Big Lake Community Impact Assessment

Matanuska-Susitna Borough

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Palmer, AK 99645

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Acknowledgements

Project Sponsor

Matanuska Susitna Borough

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Executive Summary

The purpose of the Big Lake Community Impact Assessment (CIA) is to identify socioeconomic impacts to the Big Lake Community that could result from an improved highway connection between the Point MacKenzie Road/Ayrshire Road intersection and the Parks Highway. The CIA is meant to inform the Big Lake Community, the Matanuska Susitna Borough (MSB), and other decision makers as they go through the future process to select a preferred alignment.

Big Lake Community Council

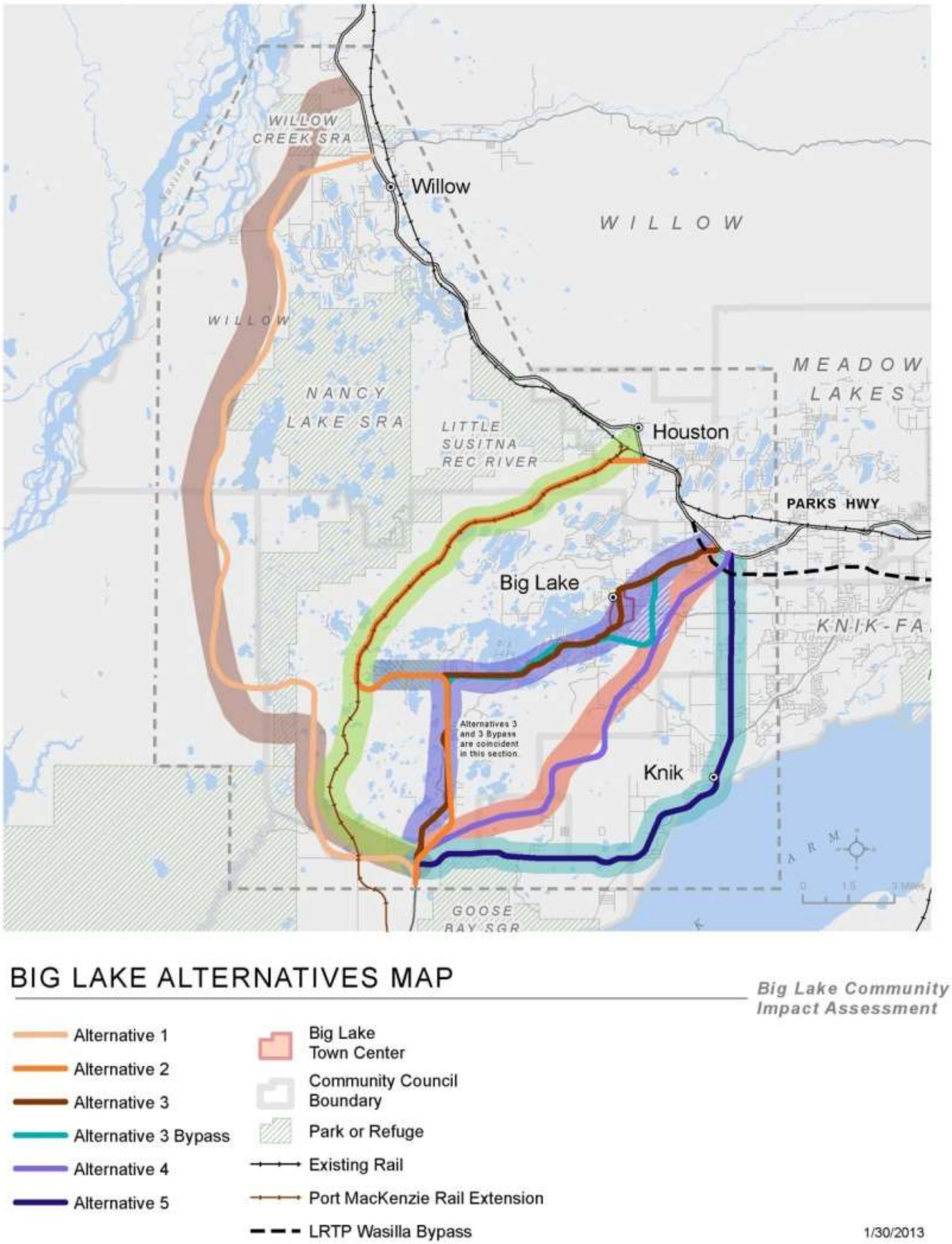
The Big Lake Community Council (BLCC) is located in the western MSB west of the Parks Highway and east of the Little Susitna River. Big Lake is the largest of several lakes in the locale that collectively have supported a growing community provided winter and summer recreation opportunities for South-central Alaskans for over 60 years. The Big Lake Community has been transitioning from a weekend and recreation destination to a year-round community as people retire; choose to raise their families; and transportation improvements have reduced the commute time to Anchorage for employment to a reasonable time period. Existing and proposed transportation infrastructure developments have the potential to impact the Big Lake community. The new Port MacKenzie Rail Extension is located to the west of Big Lake and ties into the Alaska Railroad mainline near Houston. Activity and development at Port MacKenzie is increasing. Both Port Mackenzie, and the proposed Knik Arm Crossing when completed, have the potential to increase traffic in the area dramatically. The BLCC recognized that it could be impacted by these developments and successfully secured funds from the State Legislature through the MSB to develop the Big Lake Community Impact Assessment.

Alternative Identification

The CIA process was initiated by identifying alternative routes that could be evaluated. The alternative identification process started with identifying one-mile wide corridors that represent general locations for a highway connection. Those corridors were based on routes that had been analyzed as part of previous transportation studies. The project team worked with MSB staff, Big Lake community residents, and other stakeholders to add additional corridors and to refine each corridor into a specific alternative to be studied (see Figure ES-1). Two corridors were not evaluated for detailed community impacts: Corridor 1 because it had high costs, trail impacts, and low anticipated usage; and Corridor 4 because of unacceptable wetland impacts, affects on the Aurora Dog mushing area; and community sentiment. At the end of the alternative identification process, five alternatives were carried forward into the CIA phase for additional analysis. Those five alternatives are:

- Alternative 2 – Rail Route (highway would parallel the railroad)
- Alternative 3 – City Center/Existing Road Route
- Alternative 3 Bypass - Option A
- Alternative 3 Bypass - Option B
- Alternative 5 - Johnson Road Route

Figure ES-1 Alternative 2



CIA Process

These alternatives were analyzed in accord with the FHWA's publication *Community Impact Assessment: A Quick Reference for Transportation* to identify potential socioeconomic impacts on Big Lake. The steps in the FHWA process included defining the study area, developing a community profile, and analyzing impacts. Topics of impact analysis included:

- Land use
- Mobility and Access
- Economic Conditions
- Public Services
- Physical
- Visual
- Safety
- Displacement
- Social and Psychological

Connection to Comprehensive Plan

The Big Lake Comprehensive Plan provides a clear statement of community goals and attitudes on a range of subjects relevant to the CIA including land use, transportation, and economic development. Understanding the intentions of the 2009 Comprehensive Plan is an essential starting point, and ultimately the overarching framework and lens through which any assessments or planning reports should be prepared for the Big Lake community. This ensures that any conclusions, recommendations and/or proposed projects accurately capture and are measured against the goals and interests of the Big Lake community. Through the development of the Big CIA, the project team worked closely with the community, and more specifically, the Big Lake Community Council Transportation Committee, to ensure this important objective was met.

Background to the Comprehensive Plan

From 2008-2009, the community of Big Lake updated and approved its 1996 comprehensive plan. The need for the update was driven by the significant changes in the community over the previous decades. In the 1970's and into the 1990's Big Lake was primarily a location for second homes, most of which were of modest size and mostly owned by Anchorage residents. During this time, Big Lake was also a place where people with modest resources could find and purchase land, usually well back from the core area surrounding the primary water body (Big Lake), for low prices.

In recent years, more people have chosen to live in Big Lake year round, commuting to jobs in the southern Mat-Su Borough or in Anchorage. In addition, more people are coming to Big Lake to retire. Modest cabins are being transformed into larger, costly second homes. In general, the area is becoming more of a family-oriented, year-round community.

While the area has experienced an influx of relatively wealthy second home owners and retirees, there are still many people in the community with very modest means. In the words of one Big Lake planning team member, "there are now two Big Lakes, one relatively wealthy and one relatively poor." Through the comprehensive planning process, the community wanted a plan that would serves the needs of all residents.

The natural environment is important to Big Lake's economy, image and way of life. The community clearly wants to maintain the integrity of the natural environment, and the predominately forested natural appearance of the community, requiring new strategies as the community grows.

As the community has grown, there have been a number of surprising side effects, including growing water quality concerns, traffic and road safety concerns, and a broad desire by the community to have a greater voice in the future of Big Lake. External pressures with current or likely future impacts on the community include new employment centers, like the Goose Creek Correctional Center, the general outward growth of the Mat-Su core, and proposed transportation projects, including the north south connector that is the focus of the Big Lake CIA.

Planning Process

In light of these changes and challenges, the community rallied behind the need for a comprehensive plan. Big Lake's residents, landowners and other stakeholders were actively engaged in the preparation of the comprehensive plan. Specific steps included regular meetings of a 40-member stakeholder advisory group ("planning team"), public workshops, and the creation of work groups for key issues that emerged through the process.

Comprehensive Plan "Vision"

As part of the comprehensive planning process, the community laid out a general vision for the future of Big Lake, which helped guide all the remaining elements of the plan. The main elements of this vision are listed below; this vision is particularly relevant to this CIA project because location of the future road could have a major impact on these intentions.

- A main street small town; a town with a stronger community core.
- A recreational community.
- A community with the character of a traditional American small town, with expanded commercial, civic services and employment, and a clearer sense of identity.
- Maintained and improved open spaces, and other recreation and tourism resources; preservation of trails and good public access to Big Lake and other water bodies.
- A way to manage development to protect the beauty and environment of Big Lake.

Specific Plan Policies Relevant to CIA

The Big Lake Comprehensive Plan recognizes that the community will almost certainly grow and change in the future. The Plan aims to guide and accommodate growth while holding onto characteristics that make the Big Lake community a good place to live and visit. Relevant land use policies include:

- Coordinate the planning of land use and community services and facilities.
- Strengthen the Big Lake Economy – Improve local opportunities for jobs and businesses, to help Big Lake become a stronger, more stable year round community.

- Protect the Natural Environment – As the area grows, actions are needed to avoid detrimental effects on well water, quality of surface water, habitat, wetlands and other natural environmental features.
- Provide for Freedom to Enjoy our Properties.
- Protect Big Lake for Future Generations – The plan embraces the concept that residents are not only owners of our property for a period of time but that we have obligations as "caretakers" of that property for the benefit of future "owners" and obligations to the overall health of our natural and social environment.

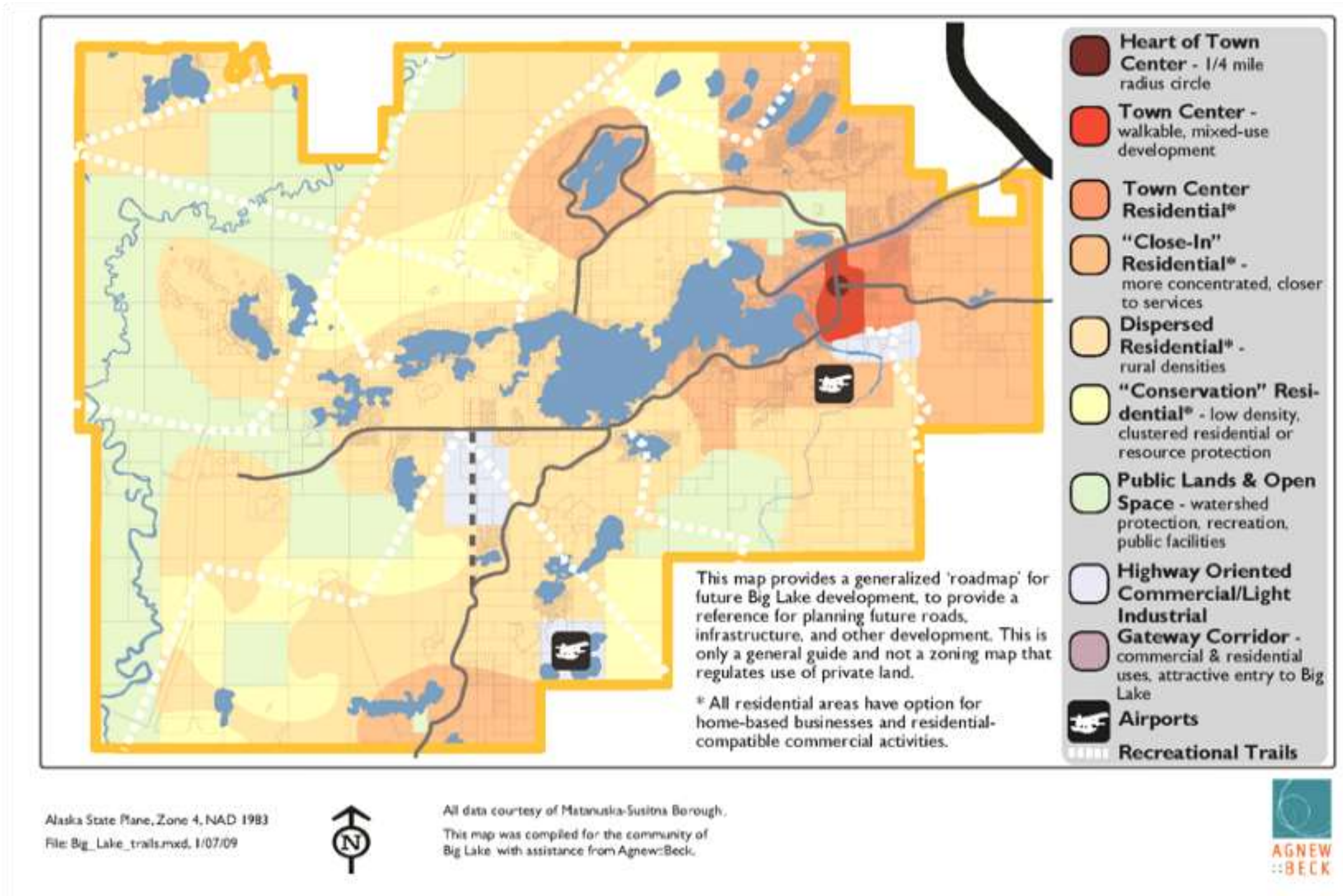
The Comprehensive Plan presents a number of specific strategies to reach these goals. Three policies of greatest significance to the CIA process are summarized below:

- Develop a land use "roadmap" setting out general intentions for the location and intensity of future development, to provide for growth, protect Big Lake's environment and rural character, encourage concentrated commercial development, and allow for the efficient provision of community infrastructure (see Figure ES-2).
- Create a Big Lake town center, an attractive, walkable, concentrated center for Big Lake commercial, civic, recreational and social activities.
- Protect the natural environment, including water quality, air quality, and natural beauty of the area.

The comprehensive plan sets out a number of transportation policies focused on road system, and the link between land use and roadways. Three main goals of relevance to this CIA are:

- Improve Big Lake area roads – Develop a safe and efficient road system that provides connection to the Parks Highway and access to land in the Big Lake area.
- Support regional development through improvements in Borough transportation infrastructure.
- Expand existing road system to provide access to residents currently without access ensuring public safety needs are met.

Figure ES-2 Big Lake Comprehensive Plan Roadmap



CIA Results

This section summarized the socioeconomic impacts for the alternatives studied in the CIA.

Alternative 2

Alternative 2 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway at Houston (see Figure ES-3). This corridor parallels the Port MacKenzie Rail Extension (PMRE) project corridor. The PMRE project was approved by the Surface Transportation Board and is currently being constructed.

The key findings for Alternative 2 are:

- The area near the New Burma Road/Susitna Parkway intersection is likely to develop as a commercial center
- Land use along Burma Road is likely to change
- Growth potential in areas adjacent to the alternative is limited from the end of Susitna Parkway to just south of Houston due to poorly drained soil.
- Approximately 912 acres in Big Lake Community Council (and 1,086 acres total) of land would be converted to transportation use
- Most land needed for right of way is owned by the Alaska Mental Health Trust, followed by private land, MSB land, and Native corporation land
- Consistent with *Big Lake Comprehensive Plan* as most of route designated "conservation residential" – low density and/or clustered residential.
- Least likely to divert traffic away from the Big Lake Town Center
- Traffic on Big Lake Road in the Big Lake Town Center could be close to 11,500 cars per day at Build Out (almost 5,000 more vehicles per day than 2012 traffic level of 6,510)
- Increased traffic on west side of Big Lake Community Council area
- No anticipated impacts to public facilities such as school, parks, and recreation areas
- Substantial impacts to the officially recognized trails in the area
- Least likely to change emergency response times
- Least impacts on community cohesion as it does not split established neighborhoods
- Least likely to encourage population growth that would alter the size and social character of the Big Lake community
- Would change the quality of life in the areas to the north, west, and south of Big Lake.
- Would have the lowest population at Build Out

Figure ES-3 Alternative 2

Alternative 3

Alternative 3 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway near Big Lake Road (see Figure ES-4). This corridor generally follows Burma Road, Susitna Parkway, South Big Lake Road, and Big Lake Road.

The key findings for Alternative 3 are:

- Major changes in land use are anticipated in the Big Lake Town Center
- The intersection of New Burma Road/Susitna Parkway is likely to develop as a commercial center
- Has moderate to high growth potential as most land is considered suitable for development
- Much of the corridor already has road access and existing development. Land available for development along New Burma Road corridor.
- Approximately 802 acres in Big Lake Community Council (and 846 acres total) of land would be converted to transportation use
- Most land needed for right of way is owned privately or by the MSB
- Substantial changes to the Big Lake Town Center are anticipated including:
    - Physically dividing the Town Center into an east and west side which would have a substantial impact on community cohesion
    - Substantial pressure to covert the Big Lake Town Center into a commercial strip
    - May result in the core business area being spread out over a wider area
    - Town center may become more highway/auto oriented
    - Greatest increase in traffic volumes on Big Lake Road through the Town Center
    - Traffic on Big Lake Road in the Big Lake Town Center could be close to 21,500 cars per day at Build Out (substantially greater than the 2012 traffic volume of 6,510 AADT)
    - Highest potential for positive and negative direct employment effects in the town center
    - Highest potential for traffic noise to impact noise sensitive land uses in town center
- Inconsistent with *Big Lake Comprehensive Plan*
- Would potentially upgrade several existing roads to a four-lane highway
- Potential impacts to Fire Station 8-1, library, post office, and Big Lake Elementary
- Impacts to Fish Creek Park and Jordan Lake Park are anticipated
- Moderate impacts to the officially recognized trails in the area
- Potential for safety conflicts in town center between through traffic and local traffic
- Generally faster emergency response times are anticipated although congestion in the Town Center may cause delays during peak periods.
- Would negatively impact quality of life by having an substantial affect on the small town feel and recreational quality along the south and east shores of Big Lake
- Would have the second lowest change on population at Build Out

Figure ES-4 Alternative 3

Alternative 3 Bypass – Option A and Option B

There are two Alternative 3 Bypass options (see Figures ES-5 and ES-6) as there are several different potential locations for a bypass. Option A was developed to represent a bypass within 0.5 miles of the Big Lake Town Center while Option B was developed to reflect a bypass several miles outside the Town Center. Alternative 3 Bypass – Option A is similar to Alternative 3, except that it includes a short bypass around the Big Lake Town Center to the west (between Echo Lake Drive and Maplewood Drive). The bypass is approximately one mile east of Big Lake Road. Alternative 3 Bypass – Option B is the same as Alternative 3 between Port MacKenzie Road and Echo Lake Drive. At Echo Lake Drive, the alignment continues east to Johnson Road, staying south of Fish Creek. The alignment follows Johnson Road north to the Parks Highway.

The key findings for Alternative 3 Bypass – Option A and B are:

- Major changes in land use are anticipated east of the Big Lake Town Center
- The intersection of New Burma Road/Susitna Parkway is likely to develop as a commercial center
- The land adjacent to both bypasses is considered to have low to moderate growth potential. Much of the soils along the bypasses are poorly draining making the land relatively costly to develop
- Some existing development along the corridor but there is also some vacant land that can be developed
- With Option A, approximately 803 acres in Big Lake Community Council (and 865 acres total) of land would be converted to transportation use. With Option B, approximately 764 acres in Big Lake Community Council (and 931 acres total) of land would be converted to transportation use
- Most of the land needed for right of way is owned privately or the MSB
- Little pressure on Big Lake Town Center to develop as a commercial strip.
- Consistent with the *Big Lake Comprehensive Plan* although the plan identified a bypass closer to the Town Center (similar to Option A)
- Minor changes to existing traffic patterns are anticipated
- Likely to have moderate impacts to the traffic volume in the Town Center. Option A will likely remove more traffic from the Town Center than Option B
- Traffic on Big Lake Road in the Big Lake Town Center could be close to 5,300 cars per day at Build Out with Option A (slightly less than 2012 traffic volume of 6,510) and 17,800 with Option B (substantially higher than 2012 traffic volumes).
- Would potentially upgrade several existing roads to a four-lane highway
- Would leave the Big Lake Town Center physically intact
- Could pull employment away from Town Center and into adjacent areas
- Little impact to existing public facilities is anticipated
- Will have a moderate impact on the trail network
- Emergency response times are likely to be faster
- Is likely to have less effect on residential neighborhoods
- Substantial impact on recreational/residential quality of life along Big Lake's south shore

Figure ES-5 Alternative 3 Bypass Option A

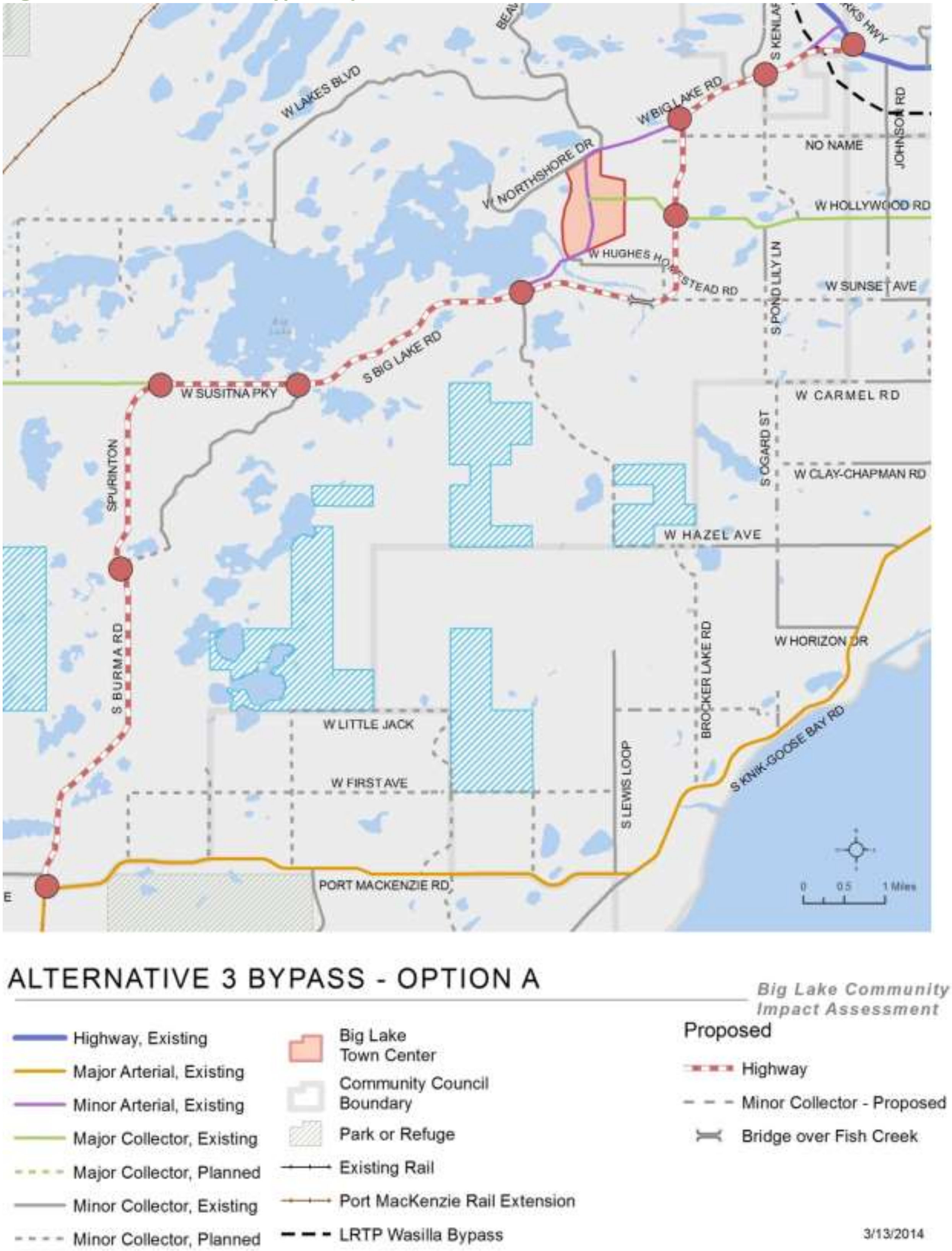
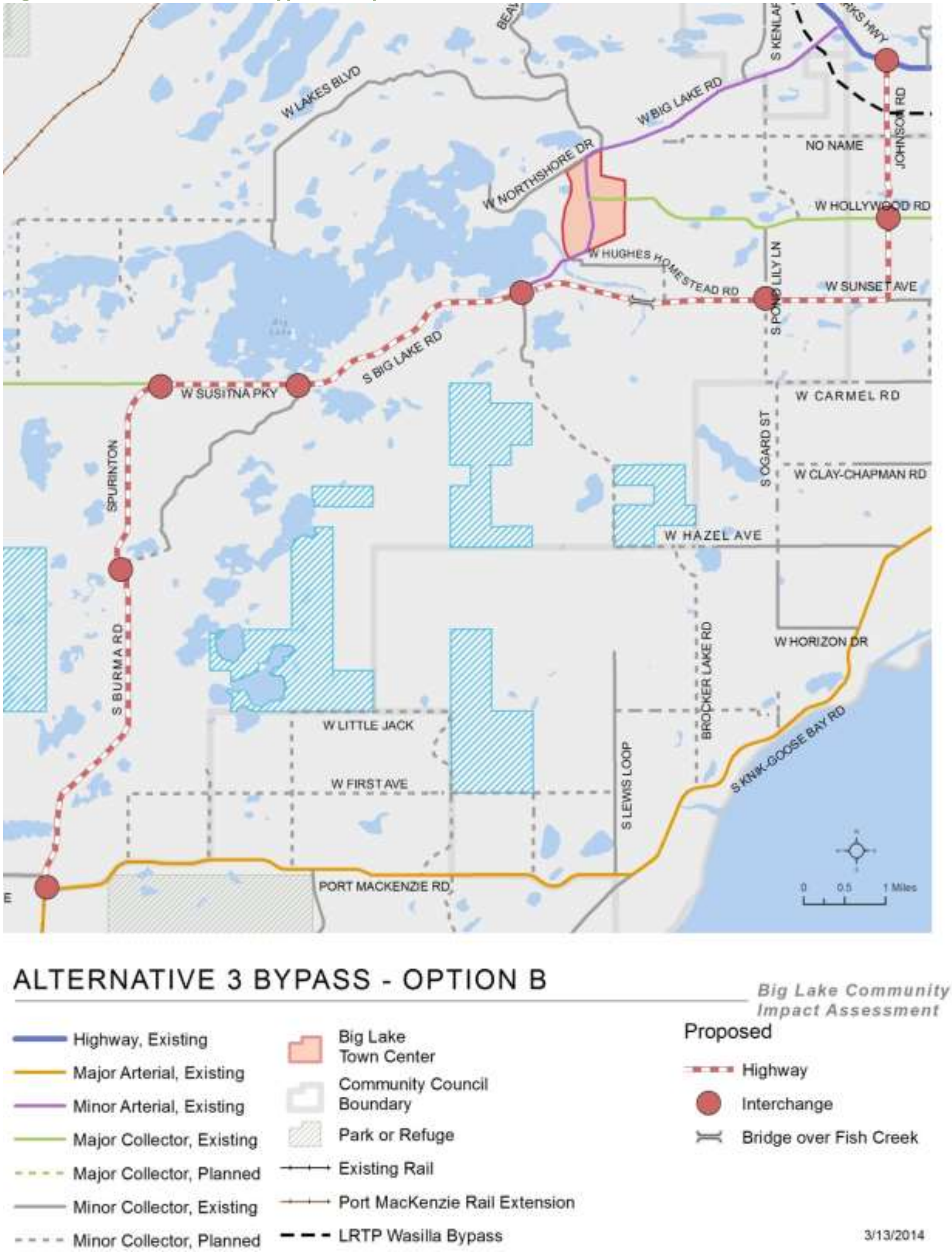


Figure ES-6 Alternative 3 Bypass – Option B



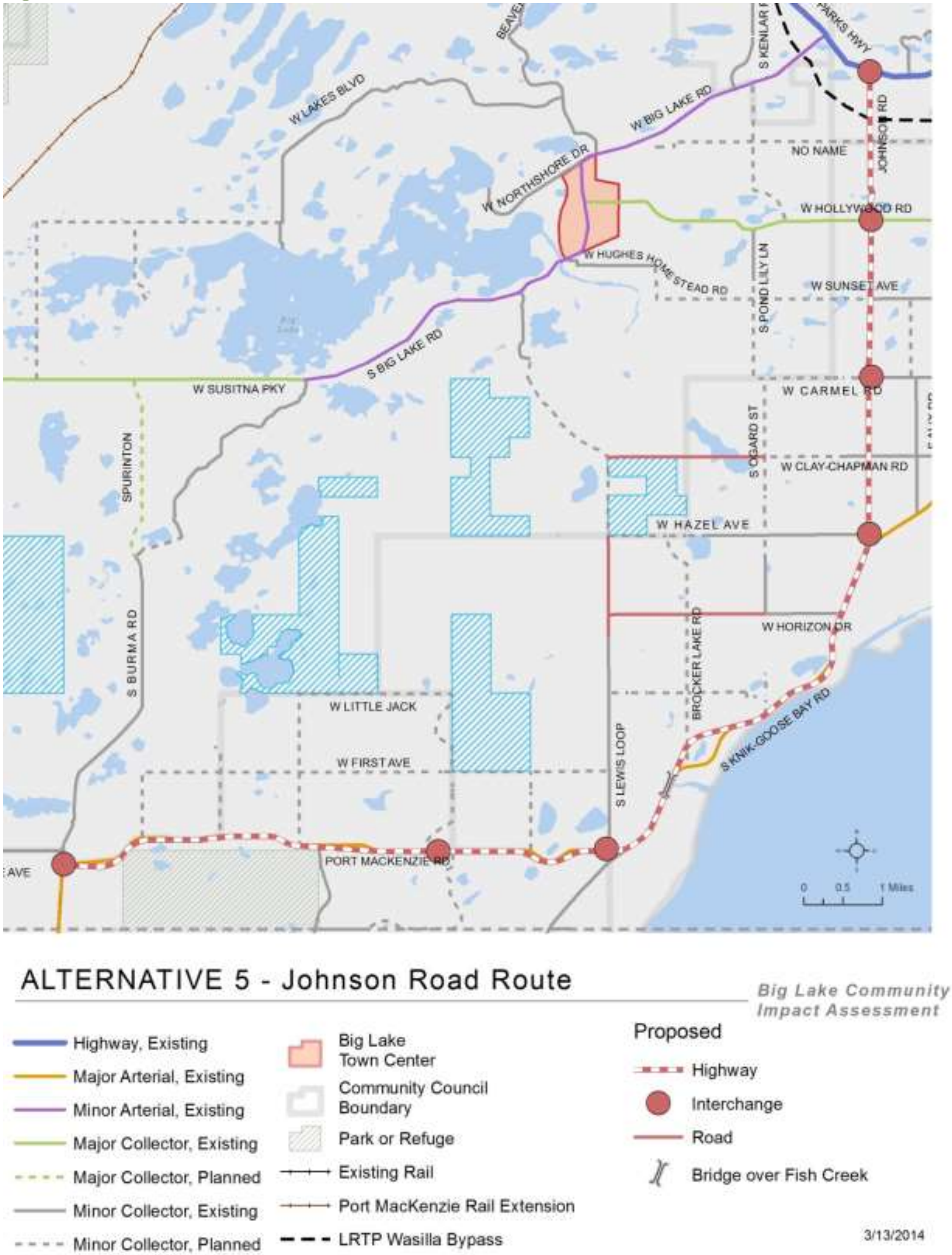
Alternative 5

Alternative 5 starts at Point MacKenzie/Ayrshire Road and connects to the Parks Highway east of Big Lake (see Figure ES-7). This corridor generally follows Port MacKenzie Road, Knik Goose Bay Road, and Johnson Road.

The key findings for Alternative 5 are:

- Commercial/residential development likely along southern Knik-Goose Bay and Johnson Roads
- Moderate growth potential as approximately 20-30% of land along this route is poorly drained and would be relatively costly to develop
- Some land along the route is already developed but there is some vacant land available for new development
- Approximately 10 acres within the Big Lake Community Council (and 914 acres total) of land would be converted to transportation use
- Most of the land needed for right of way is privately owned
- Little to no pressure on the Big Lake Town Center to develop into an unplanned commercial strip
- Avoids major conflicts with the *Big Lake Comprehensive Plan*
- Minor changes to existing traffic patterns anticipated.
- Minimal effect on traffic volumes in the Town Center
- Traffic on Big Lake Road in the Big Lake Town Center could be close to 10,300 cars per day at Build Out which is greater than the 2012 traffic volume of 6,510
- Substantial impact to traffic volumes on South Knik Goose Bay and Johnson Roads.
- Potential for park and ride service
- Substantial impact to existing roads possible as the alternative could replace portions of the existing Point MacKenzie and Knik-Goose Bay Roads
- Limited impacts to the Big Lake Town Center
- Some commercial/business development may move from the Town Center to along Knik Goose Bay and Johnson Roads
- No impacts to public facilities within the Big Lake Community Council are anticipated
- Minimal impacts to the trail network
- Little change in emergency response times anticipated
- Less likely to change the size and social character of the Big Lake community
- Highest change in population at Build Out

Figure ES-6 Alternative 5



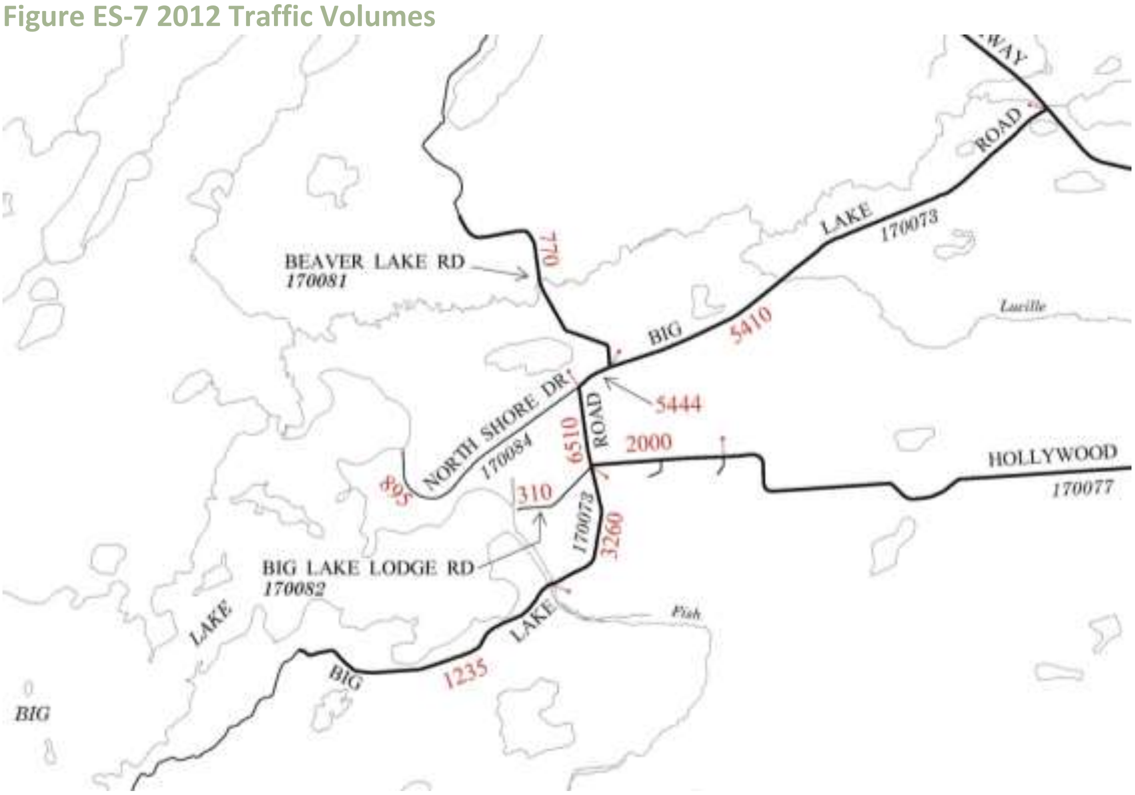
Summary

The CIA demonstrates that Alternative 2 and Alternative 5 had the fewest direct impacts to the Big Lake community as they avoid going through the Big Lake Town Center by several miles. However, Alternative 2 is less desirable because, according to the traffic forecast (Appendix C), very little traffic (approximately 4,800 AADT) will use this alternative while approximately 9,200 AADT will remain on Big Lake Road near the Town Center. In 2012, this segment of Big Lake Road had a traffic volume of 6,510 (see Figure ES-7). Alternative 2 mainly serves freight traffic going between Port MacKenzie and Fairbanks but it does not provide service to traffic as a whole. Traffic will use other roadways such as Burma/Big Lake Road and Knik Goose Bay Road creating unacceptable levels of congestion on these routes.

Alternative 3 Bypass – Option B has similar concerns. While this alternative would keep a highway out of the Town Center, travel forecasting indicates traffic would remain on Big Lake Road in the Town Center resulting in high traffic volumes (approximately 17,800 AADT) at Build Out and congestion through town.

Alternative 3 Bypass – Option A and Alternative 5 both avoid a highway in the Town Center and change traffic patterns in a positive way to avoid unacceptable levels of congestion in the Town Center thereby reducing impacts to the Big Lake community. Both of these alternatives were carried forward for additional reconnaissance level engineering study in the Big Lake Highway Reconnaissance Study (see Appendix F).

Figure ES-7 2012 Traffic Volumes



Source: DOT&PF, 2012 Traffic Volume Map

Alternative 3 has the greatest impacts to the Big Lake Community Council and Big Lake Town Center by dividing the community with a controlled access highway. Alternative 3 provides a baseline for comparing other alternatives (because it was the route previously studied the Alaska Department of Transportation and Public Facilities (DOT&PF) so it was also carried forward for additional study in the Big Lake Highway Reconnaissance Study.

Conclusion

The Big Lake CIA does not identify a preferred route. Rather, it identifies positive and negative socioeconomic impacts of each alternative on the Big Lake community and the MSB. The information contained in this CIA will help the Big Lake community and policy makers such as the MSB Assembly and DOT&PF make informed decisions as to which route option provides the greatest benefits with the least impacts. Potential future steps in selecting a preferred alternative include updating of the Big Lake Comprehensive Plan, the Matanuska Susitna Borough (MSB) Long Range Transportation Plan (LRTP), the MSB Official Streets and Highway Plan (OSHP), and an environmental impact statement (EIS). The information presented in the CIA should be a great help to continue the project development process for a future connection between Port MacKenzie and the Parks Highway.

Contents

Tables

Figures

Appendices

Appendix A: Screening criteria to identify alternative carried forward into the impact analysis
Appendix B: Maps showing the alternatives carried forward into the impact analysis
Appendix C: Maps showing forecasted traffic at Build Out
Appendix D: Summary of Public Outreach activities
Appendix E: Results of the Big Lake CIA Build-out Analysis
Appendix F: Highway Reconnaissance Report

Abbreviations and Acronyms

ACS	American Community Survey
ARRC	Alaska Railroad Corporation
BLCC	Big Lake Community Council
BL Town Center	Big Lake Town Center
CIA	Community Impact Assessment
CDP	Census-designated place
DOL&WD	Alaska Department of Labor & Workforce Development
DOT&PF	Alaska Department of Transportation & Public Facilities
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FSA	Fire Service Area
KAC	Knik Arm Crossing
KGB	Knik Goose Bay
LRTP	Long-Range Transportation Plan
MASCOT	Matanuska-Susitna Community Transit
MEA	Matanuska Electric Association
MSB	Matanuska-Susitna Borough
MTA	Matanuska Telephone Association
PMRE	Port MacKenzie Rail Extension
ROW	Right of Way
RSA	Road Service Area

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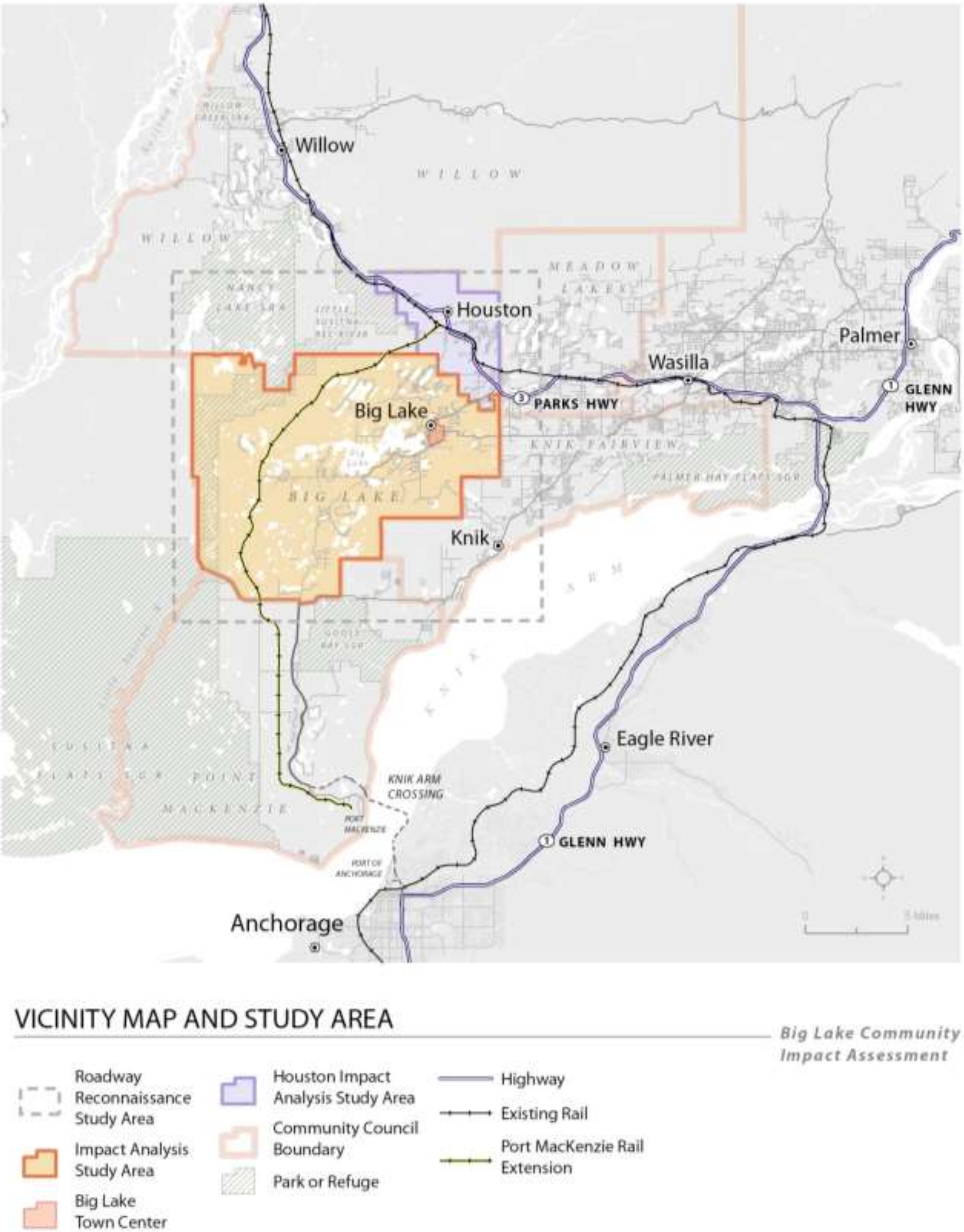
1.0 Introduction

The intent of the Big Lake Community Impact Assessment (CIA) is to identify socioeconomic impacts to the Big Lake Community Council (BLCC) that could result from an improved highway connection between the Point MacKenzie Road/Ayrshire Road intersection and the Parks Highway (see Figure 1-1). This study assumes the completion of the Knik Arm Crossing (KAC) and associated road improvements along Point MacKenzie Road and full development of Port MacKenzie. When the bridge is completed and the port is built out, traffic in the Big Lake community could increase dramatically, and local stakeholders are concerned about the potential impacts. The Matanuska-Susitna Borough (MSB) received a State appropriation to conduct this CIA to help the local community and decision makers evaluate routes and discuss the community impacts to Big Lake.

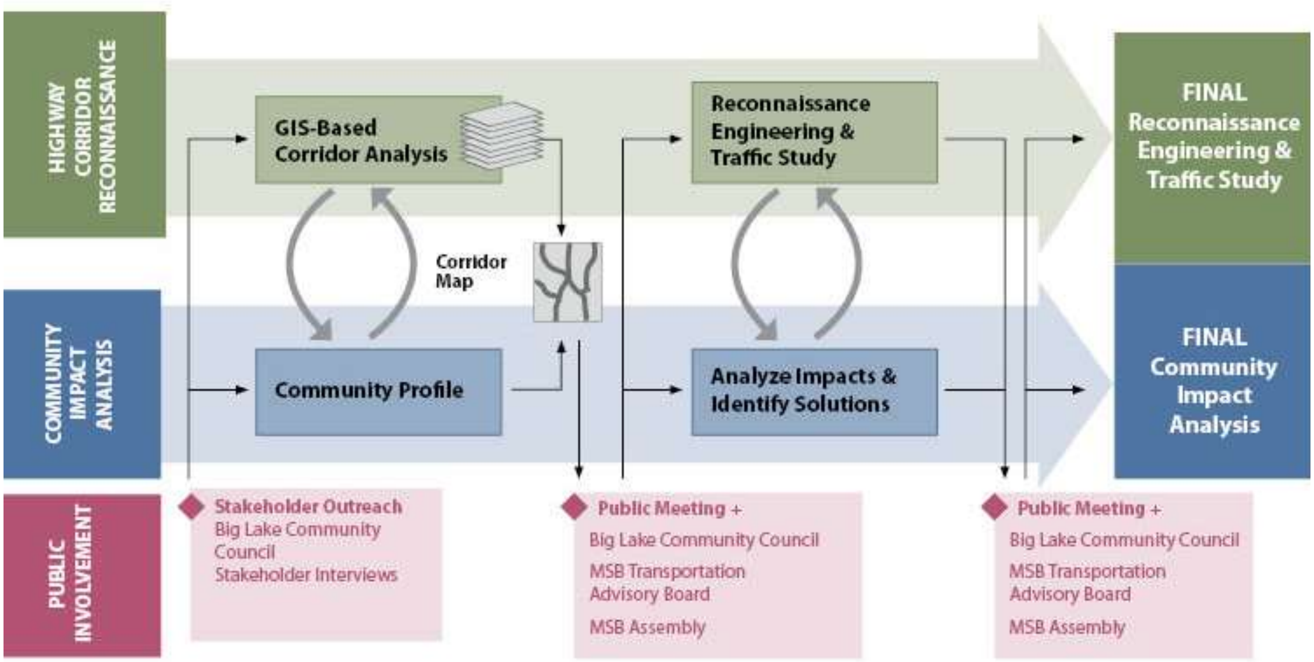
Figure 1-1: Project Vicinity



1.1 What Was The Process Used in the Study?

The Big Lake CIA was developed using an iterative process (shown below) to provide baseline information where information could be influenced based on anticipated impacts and stakeholder input. The intent was to integrate the Highway Reconnaissance Study and the CIA information with public input. Because of desire for a collaborative public process, the first task was to establish a public involvement strategy (Appendix C) and integrate opportunities for public input into the process. The team started with a community profile (Chapter 3) and a corridor identification effort (Appendix A). The intent of this effort was to identify potential corridors that avoid key areas in the first place rather than trying to mitigate impacts later. Early efforts were made at determining the size (number of lanes) (See Figure 1-3) of the highway to realistically identify potential highway corridors that would meet the need of improved highway access between Port MacKenzie and Parks Highway. Once the corridors were identified, more detailed reconnaissance engineering and impact analysis was conducted to refine the routes and associated impacts.

Figure 1-2 Planning Process



1.2 What is a Community Impact Assessment?

A Community Impact Assessment (CIA) is a process to evaluate the effects of a transportation action (such as a road corridor) on a community and its quality of life. A CIA is a recommended part of road project planning that:

- Shapes outcomes of the project;
- Documents the current and anticipated social environment of a geographic area – with and without the road corridor; and

- Looks at mobility, safety, employment, relocation, isolation, and other important community issues.

1.3 This CIA was developed in accord with the Federal Highway Administration's (FHWA) guidelines. Why is a highway connection needed?

Without a new Parks Highway Connection serving Port MacKenzie and the KAC, traffic to and from these facilities will have to travel along the Knik Goose Bay Road (KGB) to Vine Road to access the Parks Highway and then head north to the interior. This routing limits the use of the KAC and may add significant mileage (depending on route) to traffic trying to access Port MacKenzie from the Parks Highway. A new Parks Highway connection west of Vine Road would serve multiple regional transportation needs, including:

- The need to address the projected significant increase in automobile and truck traffic in the corridor due to new development including the Goose Creek Correctional Center; Port MacKenzie Industrial District; the KAC; the Alaska Railroad Rail Reserve, and increasing commercial, residential, and recreational use in the area.
- The need to improve the existing road network, which is not adequate to carry increased volumes of traffic from the KAC and Port MacKenzie to the Parks Highway.
- The need to move freight north out of Port MacKenzie and freight from the Interior south to the Port in an efficient and effective manner.
- The need to move residential and commercial traffic between the Parks Highway and the KAC in an efficient and effective manner.

1.4 What is a Highway Reconnaissance Engineering Study?

The highway reconnaissance engineering study in Appendix F is an engineering analysis to help determine what routes may be used to connect Port MacKenzie to the Parks Highway through the Big Lake area. The reconnaissance engineering study considers terrain, physical constraints, and engineering criteria to evaluate potential alignments. The purposes of the highway reconnaissance study are to:

- Determine what routes may be used to move Port MacKenzie to Parks Highway traffic through the Big Lake area;
- Improve the mobility of people and goods between the Port MacKenzie area and the Parks Highway;
- Improve safety for motorized and non-motorized traffic;
- Accommodate projected traffic growth related to the KAC, Port MacKenzie, the Goose Creek Correctional Center, and other commercial and residential development in the Point MacKenzie area; and
- Provide cost estimates.

1.5 What would the highway look like?

Eventually, the highway will be a high-speed, limited access, four-lane divided roadway with limited pedestrian facilities with the option for frontage roads. It would be similar to the Parks

Highway east of Wasilla. As traffic demand is anticipated to be relatively light to start and to grow over time, the road is expected to be developed in phases as improvements are needed. For example, sections of the road are likely to be constructed initially as two-lane roads, and as traffic increases, expanded to four lanes (see Figure 1-). A 400-foot right of way (ROW) corridor, sufficient to accommodate the final highway, would be acquired before any road construction begins.

1.6 Why did Big Lake conduct a Community Impact Assessment?

The community of Big Lake lies north of the Port MacKenzie area and would likely receive the most benefits and impacts from a new Parks Highway Connection. Looking ahead at the possibility of a new highway located near or through the Big Lake community, residents want to identify potential impacts early in the process to be able to make informed decisions about the future of their community.

The community of Big Lake's major concern is the potential for a road corridor through the downtown core and the impacts generated by the additional traffic. A CIA gives the people of Big Lake a voice in the road corridor development decision-making process. The CIA provides the community of Big Lake a chance to ensure that community values and concerns receive proper attention prior to and during project development. The study also provides community members a forum for input early in the process to help guide decisions. The CIA will help:

- Identify the location for a highway corridor that can provide an efficient trucking route to/from Port MacKenzie as well as accommodate commuter traffic from the Knik-Goose Bay, Meadow Lakes, Big Lake, and Houston areas if the KAC is constructed;
- Plan for future community growth and land use decisions;
- Involve the community in the process to minimize community disruption and maximize community benefits; and
- Identify and document residents' concerns about the effects of a major highway through neighborhoods and community centers.

This CIA is intended to provide a general overview about the types of socioeconomic impacts to be expected. Detailed impacts about each route will be assessed as part of a future environmental document such as an Environmental Assessment or Environmental Impact Statement.

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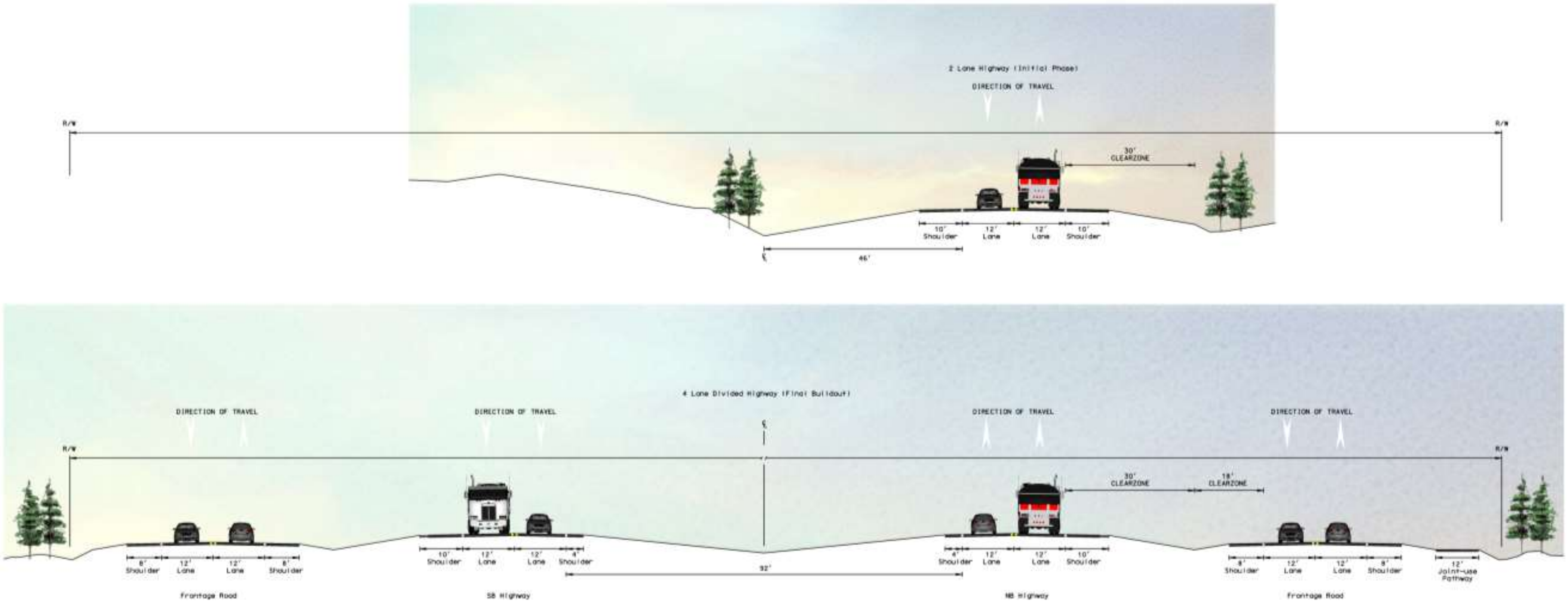
Figure 1-3: Two-Lane and Four-Lane Typical Sections



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1.7 How were stakeholders involved in the process?

A very active public involvement and information program was developed to ensure that the Big Lake community was a partner in developing the CIA. The public involvement activities included public meetings, committee meetings, newsletters, and a project website. Project team members conducted interviews with policy makers, the Alaska Department of Transportation & Public Facilities (DOT&PF), Knik Arm Crossing and Toll Authority (KABATA) highway users, truckers, local residents, and businesses to ensure they had an opportunity to provide input to the CIA. Project team members attended several BLCC Transportation Sub-Committee meetings to receive immediate feedback on project issues, corridor alignments, and impacts. MSB staff was also actively involved and worked hand in hand with the consultant team and community members to ensure that project information was disseminated regularly and clearly and local concerns were addressed and incorporated into the CIA.

The following specific meetings and events were conducted:

- September 12, 2012 Big Lake Community Council Meeting
- October 16, 2012 Big Lake Community Council Transportation Committee Meeting
- October 23, 2012 Big Lake Community Meeting #1
- December 17, 2012 Big Lake Chamber Meeting: Project Update
- February 5, 2013 Big Lake Community Council Transportation Committee Meeting
- February 15-17, 2013 Big Lake Winter Fest
- April 1, 2013 Big Lake Chamber Meeting: Project Update
- May 23, 2013 Big Lake Community Council Transportation Committee Meeting
- August 7, 2013 Mat-Su Transportation Fair
- September 19, 2013 Big Lake Community Meeting #2
- November 13, 2013 Big Lake Community Council Transportation Committee Meeting

A number of groups were contacted and participated at one or both of the two communitywide meetings and/or at one or more the Big Lake Transportation Committee Meetings. In most cases, more than one person from each of the major stakeholder groups participated in the community and/or BLCC Transportation Sub-Committee meetings. The main stakeholder groups involved in the Big Lake Community Impact Assessment process included (in alphabetical order):

- Alaska Department of Transportation and Public Facilities
- Aurora Dog Mushers Club
- Big Lake Chamber of Commerce
- Big Lake Community Council
- Big Lake Residents and Property Owners
- CIRI Corporation
- Cook Inlet Regional Inc.
- City of Houston
- KABATA
- Knikatnu Inc.

- Mat-Su Borough Leadership – Mayor and Assembly Members
- Mat-Su Borough Port Commission Members
- Mat-Su Borough Staff
- State House Representative

Additionally, project team members conducted individual interviews with the following individuals to get input and obtain perspective on other key projects and development in the project area.

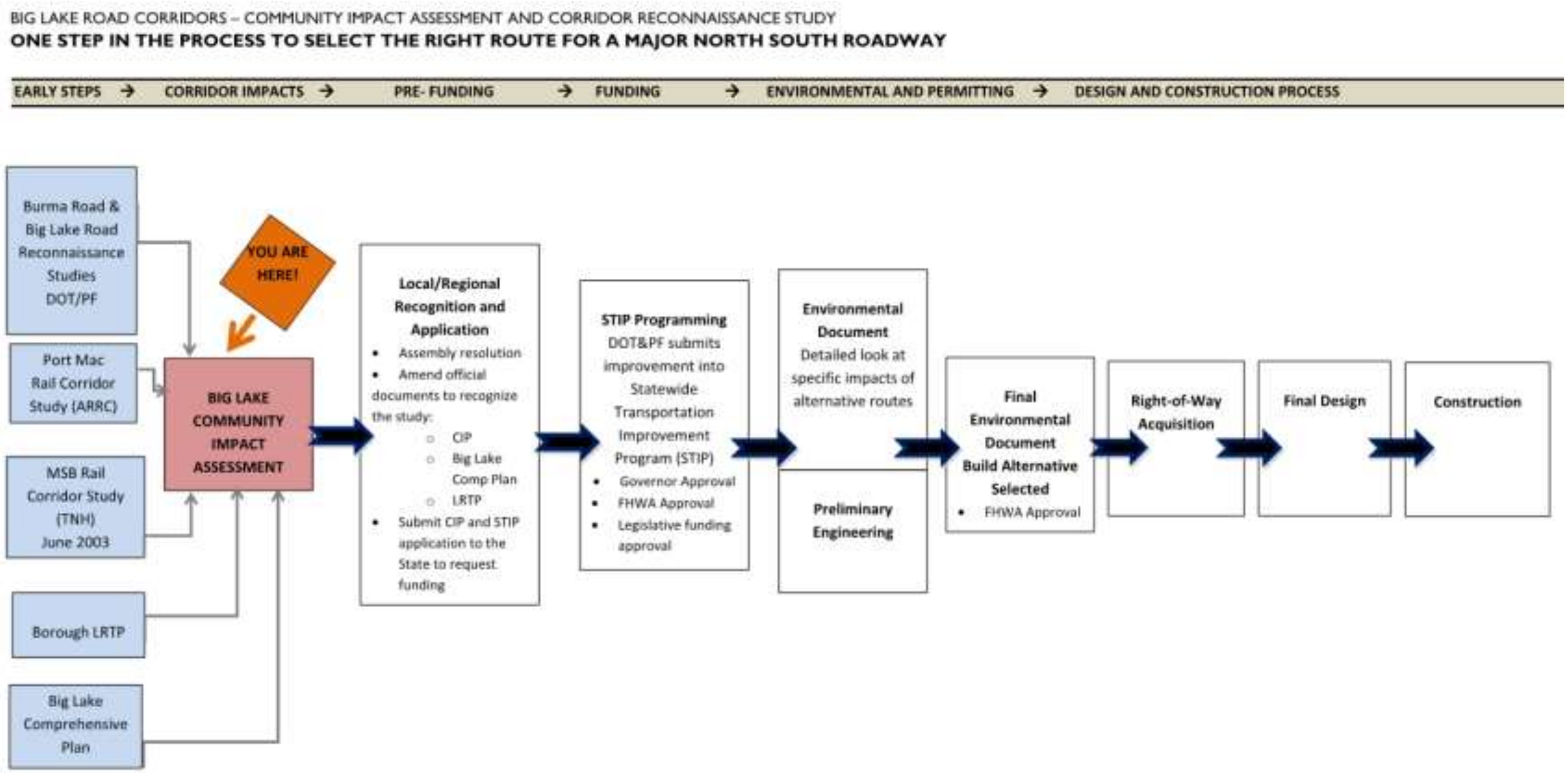
- Paul DuClos, Port Commission Member, Big Lake Resident
- Andrew Niemiec + Michael Rovito, Knik Arm Bridge Toll Authority
- Joe Perkins, Mat-Su Borough Project Manager, Port Mackenzie Rail Extension (PMRE)
- Allen Kemplen, Alaska Department of Transportation (DOT), Mat-Su Regional Planner
- Jim Clemenson, Big Lake Resident + Former Chair of Road Service Area
- Jim Simon, Principal, Big Lake Elementary School

For additional information on stakeholder outreach activities, please see Appendix D.

1.8 How will the results of the CIA be used? Where does it fit in the planning process?

The CIA fits early into a continuum of ongoing transportation planning for the study area (see Figure 1-4). The intent of the CIA is to identify and evaluate potential routing options based on socio-economic impacts. The decision on which route will be developed (if any) will be made by elected officials or decision makers through subsequent planning and environmental processes (e.g. the MSB Long Range Transportation Plan or an environmental process such as an Environmental Assessment or Environmental Impact Statement).

Figure 1-4: Route Selection Process



2.0 Alternatives

This chapter describes how the alternatives studied as part of the CIA were identified and evolved throughout the process.

2.1 How were the corridors developed?

The KAC and Port MacKenzie have long been regional transportation priorities. A critical component to these major developments has been an improved connection to the Parks Highway. Additionally, the MSB's Long Range Transportation Plan (LRTP) and *Big Lake Community Comprehensive Plan* identified various transportation improvements in and around Big Lake to address growth and development issues.

Error! Reference source not found. depicts the various highway and rail routes considered over he years. Sources of historical routes include the Matanuska-Susitna Borough (MSB) Long Range Transportation Plan 2007 Update, the Burma Road Improvements Reconnaissance Engineering Report (DOT&PF 2011), the South Big Lake Road Realignment Reconnaissance Engineering Report (DOT&PF 2010), the Port MacKenzie Rail Corridor Study (ARRC 2007), the Matanuska-Susitna Borough Rail Corridor Study (Tryck Nyman Hayes, 2003), the 2010 BLCC Transportation Projects Location Map, and the BLCC Comprehensive Plan (Agnew::Beck 2009).

The first step for the project team was to identify the routes with the most potential and any new routes that should be studied. The team used GIS mapping to identify environmental, physical, and other constraints such as soils, slopes, lakes, wetlands, parks and refuge lands, and property ownership. These maps were layered into a constraints map. The historical routes and the constraints maps were then used together to identify potential highway corridors. Each corridor was approximately one mile wide and reflected the general location of a potential connection between Port Mackenzie Road/Ayrshire Road and the Parks Highway.

Based on the results of this analysis, four corridors (and two variants)[1] were identified as having potential for further study (see Figure 2-2). These corridors were presented at a BLCC Transportation Sub-Committee meeting and at an October 2012 public meeting. Based on the feedback from meeting participants and MSB staff, the locations of the corridors were refined. It was also decided that all corridors should be retained for further study.

[1] One variant was called Corridor 3A because it was the same as Corridor 3 except it bypassed the Big Lake Town Center. The second variant was called Corridor 3B. Similar to Corridor 3, it followed Burma Road from Port MacKenzie Road to West Susitna Parkway. From there, Corridor 3B, headed west to Corridor 2. It then followed Corridor 2 to the Parks Highway.

Figure 2-1: Historic Routes

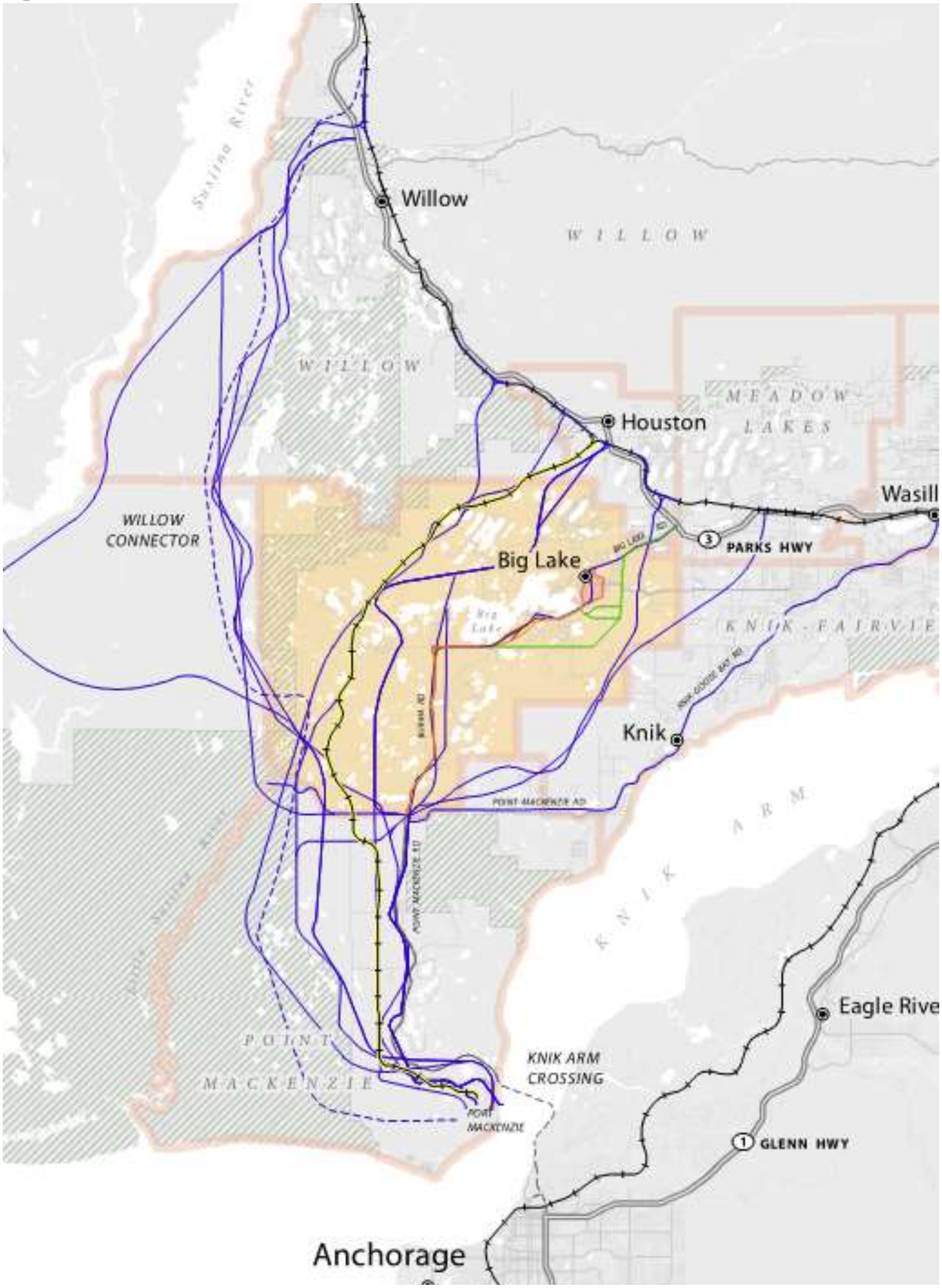
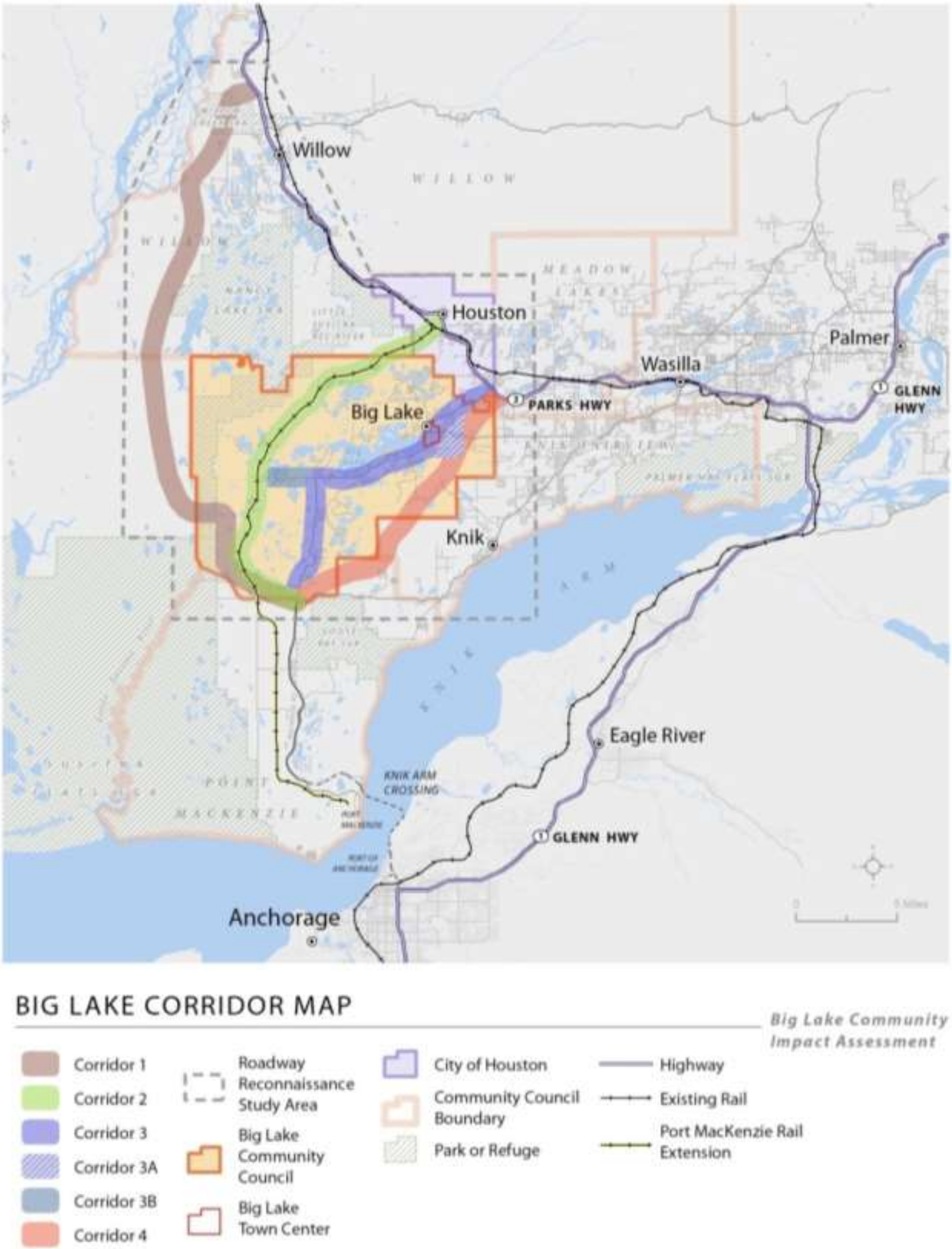


Figure 2-2: Initial Corridors

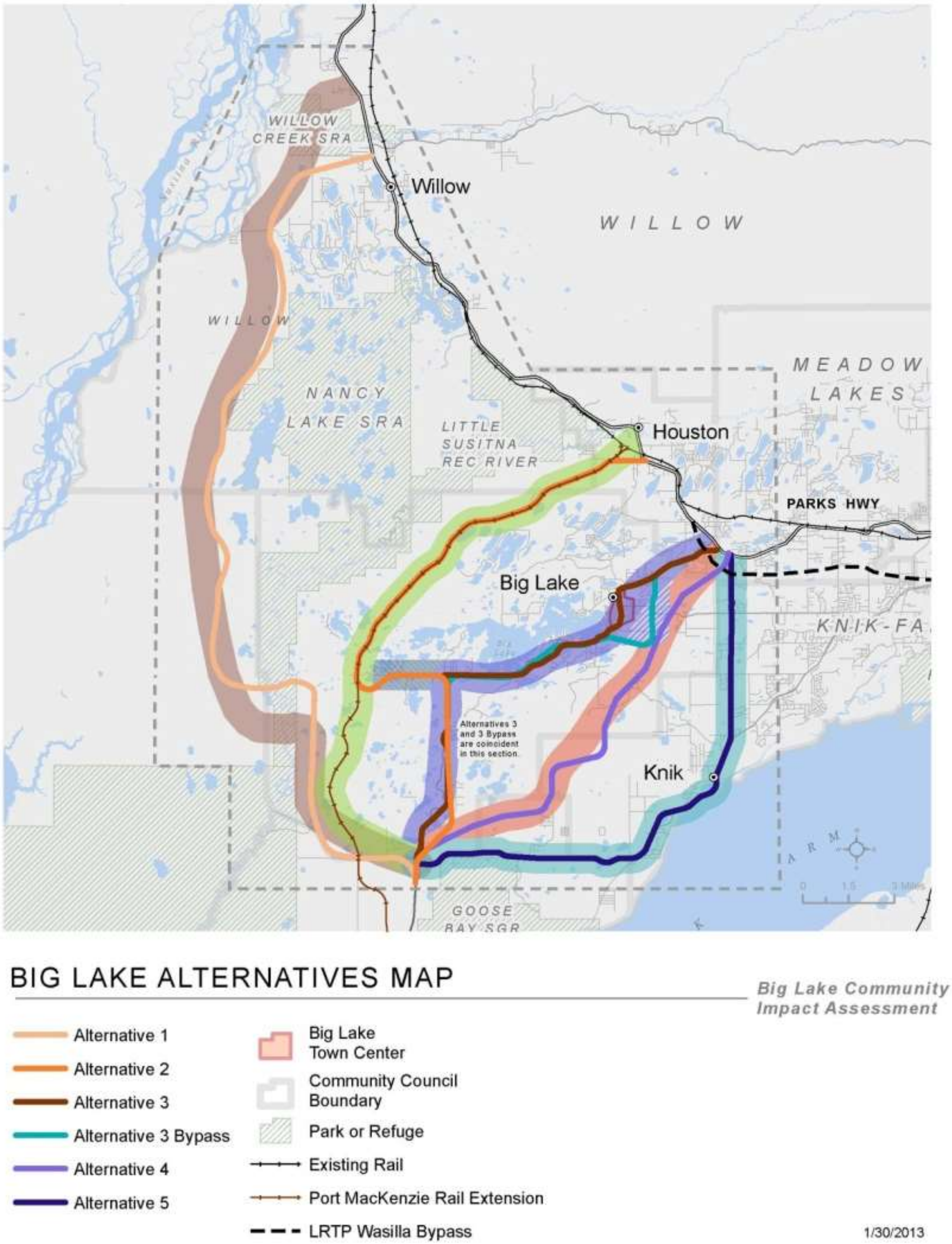


2.2 Initial Alternative Alignments

The next step was to move from the one mile wide corridors to more refined alternative alignments. To do that, within each corridor, engineered alignments (alternatives) were developed according to the design criteria for a controlled access highway as depicted in Figure 1-3: Two-Lane and Four-Lane Typical Sections. The design criteria identify many important elements about the road such as roadway width, allowable grade, curve radius, etc. Different types of roads have different criteria so an alignment that is acceptable for a 2-lane, 35 mile an hour collector road may not work for a 4 lane, 70 mile per hour highway. In addition, different types of transportation modes have different criteria. For example, a railroad has different curve and grade requirements than a highway so the most suitable location for a highway may not be the same as the most suitable location for a rail line.

