED USE ON PHASE 2.

TR. F

BLDG.

BLDG.

TR. G

STOCKPILE AREA APPROX. 118,000 SF (2.7 AC) AVAILABLE FOR USE BY PHASE 2 CONTRACTOR

70

60

50

40

30

SHOT ROCK AVAILABLE FOR USE BY PHASE 2 CONTRACTOR

TOTAL STOCKPILE
AS OF OCT. 3, 2016
±43,450 CY

REJECT 1" MINUS STOCKPILE FOR CITY

OVERSIZE (3'+) SHOT ROCK BOULDERS

NOTES

1. DATE OF SURVEY: OCT. 3 2016

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA AND THAT THIS DRAWING PRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT AS OF OCTOBER 3, 2016.

STATE OF ALASKA
49th
ALLEN MINISH
LS 8205
10/3/16
REGISTERED PROFESSIONAL LAND SURVEYOR

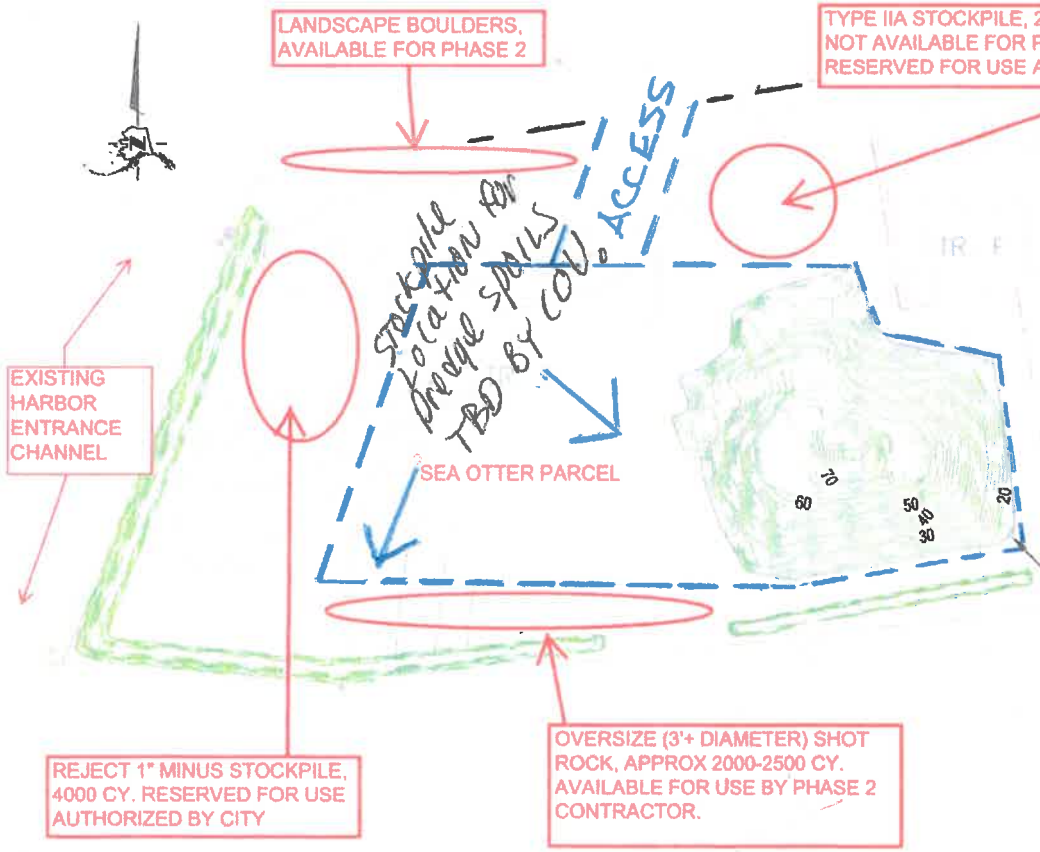
NOTES REVISED BY R.T. ROZAK 12-26-17
SHOT ROCK STOCKPILE INCLUDES 10% MORE THAN 3' DIAMETER.

STOCKPILE QUANTITY

LEGAL DESCRIPTION:	TRACT G HARBOR SUBDIVISION VALDEZ, ALASKA
STREET ADDRESS:	226 SOUTH HARBOR DRIVE
PREPARED FOR:	HARRIS SAND AND GRAVEL

WRANGELL MOUNTAIN TECHNICAL SERVICES
P.O. BOX 118, CHITINA, ALASKA 99566
907-823-2280

DATE: 10/3/2016	DRAWN: MINISH	CHECK: MINISH	SCALE: 1"= 100'	
JOB#: 15005	DRAWING #: 15005 SEA OTTER 161003B		SHEET: 1 OF 1	REV#: 0



(FOR USE ON TEMPORARY ROAD)

SHOT ROCK INCLUDES APPROX. 10% LARGER THAN 3' DIAMETER. AVAILABLE FOR USE BY PHASE 2 CONTRACTOR.

TOTAL STOCKPILE
AS OF OCT. 3, 2016
±43,450 CY

LEGEND

BOUNDARY LINE THIS SURVEY
BUILDINGS
CONTOUR MAJOR
CONTOUR MINOR

NOTES
1. DATE OF SURVEY: OCT. 3 2016

NOTES BY R.T. ROZAK 1-25-17

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA AND THAT THIS DRAWING PRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT AS OF OCTOBER 3, 2016

STATE OF ALASKA
49th
ALLEN MINISH
LS 8205
REGISTERED PROFESSIONAL LAND SURVEYOR

STOCKPILE QUANTITY

LEGAL DESCRIPTION: TRACT G HARBOR SUBDIVISION VALDEZ, ALASKA
STREET ADDRESS: 276 SOUTH HARBOR DRIVE
PREPARED FOR: HARRIS SAND AND GRAVEL

WRANGELL MOUNTAIN TECHNICAL SERVICES
P.O. Box 118, Chitina, Alaska 99566
907-823-2280

DATE: 10/3/2016 DRAWN: MINISH CHECK: MINISH SCALE: 1"= 100'
JOB#: 15005 DRAWING #: 15005 STA OTTER 1610003 SHEET: 1 OF 1 REV# 0

STATE OF ALASKA

Ref #:

Department of Transportation and Public Facilities

Division of Measurement Standards and Commercial Vehicle Enforcement

Permit # **151149**

Fee $ 165.00

OverSize-OverWeight Permit

1 Month(s)

112699
CC Approval #

Company Billed: Pacific Pile & Marine

Attachments Required to be Valid: B-1

Permit Ordered By: David/ Andrew

Mailing Address: 700 South Riverside Drive, Seattle Washington 98108

Carrier: Same

Voice: 907-360-4580 / 206-7133487 Fax: 278-0306 / DOT#: 1906638

Notes / Send To: Approved

EMail: andyr@pacificpile.com

Tractor/Vehicle LP or Serial #: **AWR00488** Trailer LP:

From Date: *03/22/2018* Thru Date: *04/21/2018* Load: Cat 735 Rock Truck Hauling Rock

Origin: Kennicott Ave & S. Harbor Dr, Valdez Destination: End Of Harbor Dr, Valdez

Exact Route

Harbor Dr

		Over Hangs	Trailer Length	Trailer Type
Overall Length	Single Unit to 45 ft (45' 0")			
Overall Width	Up to 10 ft 6 in (10' 6")	Front OH: 0	N/A	
Overall Height	Up to 15 ft (15' 0")	Rear OH: 0		

CONDITIONS

Regulations in 17 AAC 25 govern the movement of this load unless specifically modified by the following conditions

Driver must be able to produce a copy of permit upon request and **MUST STOP AT ALL OPEN WEIGH STATIONS.**

No movement is permitted during "inclement weather" as defined in **17 AAC 25.900 (18)**.

HEADLIGHTS MUST BE ON AT ALL TIMES.

A complete definition of requirements is located in the Administrative Permit Manual.

A copy of the permit manual may be obtained online at http://dot.alaska.gov/mscve

READ YOUR ATTACHMENTS

When Percentage Overweight exceeds 150%: Urban area extended time of movement restrictions apply.

Attachment B-1 is Required

CLEARLY readable oversize signs are required on the front and rear of the transport vehicle and must have a ROOF mounted amber beacon visible for 360 degrees

Daylight Hours

Delayed Traffic - more than five (5) vehicles: A person operating a motor vehicle at any time on a two-lane roadway outside of an urban area shall pull the motor vehicle off the roadway at the first opportunity to pull over safely if there are five or more motor vehicles immediately following the motor vehicle.

Maximum speed of 25MPH

May travel during Hours of Darkness. MUST follow ALL conditions in Permits Manual Section 13

Movement is subject to seasonal weight restrictions and must not be in excess of limits posted on bridges.

Applicant expressly agrees to indemnify, save harmless and defend the State of Alaska, its agencies and employees from any and all claims or actions for injuries or damages sustained by any person or property arising directly or indirectly from this special use permit or the activities which it authorizes. Applicant also acknowledges that, under Alaska Statute 44.80.070, the State is not subject to legal action or recovery of damages for injury arising out of, or in any manner connected with, this special use permit or the activities which it authorizes.

Permission is hereby granted to make the above movement, subject to restrictions & conditions stated above & all other applicable State laws & regulations by: MSCVE Staff Member:jkhaughaboo @ 3/6/2018 11:20:44AM

B-1 Bridge Condition Attachment

PERMIT # 151149

COMPANY BILLED: Pacific Pile & Marine

1)55,000 2)58,000

LOAD: Cat 735 Rock Truck Hauling Rock

32.00	0.00
37.50	14.33
37.50	20.83

THE BOXES BELOW DEPICT A SIDE VIEW OF YOUR TRACTOR-TRAILER COMBINATION OR VEHICLE.