Each highway alignment was studied from an engineering perspective and considered environmental constraints, preliminary cost estimate, and the ability to meet transportation needs. At this time, members of the public, elected officials, and MSB staff expressed interested in a corridor that used Knik-Goose Bay and Johnson Roads. It was concluded that this alternative should be studied as part of the CIA. They also concluded that alternative alignment for Corridor 2 should not follow the Port MacKenzie Rail Extension south of West Susitna Parkway. Instead, it should follow Corridor 3B. The resulting alternatives (400-foot wide highway alignments) are shown on Figure 2-3. For additional information about the corridor/alternative development, please see Appendix A: Corridor Screening.

Figure 2-3: Initial Alternative Alignments



After consultation with the BLCC Transportation Sub-Committee and MSB staff, it was decided that Alternative 1[2] was not reasonable for further study because it crosses extensive wetland areas and the Little Susitna River, and crosses and/or is adjacent to State parks and refuges. Alternative 1 was the longest corridor and had the highest cost estimate. Alternative 1 was also the farthest west of all the alternatives. Because of its location, it did not connect the Port and KAC with the population centers in the MSB. Traffic would be expected to use Knik Goose Bay Road and the Burma/Big Lake Road corridors, resulting in unacceptable congestion levels on these routes[3]. The impacts of this route to the Big Lake community would be negligible due to its far westward location with respect to the Big Lake Town Center.

Alternative 4 was considered not reasonable because of the amount of wetlands being crossed and impacts to the Aurora Dog Mushing trail network.

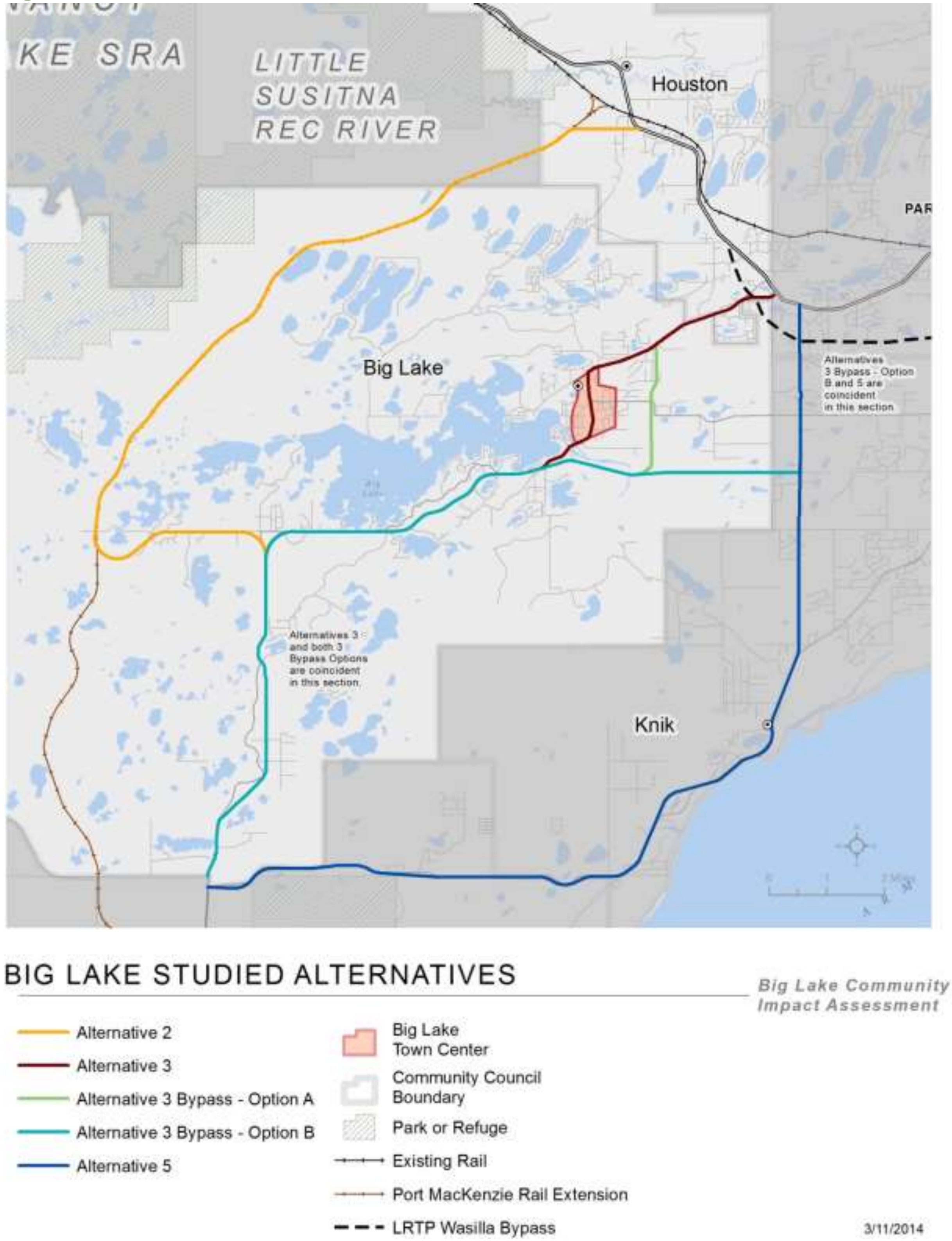
In addition, as Corridor 3 Bypass was refined and screened, there was much discussion regarding how downtown Big Lake should be bypassed. There were advantages to having the bypass within 0.5 miles of downtown Big Lake (spurring economic development and being accessible to Big Lake residents) as well as advantages of locating the bypass further away (moving high-speed traffic and noise further away). In the end, it was decided that both Big Lake Town Center bypass options would be explored in the CIA - one closer in to downtown (Option A) and one further away (Option B).

All other alternatives (2, 3, 3 Bypass – Option A, 3 Bypass – Option B, and 5) were studied as part of the CIA (see Figure 2-5). The analyzed alternatives are described in more detail below. Maps showing each studied alternative in greater detail are located in Appendix B. Additional information on the screening process can be found in Appendix A.

[2] Alternative 1 refers to the highway alignment developed in Corridor 1.

[3] Subsequent traffic analysis confirmed that Alternative 1 has low traffic volumes and unacceptable levels of congestion on Knik Goose Bay and the Burma/Big Lake Road corridor. For results of the traffic forecast, please see Appendix C.

Figure 2-4: Studied Alternatives



2.2.2 Alternative 2 – Rail Route

Alternative 2 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway at Houston. This corridor parallels the Port MacKenzie Rail Extension (PMRE) project corridor. The PMRE project was approved by the Surface Transportation Board and is currently being constructed.

2.2.3 Alternative 3 – City Center/Existing Road Route

Alternative 3 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway near Big Lake Road. This corridor generally follows Burma Road, Susitna Parkway, South Big Lake Road, and Big Lake Road. Portions of this alignment have had reconnaissance reports completed by DOT&PF including South Big Lake Road (2010) and Burma Road (2011). No reconnaissance reports were prepared for Big Lake Road including the segment through downtown.

2.2.4 Alternative 3 Bypass – Option A

Alternative 3 Bypass – Option A is similar to Alternative 3, except that it includes a short bypass around the Big Lake Town Center to the west (between Echo Lake Drive and Maplewood Drive). The bypass is approximately one mile east of Big Lake Road.

2.2.5 Alternative 3 Bypass – Option B

Alternative 3 Bypass – Option B is the same as Alternative 3 and Alternative 3 Bypass Option A between Port MacKenzie Road and Echo Lake Drive. At Echo Lake Drive, the alignment continues east to Johnson Road, staying south of Fish Creek. The alignment follows Johnson Road north to the Parks Highway.

2.2.6 Alternative 5 – Johnson Road Route

Alternative 5 starts at Point MacKenzie/Ayrshire Road and connects to the Parks Highway east of Big Lake. This corridor generally follows Port MacKenzie Road, Knik Goose Bay Road, and Johnson Road.

2.3 Traffic Analysis

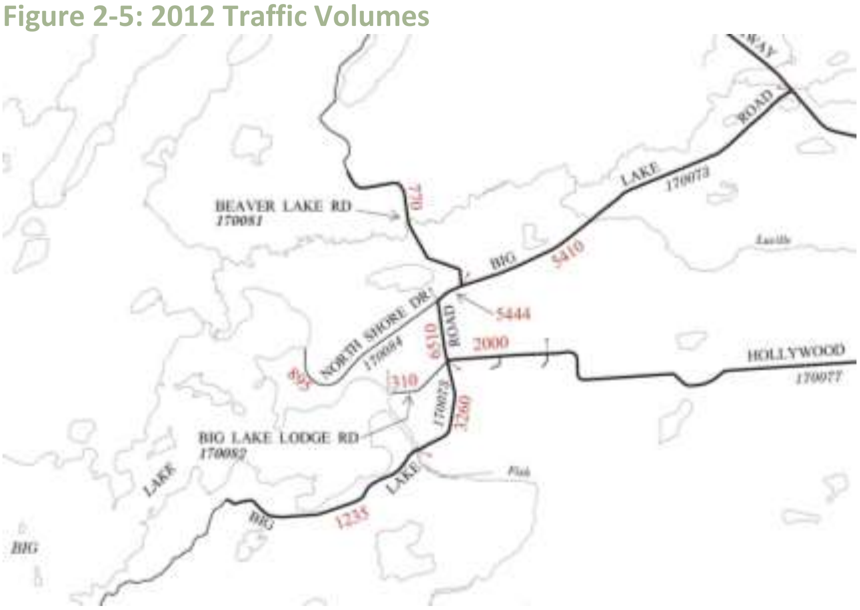
Knowing the traffic volumes and traffic patterns that result from a new roadway can be helpful in identifying impacts. For example, a new roadway changes traffic patterns and may result in one area being quieter while another gets noisier or experiences other changes related to traffic impacts.

A traffic forecast was developed to identify future traffic volumes and patterns that result from each alternative. The traffic forecast was based on the MSB's Traffic Model. Traffic forecasts were developed using the 2010 socioeconomic conditions and the 2035 roadway network. In order to incorporate the MSB build out projections for each alternative, base year traffic volumes were grown using the growth increase predicted by the MSB build out model to forecast future traffic volumes.

The traffic forecast showed that Alternative 2 did not attract large volumes of traffic and could potentially result in congestion on Burma/Big Lake Road and Knik Goose Bay Road. Traffic on Big Lake Road in the Big Lake Town Center could be close to 11,500 cars per day at Build Out. This is almost double the 2012 traffic volume of 6,510 (see Figure 2-5). Alternative 3 would attract high traffic volume. In the Big Lake Town Center, traffic volumes could be close to 21,500 vehicles per day. Alternative 3 Bypass – Option A was similar to Alternative 3 except traffic in downtown Big Lake was reduced to approximately 5,300 vehicles per day and the majority of traffic used the highway to bypass the town center. In Alternative 3 Bypass – Option B, the bypass did not attract as much traffic as Option A resulting in high traffic volumes (17,800 AADT) in downtown Big Lake. Alternative 5 resulted in high traffic volumes along Knik Goose Bay Road. Traffic in the Big Lake Town Center was approximately 10,300 vehicles per day.

Traffic volumes for 2012 are shown in Figure 2-5. See Appendix C for the traffic forecast.

Figure 2-5: 2012 Traffic Volumes



Source: DOT&PF, 2012 Traffic Volume Map

3.0 Big Lake Community Profile

The purpose of the community profile is to describe the existing context of the roadway corridor, discuss key features to avoid, and serve as a baseline for identifying potential impacts. The community profile describes the demographics, economics, community values, historical background, infrastructure, transportation, public services, housing, land use, planned development, community focal points, and informal meeting places within the BLCC (see Figure 3-1).

The main data sources for the profile are the 2010 U.S. Census, the 2006–2010 American Community Survey (ACS), the Big Lake Comprehensive Plan Update, the MSB website, the Alaska Department of Labor and Workforce Development (DOL&WD), the MSB Regional Aviation System Plan, the MSB Public Facilities Plan, the Big Lake Water Quality Improvement documents and website, and public outreach activities such as interviews and public meetings.

3.1 Historical background and context

The Athabascan Dena'ina Alaska Natives who originally inhabited the area, congregating primarily at the intersections of streams and lakes, are considered Big Lake's first inhabitants. Big Lake's modern history started around 1899, when miners traversed through the area via dogsled to reach the Talkeetna Mountains. Starting around 1920, people began homesteading in Big Lake. By 1959, there were several lodges and children's camps on the lake, in addition to many cottages (around 300) that were built and owned in the Big Lake area.

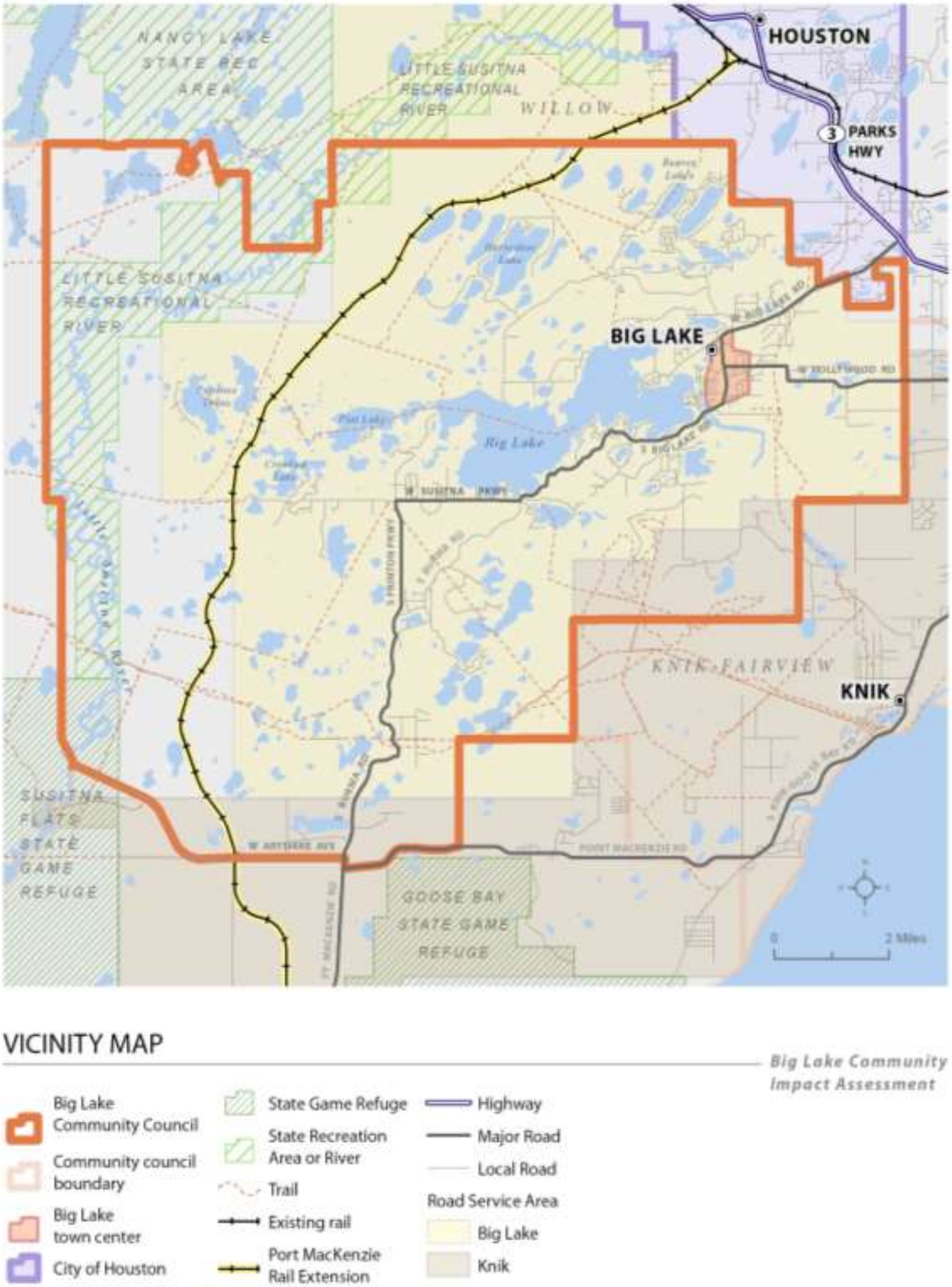
> In June 1996, the "Miller's Reach" wildfire destroyed more than 37,500 acres in the Big Lake and Houston area, including 433 buildings and homes.

In the 1960s and 1970s, lakefront lots became much more accessible and development began to increase. As the 1970s and 1980s progressed, the Big Lake area was dominated primarily by modest cabins that families from Anchorage would use on the weekends and during the summer. In recent years, a larger share of Big Lake property owners have made Big Lake their permanent residence. In addition to Big Lake gaining more year-round citizens, it has also seen the average footprint of its homes increase. Many of the original cabins have been replaced with larger houses for retirement, year-round living, or continued seasonal use.

3.2 Community values and issues

In 2009, the Big Lake community engaged in a planning process to update the 1996 *Big Lake Comprehensive Plan*. A series of workshops and community meetings led to the identification of key community values and issues that were considered and addressed.

Figure 3-1: Big Lake Community Council



Valuing environmental preservation and community development, the community is focused primarily on balancing two broad objectives: to maintain community qualities that initially drew residents and visitors to the area, while also supporting Big Lake's transition into a year-round community. Big Lake residents want to maintain the area's abundant open space, lakes, and forest, while also promoting the development of adequate services, economic opportunity, quality neighborhoods, and the sense of community that is promoted by having a lively, walkable Town Center. To achieve the community's broad goals in consideration of its values, Big Lake is addressing the following key issues: changing demographics, natural environment and recreational opportunities, water quality, economic development, and how to best guide the community's future.

Changing Demographics. Big Lake's demographics are changing. Many retirees and older workers are coming to Big Lake on a year-round basis. As a result, land prices are rising, and expectations about public services and facilities are increasing.

Natural Environment and Recreational Opportunities. The natural environment is important to not only Big Lake's economy, but also to its way of life. The community wants to maintain the natural environment and is developing strategies that will protect the environment as the community grows. Providing more recreational opportunities and improved public access to the lake are also important to community residents.

Water Quality. Meeting water quality standards in a community that is comprised of many small and substandard lots, and where the use of two-stroke engines and personalized watercraft is frequent, continues to be a significant challenge. The community is currently developing an initiative to work with the Alaska Department of Environmental Conservation and the Environmental Protection Agency to improve Big Lake's water quality.

Economic Development. While Big Lake has experienced an influx of relatively wealthy year-round residents and retirees, the community remains home to many low-income families. The community wants to address the needs of all of its residents by ensuring the community has economic development opportunities and affordable housing to help Big Lake become a stronger, more stable, year-round community.

Influencing Our Future. There are several large projects that are planned or under development that have the potential to have a noticeable impact on Big Lake. These include the KAC, Port MacKenzie, the PMRE, and the Parks Highway Alternative Corridor. During the recent Comprehensive Plan Update, the community worked hard to engage a wide range of stakeholders representing different interests to identify ways to allow future development, while still protecting the environment and the rural character of Big Lake.

3.3 Population and demographic characteristics

According to the 2010 U.S. Census, Big Lake[4] has a population of 3,350 people (Table 3-1). This is an increase of 715 (27.1 percent) from 2000. Approximately 3.8 percent of MSB residents live in Big Lake.

Table 3-1 Population of the MSB and Big Lake

Year	MSB	Big Lake	% of MSB Population in Big Lake
1990	39,683	1,477	3.7
2000	59,322	2,968	4.4
2010	88,995	3,350	3.8

Big Lake has an aging population. The median age for Big Lake is 42.4, which is higher than the MSB's median age of 34.8. Big Lake has 23.6 percent (790) of the population under 18, which is lower than the overall MSB percentage (28.9 percent). Big Lake also has a higher percentage (11.2 percent) of residents age 65 and over as compared to the MSB overall (7.9 percent). Big Lake has a lower percentage of households with children under 18 and a higher percentage of households with people who are 65 and over. Of the 1,372 households in Big Lake, 399 (29.1 percent) have children under 18 years of age and 284 (20.7 percent) have people who are 65 years and older. Of the 31,824 households in the MSB, 12,294 (38.6 percent) households have children under 18 years old and 5,287 (16.6 percent) households have people who are 65 years and over.

Big Lake has smaller households and families as compared to MSB. The average household size in Big Lake is 2.4, which is smaller than the MSB's average household size of 2.8.

The population of Big Lake is approximately 86 percent white alone and 14 percent minority. The largest minority group is American Indian and Alaska Native. Approximately 3 percent are Hispanic or Latino. The population of the MSB is also predominantly white, with 84.9 percent of the people classifying themselves as white alone. Similar to Big Lake, the largest minority group is American Indian and Alaska Native, and approximately 3.7 percent are Hispanic or Latino.

Big Lake has a slightly higher percentage of males than females. In Big Lake, there are 1,762 males (52.6 percent) and 1,588 females (47.4 percent). This is similar to the distribution of the MSB overall, which has 46,040 males (51.7 percent) and 42,955 females (48.3 percent).

3.4 Economics

Big Lake, like the rest of the MSB, has a relatively high percentage of residents over the age of 16 who do not participate in the labor force. According to DOL&WD, 1,379 Big Lake residents aged 16 or older (51.9 percent) were employed in 2011, and total wages were $52,650,489. In the MSB, approximately 56.9 percent of residents aged 16 and over participated in the labor force. Most workers in Big Lake are employed by the private sector (83.6 percent) which is similar to the overall MSB rate (82.4 percent). Many residents are employed outside the BLCC,

[4] Census information is reported for the Big Lake Census Designated Place (CDP) as this is the closest census geography to the BLCC.

in other locations in the MSB or in Anchorage. Approximately 66.3 percent of workers in Big Lake are employed year-round, which is similar to the MSB level of 69.7 percent.

The top five occupations of Big Lake residents by number of workers are:

- Cashier (60)
- Retail salesperson (51)
- Secondary school teacher, except special and career/technical education (31)
- Construction Laborer (30)
- Carpenter (29)

While the order is different, these occupations are in the top 10 list of occupations held by MSB workers.

By industry, approximately one quarter (24.5 percent) of all workers in Big Lake are in trade, transportation, and utilities. The next closest Big Lake industry is construction, at 13.5 percent. In the MSB overall, trade, transportation, and utilities industry employees make up 21.0 percent of all workers, but the second-highest industry is education and health services with 15.1 percent. Overall, only 10.8 percent of workers in the MSB are in construction.

Big Lake households tend to earn less than other MSB households. The 2006–2010 ACS estimated that Big Lake had an average median household income of $61,250 (with a margin of error of $17,943) and a per capita income of $25,987 (with a margin of error of $3,529). This is lower than the MSB's median household income of $67,703 (with a margin of error of $1,956) and per capita income of $27,910 (with a margin of error of $554). According to the ACS, approximately 13.5 percent of Big Lake residents had incomes below the poverty level, which is higher than the MSB's poverty rate (9.9 percent).

3.5 Infrastructure

There are no public water, sewer, or storm drain systems in Big Lake. Most of Big Lake uses individual wells and septic systems. Some residents haul water and use outhouses. The MSB operates a refuse transfer station (Big Lake Transfer Station). Services provided include solid waste disposal and battery, oil, and paint collection. Other materials must be brought to the Central Landfill. Piped natural gas is available in some parts of the BLCC. Big Lake is located in the Matanuska Electric Association (MEA) service area. MEA is a member-owned cooperative. The Matanuska Telephone Association (MTA) is a member-owned telecommunications cooperative that offers telecommunications service to the Big Lake area.

3.6 Transportation

There are no highways within Big Lake, although one of the primary access points to the BLCC is via Big Lake Road from the Parks Highway. Some of the major roads within BLCC include South Big Lake Road, West Susitna Parkway, Burma Road, and West Hollywood Road (see Figure 3-2). Most of the BLCC is located within the Big Lake Road Service Area (RSA) but portions of the southeast community council are located in the Knik RSA and a portion on the western edge of the BLCC is outside an RSA.

There is no fixed-route public transportation offered within Big Lake. The closest Matanuska-Susitna Community Transit (MASCOT) stop is at the Spenard Builders Supply, which is just outside the BLCC boundaries.

The Big Lake Airport is owned by the DOT&PF. It has a 2,435-foot by 70-foot gravel airstrip and is used primarily for general aviation purposes. Adjacent to the airport, the MSB owns a floatplane pull-out ramp on the Fish Creek canal. Float planes operate on Big Lake and other lakes in the area. Many of these lakes are not registered with the Federal Aviation Administration (FAA) as seaplane bases. There are also several seaplane bases and landing strips that are privately owned and are for private use.

There are also several boat launches and a marina to support recreational watercraft (see Figure 3-2).

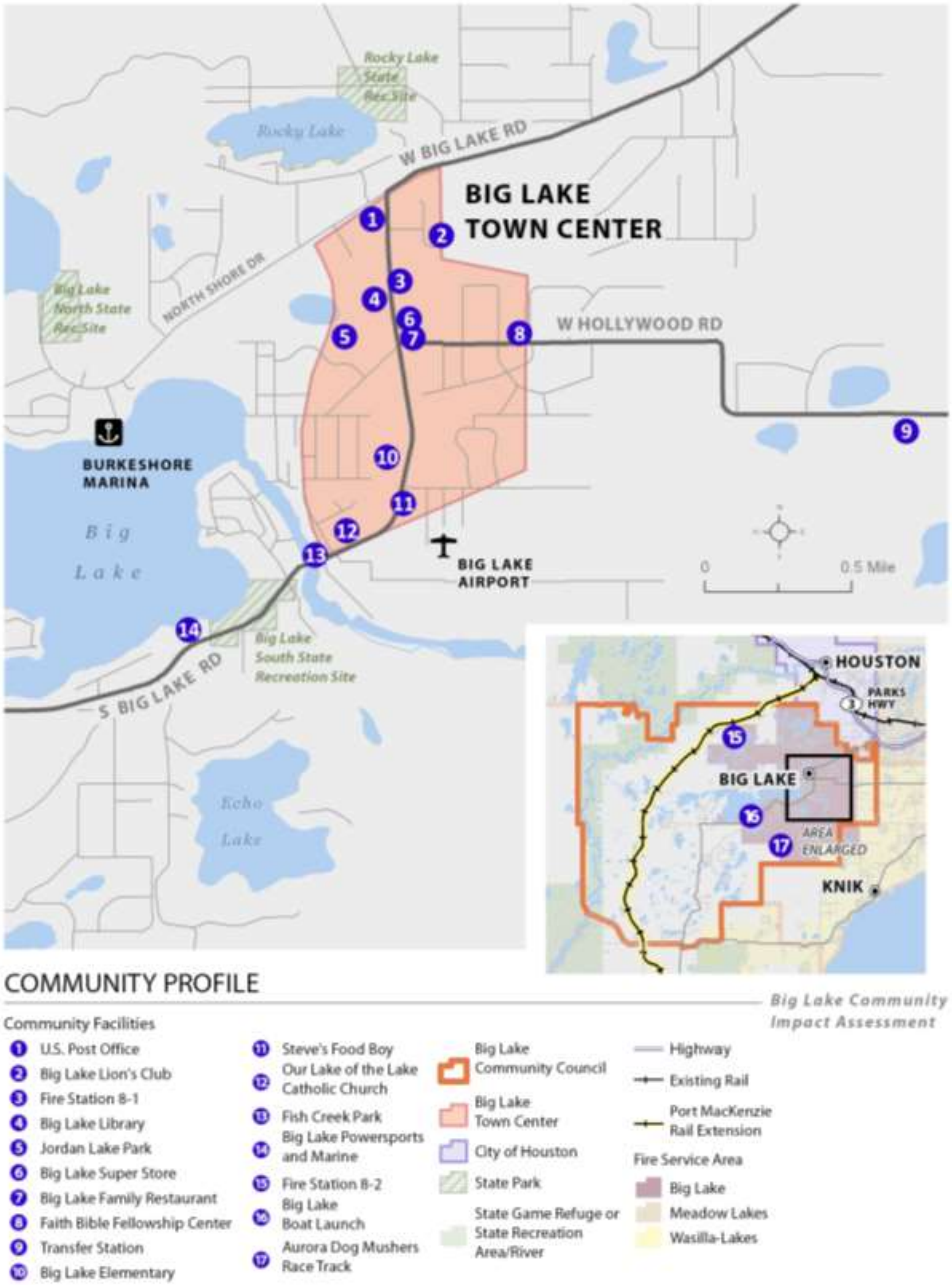
There is no rail in Big Lake. However, the Alaska Railroad Corporation (ARRC) and MSB are currently developing the PMRE, a rail extension from Houston to Port MacKenzie that will cross through the Big Lake Community Council (see Figure 3-2).

3.7 Public services

Big Lake is located in the Matanuska-Susitna Borough School District. The only school in Big Lake is the Big Lake Elementary School (see Figure 3-2). It teaches preschool through grade 5. In the 2011–2012 school year, Big Lake Elementary had 431 students and 25 teachers. Most students in grades 6 to 12 attend Houston Middle School or Houston High School. Students in Big Lake also use correspondence study programs.

There are no hospitals in the Big Lake community. The closest major medical facility is the Mat-Su Regional Medical Center near Wasilla.

Figure 3-2: Community Facilities, Focal Points and Informal Meeting Places



Fire Station 8-1

Big Lake has a volunteer fire department and two fire stations (Stations 8-1 and 8-2). Station 8-1 is the Edward Beech Public Safety Building, and Station 8-2 is the Jack Helms Public Safety Building and Training Grounds (Figure 3-2). The eastern portion of BLCC is located in the West Lakes Fire Service Area. Other than a small portion of the community council near the Goose Bay State Game Refuge, the rest of the community council is outside a fire service area.

One of the seven libraries in the Matanuska-Susitna Library Network is located in Big Lake (Figure 3-2). Currently, it is open Monday through Saturday and is closed on Sundays and holidays. It is a 6,940-square-foot facility and has paid staff and a public meeting space.

Big Lake has an extensive trail system, but most trails are not surveyed, mapped, or secured in public ownership easements (Figure 3-1).The community is working actively to document trail routes and to reserve easements and ROW for trails that cross private lands so that the trails can continue to be used. The trails are used most intensively in the winter.

Big Lake Public Library

Big Lake and other water bodies are important recreational resources in the study area and are used for boating and swimming. Maintaining legal and physical access to the lake is an ongoing challenge.

The State of Alaska has three recreation areas with facilities in the vicinity of Big Lake: the Big Lake North State Recreation Site, the Big Lake South State Recreation Site, and the Rocky Lake State Recreation Site (Figure 3-2). These sites are important resources to the community and visitors to the area. The community wants to see these areas, as well as the MSB boat launch site (located at the southern end of South Big Lake Road), supported, strengthened, and expanded to accommodate year-round recreation opportunities.

A small portion of the Susitna Flats State Game Refuge is located near the southwest corner of the community council (Figure 3-1). The game refuge was created in 1976 to protect fish and wildlife populations and for the public use of fish and wildlife and their habitat. Popular recreation activities in the refuge include wildlife viewing, photography, hunting, and fishing.

The Little Susitna River (Figure 3-1), located near the western edge of the community council, is another popular recreation area. Common recreation activities on or along the river include fishing, camping, wildlife viewing, photography, hunting, and boating.

Big Lake has several other small but well-used parks, including the MSB-owned Fish Creek Day Park that is maintained by the local Airmen's Association (Figure 3-2).

3.8 Housing

The number of housing units in Big Lake is increasing. In 2010, there were an estimated 2,780 housing units in Big Lake, which made up 7 percent of the MSB's housing stock. Since 2000, average annual growth of Big Lake housing stock has been approximately 3 percent per year. This growth rate is higher than the growth rate during the previous decade, but is still below the growth rate in the MSB (Table 3-2).

Table 3-2: Housing Units in the MSB and Big Lake

Housing Estimates	MSB			Big Lake		
	1990	2000	2010	1990	2000	2010
Total Housing Units	20,953	27,329	41,329	1,933	2,122	2,780
Average Annual Percent Change	n/a	3%	5%	n/a	1%	3%

Source: US Census 100% data (1990, 2000, 2010)

Homes in Big Lake range substantially, from small cabins with no indoor plumbing to large lakeside retreats. Despite a wide range of sizes and amenities, housing in Big Lake is comprised predominately of single-family homes. Similar to 2000, as of 2010, approximately 87 percent of the Big Lake housing stock was single-family.

In Big Lake, seasonal homes make up a substantial share of the overall housing stock (45 percent as of 2010, compared to 18 percent in the MSB; Figure 3-3). However, there are indicators that this trend is changing. In 2000, a higher share of the housing units (48 percent) was seasonal. In recent years, many homes on or near Big Lake have been substantially rehabilitated and expanded upon, facilitating their transition to year-round residences.

Figure 3-3: Seasonal and Non-Seasonal Housing Units, 2010

Source: US Census

Home values in Big Lake are rising. According to the ACS, the median home value in 2010 was $185,000 (Table 3-3). A recent survey of 63 multiple listing service homes for sale indicates a median list price of $220,000 in Big Lake. The current list of homes for sale ranges from $33,000 to $1.2 million.

Table 3-3: Median Home Value

Location	2000	2010	Average Annual Growth
Anchorage	$161,000	$270,000	6.8%
MSB	$126,000	$212,000	6.8%
Big Lake	$108,000	$185,000	7.1%

Source: US Census, ACS

Big Lake is currently experiencing low housing vacancy rates. Data from the 2006–2010 ACS measured the homeowner vacancy rate at 2.4 percent and the rental vacancy rate at 6.1 percent. A typical vacancy rate in a housing market is 5 percent, with a 2.4 percent rental vacancy rate. For the MSB, the homeowner vacancy rate was measured at 1.6 percent, while the rental vacancy rate was 5.9 percent. As a result, those looking to purchase a home or move to Big Lake, like elsewhere in the MSB, may not have many options.

One notable characteristic of the Big Lake housing market is the size of its lots, both those with existing homes and those that are vacant. A 2009 analysis of parcels from the MSB Tax Assessor indicated that at least half of the lots in Big Lake are smaller than 40,000 square feet. This lot footprint is smaller than the square foot minimum currently required by MSB code for parcels relying on on-site wells and wastewater systems. This is a result of the fact that many of Big Lake's lots were subdivided before minimum lot size regulations were applied or enforced. These smaller lots with onsite wells and septic systems can have health and water quality impacts that are challenging for homeowners and the community to address.

3.9 Land use and ownership

The total area of the Big Lake Community Council is 87,371 acres. The current land use designations reflect the private development patterns around Big Lake and the surrounding lake system. The majority of development is comprised of single-family residential units. Commercial development is concentrated primarily along Big Lake Road from the Parks Highway to the Big Lake airport. Many undeveloped tracts of land are held by the State of Alaska, the Alaska Mental Health Trust, the MSB, and Alaska Native corporations (Figure 3-4).

Figure 3-4: Land Ownership, 2010

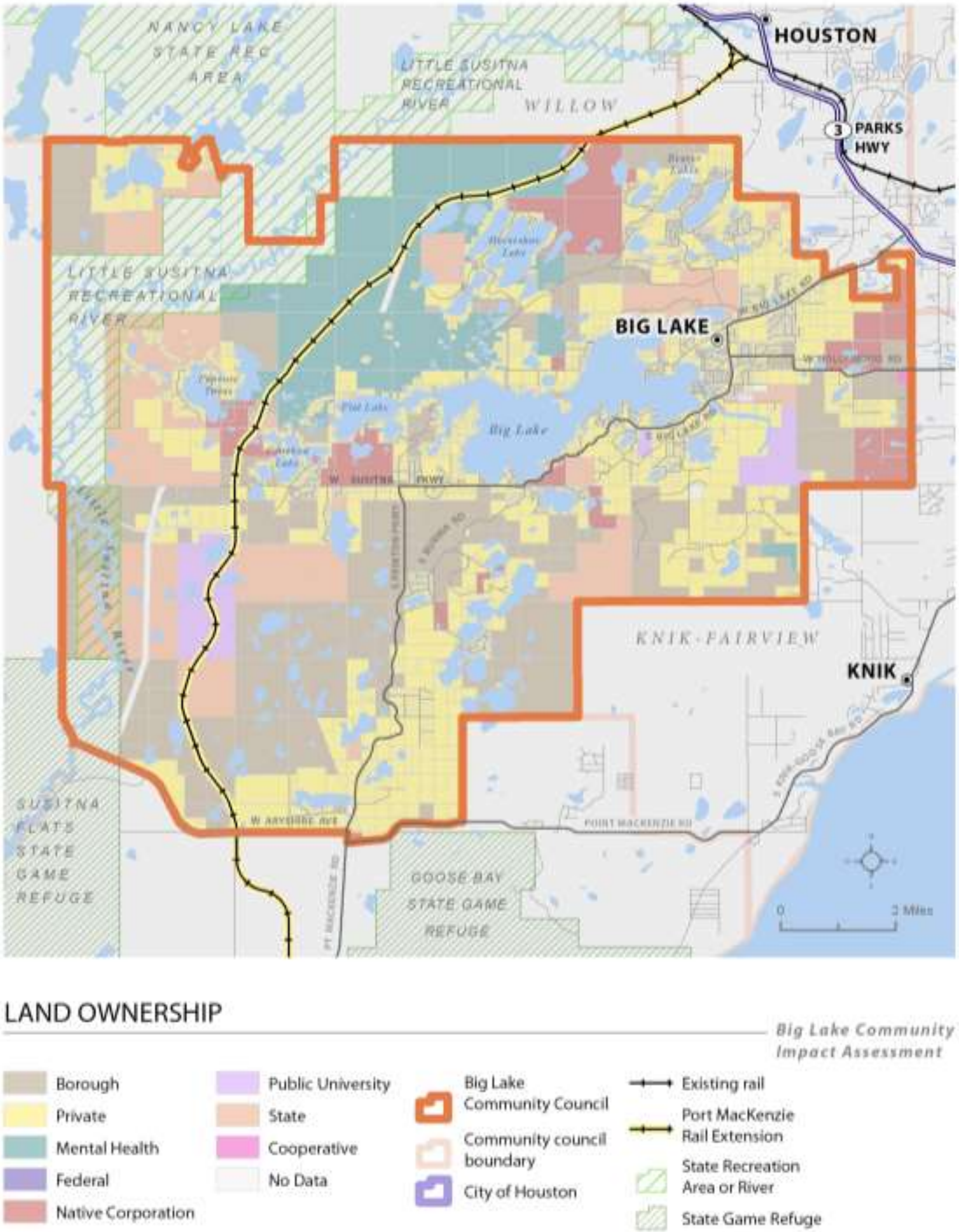


Table 3-4 Land Ownership, 2010

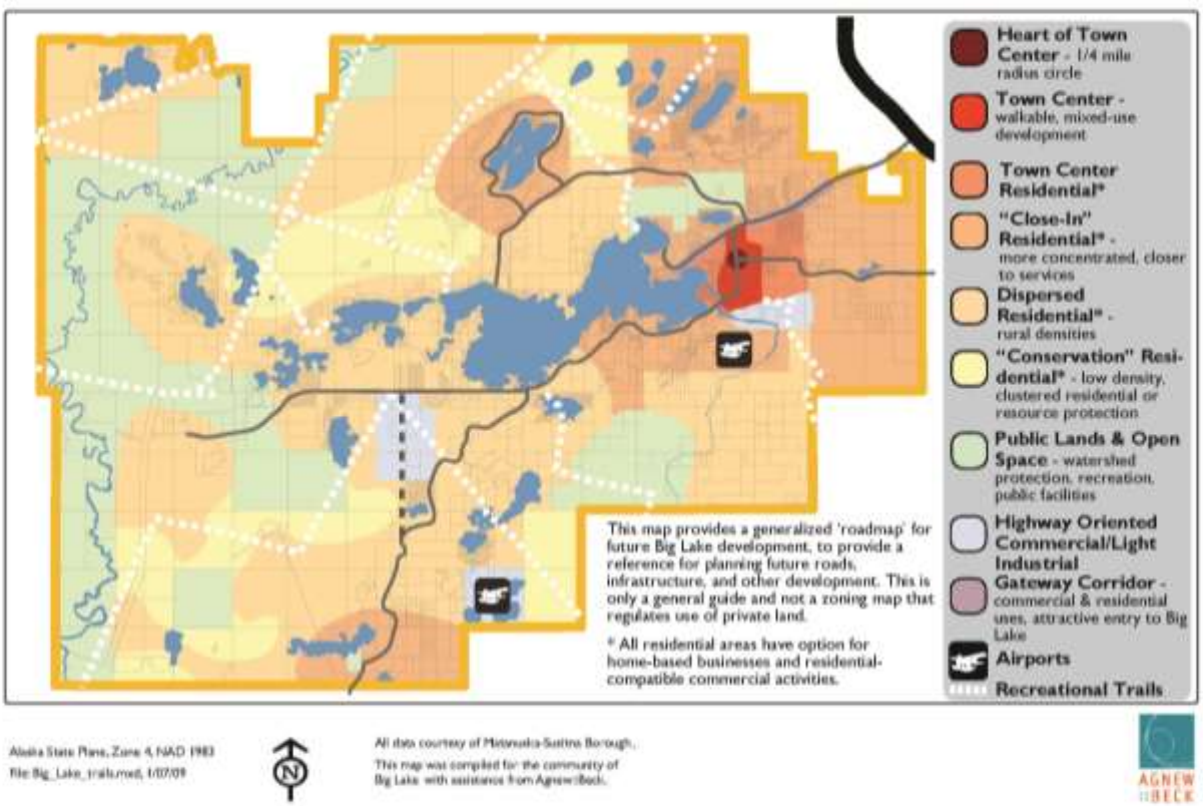
Land Owner	Acres	% Total
MSB	20,350	23%
Cooperative	47	0%
Federal	8	0%
Mental Health Trust	8,827	10%
Native Corporation	4,369	5%
Private	25,176	29%
Public University	1,935	2%
State	9,769	11%
NA	8,736	10%
No Data	7,479	9%
Total	87,371	100%

Source: 2010 MSB GIS parcel data

More than a third of the land in the BLCC area is State or MSB land (Table 3-4). As the State and the MSB plan for the use of those lands, the community has the opportunity to identify properties for recreation, habitat, and watershed purposes, as well as to identify specific areas for new development.

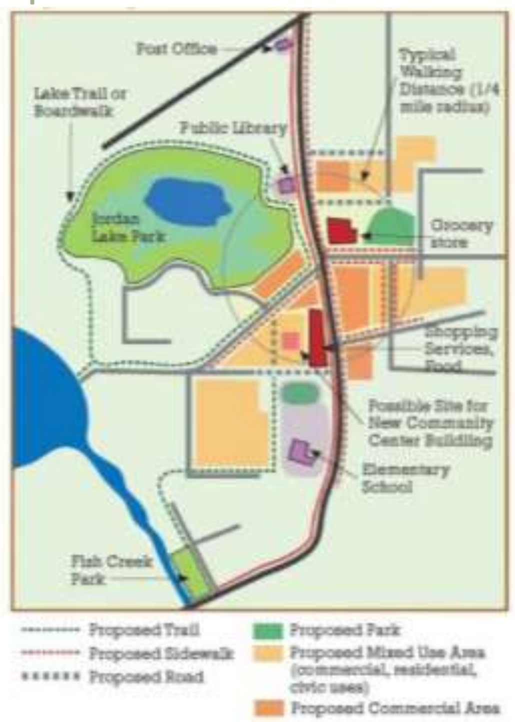
As part of the Big Lake Comprehensive Plan Update, a roadmap to future land use decisions was developed (Figure 3-5). Uses identified in the roadmapmap include a Town Center area (described below) and a range of other uses, which are summarized in Section 3.10, Planned Development.

Figure 3-5: Big Lake Comprehensive Plan Roadmap



Town Center. A Town Center is defined as the location where commercial development should be concentrated within a one-quarter mile radius. A Town Center should, in addition to being concentrated at its center, be walkable and include a mix of uses. The Big Lake Town Center (BL Town Center) was determined by the community to be located at the corner of Hollywood Boulevard and Big Lake Road (Figure 3-6).

Figure 3-6: Proposed Big Lake Town Center Plan from the 2009 Big Lake Comprehensive Plan Update



Residential Uses. The roadmap (Figure 3-5) calls for providing a range of residential uses, including higher densities close to the BL Town Center and more dispersed residential uses throughout the community.

The roadmap (Figure 3-5) also identifies key areas where land should be protected for watersheds, recreational opportunities, public facilities, and the need to develop a gateway commercial and a highway-oriented commercial corridor.

3.10 Planned development

The planned development in the Big Lake area includes both private development and public improvements and facilities. There are four categories that describe the different types of development occurring now or possibly in the future: small subdivisions, larger subdivisions, possible future subdivisions, and upsizing current homes.

Small Subdivisions. According to the MSB Platting Division, the MSB processes approximately five small subdivisions per year in the Big Lake area. Typically in Big Lake, small subdivisions are the result of landowners who subdivide a lot into two or three lots, which are then sold to those interested in building housing.

Larger Subdivisions. Currently, the MSB is processing one eight-lot subdivision off South Big Lake Road, between Jade Lake and Big Lake. According to the MSB Platting Division, larger subdivisions similar to this one are rare.

Possible Future Subdivisions. With the availability of large tracts of vacant land owned by public, private, or institutional land owners (Alaska Mental Health Trust, the State, the MSB, Alaska Native corporations, and individual private owners), there is the possibility for the development of larger subdivisions in and around Big Lake. Additionally, future development on larger tracts of vacant land will be informed by the *Big Lake Comprehensive Plan* and the development regulations in place to implement the Plan's policies.

3.11 Community focal points and informal meeting places

Like people in many low-density rural communities, most Big Lake residents and visitors enjoy their privacy and the chance to get away from the hustle of more urbanized areas. At the same time, community members enjoy the chance to interact with friends and neighbors.

Current community focal points and gathering areas where Big Lake residents connect with their family, friends, and neighbors are listed below. The majority of these locations are located in "downtown" Big Lake (Figure 3-2).

- Post Office
- Big Lake Elementary School
- Library
- Several local grocery stores and restaurants, such as the Big Lake Super Store (Tesoro Station), Steve's Food Boy, and Big Lake Family Restaurant
- Churches, including Faith Bible Fellowship Center and Our Lady of the Lake Catholic Church
- Outdoor gathering places, including Jordan Lake Park and Fish Creek Park, North and South State Recreation Sites, and the community trail system
- Big Lake Lion's Club
- Burkeshore Marina and Big Lake Powersports/South Port Marina
- Fire Station

As in all communities, much of the socializing in Big Lake occurs in private homes. Also important are the still-private, but more visible, docks and yards that front on local lakes.

The *Big Lake Comprehensive Plan* outlines goals and strategies to improve opportunities for "public life." These include improving the BL Town Center, adding a new community center, and developing a better, more extensive, and pedestrian-friendly system of Town Center roads and sidewalks.

4.0 Big Lake Impact Assessment

4.1 Introduction

This chapter presents an analysis of the potential highway alternative for the community of Big Lake in accord with the FHWA's publication *Community Impact Assessment: A Quick Reference for Transportation*[5]. The analysis examines the relationship between the proposed National Highway System connections and community life in Big Lake.

The following topics have been studied for this analysis:

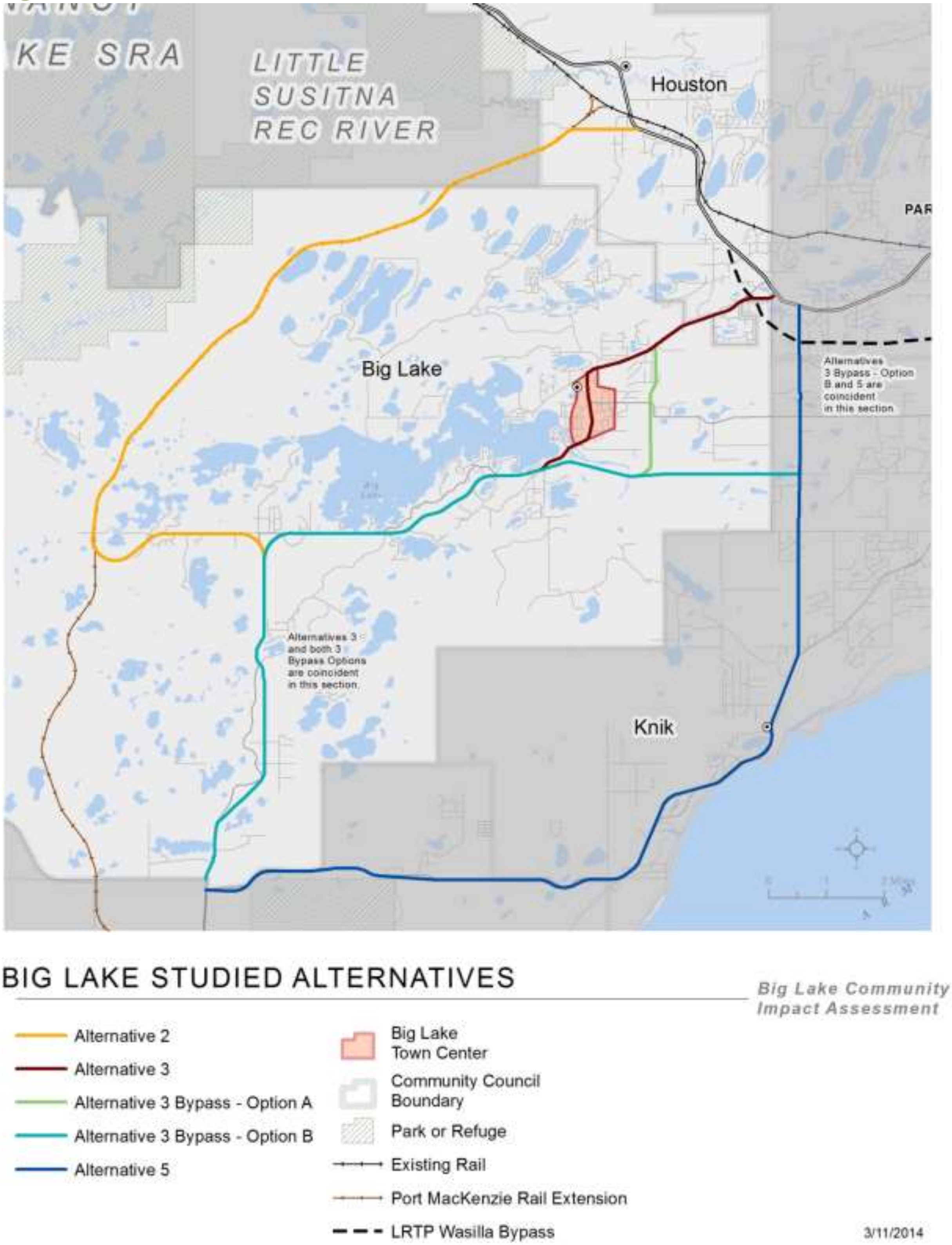
- Land use
- Mobility and Access
- Economic Conditions
- Public Services
- Physical
- Visual
- Safety
- Displacement
- Social and Psychological
- Build Out Analysis

Only the Alternatives 2, 3, 3 Bypass Option A, 3 Bypass Option B, and 5 are studied in detail in the CIA (see Figure 4-1). For the purposes of this analysis, Alternative 3 represents the baseline because it is the route that DOT&PF had originally proposed. The following general considerations guided the analysis:

- Recognizing both positive and negative impacts;
- Considering short-term and long-term impacts;
- Identifying secondary and cumulative effects;
- Identifying impacts relative to community goals as expressed in the *Big Lake Comprehensive Plan*;
- Incorporating public concerns and issues identified through our public outreach;
- Focusing on primary issues or topics of potential controversy; and
- Recognizing that the big drivers of change in the community will be the incremental growth of the MSB as a whole, and the construction of the Knik Arm Crossing. More direct access to Anchorage and 3 percent annual population growth will make Big Lake a very different place. The specific corridor chosen is an important but secondary change.

[5] A section on the MSB Build Out Analysis was added by request from the community.

Figure 4-1: CIA Evaluated Alternatives



4.2 Land Use

This section evaluates and compares the expected land use impacts of the five alternatives. It considers the land to be used for the highway connection as well as the development potential for adjacent areas. Conclusions about the impacts of the road on land use reflect consideration of several factors: the physical characteristics of the land, current land ownership and land uses, and broader trends in the regional and statewide economy.

As discussed in more detail below, the five alternatives are likely to have quite different effects on land use.

- Alternative 2, on the west side of Big Lake, crosses through land with physical constraints, including poorly drained soils and a planned adjoining railroad line. While this route provides road access to previously inaccessible areas, the amount of development is expected to be limited.
- Alternative 3 crosses the BL Town Center, and would bring increased mobility and traffic into and through the existing community. This would accelerate growth and change in the area.
- Alternative 3 Bypass Options A and B would avoid the disruption to the BL Town Center, while still bringing better access and commercial opportunities to the area.
- Alternative 5 would have relatively limited impacts on Big Lake, as it passes to the east of the BLCC boundary.

Table 4-1 summarizes the potential land use impacts

Table 4-1: Land Use Impacts Summary

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
Expected changes in land use?	• Minor, mostly along New Burma Rd. • Intersection at New Burma/ Susitna Pkwy develops as a commercial center. • Railroad is a barrier to change to the west. • Moderate effects on Houston Town Center.	• Major changes in BL Town Center. • Intersection at New Burma/ Susitna Pkwy develops as a commercial center.	• Major changes east of BL Town Center. • Intersection at New Burma/ Susitna Pkwy develops as a commercial center.	• Intensification of commercial/ residential uses along southern Knik-Goose Bay and Johnson roads. • Moderate effects on northern Knik-Fairview community.
How will growth along the corridor be affected by land quality?	• Limited growth potential since 70% of land adjoining this route is poorly drained and is	• Moderate to high growth potential since less than 5% of land along this route is poorly drained; portions have	• Low to moderate growth potential since 50% of adjoining land along the bypass routes is poorly drained and	• Moderate growth potential since 20-30% of land adjoining this route is poorly

Impact Category	**Alternative**			
	2	**3**	**3 Bypass (A&B)**	**5**
	relatively costly to develop.	topographic limitations increasing development costs.	is relatively costly to develop.	drained and is relatively costly to develop.
Vacant land available for development?	• Large majority of land along this route is vacant and undeveloped and is located both east and west of railroad. Development is limit by soil conditions and wetlands.	• Much of this corridor already has road access and existing development; land available along New Burma Road corridor.	• Large majority of land along east-west portion is vacant; northern portion already has road access and is 50-60% developed.	• Large majority of land along east-west portion is vacant; northern portion already has road access and is 50-60% developed. Further northern development limited by wetlands and soils.
Likelihood to develop into unplanned commercial strip?	• Least likely to divert traffic from BL Town Center. Traffic through downtown could create commercial pressure. • Increased traffic in Houston may lead to increased pressure.	• Substantial pressure on BL Town Center. • Could become a commercial strip with frontage roads.	• Little pressure on BL Town Center. Should develop more like Eagle River.	• Pressure on BL Town Center avoided. • Growth pressure will shift east.
Consistent with Land Use Policies in the *Big Lake Comprehensive Plan*?	• Consistent. Most of route designated "conservation residential" – low density and/or clustered residential.	• Arterial through BL Town Center is inconsistent with Plan's Town Center goals. • Route serves area designated for a combination of commercial and residential uses.	• Consistent. Most of route designated "dispersed residential" or "close in" residential.	• Avoids major conflicts with Plan by running along the east edge of the BLCC.
Effects on the *Big Lake Comprehensive Plan* vision for road?	• This alternative opens up the opportunity for a new road on the west and north side of Big Lake, as recommended	• The Plan identifies the need to reserve a corridor that travels slightly east of downtown Big Lake, not through downtown as shown	• The Plan identifies the need to reserve a corridor that swings slightly east of downtown Big Lake (similar to Option A), not 4-5	• Little effect on planned roads in Big Lake.

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
	by the Plan.	in this alternative.	miles east of downtown as shown in Option B.	

The key findings are:

- Alternative 3 is expected to have the most impact on land use in the BL Town Center, and Alternative 2 will have the least impact.
- Alternative 3 has the most potential for development, as land along this corridor is better suited for construction, but it also has the most existing development.
- Alternative 3 is the least consistent with the *Big Lake Comprehensive Plan.*

Bringing a major highway into the Big Lake area would lead to several types of land use changes, including direct impact to areas dedicated to road construction. Table 4-2 shows the amount of land converted to transportation use and distinguishes between land in the BLCC area and the total area affected by any given route. As the table shows, the five routes convert quite different amounts of land. Alternative 2 converts the largest number of acres of land within the BLCC (912 acres), followed by Alternatives 3 (801.7 acres) and 3 Bypass (763.8 acres). Alternative 5 is located mostly south and east of Big Lake and converts only 10 acres within the BLCC boundaries.

Table 4-2: Land Use within the BLCC Converted to Transportation/ROW Use (Acres)

Land Use Category	Alternative									
	2		3		3 Bypass				5	
					Option A		Option B			
	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total
Residential	82.7	92.7	132.0	140.0	167.5	175.0	137.4	218.5	1.0	216.3
Transient Lodging	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Mobile Home	2.6	2.9	2.0	3.4	3.3	3.7	1.8	9.4	0.0	11.2
Residential/ Commercial	0.0	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	22.3	22.5	6.3	6.5	2.9	6.0	0.0	5.6
Industrial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufacturing	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	0.0	0.0
Churches	0.0	0.0	1.7	1.7	0.0	0.0	0.0	0.0	0.0	2.6
Communications	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	0.0	8.5	8.5	0.0	0.0	0.0	0.0	0.0	0.0
N/A	0.0	1.5	1.8	2.0	3.0	3.1	1.8	1.8	0.0	2.1
Public Administration	0.0	0.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	3.2
Recreation*	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
ROW/Vacant	24.6	32.4	40.9	40.9	0.0	0.0	35.2	41.7	0.3	167.2

Land Use Category	Alternative									
	2		3		3 Bypass				5	
					Option A		Option B			
	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total
Transportation	0.0	0.0	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Vacant	798.7	952.6	581.8	616.7	619.8	673.1	581.3	650.6	8.8	505.7
Total	912.0	1,085.6	801.7	846.3	803.2	864.7	763.8	931.4	10.1	913.9

Note: Based on a 400-foot corridor. Totals may not match due to rounding.
*This information reflects the land use categories listed in the MSB GIS data. Land may be used for more than one purpose. For example, transportation corridors using undeveloped ground are often used for recreational trails, hunting, etc.

4.3 Mobility and Access

The new highway connection will change traffic patterns in Big Lake because it provides a new route for drivers to use. Changes in traffic patterns will largely depend on the proximity of residents to the alternative. Alternative 2 is more likely to change traffic patterns for residents located to the west of the PMRE by giving them a new route to access the Parks Highway and West Susitna Parkway. Alternative 2 will have a lesser change on traffic patterns for residents east of the alternative because of the limited number of crossings of the PMRE. Alternatives 3, 3 Bypass Options A or B, and 5 will have minor changes in traffic patterns because they are largely following existing roadways. Alternative 3 and 3 Bypass Options A and B is likely to have the biggest impact on those living near South Big Lake Road and the BL Town Center. Alternative 5 will have a bigger impact on traffic patterns for those living on the eastern edge of the BLCC boundary.

Due to the higher speeds and lack of stop lights, the highway is expected to attract traffic away from other roads which may result in traffic volumes decreasing on other roadways. Changes in traffic patterns will also depend on the type and amount of development located along the road. Areas with new development, especially commercial/retail development, are likely to cause people's travel patterns to change as they start to access new destinations. Table 4-3 summarizes mobility and access by alternative.

Table 4-3: Mobility and Access

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
Change to Traffic Patterns	• Port to Parks Highway through traffic will be mostly west of BL Town Center. • A certain level of traffic will still tend to use Big Lake Rd. with congestion in the BL Town Center. • Moderate increase to Houston Town Center.	• Least changes as alternative mostly follows established roads; controlled access will eliminate some existing connections to existing routes.	• Minor changes as alternatives mostly follow existing roads; controlled access will eliminate some connections to existing routes.	• Minor changes as alternative mostly follows existing roads east of Big Lake; controlled access will eliminate some connections to existing routes. Unlikely to see sharp increase on local Big Lake roads.

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
Change To Traffic in Town Center	• Moderate effect. Traffic will still tend to use Big Lake Rd. with added congestion in BL Town Center. • Additional commercial traffic and possible congestion in Houston Town Center.	• Greatest increase in traffic because it bisects the BL Town Center	• Moderate because of their close proximity to BL Town Center. Bypass options will tend to moderate the effect downtown. • Option A will make a bigger difference than Option B.	• Minimal effect to BL Town Center. • Likely to have a substantial affect to South Knik Goose Bay and Johnson roads. • Will remove Port traffic from BL Town Center
Public Transit	• Unlikely to increase transit service.	• Unlikely to substantially increase transit service as it does not provide a direct route between Wasilla and Anchorage. • Potential for park and ride service.	• Unlikely to substantially increase transit service given it does not provide a direct route between Wasilla and Anchorage. • Potential for park and ride service.	• Would provide the most direct route from population centers in MSB to Anchorage via KAC. • Potential for park and ride service.
Pedestrian and Bicycle Access	• Roadside trail may result in slight improvement.	• Roadside trail may result in slight improvement.	• Roadside trail may result in slight improvement.	• Roadside trail may result in slight improvement.
Change to Existing/ Planned Roads	• Minimal as mostly follows new alignment. • Upgrades and modifies Burma Road. • Creates new Parks Highway interchange at Houston Town Center.	• Substantial as it upgrades and modifies existing Burma and Big Lakes roads, converting them to highway • New interchange at the southern end of Houston at the Big Lake Road/Parks Hwy intersection.	• Substantial as most of the route would upgrade existing roads except for portions through the BL Town Center. Bypass will tend to moderate the effect downtown	• Substantial as it requires the reconstruction of existing Johnson/ Knik Goose Bayroads and other roads. • Johnson Road extension would be required.

The key findings are:

- Alternative 3 will have the biggest impact on traffic in the BL Town Center.
- None of the alternatives are likely to have a substantial impact on public transit and pedestrian and bike access.
- Alternative 2 is likely to have the least impact on the existing road system due to the route being a new roadway through wetlands where development has not occurred. Alternative 2 added a new highway which expands the roadway network compared to other alternatives which may replace some existing roads with the highway. Congestion on some roadways in the area is possible.

The project will change existing or planned roads because of the need to develop a supporting road network that allows people to get to/from the proposed project. The degree of impact on existing/planned roads will depend on the final configuration and use of existing roadways. Some existing roadways may be upgraded as a part of the new road corridor. Others may act as frontage roads to new construction. The final configuration will not be decided until a later date. Existing or planned roads likely to be impacted are summarized in Table 4-4.

Table 4-4: Effects on Existing or Planned Roads

Change	Alternative			
	2	3	3 Bypass A & B	5
Likely to need upgrade or major modification	• W. Susitna Pkwy west of S. Purinton • W. Millers Reach Road between the new highway and the Parks Highway	• S. Burma Road between Port MacKenzie Road and S. Purinton • S. Purinton between S. Burma and W. Susitna Pkwy • W. Susitna Pkwy between S. Purinton and S. Big Lake • S. Big Lake Road	• S. Burma Road between Port MacKenzie Road and S. Purinton • S. Purinton between S. Burma and W. Susitna Pkwy • W. Susitna Pkwy between S. Purinton and S. Big Lake • S. Big Lake Road • Hughes Homestead Road • Sunset Ave • Johnson Road between Sunset Ave and Parks Highway	• Port MacKenzie Road • Knik Goose Bay Road • Johnson Road
Roadway so longer connected				• Brocker Lake • Clay Chapman • Sunset • No Name

In all alternatives, there will be some roads that no longer allow through traffic. At the highway, the road will either be changed into a dead-end road or connected to a frontage road with ultimate access at a highway interchange. For example, on Alternative 5, traffic will not be able to directly connect to Johnson Road from Sunset Avenue. When the project is built, traffic will only be able to use interchanges and will have to use a frontage road or other road to access connecting streets.

4.4 Economic Conditions

All five corridors have the potential to increase economic activity. Economic activity and employment is likely to develop along each alternative although the type and quantity of activity will vary depending on land use. Economic impacts are summarized in Table 4-5.

Table 4-5: Economic Conditions Summary

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
Business Impacts	• Limited/neutral business impacts to the BL Town Center. • Businesses will likely develop at the New Burma Road/Susitna Pkwy junction. • Potential increase in business activities in Houston.	• Substantial impacts to the BL Town Center. Will bisect, relocate, and spread out the core business district making it more highway/ auto-oriented. • Businesses will likely develop at the New Burma Road/Susitna Pkwy junction.	• Would divert development from the BL Town Center but would leave the core intact. • Potential for increased business development along the east/west corridor running to the Johnson Road north/south corridor. Development may be limited by poor soils.	• Limited business impacts to the BL Town Center. Businesses will likely develop along Johnson Road north/ south corridor and S. Knik Goose Bay Road. There may be some business development pulled away from BL Town Center. Commercial development may occur near the Big Lake Road and Hollywood intersection.
Employment Impacts	• Concentrated along Burma Road and Susitna Pkwy with a minor potential for diversion away from the BL Town Center. Houston could see additional employment at northern intersection with the Parks Highway. • Potential increase in service sector jobs in Houston.	• Highest potential for direct employment effects (both positive and negative) for the BL Town Center. • Road development would divide the BL Town Center and could lead to sprawl style strip development. • Moderate increase to southern Houston in the Big Lake Road/ Parks Highway intersection area.	• Corridor could pull employment from the BL Town Center while leaving it physically intact. • Highest direct employment effects would be felt at the intersection with Johnson Road, along Burma Road, and at the along the Johnson /South Knik-Goose Bay roads.	• Lowest direct employment potential for BL and the highest for south and west Knik-Fairview Community Council. Big Lake employment would likely be limited to the Burma/Ayrshire road junction. The west end of Hollywood is likely to develop commercially and may provide a second gateway to the BL Town Center. Knik area employment could be spread along the road corridor.
Big Lake Tax Base	• Big Lake lacks direct taxing authority. Limited	• Big Lake lacks direct taxing authority. Increased	• Similar to Corridor 2 with less direct effect on the BL	• Corridor 5 would likely have limited direct effect on Big

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
	potential MSB property tax base increases at road termini and junctions.	development within the BLCC could increase Big Lake tax base over time.	Town Center and more development towards the eastern edge of the BL CC.	Lake's future tax base. Future tax base could develop to the east.

The key differences between the alternatives are:

- Alternative 3 would bisect the BL Town Center, while the other alternatives would keep it intact.
- Alternative 3 is likely to focus employment in the BL Town Center area, while the other alternatives are likely to result in employment dispersed along the corridor.

4.5 Public Services

Table 4-6 summarizes impacts to public services by alternative.

Table 4-6: Public Services

Impact Category	Corridor			
	2	3	3 Bypass (A&B)	5
Public Facility Relocations or Impacted (within 0.25 mile)^	• No existing public facilities identified along corridor.	• Potential effects to Fire Station 8-1, Library and Post Office. Each of these facilities is within 0.25 mile.	• No existing public facilities identified along the corridor.	• No identified public facilities affected in BLCC. Corridor is adjacent/near to proposed Knik school campus.
School Impacts	• No impact	• Impact to Big Lake Elementary School.	• No Impact	• May provide more direct access to the Knik school campus.
Parks and Recreation Areas		• Impacts to Fish Creek Park and Jordan Lake Park		
Big Lake Trail Impacts*	• Substantial (9 trail crossings)	• Moderate (4 trail crossings)	• Moderate (A has 6 trail crossings and B has 5)	• Minimal (0 trail crossings)
Total Trail Crossings*	• Substantial • (10 trail crossings)	• Moderate • (4 trail crossings)	• Moderate (A has 6 trail crossings and B has 5)	• Minimal (2 trail crossings)

^Public facility generally refers to a building or structure used for government or civic purposes such as post offices, police stations, libraries, post offices, etc.
*Only officially recognized trails were analyzed. Trails may be crossed multiple times.

Key findings include:

- Alternative 3 is the only alternative likely to impact existing public facilitates.
- Alternative 3 is the only alternative to impact the Big Lake Elementary School.

- While all alternatives are likely to impact lakes, open spaces and other areas used for recreational purposes, only Alternative 3 will impact official parks (Fish Creek and Jordan Lake parks)
- Alternative 2 has the highest number (10) of trail crossings impacted, while Alternative 5 has the fewest (2).

4.6 Physical

Traffic related noise is likely to increase near each of the alternatives. Traffic noise may be more noticeable in areas that are currently undeveloped or have very few noise sources. The level of traffic noise that occurs will vary depending on the amount of traffic, type of vehicles on the roadway, and the level of ambient noise. The project has a 400 foot ROW meaning property boundaries will be approximately 150 feet away feet away from the highway (in areas with a frontage road, the distance between the road edge and the property boundary is approximately 80 feet). These separations act as a noise buffer to help reduce noise on nearby properties. Traffic noise is usually a concern for noise-sensitive land uses within 500 feet of the roadway edge.

Table 4-7 summarizes the physical conditions impacts, including noise, walls or barriers, and dust and/or odors, for each alternative.

Table 4-7: Physical Conditions

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
Noise	• Least effect as it has the most undeveloped land. PMRE embankment will help shield noise. • Some effect to Houston Town Center	• Traffic related noise will increase and has the highest potential to impact noise sensitive land uses concentrated in BL Town Center. • Will affect residential areas south and east of Big Lake.	• Increase in traffic related noise in residential areas. Bypass lessens affect in BL Town Center. • Will affect residential areas south of Big Lake.	• Increase in traffic related noise expected to increase d along Johnson/ Knik Goose Bay roads and as it • passes by proposed Knik school campus.
Presence of walls or other barriers	• PMRE embankment is a barrier to being able to cross the corridor except at limited designated intersections.	• Fencing is likely through developed areas; similar to Seward Highway in Anchorage if noise impact criteria are exceeded and meets noise policy requirements.	• Fencing is likely through developed areas; similar to Seward Highway in Anchorage if noise impact criteria are exceeded and meets noise policy requirements.	• Fencing is likely through developed areas; similar to Seward Highway in Anchorage if noise impact criteria are exceeded and meets noise policy requirements.
Dust/Odor	• Least impact due to lack of adjacent development.	• Increased dust from winter sanding and truck traffic especially on	• Increased dust from winter sanding and truck traffic will affect	• Increased dust from winter sanding and truck traffic will affect

	• Limited impacts to Houston during construction.	the south and east sides of the lake and BL Town Center	people on the south side of Big Lake.	people along Johnson/ Knik Goose Bay roads. • Minor impact in Big Lake.

Key findings include:

- All alternatives will be similar in that sections will be fenced for safety reasons or noise mitigation. The PMRE will be an additional barrier in Alternative 2.
- All alternatives will result in an increase in traffic noise. The increase in noise will have more of an impact in areas with residential development.
- All alternatives are similar in that dust will increase due to winter sanding. The impact will depend on the amount of adjacent development.

4.7 Visual

Visual impacts of the road will vary depending on the width of the road, the presence or absence of frontage roads, and the uses that may develop along the road.

As described above, the corridor to be established will be 400 feet wide, allowing for four travel lanes (two in each direction), and frontage roads on each side of the highway. Initially this highway may be limited to two lanes, and only grow to four lanes or four lanes with frontage roads, at a later date as traffic demands.

Large portions of the four alternatives pass through land that is currently undeveloped, or areas designated by the community plan for low density residential uses. If the new road eventually triggers substantial development along adjoining frontage roads, particularly commercial development, changes in the visual environment will be significant. Where the highway in Big Lake has limited access and no adjoining development, visual impact will be reduced.

Another key factor affecting visual impacts is the nature of the terrain. In areas that are fairly flat and lack many trees (e.g., the northern half of Alternative 2), the road and accompanying development would be more visible than in rolling, tree-covered terrain where topography and/or vegetation would limit visibility. Conversely, construction of a major highway in hilly terrain requires more terrain-altering cuts and fills.

Finally, visual impacts are noticeable to the degree there are already people and activities in the area. For example, there is little development (but significant winter recreation use) in the vicinity of Alternative 2. In contrast, many people live and recreate in the vicinity of Alternative 3.

Table 4-8 summarizes the visual impacts of the four alternatives.

Table 4-8: Visual Conditions

Impact Category	Corridor			
	2	**3**	**3 Bypass (A&B)**	**5**
How will the routes affect Big Lake's visual character?	• Land mostly vacant and undeveloped fewer people to see the new road. • May substantially affect visual character at trail crossings. • May substantially impact Houston Town Center.	• Would significantly change the visual character along the entire route from Ayrshire to Parks Highway • Changes would be less significant along the B.L. Road commercial corridor near the Parks Hwy. • Highway through downtown would substantially change the visual character.	• Similar impacts as Alt 3. The bypass east of B.L. is currently mostly vacant and undeveloped, but a new road in this area would substantially change the visual character.	• Much of this route already has road access, and existing development. Expansion of the highway along existing KGB road would create less significant visual impacts than along undeveloped sections of the Johnson Road segment of this and compared to the other alternatives.

Key findings include:

- Alternative 2 is likely to be seen by the fewest number of people but passes through the most undeveloped natural areas. It is adjacent to the PMRE.
- Alternative 5 is likely to have the least visual impacts since much of this alignment follows existing roads.

4.8 Safety

Traffic safety is likely to change as a result of the project. As the project will increase the amount of traffic in the area, the number of traffic accidents in Big Lake is likely to increase. However, divided highways tend to be safer than other roadway types because of the lack of turning traffic and the reduced potential for head-on collisions. Alternative 5 is largely outside the BLCC and is not expected to result in a substantial change to traffic safety in Big Lake.

Table 4-9 summarizes impacts on traffic safety, pedestrian and bicycle safety, crime, and emergency response times.

Table 4-9: Safety Summary

Impact Category	Alternative			
	2	**3**	**3 Bypass (A&B)**	**5**
Traffic Safety	• Controlled access improves safety by reducing conflict points. This route will likely have lower traffic volumes. Traffic will still use and increase along Big Lake Road increasing traffic/safety conflicts in the BL Town Center. • More likely to have wildlife related traffic incidents.	• Controlled access improves safety by reducing conflict points. • Big Lake residents would be the main users of this route. • Increased traffic through BL Town Center may increase safety conflicts in BL Town Center.	• Controlled access improves safety. Big Lake residents would be the main users of this route. Traffic bypasses downtown, less safety conflicts there with a bypass.	• Controlled access improves safety. • This alternative serves the greatest population density meaning most benefit to the traveling public.
Pedestrian and Bicycle Safety	• Least likely to be used by pedestrians and bicyclists as a transportation route because these is less potential for nearby development. • Potential impact to more developed areas of Houston.	• Pedestrian and bicycle crossings and related facilities will be incorporated into the final design to address BL Town Center needs. • Potential impacts in the southern Houston area.	• With bypass, most impacts to the BL Town Center are averted. • Option A may have potential impacts in the southern Houston area. • Option B has no impacts to Houston since the highway ties into Johnson Road well east of Houston's city limits.	• Little affect on pedestrians or bicycles in BLCC since development occurs along its eastern boundary.
Crime	• Unlikely to change	• Unlikely to change	• Unlikely to change	• Unlikely to change
Emergency Response Times	• Least change in response time. Out of the way nature makes it less useful for core population areas. • May require additional facilities in Houston.	• Generally faster response times to and from BL Town Center though increased congestion in the Town Center may cause some delays during peak hours.	• Faster response times to and from BL Town Center.	• Little change to response times in the BLCC. Potential improvement elsewhere. Connects into highest population centers.

Key findings include:

- Alternative 3 is likely to have the biggest change on pedestrian and bicycle safety because of its proximity to the BL Town Center.
- All alternatives are unlikely to change crime.
- All alternatives increase access and should improve emergency response times. Alternative 2 is likely to see the smallest reduction in response time, while Alternative 3 is likely to result in the biggest reduction in response time.

4.9 Displacement

For each alternative, a 400 foot ROW [6] would be acquired by DOT&PF. While less ROW could be acquired for the initial two-lane highway, acquiring enough ROW for the ultimate four-lane divided highway is preferred because it ensures the ROW is available when it is needed, and helps reduce the possibility of incompatible development occurring. It would also reduce the ROW cost in the long-term as land prices typically increase over time. ROW for each alternative will need to be acquired from multiple land owners before the project can be built. Figure 3-4shows a map of land ownership. Table 4-10 summarizes land acquisition by ownership.

The amount of land acquired from any given parcel is typically not known until the final design has been developed. For example, roadway designs often shift to avoid taking property from both sides of a roadway, to acquire land from undeveloped parcels, publically owned land, etc.

Table 4-10: ROW Land Ownership in the BLCC

Owner	Corridor									
	2		3		3 Bypass				5	
					Option A		Option B			
	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total
Private	242.1	279.7	412.7	456.2	448.8	492.3	413.1	553.9	7.2	588.2
MSB	209.2	209.2	143.7	143.7	154.5	154.5	181.4	182.0	1.9	21.5
State of Alaska	23.6	23.6	35.9	35.9	42.2	42.2	23.9	29.1	0.0	5.2
Mental Health Trust	327.6	327.6	0.0	0.0	0	0	0.0	0.0	0.0	10.6
Federal	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0
City	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0
Cooperative	0.0	0.0	1.2	1.2	0	0	0.0	0.0	0.0	2.7
Public University	0.0	0.0	4.6	4.6	35.5	35.5	27.0	27.0	0.0	46.2
Native Corporation	68.2	188.9	31.0	32.1	32.1	32.1	53.3	56.2	0.7	44.0
Unknown	42.9	56.6	172.6	172.6	90.1	108.1	65.1	83.2	0.3	195.5
Total	913.5	1,085.6	801.7	846.3	803.2	864.7	763.8	931.4	10.1	914.0

[6] Property will be acquired in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisitions Policy Act on 1970, as amended. This would ensure that impacts to property owners are minimized and that just compensation of all properties is paid to owners and tenants of the impacts property.

Key findings include:

- Alternative 2 would require the most ROW, while Alternative 3 would require the least.
- Alternatives 2, 3, 3 Bypass, and 5 would involve acquiring a substantial amount of land from private owners.
- Alternative 2 would acquire substantial amounts of land that is owned by the MSB and the Alaska Mental Health Trust.
- Most of the land needed for Alternative 3 or Alternative 3 Bypass Option A and B is within the BLCC.
- Most of the land (98.9 percent) needed for Alternative 5 is outside the BLCC.

The land along Alternative 2 is largely undeveloped and will likely not require many, if any, business relocations. This corridor is along the PMRE. If the rail extension creates new development, the amount of business relocations is likely to increase. The most likely area for business relocations is where the highway connects to the Parks Highway.

Alternative 3 is likely to have the most business relocations as there are concentrations of businesses in the BL Town Center and along Big Lake Road.

The number of business relocations may be minimized by refining the location of the highway and by implementing access management policies that prevent new development from occurring along the alternative.

4.10 Social and Psychological

Big Lake is currently a small community with many of the social features often found in small towns. The majority of people living in the community share strong ties, in particular, a connection to outdoor recreation and open space. The combination of the community's small size and the common bond to the outdoors means people tend to share social values and know many of their neighbors.

Table 4-11 summarizes the potential impacts to the social characteristics of the community and the community's overall quality of life.

Table 4-11: Social and Psychological Summary

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
How will the routes affect "downtown" Big Lake?	• Relatively little impact on cohesion; does not split established neighborhoods	• A route through the heart of downtown would be a substantial barrier affecting residential and commercial cohesion	• Avoids splitting BL Town Center. Creates a barrier with areas east of the BL Town Center. • Easterly version of the bypass avoids significant positive or negative effects on the BL Town Center's small town feel. • Location called for in the Plan would creates more of a barrier at the eastern edge of town.	• Relatively little impact within the BLCC.
How will the routes alter the size and social character of Big Lake?	• Least likely to encourage population growth due to its westerly location.	• Substantial effects through the center of the BL Town Center. • Would physically divide the community; more centered around autos and less around pedestrians.	• Avoids the heart of the BL Town Center, encouraging growth east of the community but with less disruption to downtown character.	• Largely outside of Big Lake. Less likely to lead to growth in Big Lake that would change its character. Likely to shift growth east of Big Lake affecting social character and growth to the east.
How will the routes affect residential neighborhoods?	• Minor. Majority of land is vacant and undeveloped. Section of road near Papoose Lakes would separate these areas from points east.	• Substantial. A major highway on this alignment would divide the residential neighborhoods along this corridor.	• Similar affects as Alternative 3. Bypass area is currently mostly vacant and undeveloped, having less effect on neighborhoods.	• Minor effects on Big Lake neighborhoods. A major highway on this route would impact the western and southern Knik-Fairview Community Council area.

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
How will the routes affect quality of life?	• Would alter the character of areas north, west, and south of Big Lake That are important for trails and make a large contribution to the experience and quality of life in the community.	• Substantial affect on the BL Town Center. Would affect the small town feel. Substantial effect on recreational/ residential quality of life along the south and east shores of Big Lake near the corridor.	• Easterly version of the bypass avoids major positive or negative effects on BL Town Center's small town feel. Substantial effect on recreational/ residential quality of life along the south shore of Big Lake.	• Largely avoids affects on Big Lake, only impacting its eastern boundary. • Will affect connectivity of and cohesion between Big Lake and Knik-Fairview. • Avoids areas of concentrated trail use.

Summary of key findings include:

- Alternatives 2 and 5 are least likely to change the character of the Big Lake Town Center.
- Alternative 3 would work against the community's goal of creating an active, walkable, mixed use "main street" environment.
- Alternative 2 is least likely to encourage population growth.
- Alternative 3 is most likely to change Big Lake's small town feel.

4.11 Build Out Analysis

The community of Big Lake requested that the CIA be compared to the MSB's *50 year Build Out Analysis*, prepared for the MSB by demographer Shannon Bingham. The build out analysis projects the amount and generalized locations of future development. It assumes a 3.09 percent annual growth rate and current land use patterns. The build out analysis assumes construction of the KAC, which leads to steady expansion of development of the land north of the proposed bridge. For Big Lake, the build out analysis shows the population growing from 3,300 to 15,000 people by 2060.

The *amount* of additional population growth in the MSB projected in the build out analysis is unaffected by the location of the proposed highway corridor. Rather, the *location* of population growth is affected by the location of the road corridor, as described in other sections of this report. Three illustrations of the way the assumptions in the build out analysis are integrated with this report are presented below:

Commercial Development: A primary assumption driving the location of growth in the build out analysis is the location of major road intersections. Three of the four highway alternatives would create an important commercial node at the intersection of the "new Burma Road" and the West Susitna Parkway. Expectations for growth at this location are the same in the build out analysis and the assessment in this report.

Residential Development: As discussed in previous sections, Alternative 2, the westernmost of the four corridors, is likely to spur less development along its boundaries than the other options because of physical constraints and its distance from centers of employment, services and facilities, and population. More growth is associated with the three more easterly alternatives. As noted above, the build out analysis assumes a fixed amount of residential growth, and the effect of the alternative road corridors would be moving that growth to different locations.

Density of Residential Development: The density of development depends on the water and sewer infrastructure serving an area. For example, on-site septic systems typically need one acre of land to meet applicable environmental standards. This limits the amount of development that can occur. Switching to public water and sewer can allow densities to increase substantially.

Table 4-12 summarizes the population increases that could potentially occur depending on the type of infrastructure (septic or public sewer).

Table 4-12: 2060 BLCC Build Out Population Predictions

Impact Category	Alternative			
	2	3	3 Bypass (A&B)	5
2060 BLCC Build Out Population Assuming KAC and New Parks Highway Connection with Septic				
Base Population	15,114	15,114	15,114	15,114
Route Impact	2,879	4,661	5,741/5,625	6,173
Total Population	17,993	19,775	20,855/20,739	21,287
2060 BLCC Build Out Population Assuming KAC and New Parks Highway Connection with Public Sewer				
Base Population	15,114	15,144	15,114	15,114
Route Impact	5,984	10,439	11,951/11,835	12,815
Total Population	20,498	25,553	27,065/26,949	27,929

The key findings are:

- The further east the alternative is, the more the future population shifts in that direction. Alternative 5 has the biggest shift in population while Alternative 2 has the smallest.
- The type of water and sewer infrastructure influences the amount of population change. Public water and sewer can support higher population densities than on site well and septic systems.

For additional information about the build out analysis, please see Appendix E.

5.0 Alternatives to be Carried Forward into Reconnaissance Engineering

In conclusion, all of the alternatives identified have positive and negative impacts on the Big Lake community and the MSB. The CIA demonstrates that Alternative 2 and Alternative 5 had the fewest impacts to the Big Lake community as these avoid going through the Big Lake Town Center by several miles. However, Alternative 2 is less desirable because, according to the traffic forecast, very little traffic will use this alternative. This route mainly serves freight traffic going between Port MacKenzie and Fairbanks but it does not provide service to traffic as a whole. Traffic will use other roadways such as Burma/Big Lake Road and Knik Goose Bay Road creating unacceptable levels on congestion on these routes. Alternative 3 Bypass – Option B has similar concerns. While the bypass would keep a highway out of the Town Center, traffic forecasting indicates traffic would remain on Big Lake Road in the Town Center resulting in high traffic volumes and congestion. While Alternative 2 and Alternative 3 Bypass – Option B avoid direct impacts to the Big Lake Town Center, they would result in negative impacts associated with traffic and congestion. Alternative 3 Bypass – Option A and Alternative 5 both avoid a highway in the Town Center and change traffic patterns in a way that avoids unacceptable levels of congestion in the Town Center thereby reducing impacts to the Big Lake community. Both of these alternatives were carried forward for additional study in the Big Lake Highway Reconnaissance Study (see Appendix F).

Alternative 3 appears to have the most impacts to the Big Lake community and Big Lake Town Center by dividing the community with a controlled access highway. Alternative 3 provides a baseline for comparing other alternatives because it was the route proposed by DOT&PF so it was also be carried forward for additional study in the Big Lake Highway Reconnaissance Study.

The Highway Reconnaissance Study refined the location and cost estimate of these three alternatives. The cost estimates for a four-lane highway range from approximately $572.8 million for Alternative 3 to $668.5 million for Alternative 3 Bypass – Option A. These costs should be considered a reconnaissance level estimate and will need to be refined as work on the project advances. One of the most expensive components of the cost estimate is ROW cost. Consequently, balancing ROW cost against other costs and impacts is an important consideration if the project moves forward.

The reconnaissance study concluded that additional analysis of ROW impacts and costs of maintaining access along existing roadways is needed to further refine estimates of costs and impacts. The current alternatives follow existing roadways for much of their length. Many of the parcels along each alternative have already been developed increasing the cost of this land and making access or purchasing access is an important consideration. Shifting the alternative to use more undeveloped land may reduce the ROW cost and reduce some of the impacts associated with a new highway. Additional engineering and environmental analysis, and coordination with stakeholders is required to balance engineering considerations, cost, and community concerns.

6.0 Conclusion

In conclusion, all of the alternatives identified have positive and negative impacts on the Big Lake community and the MSB.

The key findings for Alternative 2 are:

- The area near the New Burma Road/Susitna Parkway intersection is likely to develop as a commercial center
- Land use along Burma Road is likely to change
- Growth potential in areas adjacent to the alternative is limited from the end of Susitna Parkway to just south of Houston due to poorly drained soil.
- Approximately 912 acres in Big Lake Community Council (and 1,086 acres total) of land would be converted to transportation use
- Most land needed for right of way is owned by the Alaska Mental Health Trust, followed by private land, MSB land, and Native corporation land
- Consistent with *Big Lake Comprehensive Plan* as most of route designated “conservation residential” – low density and/or clustered residential.
- Least likely to divert traffic away from the Big Lake Town Center
- Traffic on Big Lake Road in the Big Lake Town Center could be close to 11,500 cars per day at Build Out (almost 5,000 more vehicles per day than 2012 traffic level of 6,510)
- Increased traffic on west side of Big Lake Community Council area
- No anticipated impacts to public facilities such as school, parks, and recreation areas
- Substantial impacts to the officially recognized trails in the area
- Least likely to change emergency response times
- Least impacts on community cohesion as it does not split established neighborhoods
- Least likely to encourage population growth that would alter the size and social character of the Big Lake community
- Would change the quality of life in the areas to the north, west, and south of Big Lake.
- Would have the lowest population at Build Out

The key findings for Alternative 3 are:

- Major changes in land use are anticipated in the Big Lake Town Center
- The intersection of New Burma Road/Susitna Parkway is likely to develop as a commercial center
- Has moderate to high growth potential as most land is considered suitable for development
- Much of the corridor already has road access and existing development. Land available for development along New Burma Road corridor.
- Approximately 802 acres in Big Lake Community Council (and 846 acres total) of land would be converted to transportation use
- Most land needed for right of way is owned privately or by the MSB
- Substantial changes to the Big Lake Town Center are anticipated including:

  - Physically dividing the Town Center into an east and west side which would have a substantial impact on community cohesion
  - Substantial pressure to covert the Big Lake Town Center into a commercial strip
  - May result in the core business area being spread out over a wider area
  - Town center may become more highway/auto oriented
  - Greatest increase in traffic volumes on Big Lake Road through the Town Center
  - Traffic on Big Lake Road in the Big Lake Town Center could be close to 21,500 cars per day at Build Out (substantially greater than the 2012 traffic volume of 6,510 AADT)
  - Highest potential for positive and negative direct employment effects in the town center
  - Highest potential for traffic noise to impact noise sensitive land uses in town center
- Inconsistent with *Big Lake Comprehensive Plan*
- Would potentially upgrade several existing roads to a four-lane highway
- Potential impacts to Fire Station 8-1, library, post office, and Big Lake Elementary
- Impacts to Fish Creek Park and Jordan Lake Park are anticipated
- Moderate impacts to the officially recognized trails in the area
- Potential for safety conflicts in town center between through traffic and local traffic
- Generally faster emergency response times are anticipated although congestion in the Town Center may cause delays during peak periods.
- Would negatively impact quality of life by having an substantial affect on the small town feel and recreational quality along the south and east shores of Big Lake
- Would have the second lowest change on population at Build Out

The key findings for Alternative 3 Bypass – Option A and B are:
- Major changes in land use are anticipated east of the Big Lake Town Center
- The intersection of New Burma Road/Susitna Parkway is likely to develop as a commercial center
- The land adjacent to both bypasses is considered to have low to moderate growth potential. Much of the soils along the bypasses are poorly draining making the land relatively costly to develop
- Some existing development along the corridor but there is also some vacant land that can be developed
- With Option A, approximately 803 acres in Big Lake Community Council (and 865 acres total) of land would be converted to transportation use. With Option B, approximately 764 acres in Big Lake Community Council (and 931 acres total) of land would be converted to transportation use
- Most of the land needed for right of way is owned privately or the MSB
- Little pressure on Big Lake Town Center to develop as a commercial strip.
- Consistent with the *Big Lake Comprehensive Plan* although the plan identified a bypass closer to the Town Center (similar to Option A)
- Minor changes to existing traffic patterns are anticipated

- Likely to have moderate impacts to the traffic volume in the Town Center. Option A will likely remove more traffic from the Town Center than Option B
- Traffic on Big Lake Road in the Big Lake Town Center could be close to 5,300 cars per day at Build Out with Option A (slightly less than 2012 traffic volume of 6,510) and 17,800 with Option B (substantially higher than 2012 traffic volumes).
- Would potentially upgrade several existing roads to a four-lane highway
- Would leave the Big Lake Town Center physically intact
- Could pull employment away from Town Center and into adjacent areas
- Little impact to existing public facilities is anticipated
- Will have a moderate impact on the trail network
- Emergency response times are likely to be faster
- Is likely to have less effect on residential neighborhoods
- Substantial impact on recreational/residential quality of life along Big Lake's south shore

The key findings for Alternative 5 are:

- Commercial/residential development likely along southern Knik-Goose Bay and Johnson Roads
- Moderate growth potential as approximately 20-30% of land along this route is poorly drained and would be relatively costly to develop
- Some land along the route is already developed but there is some vacant land available for new development
- Approximately 10 acres within the Big Lake Community Council (and 914 acres total) of land would be converted to transportation use
- Most of the land needed for right of way is privately owned
- Little to no pressure on the Big Lake Town Center to develop into an unplanned commercial strip
- Avoids major conflicts with the *Big Lake Comprehensive Plan*
- Minor changes to existing traffic patterns anticipated.
- Minimal effect on traffic volumes in the Town Center
- Traffic on Big Lake Road in the Big Lake Town Center could be close to 10,300 cars per day at Build Out which is greater than the 2012 traffic volume of 6,510
- Substantial impact to traffic volumes on South Knik Goose Bay and Johnson Roads.
- Potential for park and ride service
- Substantial impact to existing roads possible as the alternative could replace portions of the existing Point MacKenzie and Knik-Goose Bay Roads
- Limited impacts to the Big Lake Town Center
- Some commercial/business development may move from the Town Center to along Knik Goose Bay and Johnson Roads
- No impacts to public facilities within the Big Lake Community Council are anticipated
- Minimal impacts to the trail network
- Little change in emergency response times anticipated
- Less likely to change the size and social character of the Big Lake community

- Highest change in population at Build Out

The Big Lake CIA does not select a preferred alternative. The information contained in the CIA will help the Big Lake residents and policy makers such as the MSB Assembly and DOT&PF make informed decisions as to which alternatives have potential and should be explored further as part of future planning efforts such as the Long Range Transportation Plan and the Big Lake Comprehensive Plan. Additional analysis and study will help decision makers identify which alternative for a future connection between Port MacKenzie and the Parks Highway and balances community goals with benefits to the regional transportation system.

Appendix A
Screening criteria to identify alternative carried forward into the impact analysis

Appendix B
Maps showing the alternatives carried forward into the impact analysis

Appendix C
Maps showing forecasted traffic at Build Out

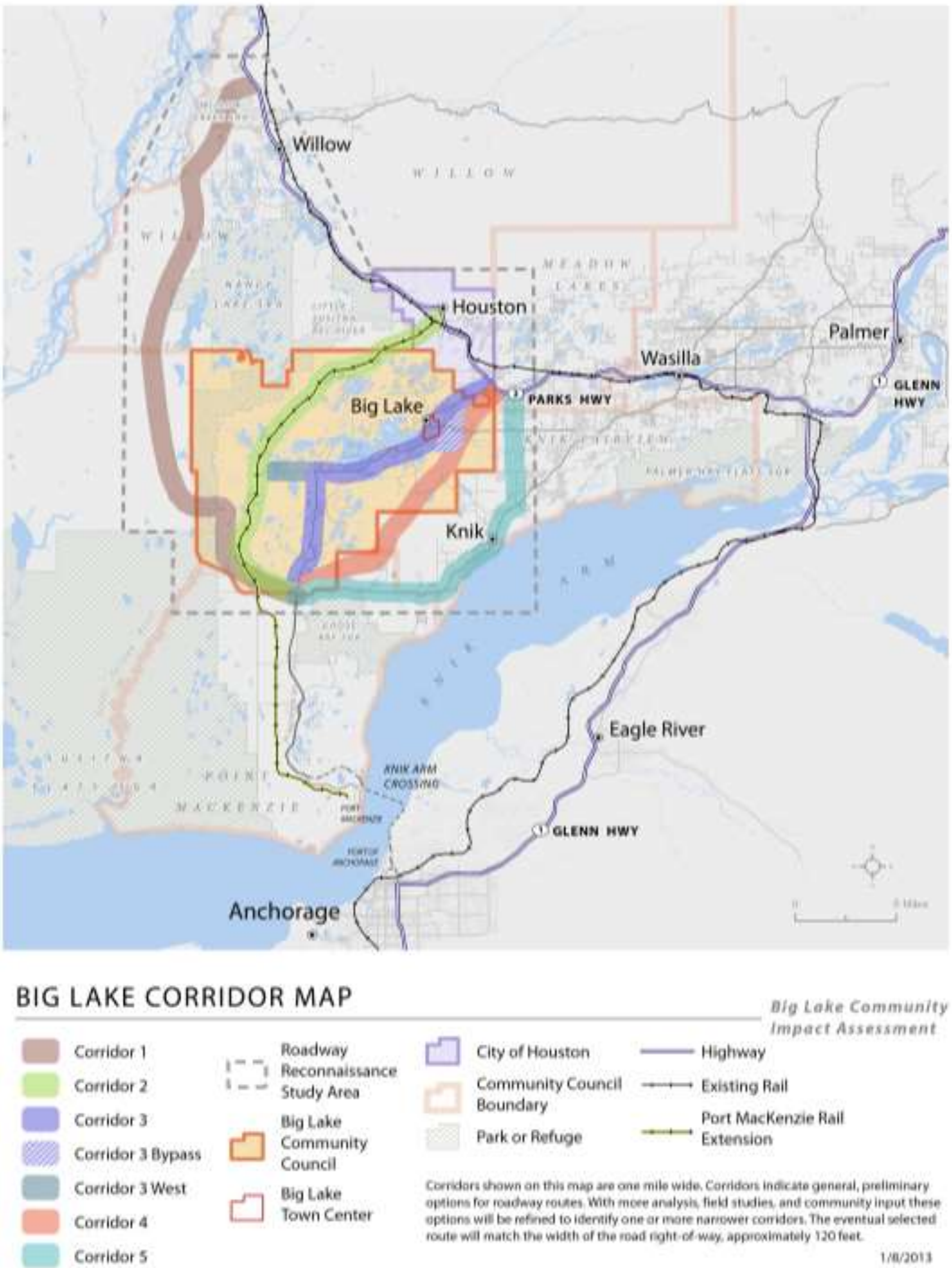
Appendix D
Summary of Public Outreach Activities

Appendix E
Results of the Big Lake Build-out Analysis

Appendix F
Highway Reconnaissance Report

The Big Lake Highway Corridor Reconnaissance Engineering Study identified, evaluated, and screened five[1] potential corridors to connect the Point MacKenzie/Ayrshire Road intersection and the Parks Highway (see Figure 1). These proposed corridors are based on previous studies in the area (including

Figure 1 Corridors



[1] Corridor 3 has two variants.

the Matanuska-Susitna Matanuska-Susitna Borough (MSB) Long Range Transportation Plan, the Burma Road Improvements Reconnaissance Engineering Report (DOT&PF 2011), the South Big Lake Road Realignment Reconnaissance Engineering Report (DOT&PF 2010), the Port MacKenzie Rail Corridor Study (ARRC 2007), the Matanuska-Susitna Borough Rail Corridor Study (Tryck Nyman Hayes, 2003), the 2010 BLCC Transportation Projects Location Map, and the BLCC Comprehensive Plan (Agnew::Beck 2009)) and input from local stakeholders such as the MSB, BLCC representatives, local residents, and others.

Corridor 1

Corridor 1 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway north of Willow. This corridor is primarily north-south and is located to the east of the Nancy Lakes State Recreation Area and the community of Willow. The corridor crosses the Little Susitna River near the Susitna Flats State Game Refuge. A reconnaissance study for this road/rail corridor was prepared by Tryck Nyman Hayes, Inc. in 2003 for the MSB. This corridor was adopted in the 2007 MSB Long Range Transportation Plan for both the rail and road. It should be noted, however, that the MSB, Alaska Railroad (ARRC), and the Surface Transportation Board (STB) chose a different route for the Port Mac Rail in 2010 called the Houston South route.

Corridor 2

Corridor 2 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway at Houston. This corridor parallels the Port MacKenzie Rail Extension Houston South project corridor. The rail extension was approved by the Surface Transportation Board and is currently being constructed.

Corridor 3

Corridor 3 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway near Big Lake Road. This corridor generally follows Burma Road, Susitna Parkway, South Big Lake Road, and Big Lake Road. Portions of this alignment have had reconnaissance reports completed by DOT&PF for S. Big Lake Road (2010) and Burma Road (2011).

Corridor 3 West

Corridor 2 West starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway near Houston. This corridor generally follows Burma Road to Susitna Parkway. The corridor goes west on Susitna Parkway to the Port MacKenzie Rail Extension. From this point to the Parks Highway, Corridor 3 West is identical to Corridor 2.

Corridor 3 Bypass

Corridor 3 Bypass is identical to Corridor 3, except that it includes a short bypass around the Big Lake Town Center to the west.

Corridor 4

Corridor 4 starts at Point MacKenzie/Ayrshire Road and traverses generally northeast to the Parks Highway, where it would connect to the near Big Lake Road intersection. Parallels KGB, undeveloped area, crosses Hollywood.

Corridor 5

Corridor 5 starts at Point MacKenzie/Ayrshire Road and connects to the Parks Highway west of Big Lake. This corridor generally follows Port MacKenzie Road, Knik Goose Bay Road, and Johnson Road.

Screening

The six alignments were analyzed to determine if the any alignment was so unsuitable that they would not warrant future consideration. It was decided to use wetlands, soils, trails, other considerations, and costs as screening criteria for the reasons described below.

- Wetlands – The federal government has enacted laws to regulate activities in wetlands. To develop in a wetland, a Section 404 permit is required. Before a permit will be issues, a project needs to show that measures have been taken to avoid wetlands as much as possible. If wetlands are unavoidable, wetland mitigation such as wetland banking, must occur which increases the project costs. Besides the need for a permit, wetlands are usually more difficult to build in than upland areas which increases the overall project cost.
- Soils –Poor soils are harder and more costly to construct in. Minimizing the amount of poor soils will reduce the overall project cost.
- Trails – This area has high trail usage and community residents are extremely concerned about potential trail impacts. As a result, there is a need to preserve trail connectivity which is done by incorporating grade separated trail crossings into the project. Grade separated trail crossings have the potential to increase project cost. The presence of the road, and needing to use a designated trail crossing, may reduce the trail experience by some users.
- Other considerations – Community features identified by the public as important to avoid.
- Cost – DOT&PF and the MSB have more projects than need to be constructed than available funding. Alignments that cost substantially more are less likely to obtain the necessary funding.

Each of the corridors was evaluated against these factors. Composite maps showing each corridor and the constraints are located at the end of this appendix.

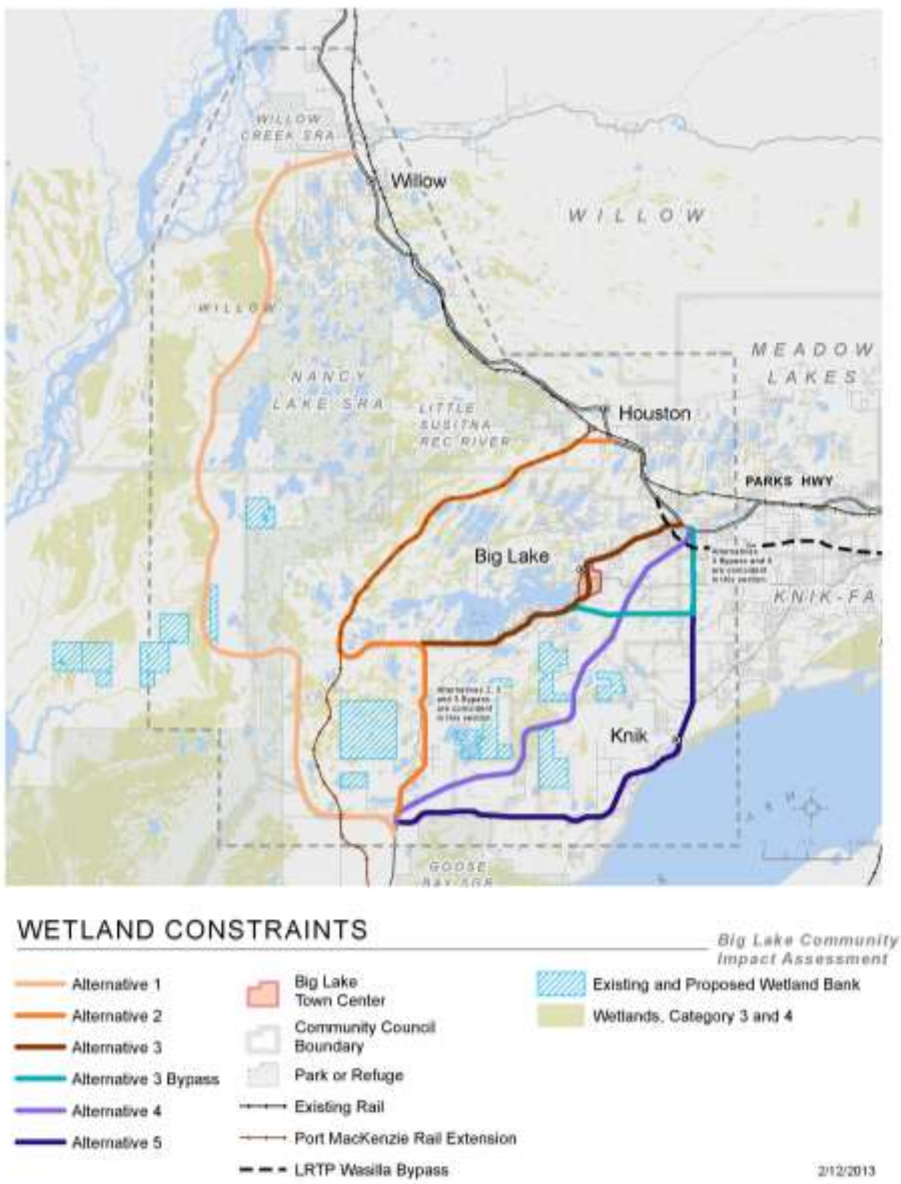
Wetlands

Wetlands are regulated by the Corps, whose permitting authority requires identification of measures to minimize harm to wetlands. This is typically demonstrated in alternative development that demonstrates alignment placement attempting to avoid identified wetlands.

In general, wetlands may serve environmentally beneficial functions including water quality regulation, animal habitat provision, and flood protection, which are provided relative value by the Corps. While functional assessment methodology is often applied to field investigations, and field indicators are recorded to determine potential functional performance of a wetland, these activities are outside the scope of this project. This study has used typical wetland functions based on wetland types to determine construction suitability, and has not verified the existence of these functions in the field.

Wetlands were categorized from 1 to 4. Areas with uplands were classified 0. Wetlands with rating of Category 1 are expected to allow for the easiest construction and have the fewest regulatory and design permitting challenges. Areas with a suitability rating of Category 4 are expected to pose the greatest challenges to construction, including the most permitting and design challenges. Category 4 areas would likely require water crossings, addressing strong regulatory concern and stringent environmental considerations, and result in a longer, more complicated permit acquisition process. These suitability categories are based on the wetland type associated with the NWI mapping data and the general

Figure 2 – Wetland Constraints



wetland functions that these wetland types typically perform.

Emergent wetlands are dominated by grass/like plants, are represented in Category 3, and have a "moderately low" suitability ranking. The functions of emergent wetlands can be highly variable depending on their topographic position and level of inundation or saturation. In general, emergent wetlands provide functions for groundwater discharge, stormwater runoff attenuation, and habitat for water/dependent wildlife. In addition, many emergent wetlands perform water quality improvement functions and do so at a greater rate than other wetland types because they have more water movement within and through them. The water input and movement typically causes emergent wetlands to provide more productive habitat and allows them to export organic material to support downstream ecosystems. Emergent wetlands near human development (including roads) may protect water quality by retaining sediments and other pollutants.

The wetland types included in Category 4 represent open water habitats. In general, these wetlands represent the most unique wetland types within the project area, and have been assigned a "low" suitability ranking. Permanently flooded wetlands, streams, and lakes were assigned to this category because they typically provide important wildlife movement corridors, improve stream water quality, provide habitat cover for fish, and stabilize stream banks against erosion. These wetlands and waterbodies are also likely to export organics to aquatic systems, and perform flood flow attenuation that protects downstream habitats and water quality.

Corridor in Classification 3 or 4 Wetlands

Alternative	Length in Class 3 or 4 Wetlands (mi)	Total Length	% in Wetlands
1	5.26	31.93	16.5
2	0.86	22.35	3.9
3	0.04	17.41	0.2
3 Bypass	0.52	19.16	2.7
4	1.84	15.82	11.6
5	0.74	18.80	3.9

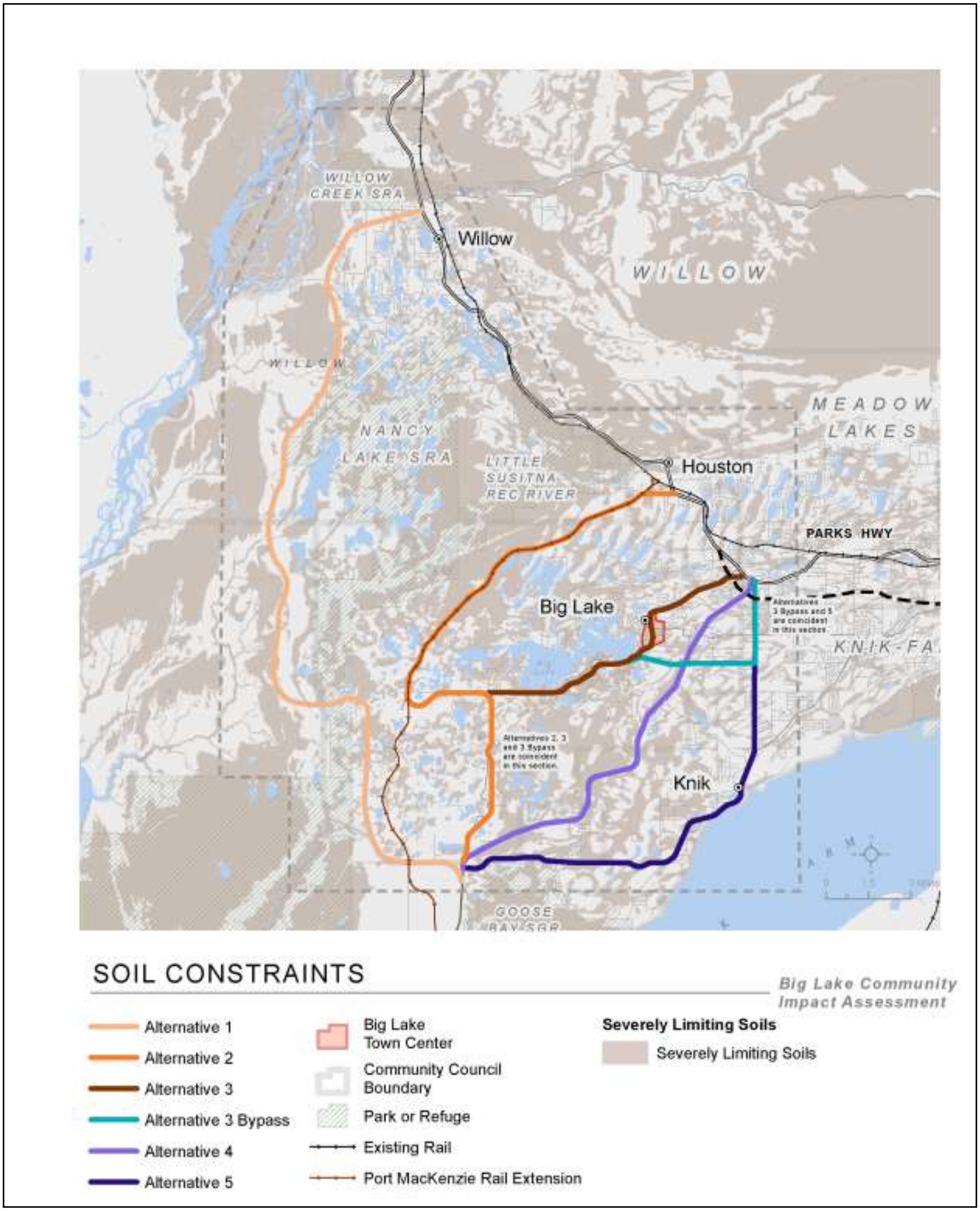
Soils

The Natural Resources Conservation Service (NRCS) produces a soil survey that shows the location and arrangement of different soil types. The survey includes soil properties, their potential uses, and their limitations such as the soil's suitability for road construction, building construction, and septic system drainage. Soil that is considered severely limiting does not mean that the construction can not be developed there; rather it means that the area is likely to have a higher construction cost or higher maintenance cost than an area that is not severely limiting. For the purposes of this analysis, soil that is considered severely limiting for road construction, building construction and septic systems was considered a constraint. Evaluation of severely limiting soils is in the following table.

Severely Limiting Soils

Alternative	Length in Severely Limiting Soils (mi)	Total Length	% in Severely Limited Soils
1	6.64	31.93	20.80
2	6.40	22.35	28.64
3	4.28	17.41	24.58
3 Bypass	6.78	19.16	35.39
4	7.17	15.82	45.32
5	8.13	18.80	43.24

Figure 3 Soils



Trail Crossings

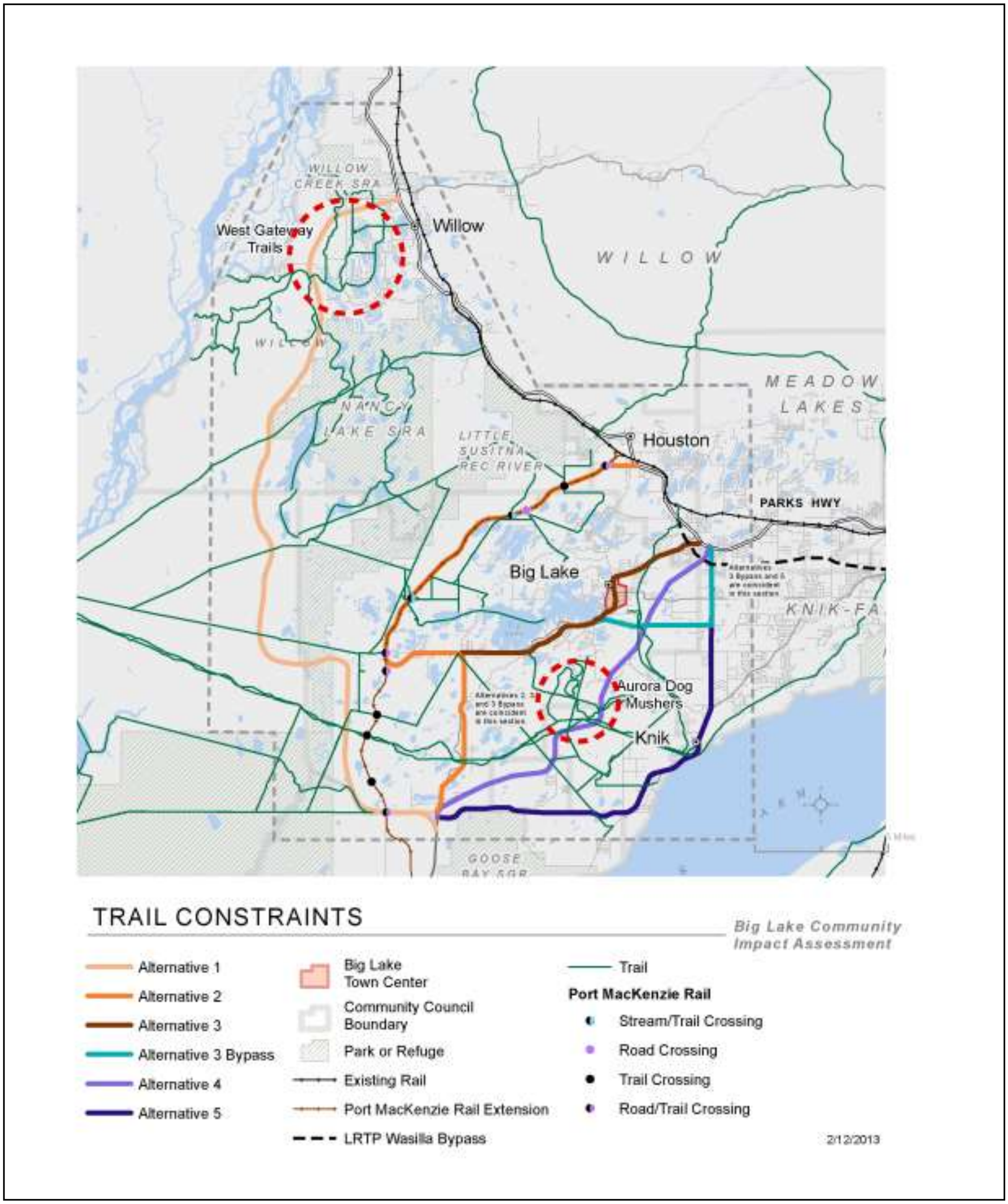
Trails are important to residents in the Big Lake area. They are used for a variety of recreational purposes including snow machining and dog mushing. The trails are regularly used by teams training for sled dog races such as the Iditarod. Two areas with high concentration of heavily used trails include the Aurora Dog Mushing area and the West Gateways Trail area. The following figure shows the location of known trails in the area and the table shows the number of potential trail crossings[2].

Trail Crossings

Alternative	Length	Trail Crossings	Notes
1	32.0 Miles	11	Bisects West Gateway Trails
2	23.2 Miles	9	
3	17.5 Miles	4	
3 Bypass	18.6 Miles	5	
4	16.3 Miles	9	Bisects Aurora Dog Mushing Trails
5	20.5 Miles	2	

[2] The actual number of trail crossing is likely to vary for a variety of reasons include some trails have not been mapped, some trails are informal trails and do not have official standing, some trails are likely to be rerouted as they become official trails or to reduce the number of crossings, and the local of the project may be refined to reduce the number of crossings.

Figure 4 Trail Crossings

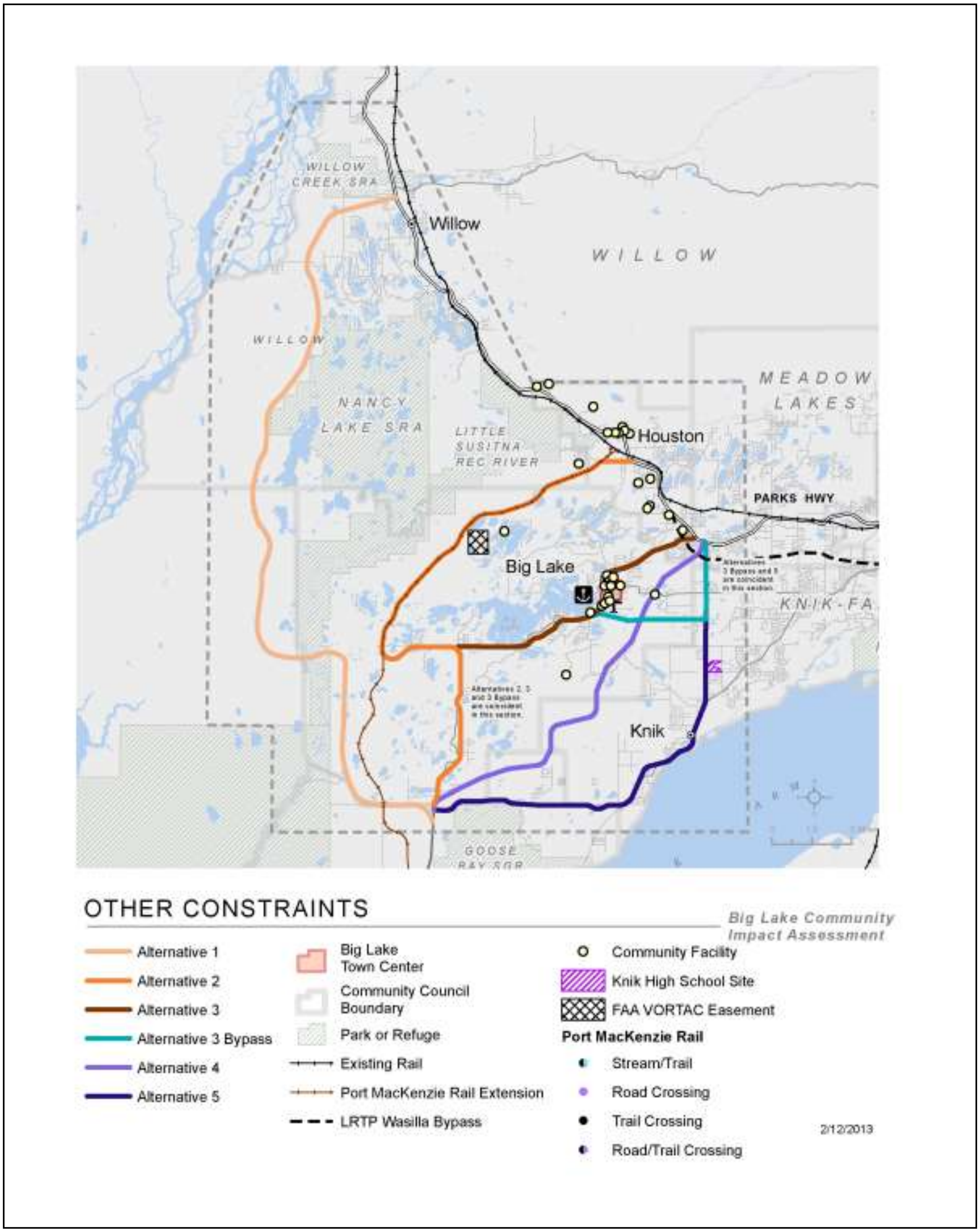


Other Constraints

The study team looked to see if there were any other constraints that would cause a corridor to be not reasonable. Some concerns not fatal flaws at this level. It was thought that Alternative 1 could take advantage of an existing easement that would reduce the amount of ROW to be purchased. Historically, there was a 600 foot transportation corridor from the Big Lake area down the north and west side of Cook Inlet to Beluga and beyond. This corridor was reserved as an Interagency Land Management Assignment (ILMA) from the Alaska Department of Natural Resources (DNR) to DOT&PF. It was known as ADL 203838. Over the years, portions of this corridor were eliminated and the remaining portions of the corridor were considered difficult to permit. Eventually, ADL 203838 was terminated and closed.

Alternative 3 through downtown Big Lake presents severe community impacts. It was retained for further study because it was the catalyst and reason for the community impact assessment.

Figure 5 Other Constraints



Cost

A cost estimate for the roadway component of each alignment was developed based on cost estimates for similar projects in the same area. Costs for other elements such as interchanges and railroad crossings were developed based on actual construction costs for recently constructed projects and estimated construction costs for similar elements on the Port MacKenzie Rail Extension project. For a more detailed explanation of how these cost estimates were developed, please see the attachment at the end of this appendix.

Alternative	Build-out Population	Traffic	Phase 1 Cost	Phase 2 Cost
1	9,600 - 12,700	3,000 – 3,300	$168 - $214	$246 - $296
2	7,800 – 10,900	5,100 – 11,400	$125 - $152	$282 - $316
3	10,100 – 15,900	16,100 – 26,100	$72 - 91	$190 - $199
3 Bypass	14,400 – 20,600	18,600 – 28-200	$77 - 97	$286 - $316
4	9,700 – 15,500	27-800 – 32-800	$79 - 99	$262 - $291
5	27,500 – 34,100	15,500 – 35,500	$80 - $101	$270 - $302

Alignment 1 is the most expensive, attracts the least traffic, and offers the least opportunity to support community build out.

Alternatives Evaluated in Greater Detail

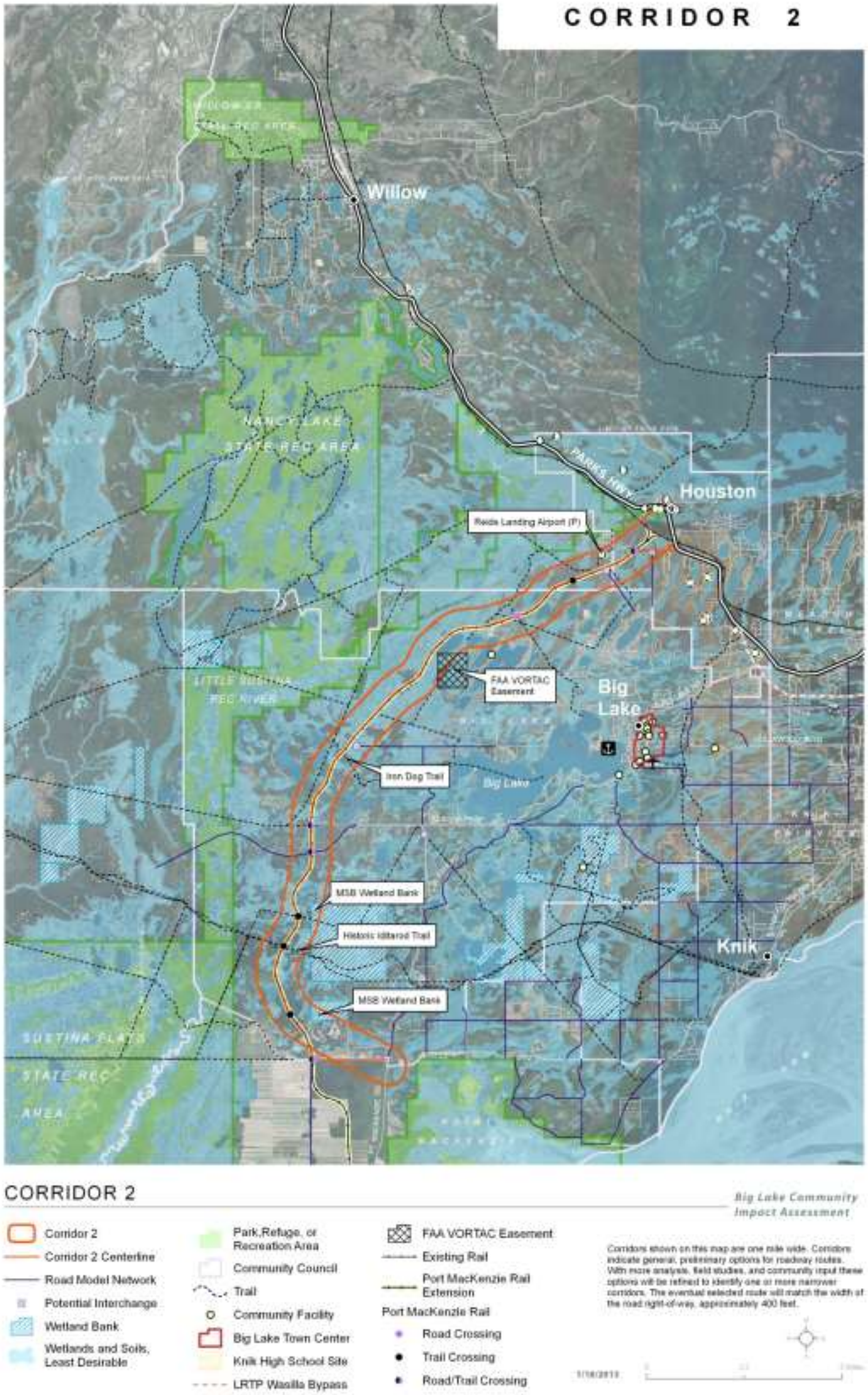
- Alternative 1 has the most wetland impacts, and is likely to be the most expensive to construct.
- Alternative 4 is considered to have unacceptable trail impacts because it would bisect the Aurora Dog Mushing trail network. Based on potential wetland impacts, trail impacts, and cost, it was determined that Alternative 1 and 4 would not be reasonable alternatives for the purpose of this project[3].
- Alternatives 2, 3, 3 bypass, and 5 were selected for additional investigation.
- Alternative 3 through downtown Big Lake presents severe community impacts. It was retained for further study because it was the catalyst and reason for the community impact assessment.

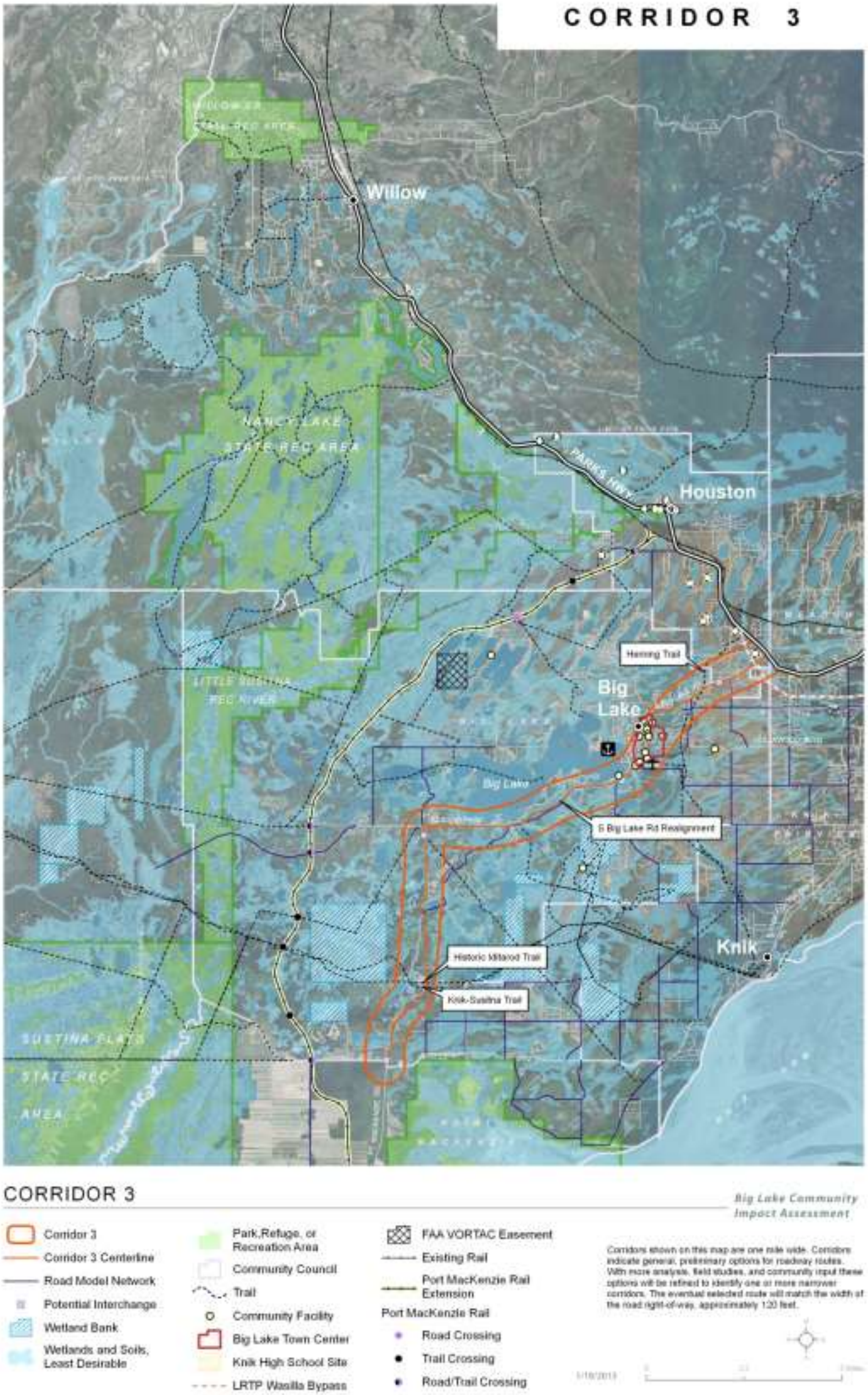
[3] While these alternatives are not considered reasonable for the purposes of this project, that does not mean that these alternatives are not appropriate for different purposes. For example, Alternative 1 may be reasonable if the project purpose was to provide access to the area to construct a natural gas pipeline.

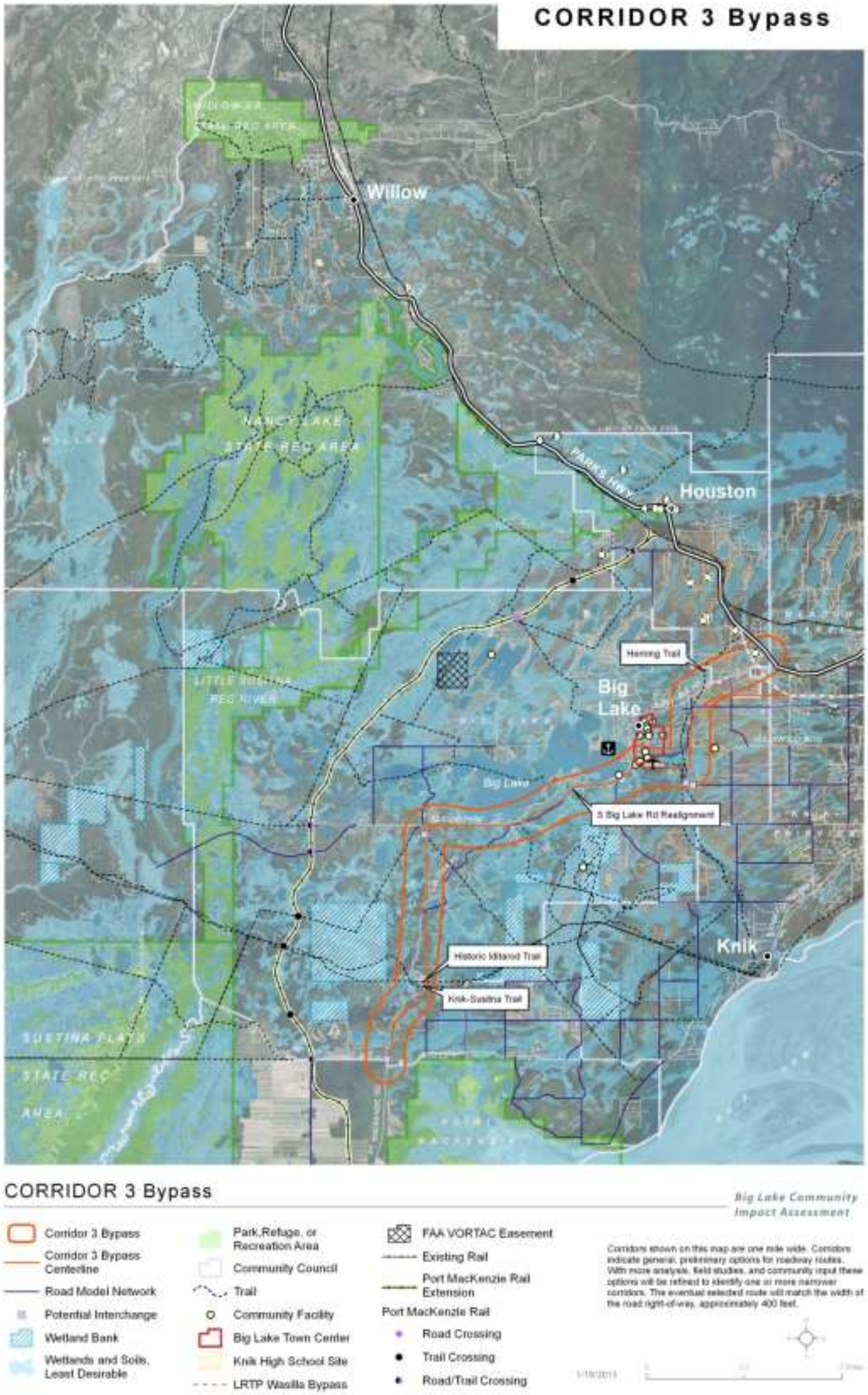
Composite Maps

The following attachment contains the composite constraint maps for each corridor.


CORRIDOR 1
West Gateway Trail
Willow
West Gateway Trail
NANCY LAKE
STATE REC AREA
DNR RS2477 trail
Houston
PARKS HWY
Iron Dog Trail
LITTLE SUSITNA
REC RIVER
MSB Wetland Bank
Crooked Lake Trail
Big
Lake
Big Lake
Historic Iditarod Trail
Knik
SUSITNA FLATS
STATE REC
AREA
CORRIDOR 1
Big Lake Community
Impact Assessment
Corridor 1
Corridor 1 Centerline
Road Model Network
Potential Interchange
Wetland Bank
Wetlands and Soils, Least Desirable
Park,Refuge, or Recreation Area
Community Council
Trail
Community Facility
Big Lake Town Center
Knik High School Site
LRTP Wasilla Bypass
FAA VORTAC Easement
Existing Rail
Port MacKenzie Rail Extension
Port MacKenzie Rail
Road Crossing
Trail Crossing
Road/Trail Crossing
Corridors shown on this map are one mile wide. Corridors indicate general, preliminary options for roadway routes. With more analysis, field studies, and community input these options will be refined to identify one or more narrower corridors. The eventual selected route will match the width of the road right-of-way, approximately 400 feet.


CORRIDOR 2
Willow
NANCY LAKE STATE REC AREA
PARKS HWY
Houston
Reids Landing Airport (P)
FAA VORTAC Easement
Big Lake
LITTLE SUSITNA REC RIVER
Iron Dog Trail
Big Lake
MSB Wetland Bank
Historic Iditarod Trail
MSB Wetland Bank
Knik
SUSITNA FLATS STATE REC AREA
CORRIDOR 2
Big Lake Community Impact Assessment
Corridor 2
Corridor 2 Centerline
Road Model Network
Potential Interchange
Wetland Bank
Wetlands and Soils, Least Desirable
Park,Refuge, or Recreation Area
Community Council
Trail
Community Facility
Big Lake Town Center
Knik High School Site
LRTP Wasilla Bypass
FAA VORTAC Easement
Existing Rail
Port MacKenzie Rail Extension
Port MacKenzie Rail
Road Crossing
Trail Crossing
Road/Trail Crossing
Corridors shown on this map are one mile wide. Corridors indicate general, preliminary options for roadway routes. With more analysis, field studies, and community input these options will be refined to identify one or more narrower corridors. The eventual selected route will match the width of the road right-of-way, approximately 400 feet.


CORRIDOR 3
Willow
NANCY LAKE STATE REC AREA
PARKS HWY
Houston
Herning Trail
Big Lake
LITTLE SUSITNA REC RIVER
Big Lake
S Big Lake Rd Realignment
Historic Iditarod Trail
Knik-Susitna Trail
Knik
SUSITNA FLATS STATE REC AREA
CORRIDOR 3
Big Lake Community Impact Assessment
Corridor 3
Corridor 3 Centerline
Road Model Network
Potential Interchange
Wetland Bank
Wetlands and Soils, Least Desirable
Park,Refuge, or Recreation Area
Community Council
Trail
Community Facility
Big Lake Town Center
Knik High School Site
LRTP Wasilla Bypass
FAA VORTAC Easement
Existing Rail
Port MacKenzie Rail Extension
Port MacKenzie Rail
Road Crossing
Trail Crossing
Road/Trail Crossing
Corridors shown on this map are one mile wide. Corridors indicate general, preliminary options for roadway routes. With more analysis, field studies, and community input these options will be refined to identify one or more narrower corridors. The eventual selected route will match the width of the road right-of-way, approximately 120 feet.