	Steering Axle(s)		Drive Group	
	0' 0"		14' 4"-78"	
	2T		4T	
Weight	32	0	75	0
Tire Size	26.5	0	26.5	0
Tire Loading	604	0	708	0

Actual Combined Vehicle Weight: 107,000

Legal Combined Vehicle Weight: 55,000 (G)

Overall Wheelbase (first to last axle): 20' 10"

Percent Overweight: **195%**

Weight Restrictions: 100%

WEIGHT ON THE 2 FIXED DRIVE AXLES **MUST NOT EXCEED** 66K ON 12" (305mm), 61K ON 11" (285mm), OR 55K ON 10" (255mm) TIRES.

LIFT AXLE(S) **MUST REMAIN DOWN IN LOAD-CARRYING POSITION** AT ALL TIMES, UNLESS OTHERWISE NOTED.

DRIVE GROUPS WEIGHING OVER 70K **MUST HAVE** 12 TIRES ON 3-AXLE GROUPS & 14 TIRES ON 4-AXLE GROUPS.

GENERAL & SPECIAL BRIDGE CONDITIONS

General Conditions: CROSS *ALL* BRIDGES AT A CONSTANT SPEED WITH NO BRAKING, SHIFTING, OR ACCELERATING.

Overload File Number:

1) LINE UP: Stop 150 feet short of bridge then cross at a constant speed not to exceed 10 MPH.
2) IMPACT: Stop 150 feet short of bridge then cross at a constant speed not to exceed 3 MPH.
3) Straddle bridge centerline while crossing (extra flagperson(s) required for traffic control on 2-lane roads).
4) Place one of vehicle wheel lines on bridge centerline while crossing.
5) No other vehicles allowed on bridge at same time as this overweight vehicle while crossing (extra flagpersons required for traffic control at both ends of bridge).
6) Do **NOT** cross bridge. **MUST USE ON/OFF RAMPS TO AVOID CROSSING THIS BRIDGE.**
7) Do **NOT** travel under bridge. **MUST USE ON/OFF RAMPS DUE TO VERTICAL CLEARANCE OF THIS BRIDGE.**

Bridge Location	Condition Reference	Additional Conditions
No Bridge(S) On Route Specified		

Reviewed By: jkhaughaboo

STATE OF ALASKA

Ref #:

Department of Transportation and Public Facilities

Division of Measurement Standards and Commercial Vehicle Enforcement

Permit # **151150**

Fee $ 165.00

OverSize-OverWeight Permit

1 Month(s)

587517
CC Approval #

Company Billed: Pacific Pile & Marine

Attachments Required to be Valid: B-1

Permit Ordered By: David/ Andrew

Mailing Address: 700 South Riverside Drive, Seattle Washington 98108

Carrier: Same

Voice: 907-360-4580 / 206-7133487 Fax: 278-0306 / DOT#: 1906638

Notes / Send To:

EMail: brandyr@pacificpile.com

Tractor/Vehicle LP or Serial # **AWR00411** Trailer LP

From Date: *03/22/2018* Thru Date: *04/21/2018* Load: Cat 735 Rock Truck Hauling Rock

Origin: Kennicott Ave & S. Harbor Dr, Valdez Destination: End Of Harbor Dr, Valdez

Exact Route

Harbor Dr

		Over Hangs	Trailer Length	Trailer Type
Overall Length	Single Unit to 45 ft (45' 0")			
Overall Width	Up to 10 ft 6 in (10' 6")	Front OH: 0	N/A	
Overall Height	Up to 15 ft (15' 0")	Rear OH: 0		

CONDITIONS

Regulations in 17 AAC 25 govern the movement of this load unless specifically modified by the following conditions

Driver must be able to produce a copy of permit upon request and **MUST STOP AT ALL OPEN WEIGH STATIONS.**

No movement is permitted during "inclement weather" as defined in **17 AAC 25.900 (18)**.

HEADLIGHTS MUST BE ON AT ALL TIMES.

A complete definition of requirements is located in the Administrative Permit Manual.

A copy of the permit manual may be obtained online at http://dot.alaska.gov/mscve

READ YOUR ATTACHMENTS

When Percentage Overweight exceeds 150%: Urban area extended time of movement restrictions apply.

Attachment B-1 is Required

CLEARLY readable oversize signs are required on the front and rear of the transport vehicle and must have a ROOF mounted amber beacon visible for 360 degrees

Daylight Hours

Delayed Traffic - more than five (5) vehicles: A person operating a motor vehicle at any time on a two-lane roadway outside of an urban area shall pull the motor vehicle off the roadway at the first opportunity to pull over safely if there are five or more motor vehicles immediately following the motor vehicle.

Maximum speed of 25MPH

May travel during Hours of Darkness. MUST follow ALL conditions in Permits Manual Section 13

Movement is subject to seasonal weight restrictions and must not be in excess of limits posted on bridges.

Applicant expressly agrees to indemnify, save harmless and defend the State of Alaska, its agencies and employees from any and all claims or actions for injuries or damages sustained by any person or property arising directly or indirectly from this special use permit or the activities which it authorizes. Applicant also acknowledges that, under Alaska Statute 44.80.070, the State is not subject to legal action or recovery of damages for injury arising out of, or in any manner connected with, this special use permit or the activities which it authorizes.

Permission is hereby granted to make the above movement, subject to restrictions & conditions stated above & all other applicable State laws & regulations by: MSCVE Staff Member:jkhaughaboo @ 3/6/2018 11:22:38AM

B-1 Bridge Condition Attachment

PERMIT # 151150

COMPANY BILLED: Pacific Pile & Marine

1)55,000 2)58,000

LOAD: Cat 735 Rock Truck Hauling Rock

32.00	0.00
37.50	14.33
37.50	20.83

THE BOXES BELOW DEPICT A SIDE VIEW OF YOUR TRACTOR-TRAILER COMBINATION OR VEHICLE.

	Steering Axle(s)		Drive Group	
	0' 0"		14' 4"-78"	
	2T		4T	
Weight	32	0	75	0
Tire Size	26.5	0	26.5	0
Tire Loading	604	0	708	0

Actual Combined Vehicle Weight: 107,000

Legal Combined Vehicle Weight: 55,000 (G)

Overall Wheelbase (first to last axle): 20' 10"

Percent Overweight: **195%**

Weight Restrictions: 100%

WEIGHT ON THE 2 FIXED DRIVE AXLES **MUST NOT EXCEED** 66K ON 12" (305mm), 61K ON 11" (285mm), OR 55K ON 10" (255mm) TIRES.

LIFT AXLE(S) **MUST REMAIN DOWN IN LOAD-CARRYING POSITION** AT ALL TIMES, UNLESS OTHERWISE NOTED.

DRIVE GROUPS WEIGHING OVER 70K **MUST HAVE** 12 TIRES ON 3-AXLE GROUPS & 14 TIRES ON 4-AXLE GROUPS.

GENERAL & SPECIAL BRIDGE CONDITIONS

General Conditions: CROSS *ALL* BRIDGES AT A CONSTANT SPEED WITH NO BRAKING, SHIFTING, OR ACCELERATING.

Overload File Number:

1) LINE UP: Stop 150 feet short of bridge then cross at a constant speed not to exceed 10 MPH.
2) IMPACT: Stop 150 feet short of bridge then cross at a constant speed not to exceed 3 MPH.
3) Straddle bridge centerline while crossing (extra flagperson(s) required for traffic control on 2-lane roads).
4) Place one of vehicle wheel lines on bridge centerline while crossing.
5) No other vehicles allowed on bridge at same time as this overweight vehicle while crossing (extra flagpersons required for traffic control at both ends of bridge).
6) Do **NOT** cross bridge. **MUST USE ON/OFF RAMPS TO AVOID CROSSING THIS BRIDGE.**
7) Do **NOT** travel under bridge. **MUST USE ON/OFF RAMPS DUE TO VERTICAL CLEARANCE OF THIS BRIDGE.**

Bridge Location	Condition Reference	Additional Conditions

Reviewed By: jkhaughaboo

STATE OF ALASKA

Ref #:

Department of Transportation and Public Facilities

Division of Measurement Standards and Commercial Vehicle Enforcement

Permit # **151151**

Fee $ 165.00

OverSize-OverWeight Permit

1 Month(s)

959418

CC Approval #

Company Billed: Pacific Pile & Marine

Attachments Required to be Valid: B-1

Permit Ordered By: David/ Andrew

Mailing Address: 700 South Riverside Drive, Seattle Washington 98108

Carrier: Same

Voice: 907-360-4580 / 206-7133487 Fax: 278-0306 / DOT#: 1906638

Notes / Send To:

EMail: brandyr@pacificpile.com

Tractor/Vehicle LP or Serial # **AWR00402** Trailer LP

From Date: *03/22/2018* Thru Date: *04/21/2018* Load: Cat 735 Rock Truck Hauling Rock

Origin: Kennicott Ave & S. Harbor Dr, Valdez Destination: End Of Harbor Dr, Valdez

Exact Route

Harbor Dr

		Over Hangs	Trailer Length	Trailer Type
Overall Length	Single Unit to 45 ft (45' 0")			
Overall Width	Up to 10 ft 6 in (10' 6")	Front OH: 0	N/A	
Overall Height	Up to 15 ft (15' 0")	Rear OH: 0		

CONDITIONS

Regulations in 17 AAC 25 govern the movement of this load unless specifically modified by the following conditions

Driver must be able to produce a copy of permit upon request and **MUST STOP AT ALL OPEN WEIGH STATIONS.**

No movement is permitted during "inclement weather" as defined in **17 AAC 25.900 (18)**.

HEADLIGHTS MUST BE ON AT ALL TIMES.

A complete definition of requirements is located in the Administrative Permit Manual.

A copy of the permit manual may be obtained online at http://dot.alaska.gov/mscve

READ YOUR ATTACHMENTS

When Percentage Overweight exceeds 150%: Urban area extended time of movement restrictions apply.