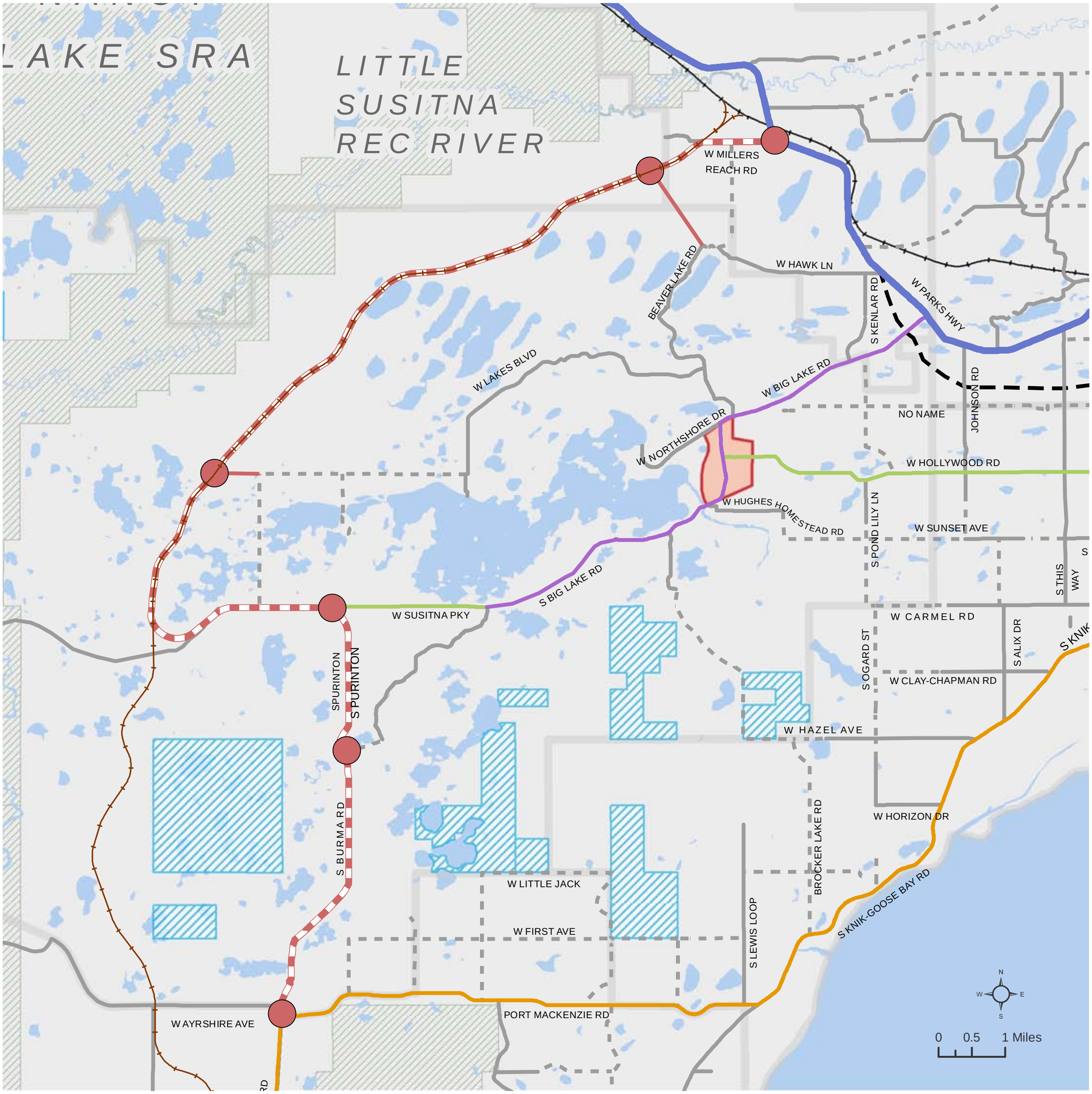

CORRIDOR 3 Bypass
Willow
NANCY LAKE STATE REC AREA
PARKS HWY
Houston
Herning Trail
Big Lake
LITTLE SUSITNA REC RIVER
Big Lake
S Big Lake Rd Realignment
Historic Iditarod Trail
Knik-Susitna Trail
Knik
SUSITNA FLATS STATE REC AREA
CORRIDOR 3 Bypass
Big Lake Community Impact Assessment
Corridor 3 Bypass
Corridor 3 Bypass Centerline
Road Model Network
Potential Interchange
Wetland Bank
Wetlands and Soils, Least Desirable
Park, Refuge, or Recreation Area
Community Council
Trail
Community Facility
Big Lake Town Center
Knik High School Site
LRTP Wasilla Bypass
FAA VORTAC Easement
Existing Rail
Port MacKenzie Rail Extension
Port MacKenzie Rail
Road Crossing
Trail Crossing
Road/Trail Crossing
Corridors shown on this map are one mile wide. Corridors indicate general, preliminary options for roadway routes. With more analysis, field studies, and community input these options will be refined to identify one or more narrower corridors. The eventual selected route will match the width of the road right-of-way, approximately 400 feet.


CORRIDOR 4
Willow
Houston
Big Lake
Knik
PARKS HWY
NANCY LAKE STATE REC AREA
LITTLE SUSITNA REC RIVER
SUSITNA FLATS STATE REC AREA
Big Lake
LRTP Wasilla Bypass
Herning Trail
Aurora Dog Mushing Trails
Historic Iditarod Trail
Knik-Susitna Trail
Su-Knik Mitigation Bank
Su-Knik Mitigation Bank
CORRIDOR 4
Big Lake Community Impact Assessment
Corridor 4
Corridor 4 Centerline
Road Model Network
Potential Interchange
Wetland Bank
Wetlands and Soils, Least Desirable
Park,Refuge, or Recreation Area
Community Council
Trail
Community Facility
Big Lake Town Center
Knik High School Site
LRTP Wasilla Bypass
FAA VORTAC Easement
Existing Rail
Port MacKenzie Rail Extension
Port MacKenzie Rail
Road Crossing
Trail Crossing
Road/Trail Crossing
Corridors shown on this map are one mile wide. Corridors indicate general, preliminary options for roadway routes. With more analysis, field studies, and community input these options will be refined to identify one or more narrower corridors. The eventual selected route will match the width of the road right-of-way, approximately 400 feet.


CORRIDOR 5
Willow
NANCY LAKE STATE REC AREA
PARKS HWY
Houston
LRTP Wasilla Bypass
Big Lake
Big Lake
LITTLE SUSITNA REC RIVER
Knik-Susitna Trail
Historic Iditarod Trail
Knik
SUSITNA FLATS STATE REC AREA
CORRIDOR 5
Big Lake Community Impact Assessment
Corridor 5
Corridor 5 Centerline
Road Model Network
Potential Interchange
Wetland Bank
Wetlands and Soils, Least Desirable
Park,Refuge, or Recreation Area
Community Council
Trail
Community Facility
Big Lake Town Center
Knik High School Site
LRTP Wasilla Bypass
FAA VORTAC Easement
Existing Rail
Port MacKenzie Rail Extension
Port MacKenzie Rail
Road Crossing
Trail Crossing
Road/Trail Crossing
Corridors shown on this map are one mile wide. Corridors indicate general, preliminary options for roadway routes. With more analysis, field studies, and community input these options will be refined to identify one or more narrower corridors. The eventual selected route will match the width of the road right-of-way, approximately 400 feet.

Cost Estimate Details

The following attachment contains the details on the cost estimates for each corridor.



ALTERNATIVE 2 - Rail Route

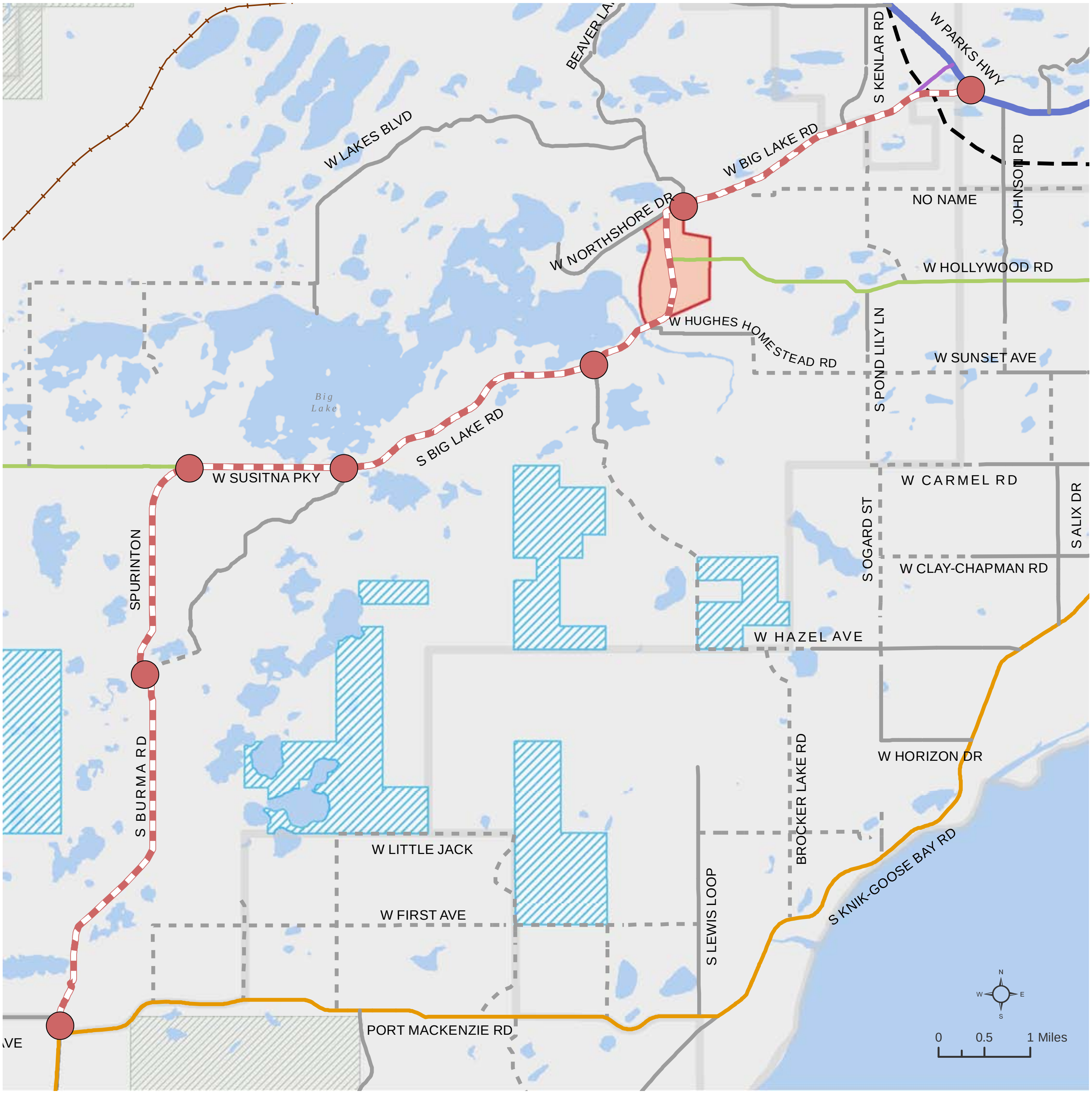
Big Lake Community Impact Assessment

- Highway, Existing
- Major Arterial, Existing
- Minor Arterial, Existing
- Major Collector, Existing
- Major Collector, Planned
- Minor Collector, Existing
- Minor Collector, Planned
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Road

3/12/2014



ALTERNATIVE 3 - City Center/Existing Road Route

Big Lake Community Impact Assessment

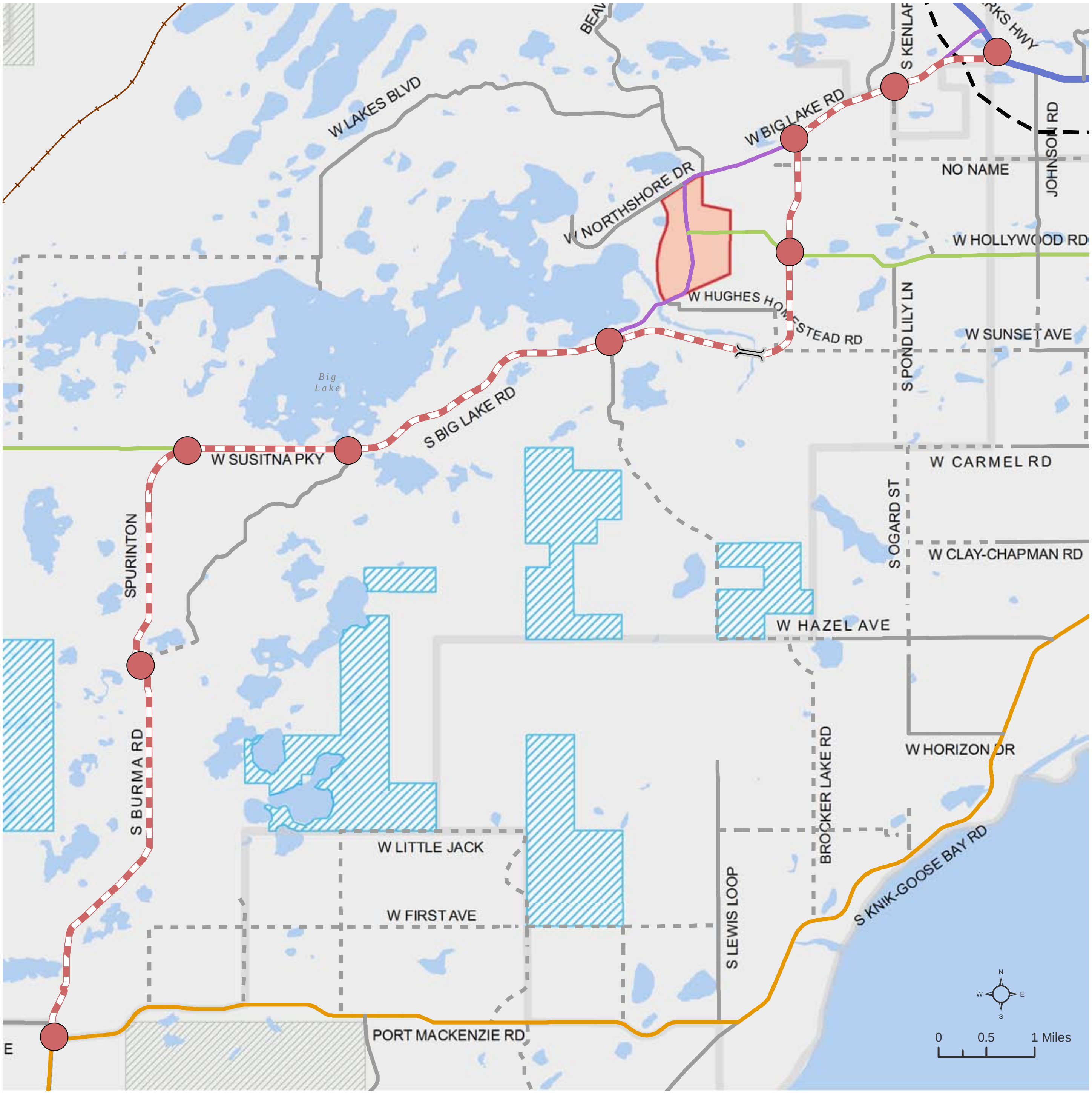
Highway, Existing
Major Arterial, Existing
Minor Arterial, Existing
Major Collector, Existing
Major Collector, Planned
Minor Collector, Existing
Minor Collector, Planned

Big Lake Town Center
Community Council Boundary
Park or Refuge
Existing Rail
Port MacKenzie Rail Extension
LRTP Wasilla Bypass

Proposed

Highway
Interchange

3/13/2014



ALTERNATIVE 3 BYPASS - OPTION A

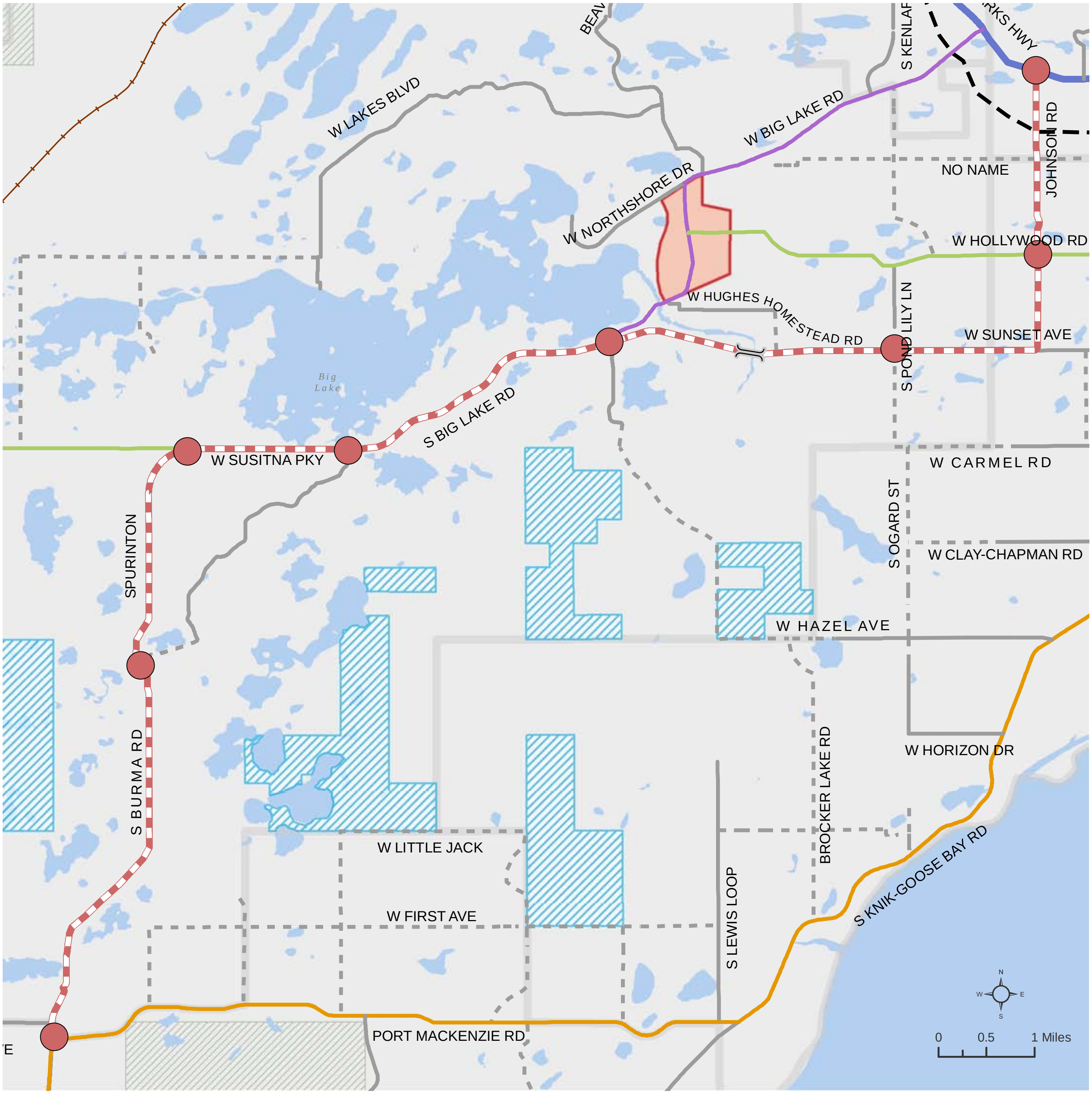
Big Lake Community Impact Assessment

- Highway, Existing
- Major Arterial, Existing
- Minor Arterial, Existing
- Major Collector, Existing
- Major Collector, Planned
- Minor Collector, Existing
- Minor Collector, Planned
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Minor Collector - Proposed
- Bridge over Fish Creek

3/13/2014



ALTERNATIVE 3 BYPASS - OPTION B

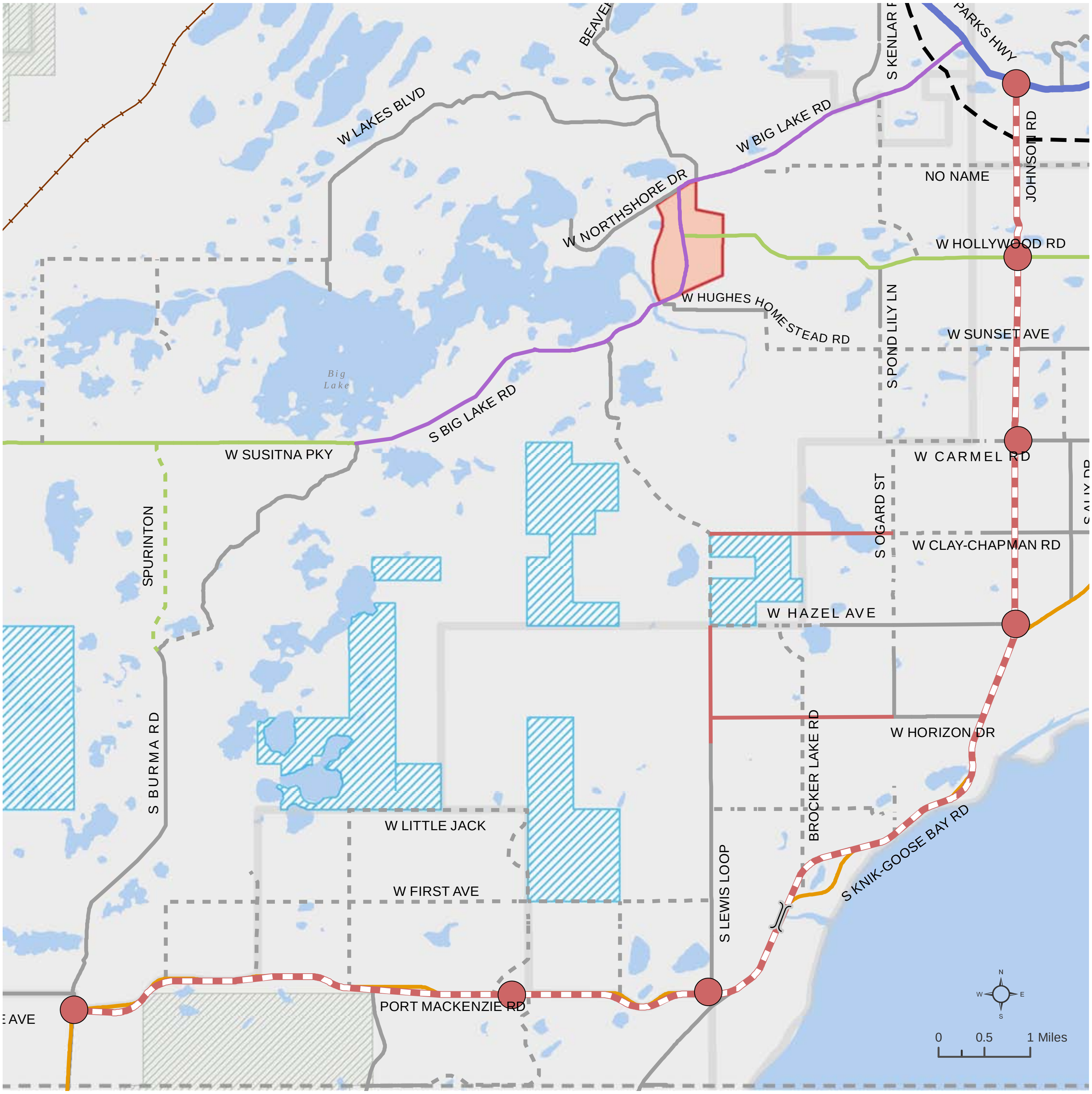
Big Lake Community Impact Assessment

- Highway, Existing
- Major Arterial, Existing
- Minor Arterial, Existing
- Major Collector, Existing
- Major Collector, Planned
- Minor Collector, Existing
- Minor Collector, Planned
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Bridge over Fish Creek

3/13/2014



ALTERNATIVE 5 - Johnson Road Route

Big Lake Community Impact Assessment

- Highway, Existing
- Major Arterial, Existing
- Minor Arterial, Existing
- Major Collector, Existing
- Major Collector, Planned
- Minor Collector, Existing
- Minor Collector, Planned
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Road
- Bridge over Fish Creek

3/13/2014

The Big Lake Community Impact Assessment has identified seven alternatives to connect the Point MacKenzie/Ayrshire Road intersection and the Parks Highway (see Figure 1**Error! Reference source not found.**). These proposed alternatives are based on previous studies in the area (including the Matanuska-Susitna Matanuska-Susitna Borough (MSB) Long Range Transportation Plan, the Burma Road Improvements Reconnaissance Engineering Report (DOT&PF 2011), the South Big Lake Road Realignment Reconnaissance Engineering Report (DOT&PF 2010), the Port MacKenzie Rail Corridor Study (ARRC 2007), the Matanuska-Susitna Borough Rail Corridor Study (Tryck Nyman Hayes, 2003), the 2010 BLCC Transportation Projects Location Map, and the BLCC Comprehensive Plan (Agnew::Beck 2009)) and input from local stakeholders such as the MSB, BLCC representatives, local residents, and others.

For the purposes of this analysis, traffic forecasts for Alternative 1 and Alternative 4 were developed as there was public interested in the traffic volumes on these alternatives.

Methodology

For each of the reasonable alternatives, a traffic forecast was developed to identify how much traffic would be attracted to each alternative. The traffic forecast was based on the MSB's Traffic Model. In order to incorporate the MSB build out projections for each alternative, traffic forecasts were developed using the 2010 socioeconomic conditions and the 2035 roadway network to model future traffic conditions. The traffic volumes were then grown using the population increase predicted by the MSB build out to forecast future traffic volumes.

Results

The traffic forecasts are shown on the following pages. The Big Lake Town Center portion of 2012 Mat-Su Valley Traffic Map produced by DOT&PF is included on page C-10 to provide information regarding existing traffic conditions. The complete map can be found on-line at http://www.dot.state.ak.us/stwdplng/mapping/trafficmaps/2012/Central/matsu12.pdf

Figure 1. Alternatives Studied in the CIA

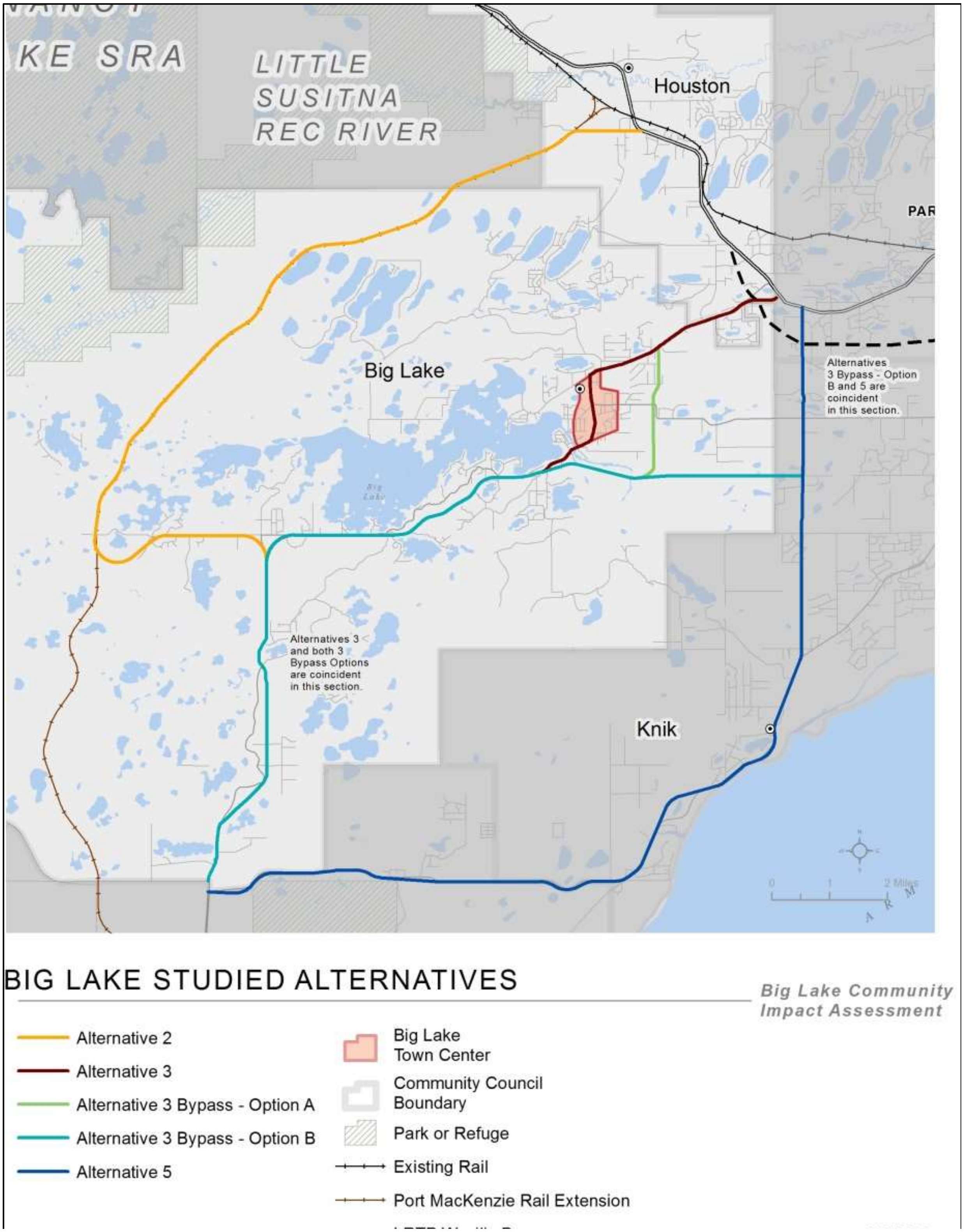


Figure 2. Alternative 1 Forecasted Traffic at Build Out

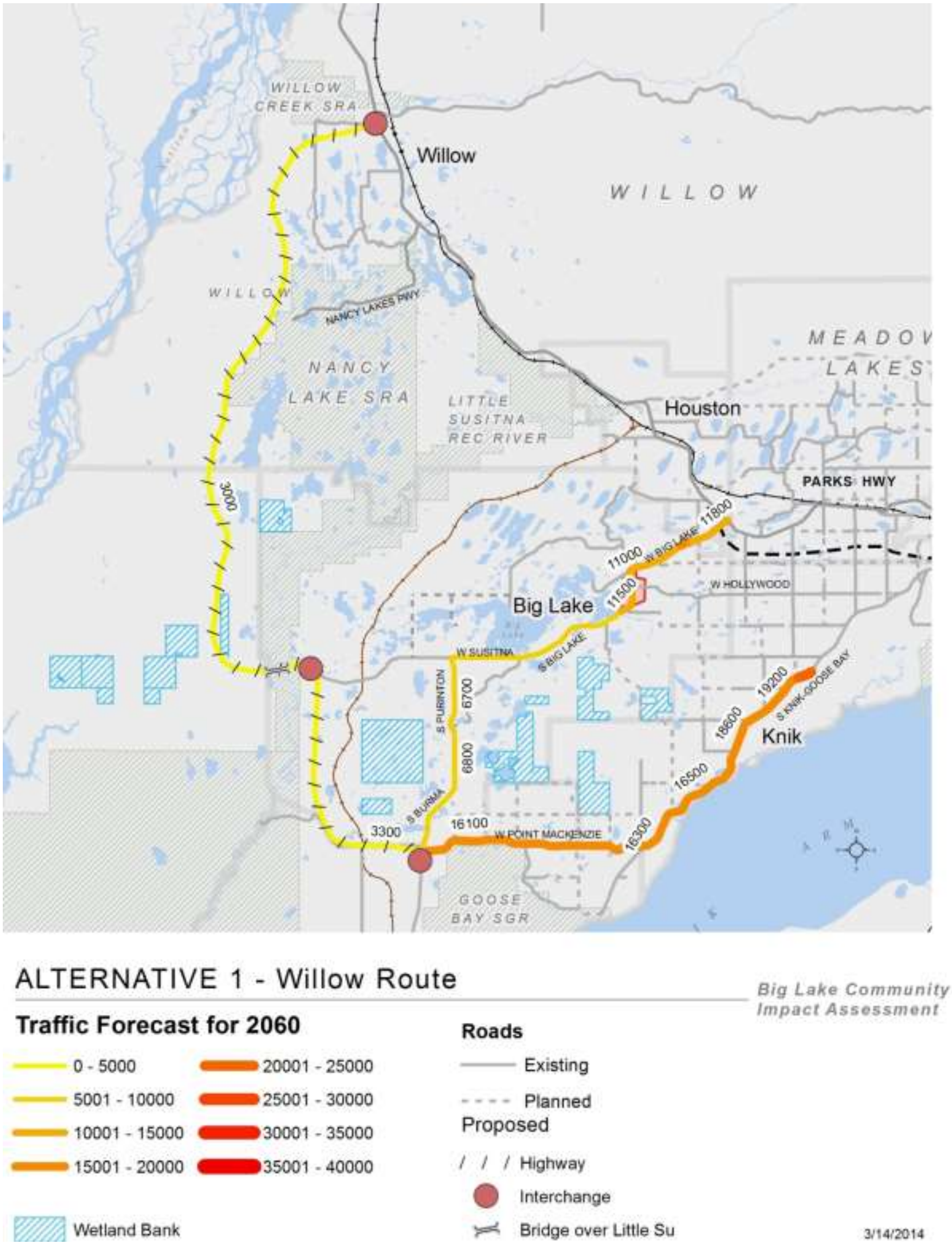


Figure 3. Alternative 2 Forecasted Traffic at Build Out

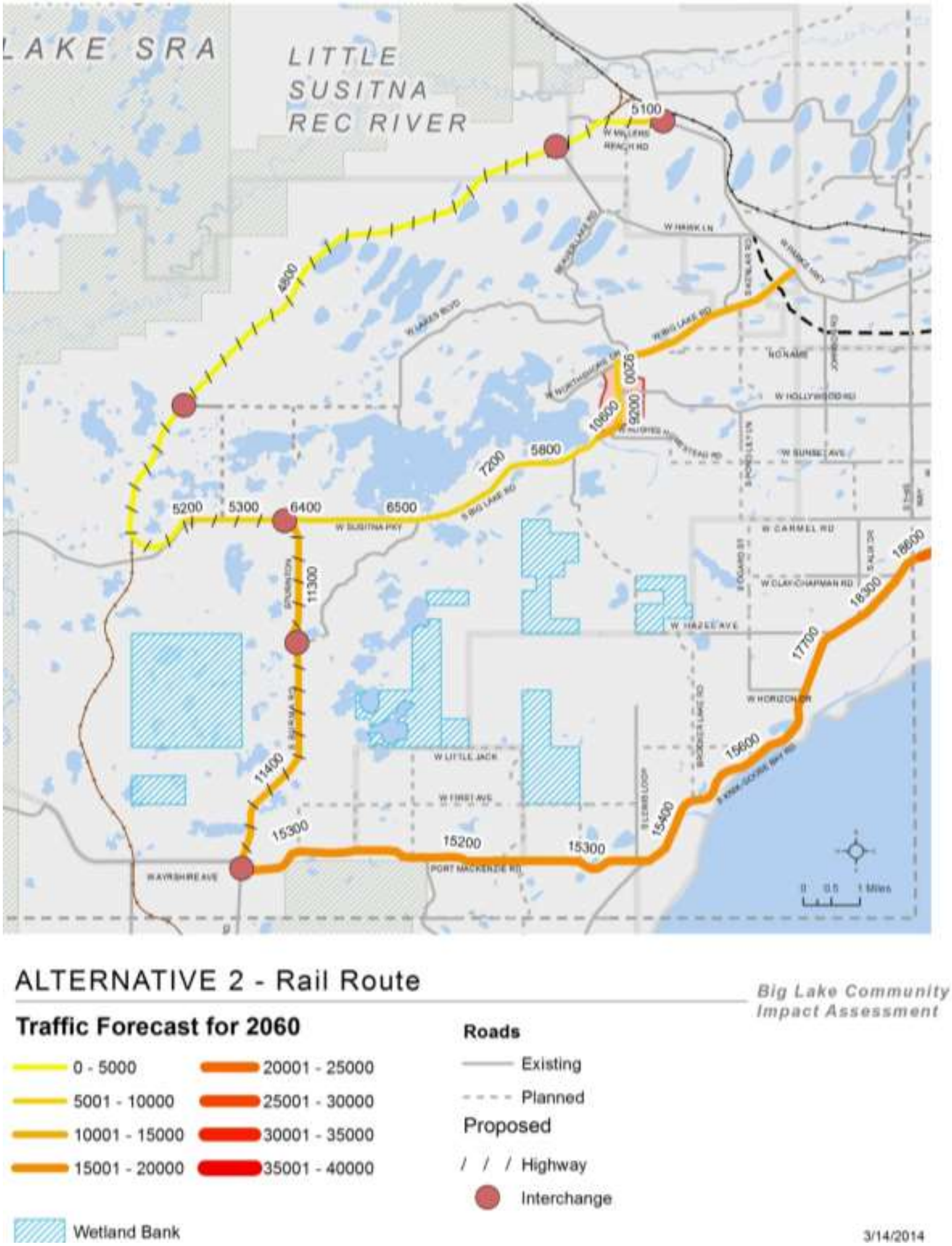


Figure 4. Alternative 3 Forecasted Traffic at Build Out

Figure 5. Alternative 3 Bypass - Option A Forecasted Traffic at Build Out

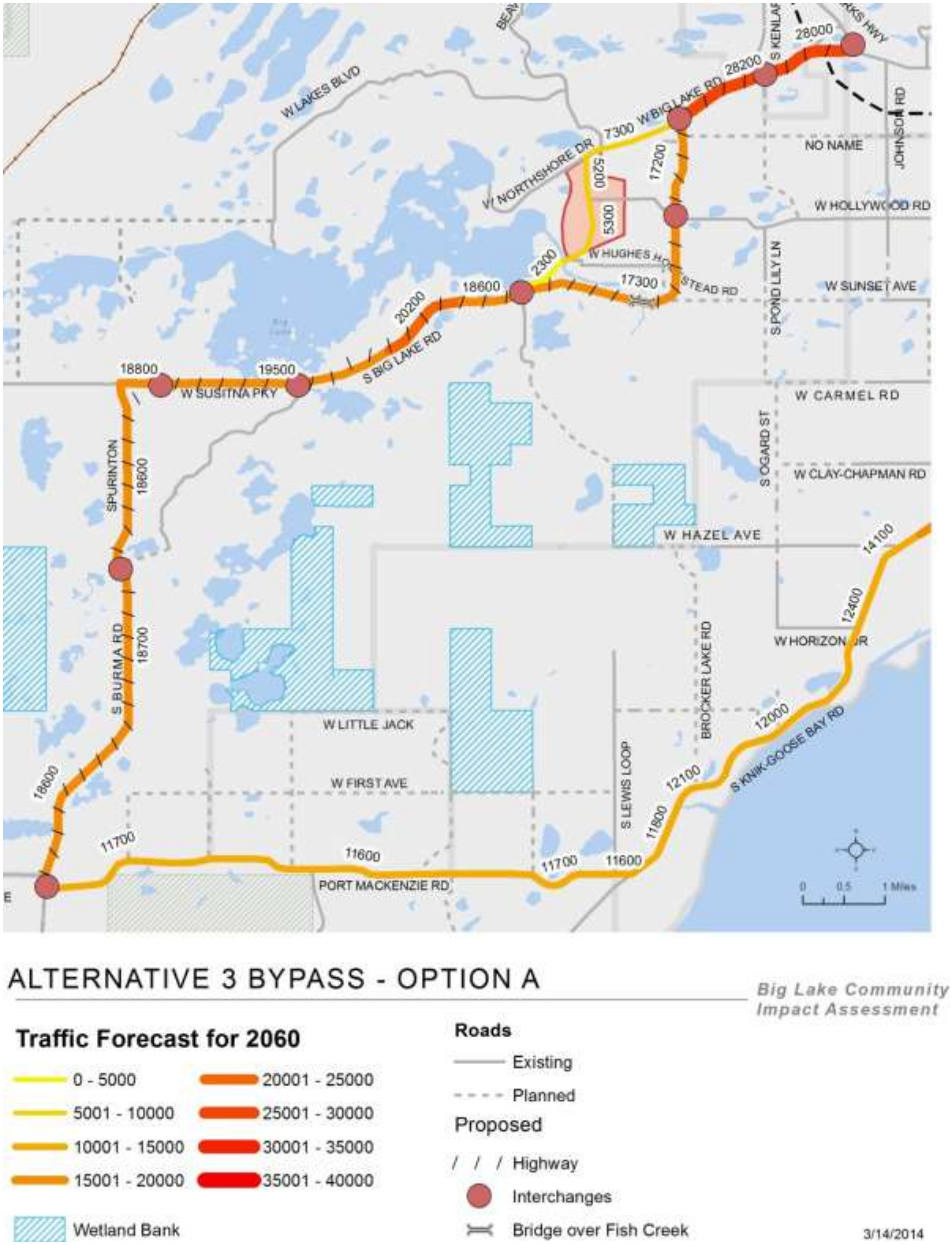


Figure 6. Alternative 3 Bypass - Option B Forecasted Traffic at Build Out

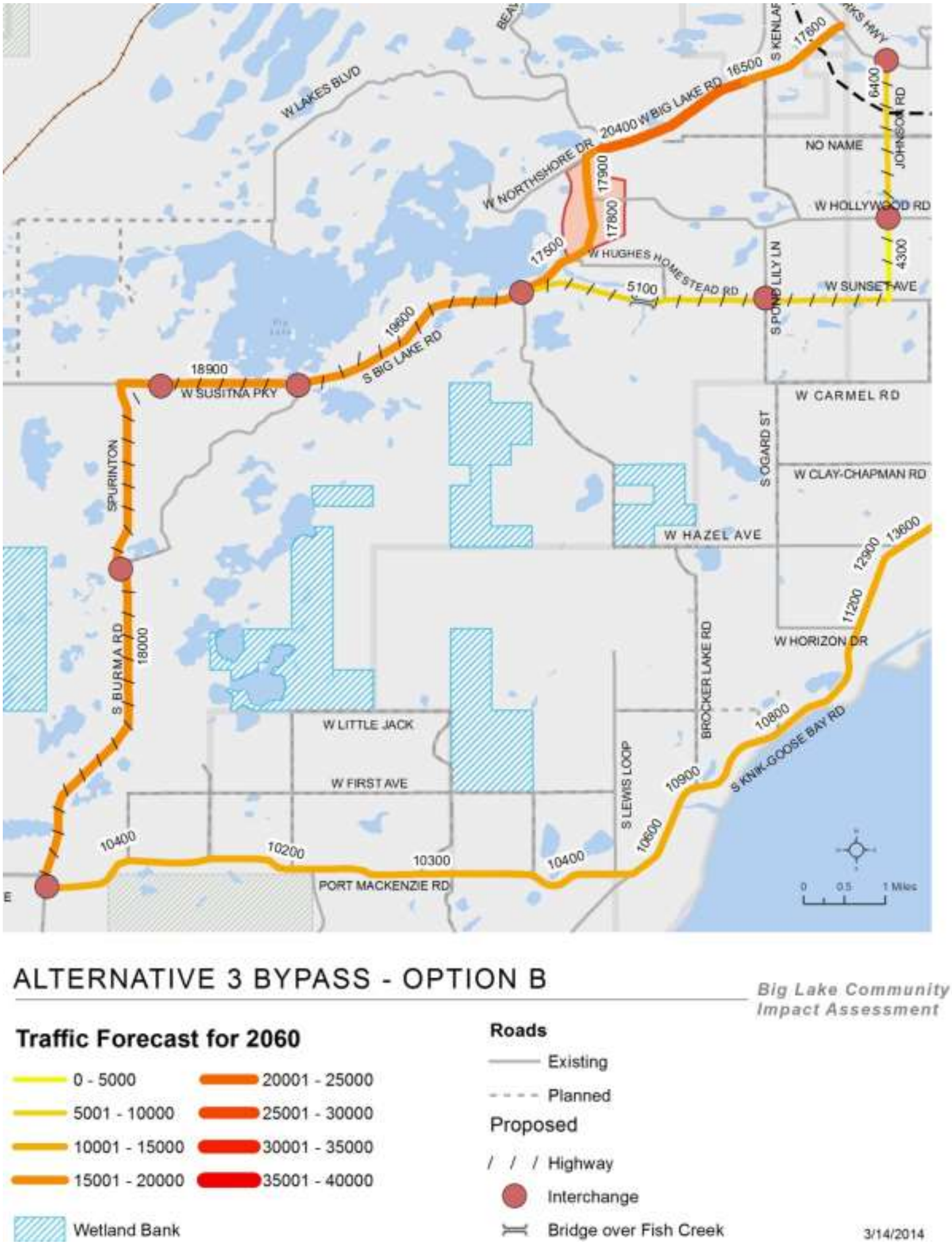


Figure 7. Alternative 4 Forecasted Traffic at Build Out

Figure 8. Alternative 5 Forecasted Traffic at Build Out

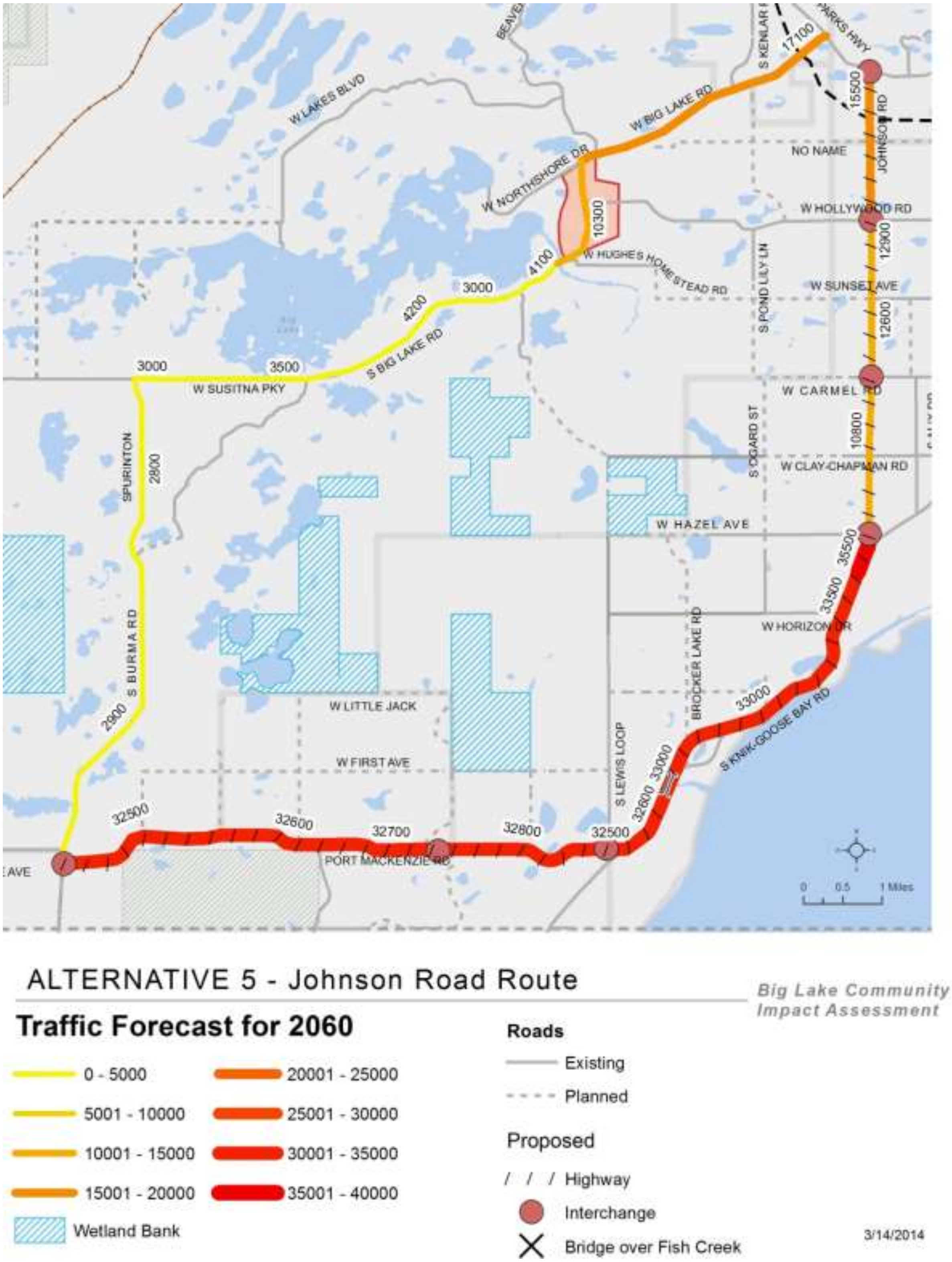
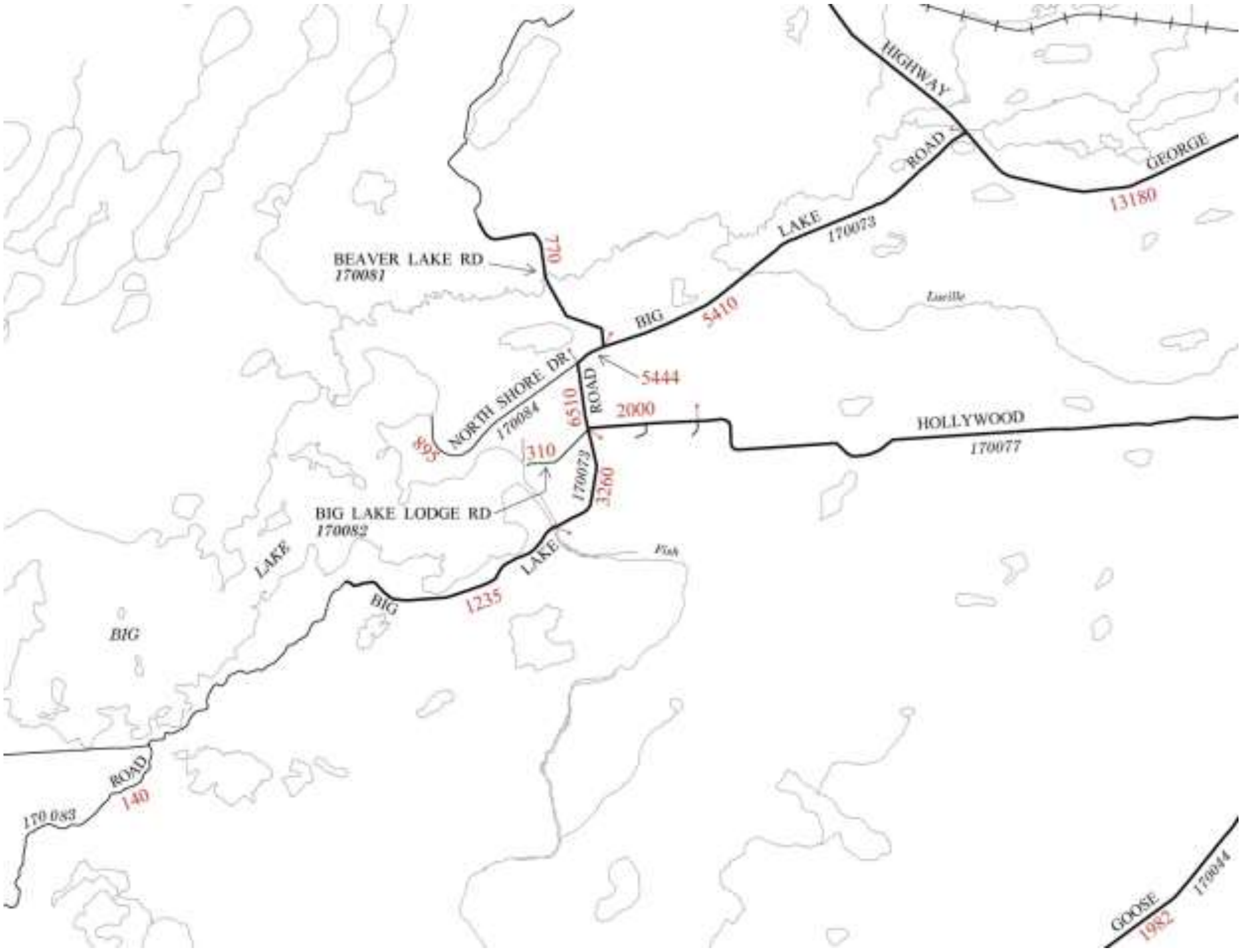


Figure 9. Big Lake Town Center portion of 2012 Traffic Volume Map



Source: DOT&PF,
http://www.dot.state.ak.us/stwdplng/mapping/trafficmaps/2012/Central/matsu12.pdf

APPENDIX A INDEX: MEETING MATERIALS

Big Lake Community Impact Assessment
Summary of Stakeholder Interviews – December 2013*
Prepared by Agnew::Beck Consulting

*NOTE – Groups not represented in the list of stakeholder interviews below were contacted directly and represented at one or both of the two communitywide meetings and/or at one or more the Big Lake Transportation Committee Meetings (see Public Involvement cover sheet for dates). Additionally, in most cases, more than one person from each of the major stakeholder groups participated in the community and/or BLCCTC meetings (not only the folks that participated in one-on-one interviews).

The main stakeholder groups involved in the Big Lake Community Impact Assessment process included (in alphabetical order):

- Aurora Dog Mushers Club
- Big Lake Chamber of Commerce
- Big Lake Community Council
- Big Lake Residents and Property Owners
- CIRI Corporation
- Cook Inlet Regional Inc
- City of Houston
- Knikatnu Inc.
- Mat-Su Borough Leadership – Mayor and Assembly Members
- Mat-Su Borough Port Commission Members
- Mat-Su Borough Staff
- State Representative Mark Neuman

Interview Purpose/Objectives

- Understand what they see as key opportunities and concerns regarding corridor development process, including potential criteria for route selection;
- Learn how they would define a successful project;
- Identify their views on the most efficient, effective tools for keeping the community and other stakeholders involved.

Key Results

#1 – Paul DuClos, Port Commission Member, Big Lake Resident
<u>When:</u> Wednesday, November 7th, 2012 (brief phone interview)
<u>By:</u> Shelly Wade, Agnew::Beck Consulting

- The road will serve both community and truck traffic.
- We need to examine the potential growth around the port area.
    - What types of leases are down there? Are they fuel supply businesses? Are there other bulk commodities businesses that require truck transport?
- We also need to understand what is happening with the prison.
- In either case, you will have a combination of working people getting to and from their homes in the Valley and trucks carrying goods north.
- Feeder roads will be an important issue for moving people along the corridor in a safe way.

- We should also be looking at the build-out analysis and potential subdivision development in the region, as well as location of existing and future schools and emergency response needs.
- The Port Commission passed a resolution in October supporting a road corridor between the Ayrshire Road and the Parks Highway along the existing railroad right-of-way (see Resolution Serial No. 12-008 at the end of this summary document).

#2 – Andrew Niemiec + Michael Rovito, Knik Arm Bridge Toll Authority
When: Friday, December 21st, 2012 (in-person interview)
By: Shelly Wade, Agnew::Beck Consulting

- Update on Knik Arm Bridge Project
  - Right now, in the middle of procurement process.
  - Getting statements of qualifications from six firms for design/construction of bridge.
  - Financing plan design – have about six months.
  - Pushing for legislation that they need to fund a portion of the project.
  - Will put final Request for Proposal on the street in May and hope to select partner by end of 2013.
  - Also working on right-of-way activities, specifically for State Department of Natural Resource lands. Other properties we are interested in are Alaska Railroad properties.
  - Permitting – Very far along. Will have all permits secured within the next couple of months. NOTE: Record of Decision in 2010.
  - Acquiring Government Hill duplexes.
- This is a public-private partnership, a different model for leverage upfront public funds.
- Regarding road connection from Port Mac (at Ayrshire) to Parks Highway.
  - Could be upgraded to four lanes when necessary. The timing of the upgrade is unclear.
  - Should talk with John McLellan of Tyonek Native Corporation about their plans and the possibilities for future development of their properties. There may be some interest in tying the traditional village to a bigger town (Big Lake? Wasilla?).
  - For our process, and from a practical standpoint, our Environmental Impact Statement did not include a road corridor from Point Mac to the Parks Highway.
  - We will work with communities, the Borough, Alaska Department of Transportation to better understand their needs/desired plans regarding the corridor.
  - However, we do not have any jurisdiction, and we cannot support one alternative over another; not in a position to say it should be one corridor over another.
- Re: intersection of Knik Bridge and corridor/CIA project.
  - Bridge project – it's not a matter of if it gets built; it's when it gets built.
  - Big Lake should proceed as if the bridge project is going to happen.
  - The new senate makes it highly likely that KABATA is going to get the legislation through they need to take the project to the next level.
  - Considering bridge as part of the CIA, will help define where some of the growth will occur.
  - There is political support for this project:
    - Representative Neuman is on the KABATA board.
    - Senator Huggins is a past board member has been very supportive.

#3 – Joe Perkins, Mat-Su SB Project Manager, Port Mackenzie Rail Extension (PMRE)

When: Tuesday, January 15th, 2012 (phone and in-person conversation)

By: Shelly Wade, Agnew::Beck Consulting (with Brad Sworts + Lauren Driscoll, Mat-Su Borough – in room with Joe)

- Right now, we're (PMRE) under construction. Bid opening is happening this week.
- This project is definitely now beyond a gleam in someone's eye.
- For the road corridor project, you need to start by asking a few key questions:
  - What is the purpose of the road?
  - Why are we doing this?
  - Are we doing this to get out of Wasilla?
  - Is the key purpose about trucking freight?
- Really need to go back and look at the results of the PMRE Environmental Impact Assessment. You will need to do everything we did.
- We had to rule out Corridor 1 (furthest west) and Corridor 4 (eastern border of Community Council area):
  - There is no alternative for getting around the recreation areas.
  - Wetlands.
  - Cost of construction.
  - Local trail systems.
- Another engineering consideration – the land you need for the road project needs to be more level than what we were considering for the rail project.
- Corridor 2 (Rail Extension corridor):
  - We purchased most of the right-of-way (ROW), but did not include ROW for a road.
  - To use this corridor for the road project, you would need to buy more ROW. The area you need to purchase ROW in is Knik Atnu property. The EIS identified ownership.
  - People have criticized us for not including a potential road corridor in our process.
  - Port Commission passed resolution in support of road along rail corridor.
  - This corridor would most likely require purchasing wetlands with credits and then you would have to mitigate the crossings.
- Corridor 3 (through Big Lake corridor):
  - When we did the EIS, we looked at the Big Lake area and it was expensive country to build in.
  - We looked at real estate, number of takings and it was expensive.
  - The cost of construction was high and there is not support to build through the community.
- Corridor 5 (most western route, follows Knik Goose Bay (KGB) Road):
  - Potentially least impactful.
  - Intersects with Hollywood, so good connection to Big Lake.
  - Hollywood may need to be upgraded from minor to major arterial.
  - Corridor has political support from Senator Huggins.
    - This could expedite the project.
    - You may even have construction in as little as two years.
- Should we be thinking more about some form of multi-modal transportation that connects water to rail to truck?

- In general, potential points to consider, or guiding questions/criteria:
  - Right-of-Way Issues
    - Buying ROW vs. already established ROW
    - Does the ROW have people's houses on it?
    - ROW purchase is equal to construction costs.
  - Road ownership – Who owns the roads that the corridor will intersect with?
  - Most economical route (not always the shortest, but should start there).
  - Public support
  - Lead or champion
  - Builds on existing projects
  - Considers and builds on future development. EXAMPLE: What is the future of the town sites down by the prison?
- From the general list of criteria above, Corridor 5 looks like the most promising corridor.

Interview #4 – Allen Kemplen, Alaska Department of Transportation (DOT), Mat-Su Regional Planner

When: Wednesday, January 16, 2013 (in person)
By: Shelly Wade, Agnew::Beck Consulting + Lauren Driscoll, Mat-Su Borough

Top Level Management Perspective

- This is a policy and not technical level decision.
- Knik Arm Crossing project is driving this road project.
- Not a lot of resources aimed at this and not a lot of interest.
- KABATA is has a lot of resources; whatever it can do, it will get done.
- Governor's budget is another avenue for KABATA to happen.
- If passed and signed by the Governor, the private sector will get excited.
- Crossing seen as top priority for the Borough.

Middle Management and Below

- It's about protecting our assets.
- KABATA has agreed to expand Port Mac to 4 lanes, limited access facility –as a part of National Highway System. DOT will take it over. It stops at Ayershire.
- Dialogue is about future connections.
- The issue that has created the need for the project is KABATA
- What does the KABATA EIS say? Should look at that.
- What will the facility be?
  - It will be higher speed.
  - Part of National Highway System.
  - Focus is on moving freight.
- What is the purpose of the road?
  - There are two stakeholder groups:
    - Truckers – Improved connection for high speed freight. Want an alternative from Parks Highway.
    - Commuter groups.
- Specific routes:
  - Reconnaissance on Burma Road is a factor.
  - The KGB corridor has not previously been entertained.

            - KGB/Vine is a fast growing area.
            - New school, kids – why would you want to mix freight with high school students?
    - Through Big Lake is the shortest route, however
        - Reconnaissance on South Big lake Road.
            - Have controlled access 4-lane divided highway.
            - $5 million project.
            - Have purchased ROW for 4-lane facility, but plans are not to build to 4 lanes.
        - Shortest route evidence has led to assumption (by KABATA and others) that is desired route.
        - Makes most sense for economic development purposes and also potentially less expensive to build?
    - If you move the connection to the west side of Big Lake, there is no economic development.
- DOT is not going to be out in front advocating for one route or another. Instead, they want to:
    - Minimize costs.
    - Protect and make use of assets.
    - Track what the level of investment is right now.
    - We'll follow along.
- There are two competing proposals:
    - City of Wasilla – Want to make the Parks Highway an arterial route and do a bypass.
        - The Wasilla Bypass is in the LRTP and the Wasilla Comp Plan.
        - However, this project needs a political advocate and General Fund support. They don't really have either right now.
    - KABATA wants to offer competitive alternative for communities.
        - Has the political support right now.
        - Also appealing for future land use and retail development.
        - As a result of KABATA, corporations see potential development.
- CIA Process
    - MSB is sitting down with Big Lake right now and breaking down the "City of Big Lake" question.
    - The CIA is a tool for addressing the concern that the route might go through Big Lake.
    - Big Lake is on record as saying they want controlled and limited access on the South Big Lake Road. So, the bypass option makes the most sense.
        - Build upon this with strategic intersections with commercial nodes and pedestrian friendly areas.
        - This is a win/win for the community, for truckers, for commuters. Regional mobility AND economic development opportunities, while also preserving the integrity of the community (e.g., comp plan goals).
    - A recommendation for further work of specific routes should come from the CIA outlining desires goals and outcomes.

Interview #5 – Jim Clemenson, Big Lake Resident + Former Chair of Road Service Area
When: Wednesday, January 23, 2013 (in person)
By: Shelly Wade, Agnew::Beck Consulting
Comments on Corridors – based on current version at time of interview

- Corridor 3
  - Should just write it off. The community will not support it.
- Corridor 3 Bypass
  - Goes through local airport, so not a good option.
- Corridor 4 makes sense and is shorter than Corridor 5.
- Corridor 5
  - There has been so much traffic that it is already being upgraded to four lanes.
  - How do people in Knik feel about this as a potential corridor?
- Questions that should considered re: corridor selection:
  - What is the status of KABATA?
  - What do the population numbers say?
  - What is the status of a potential natural gas pipeline project from the North Slope to Point Mackenzie? Where will it go? It is supposed to be 24" of buried pipe following the Parks Highway to Houston/Willow and then where? Who is working on that?

Details re: Big Lake RSA

- Jim has been chair for 15 years.
- At time of interview, he was waiting to hear if he was confirmed for another year. At February 5th meeting, sounded like he was not confirmed and would no longer serve as chair.
- Conducts one meeting a quarter.
- Receive Borough funds – 2.5 mill rate for Borough roads in Big Lake, for a total of $550K/year.
- Most funds go to contractor to maintain roads in Big Lake.
- Maintain 103.5 miles of road – out of that, 25 roads are blacktop, the rest are gravel.
- Funds that do not go to contractor go to road projects.
- RSA priorities are as follows:
  - Maintenance contract – Currently held by Tews. Got the contract after bidding low. MSB suspended the contract when work was not being completed.
  - Chips/sands.
  - Striping and crack sealing on blacktop every other year. This work goes out to bid.
  - Little projects.
- Don't have enough money to do larger projects. Have talked about raising mill rate, but people become agitated when you bring up the topic.

Incorporation

- Has been voted down twice. Unlikely to pass this time.
- It's all about the potential jobs associated with becoming a City. Certain people want those jobs.
- The new city would take over the roads.

Interview #6 – Jim Simon, Principal, Big Lake Elementary School
When: March 2013 (informal, in person at community meetings)
By: Shelly Wade, Agnew::Beck Consulting

- There is a lot of concern at the educator level regarding the prison and how that will change the population and composition of people moving into Big Lake and surrounding communities. Specifically, there will be a lot of new families, families of prisoners; that have come to be close to their incarcerated loved one. Concern is regarding the pressure on the local schools to handle additional students with the same resources, and in some cases, work with special/high needs children.

Big Lake Community Impact Assessment Project
Big Lake Community Council Meeting – Project Introduction + Discussion
September 12, 2012

Discussion Topics (red = where we will spend most of our time tonight)

1. Team Introductions + Contact Information
2. Purpose
3. Schedule
4. **Preliminary Public Participation Strategies**
5. Immediate Next Steps

1. Team Introductions + Contact Information

- Lauren Driscoll, Matanuska-Susitna Borough, 907-745-9855, Lauren.Driscoll@matsugov.us
- Shelly Wade, Agnew::Beck Consulting, 907-242-5326, shelly@agnewbeck.com
- Project Website : www.biglakecommunityimpact.org

2. **Purpose –** To identify the potential impacts of potential road corridors from the Parks Highway to the Point MacKenzie Road/West Aryshire Intersection on the community of Big Lake.

3. **Schedule** – see handout

4. **Preliminary Public Participation Strategies**
   - **Tell us what you think.**
   - **What will work best for Big Lake?**
   - **How can we get the most folks involved?**

   A. Conduct and document initial outreach.

      - Develop project mailing + email distribution list.
      - Continue to flesh out project website and identify other websites, newsletters, etc. that are good places to link and advertise upcoming meetings.
      - Conduct face-to-face and/or telephone conversations with key stakeholders.

   B. Establish Project Steering Committee + Meeting Schedule.

      - What is the role of the committee?
      - What should the committee representation look like? Who should be involved?
      - How often will the group meet?

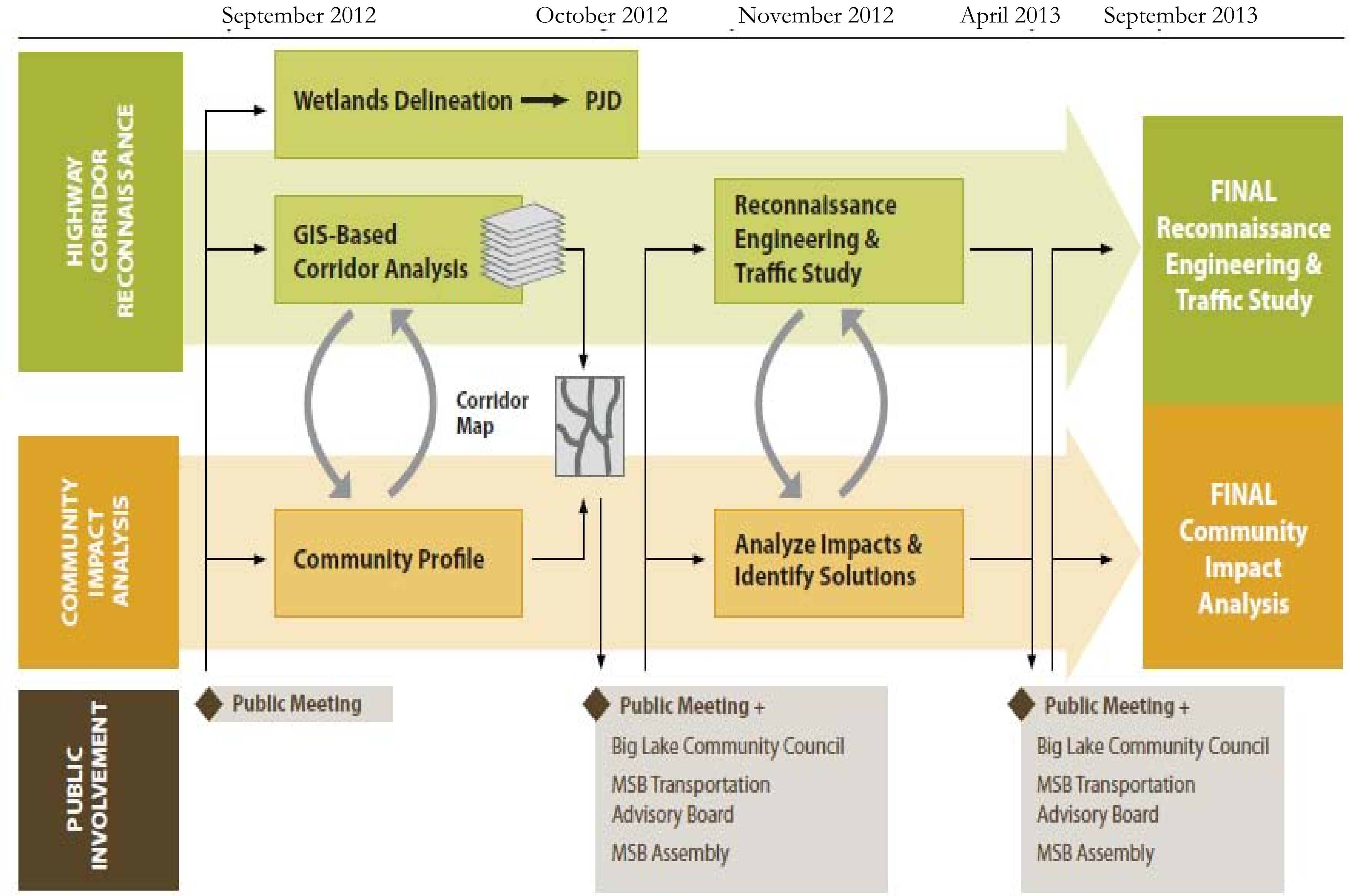
   C. Prepare for + Facilitate TWO Community Meetings

      - What is the purpose and/or expected outcomes of each meeting?
      - How can we get the word out?
      - What are potential good dates for these meetings?

   D. Conduct Agency/Technical Expert Meeting

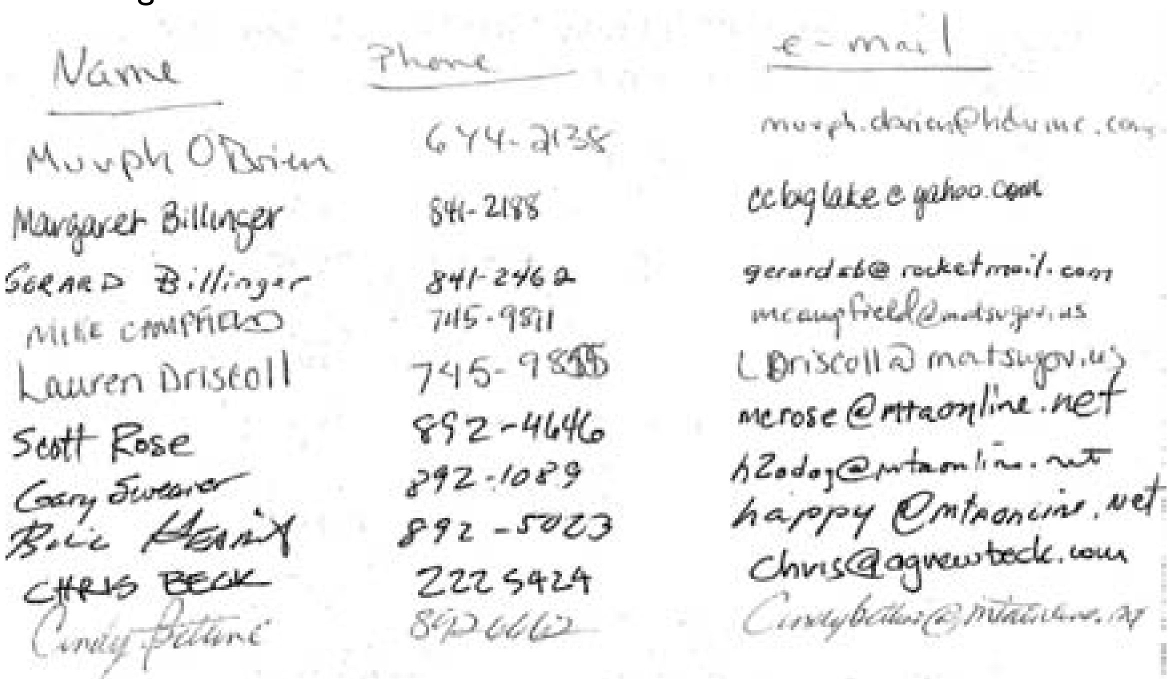
5. **Immediate Next Steps**
   - Nail down date for Community Meeting #1
   - Firm up public participation strategies – working with the BLCC
   - Start work on community profile – a lot of great work already done that we will build from
   - Start work on wetlands delineation – delineate and characterize wetlands along the proposed South Big Lake Road alignment

3. Big Lake Community Impact Assessment Proposed Project Schedule



NOTES FROM 10.16.12 BIG LAKE TRANSPORTATION MEETING

Attending – see attached list



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Bob Henry	892-5023	happy@mtaonline.net
CHRIS BECK	222 5424	chris@agnewbeck.com
Cindy Bettine	892-6662	cindybettine@mtaonline.net

Meeting Summary

- The committee supports the general road corridors identified, with minor corrections/additions (see details below)
- The committee supports the general structure for the 23rd public meeting but offers suggestions on certain topics (see details below)
- Education needs to be a major part of the 23rd meeting, to counter the misunderstandings, anxiety and anger regarding a proposed road.
- Work is needed with the borough to clarify overall project goals
- The transportation committee is a knowledgeable, responsible group, that can be a big ally in completing the project

Proposed Refinements to the Agenda

General:

- need better props – posters or PowerPoint slides – on key info topics
- "please ditch the acronyms"

<u>Meeting Objectives - better understand</u>… GRAPHIC

- Goals and value of the Community Impact Assessment (CIA).
- Scale and purpose of a new north south road
- CIA schedule and opportunities for public participation

- Route selection process, and how the CIA fits in.
- Highway corridor issues and options
  - Past and current proposed highway routes ("spaghetti map").
  - Proposed short list of highway corridors; process used to identify these corridors.
  - Potential pros and cons of road corridors.
- Next steps in the assessment process.

<u>Agenda</u>

I. Welcome, Project Overview + Meeting Purpose *(~~15~~ 30 min)*

A. Meeting purpose and agenda – *see above* – GRAPHIC/SLIDE

B. What is a Community Impact Assessment? Why prepare a CIA? – GRAPHIC/SLIDE

WHAT – extract from federal highways administration

- a process to evaluate the effects of a transportation action on a community and its quality of life.
- an integral part of road project planning and development that shapes the outcome of a project, that documents the current and anticipated social environment of a geographic area with and without the action.
- includes all items of importance to people, such as mobility, safety, employment effects, relocation, isolation, and other community issues.

WHY?

- Gives the people of Big Lake a strong voice in the road decision making process
- Without this study Big Lake has less influence over road decisions
- Need to be ready early to guide decisions– before funding is suddenly available
- A way to plan for the future, to provide access that works for Big Lake, and avoids Wasilla bottleneck

C. How route decisions are made; - GRAPHIC

- Schedule graphic – process and role of local, borough, state, federal players
- *Add approximate time frames*
- *Add info re scale of the proposed road project – big, costly, slow – at least 7 years, likely much farther into the future*
- *Make a clear statement – decision rests with state DOT/PF, but responds to local concerns*

D. CIA project purpose and schedule - GRAPHIC

Prepare a simpler version than colored boxes currently in hand, for example:

- Project Startup – link to Big Lake Transportation Committee
  - Identify road corridors, a consolidation of the spaghetti map
    - Oct Public Workshop – Project goals, confirm corridors, start evaluation
      - Recon Engineering – brief fatal flaw analysis
        - Impact Assessment – series of work sessions
          - Draft report released
            - April Public Workshop

II. Presentation of Preliminary Corridors *(25 min)*

A. Introduction – GRAPHIC
- Many different routes been proposed – over 20
- Our goal – consolidate these many routes into a smaller set of generalized corridors that are representative of the major options.
- Optional: powerpoint slide constraints driven process:
  - Stay away Borough wetland reserves
  - Stay away from special state designated areas (e.g. Nancy Lakes)
  - Aim to reduce costs by following public lands
- Use these corridors as reference point for impact analysis

B. Purpose of this part of meeting
- Show process used and results of consolidation process
- In small groups that follow, confirm we got it right

C. Review maps, process for identifying corridors – MAPS
  - *Make sure we're using the right sequence of maps – PowerPoint and poster size?*
  - *Add a new corridor connection linking corridor 1 and 2, in the vicinity of the West Susitna Pkwy*
  - *Include a couple of small arrows off the main corridors to suggest that plan will identify relevant secondary roads, but only in a very generalized sense*
  - *Include (brief) discussion of study area boundaries, reference to Houston intersection*

III. Community/Key Stakeholder Discussion of Preliminary Corridors *(45 min)*

A. **Small Group Work (40 min)** – Break community members into smaller groups to review the preliminary corridors. Select group scribe and spokesperson. HANDOUT
   1. Any reason these three corridors won't work for purposes of subsequent analysis?
   2. What are the potential pros and cons opportunities and challenges, of the different corridors?
   3. Regarding evaluation criteria – what is missing or incorrect on the draft Evaluation Criteria list HANDOUT/GRAPHIC - see last page of this doc.

B. **Group Report Back (*20* min)** – Group spokesperson summarizes key results from their small group.

C. **Full Group Discussion (*10* min)** – Collective group debrief/discussion to address remaining comments, questions and concerns.

IV. Next Steps + Wrap-Up *(10 minutes)*

Overview of schedule between now and April/May 2013 including:

A. Roadway reconnaissance engineering
B. Community Impact Assessment –
C. Public Participation – Keeping community and other key stakeholders engaged in the process

Miscellany Tasks to do

A. Cindy asks – check on boundaries of community council – lake on south side should be out, shown as in?
B. Maps – final constraint map – blend of state and private land confusing
C. Publicity
    - Send electronic version of flyers to all orgs, for them to distribute
    - Use Water Quality project list serve too?
    - Press release?
    - Borough does newspaper advert – agreed to by Lauren, but follow-up
    - Physical sign, day of meeting?

Evaluation criteria for considering impacts of alternative corridors

- **Avoid adverse impacts**
    - Minimize disruption of community uses – residential neighborhoods, commercial areas, parks and trails, public facilities and public gathering places
    - Minimize environmental impacts: on wetlands, water quality, habitat
    - Minimize construction costs
- **Maximize positive benefits**
    - Reserve a safe, convenient corridor for carrying through traffic
    - Provide safe, convenient circulation to and within the community
    - Provide right level of access to/through downtown – support goals of comp plan

1. **Process for Selecting Three Preliminary Road Corridors**
   - Start with full array of past proposed routes ("spaghetti map")
   - Aim to identify 3-4 corridors that cluster different possible routes, aiming to represent major plausible options
   - Initial screening criteria for narrowing/defining initial set of corridors
     - Stay away Borough wetland reserves
     - Stay away from special designated areas (e.g. Nancy Lakes)
     - Provide options that largely avoid downtown Big Lake
     - Provide options that primarily cross public lands

2. **Evaluation criteria for considering impacts of alternative corridors**
   - **Avoid adverse impacts**
     - Minimize environmental impacts: on wetlands, water quality, habitat
     - Minimize construction costs
     - Minimize disruption of community uses – residential neighborhoods, commercial areas, parks and trails, public facilities and public gathering places
   - **Maximize positive benefits**
     - Reserve a corridor for carrying through traffic
     - Safe, convenient access within the community
     - Right level of access to/through downtown – support goals of comp plan

Big Lake Community Impact Assessment + Corridor Reconnaissance Study
Community Meeting #1
October 23rd, Faith Bible Fellowship Center in Big Lake

A. Summary of Participation + Facilitation

- Estimated 90 to 100 people attended.
- Most people heard about the meeting from e-mail, others from the Frontiersman, radio and the Jolt Construction sign.
- The Knik Arm Bridge and Toll Authority (KABATA) Executive Director, Andrew J. Niemiec, and the new KABATA legislative liaison, Mike Rovito, attended.
- There were not any representatives from the Alaska Department of Transportation and Public Facilities or the Alaska Railroad Corporation.
- Also in attendance were Mayor Virgie Thompson of Houston, and State Representative Mark Newman.
- Mat-Su Borough representatives present included:
    - Lauren Driscoll, MSB Planner
    - Mike Campfield, MSB Civil + Environmental Engineer
- The meeting was facilitated by the Project Team including:
    - John McPherson, HDR (Project Manager)
    - Shelly Wade, Agnew::Beck Consulting (Public Participation Lead)
    - Chris Beck, Agnew::Beck Consulting
    - Laurie Cummings, HDR (Community Impact Assessment Lead)

B. Summary of Results

- Meeting attendees support the need for this project as a way to organize community views on the pros and cons of different road corridor options, and to influence eventual route decisions.
- Meeting attendees agreed the three corridors presented provide a reasonable starting place for the community impact assessment. There was a general sense that corridor 1A, a route that goes south of the Horseshoe Lake area (see attached map) is likely not a viable option, and that a corridor on the west side of the Little Susitna River to near Willow (a.k.a Willow Connector as identified in the Alaska Railroad EIS Study) should be added for evaluation.
- Initial views on the pros and cons of different road corridors vary, but most meeting attendees who spoke up would prefer the road shift away from the center of Big Lake (either east or west).
- In general, attendees also supported corridor 1, but as mentioned above, would like a more western corridor assessed.
- More information is needed on several topics that will effect potential impacts of the road; these include:
    - Projected population growth; traffic demand to be carried by the proposed road.
    - Clarification about the ultimate destination and purpose of the road – the balance between serving through traffic heading to Fairbanks, such as commercial truck traffic vs. providing

daily commuter access to and within the Mat Su Borough, Big Lake, and Anchorage via the bridge.

- The character of the new road and of allowed uses along the road – will this be a limited access road, with minimal adjoining land development, or a road that allows/encourages roadside development?

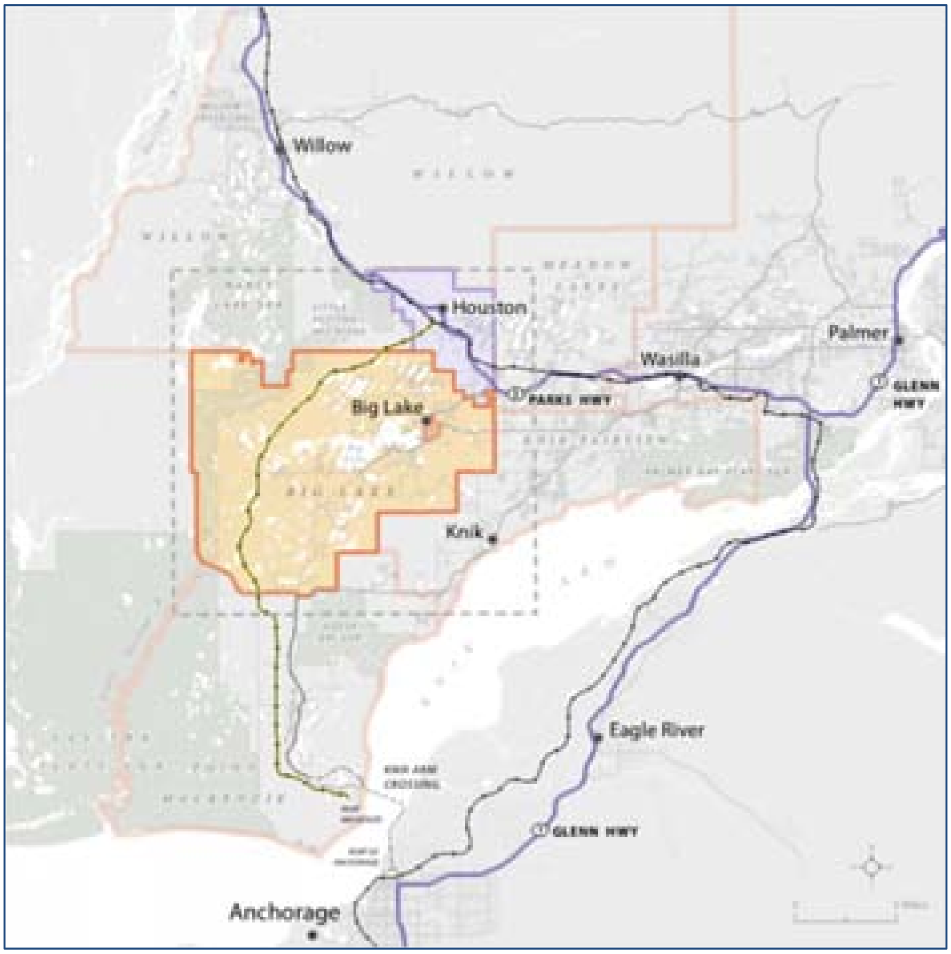
C. Introduction

1. Shelly Wade introduced the team and how to stay involved with the project, team introduced themselves.
2. Shelly Wade walked through the agenda:
    a. Question – Is this project related to the Alaska Department of Transportation & Public Facilities (DOT&PF) DVD sent out a couple years ago?
        i. Answer – This project is a part of that overall continuation of transportation work but is not directly related to that DVD; the team was unaware of the DVD in question.
    b. Question – What about decreased funding in future, how will that affect the road?
        i. Answer – Future funding would likely come primarily through federal and state funds since it is a large highway project, and would likely be administered by the AK DOT&PF.
3. Chris Beck outlined the purpose of the community impact assessment: studying the potential effects on Big Lake of developing a highway between Port MacKenzie and the Parks Highway.
    a. Purpose of this meeting: collect information about community views, interests, and concerns; use this information to influence eventual decisions (by identifying pros and cons) about where the highway corridor will be;
    b. Comment – Project has transitioned from community impacts to route study (finding the appropriate route). Need to think more broadly about impacts – project will do both; we have to have a sense of route to evaluate impacts.

D. Presentation – Overview of Big Lake Corridor Project Process

1. Community Impact Assessment and Highway Reconnaissance Study – both happening simultaneously.
    a. Beginning of the process – currently doing impact assessment and engineering reconnaissance study to find feasible route.
    b. Two study areas (please see Map A on Page 3) – Larger box represents the boundaries of possible routes proposed to be studied; smaller shaded areas are Big Lake town center, Big Lake Community Council and City of Houston, which will be the areas upon which impacts will be assessed.

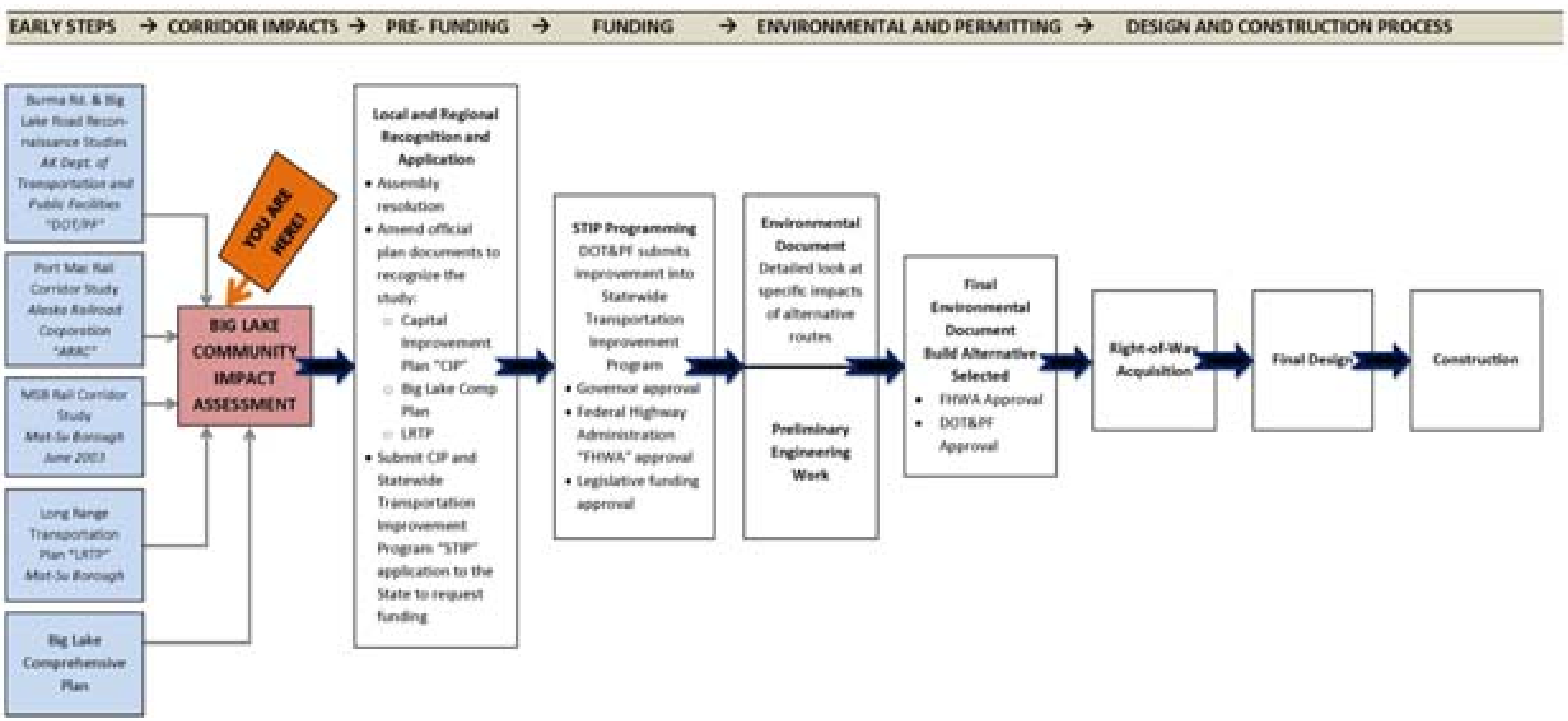
Map A: Big Lake Community Impact Assessment + Corridor Reconnaissance Study Project Area



2. Next Steps (please see "One Step in Process" graphic on Page 4)
    a. Overall timeline from initial assessment to actual construction could range from a minimum of 5 years to 15 years or longer.
    b. Steps in the process include:
        - Local decision to go ahead with the project – Long Range Transportation Plan, Borough resolution, etc.
        - Funding – This is a "large highway project" and will possibly involve funding from Federal Highway Administration (FHWA) and legislative action from the state. Timeline to get funding is uncertain, a few months to several years.
        - Environmental document (either full Environmental Impact Statement (EIS) or other environmental document) – depends on funding sources, amount of study needed, may go quickly or may stall. Will pass through state and federal (FHWA) process, if federally funded.
        - Post-Environmental phase – 1-2 years for design, 1-2 for right-of-way acquisition along the final corridor, and then another 1-2 years for full construction.

BIG LAKE ROAD CORRIDORS – COMMUNITY IMPACT ASSESSMENT AND CORRIDOR RECONNAISSANCE STUDY

ONE STEP IN THE PROCESS TO SELECT THE RIGHT ROUTE FOR A MAJOR NORTH SOUTH ROADWAY



E. Presentation – Preliminary Highway Corridor Alternatives

NOTE: Please use Map B on Page 10 as reference for sections E, F + G of the meeting notes

1. Purposes of the highway
   a. National highway system projects:
      - Connect communities to each other.
      - Connect people to ports, airports.
      - Connect job centers with residential centers (prison, trucking areas).
   b. This project is intended to provide possible routes connecting Ayershire Road and the Parks Highway, completing the link between the proposed Knik Arm Crossing and the Port MacKenzie area with the Parks Highway.
   c. Current roads are not built to handle traffic, heavy trucks and/or so many vehicles per hour.
2. Corridors options for Big Lake – Many options were proposed in the past; a map suggesting a subset of these options was presented. Considerations included previously identified routes (by State/Borough), advantages of crossing public land (less costly to acquire), wetlands, special designated areas such as parks, and local traffic patterns.
   a. Comment – Route on the west side of the Little Susitna River, ending in Willow, also looks feasible, should be considered especially since most of this traffic will be through traffic, not stopping in community either way.
   b. Comment – Could Knik Goose Bay Road be used?
      i. Answer - Not desirable, as Knik Goose Bay Road serves as the primary a local collector for many adjoining individual properties is already in serious need of contraction upgrades to meet the existing traffic demands.
   c. Question – Is the main intention to go from port northbound, or to go directly into borough communities? That would affect where to put the connecting point on the Parks Hwy.
      i. Answer – Ultimately road likely needs to serve both functions – efficient for north bound through traffic, valuable to surrounding communities.
3. Map of corridors were developed in the 2007 Rail Corridor Study (using multi-layer feasibility)
   a. Map of route layers includes:
      - Lakes, streams and waterways – particularly salmon streams
      - Parks, refuges, recreational areas
      - Wetlands and sensitive areas that should not be built on
      - Borough wetland banks (locally protected)
      - Poor soils (wet, not solid for building, many areas with large quantities of peat)
      - Prisons (big areas already developed)
      - Developed parcels – important to note most development right around lakes (property value, views, noise, etc)
      - Land value (corresponds with development) – affects Right of Way
   b. The study ended up with three principal highway corridors using the composite suitability analysis, as shown by AK Railroad Study (rail study proposes going through a western corridor).
4. Highway corridor development for Big Lake CIA specific study:
   a. Constraints to avoid:
      - Park areas (e.g., Nancy Lakes, Little Susitna River)

"Corridor" vs. "Route": Corridors depicted on the maps are a mile wide, general area where route might be placed. Corridor is more open-ended area to study. Route is the preliminary location of the road, a more finalized and defined (much smaller area).

- Areas with abundant small private parcels (e.g., Knik area; developed areas immediately adjoining Big Lake)

b. Opportunities to favor – Public lands that are easier to acquire than privately owned land, cheaper, and confine development (more) to public lands.

c. Conclusions – Corridors to consider. Route goes around Big Lake to the left or the right, or finds a way through the center of Big Lake. A route through the center of Big Lake was identified in the initial study of Big Lake and Burma Roads by DOT&PF, which spurred this community impact assessment.

d. Western corridor (west of Little Susitna) – The team's suggestion that this route not be studied further as part of Big Lake CIA for the following reasons (however, see more on this topic below that resulted from small group discussion):
   - Longest, more expensive to build.
   - Potentially low usage since fewer people would go to Willow than to Wasilla, etc. Good for getting up to Fairbanks, but would not connect borough communities.
   - Also hits some parks and refuges, and crosses the Little Susitna – requiring bridges.
   - Substantial wetlands located within the corridor.

F. Small Group Discussions – Feedback on Process + Potential Corridors

1. Four small groups discussed concerns and possible benefits on the community of Big Lake for each of the preliminary corridors. Key questions considered by each group were as follows:
   a. The next step in the process is to further analyze the corridors – Is there any reason why the proposed corridors won't work, why they shouldn't be analyzed?
   b. What are the potential pros and cons, opportunities and challenges, of the different corridors?
2. Each group selected a spokesperson to share a summary of the small group conversations (see below).

G. Large Group Sharing + Additional Discussion

1. <u>Group 1</u> (facilitated by Chris Beck) – **Prefer Corridor 1**
   a. Avoid downtown Big Lake, and prefer the rail corridor.
   b. Since rail spur already going along corridor 1 - don't want 1A between the other lakes.
   c. "Pretend we're Eagle River" – a major limited access road for through traffic, smaller local road serving commercial road.
   d. Had in the past looked at Burma Road, going left of Susitna Parkway, rather than going right.
   e. Would also like to consider following west side of Little Susitna River, near Red Shirt Lake (Willow Connector). Serves two purposes – allows community to connect to the road without going through the middle of the Big Lake, AND allows trucks to get as far north as possible.
   f. Many people would vote for the "off the table" west route if possible.
   g. Don't want to go between Horseshoe Lake and Big Lake (1A).
   h. Winter recreation is important: Big Lake offers backcountry/wilderness experience close to Anchorage, important to (local) tourism and trail system here. Road in the rail corridor area would have deep impacts on trail use, dog sled trails, snow machine trails.
   i. Additional questions to answer:
      - Is this road going to turn into a Wasilla commercial strip? Are there ways to avoid that happening? Can uses along the road by restricted?
         - Answer - DOT&PF/PF shares the motivation of the community in this regard; they also want a road that remains a quick, minimally restricted through route.
      - What types of traffic will happen on this road? Trucks? Buses in summer? Commuter cars? How does this affect the type of road and who will be passing through?
      - Noise control – How to mitigate, how far off the road will noise be an issue?
2. <u>Group 2</u> (facilitated by Shelly Wade) – **Prefer Variation of Corridor 3**
   a. Considered Big Lake Comp Plan – goal is benefiting downtown businesses, without directing too much through traffic through the heart of town.

b. Don't want to run the road through downtown, but would like it to go on corridor 3 (along the east route, take a jog at Hollywood Road).
c. Using corridor 2 would cut right into a residential area and also would affect snowmachines, dog trails, etc. recreation areas, and would go through downtown Big Lake
d. Going through 1 and 1A would get the road too far away from Big Lake, do want to maximize business opportunities along the new road.
e. Eastern route would provide compromise for commuters getting across Knik Arm Bridge and truckers going to Fairbanks. Minimal length of road, mileage for truckers going north.
f. Also didn't like Corridor 2 because it would be loud, heavy traffic – would echo across lake, also would be competing with local traffic along main road.

3. <u>Group 3 (facilitated by John McPherson)</u> – **Prefer Corridor 1**
   a. Generally like west route (1) – least congestion, best connection with Parks Hwy.
   b. Need to think ahead at least 20-30 years, there will be population/development growth no matter what, need to assume more development in the area but have a route that doesn't cut through communities.
   c. Trails can still be managed like Anchorage (tunnels under roads, or bridges) but don't want to put road through many communities.
   d. Still provides access to Big Lake (if access points created) – would like to see surface road improvements on main Big Lake road, if those happen will benefit town.
   e. Concern about corridor 1 area creating same types of problems for Horseshoe Lake as might happen with corridor 2 in downtown Big Lake.
   f. Knik Goose Bay road is better option than 2, but would impact snowmachine trails, etc. Still prefer 1.
   g. Additional question to answer:
      i. Will the road be 4-lane from the start, or start as a 2-lane road?
4. <u>Group 4 (facilitated by Mike Campfield)</u> – **Prefer Corridor 1**
   a. Also would like to see western route (Willow Connector) be studied.
   b. Either way, want east-west arterial streets connecting to the highway route to allow access to it.
   c. Concern about effects on trails (snowmachine, ATV, dog mushing).
   d. No support for portion of corridor 2 that goes through downtown, would prefer a bypass around the south side of airport that cuts through big hill on the west end of it and heads north, tying in to Big Lake Rd. at the NANA fabrication shop.
   e. Specific location of concern: Aurora Trail System (dog musher trails) – one of two dog musher trails in the borough for training sprint dogs. Great Land Trust is helping secure easements (owned by Borough) – wetland preservation area, possible conservation easement area. Don't want to put road through this wetland!
   f. Disliked 1A because it would result in the Horseshoe Lake area being surrounded by the railroad to the north and the highway to the south.
   g. Additional question to answer:
      i. What is the goal for project? Is the goal to move trucks to Fairbanks, or to move commuters?
5. <u>General Discussion</u>
   a. Many people were not in favor of corridor 2; nearly everyone suggests 1. The variant the participants wanted off the table is the route that traverses east-west south of Horseshoe Lakes, 1B.
   b. Question – There is a great deal of protection for wetlands, parks, certain types of trails. Why not dog mushing trails or snowmachines? Is there legal protection for those trails? If they aren't in an easement?
      - When using federal money, certain categories must be particularly respected (legal status) like designated parks or recreation areas. Trails are also typically protected if they are in

public ownership. Without easements along trails, there is no real legal protection for those trails.
  - Important to note that few of these trails have been legally reserved; use of them is technically trespassing (even on long-established trails).
  - Aurora Dog Mushers have agreement through Alaska Department of Natural Resources through 2017, and will be getting easements on current trails (legal).

c. Question – Since Knik Goose Bay Road likely to be widened, why not use it for both local access and through traffic?
  - Knik Goose Bay Road and proposed road are intended to serve different functions – one is primarily for access to immediately adjoining uses; the other is for moving traffic between and through communities.
  - Eagle River example – Having a freeway on one road and serving local traffic along the other road – Wasilla is an example of trying to use both functions on one road.
  - Having separate roads might be a solution to not having too many conflicts.

d. Question – Is there a 2A vs. 2B option? Rather than going through center of town, take a jog around?
  - Concern about turning South Big Lake Rd, which is a collector road for residential areas, into a major highway (mixing through traffic and local traffic).
  - Answering question requires answering what types of traffic is intended to be served – Is it mainly commercial (trucks)? Mainly locals? More commuters?

e. It was noted that there are two Iditarod trails – historic trail and the race trail. Need to consider both impacts of potential corridor on both. Historic trail follows corridor 3 more closely.
  - "Nobody screws around with Aurora" – cannot conflict with those trails, which are important to dog mushers in Big Lake area, also possible that the Iditarod race trail may be reestablished in the future along the historic trail.
  - Need dog mushers trail maps – trails with dedicated easements as well as traditional trails.

f. One person thanked Cindy Bettine and others for getting the community together to talk about what Big Lake will look like relative to the road planning.

g. Question – What corridor is the Borough promoting at this time?
  - No preference now – going through information gathering process, learning pros and cons, have heard feedback from state but are working to build list of impacts (pros and cons) for them.

b. Question – What direction is DOT&PF going on these routes?
  - They have not expressed an official opinion – need to ask DOT&PF that question; DOT&PF has been invited to the meetings, attended Transportation group meeting, and A::B reaching out to get DOT&PF reps at the meeting (and other agencies).
  - But… State (currently) has studied Burma-Big Lake which they may see as the least-cost and simplest route (because they have right-of-way there). In the past that has led to the suggestion of using the established route through the center of Big Lake.
  - MSB and the community raised flags regarding the downtown route; that has led to the initiation of this Community Impact Assessment, to get more information on options, and to have conversation with community.

h. Representative Neuman shared that there will be a road on the westerly route, associated with a planned gas pipeline. Goes through State parks. Also, Big Lake, Houston and Willow don't want to have a road through the middle of those towns. "Take it to the far left (west), take the traffic through there, take advantage of the gas line which is already going through there and which will already have a service road associated with it. Minimizing impact on the entire area."

H. Wrap-Up + Next Steps

1. This meeting is just the first of many opportunities to provide feedback.
2. There are a number of ways the community can stay engaged in the process including:
    a. Visiting the project website: www.biglakecommunityimpact.org website. We will be updating it regularly.
    b. Can sign up to get e-mail updates from Shelly Wade, shelly@agnewbeck.com, 907-242-5326.
    c. Can also call or email Shelly Wade or Lauren Driscoll, Lauren.Driscoll@matsugov.us, 907-745-9855.
    d. Considering having an agency representative meeting in November, ask questions of them directly
3. Gary Swearer, BLCC Transportation Committee Chair will provide monthly updates on the CIA process at the monthly BLCC meetings (second Wednesday of every month). The BLCC Transportation Committee will meet on the first Wednesday of every month to discuss the project. Gary welcomes involvement from others.
4. Next steps include:
    a. Compile input from this meeting as part of process and share on the project website, via email distribution list.
    b. Project team will gather more specific information on each corridor, including additional western route, to more clearly evaluate the pros and cons of each.
    c. In the spring (tentatively May 2013), the project team will share a more detailed evaluation of each corridor and recommendations for final corridors.
    d. Share back as much as possible! Need as much public voice as possible to inform the process.

Map B: Big Lake Preliminary Highway Corridor Map, Presented in Big Lake, 10-23-2012

NOTE: This is the map that was used during the small group discussions. The project team has added numbers to each of the main corridors, as well as annotations that capture key points made by the community. These include:

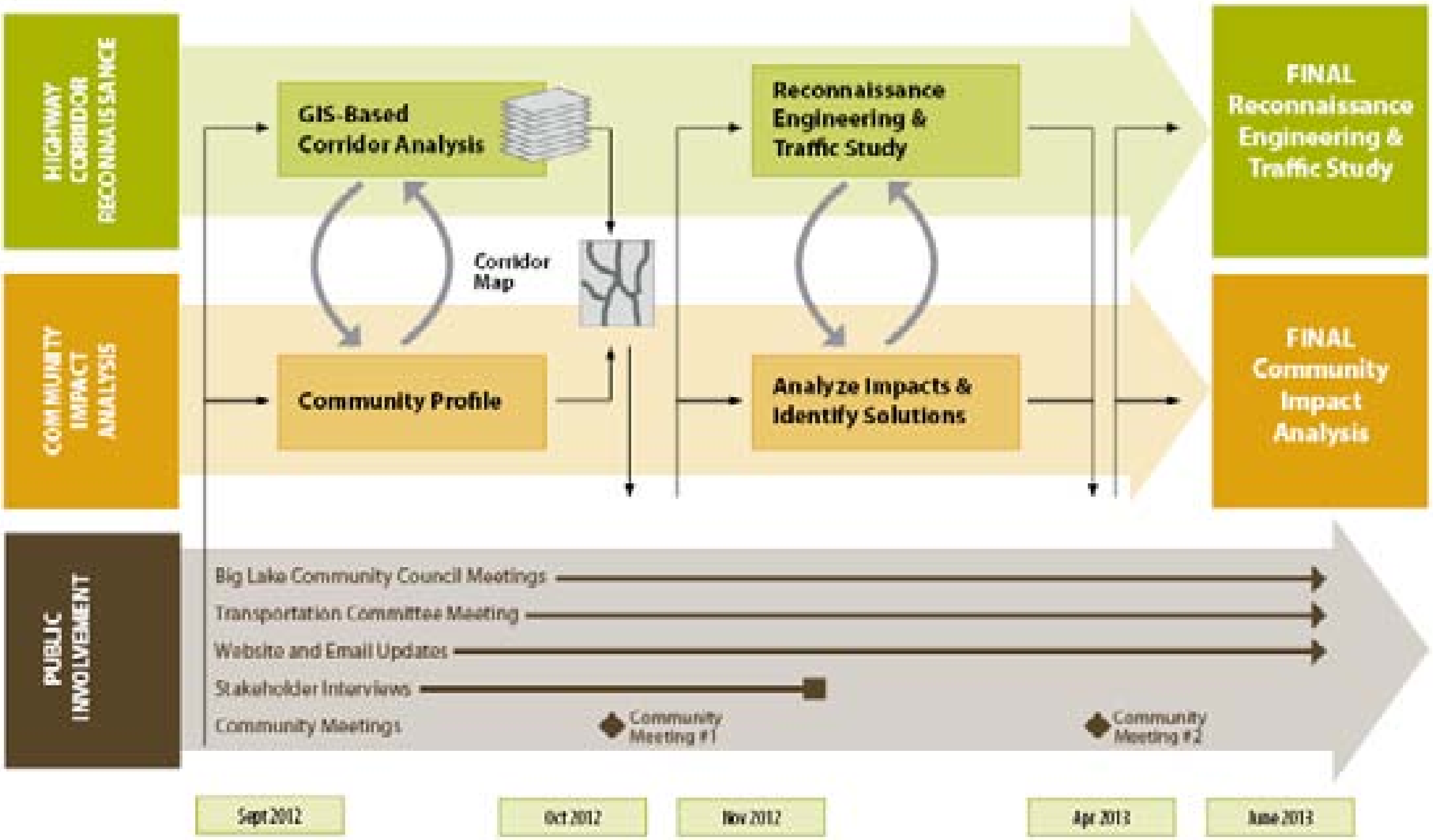
- Adding the Willow Connector
- Deleting Corridor 1A
- Adding the Bypass

BIG LAKE COMMUNITY IMPACT ASSESSMENT

Community Meeting # 1

October 23, 2012

Process

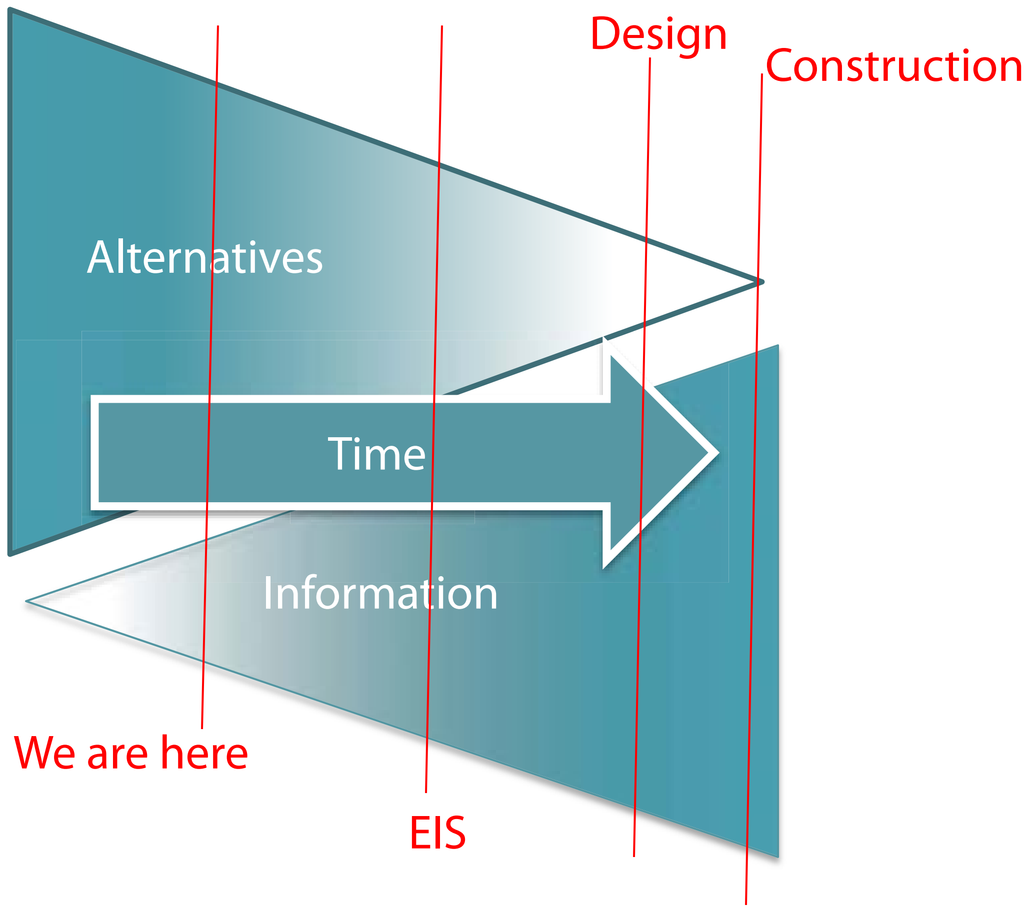


HIGHWAY CORRIDOR RECONNAISSANCE
COMMUNITY IMPACT ANALYSIS
PUBLIC INVOLVEMENT
GIS-Based Corridor Analysis
Corridor Map
Community Profile
Reconnaissance Engineering & Traffic Study
Analyze Impacts & Identify Solutions
FINAL Reconnaissance Engineering & Traffic Study
FINAL Community Impact Analysis
Big Lake Community Council Meetings
Transportation Committee Meeting
Website and Email Updates
Stakeholder Interviews
Community Meetings
Community Meeting #1
Community Meeting #2
Sept 2012
Oct 2012
Nov 2012
Apr 2013
June 2013

Process

Insert Project Development Graphic from MSB

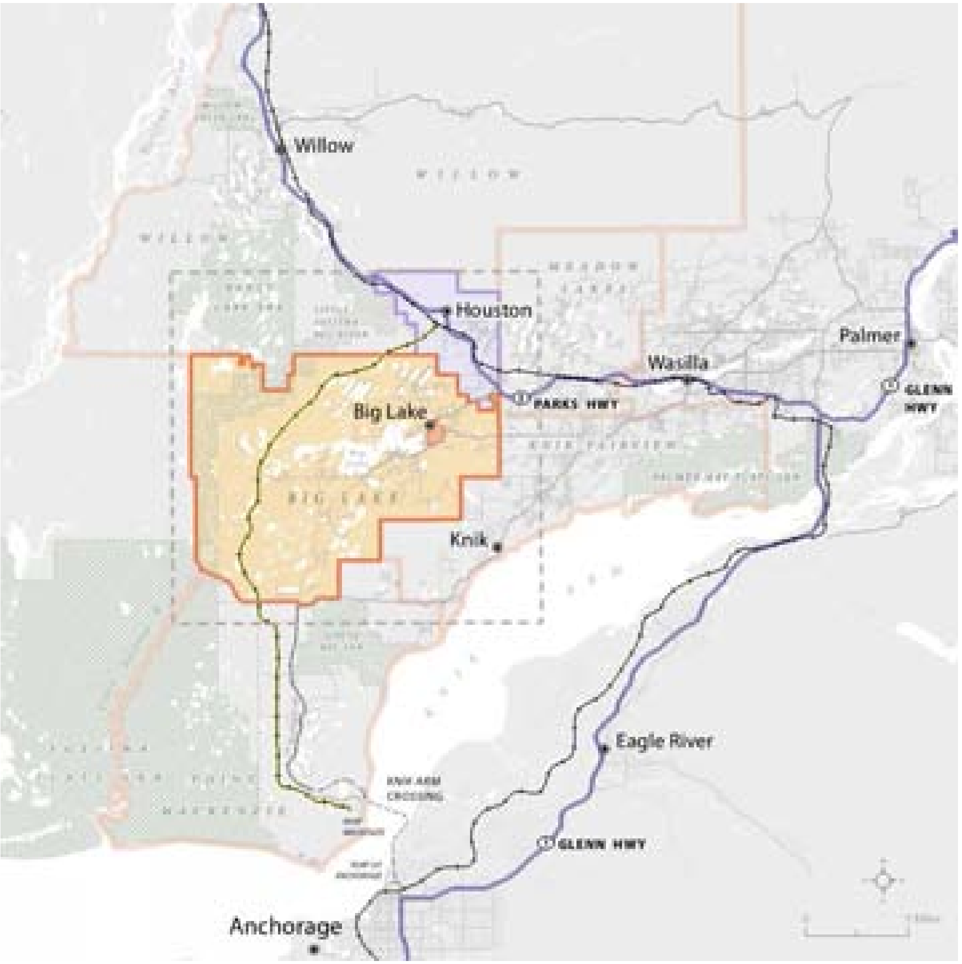
Data Collection



Community BIG LAKE Impact Assessment

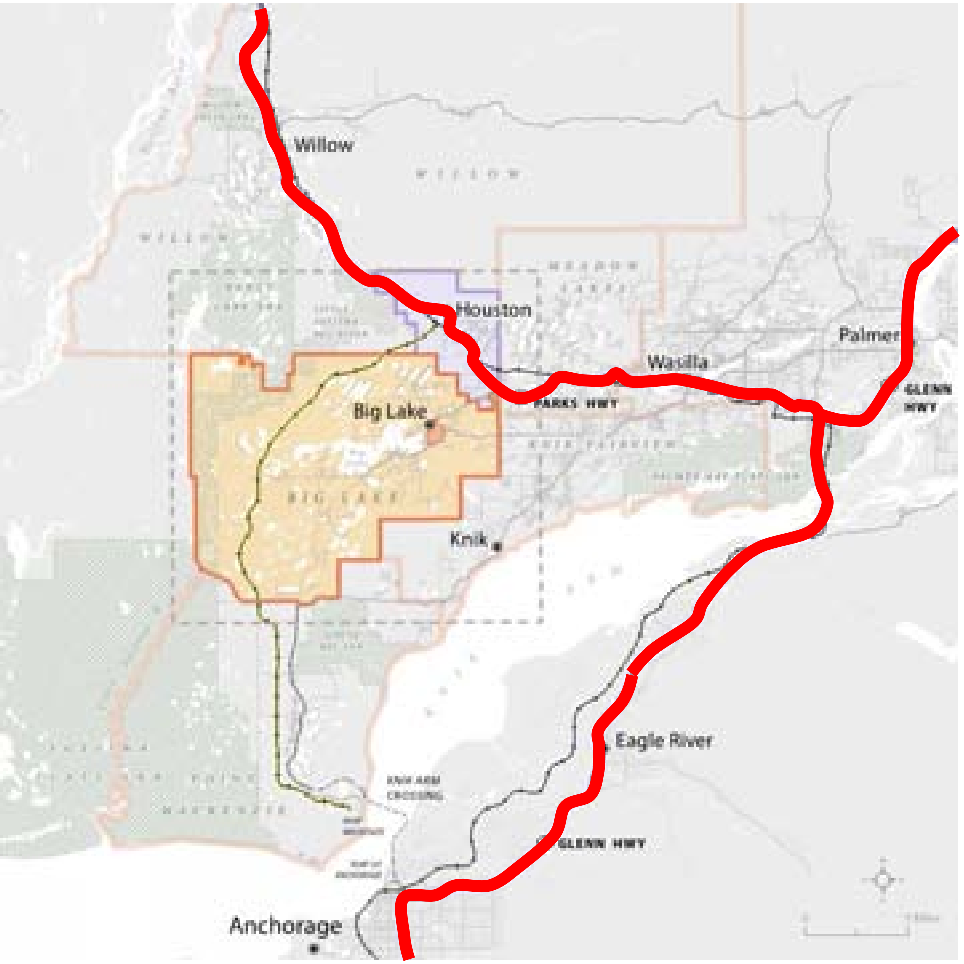
Study Area

- **Community Impacts**
- **Reconnaissance Engineering**



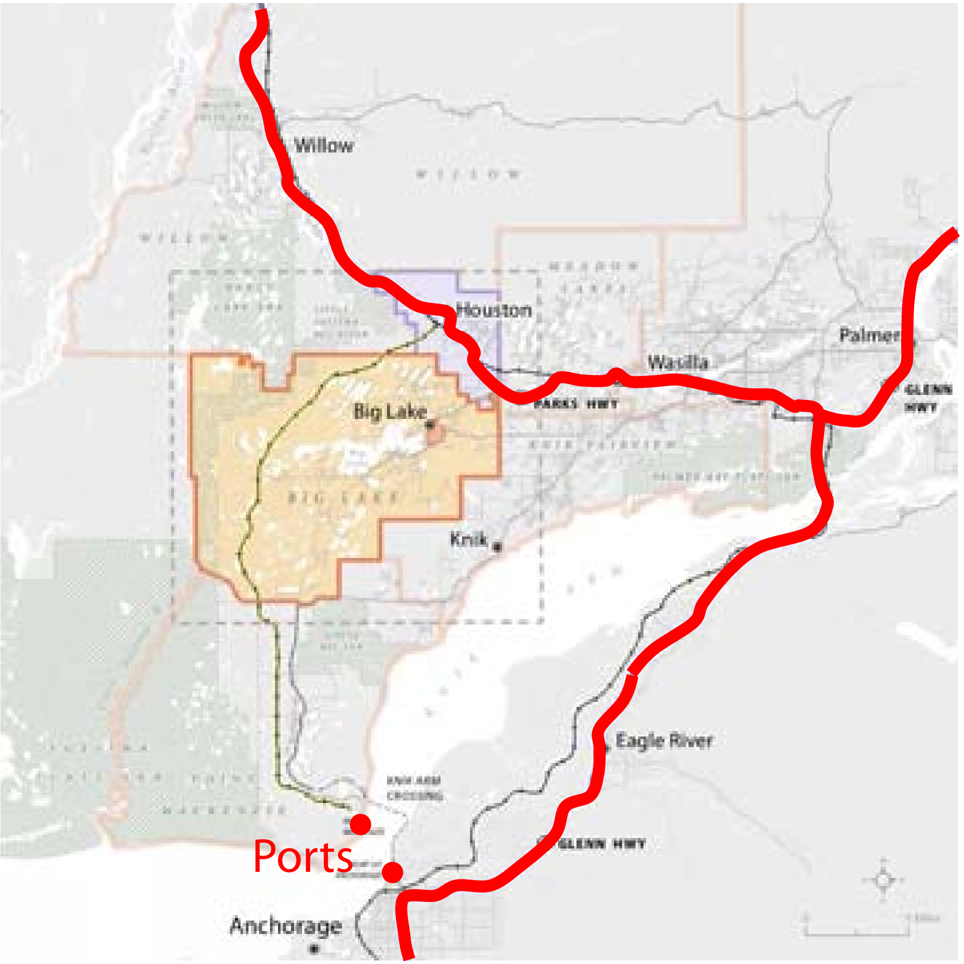
Purpose

- **National Highway System**



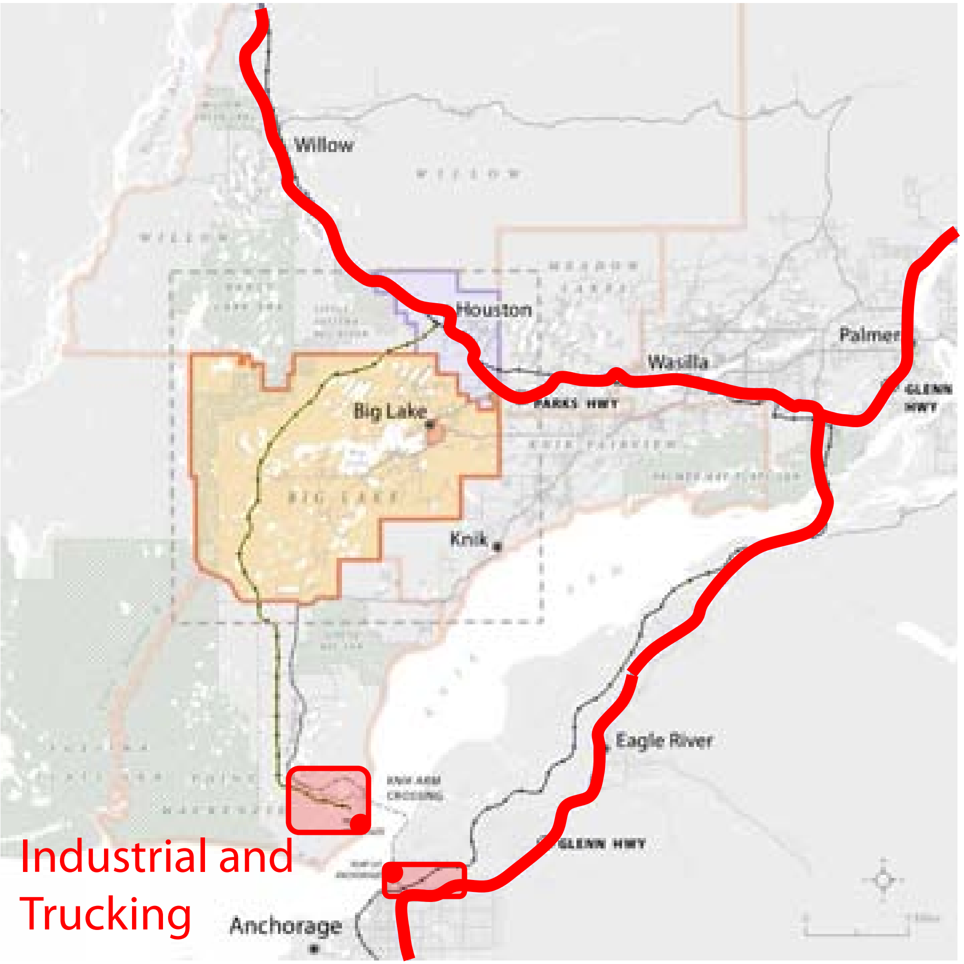
Purpose

- **National Highway System**



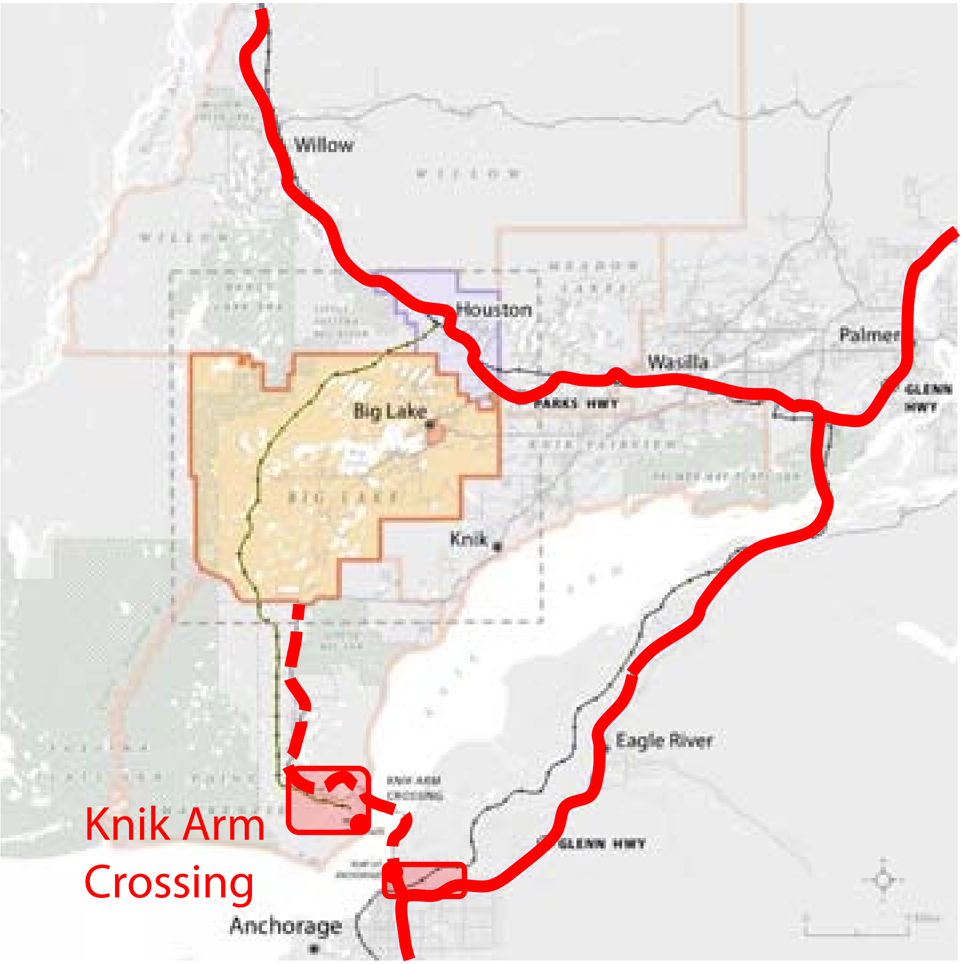
Purpose

- **National Highway System**



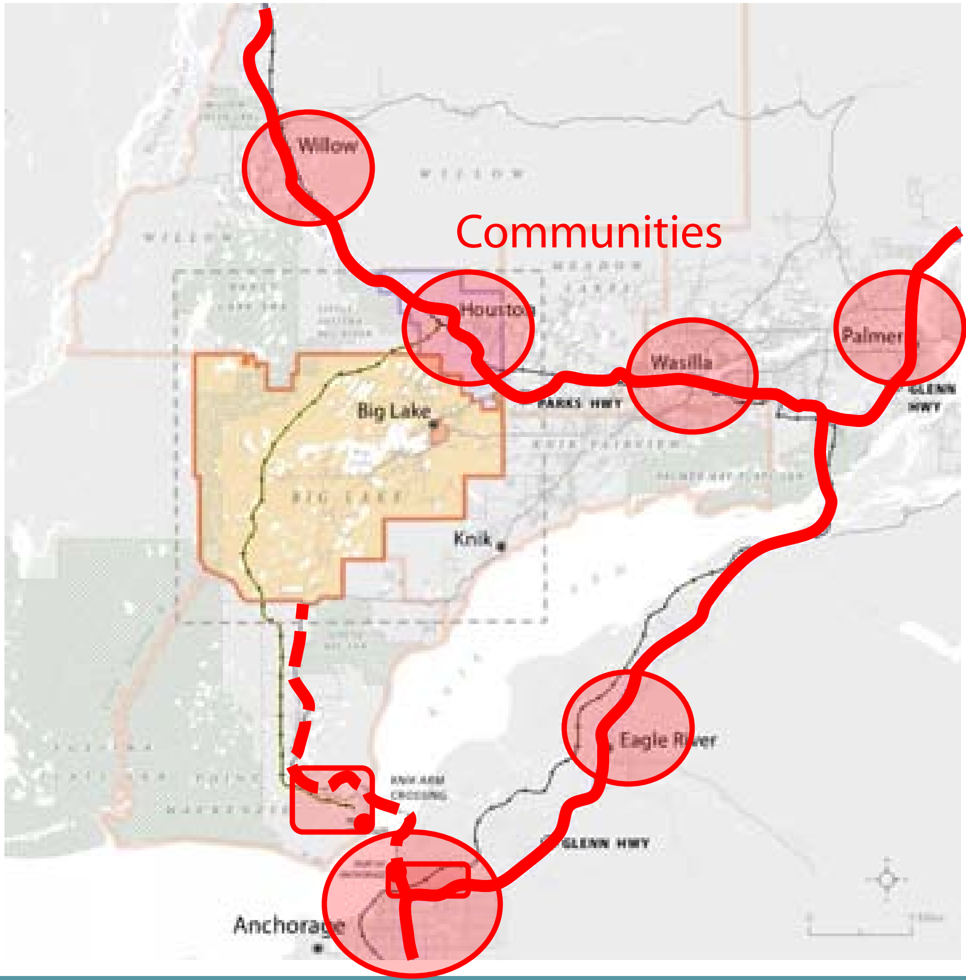
Purpose

- **National Highway System**

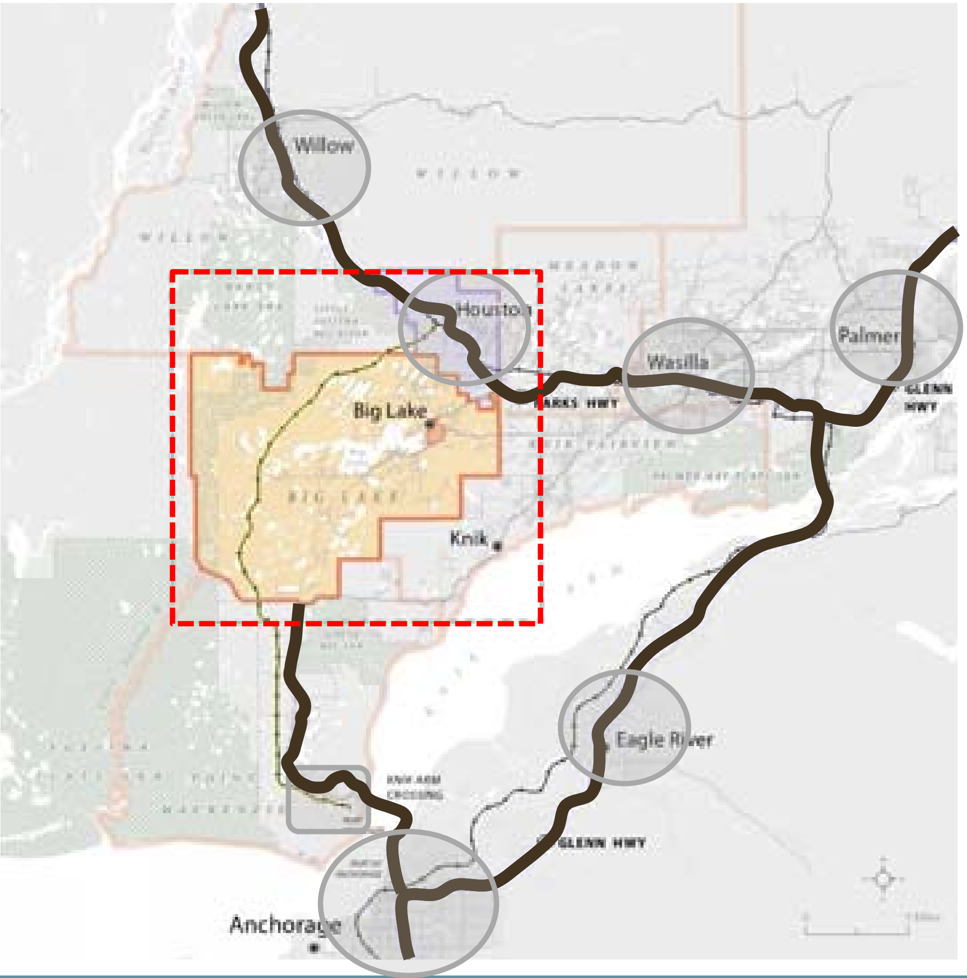


Purpose

- **National Highway System**

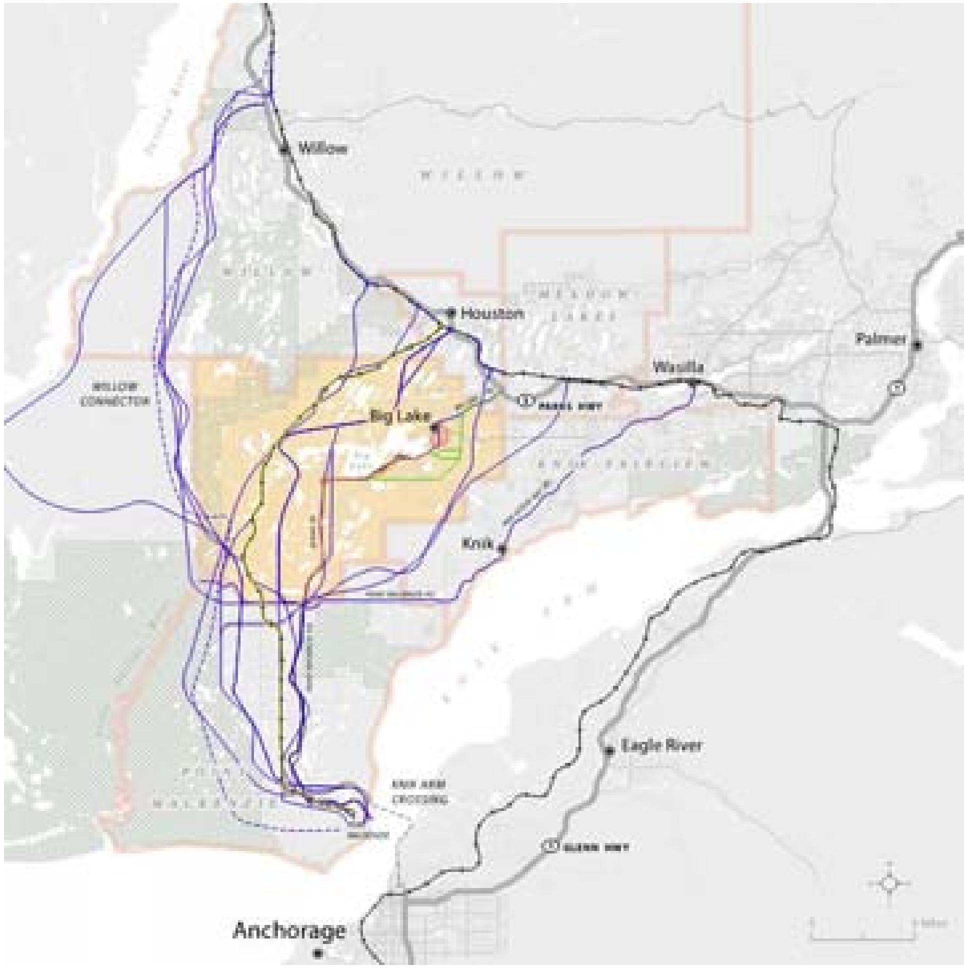


Study Area

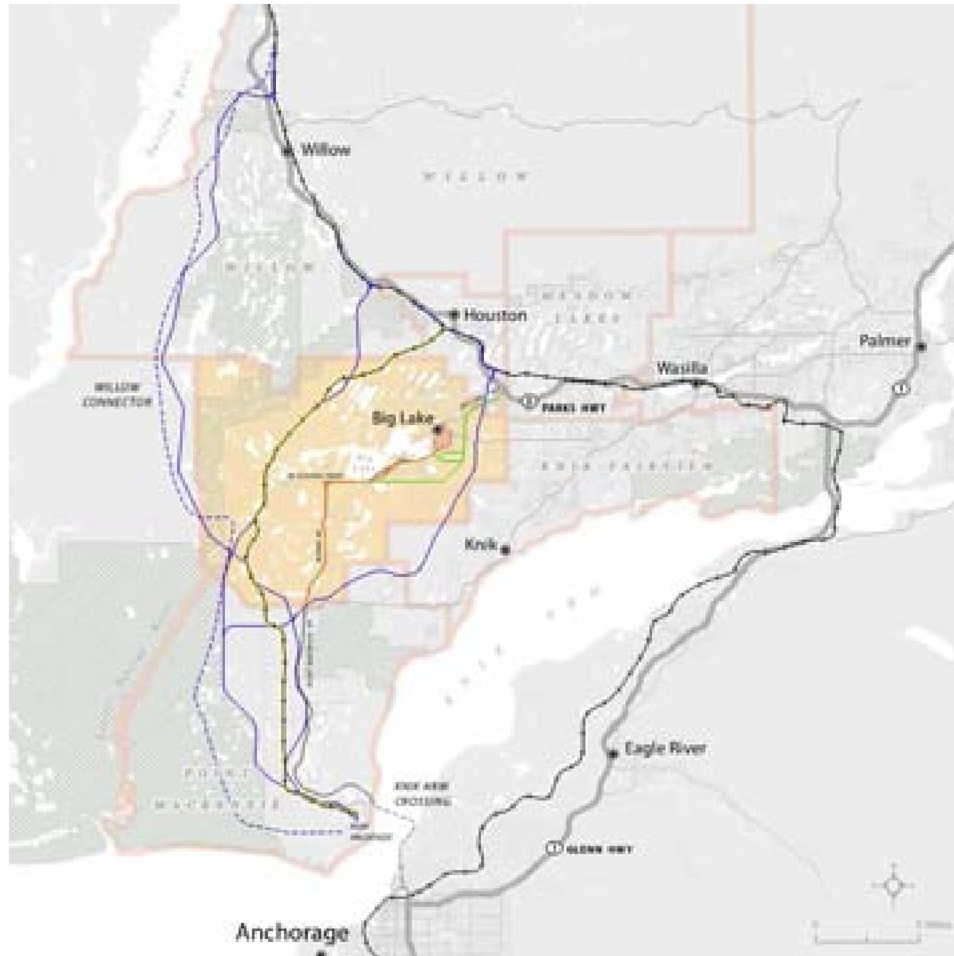


Willow
WILLOW
Houston
MEADOW LAKES
Wasilla
Palmer
PARKS HWY
GLENN HWY
Big Lake
BIG LAKE
Knik
KNIK ARM CROSSING
Eagle River
GLENN HWY
Anchorage