Attachment B-1 is Required

CLEARLY readable oversize signs are required on the front and rear of the transport vehicle and must have a ROOF mounted amber beacon visible for 360 degrees

Daylight Hours

Delayed Traffic - more than five (5) vehicles: A person operating a motor vehicle at any time on a two-lane roadway outside of an urban area shall pull the motor vehicle off the roadway at the first opportunity to pull over safely if there are five or more motor vehicles immediately following the motor vehicle.

Maximum speed of 25MPH

May travel during Hours of Darkness. MUST follow ALL conditions in Permits Manual Section 13

Movement is subject to seasonal weight restrictions and must not be in excess of limits posted on bridges.

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Permission is hereby granted to make the above movement, subject to restrictions & conditions stated above & all other applicable State laws & regulations by: MSCVE Staff Member:jkhaughaboo @ 3/6/2018 11:24:03AM

B-1 Bridge Condition Attachment

PERMIT # 151151

COMPANY BILLED: Pacific Pile & Marine

1)55,000 2)58,000

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Bridge Location	Condition Reference	Additional Conditions

Reviewed By: jkhaughaboo

Additional Land Use Permit Conditions for Pacific Pile and Marine (LUP #18-01)

1. The Owner-furnished stockpile of shot rock on Tract G Harbor, Subdivision is a pre-approved source of materials for use on the harbor project; PPM is responsible for meeting Contract requirements for the specific use(s) on the project.

2. Materials hauled back to Tract G must be in compliance with project requirements, and LUP requirements. The LUP should indicate the boundaries and condition of the final stockpile at Tract G to ensure the stockpile is not more than 30 feet high and the slopes are safe, there is enough room around the stockpile to ensure access to other material on the site, the final surface around the stockpiles is graded to prevent ponding, and the surface does not contain excess silt/fine sand that would runoff or be tracked off site by vehicles. If the volume of materials becomes so great that these conditions can't be met, negotiations with the City and Construction Manager may allow for exceptions.

3. The Plan states the haul days are flexible and the Applications states the lease will start on March 15, which is one day after the Planning & Zoning Commission meeting and five days before the City Council could take action on the permit, therefore the Contractor should know the lease cannot be executed until a reasonable time after the Council meeting (anticipated lease start date of March 21st), and the City should provide information to PPM about operations of the canneries, fishermen, others and special events that would occur and must be considered during the six month period the hauling activities are anticipated.

4. PPM's LUP request indicates up to 50,000 CY of materials may be disposed of at the Sea Otter Parcel. This is dependent on how effective various operations are on the project and the contractor retains all contractual rights regarding this issue. Dredging schedule isn't identical with the use of Tract G under this permit. The LUP will allow for 6 months of use to the site, and may be available for an extension.

5. The plan to mitigate road contamination should include sweeping/washing the dust/mud on the roads during the hauling work as well as after hauling, and should provide for cleaning up debris that is swept to the road edges so it does not become a problem for the adjacent properties or create a runoff problem for the SWPPP.

6. PPM confirms they will have a private sweeper available and capable of cleaning the road. The City's sweeper should only be used for emergency situations and PPM should be informed that the City incurs equipment costs as well as disruption of operator duties.

7. PPM shall coordinate with the City in the event the City wants to access Tract G to remove materials. PPM will maintain their LUP rights to the site for the entirety of the permit.

Alpetco Road – Plat and Survey

Valdez Planning and Zoning, and Valdez City Council

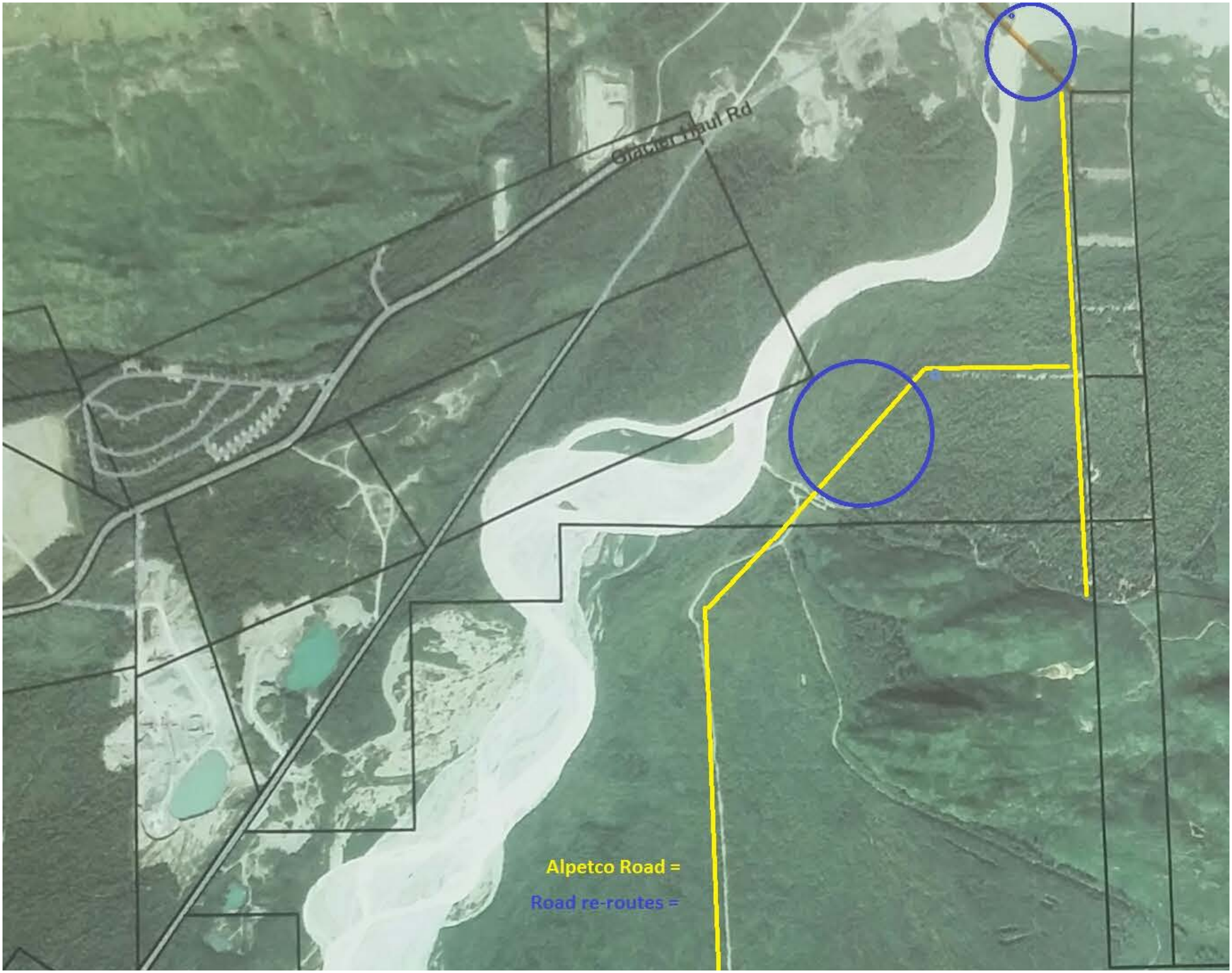
Prepared by Ryan McCune

Currently Alpetco Road is a 4.5 mile long, 4X4 road system, north of Corbin Creek Subdivision; located in ASLS 79-116. These roads and trails were constructed in the late 70's, early 80's for the purpose of developing a petro chemical company. This road system is not platted or zoned to our knowledge, meaning anyone could purchase land the road currently runs upon and block access to property further down the road. Current affected property owner, Rydor Enterprises has had to use a key on the locked gate of Alpetco Road for over the last decade.

Last April City council passed a bridge easement for crossing Valdez Glacier Stream at the headwater, we would like to continue with an easement all the way back to Richardson Highway closing the loop from north Airport Road to the Richardson Hwy. At this time we believe no work has been done at the bridge site, so both bridge and road could be completed at the same time, hopefully saving some MOB and DE MOB costs. Listed below are some of the reasons to move forward.

- Opens up access to over 1000 acres of city owned land, spurring area development.
- Provides an alternate route over Valdez Glacier Stream.
- Maintains the current 4X4 trail systems in the area.
- Creates a base road for future Valdez property planning, and a beginning to an area master plan.
- Road reroutes affects less wetland, straightens access, and provides further protection from Valdez Glacier Stream.
- Large sections of existing road appear to be well built road bed.
- Provides legal right of way for Rydor Enterprises and up-mountain development.

Thank you for your time and community service!


Alpetco Road =
Road re-routes =

File #: 17-0200, **Version:** 1

ITEM TITLE:
Approval of North Glacier Stream Bridge Public Easement

SUBMITTED BY: Lisa Von Bargen, CED Director

FISCAL NOTES:

Expenditure Required: Survey & Platting Costs = $10,000-$15,000 Estimate
Unencumbered Balance: $601,820
Funding Source: 350-8000-55000.582 (Reserve Fund Land Development - Misc)

RECOMMENDATION:

Approve North Glacier Stream Bridge Public Easement.

SUMMARY STATEMENT:

To begin a more comprehensive discussion on this topic the Planning & Zoning Commission held a work session on February 22nd where the following points were considered:

- Should this be the primary access into this area, or should it be a secondary access to the ALPETCO Road?
- Will this be a private easement, or a public easement?
- Who will be responsible for the installation construction?
- Who will be responsible for operations and maintenance?
- Will a bridge in this location negatively impact use of the area for recreational purposes (both private and commercial)?
- What permits will be required for installation of a bridge? (AnnMarie Lain has provided a list of potential permits, including requirements for construction in Flood Zone A.)
- What impacts will this have on existing and traditional uses of the area?

The discussion resulted in the Commission requesting the item be brought back for Commission action for approval as a public easement. The decision was made that a public hearing should be held regarding the matter as this is a heavily used recreational area. Public notice was posted in the newspaper to notify the community about the public hearing. There is no formal process required in code for public input regarding an easement. The Public Hearing was held by the P&Z Commission

on March 22nd. Feedback at the meeting was positive, but was mostly provided by people in attendance at the meeting to address the Commission on the idea of chickens in residential subdivisions.

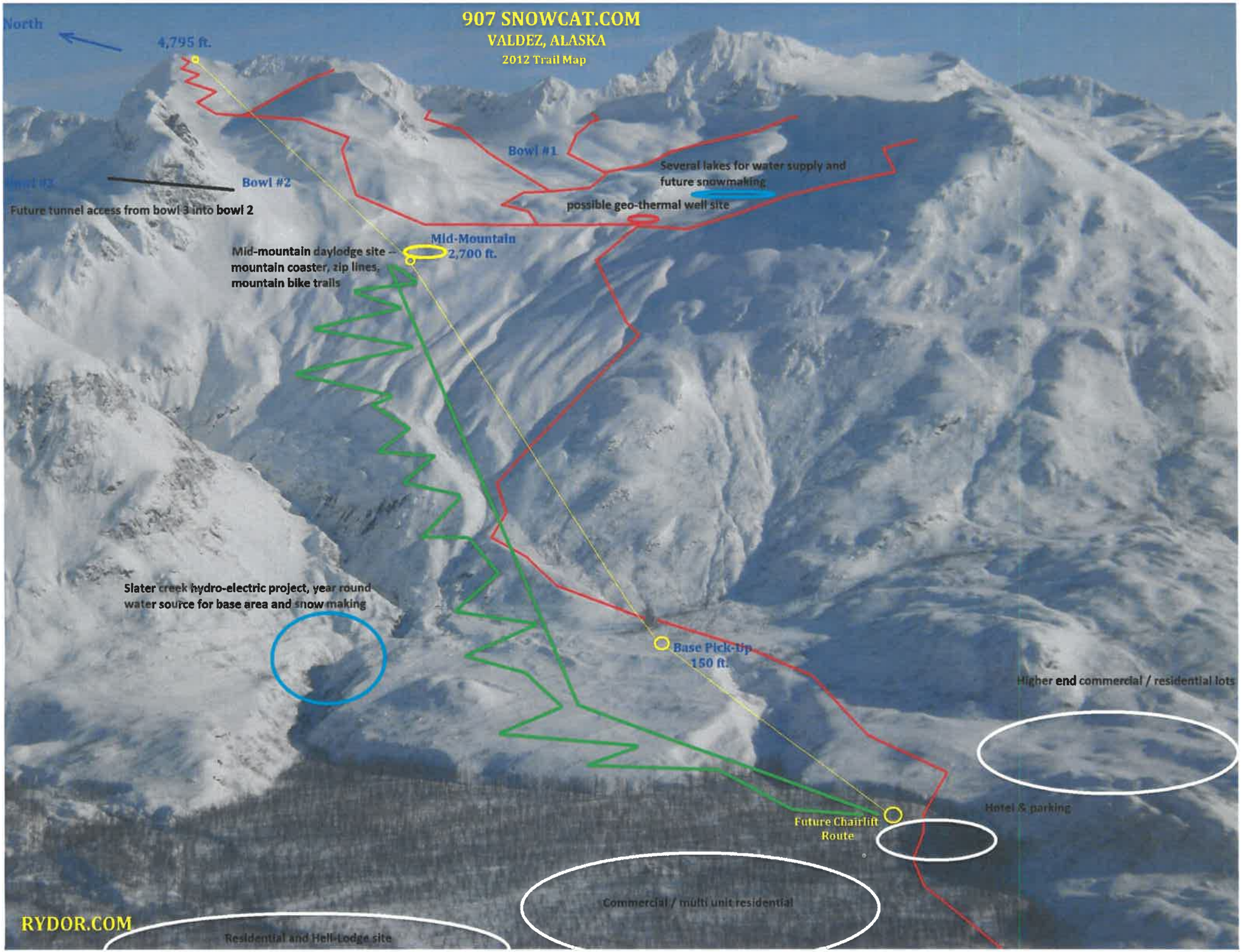
Considerations for making this a public easement as outlined below were provided to the Commission and are being passed on to the Council for deliberation on the matter.

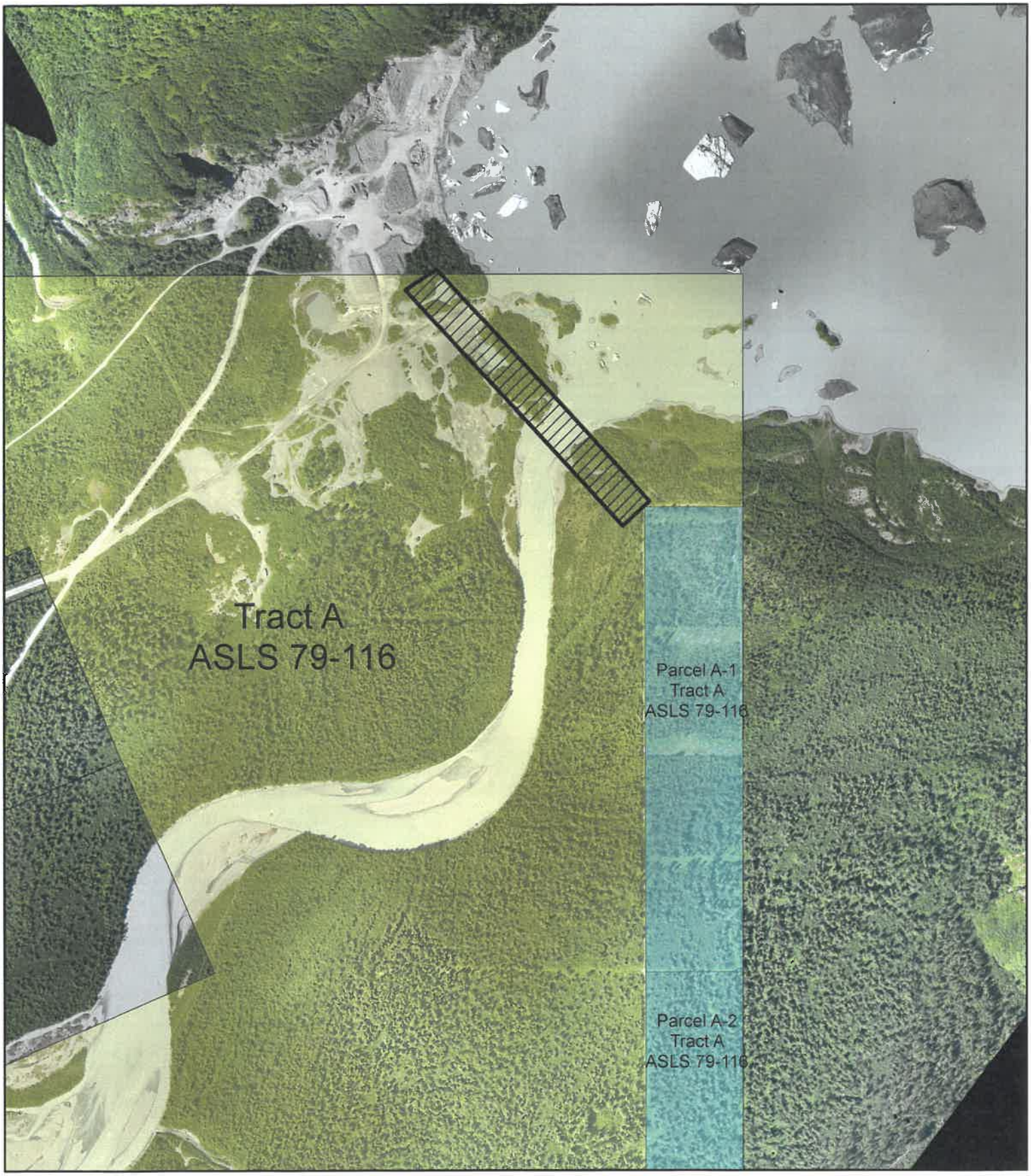
- The Council has established land development, especially residential as a priority. The City owns hundreds of acres in this area known as ASLS 79-116. A Master plan for this area (including rezoning from Heavy Industrial) should be formalized and access to it will be a necessary part of that planning.
- Development should have more than one ingress/egress option in the case of an emergency. Road access to ASLS 79-116 in the general vicinity of the "ALPETCO" Road offers one access route. A public easement for a bridge across the northern portion of the Glacier Stream offers another access route.
- The City is entering into a robust Flood Mitigation Program. This area of ASLS 79-116 is adjacent to the Valdez Glacier Stream. Any access and development in the area will need to include Flood Mitigation planning.
- Creation of a public easement does not commit the City, or any entity, to actual construction of a bridge.

The Planning & Zoning Commission took action on the matter and approved the public easement on April 12th. Because this is City land the Council must grant concurrence for the easement. Additionally, the public easement should be surveyed and platted. Staff estimates the cost of this work between $10,000-$15,000 given the terrain, the river, and difficulty in accessing portion of the site.

Attached to this agenda statement are several documents: 1) Layout of the Proposed East Peak Development; 2) Proposed bridge easement map; 3) Map of ASLS 79-116; 4) Flood maps; 5) Email from AnnMarie Lain regarding permits and flood zone requirements; and 6) Drawings of a proposed bridge construction configuration (Note: These are meant to be an example only and were provided by Mr. McCune as reference for the type of bridge he could afford to install if this were designated a private easement.)

Given the need for residential land for housing and interest in developing this area it makes sense to use this as a catalyst to jump start the master planning process for ASLS 79-116.