Previous Routes



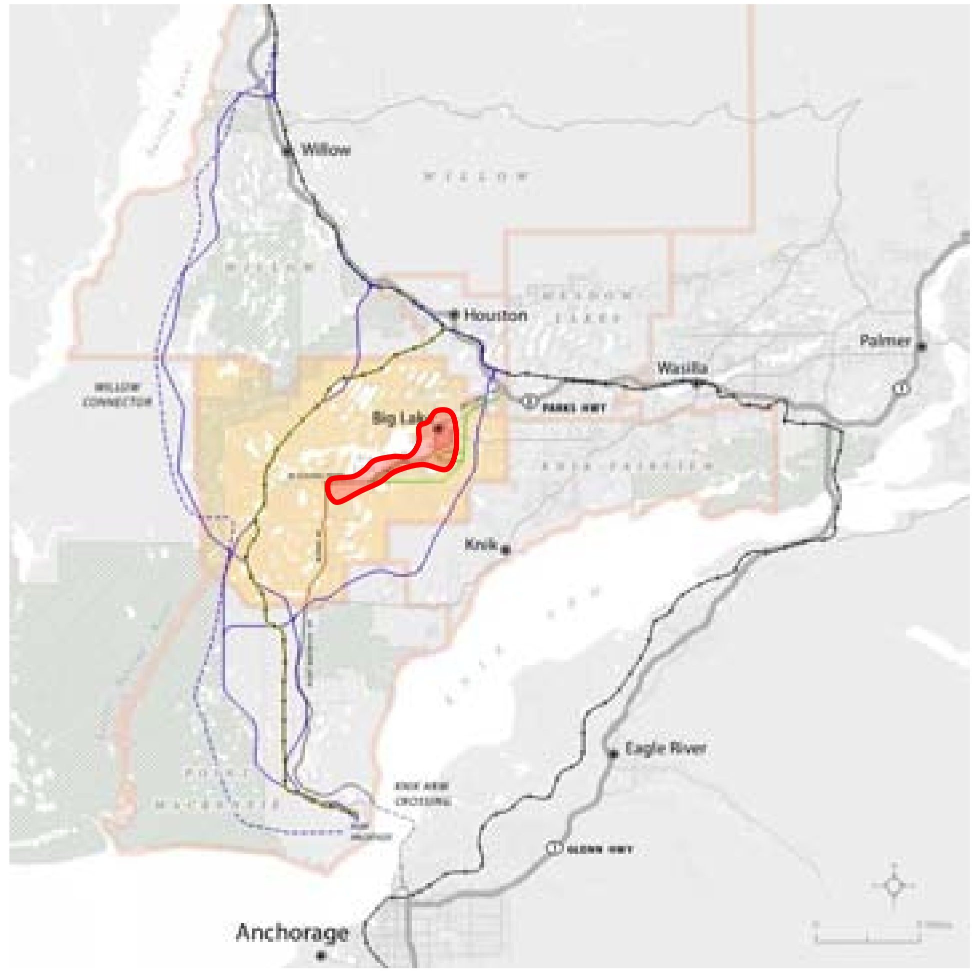
Previous Routes found to have Merit



Community BIG LAKE Impact Assessment

History

Why we are here

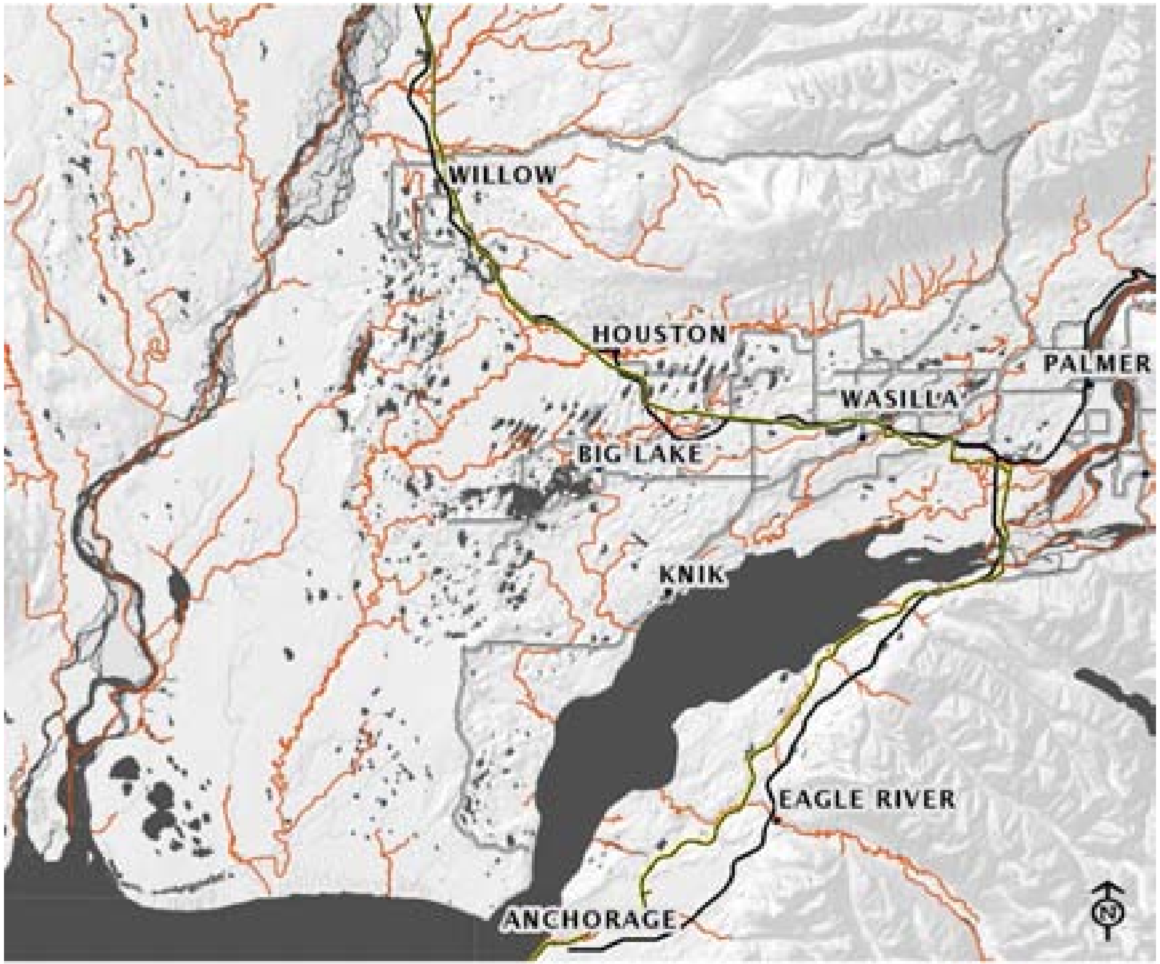


Corridor Development

Geographic Information System

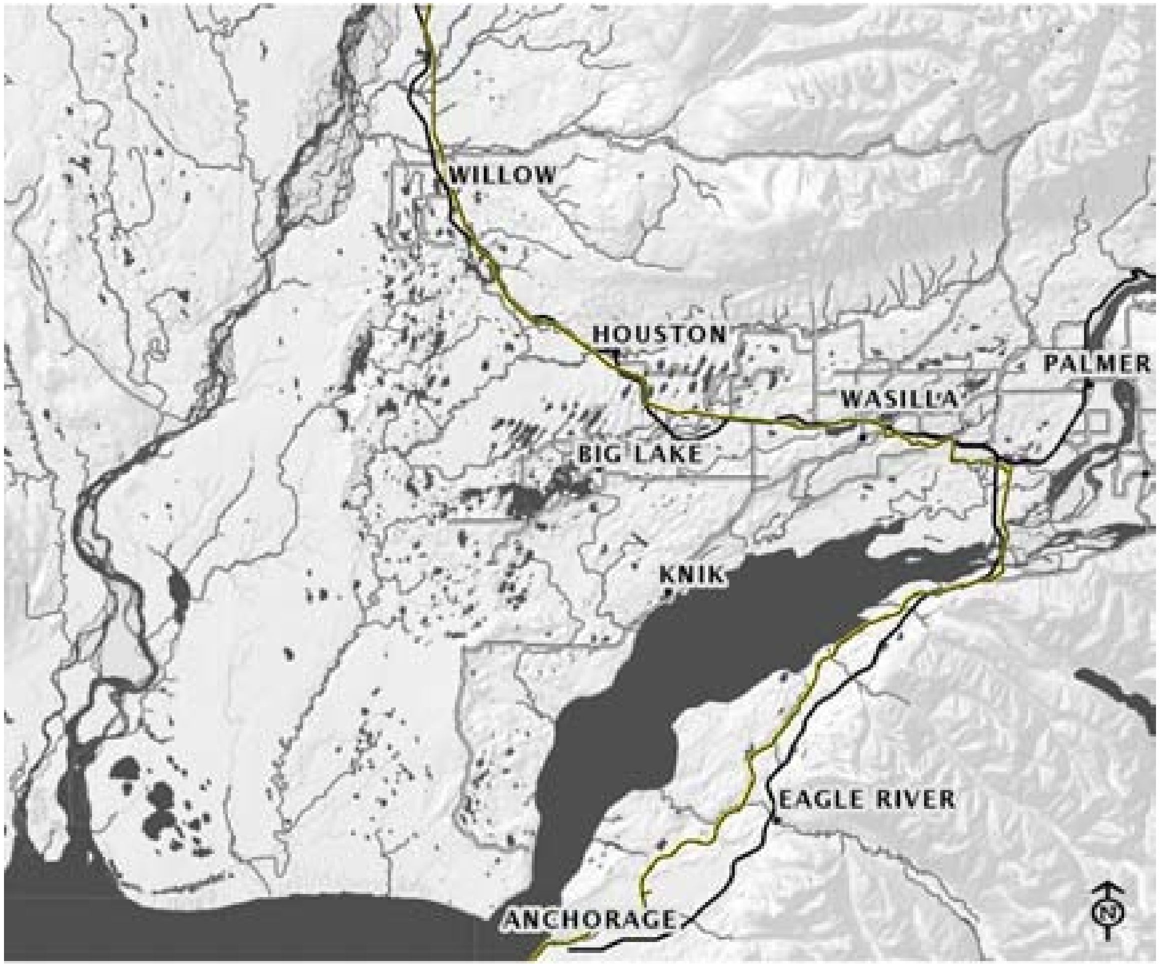
Corridor Development

Anadromous Streams and Lakes



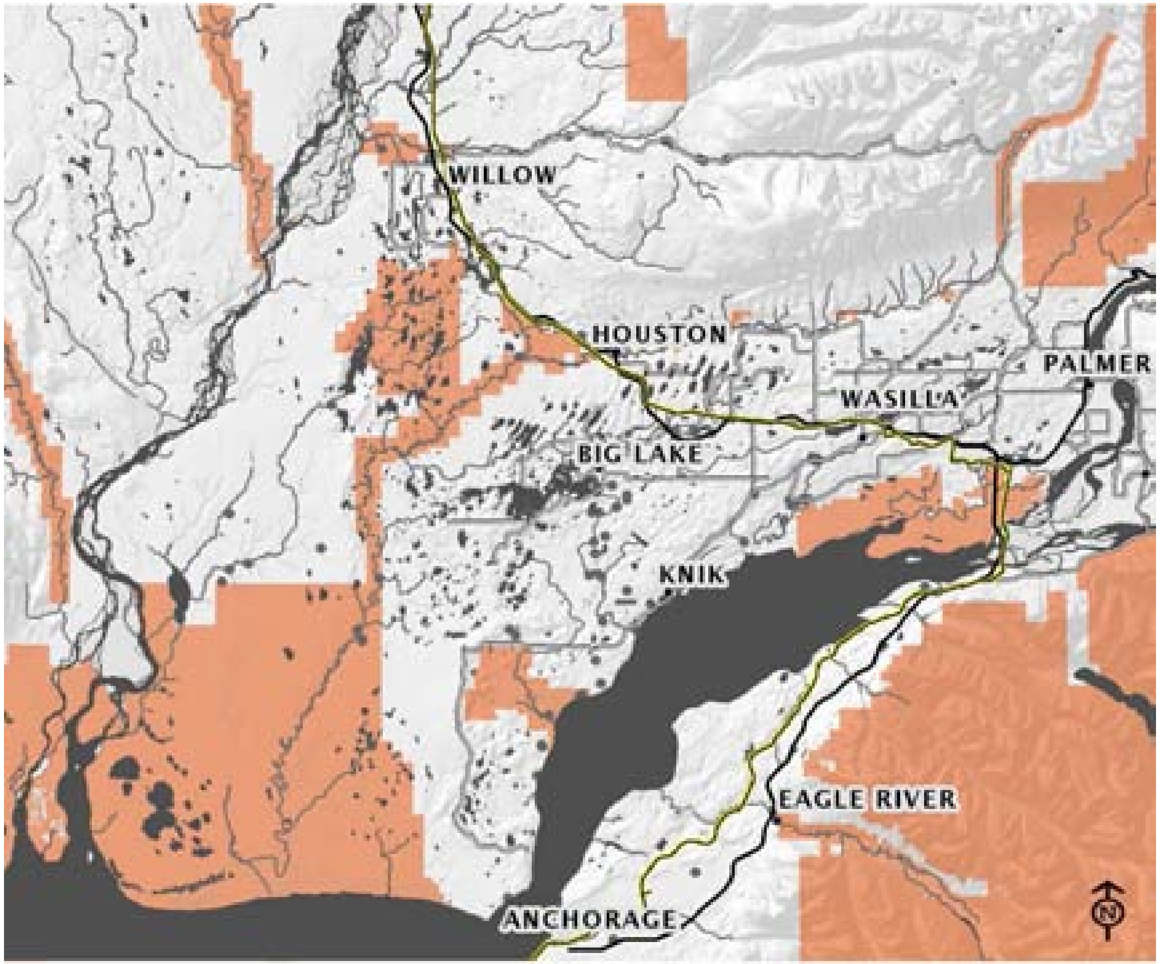
Corridor Development

Anadromous Streams and Lakes



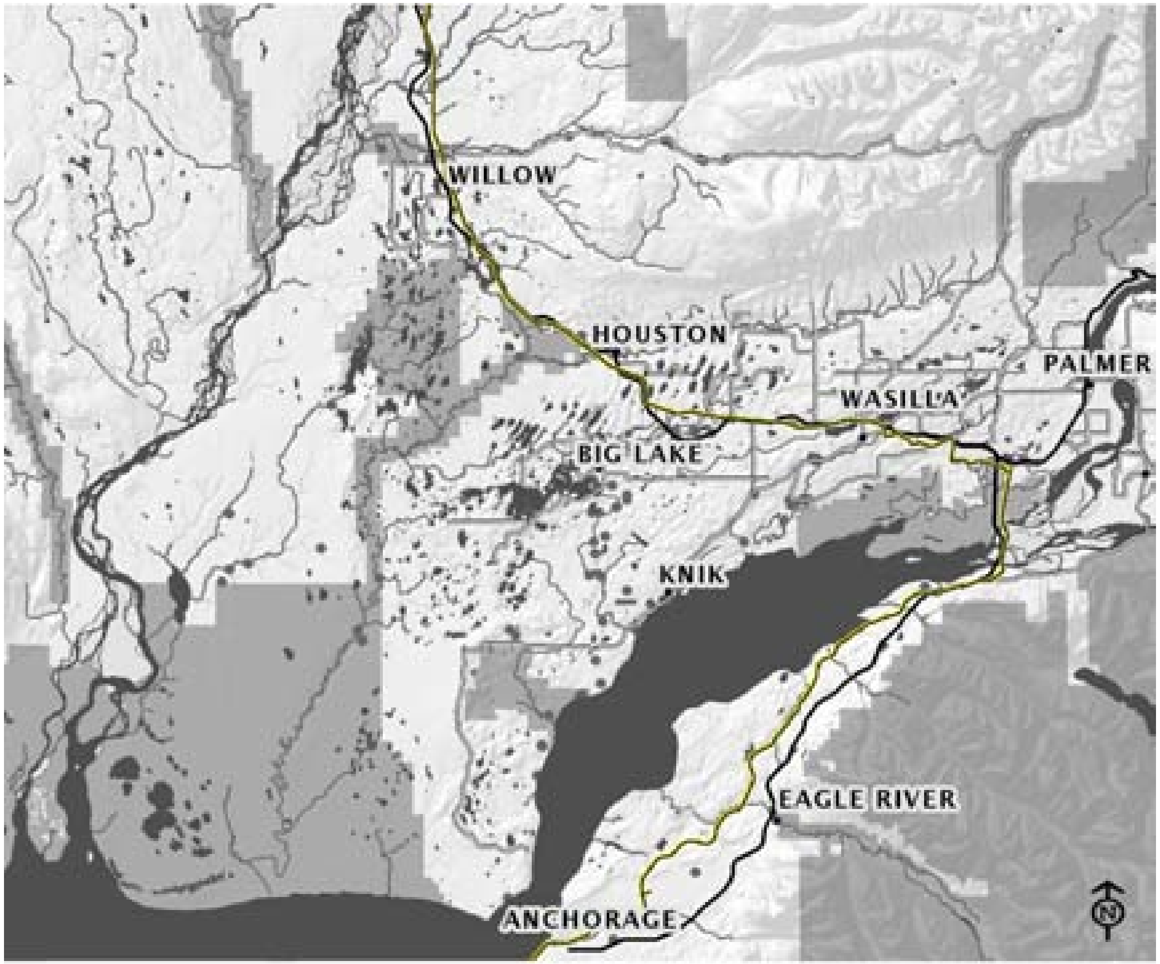
Corridor Development

Parks and Refuges



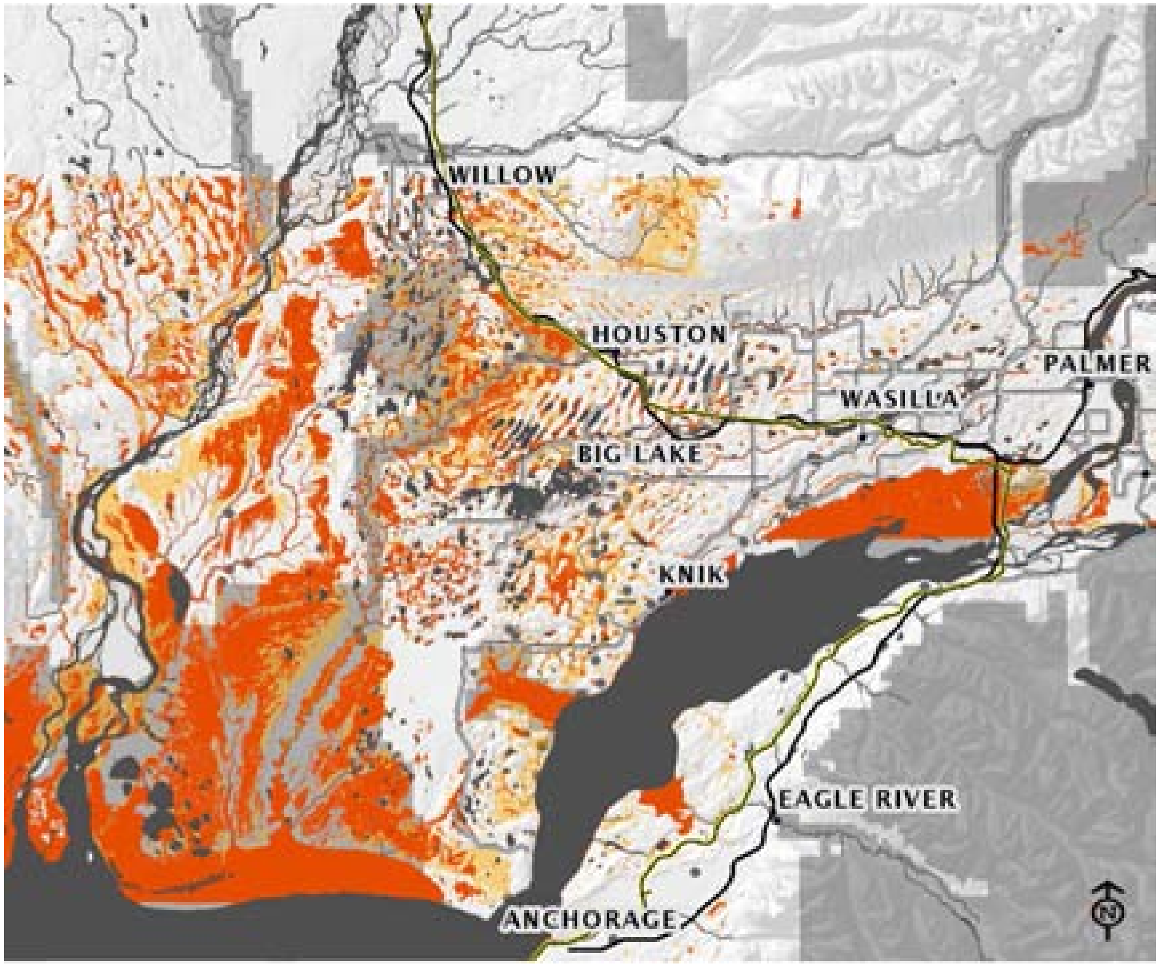
Corridor Development

Parks and Refuges



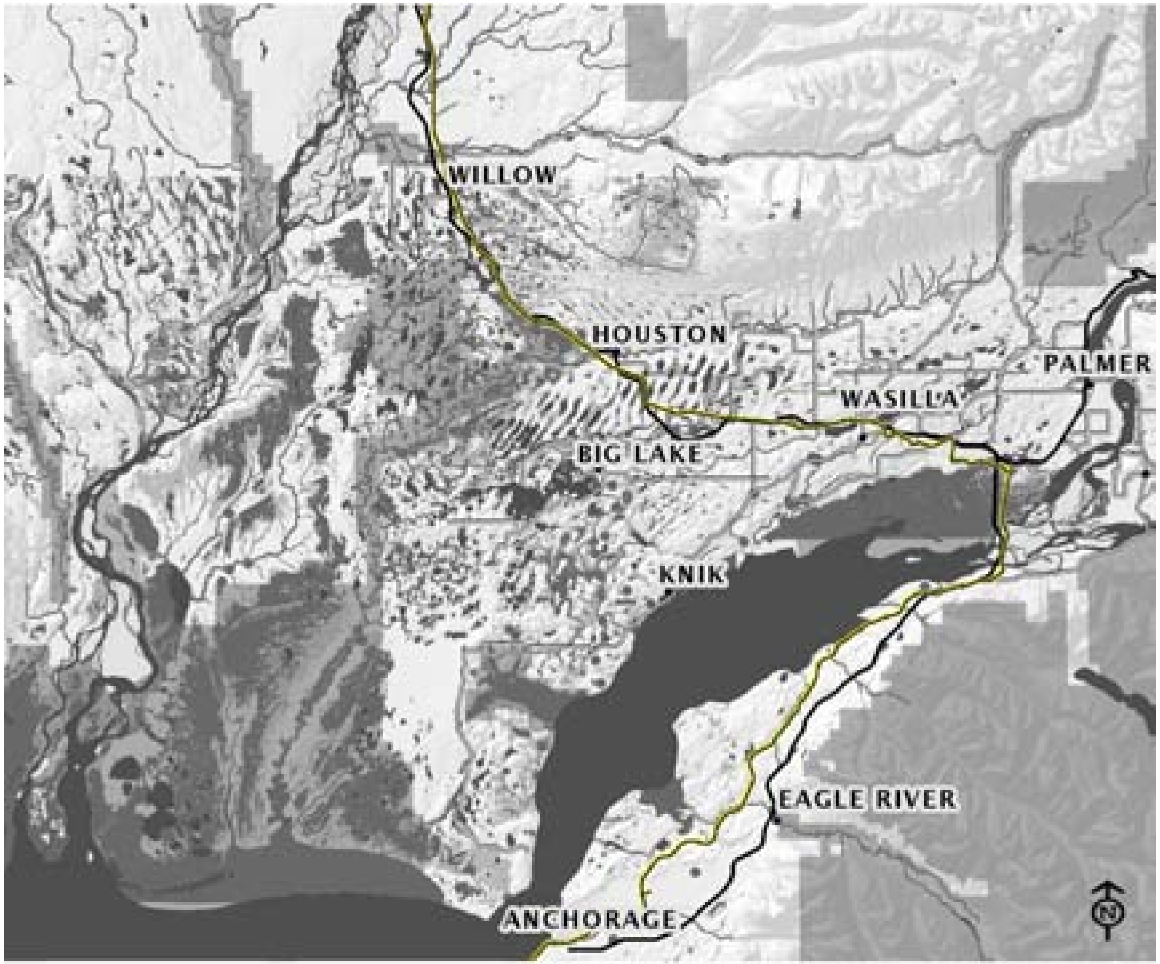
Corridor Development

Wetlands



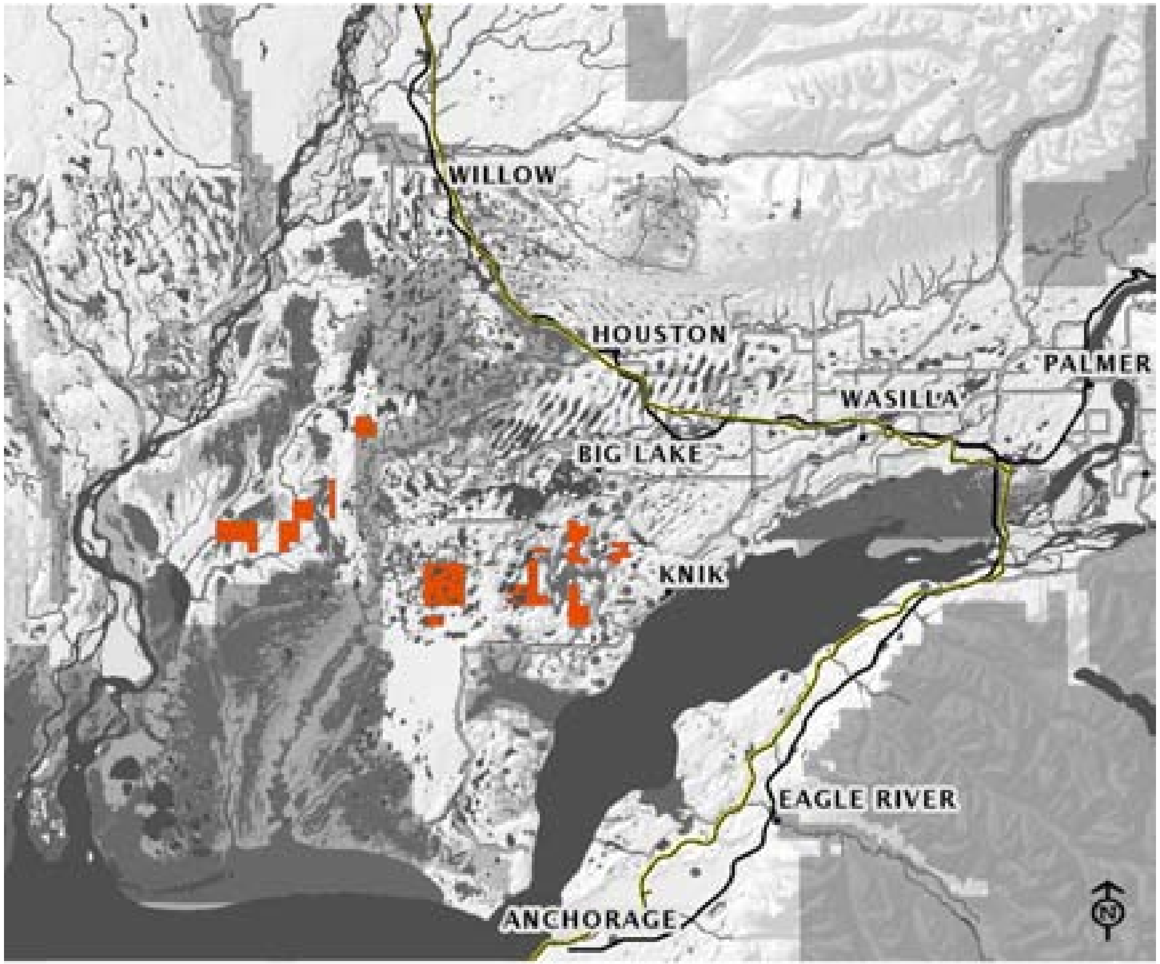
Corridor Development

Wetlands



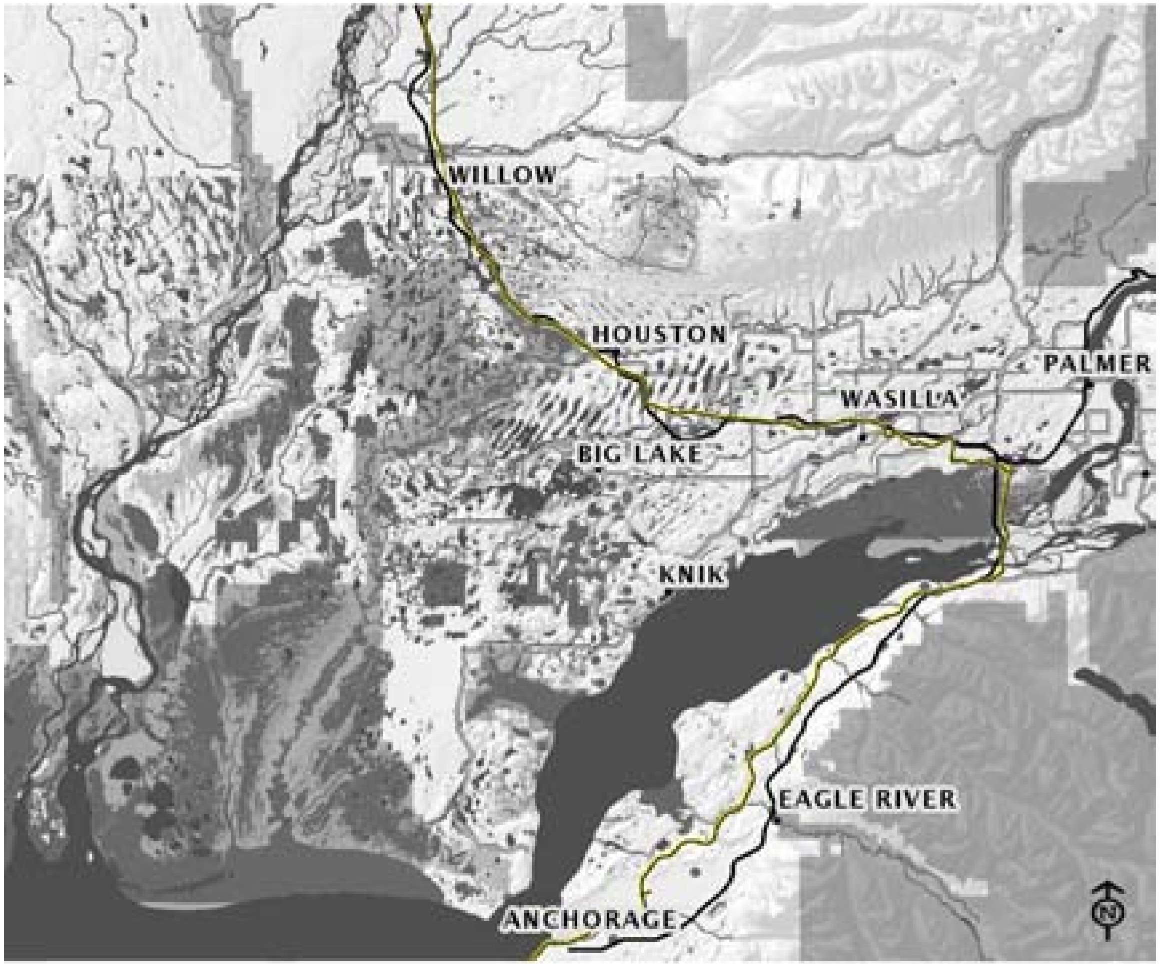
Corridor Development

Wetland Banks



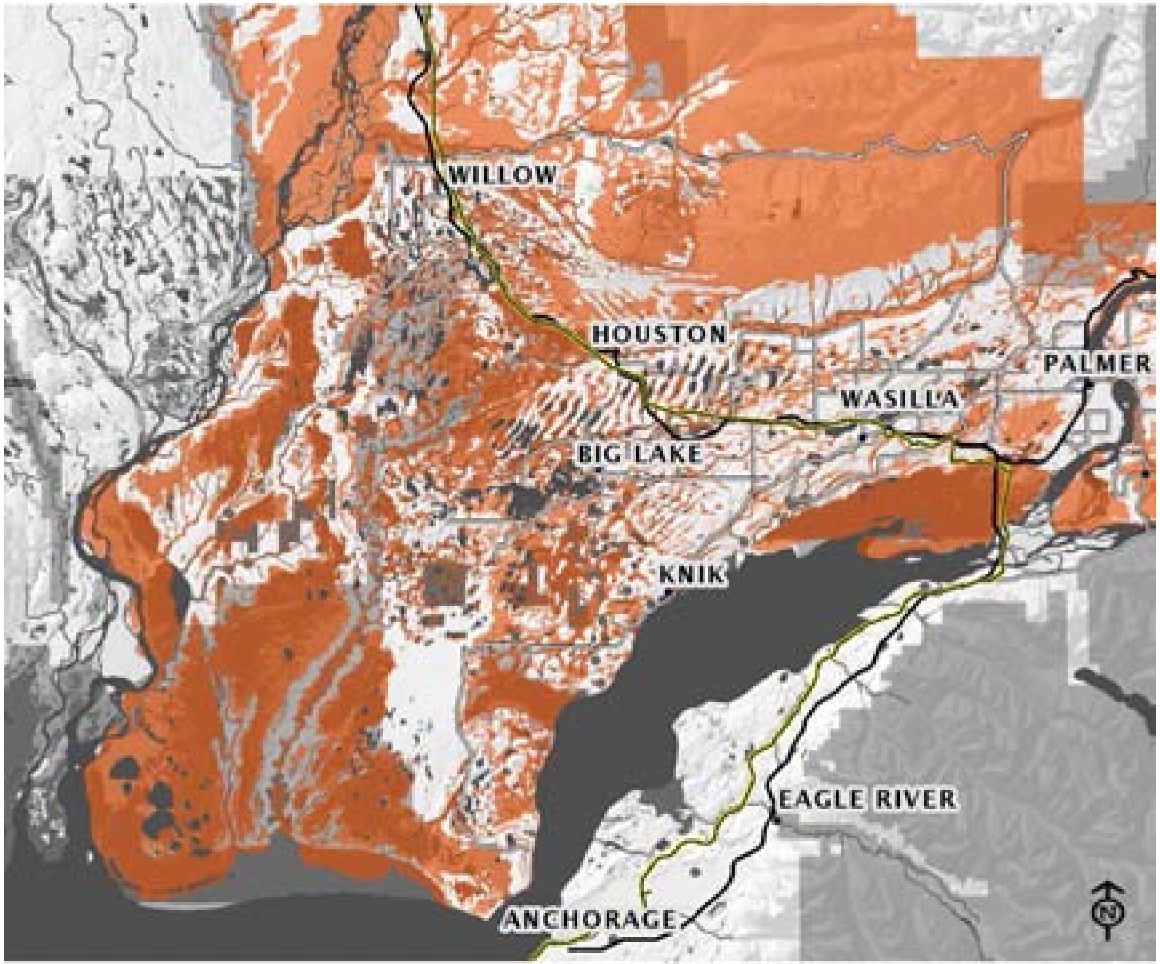
Corridor Development

Wetland Banks



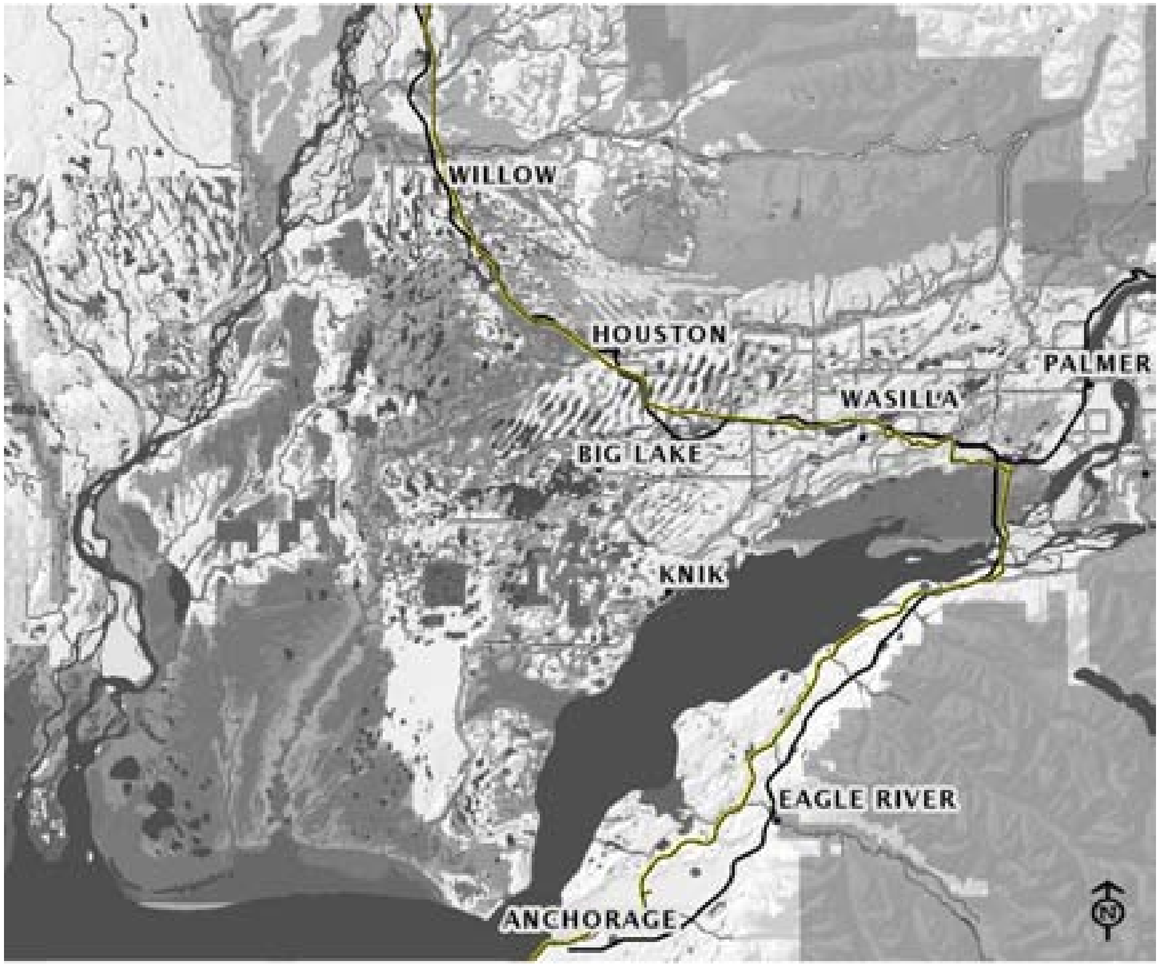
Corridor Development

Soils



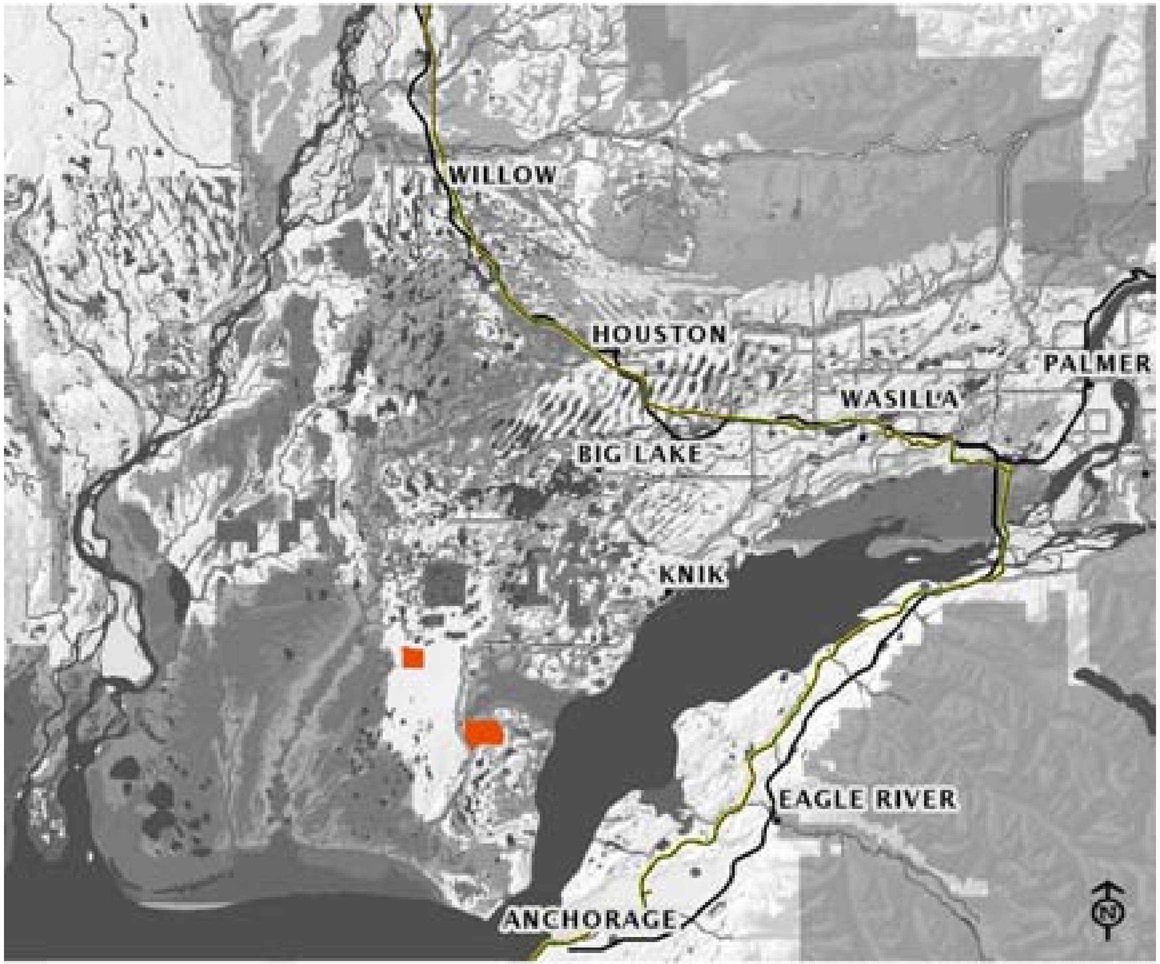
Corridor Development

Soils



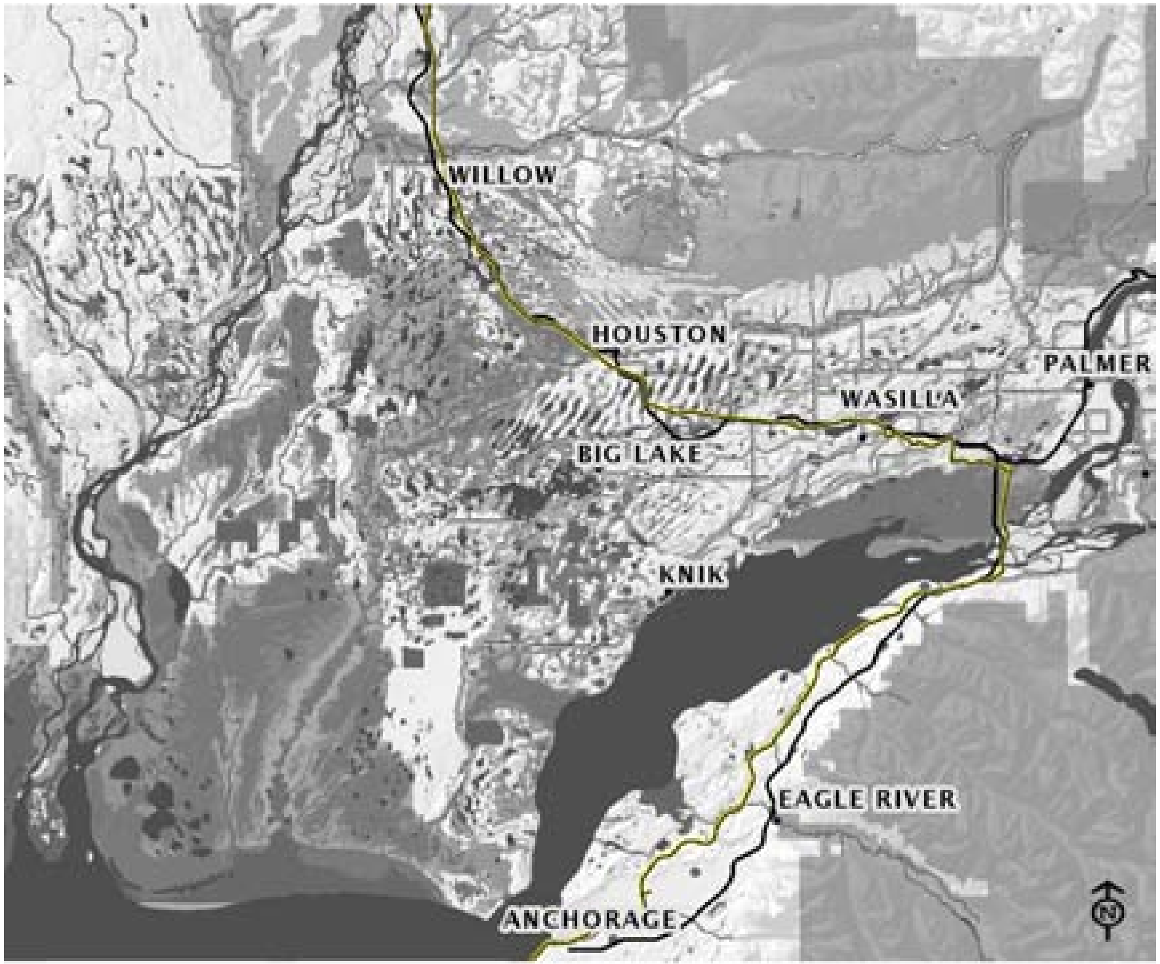
Corridor Development

Prisons



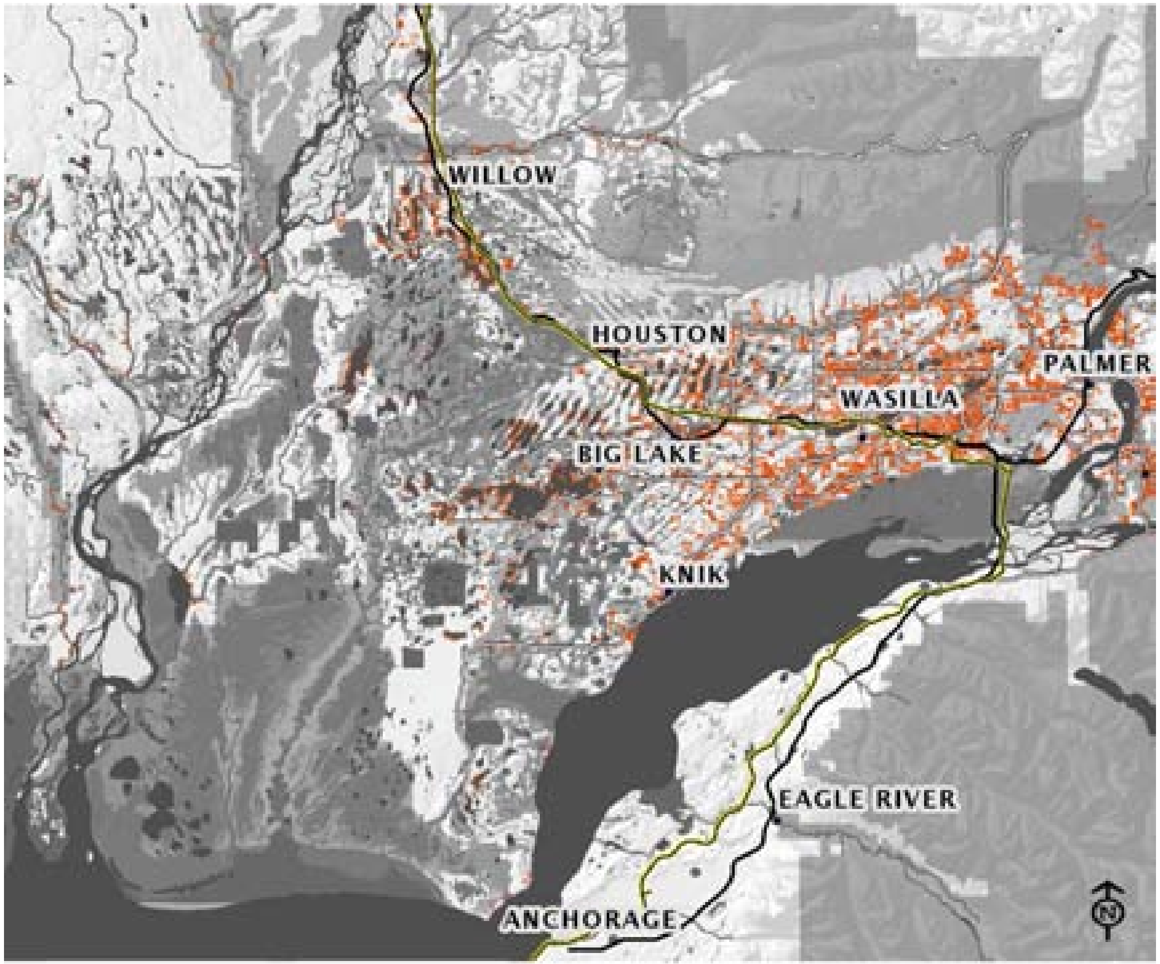
Corridor Development

Prisons



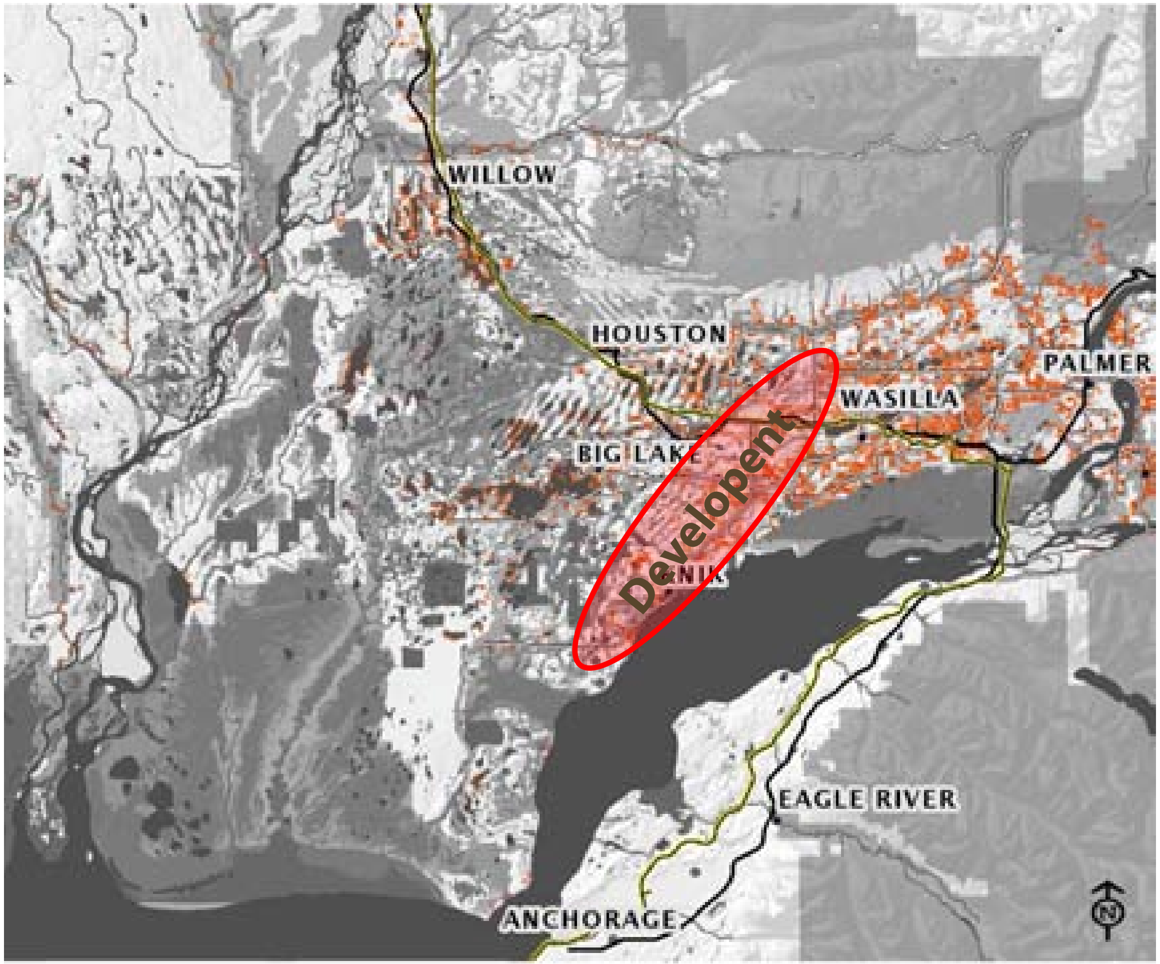
Corridor Development

Developed Parcels



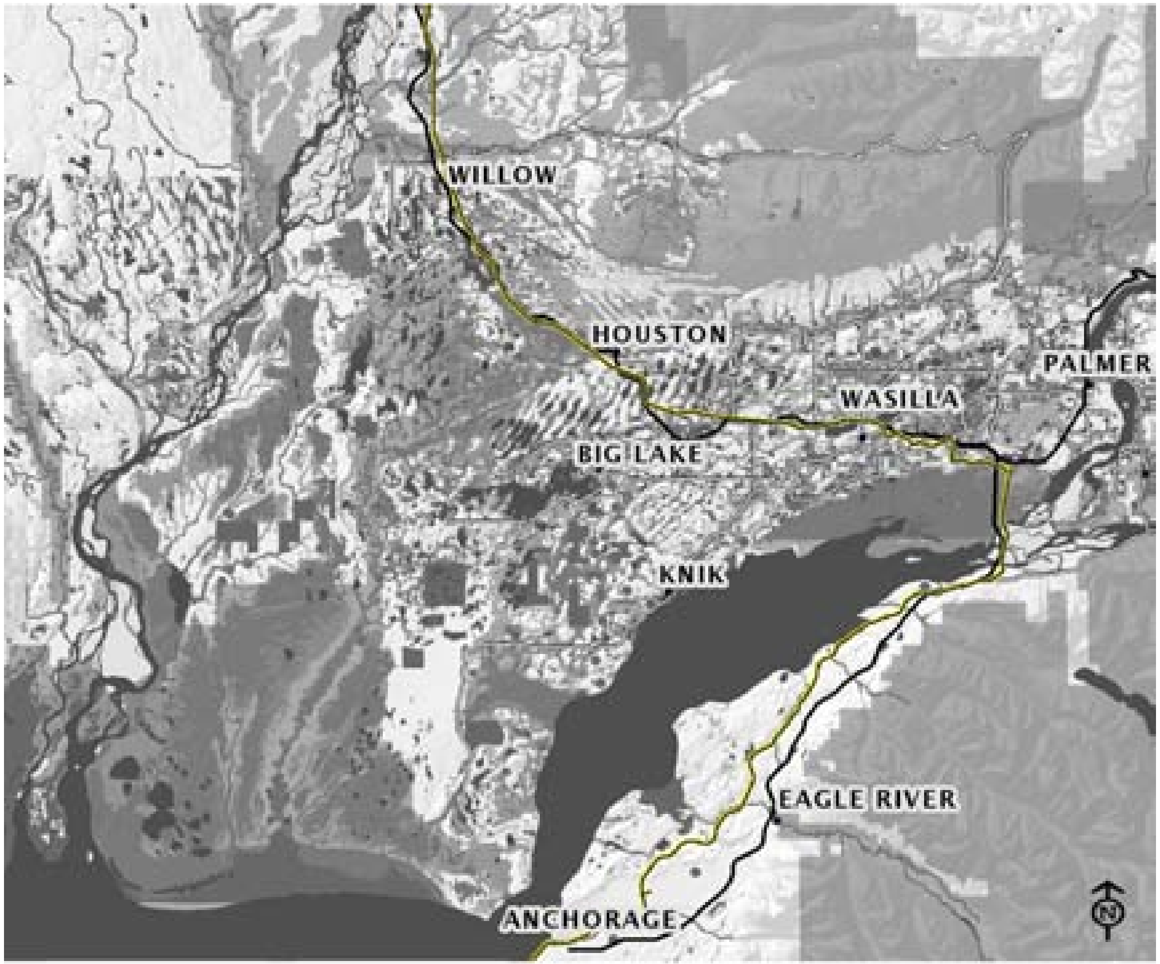
Corridor Development

Developed Parcels



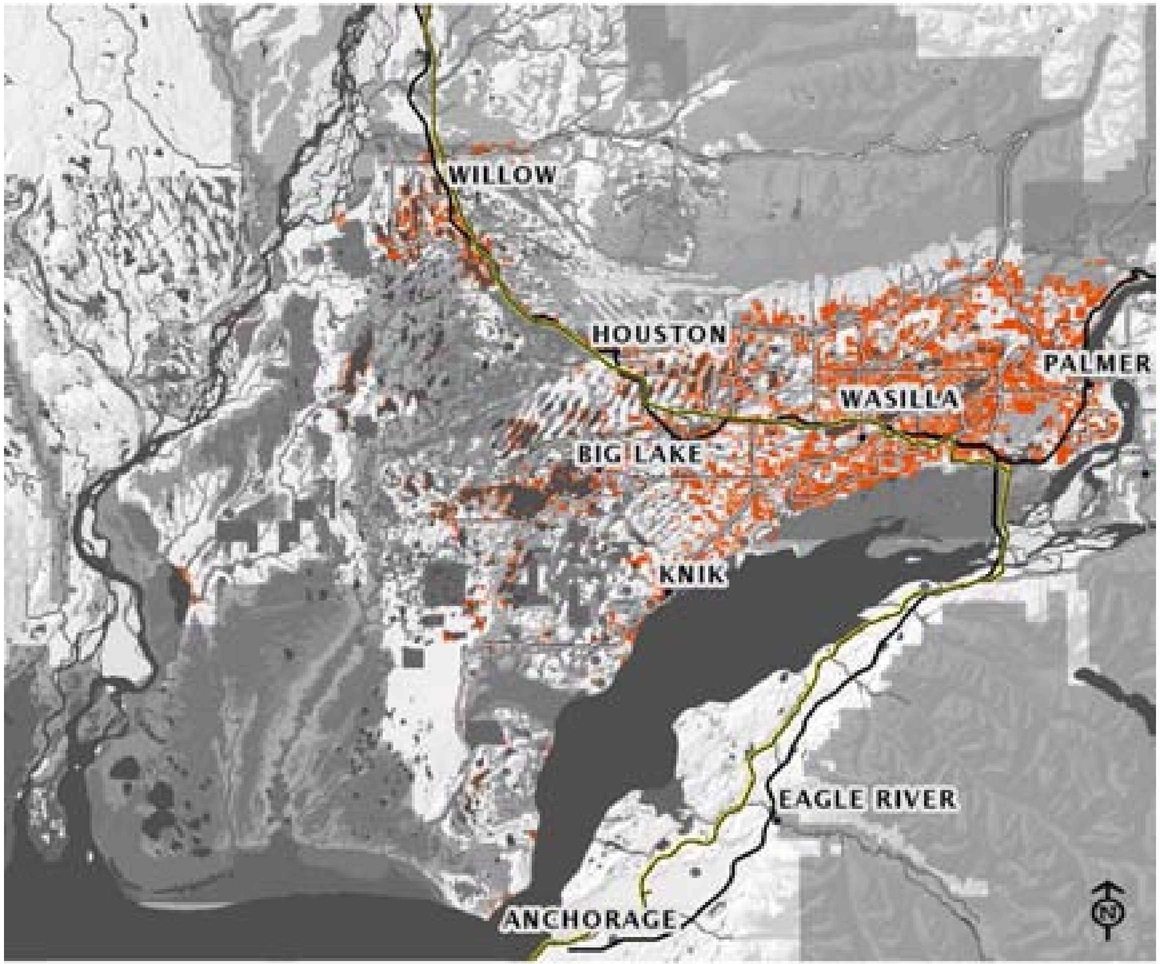
Corridor Development

Developed Parcels



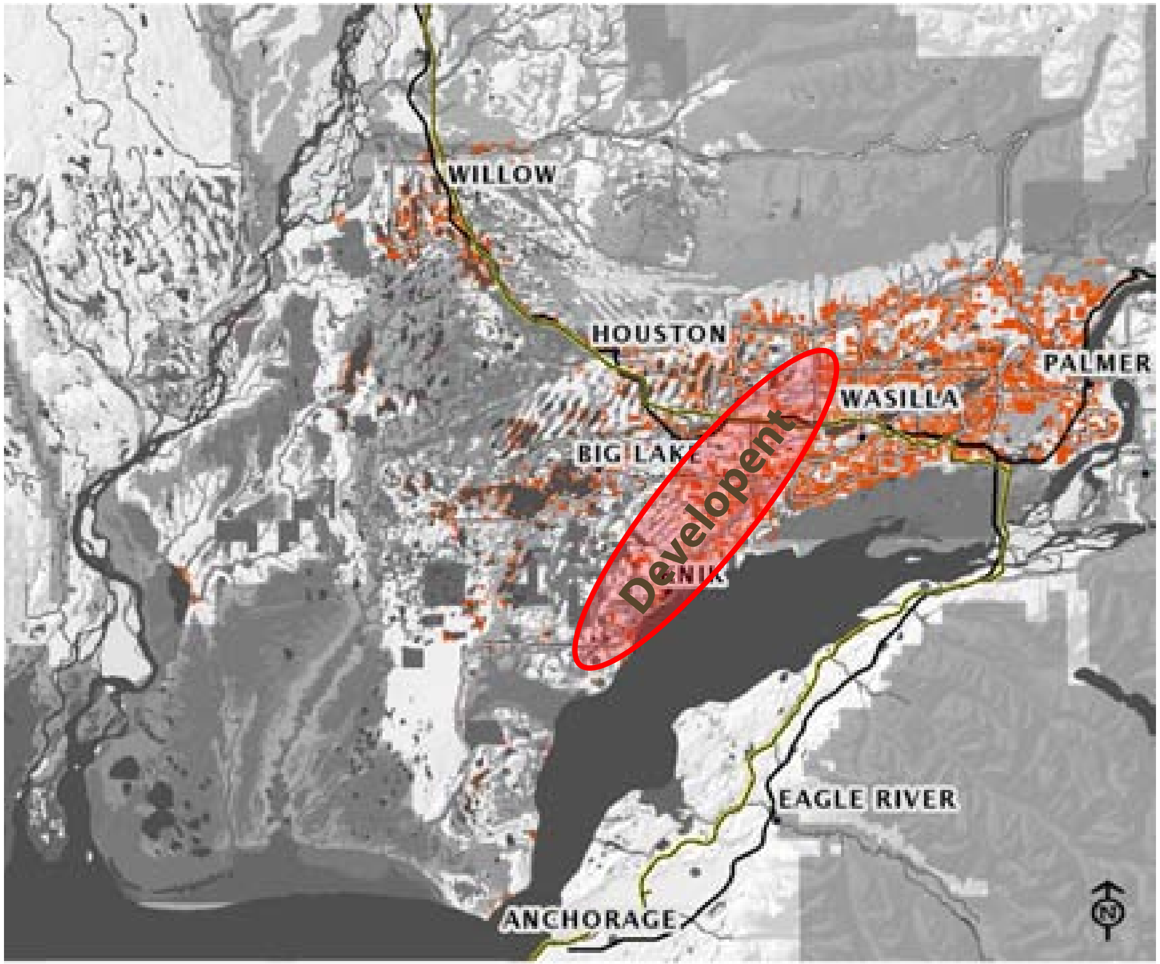
Corridor Development

Land Value
(> $2,000/acre with structure)



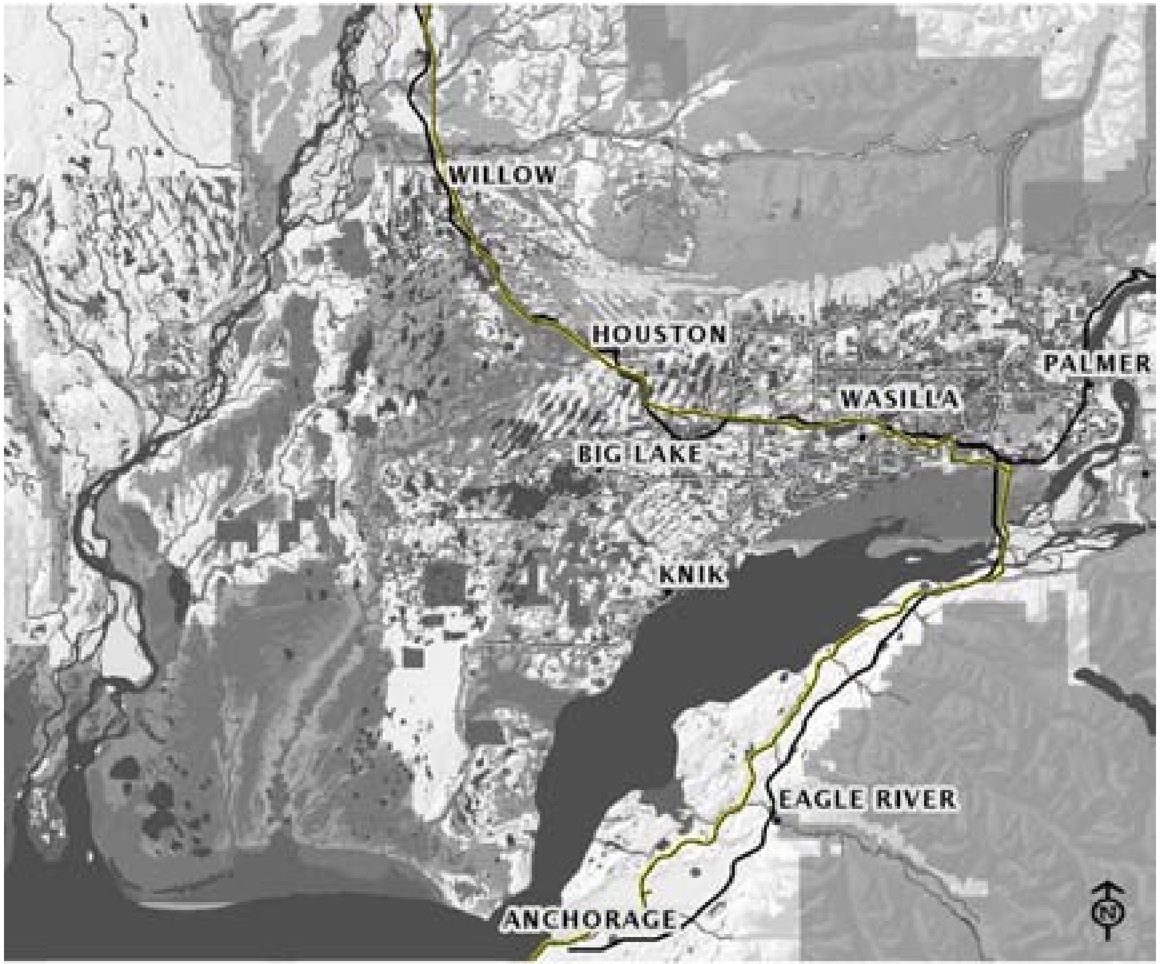
Corridor Development

Land Value
(> $2,000/acre with structure)