907 SNOWCAT.COM
VALDEZ, ALASKA
2012 Trail Map
North
4,795 ft.
Bowl #1
Several lakes for water supply and future snowmaking
possible geo-thermal well site
Bowl #2
Future tunnel access from bowl 3 into bowl 2
Mid-Mountain
2,700 ft.
Mid-mountain daylodge site -- mountain coaster, zip lines, mountain bike trails
Slater creek hydro-electric project, year round water source for base area and snow making
Base Pick-Up
150 ft.
Higher end commercial / residential lots
Hotel & parking
Future Chairlift Route
Commercial / multi unit residential
Residential and Heli-Lodge site
RYDOR.COM



Concept Easement

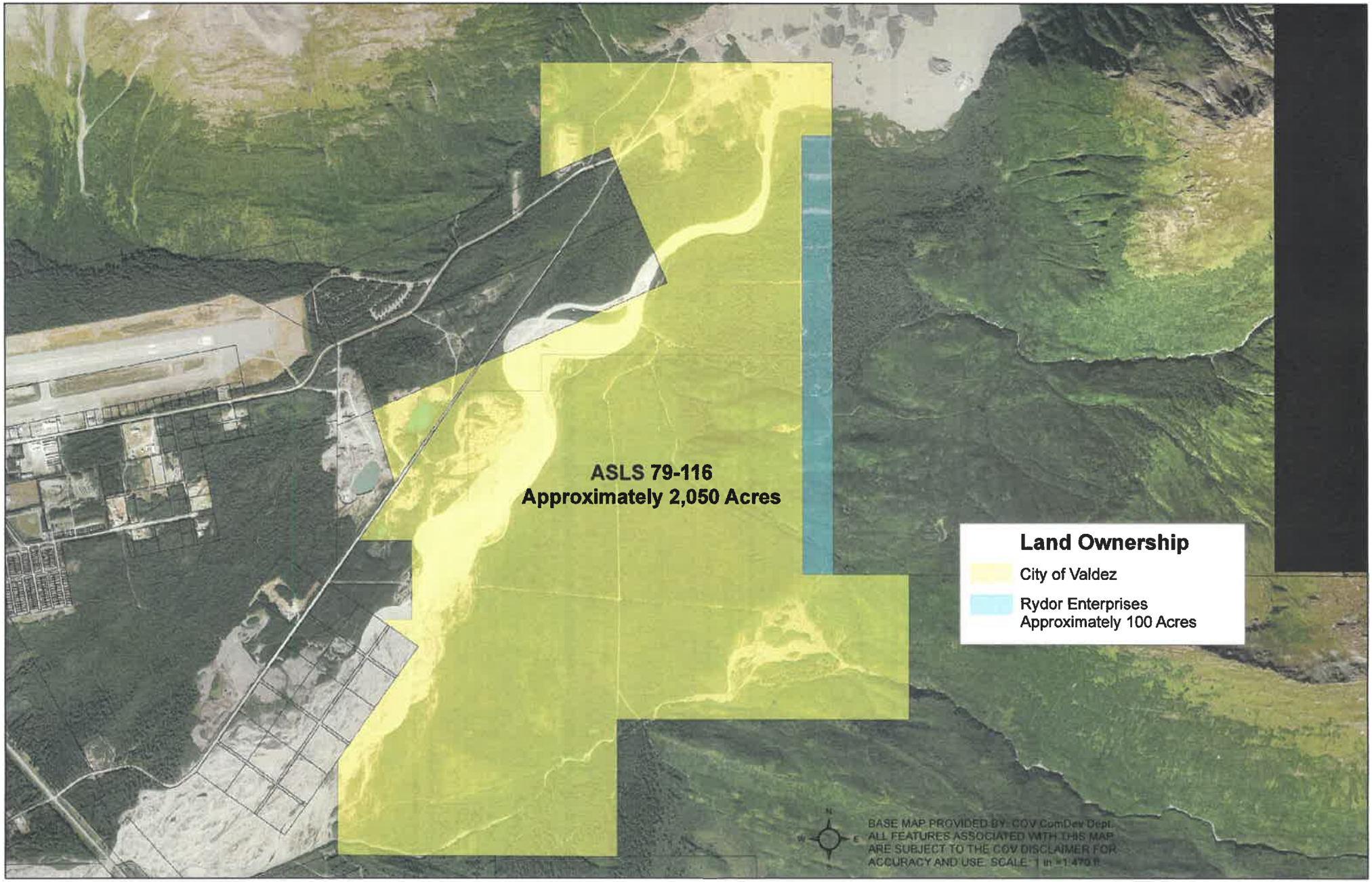
200ft Wide Easement

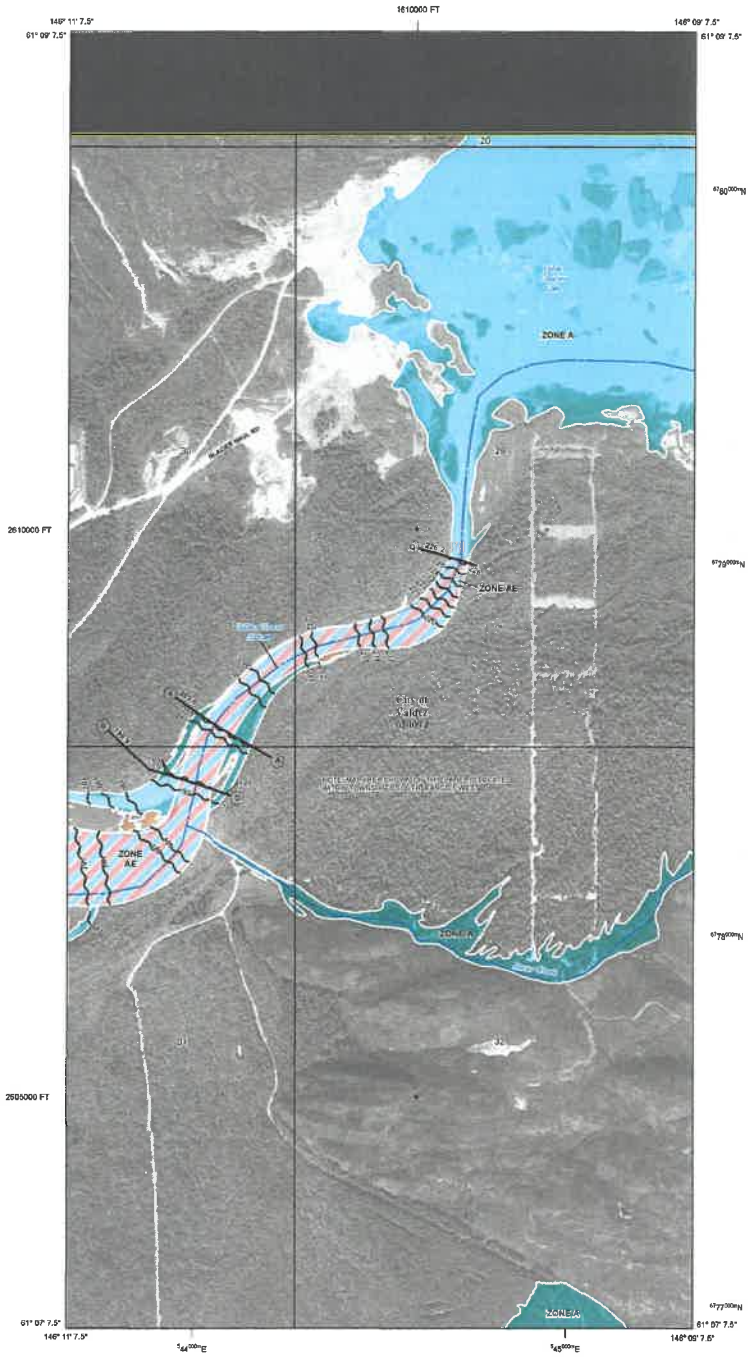
City Owned Property

Private Property

N
W E
S

BASE MAP PROVIDED BY: COV ComDev Dept.
ALL FEATURES ASSOCIATED WITH THIS MAP ARE SUBJECT TO THE COV DISCLAIMER FOR ACCURACY AND USE. IMAGERY DATE: 2016
SCALE: 1 in =682 ft


ASLS 79-116
Approximately 2,050 Acres
Land Ownership
City of Valdez
Rydor Enterprises
Approximately 100 Acres
N
W
E
BASE MAP PROVIDED BY: COV ComDev Dept.
ALL FEATURES ASSOCIATED WITH THIS MAP
ARE SUBJECT TO THE COV DISCLAIMER FOR
ACCURACY AND USE. SCALE: 1 in = 1,470 ft



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTP://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
OTHER AREAS	Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	Coastal Transect
	Coastal Transect Baseline
OTHER FEATURES	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by Aero-Metric. This information was derived from digital orthophotography at a 1.5-foot resolution from photography dated 2006.

SCALE

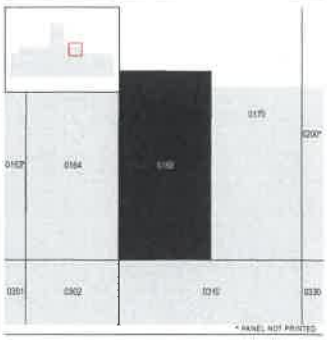
Map Projection:
NAD 1983 State Plane Alaska 3 FIPS 5003 Feet;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 600 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



* PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

CITY OF VALDEZ, AK
VALDEZ - CORDOVA CENSUS AREA
PANEL 168 OF 400

COMMUNITY	NUMBER	PANEL	SUFFIX
VALDEZ, CITY OF	020094	0168	D

PRELIMINARY
9/15/2016

VERSION NUMBER
2.3.2.2

MAP NUMBER
02009401680

MAP REVISED

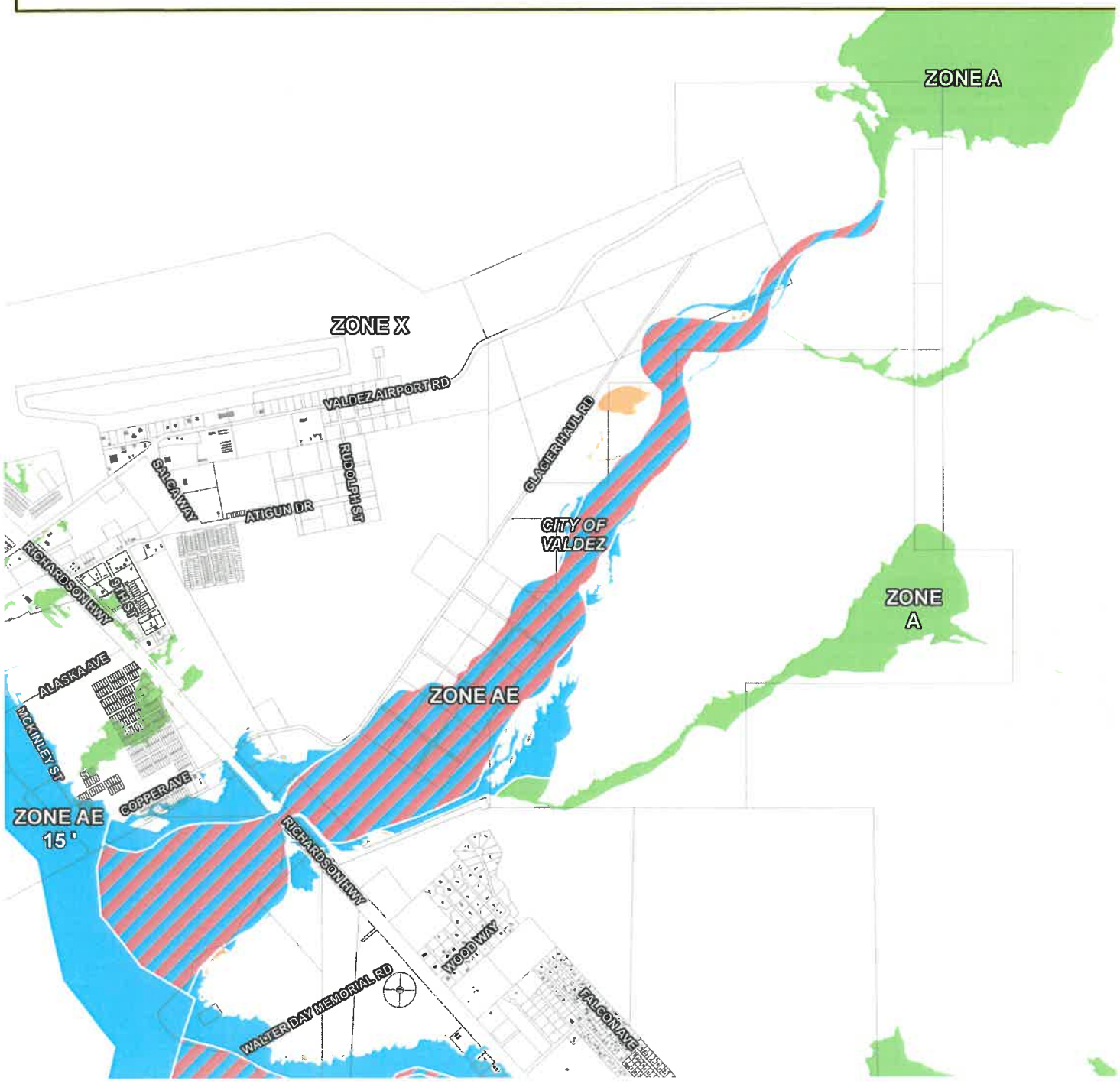
RiskMAP

Map Contains:
PROPERTY IDENTIFICATION MAP
VALDEZ, ALASKA

DATE March 2017

This is a non-regulatory product and is provided for information gathering and sharing purposes only.

FEMA



BASEMAP LAYERS

BASE MAP

PARCELS | POLITICAL | COASTAL TRANSECTS | DAM | LEVEE | BASE FLOOD ELEVATION | AREA OF SECLUSION

PRELIMINARY FLOOD HAZARD AREAS

ZONE A | ZONE AE | ZONE AE FLOODWAY | ZONE VE | ZONE X (SHADED)

REFERENCE

1 Inch = 2,888.7 feet 1:34,665

N

STUDY AREA

Lisa Von Bargen

From: AnnMarie Lain
Sent: Tuesday, January 31, 2017 10:34 AM
To: Lisa Von Bargen
Subject: Bridge Easement - Flood Info
Attachments: 0200940168D.pdf

Hi Lisa-

The bridge easement is located in a Flood Zone A and would require a floodplain development permit before construction. This permit will require that the applicant obtain all required state and federal permits. The more common federal regulations that may require a permit are listed below:

- U.S. Army Corps of Engineers Section 404- permits for wetlands filling
- U.S. Army Corps of Engineers Section 10 – permits for work in navigable waterways
- U.S. Coast Guard – permits for bridges and causeways that may affect navigation
- U.S. Fish and Wildlife Service- consultation required under Sections 7 and 10 of the Endangered Species Act of 1973

The proposed development must not increase the flood hazard on other properties. Each project proposed in the floodway is required to have an encroachment review. The developer will be required to obtain a "no-rise" certification supported by technical data.

Please let me know if this answered your question.

Cheers

-AML

AnnMarie Lain CFM
City of Valdez, Alaska
Senior GIS | Planning Technician
Community & Economic Development
☎907 834 3450 | alain@ci.valdez.ak.us

EAST & WEST ABUTMENTS

16 - 12" x 12" x 16' I BEAM PILINGS - DROVE TO 10' PLUS
24 - 12" x 6" x 24' BACKING TIMBERS
16 - 12" x 6" x 22' BACKING TIMBERS
2 - 12" x 12" x 18' I BEAM BRIDGE SUPPORTS W/ VERTICAL SUPPORT @ BEAM & FOUNDATION LOCATIONS

RIP-RAP & FILL

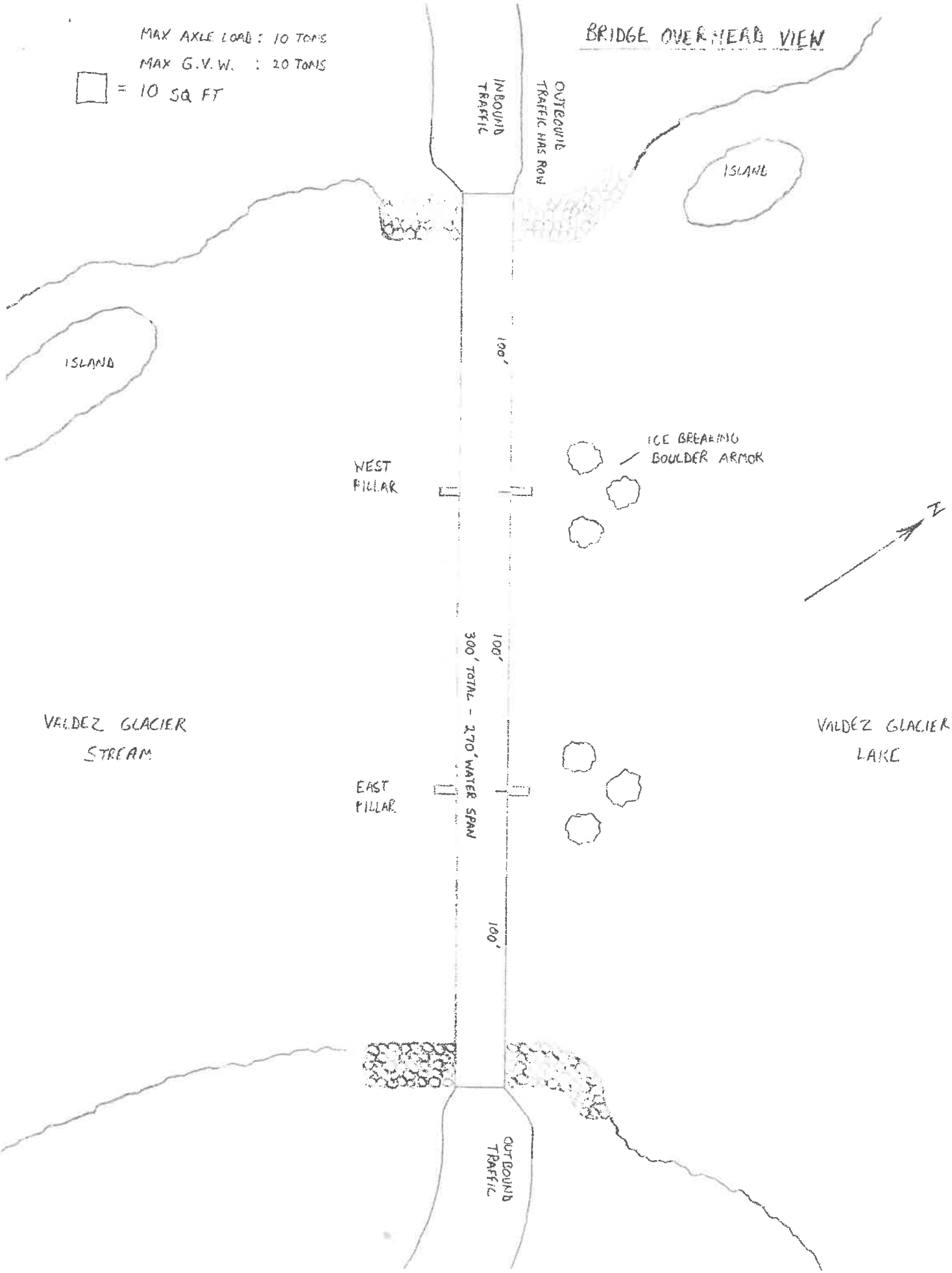
MID-RIVER PILINGS

4 - 18" x 16' ROUND PILINGS
4 - 18" x 15' ROUN PILINGS SET @ 60° ANGLE W/ 4 - 2' x 4' x 8' CONCRETE FOUNDATIONS OR / MOUNT TO BED ROCK
2 - 12" x 18' I BEAM BRIDGE SUPPORTS W/ VERTICAL SUPPORT @ BEAM LOCATIONS