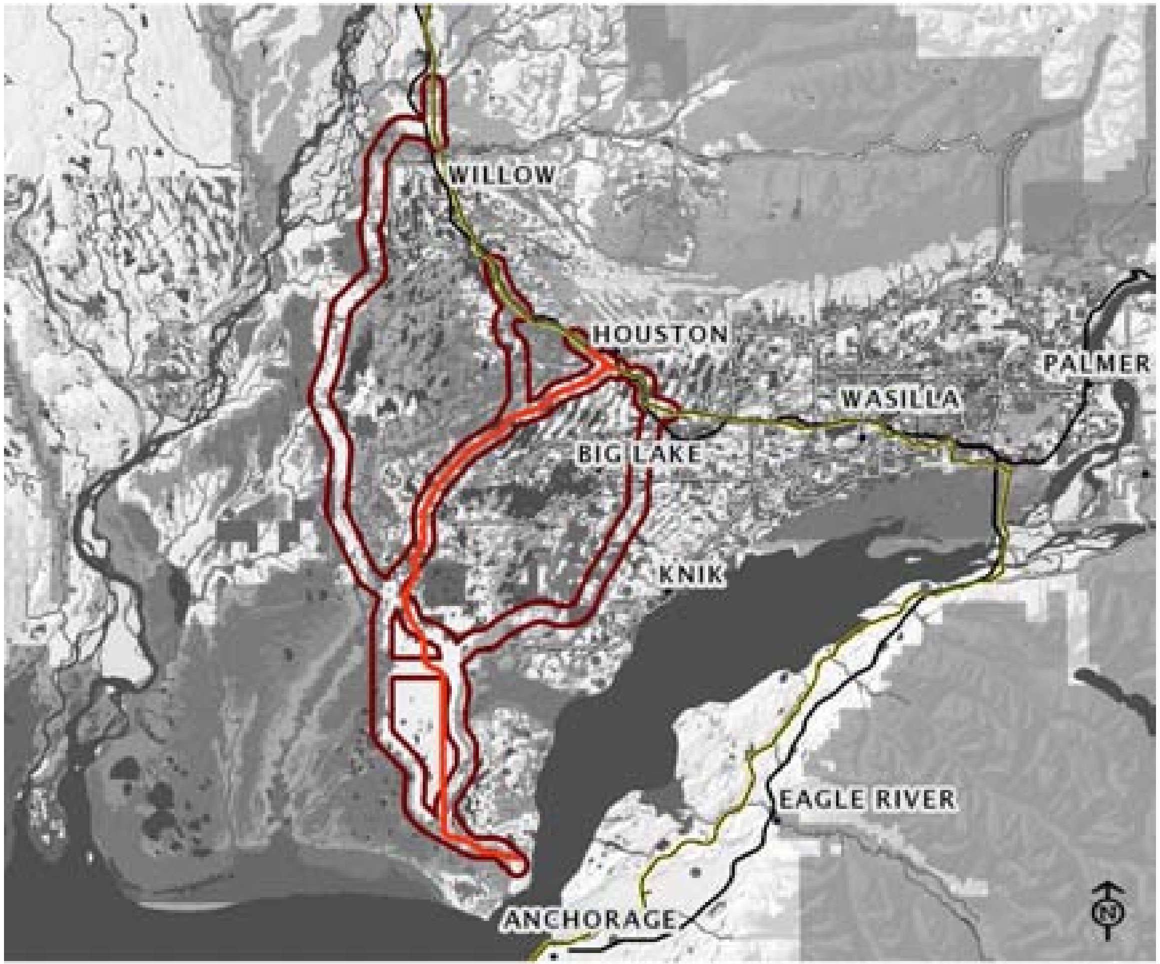
Corridor Development

Composite Constraints



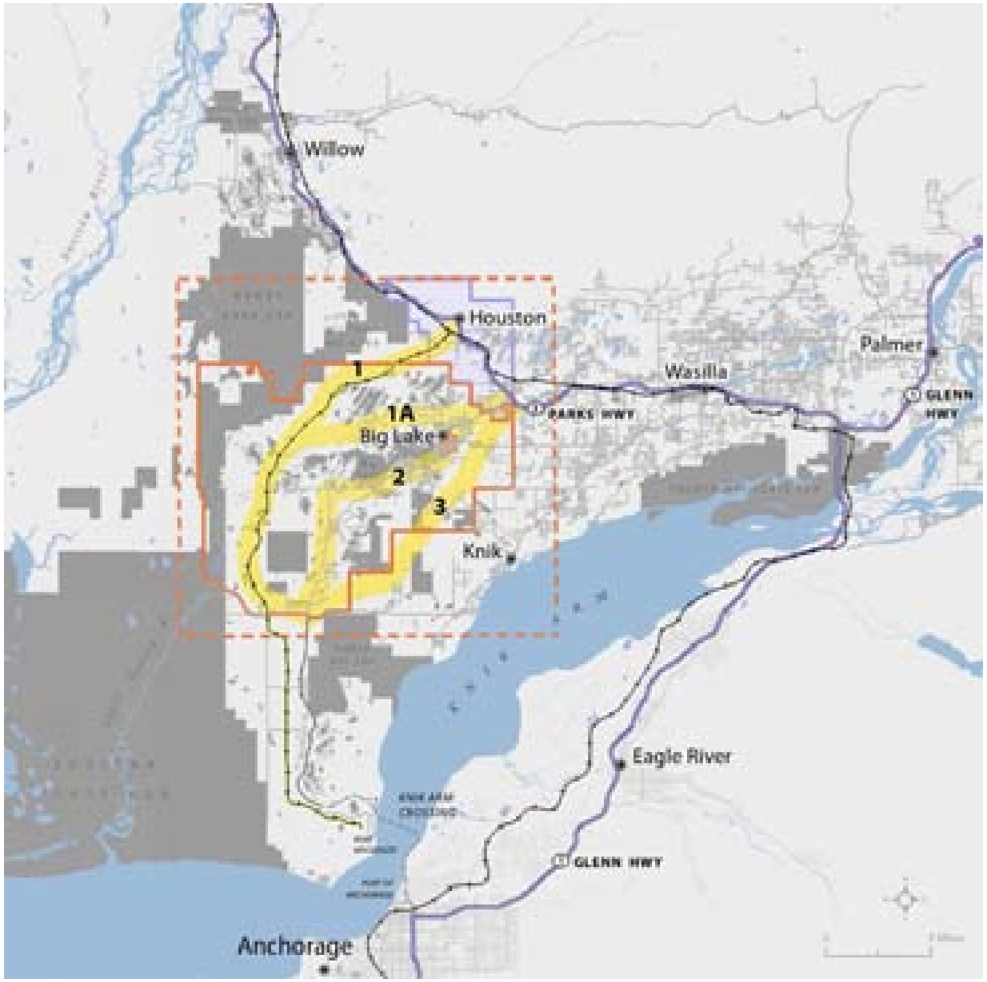
Corridor Development

ARRC/MSB Preferred Rail Alternative



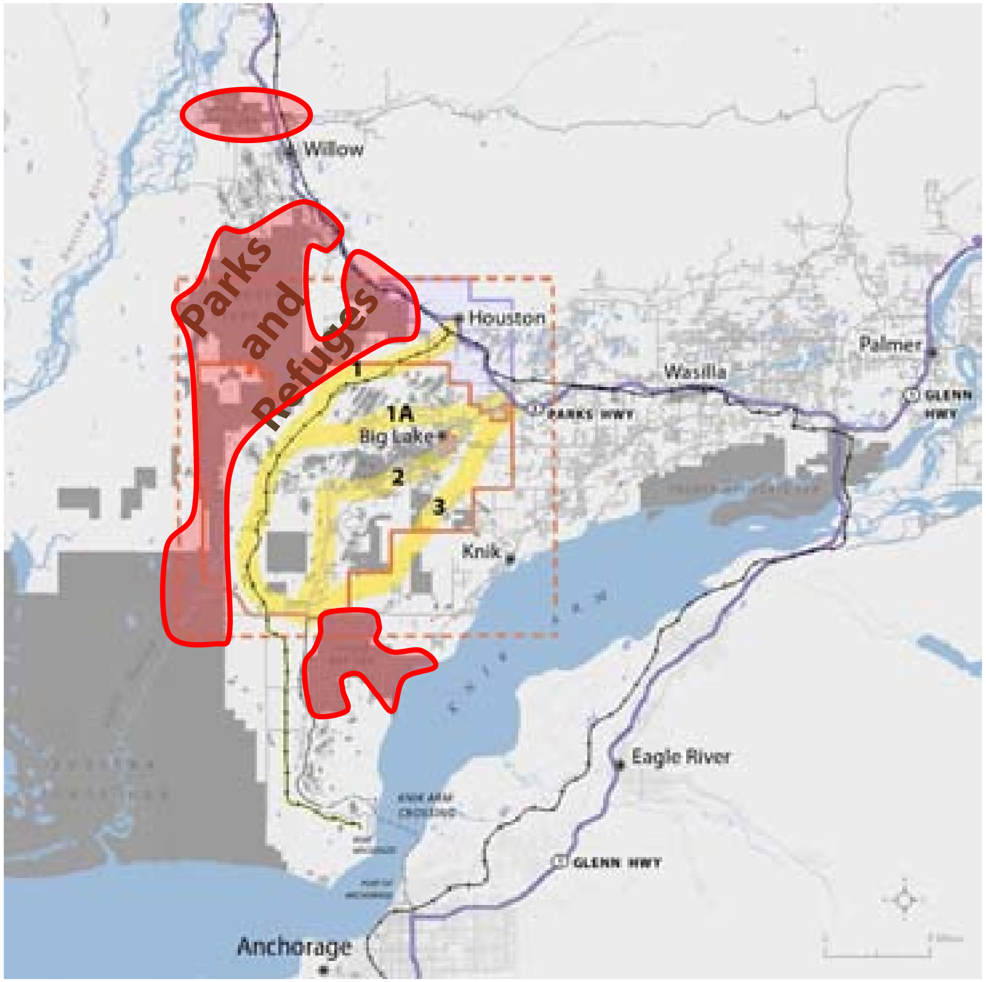
Constraints

Constraints Simplified



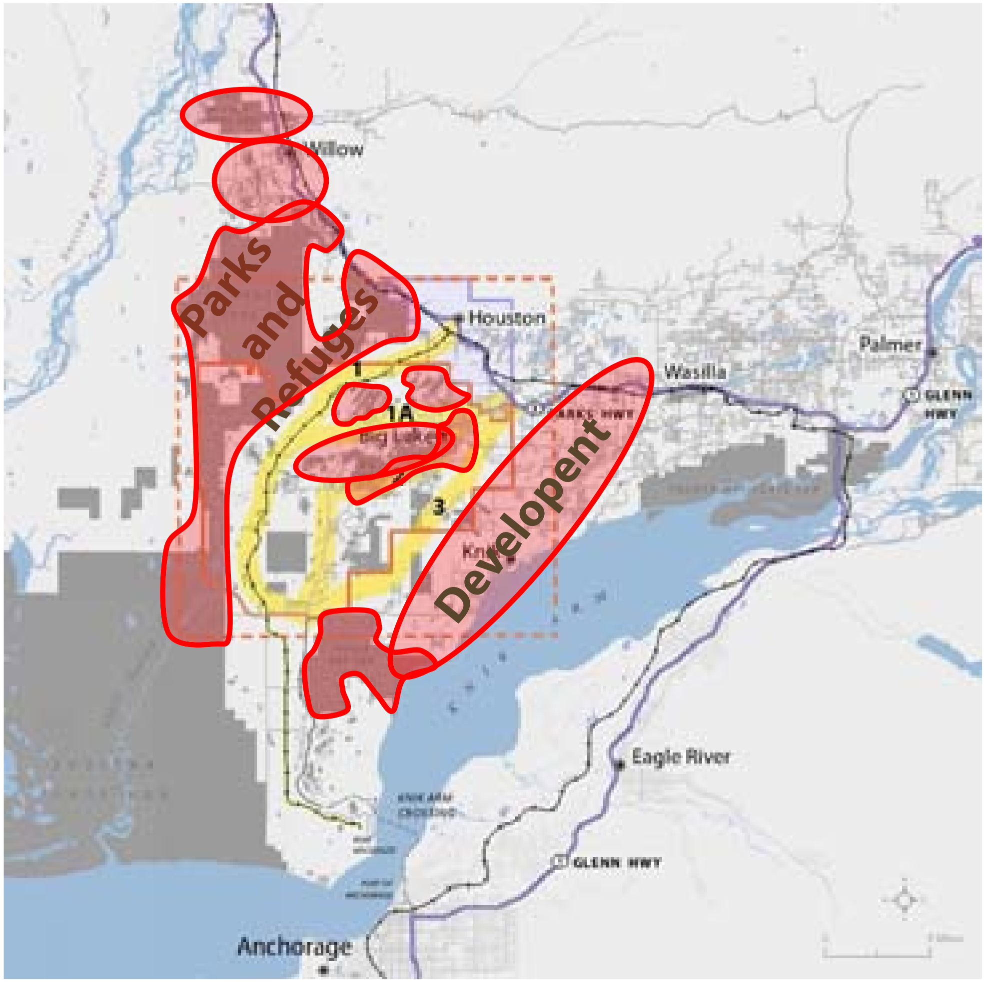
Constraints

- Parks
- Refuges



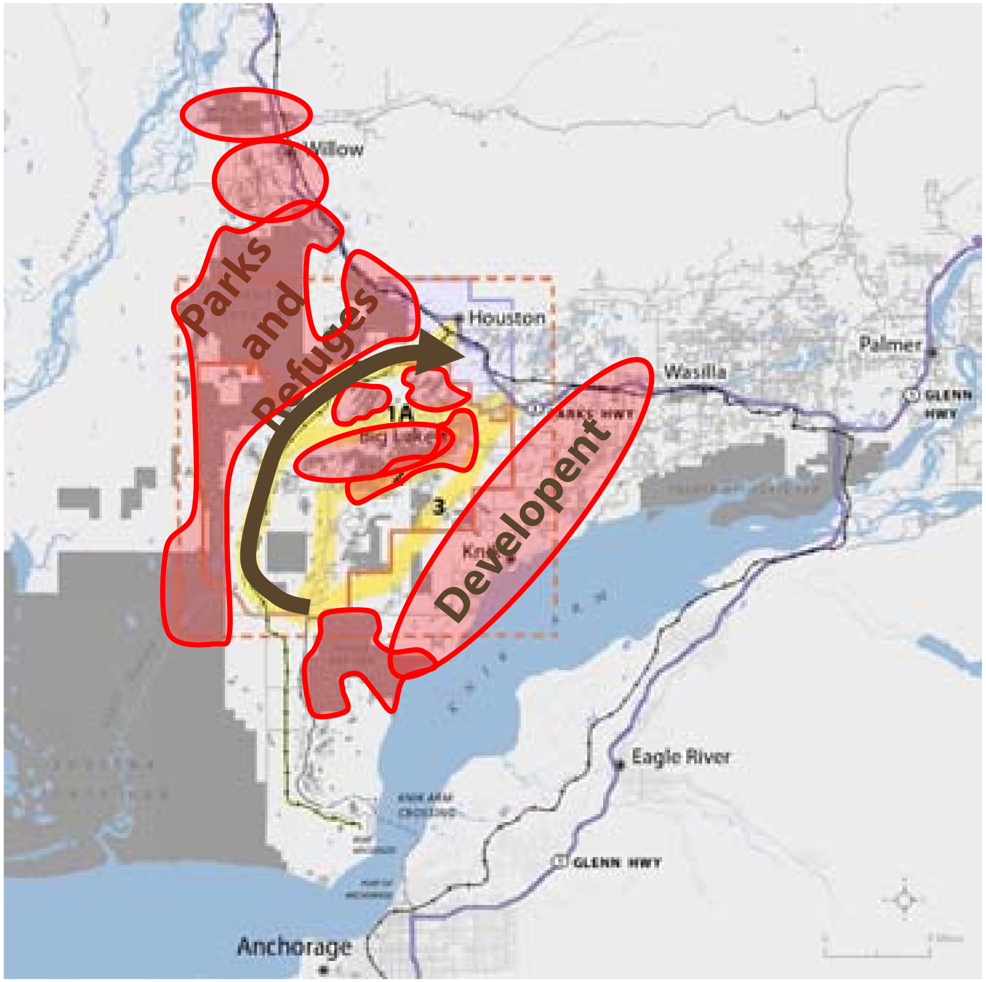
Constraints

- Parks
- Refuges +
- Lakes and
- Development



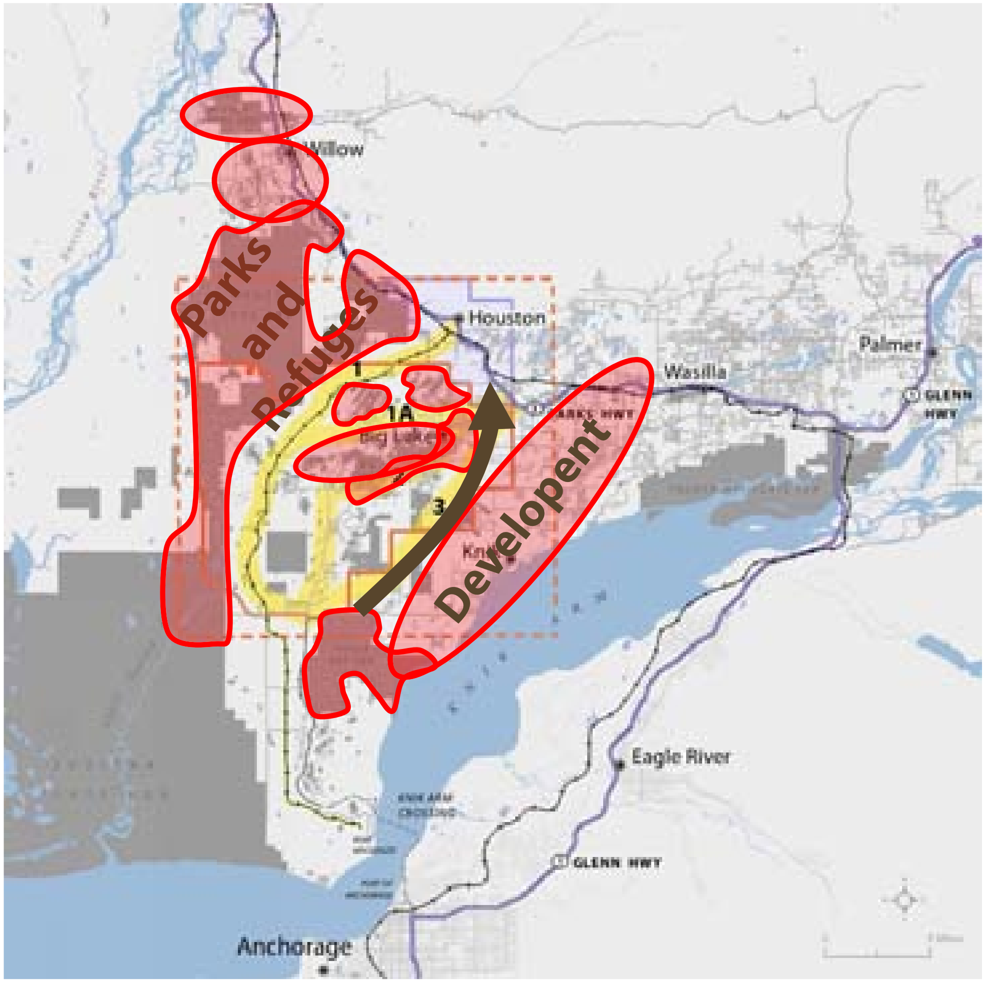
Corridors

Left



Corridors

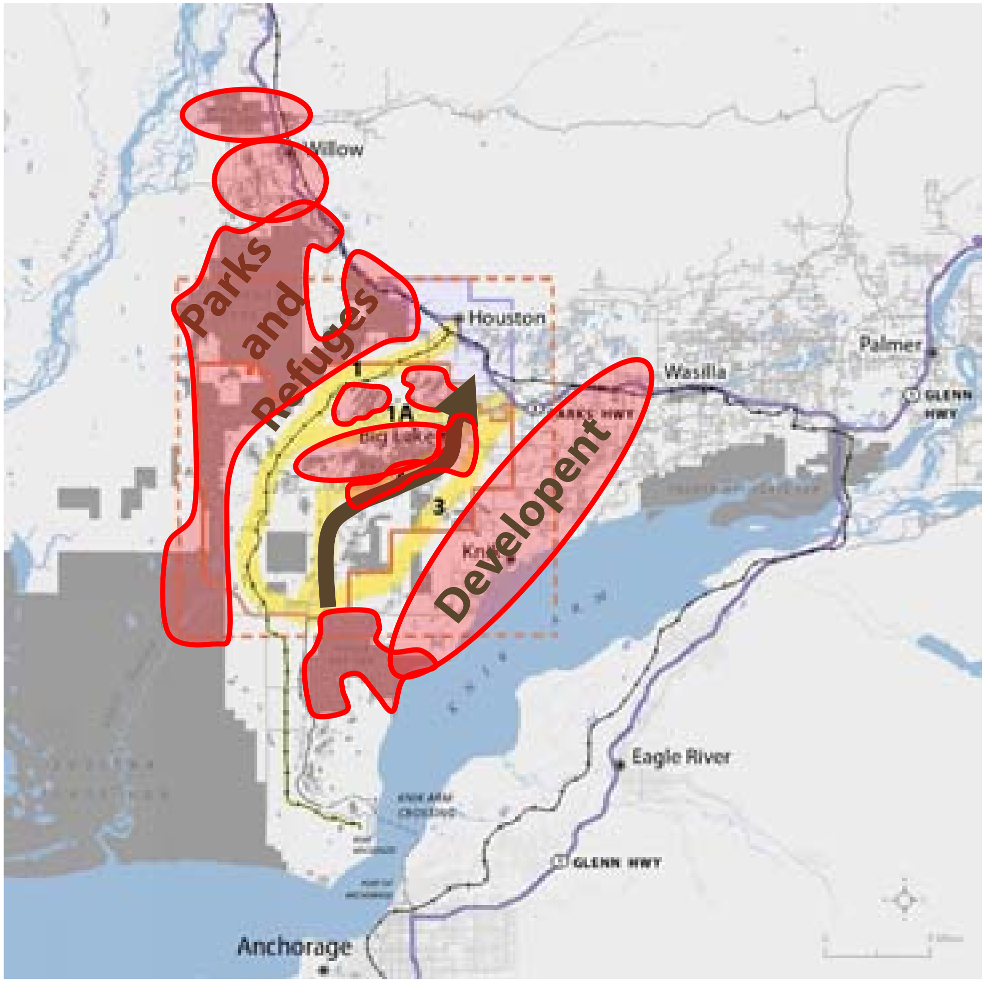
Right



Corridors

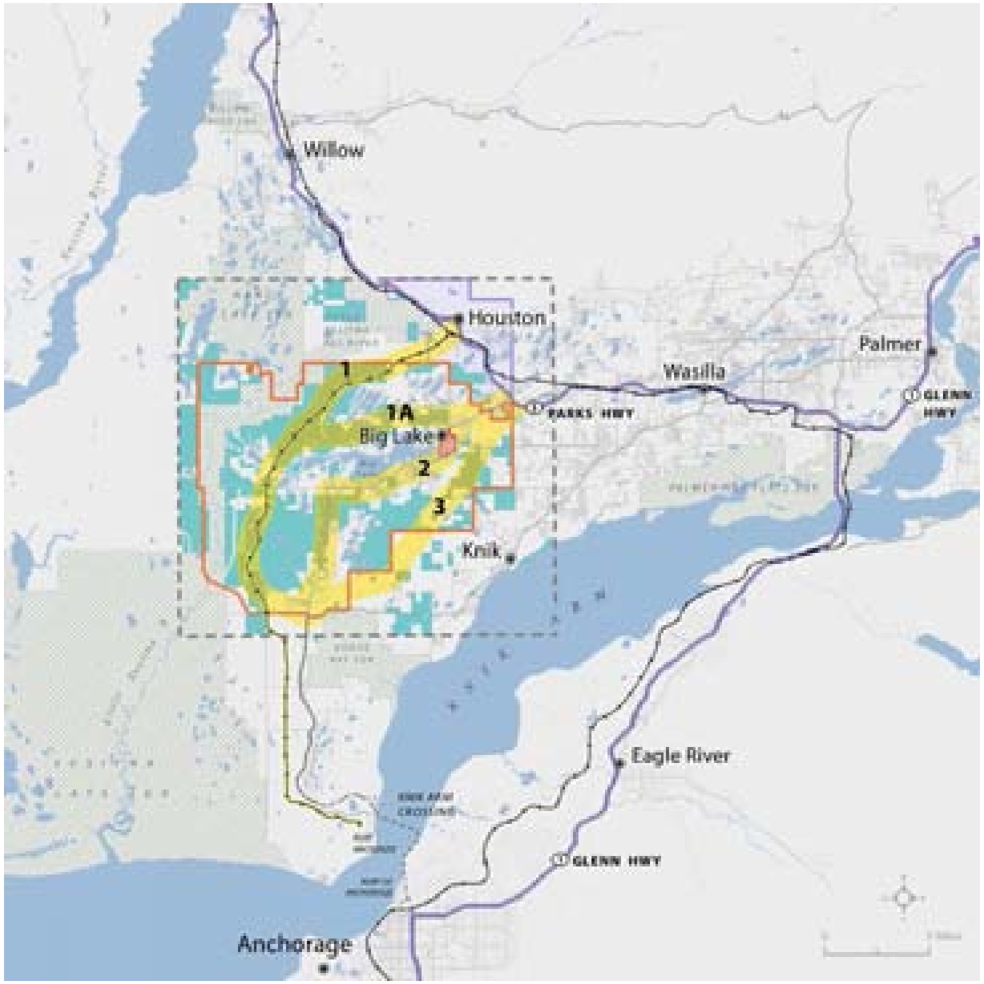
Or through

Which is why we are here.



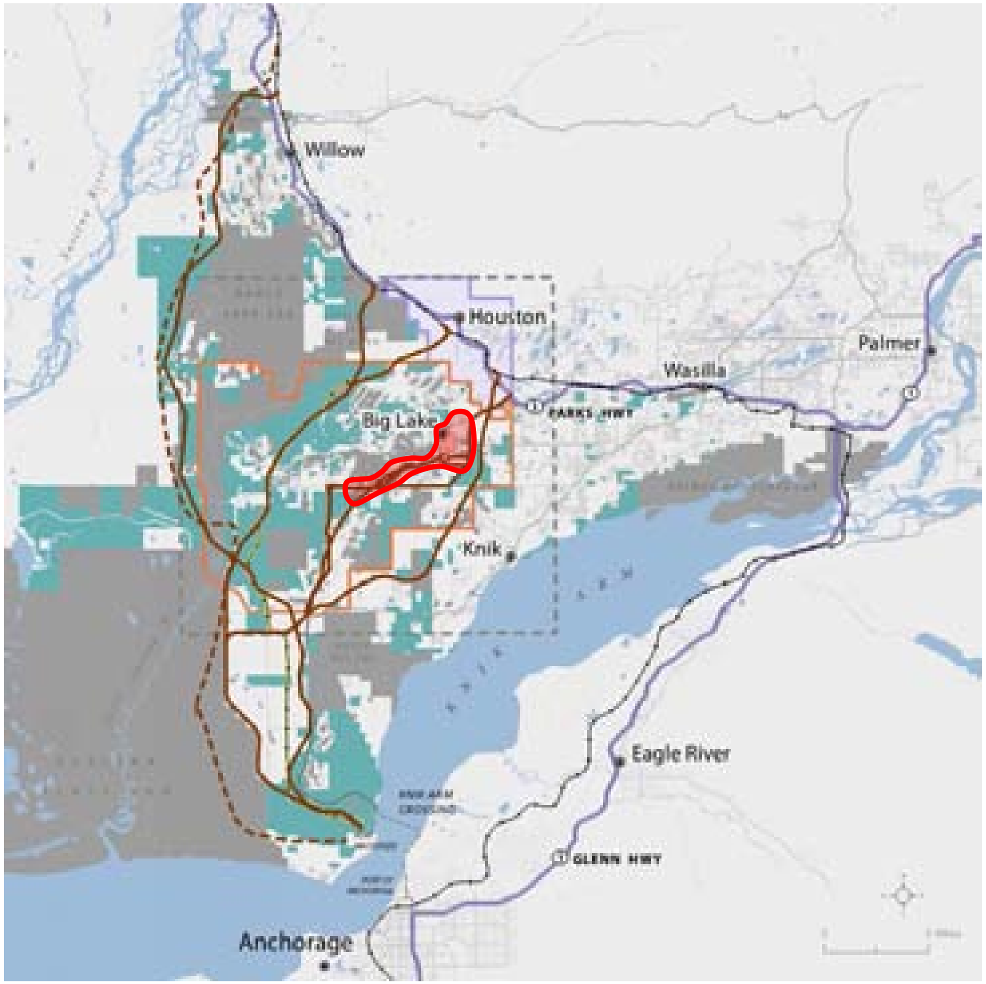
Opportunities

Public Ownership



Previous Routes

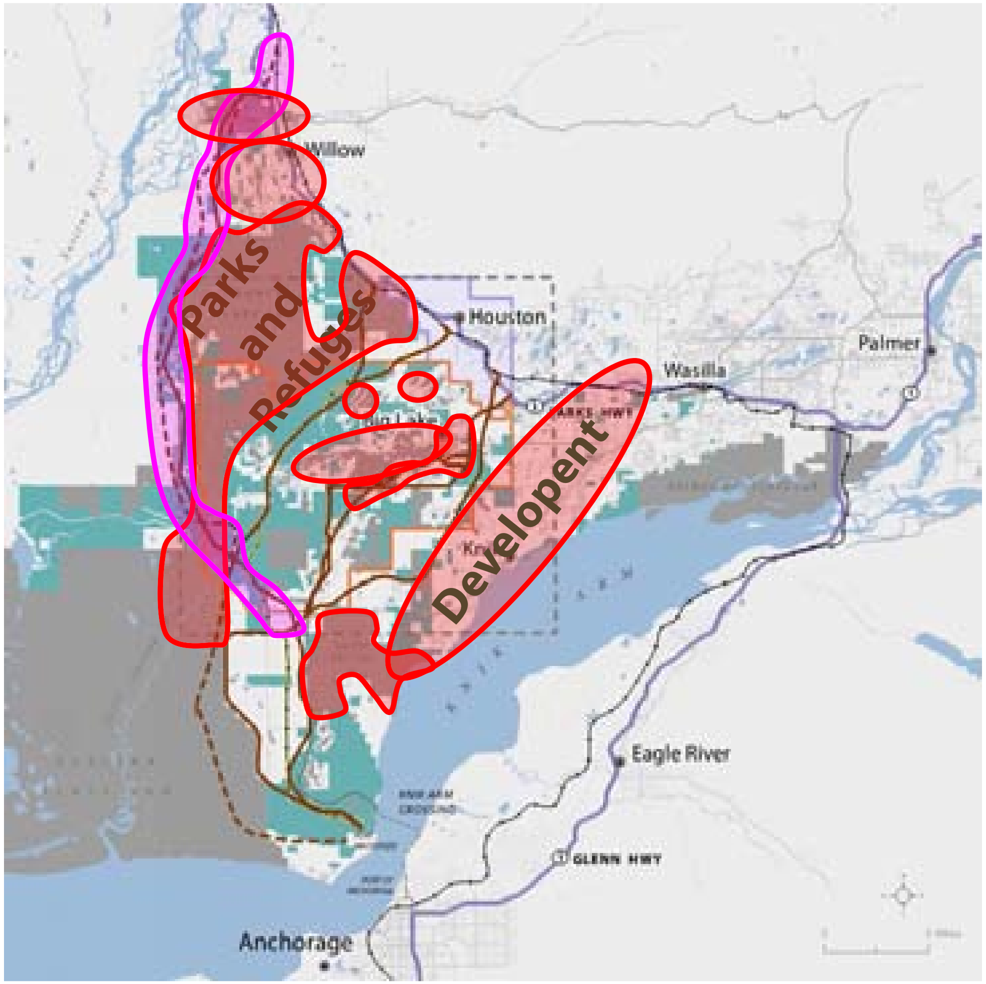
Why we are here



Constraints

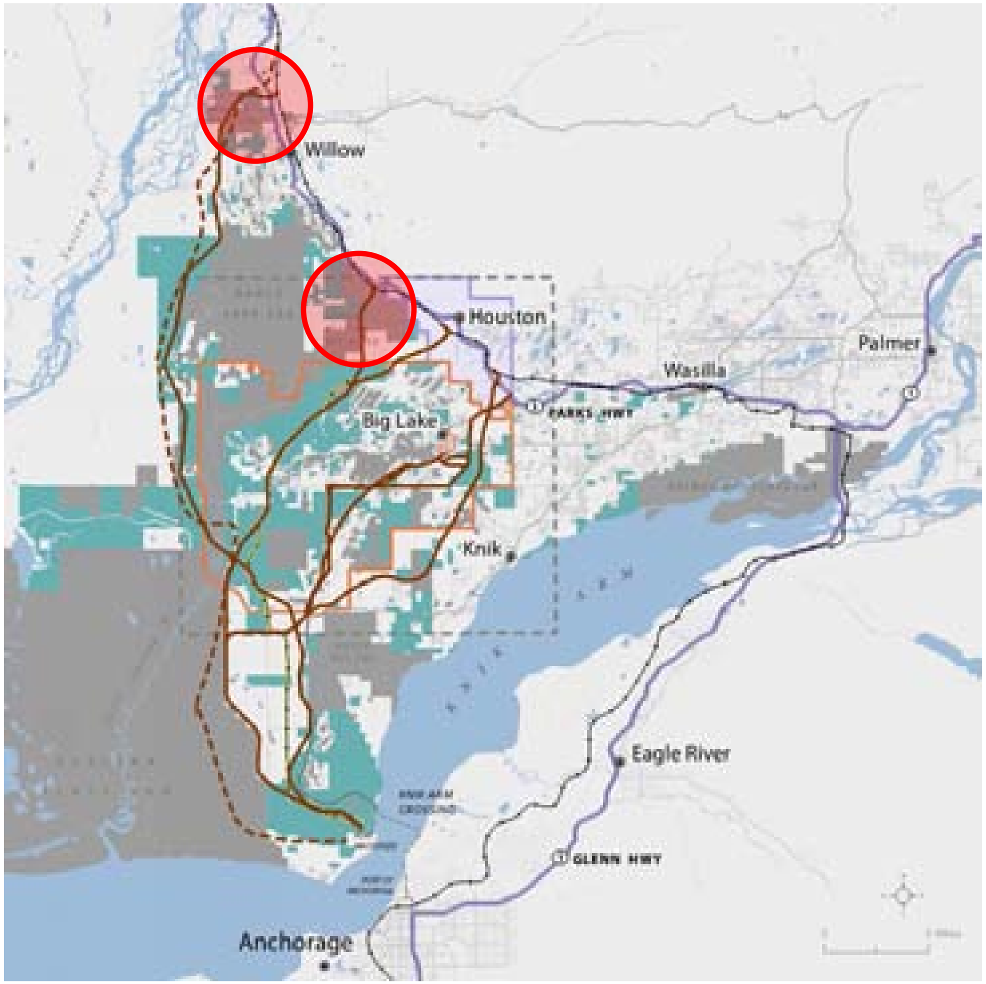
Willow Connector:

- **Long**
- **Expensive**
- **Low Usage**
- **Parks and Refuges**



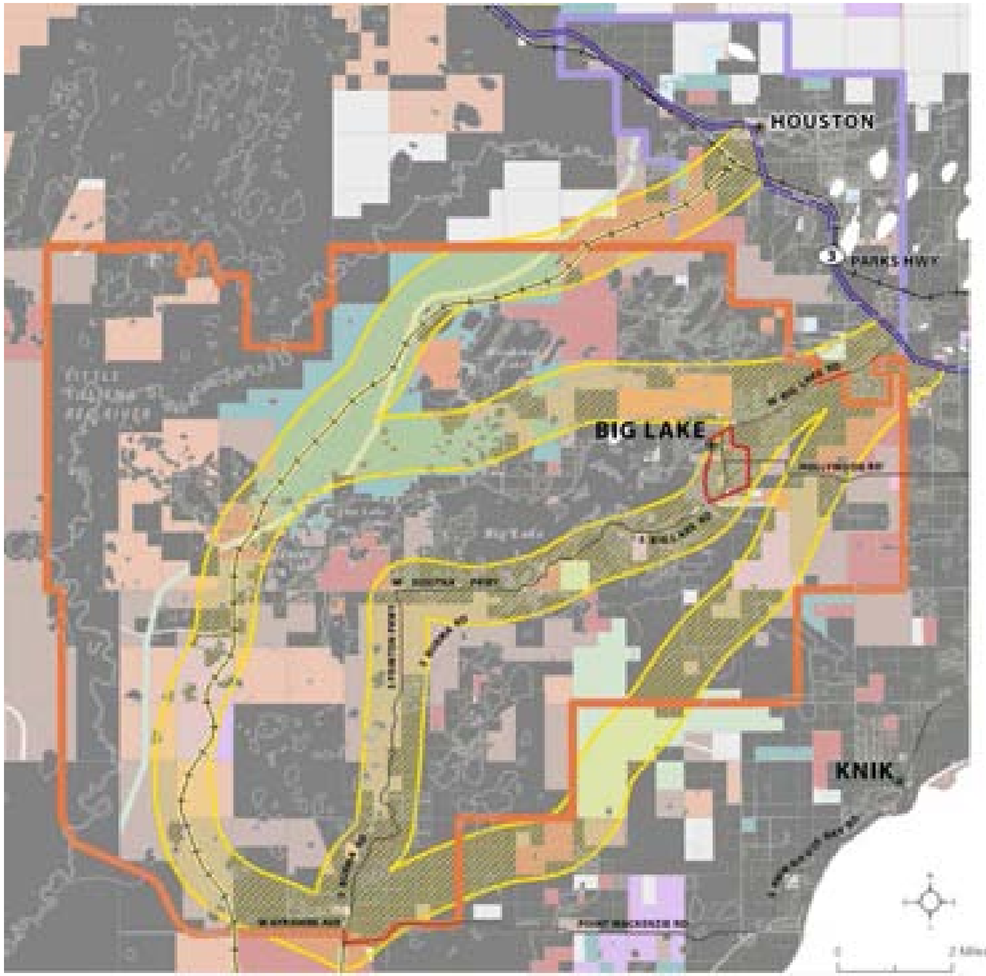
Constraints

Parks and Refuges



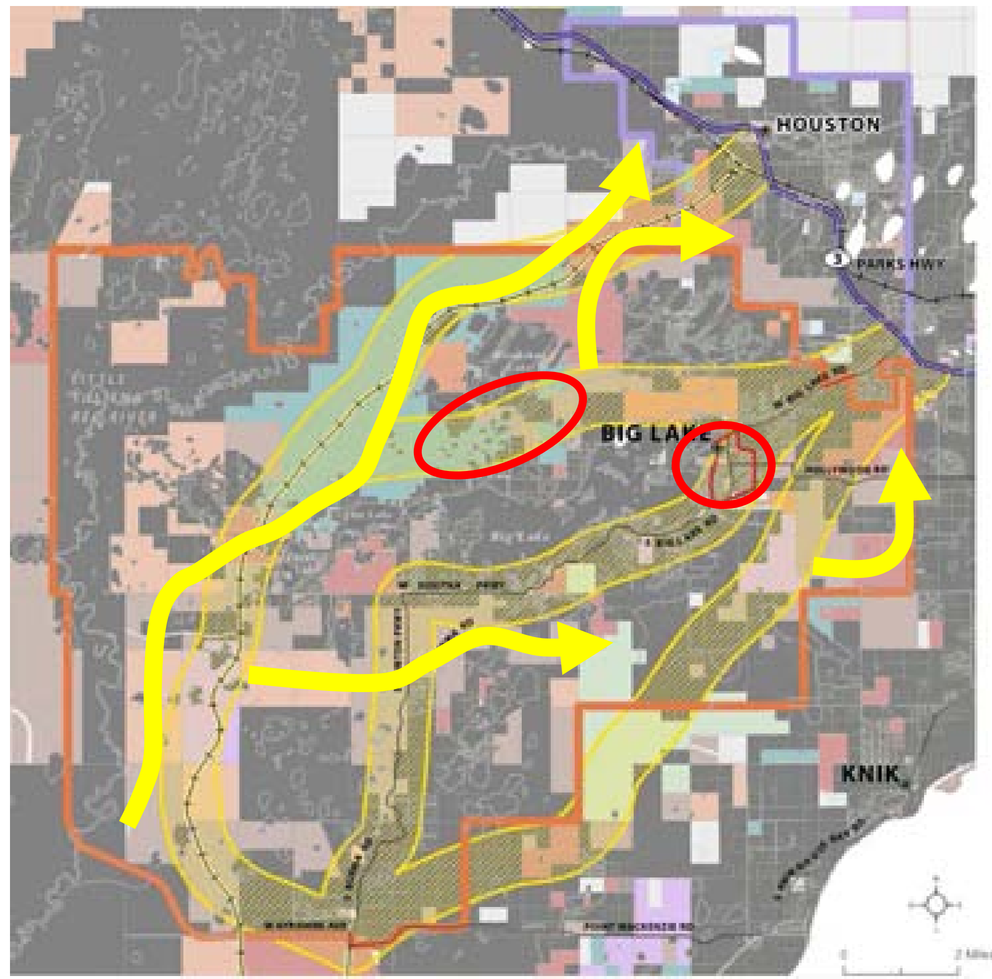
Opportunities & Constraints

Private Land



Opportunities & Constraints

Other Opportunities or Constraints?



Big Lake Community Impact Assessment and Corridor Reconnaissance Study

Community Meeting #1

October 23rd, 2012

Meeting Objectives

To better understand…

- Goals, value of Community Impact Assessment.
- Scale, purpose of a new north-south road.
- Assessment schedule, opportunities for public participation.
- Route selection process, how Assessment fits in.
- Highway corridor issues and options:
  - Past and current proposed highway routes ("spaghetti map")
  - Proposed short list of highway corridors; process used to identify these corridors.
  - Potential pros and cons of road corridors.
- Next steps in assessment process.

Meeting Agenda

I. Welcome, Project Overview + Meeting Purpose
(30 min)

II. Presentation of Preliminary Corridors
(30 min)

III. Community/Key Stakeholder Discussion of Preliminary Corridors
(50 min)

IV. Next Steps + Wrap-Up
(10 minutes)

III. Group Discussion of Preliminary Corridors *(50 min)*

A. Small Group Work *(20 min)*

1. Break into small groups.
2. Select group scribe and spokesperson.
3. As a group, use what you know about Big Lake, what you've learned tonight, and the maps on the table to answer the following questions (record your responses on flipchart paper):
   a. The next step in the process is to further analyze the corridors – Is there any reason why the proposed corridors won't work, why they shouldn't be analyzed?
   b. What are the potential pros and cons, opportunities and challenges, of the different corridors?

B. Group Report Back *(20 min)*

1. Each group spokesperson will report back a summary of key results from their small group.

C. Full Group Discussion *(10 min)*

1. What remaining comments, questions and concerns do folks have?

Preliminary Corridor Evaluation Criteria

Avoid adverse impacts

- Minimize disruption of community uses – residential neighborhoods, commercial areas, parks and trails, public facilities and public gathering places.
- Minimize environmental impacts on wetlands, water quality and habitat.
- Minimize construction costs.

Maximize positive benefits

- Reserve a safe, convenient corridor for carrying through traffic.
- Provide safe, convenient circulation to and within the community.
- Provide right level of access to/through downtown – support goals of the comprehensive plan.

Big Lake CIA Meeting Notes
Big Lake Transportation Committee Meeting
2/5/13

1. Update on Project Schedule + Public Involvement Opportunities (Shelly)
2. Corridor and Center-Line Alignments Update

Murph O'Brien of HDR led the discussion of the corridor options with the goal of reducing the number of alternatives to 3 or 4 from the current number of six. The purpose of the corridors was to provide a new, more direct connection from Port MacKenzie to the Parks Highway to serve both port commercial/industrial traffic and local commuter traffic using the Knik Arm Crossing. The six corridor options (see map) discussed starting west to east were:

- Alternative 1: Willow Alignment*
- Alternative 2: Modified Burma Road/Port Mac Rail Alignment
- Alternative 3: Burma Road through Big Lake Community Center Alignment
- Alternative 3 Bypass: Burma Road to Big Lake Road bypassing the Big Lake Community Center.
- Alternative 4: Northeasterly route extending from the Burma Road/Port MacKenzie Road Intersection to the Parks Highway south of the Big Lake Community.
- Alternative 5: Johnson Road to KGB route.*

*These routes were added to the analysis through public involvement activities.

As part of the analysis, the corridors were refined to 400' wide centerline rights-of-way. These centerlines were mapped using a variety of constraint criteria including:

- Higher Value Wetlands
- Poor Soils
- Trails
- Other constraints including public facilities, FAA facilities and school sites.

These centerlines were drawn on the map with the goal of avoiding these constraints to the greatest extent possible. Typical Sections were shown for both a two lane initial build out with two 12' lanes and 8' shoulders and the full build out showing a 4 lane divided controlled access highway with frontage roads, pedestrian facilities and interchanges. Planning level costs per mile were developed for the two lane and four lane sections for both upland and wetland construction. Alignment lengths were also determined. It was explained that cost estimates needed refinement and would be provided in greater detail later in the process.

Initial Planning Level Road Way Cost Estimates*

	Low	High
Cost 2-Lane 40’ Wide Upland	$3,100,000/Mile	$3,800,000/Mile
Cost 2-Lane 40’ Wide Wetland	$5,100,000/Mile	$7,500,000/Mile
Cost 4-Lane Highway Upland	$4,650,000/Mile	$5,700,000/Mile
Cost 4-Lane Highway Wetland	$7,650,000/Mile	$11,200,000/Mile
Interchange 4-Lane Upland	$24,000,000	same
Interchange 4-Lane Dry	$31,200,000	same

*These estimates are being refined to reflect additional engineering considerations.

Each alignment was discussed focusing on constraints. Alternatives 1 and 4 had the most constraints. Alternative 1 was by far the longest of the options at 32 miles, requiring all new construction and would be the most expensive to build. It crossed more wetlands and severely impacted the Willow trails system. Alternative 4 at 14.4 miles significantly impacted wetlands, suffered from extremely poor soils and bisected the Aurora Mushers trail network. Alternative 4 followed a route studied for the Port MacKenzie Rail Extension Project that was dismissed due environmental reasons.

Alternative 2 (22.2 miles) followed a realigned Burma Road to the Susitna Parkway and then travel west crossing the Port MacKenzie Rail Extension following the rail alignment to the west until it approached the Parks Highway where it crossed the rail extension at Miller Reach Road ultimately connecting to the Parks Highway. It was pointed out by committee members that this route would facilitate the “road around Big Lake” and be a jumping off point for the Fish Creek Townsite/Agricultural Development projects.

There was discussion to drop Alternative 3 (17.4 miles) from further consideration. It was explained that this alternative provides the base case for comparison of impacts since it bisects the Big Lake Town Center it logically would have the most severe community impacts. Alternative 3 Bypass (18.0 miles) was altered to move further east away from the town center since as drawn the Big Lake Town Center would be constrained by the lake to the west and the new highway to the east.

A discussion was held on Alternative 5. This alternative was added late into the analysis through the public process. Alternative 5 begins at the intersection of the Parks Highway and Johnson Road and then heads due south until it intersects Knik Goose Bay Road. It would then follow the existing KGB Road alignment to Port MacKenzie Road to its intersection with Burma Road and Ayshire Road. This alternative proved interesting since it bypassed the Big Lake Community Center yet was close enough to Big Lake to allow easy commuting access to the Port and Knik Arm Crossing. It would also serve the growing Meadow Lakes community and the residential infilling/westward population expansion between Knik Goose Bay Road and Vine Road, Vine Road and Johnson Road and, finally, Johnson Road and Big Lake. It also followed existing roads/ embankments with only short distances of total new construction. The cost for this alignment is being refined to account for existing road embankments and rights-of-way. It was recognized that though this alternative would most likely reduce community impacts to Big Lake, it would increase impacts to the east in the Knik Fairview area.

Results: General agreement was attained to drop Alternatives 1 and 4 from further consideration. Alternatives 2, 3, 3 Bypass, and 5 were recommended to be moved forward for further analysis as part of the Community Impact Assessment.

Follow Up Questions:

1. When and how the MSB's Build Out Analysis will be incorporated into this project?

   A complete answer was not provided at the meeting. However, project team members met subsequently with the MSB and their consultant to discuss the build out analysis. There exists a base case build out analysis for Big Lake using the road system proposed in the Official Streets and Highway Plan. Now that other highway routes have been recommended for further analysis, there consultant will take Alternative 2, 3, 3-Bypass and 5 and run a Build Out analysis for each. Each build out will show different population distribution, emergency services and schools, commercial nodes and residential growth patterns. This information will be incorporated into the findings of the Community Impact Assessment.

2. When will the CIA portion of the project commence?

   Elements of the CIA study have commenced such as the Big Lake and Houston community profiles, however, critical to the detailed Community Impact Assessment is the determination of which road alternatives would be selected for further analysis. Now that the road alternatives have been selected, the CIA portion of the study can begin in earnest.

3. How will the Big Lake community provide input into the CIA process?

   The consultant team will obtain community input through a variety of methods including the next meeting of the Big Lake Transportation Committee, public forums, interviews and review of existing and projected socio-economic data. It is also anticipated that at the next public open house where the draft document will be presented additional community input will be obtained so that the draft CIA can be modified and revised with new information prior to it being presented in final form.

3. Draft Project Fact Sheet (Shelly)
4. Next Steps, Transportation Committee Meeting Dates + Purpose (Shelly)

Big Lake Community Impact Assessment
Transportation Committee Meeting Notes
May 23, 2013

Participants

- Allen Kemplen, Alaska Department of Transportation (DOT)
- Andrew Niemiec, Knik arm Bridge Toll Authority (KABATA)
- Bill Heariet
- Bill Haller, Planning Commissioner + Vice Chair
- Bill Kramer, President, Big Lake Community Council (BLCC)
- Cathy + Dan Mayfield, BLCC + Big Lake Trails
- Ina Mueller
- Jacob Snedeker
- Roxann Dayton, Aurora Dog Mushers

Mat-Su Borough Staff

- Lauren Driscoll
- Mike Campfield

Consulting Team

- John McPherson, HDR
- Shelly Wade + Chris Beck, Agnew::Beck Consulting

Summary of Discussion by Agenda Topic

Build-Out Analysis Presentation by Shannon Bingham

- See attached PowerPoint for a summary of Shannon's presentation.
- For complete report, see www.biglakecommunityimpact.org.

Follow-up Comments from Shannon

- Growth follows access; there are many precedents around the Mat-Su that are evidence of this, especially around intersections.
- The build-out analysis (and the Community Impact Assessment) presumes the Knik Arm Bridge gets built.
- In 100 years (at full build-out), MSB population is expected to go from 88,000 to 400,000; 145,000 new households. This figure assumes an annual growth rate of 3.09%, and a slow increase in density.
- Assumptions about density are a major consideration in build out population. With the current absence of public water and sewer, density and population growth is restrained. Today only 7% of households have public water and sewer.
- Knik Arm Bridge will likely bring pressure for higher density; for water and sewer systems.
- One part of the projections is estimation of public facility needs. Estimates of the number and location of future fire/public safety stations is the goal of "ISO 5" (paved road connection to fire station < 5 miles).
- Projections driven by density factor of identified critical intersections.
- Implications for Big Lake
  - Big Lake at build-out is a population increase from 3,300 to 15,000.
  - Point Mac Rd/Aryshire Rd is a node that is destined to grow.
  - With water and sewer: Alts 1, 2 – 5,000 people; other alternatives 10,000-12,000 people

Group Discussion

- What triggers demand for/who pays for water and sewer? – triggers can include developers and governments that see the need to invest in water and sewer infrastructure, which could occur for economic and environmental reasons; payment can come from several options, local or regional improvement districts; state or federal funding; investments by individual developers.
- Is Anchorage at build-out? Yes, Anchorage is at 98% build-out under current densities; redevelopment could increase densities and populations, but the issue becomes the affordability of housing
- Does build-out begin at Point McKenzie, at the bridge crossing, and move north? Presence or absence of Knik Arm Bridge has huge impact on timing and location of development. However, development is not solely dependent on building the bridge. The development will (is) happen(ing) either way.

<u>Community Impact Assessment Summary Overview</u>

A. Introductions – Led by John M.
   Follow-up Comments + Questions
   - Question – What is the purpose of the engineering work that is part of the CIA?
     - This is reconnaissance engineering. We are gauging the feasibility, preliminary costs of potential routes. This is a reference for future decision making, but not a detailed engineering work.
     - Has any fieldwork occurred? There was some limited fieldwork, summer 2012.

B. Assumptions – Led by Chris B.
   Follow-up Comments + Questions
   - Comments + Questions – Need clarification regarding DOT's initial investment in Burma Road and South Big Lake Road Realignment Road project studies – Mike, Allen overview
     - These are two different projects, serving two different purposes.
     - Decided to include in the study 2-lane and 4-lane alternatives.
     - The South Big Lake Road Realignment project is intended to provide a safe and more direct route for travel to points south and west of Big Lake.
     - Burma Road was initially recommended for improvement due to the Big Lake fire, so that there would be an alternative emergency access out of the area south and west of Big Lake. DOT&PF is considering this as a viable route for access to the port and the bridge, as stated in their 2011 recon report.

C. Land Use – Led by Chris B.
   Follow-up Comments + Questions
   - Question – Is Corridor 2 east or west of the railroad?
     - Mostly east, but there are two main crossings.
   - Comment – Much of the land is Alaska Mental Health Trust Authority (AMHTA) land. Has the assessment considered the potential population increase as a result of the road development and reality of AMHTA selling land?
     - Given the likelihood with the physical constraints, it's likely there would be less total and less intense development.
     - We should invite AMHTA to the second community workshop so that they're in the loop on where we are with this process.
   - Question – Overall, what is the real likelihood of development along this corridor, given the future railroad?

- It's likely there would be less development. An example in the Borough – existence of the railroad in Wasilla really shuts down development along the railroad side of the road. And as mentioned, much of the land is constrained by wet, poorly drained soils.
- Comment from specific individual – "I would like the route to be the furthest east possible; away from Big Lake. 'Keep Big Lake, Big Lake'".
  - Purpose of this report is to make sure we're capturing the pros and cons of all of the options.
- General comment – We're looking at a road that's out 20 years, not 10 years.
  - Agree. In fact the full 4-lane road may be 30, 40 or more years into the future. The point is to have reserved a corridor for when/if the need arises.
- We would like something that is more like 3 Bypass, and specifically, what was described and supported in the Comprehensive Plan.
  - The CIA report will compare the pluses and minuses of a the east side alternative presented at the meeting, as well as an alternative that matches what is in the Comprehensive Plan
- General question – What is the process for securing the route? Will the CIA do that?
  - No, but this study will inform the next steps that happen before securing the route. (Click here for more information on next steps in the overall process, www.biglakecommunityimpact.org, see *Frequently Asked Questions*: "What is the timing for this project and route selection?")
  - Moving forward, the CIA will become a reference document; it provides a record of what the community supports.
- Overall comment – Seems like we have missed the direct tie back to goals/strategies addressed in the Comprehensive Plan. It does say that we want to be a "rural recreation community". But, specific Comp Plan language needs to be explicitly stated in that section. Compare, measure up potential routes our comp plan vision and goals.
  - This issue is actually addressed more in the "Visual" section of the summary. When this section was discussed with the group there was agreement that impacts of the routes on the "recreation character" were covered adequately.

D. Mobility and Access – Led by John M.

Follow-up Comments + Questions

- Question – Where are the gray roads on the maps? Whose are these?
  - These are roads that are part of the Borough's *Long Range Transportation Plan*. Click here to review the plan.
  - How does 98% substandard roads fall into that equation?
    - If you go back to Eagle River or Chugiak, those areas probably looked like Big Lake looks today re: 98% substandard roads. Take a look at pictures of Anchorage in 1960s and 1970s. Similar development issues there.
    - This is a chicken/egg situation. It is difficult to pay for the costs of constructing and maintaining roads where development is very low density. You get more and better roads from having more homes in the area, generating more local tax revenue (but, yes, it helps to have the road to get the people).
    - Comment from specific individual – "Two of these routes go through my door step. I'm concerned with short-term view and getting to my door step. We had a fire recently and we were lucky to get someone (a volunteer) out there to help." How do I address that now?
      - Actually, development of surrounding areas could happen after a route is selected. We're (MSB) is looking at the larger picture of connector roads related to the selected alternative.

E. Economic Development – Led by John M.
Follow-up Comments + Questions

- Question - Why are we including Alternative 3 at all, given that we all know that no one wants it?
    - The community CIA RFP committee asked for it to be considered to make sure the community was able to voice concern regarding why Alternative 3 does not make sense/is not supported by the community. Having it in the CIA ensures the community's opinion is documented.
- Comment – If the community is moving forward with their application to incorporate, they should start thinking now about possible annexation lands. How would that look given the potential corporation boundary (currently the BLCC)? There may be an opportunity to change the application, given its current status, to reflect a different boundary.

F. Social and Psychological – Led by Chris B.
Follow-up Comments + Questions

- Comment – We need to be clear about Alternative 2 and how it impacts trails. Railroads are already severely impacting trails. MSB and ARR are working together now to mitigate this, and we need to do the same with any potential road project.
- Comment – There are probably areas where we're going to see more than the 3% growth rate. Even without a main transportation corridor going through some of these main areas, there will be more traffic and a lot more people; more than double the people.
    - MSB – We are even seeing that with growing number of subdivisions.

G. Visual – Led by Chris
Follow-up Comments + Questions

- See note above. When this section was discussed with the group there was agreement that impacts of the routes on the community's "recreation character" were covered adequately.

H. Physical – JM
Follow-up Comments + Questions

- None.

I. Safety – Led by John M.
Follow-up Comments + Question

- Comment – At least two new fire stations are planned for the Borough, including one at Spring Street and the Parks Highway (2.7 million in Governor's budget for this project right now).

J. Displacement – Led by John M.
Follow-up Comments + Question

- None.

K. Final Comments + Questions on Document

- Overall, the one community that got transportation planning right is Fairbanks. They are a good model for the type of road development that makes sense. None of these alternatives really do that. We would like an alternative like that, something this is closer to what was is in the Comp Plan.
- Quick commentary on overall package of alternatives, from community with consultant team input:
    - Alternative 2 – Would attract less traffic and business.
    - Alternative 3 – This is a "trash can" alternative; this alternative is not at all supported by the community.
    - Alternatives 3 Bypass and 5 – These are the most beneficial for the purpose of the road, but also have the highest impact.

Next Steps

- Given tonight's feedback, the planning team will fine tune the CIA, including adding the build-out analysis work and information on DOT's revised traffic model.
- How are we going to use Shannon's build-out information in our report?
    - An additional reference point for comparing the relative transportation attributes of different alternatives.
    - To some extent, the important thing about the model is it will likely illustrate some of the routes are non-starters.
    - Important to remember that it doesn't matter so much when the traffic volumes will grow, whenever that it is, we're building for the ultimate build-out.
    - It was pointed out that a rough proxy of the build-out analysis model can be developed immediately using rules of thumb for traffic capacity, traffic demand. For example:
        - A 2-lane road can handle 12,000 trips/day.
        - 8,000 households, 9.7 trips/household.
        - Once you get over that level of demand, as with the growth that's anticipated in Shannon's study, then road could fail, at 15K-18K trips/day.
- Regarding timing of release and ultimately use of the revised traffic model:
    - It's getting very close to being available for use (do we have a date yet?)
    - What is the traffic model area? It tries to predict traffic growth over the whole Mat-Su.
    - By including what we know about it in the CIA, we illustrate that we are maximizing use of all of the information we have, including the traffic model data. Including it adds validity to everything that is in the CIA.
- Should we do a community workshop without the revised traffic model info included?
    - NO. Let's wait until we have everything before we have a second workshop. Anytime this summer is OK with the community, as long as it's not a Friday, Saturday, Sunday, Monday OR holiday.

Community BIG LAKE Impact Assessment

BIG LAKE COMMUNITY IMPACT ASSESSMENT & CORRIDOR RECONNAISSANCE STUDY

Community Meeting # 2

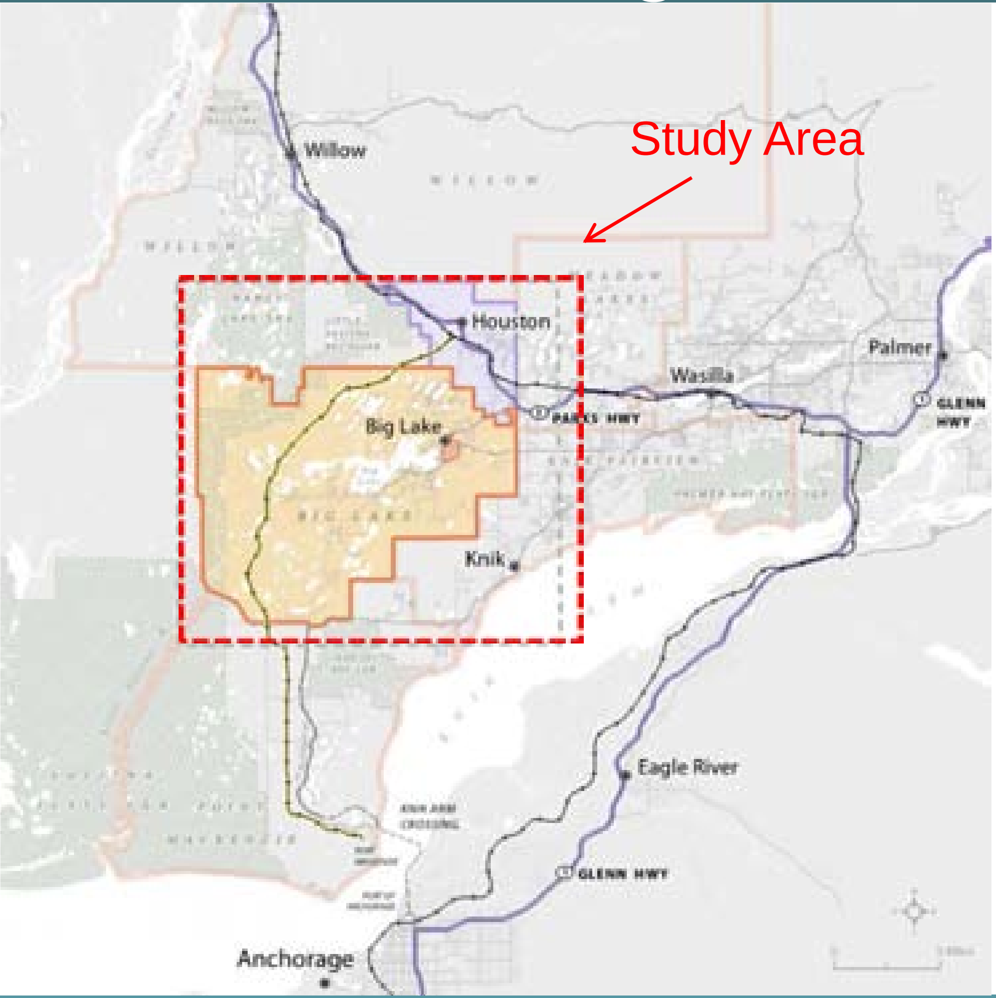
September 19, 2013

Background

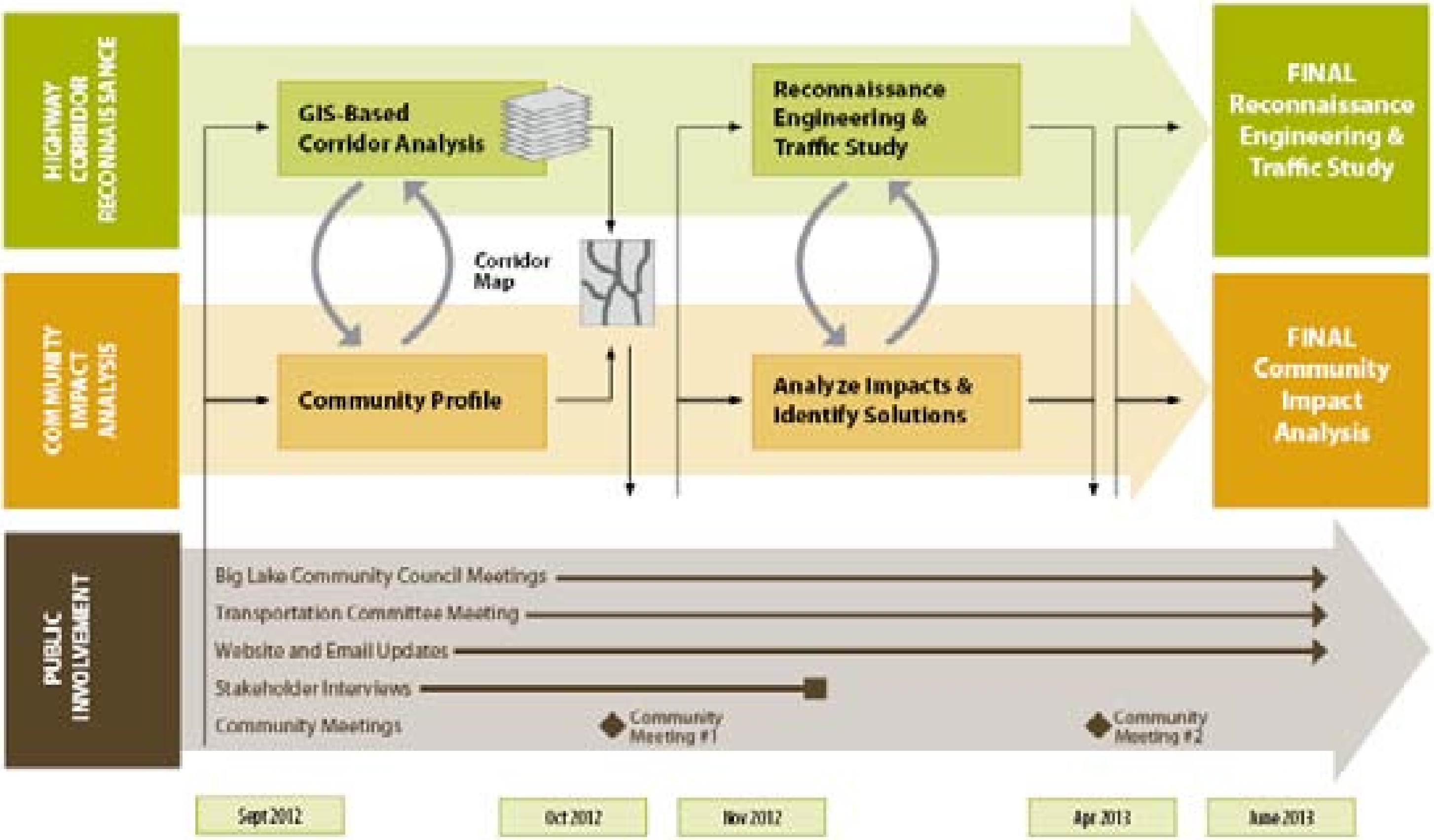
- What is a Community Impact Assessment (CIA)?
- What is the Highway Corridor Reconnaissance Study?

Background

- Why is Big Lake doing a CIA?
- What is the project purpose and need?
- What are the project benefits?



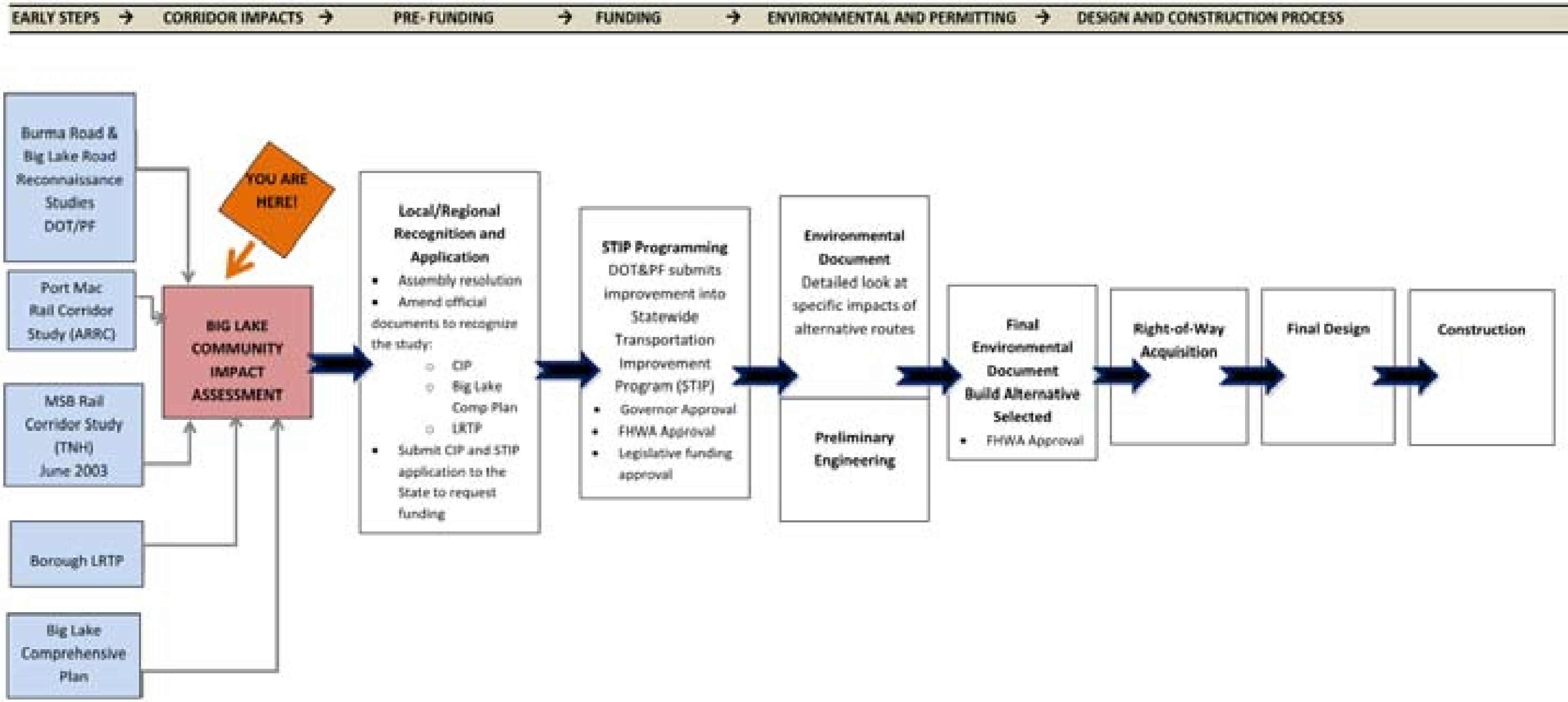
Schedule for this Process



Route Selection Process

BIG LAKE ROAD CORRIDORS – COMMUNITY IMPACT ASSESSMENT AND CORRIDOR RECONNAISSANCE STUDY

ONE STEP IN THE PROCESS TO SELECT THE RIGHT ROUTE FOR A MAJOR NORTH SOUTH ROADWAY



How did we get here?

- Technical Analysis
- Community Engagement

How did we get here?

- Technical Analysis
- Community Engagement

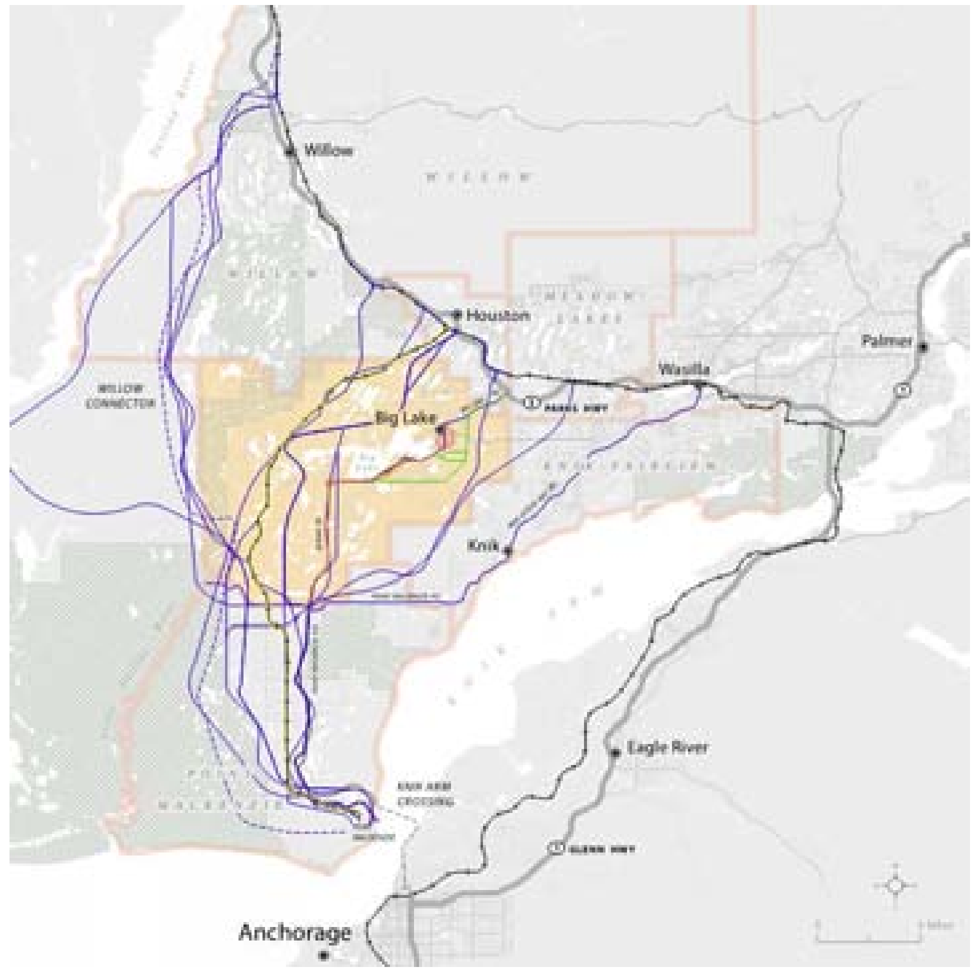
Community Engagement

Community Engagement-to-Date

- Sept 2012 – BLCC Meeting
- Oct 2012 – BLCC Transportation Committee Meeting
- Oct 2012 – Community Meeting #1
- Nov 2012 – BLCC Transportation Committee Meeting
- Feb 2013 – BLCC Transportation Committee Meeting
- Feb 2013 – Booth at Winterfest
- May 2013 – BLCC Transportation Committee Meeting
- Aug 2013 – Booth at Transportation Fair
- Sept 2013 – BLCC Transportation Committee Meeting
- **Sept 2013 – Community Meeting #2**

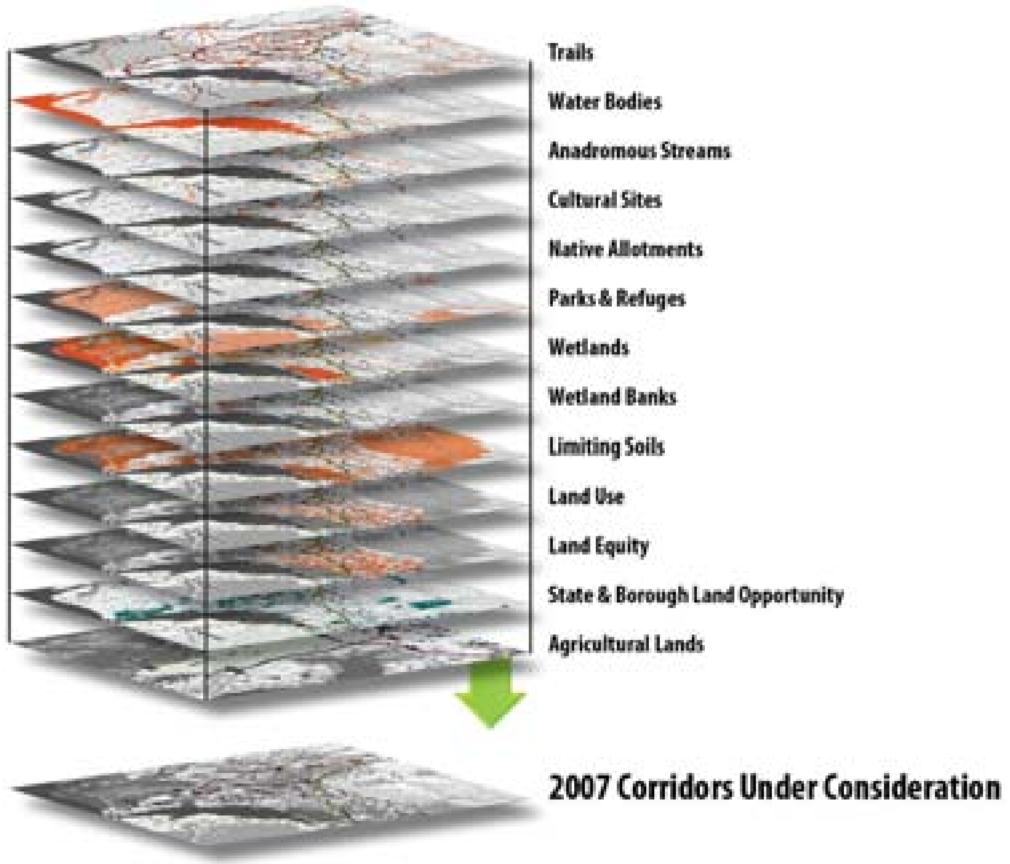
History

Previous Routes



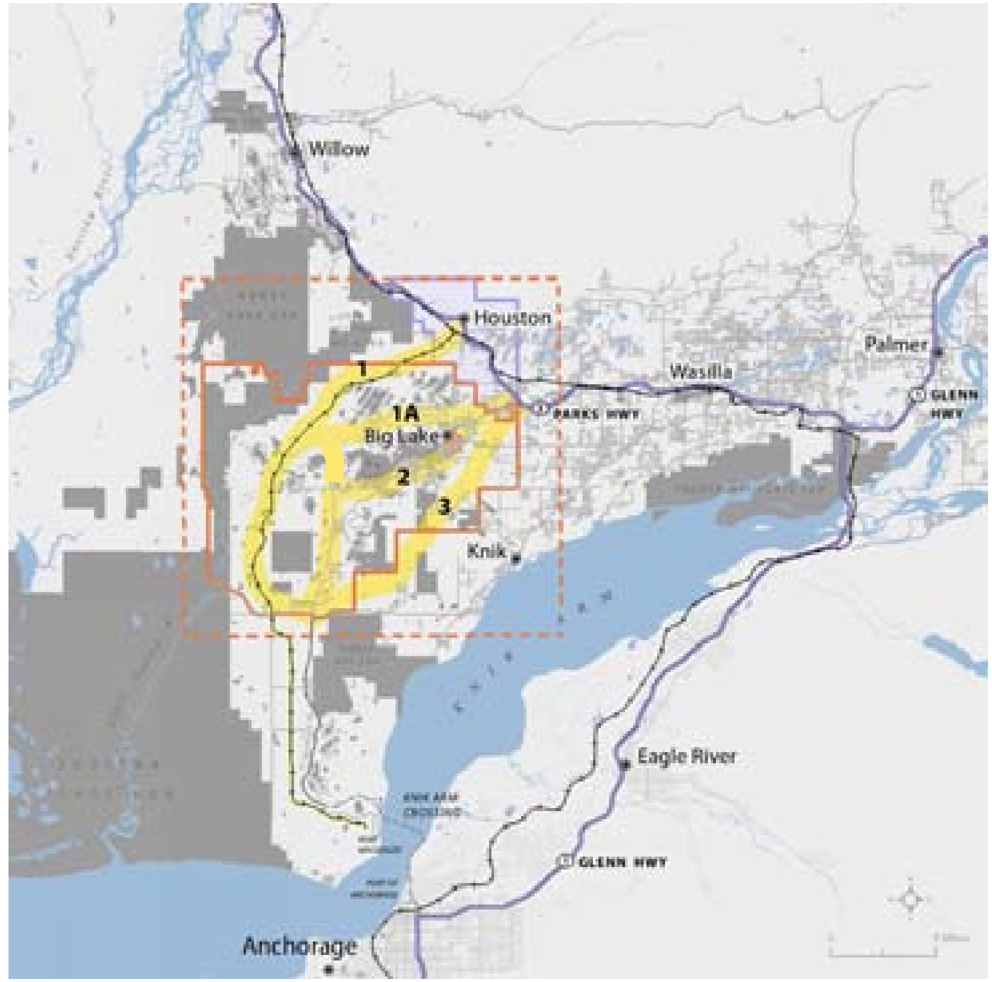
Corridor Development

Geographic Information System



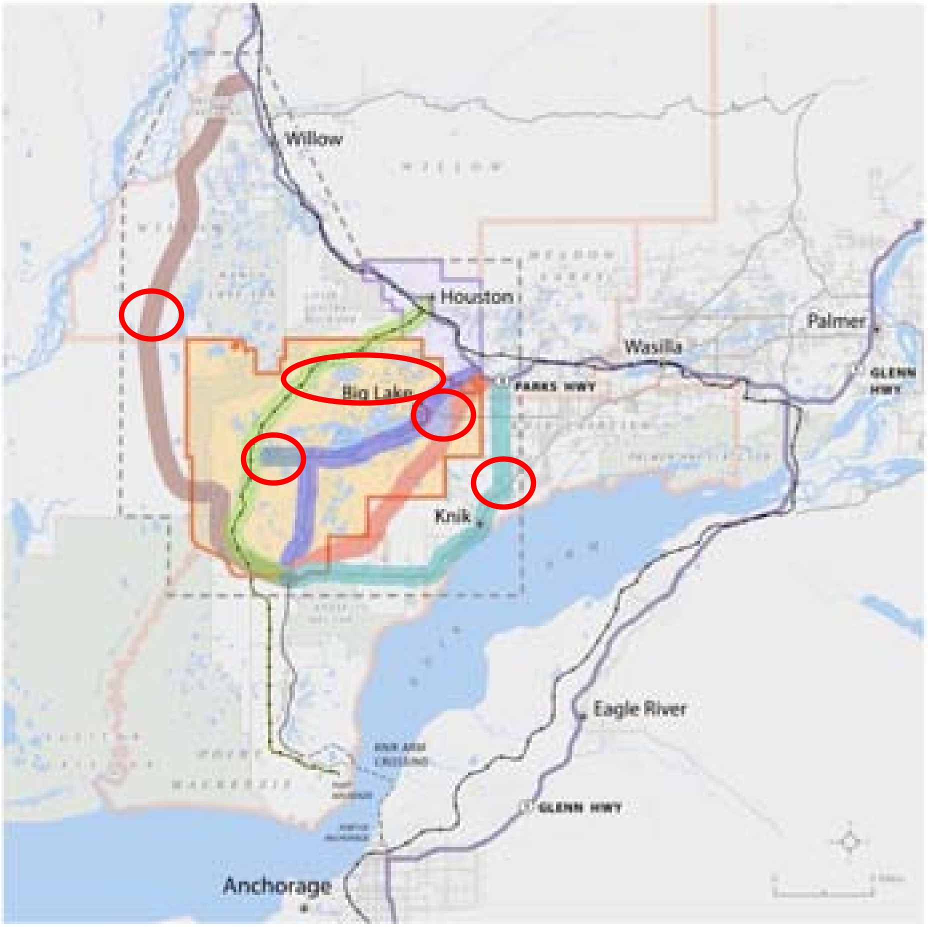
Initial Corridors

3 Initial Corridors



Initial Corridors

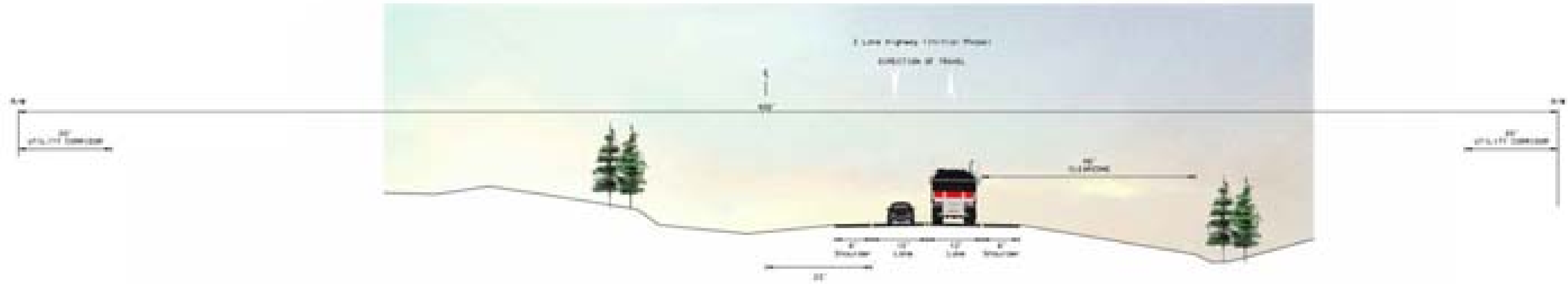
- Added 2 corridors
- Modified 2 corridors
- Deleted 1 Corridor

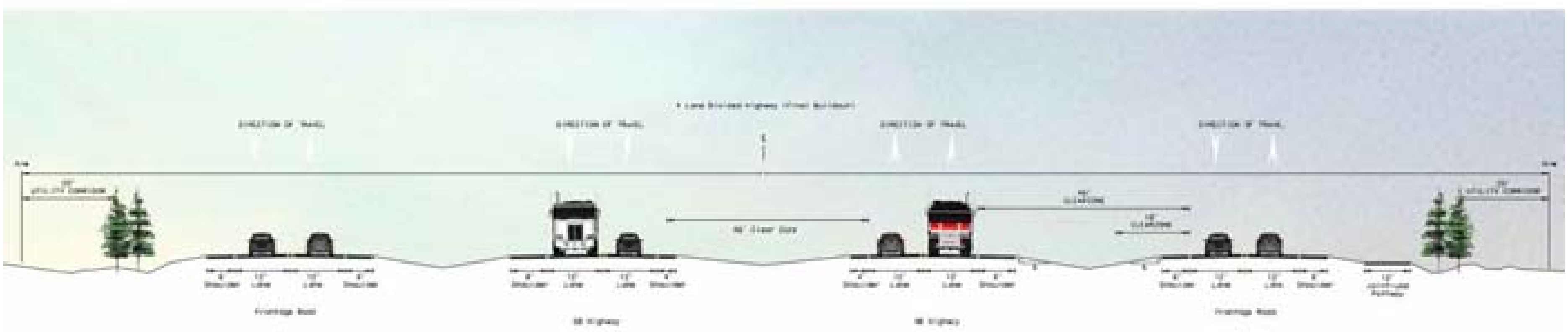


Initial Corridors

5 Study Corridors

2-Lane to 4-Lane Highway





Alignments


Willow
WILLOW
Houston
Big Lake
Knik
WETLAND CONSTRAINTS


Willow
Houston
Big Lake
Knik
SOIL CONSTRAINTS


Willow
WILLOW
Houston
Big Lake
Knik
OTHER CONSTRAINTS

Screening Evaluation

Alternatives 1 and 4 determined non-viable options due to trail crossings, wetlands, potential traffic and cost factors outlined below:

Alternative	Length	Trail Crossings	% in Wetlands
1	32.0 Miles	11	16.5
2	23.2 Miles	9	3.9
3	17.5 Miles	4	0.2
3 Bypass	18.6 Miles	5	2.7
4	16.3 Miles	9	11.6
5	20.5 Miles	2	3.9

Alternative	Build-out Population	Traffic	Phase 1 Cost	Phase 2 Cost
1	9,600 - 12,700	3,000 – 3,300	\$168 - \$214	\$246 - \$296
2	7,800 – 10,900	5,100 – 11,400	\$125 - \$152	\$282 - \$316
3	10,100 – 15,900	16,100 – 26,100	\$72 - 91	\$190 - \$199
3 Bypass	14,400 – 20,600	18,600 – 28-200	\$77 - 97	\$286 - \$316
4	9,700 – 15,500	27-800 – 32-800	\$79 - 99	\$262 - \$291
5	27,500 – 34,100	15,500 – 35,500	\$80 - \$101	\$270 - \$302

Screening Evaluation

Alternative	Length	Trail Crossings	% in Wetlands
1	32.0 Miles	11	16.5
2	23.2 Miles	9	3.9
3	17.5 Miles	4	0.2
3 Bypass	18.6 Miles	5	2.7
4	16.3 Miles	9	11.6
5	20.5 Miles	2	3.9

Alternatives 2,3, 3 bypass, 5 determined as alternatives for further analysis.