DECK

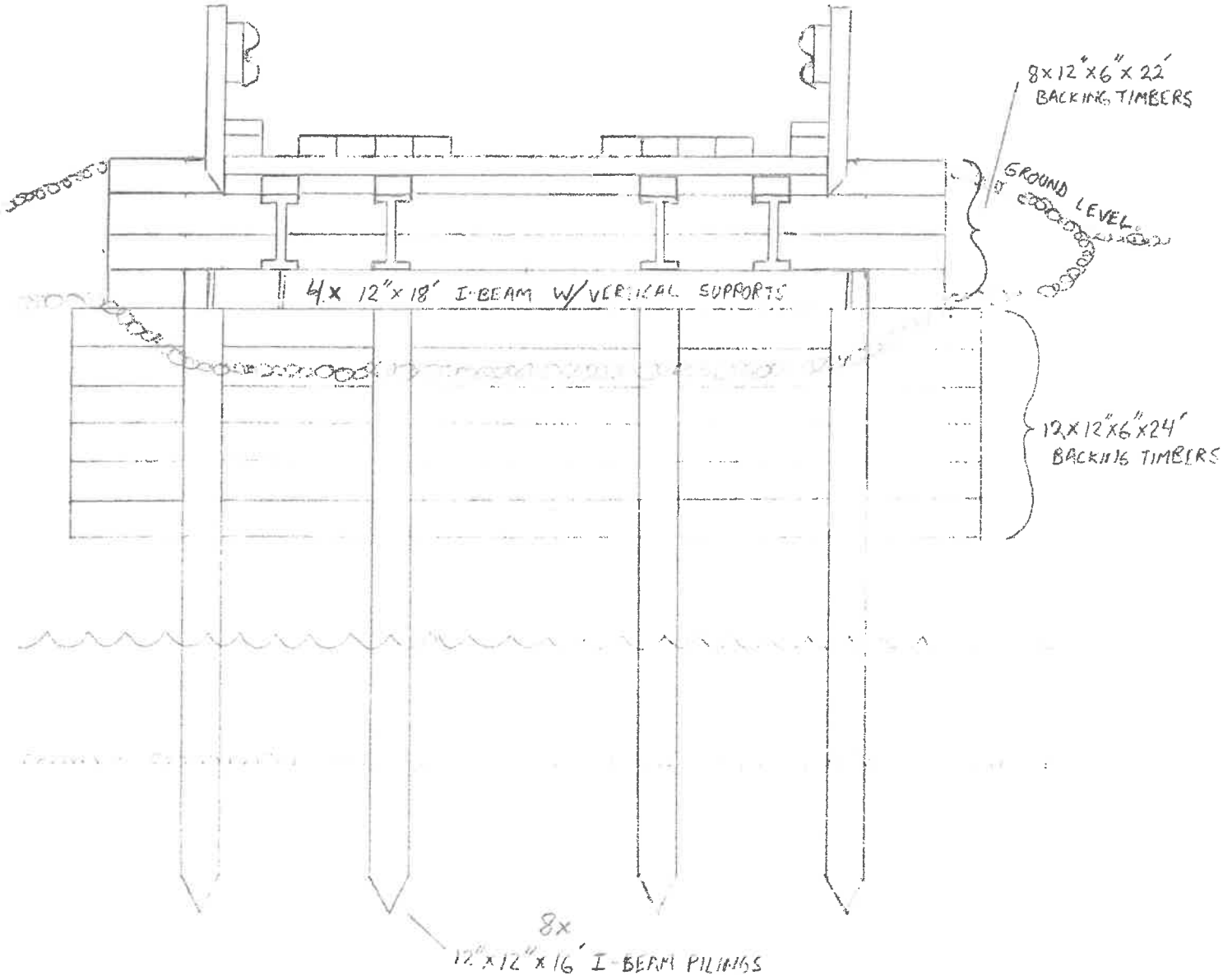
12 - 24" x 100' I-BEAMS
1,300' 12" x 6" MOUNTING TIMBERS
300 - 12" x 6" x 16' SUB-DECK TIMBERS
4,200' - 12" x 6" DECKING & GUARD RAIL TIMBERS
100 - 6" x 6" x 5' GUARD RAIL UPRIGHTS
600' GALVANIZED GUARD RAIL

BOLTS, NUTS, PLATES, SPACERS, ECT.


MAX AXLE LOAD : 10 TONS
MAX G.V.W. : 20 TONS
= 10 SQ FT
BRIDGE OVERHEAD VIEW
INBOUND TRAFFIC
OUTBOUND TRAFFIC HAS ROW
ISLAND
ISLAND
100'
ICE BREAKING BOULDER ARMOR
WEST PILLAR
N
100'
300' TOTAL - 270' WATER SPAN
VALDEZ GLACIER STREAM
VALDEZ GLACIER LAKE
EAST PILLAR
100'
OUTBOUND TRAFFIC

□ = 1 SQ FT.

FRONT VIEW OF BRIDGE ABUTMENT

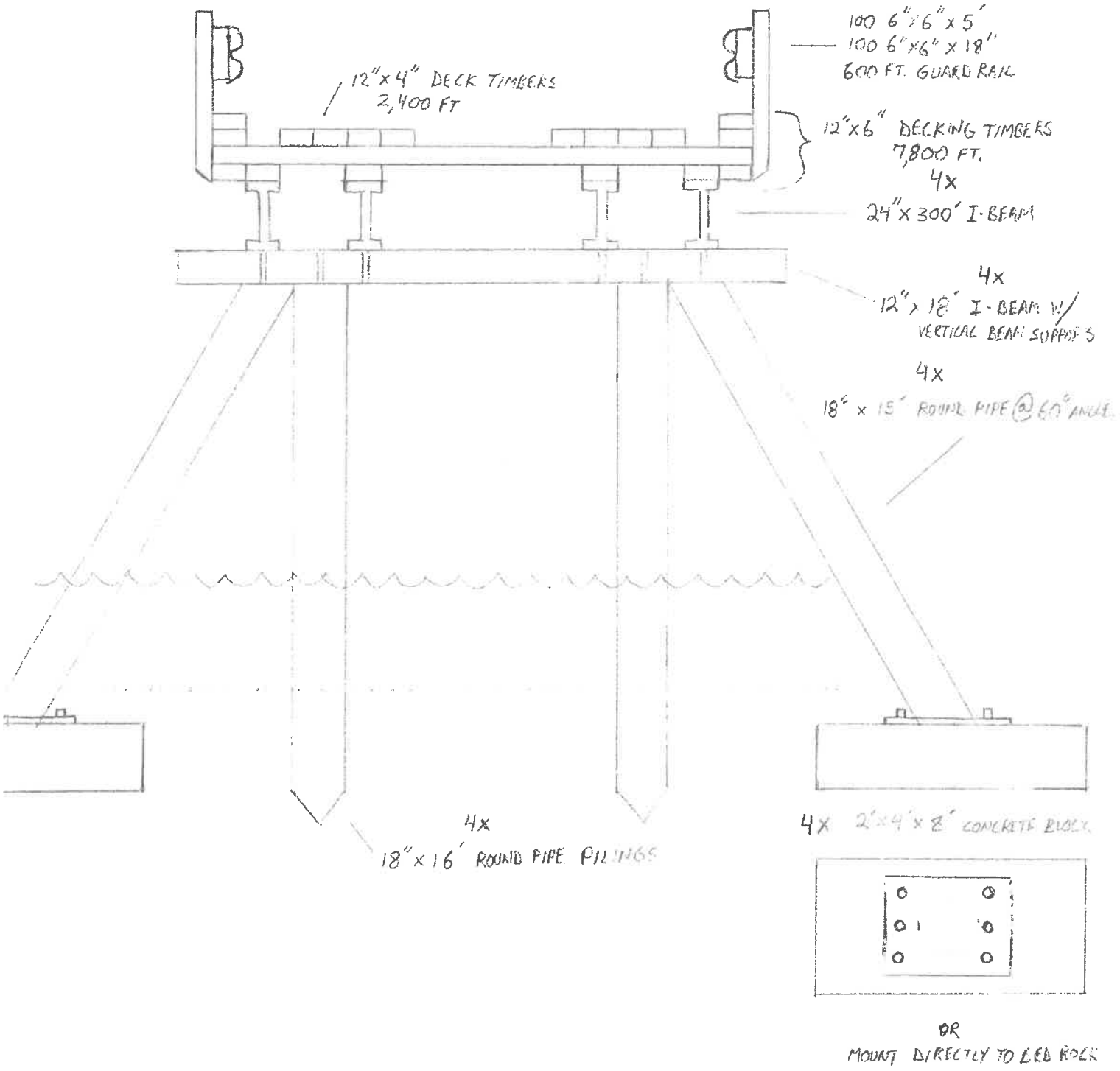


□ = 1 SQ FT.

SIDE VIEW OF BRIDGE ABUTMENT

□ = 1 SQ FT

MID-RIVER PILINGS & SUPPORT



TMP-1272 - Planning and Zoning Commission Priorities-Goals 2018

Make More City Land Available For sale.

- Making certain the development is consistent with COV Comprehensive Plan
- Focus on finishing existing development projects, i.e. Airport Industrial Subdivision, 10th Ave.
- Create master plans for larger developments, i.e. Cottonwood, Old Town, ASLS 79-116 (Corbin/Robe River North to Valdez Glacier)
- Allow adequate time for bidding/sale

Extend/Add City Infrastructure (Water/Sewer/Roads).

- Corbin/Robe River sewer extension
- Corbin/Robe River water extension
- Airport Industrial Subdivision
- ASLS 79-116?

Code Revision/ Enforcement.

- Continue work of Code Revision Subcommittee.
- Appeals Process
- Nuisances
- Zoning Code
- Subdivision Code
- Abatement Officer

Annual Report

To: City Council
From: City of Valdez | Community Development Office
Title: 2017 Annual Report

In 2017 the Community Development Department for the City of Valdez had a unique opportunity to develop an entirely new team from the ground up. The purpose of this report is to introduce City Council to Community Development Staff and provide a summary of the departments accomplishments in 2017.

Left to Right: Rochelle Rollenhagen (Sr. Planner). Paul Nylund (Sr. Planner/GIS Technician), Kate Huber (Planning Technician), Sue Moeller (Sr. Administrative Assistant), April Mathews (GIS Manager).

Jay Yunker (Building Inspector).

Meet the Staff

Sue Moeller joined the Community Development team as the Sr. Administrative Assistant in the Spring of 2017. With 16 years of experience working for the local telephone company, she keeps the department running efficiently and smoothly.

With over ten years of experience as a valued employee for the City of Valdez, Paul Nylund joined the department as the Senior Planner/GIS Technician in July of 2017. With a Bachelors of Science in Natural Resource Management, Paul utilizes his intricate working knowledge of city infrastructure to help the community with development projects.

Senior Planner Rochelle Rollenhagen joined the team in June of 2017. Her educational background includes a Bachelors of Science in Geography and Land Use Planning. She has over 33 years of experience working as a Planner, which includes work in four other Alaskan communities!

Jay Yunker joined the team as the Building Inspector in July of

2017. With over 35 years of experience in the Construction Industry he has both Commercial and Residential Building Inspector Certifications.

Kate Huber joined the team in the Spring of 2017. As our Planning Technician performing all zoning reviews, she is certified as both a Permit Technician and Zoning Inspector.

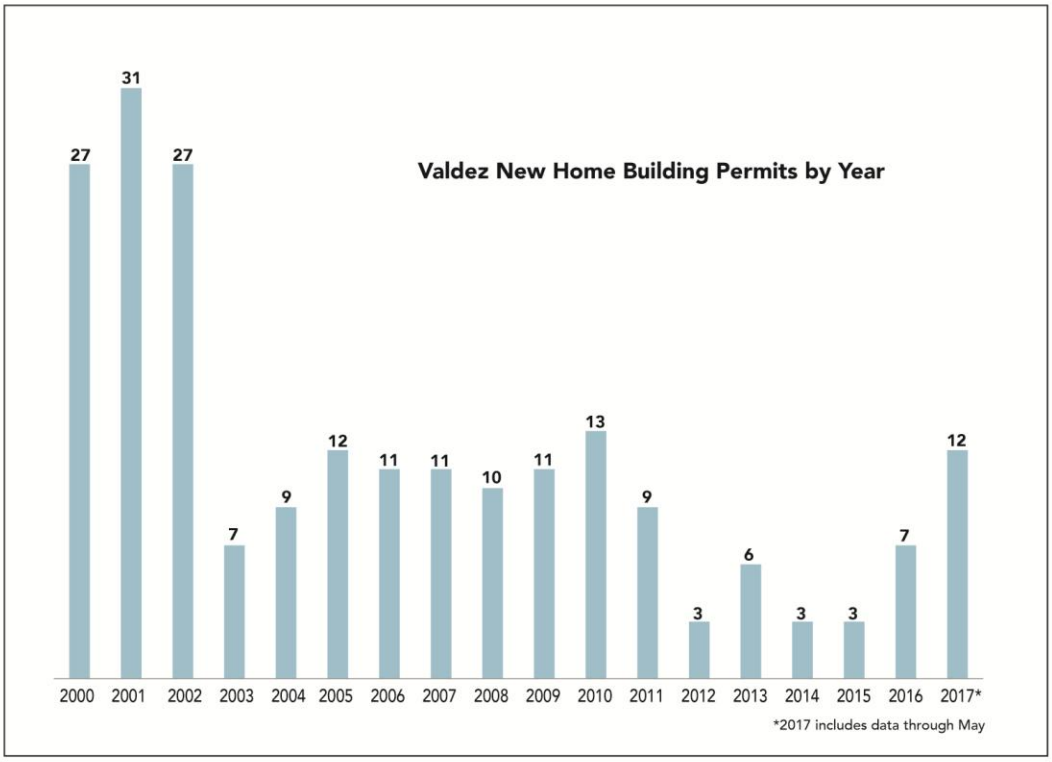
As required by FEMA, all Community Development employees received certifications in 2017 for Incident Command System training at the 100, 200, 700, and 800 levels. Staff also received training on workplace diversity, workplace violence, drug-free workplace, and blood borne pathogens.

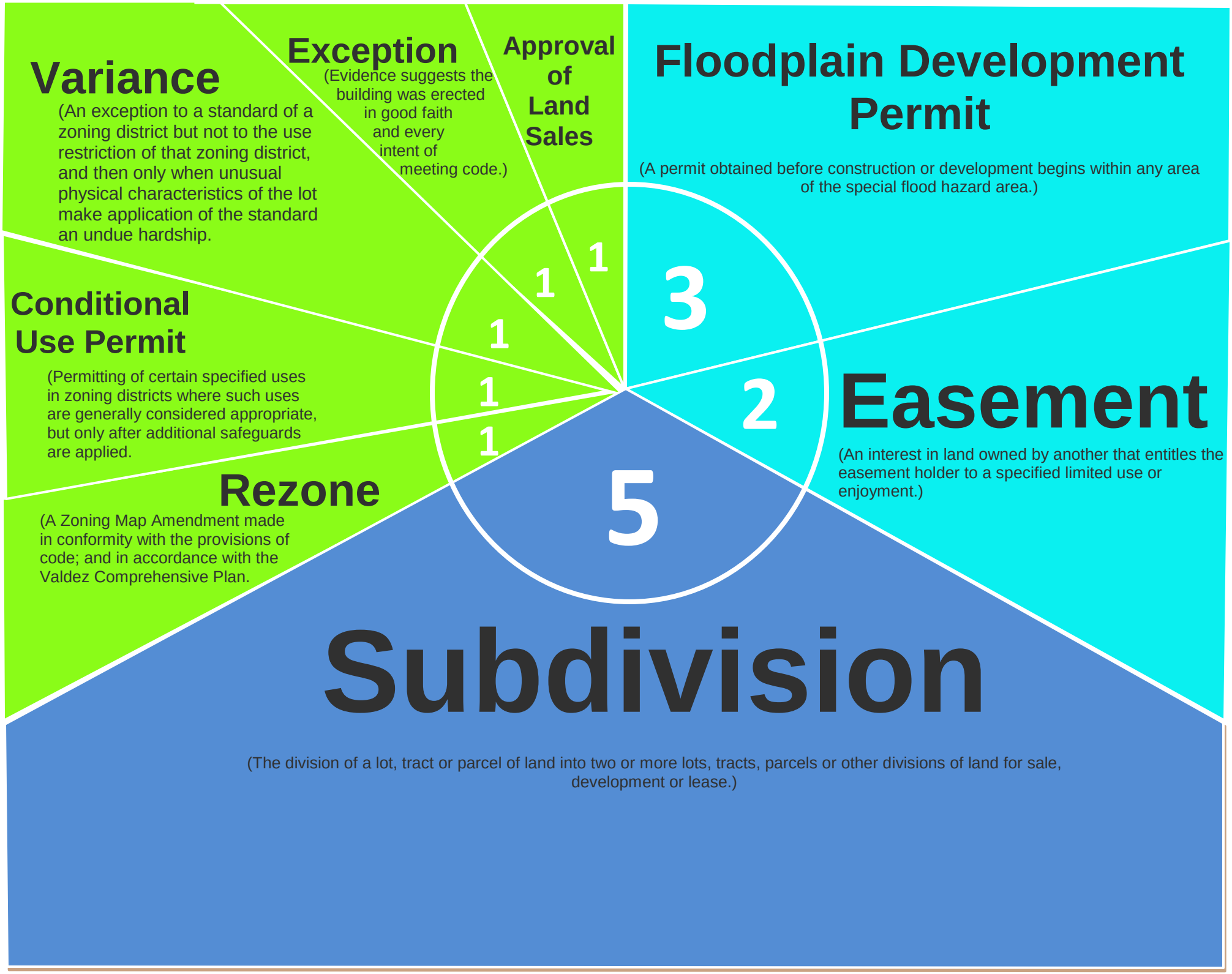
Community Development

This was a banner year for development in Valdez. The department issued 12 new Residential Building permits and processed five new plats through subdivision approval via the Planning and Zoning Commission. In addition the department processed three floodplain development permits, two City easement requests, one approval for the sale of City land, one variance, one exception, one conditional use permit, and one rezone request.

The number of overall residential building permits issued has increased in both number and valuation over the last three years. The valuation of commercial building permits issued, not including City projects, has more than doubled the highest valuation for commercial development in the last five years!

YEAR	# of Residential Building Permits Issued	Total Valuation of Residential Work Permitted	# of Commercial Building Permits Issued	Total Valuation of Commercial Work Permitted
2015	53	$648,153.00	40	$3,4697,132.00
2016	83	$2,125,595.00	31	$670,745.00
2017	98	$9,054.384.00	62	$13,215,498.00




Variance
(An exception to a standard of a zoning district but not to the use restriction of that zoning district, and then only when unusual physical characteristics of the lot make application of the standard an undue hardship.
Exception
(Evidence suggests the building was erected in good faith and every intent of meeting code.)
Approval of Land Sales
Floodplain Development Permit
(A permit obtained before construction or development begins within any area of the special flood hazard area.)
Conditional Use Permit
(Permitting of certain specified uses in zoning districts where such uses are generally considered appropriate, but only after additional safeguards are applied.
Rezone
(A Zoning Map Amendment made in conformity with the provisions of code; and in accordance with the Valdez Comprehensive Plan.
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2
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Easement
(An interest in land owned by another that entitles the easement holder to a specified limited use or enjoyment.)
Subdivision
(The division of a lot, tract or parcel of land into two or more lots, tracts, parcels or other divisions of land for sale, development or lease.)