Alternative	Build-out Population	Traffic	Phase 1 Cost	Phase 2 Cost
1	9,600 - 12,700	3,000 – 3,300	$168 - $214	$246 - $296
2	7,800 – 10,900	5,100 – 11,400	$125 - $152	$282 - $316
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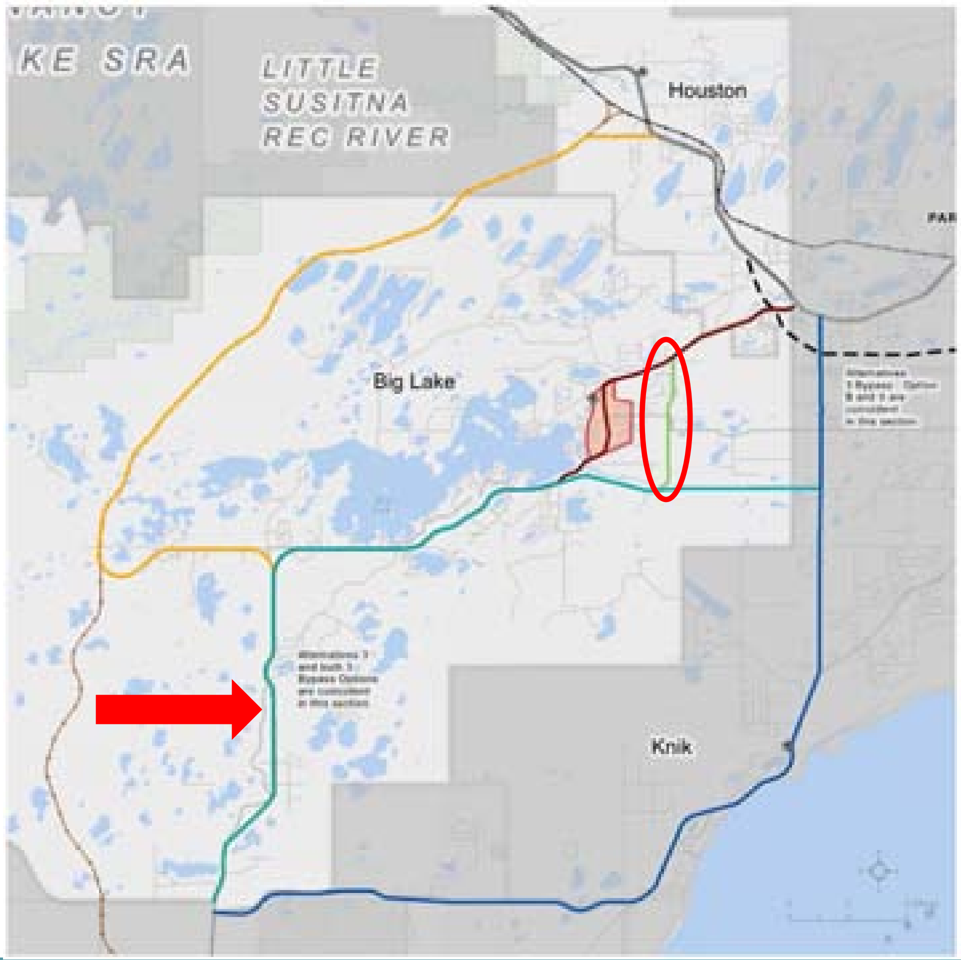
4	9,700 – 15,500	27-800 – 32-800	$79 - 99	$262 - $291
5	27,500 – 34,100	15,500 – 35,500	$80 - $101	$270 - $302

Alignment Refinements



Community Impacts

- Land Use
- Mobility and Access
- Economic Conditions
- Public Services
- Physical Conditions
- Visual
- Safety
- Displacement
- Land Ownership
- Social and Psychological

Impact Analysis Assumptions

- What is the anticipated traffic demand? Why the need to reserve a corridor for a limited access highway?
- What is the timing of increased traffic demand?

Impact Analysis Assumptions

- What are the physical characteristics of the road corridor?
- Which corridor alternatives are being considered?

Impact Analysis Assumptions

- How will the assessment use information gained from Mat-Su Borough “build-out analysis”?

- How will the CIA evaluate growth and traffic levels associated with different alternatives?

- How detailed is the assessment? To what degree does the assessment gauge “actual impacts” on Big Lake?

SUMMARY TABLES

Project Fact Sheet

Project Scope

A highway connecting Port MacKenzie and the Parks Highway has been under discussion for some time. The need for a trucking connection is growing as the expansion of Port MacKenzie continues. A corridor needs to be reserved to serve projected future population and business growth in the southern Borough. This route would also be well-positioned to handle projected traffic if the proposed Knik Arm Bridge connecting Anchorage and the Mat-Su is built.
The Mat-Su Borough (MSB) is currently studying five corridor alternatives to better understand the costs and benefits of different routes. Building the highway requires environmental clearance, permits and securing funding for construction. The state funding process can take 3 to 7 years, longer if using federal funds. The construction would be phased, with an initial 2-lane highway built in segments and later expanded to 4 lanes.

What is a Community Impact Assessment? ("CIA")

- A formal process to better understand the social and economic impacts of a proposed road project on a community.
- A method to add community knowledge and views into the impact assessment process, such as:
  - Improvements to a neighborhood's mobility and potential adverse impacts to its quality of life.
  - Impacts on existing community facilities and uses, such as schools or churches.
  - Potential to improve local business opportunities, as well as risks of disruption to the character and safety of community commercial centers.
  - Potential environmental impacts and on trails and recreation areas.

Public Engagement to Date:

- Sept. 2012 Community Council Meeting
- Oct. 2012 Transportation Meeting
- Oct. 2012 Community Meeting
- Feb. 2013 Booth at Winterfest
- May 2013 Transportation Meeting
- Aug. 2013 Booth at Transportation Fair
- Sept. 19, 2013 Community Meeting

Why is Big Lake doing a Community Impact Assessment?

- The community of Big Lake is concerned about the impact of additional traffic and a corridor through downtown Big Lake and surrounding areas.
- The assessment is a way to plan for the future, to provide access that works for Big Lake, and avoid situations like the Parks Hwy. Wasilla bottleneck.

The assessment process gets the community into the process early, in order to capture and convey community views before decisions are made.

Proposed Corridors

Map produced for the Mat-Su Borough by HDR Inc

Project Benefits

- Identify a fast, efficient trucking route between Port MacKenzie and destinations north along the Parks Hwy.
- Reserve a corridor to handle commuter vehicle traffic if the Knik Arm Bridge is constructed.
- Plan for future community growth and avoid creating a bottleneck like the Parks Hwy in Wasilla.
- Involve communities in the process to minimize community disruption and maximize community benefits.
- Address residents' concerns about effects of a major highway through neighborhoods and community centers.

WHAT IS A COMMUNITY IMPACT ASSESSMENT (CIA)?

A CIA is a process to evaluate effects of a transportation action (such as a road corridor) on a community and its quality of life. A community impact assessment is a recommended part of road project planning that:

- Shapes outcomes of the project
- Documents current and anticipated social environment of a geographic area – with and without the road corridor
- Looks at mobility, safety, employment, relocation, isolation, and other important community issues

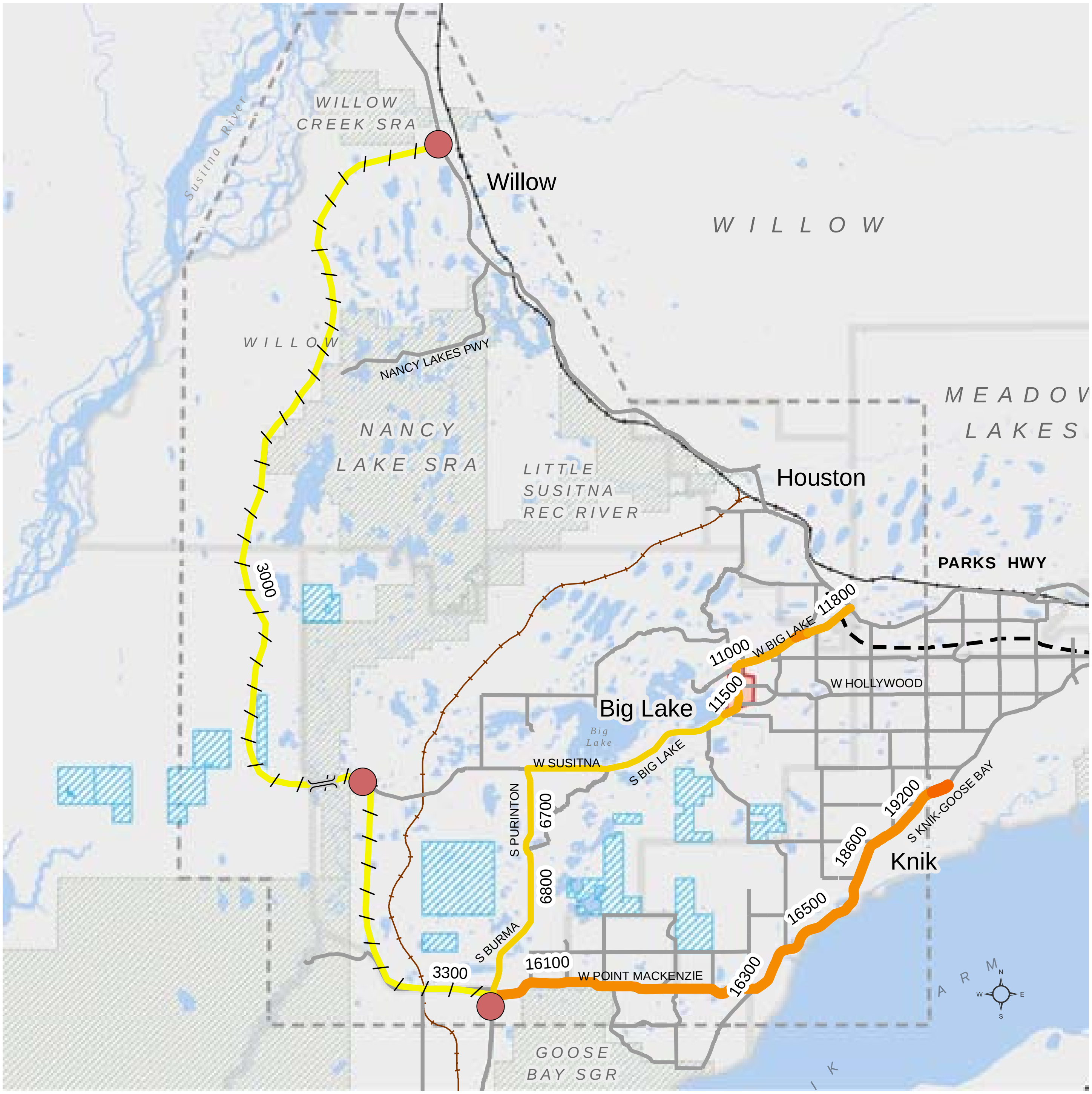
WHAT IS THE HIGHWAY CORRIDOR RECONNAISSANCE STUDY?

An engineering analysis to determine what routes may be used to move traffic from Port MacKenzie to the Parks Highway through the Big Lake area. Reconnaissance engineering considers terrain, physical constraints, and engineering criteria to evaluate potential alignments.

WHY IS BIG LAKE DOING A CIA?

A CIA gives the people of Big Lake a voice in the road corridor development decision making process. The study provides the community of Big Lake a chance to ensure human values and concerns receive proper attention during project development. The study also provides community input early in the process to guide decisions before funding is suddenly available.

The information from the study will help plan for the future, to provide access that works for Big Lake, and avoids the Wasilla-like bottleneck. The community of Big Lake is concerned about the impact of additional traffic and a corridor through the downtown core and surrounding areas.



ALTERNATIVE 1 - Willow Route

Big Lake Community Impact Assessment

Traffic Forecast for 2060

0 - 5000
5001 - 10000
10001 - 15000
15001 - 20000
20001 - 25000
25001 - 30000
30001 - 35000
35001 - 40000

Wetland Bank

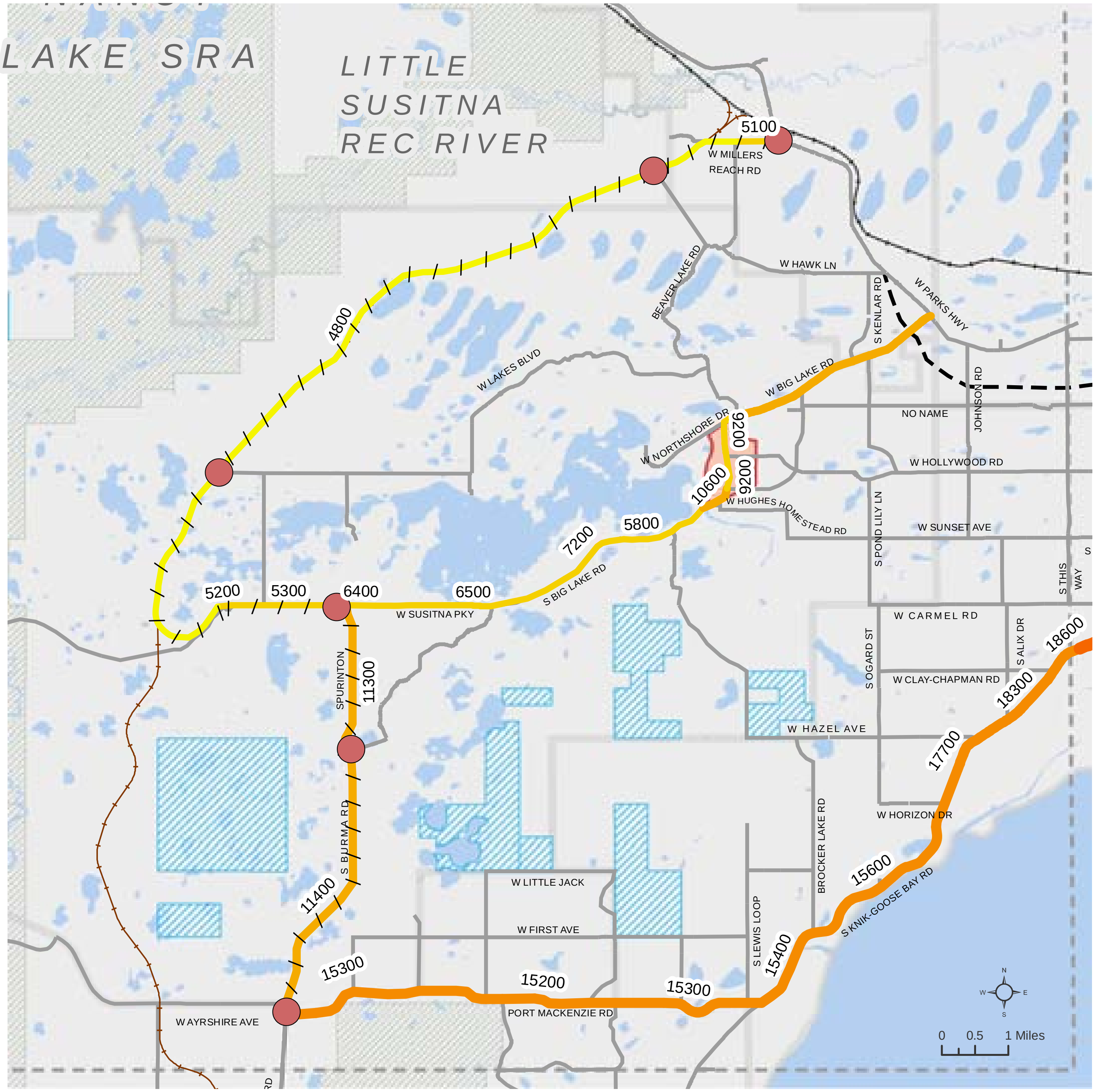
Proposed

/ / / Highway

Interchange

Bridge over Little Su

9/17/2013



ALTERNATIVE 2 - Rail Route

Big Lake Community Impact Assessment

Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

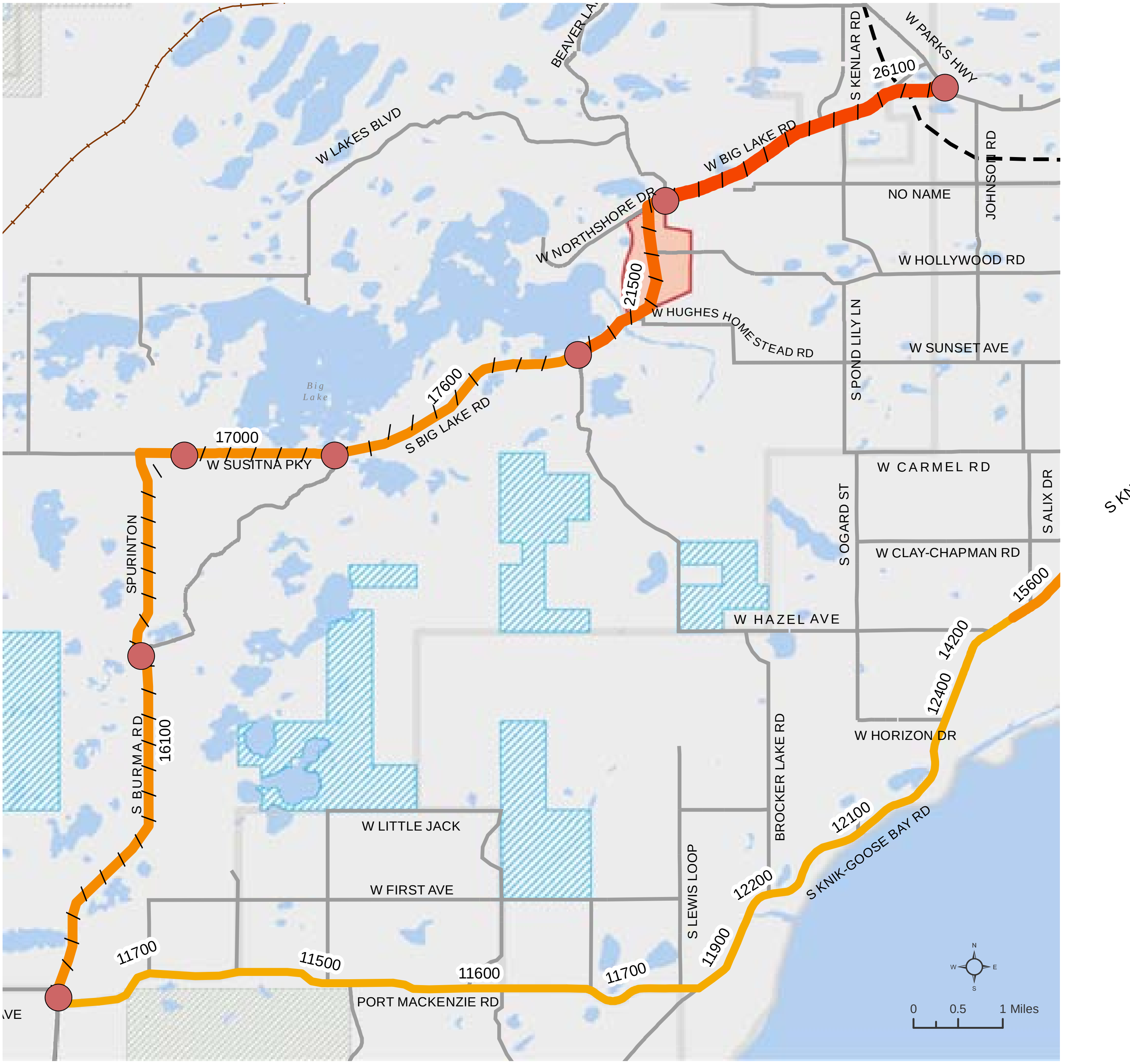
Wetland Bank

Proposed

/ / / Highway

Interchange

9/17/2013



ALTERNATIVE 3 - City Center/Existing Road Route

Big Lake Community Impact Assessment

Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

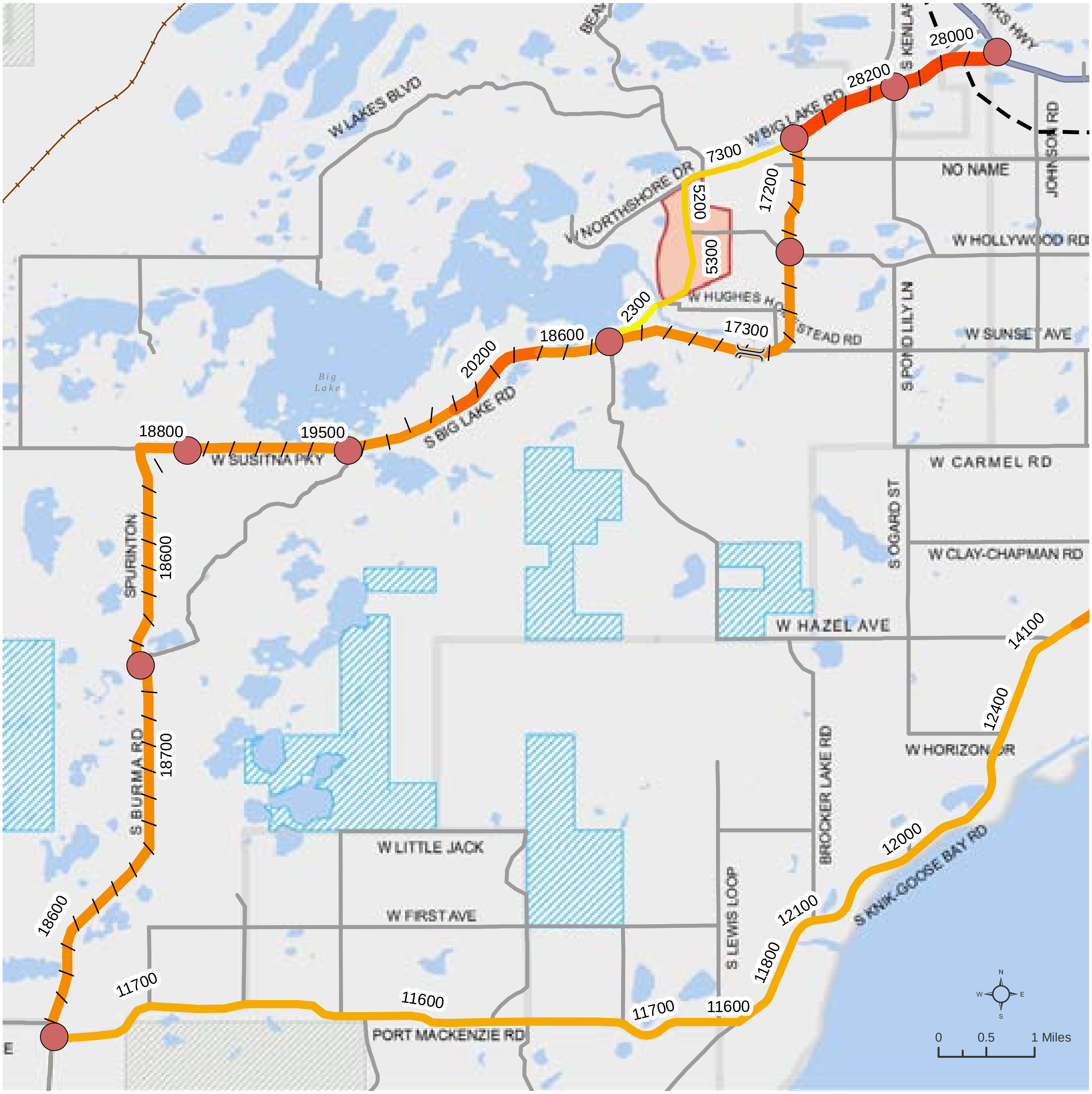
Wetland Bank

Proposed

/ / / Highway

Interchange

9/17/2013



ALTERNATIVE 3 BYPASS - OPTION A

Big Lake Community Impact Assessment

Traffic Forecast for 2060

- 0 - 5000
- 5001 - 10000
- 10001 - 15000
- 15001 - 20000
- 20001 - 25000
- 25001 - 30000
- 30001 - 35000
- 35001 - 40000

Wetland Bank

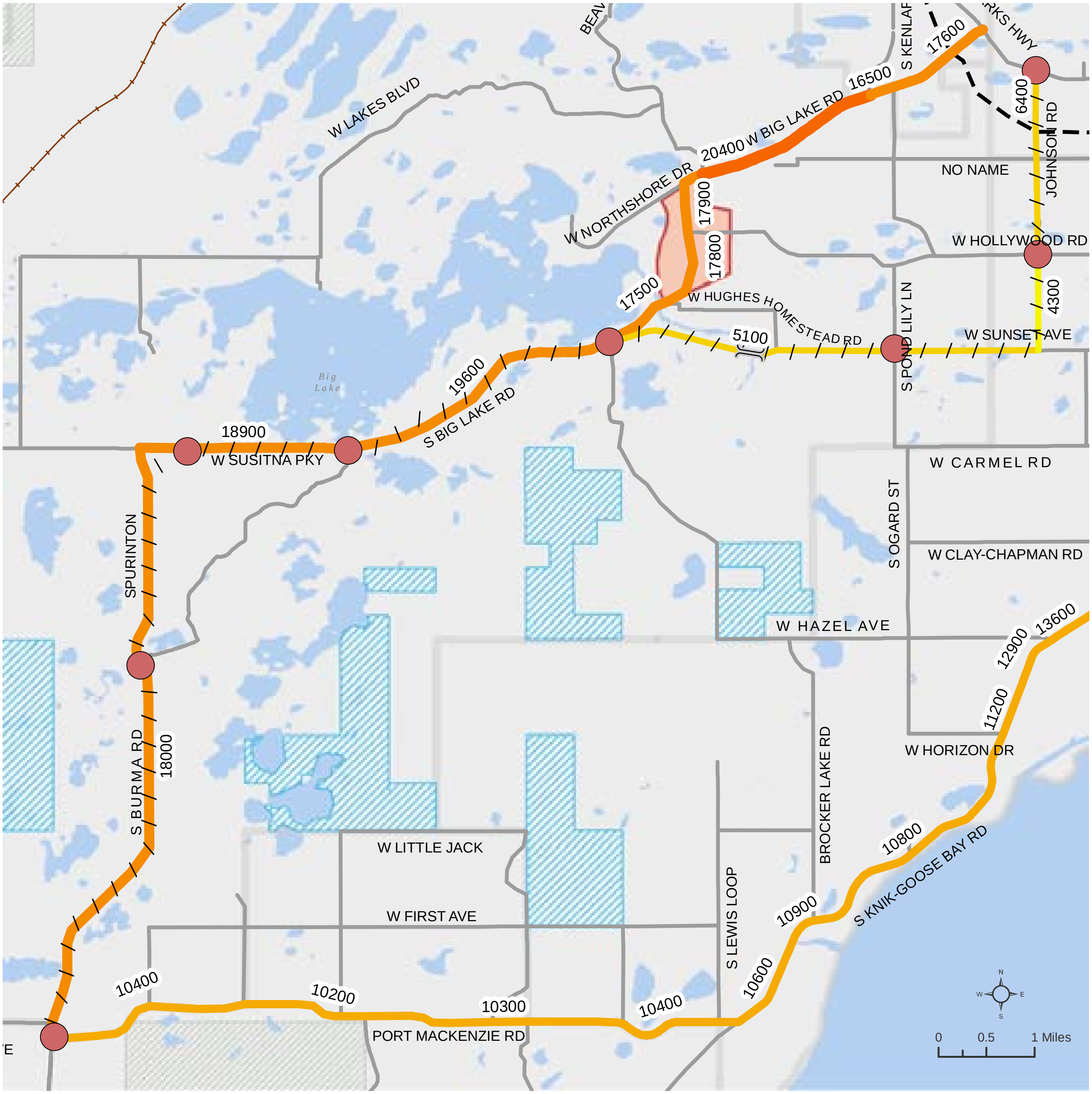
Proposed

/ / / Highway

Interchanges

Bridge over Fish Creek

9/17/2013



ALTERNATIVE 3 BYPASS - OPTION B

Big Lake Community Impact Assessment

Traffic Forecast for 2060

- 0 - 5000
- 5001 - 10000
- 10001 - 15000
- 15001 - 20000
- 20001 - 25000
- 25001 - 30000
- 30001 - 35000
- 35001 - 40000

Wetland Bank

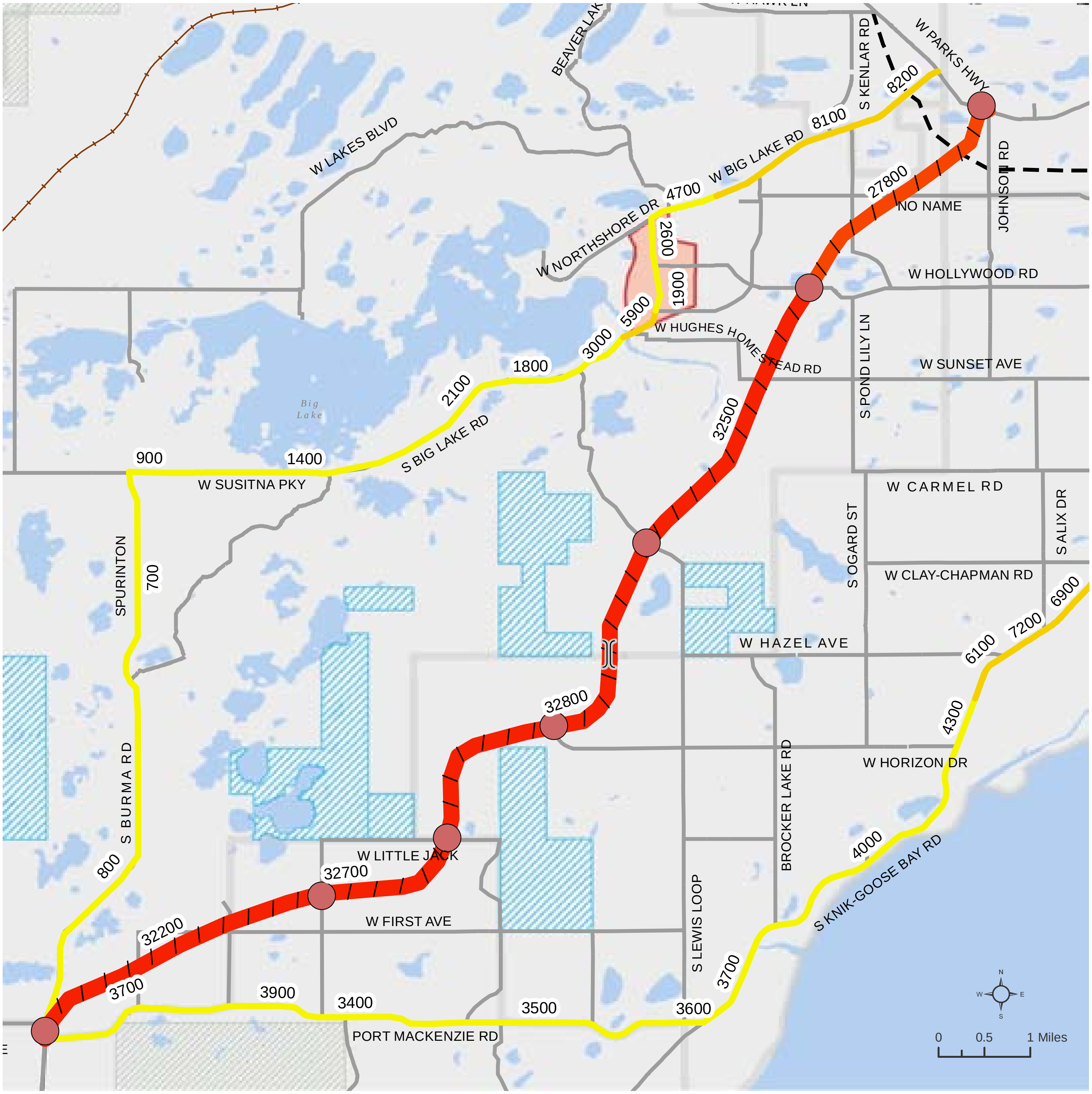
Proposed

/ / / Highway

Interchange

Bridge over Fish Creek

9/17/2013



ALTERNATIVE 4 - Wetlands Route

Big Lake Community Impact Assessment

Traffic Forecast for 2060

0 - 5000
5001 - 10000
10001 - 15000
15001 - 20000
20001 - 25000
25001 - 30000
30001 - 35000
35001 - 40000

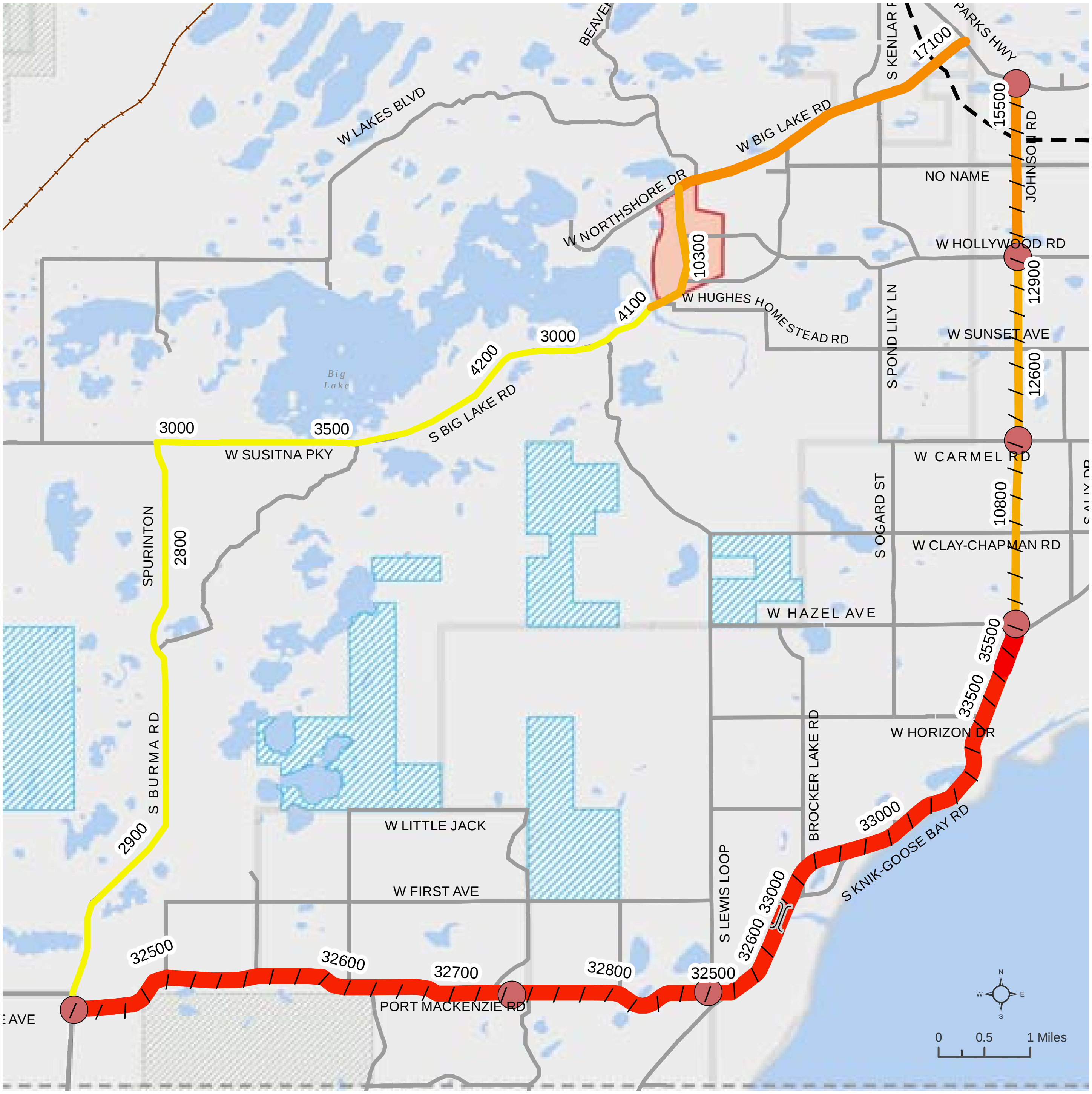
Wetland Bank

Proposed

/ / / Highway

Interchange

9/17/2013



ALTERNATIVE 5 - Johnson Road Route

Big Lake Community Impact Assessment

Traffic Forecast for 2060

- 0 - 5000
- 5001 - 10000
- 10001 - 15000
- 15001 - 20000
- 20001 - 25000
- 25001 - 30000
- 30001 - 35000
- 35001 - 40000

Wetland Bank

Proposed

/ / / Highway

Interchange

Bridge over Fish Creek

9/17/2013

WHAT IS THE ANTICIPATED TRAFFIC DEMAND? WHY THE NEED TO RESERVE A CORRIDOR FOR A LIMITED ACCESS HIGHWAY?

- Mat-Su Borough, Anchorage and Alaska in general, will continue to grow, both in terms of increasing population and new, more diverse economic activities.
- The highway has a direct connection to Anchorage via the Knik Arm Bridge.
- Once constructed, the highway will serve the transportation needs of residents, visitors and businesses of the southern Mat-Su Borough, as well as supporting freight and other traffic passing through the area.

WHAT IS THE TIMING OF INCREASED TRAFFIC DEMAND?

- No firm assumptions are made regarding when traffic demand will grow sufficiently to justify the construction of the full planned highway.
- Traffic demand is anticipated to be relatively light to start but would grow over time with a four lane highway eventually being needed.
- The goal of the project is to reserve a corridor route today - for future need.

WHAT ARE THE PHYSICAL CHARACTERISTICS OF THE ROAD CORRIDOR?

- The road corridor includes a 400' right-of-way (ROW) corridor – wide enough to support a highway comparable to the Parks Highway east of Wasilla.
- At full build out, the corridor will support a high speed, limited access, 4-lane divided highway, with the option for frontage roads with controlled access.
- The road is likely to be developed in phases over an extended period. For example: Sections of the road are likely to be constructed as 2-lane roads, and as traffic increases, expanded to four lanes.

WHICH CORRIDOR ALTERNATIVES ARE BEING CONSIDERED?

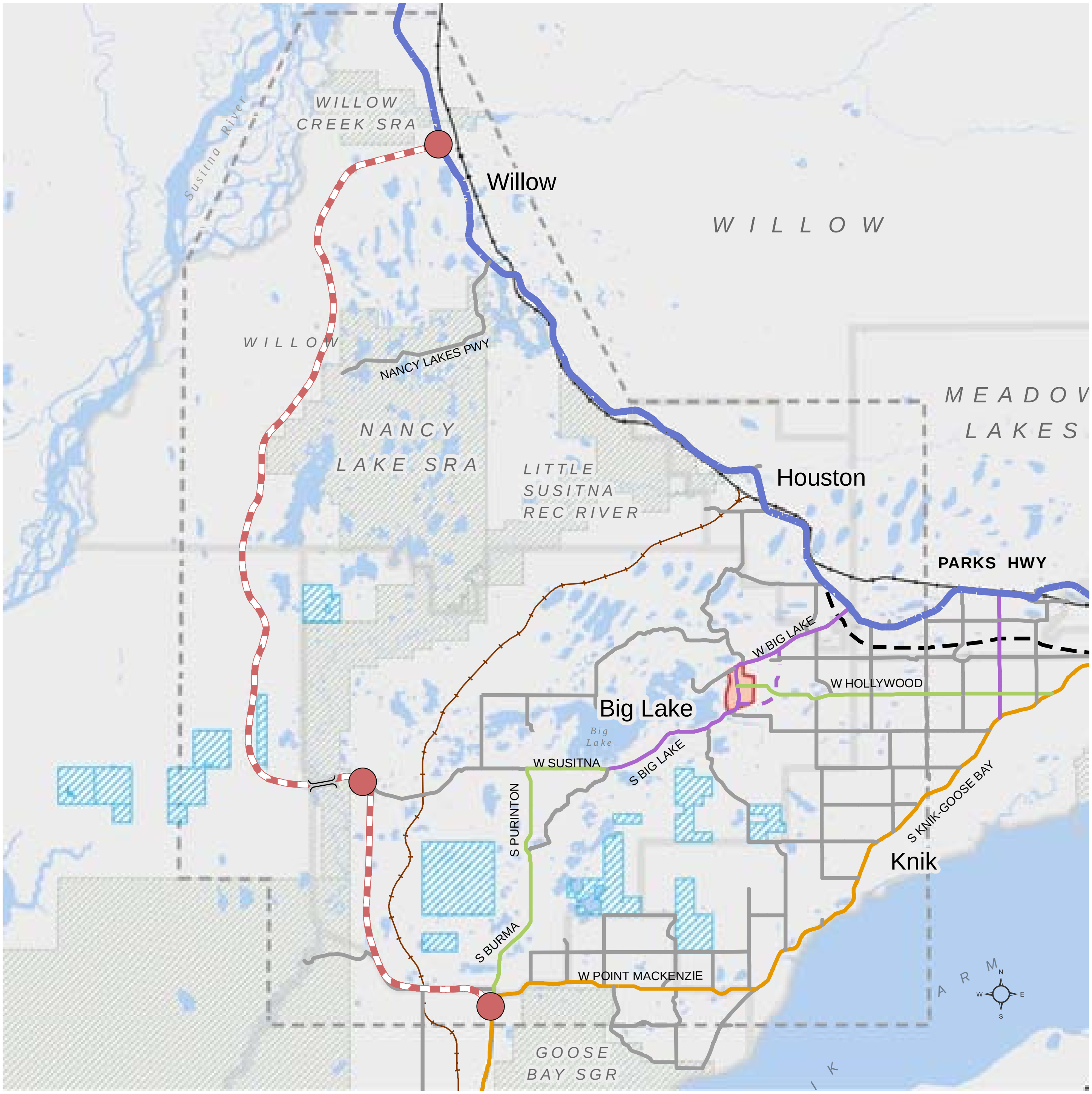
- The assessment process began by identifying and reviewing six alternatives.
- After initial review, this initial set of alternatives was refined and narrowed to four options that are the focus of this analysis (Alternatives 2, 3, 3 Bypass, 5).
- The reduction of alternatives from six to four was based on the following considerations:
  - Physical capability – the land along Alternative 4 is significantly constrained by large wetlands, and areas designated for winter trails; Alternative 1 also crosses extensive wetland areas and the Little Susitna River, and crosses and/or borders on state park/refuge area.
  - Transportation needs met – the highway needs to serve population centers and through traffic freight needs; Alternative 1 is too far west to meet this need. If alternative 1 were built, port and commuter traffic to and from most of the Mat-Su population center would continue to overload Knik Goose Bay Road and Burma/Big Lake Road Corridors.
  - Cost. Alternative 1 costs the most due to its length. Given the low population served for the high cost, means the benefits of that route would be low.

HOW WILL THE ASSESSMENT USE INFORMATION GAINED FROM THE MAT-SU BOROUGH "BUILD-OUT ANALYSIS"? HOW WILL THE CIA EVALUATE GROWTH AND TRAFFIC LEVELS ASSOCIATED WITH DIFFERENT ALTERNATIVES?

- DOT/PF traffic projections for the six original routes will be completed later this spring, and will be used to confirm preliminary conclusions regarding traffic volumes.
- Now that four alternatives have been defined, a basic "build-out analysis" is being developed describing the likely location of future growth in the greater Big Lake area based on how the highway connections will affect that growth. Results of this work will be used to refine the preliminary CIA information presented in this document.

HOW DETAILED IS THE ASSESSMENT? TO WHAT DEGREE DOES THE ASSESSMENT GAUGE "ACTUAL IMPACTS" ON BIG LAKE?

- The actual impacts on Big Lake of this future highway will vary significantly as a function of land and transportation management decisions yet to be made, by Big Lake, the Borough and the State. For example:
  - Policies on reservation of trail crossings will determine the nature and extent of the impact of the highway on winter and summer trail use.
  - Policies regarding road side development, such as rules affecting the extent and character of commercial development, would determine whether the highway has a commercial strip character and where frontage roads might be needed.
  - Policies on the secondary road system in the community – the location of arterial and collector roads linking to this highway corridor – will also have an impact on mobility and growth patterns.
  - This level of detail is not included in the assessment, but is part of future route selection and development.



ALTERNATIVE 1 - Willow Route

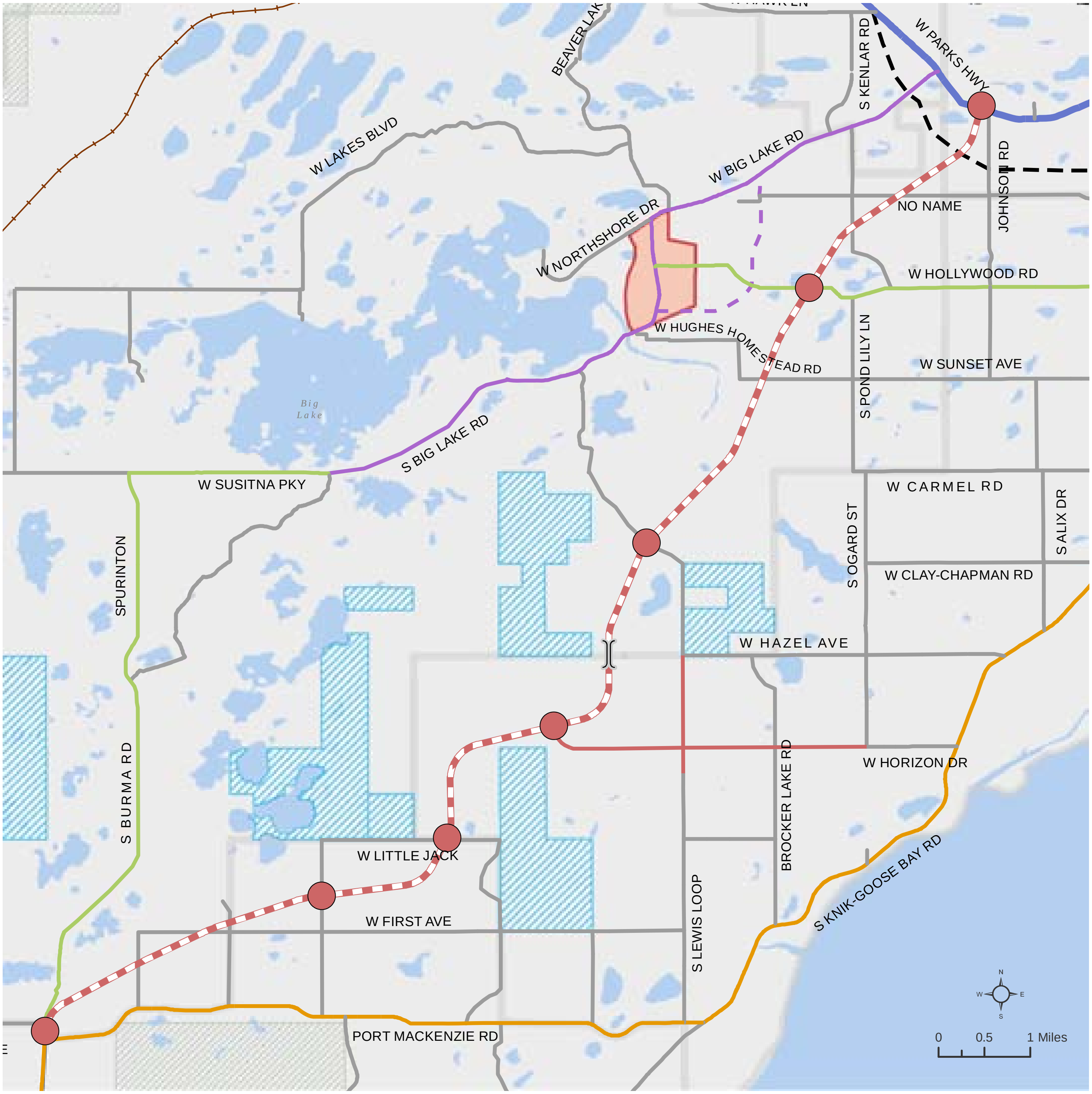
Big Lake Community Impact Assessment

- Highway
- Major Arterial
- Minor Arterial
- Minor Arterial (location not determined)
- Major Collector
- Minor Collector
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Bridge over Little Su

9/17/2013



ALTERNATIVE 4 - Wetlands Route

Big Lake Community Impact Assessment

- Highway
- Major Arterial
- Minor Arterial
- Minor Arterial (location not determined)
- Major Collector
- Minor Collector
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

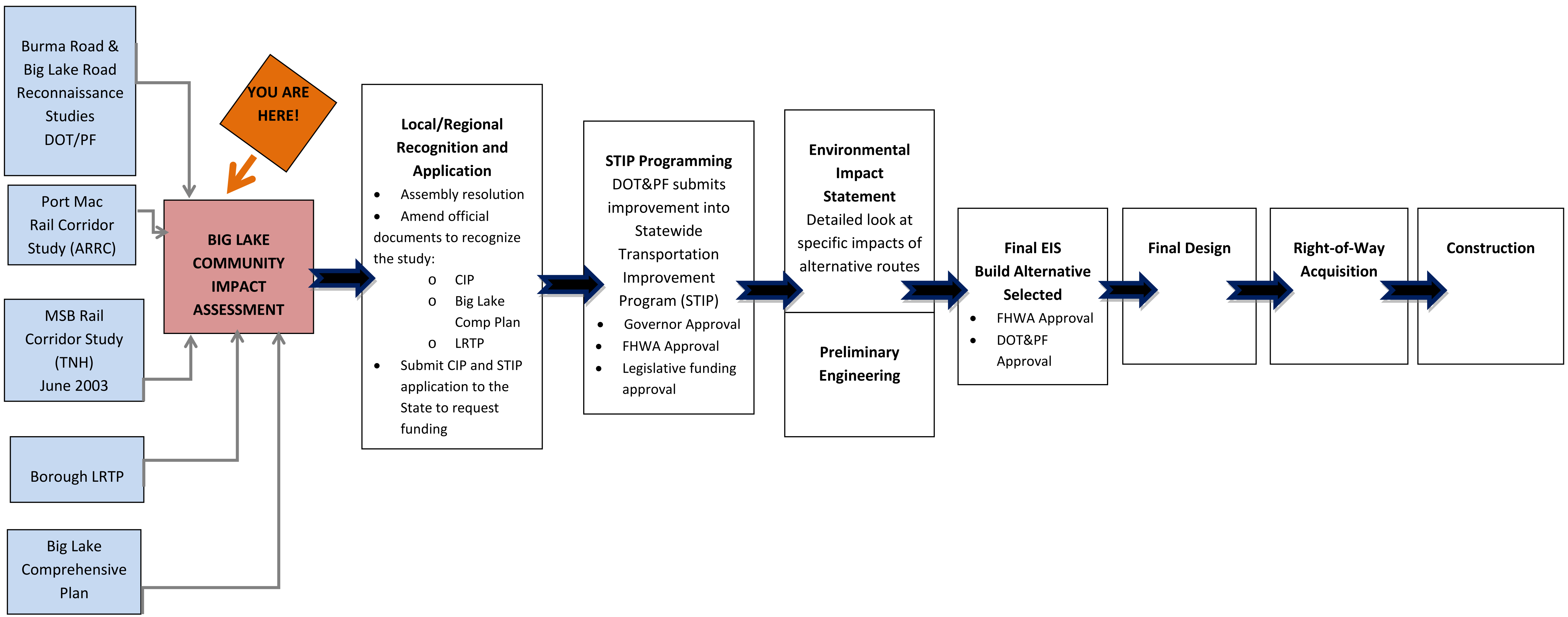
Proposed

- Highway
- Interchange
- Road
- Bridge over Fish Creek

9/17/2013

ONE STEP IN THE PROCESS TO SELECT THE RIGHT ROUTE FOR A MAJOR NORTH SOUTH ROADWAY

EARLY STEPS → CORRIDOR IMPACTS → PRE- FUNDING → FUNDING → ENVIRONMENTAL AND PERMITTING → DESIGN AND CONSTRUCTION PROCESS



WHAT IS THE PROJECT PURPOSE AND NEED?

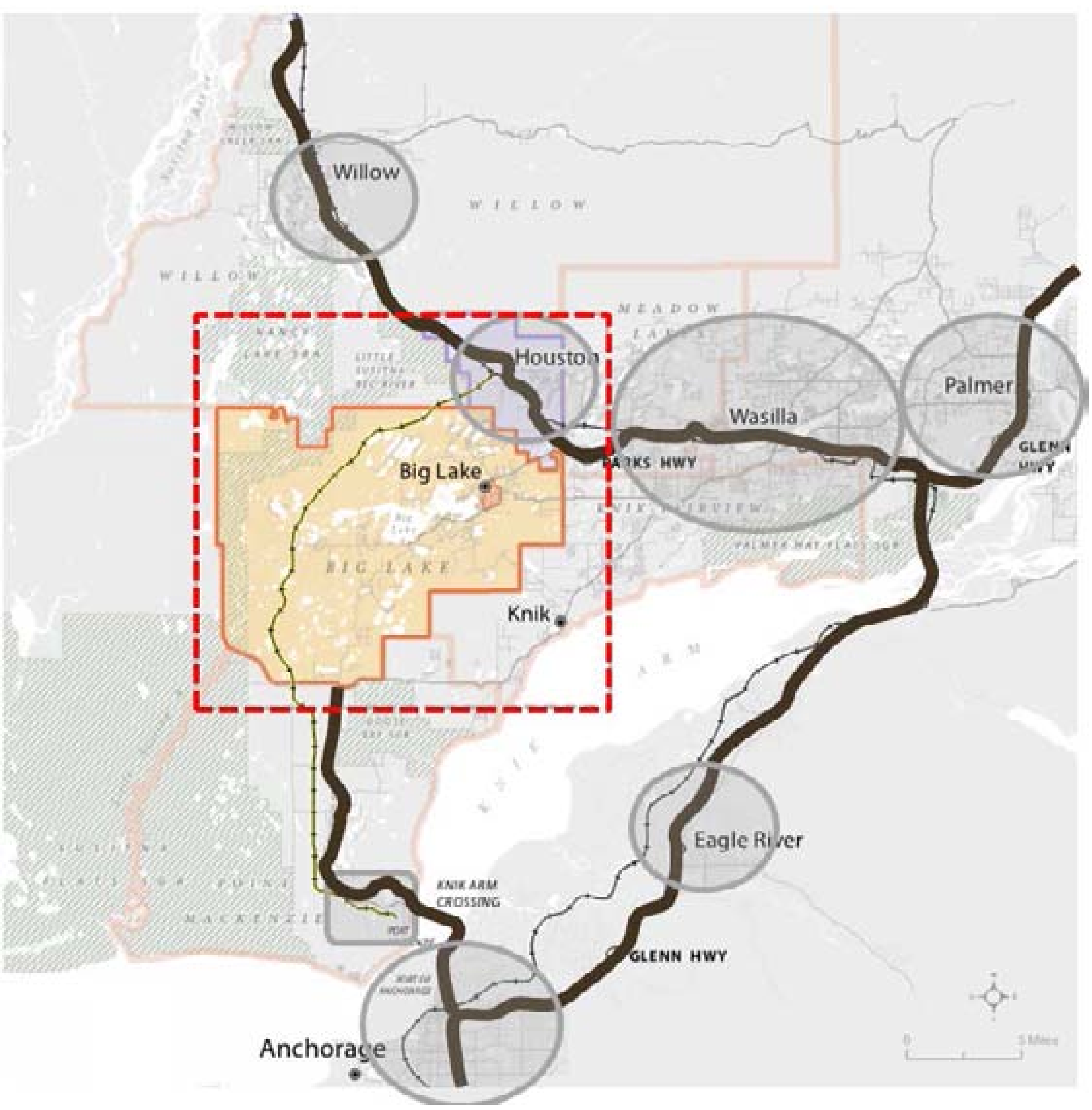
The **purpose** of the corridor reconnaissance study is to:

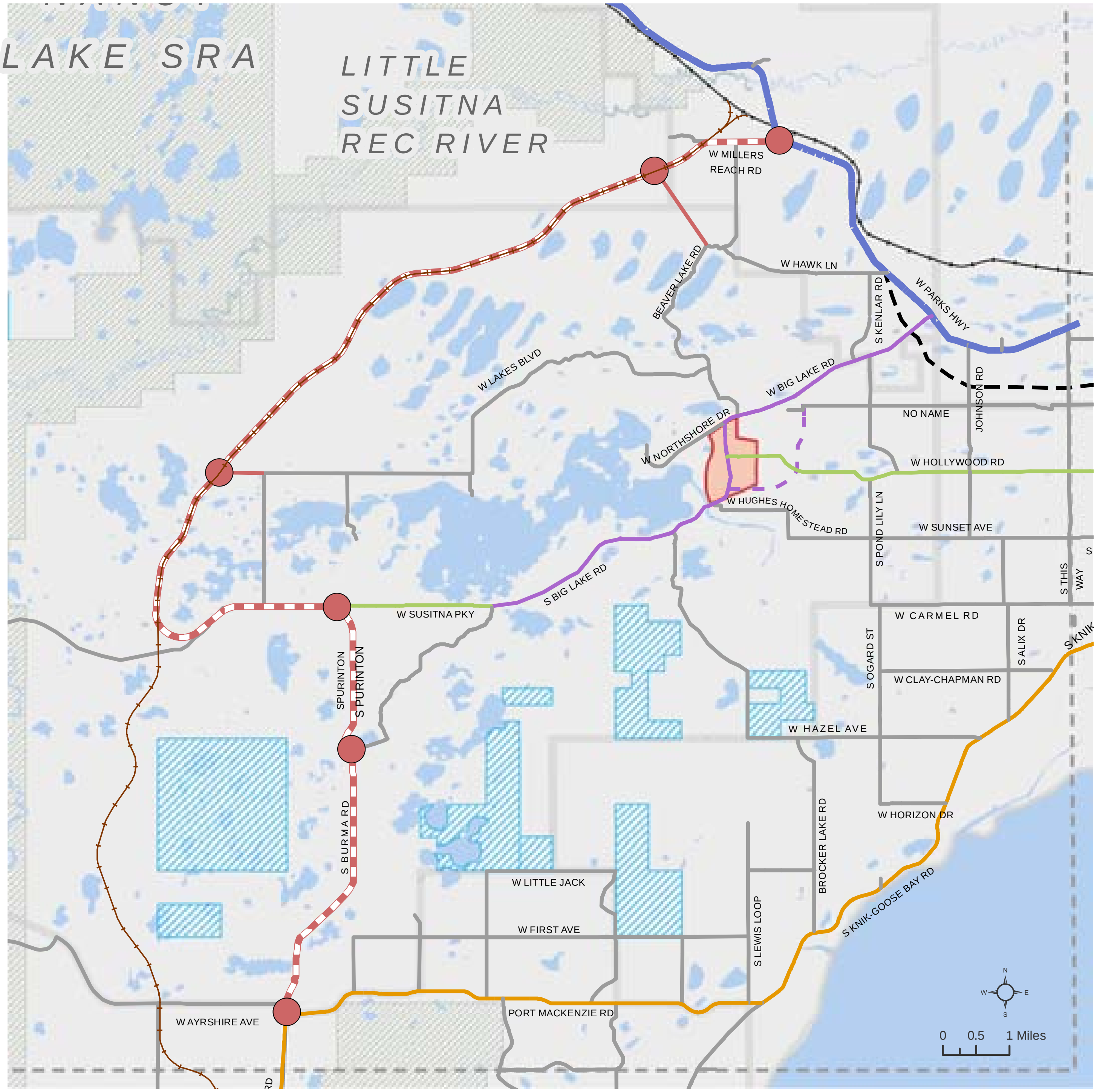
- Determine what routes may be used to move Port MacKenzie to Parks Highway traffic through the Big Lake area.
- Improve the mobility of people and goods between Port MacKenzie area and the Parks Highway.
- Improve safety for motorized and non-motorized traffic.
- Accommodate projected traffic growth related to the Knik Arm Bridge, Port MacKenzie and the Point MacKenzie area.

The **need** for the corridor reconnaissance study is:

- Automobile and truck traffic in the corridor is projected to increase due to new development, including the Goose Creek Correctional Center, Port MacKenzie, the Knik Arm Bridge and increasing residential and recreational use in the area.
- The existing road networks are not adequate to carry increased volumes of traffic through the Big Lake area.
- The Point MacKenzie to Parks Highway corridor is expected to be the primary connection for freight moving north out of Port MacKenzie and freight from the interior moving south to the Port. The corridor will also carry a residential and commercial traffic between the Parks Highway and the Knik Arm Bridge.

STUDY AREA





ALTERNATIVE 2 - Rail Route

Big Lake Community Impact Assessment

- Highway
- Major Arterial
- Minor Arterial
- Minor Arterial (location not determined)
- Major Collector
- Minor Collector
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Road

9/17/2013

Corridor 2 – Rail Route

Land Use Summary

Impact Category	Corridor 2
Expected Changes in Land Use	Minor, mostly along New Burma Rd. Intersection at New Burma/ Susitna Pkwy develops as a commercial center. Railroad is a barrier to change to the west. Moderate effects on Houston Town Center.
Growth along the corridor affected by land quality?	Limited growth potential since 70% of land adjoining this route is poorly drained, and is relatively costly to develop.
Vacant land available for development?	Large majority of land along this route is vacant and undeveloped and is located both east and west of railroad. Development is limit by soil conditions and wetlands.
Consistent with Land Use Policies in Big Lake Comprehensive Plan?	Consistent. Most of route designated "conservation residential" – low density and/or clustered residential.
Likelihood to develop into unplanned Commercial Strip?	Least likely to divert traffic from B.L. Town Center. Traffic through downtown could create commercial pressure. Increase traffic in Houston may lead to increase pressure.
Effects on Comprehensive Plan vision for road.	This alternative opens up the opportunity for a new road on the west and north side of B.L., as recommended by the comp plan.

Mobility & Access

Impact Category	Corridor 2
Changes to Traffic Patterns	Port to Parks Hwy thru traffic will be mostly west of B.L. Town Center with this alternative. A certain level of traffic will still tend to use Big Lake Rd. with congestion in downtown B.L. Moderate increase to Houston Town Center.
Change To Traffic in Town Center	Moderate effect. Traffic will still tend to use Big Lake Rd. with added congestion in B.L. Town Center. Additional commercial traffic and possible congestion in Houston Town Center.
Public Transit	Unlikely to increase transit service.
Change to Existing/Planned Roads	Minimal as mostly follows new alignment. Upgrades and modifies Burma Road. Creates new Park HWY interchange at Houston Town Center.

Economic Conditions Summary

Impact Category	Corridor 2
Business Impacts	Limited/neutral business impacts to the B.L. core. Businesses will likely develop at the New Burma Road/Susitna Parkway junction. Potential increase in business activities in Houston.
Employment Impacts	Concentrated along Burma Road and Susitna Parkway with a minor potential for diversion away from the B.L. Town Center. Houston could see additional employment at northern intersection with the Parks Highway. Potential increase in service sector jobs in Houston.
Big Lake Tax Base	B.L. lacks direct taxing authority. Limited potential MSB property tax base increases at road termini and junctions.

Public Services

Impact Category	Corridor 2
Public Facility Relocations or affects (within 0.25 miles)	No existing public facilities identified along corridor.
School Impacts	No impact
Parks and Recreation Areas	
Big Lake Trail Impacts*	Substantial (9 trail crossings)
Total Trail Crossings*	Substantial (10 trail crossings)

ROW Land Ownership in the BLCC

Owner	Corridor	
	2	
	BLCC	Total
Private	242.1	279.7
Matanuska-Susitna Borough	209.2	209.2
State of Alaska	23.6	23.6
Mental Health Trust	327.6	327.6
Federal	0.0	0.0
City	0.0	0.0
Cooperative	0.0	0.0
Public University	0.0	0.0
Native Corporation	68.2	188.9
Unknown	42.9	56.6
Total	913.5	1085.6

Displacement

Impact Category	Corridor
	2
Potential ROW	Approximately 1,086 acres of ROW is needed. 84.2 % (914 acres) of ROW is in B.L.

BLCC Land Use Converted to Transportation/ROW Use(Acres)

Land Use Category	Corridor	
	2	
	BLCC	Total
Residential	82.7	92.7
Transient Lodging	0.0	0.0
Mobile Home	2.6	2.9
Residential/ Commercial	0.0	0.0
Commercial	0.0	0.0
Industrial	0.0	0.0
Manufacturing	0.0	0.0
Agricultural	3.4	3.4
Churches	0.0	0.0
Communications	0.0	0.0
Education	0.0	0.0
N/A	0.0	1.5
Public Administration	0.0	0.0
Recreation	0.0	0.0
ROW/Vacant	24.6	32.4
Transportation	0.0	0.0
Vacant	798.7	952.6
Total	912.0	1,085.6

Physical Conditions

Impact Category	Corridor
	2
Noise	Least effect due to having the most undeveloped land. Port MacKenzie Rail Embankment will help shield noise. Some effect to Houston Town Center
Presence of walls or other barriers	Port Mackenzie Rail embankment is a barrier to being able to cross the corridor except at limited designated intersections.
Dust/Odor	Least impact due to lack of adjacent development. Limited impacts to Houston during construction.

Social and Psychological Summary

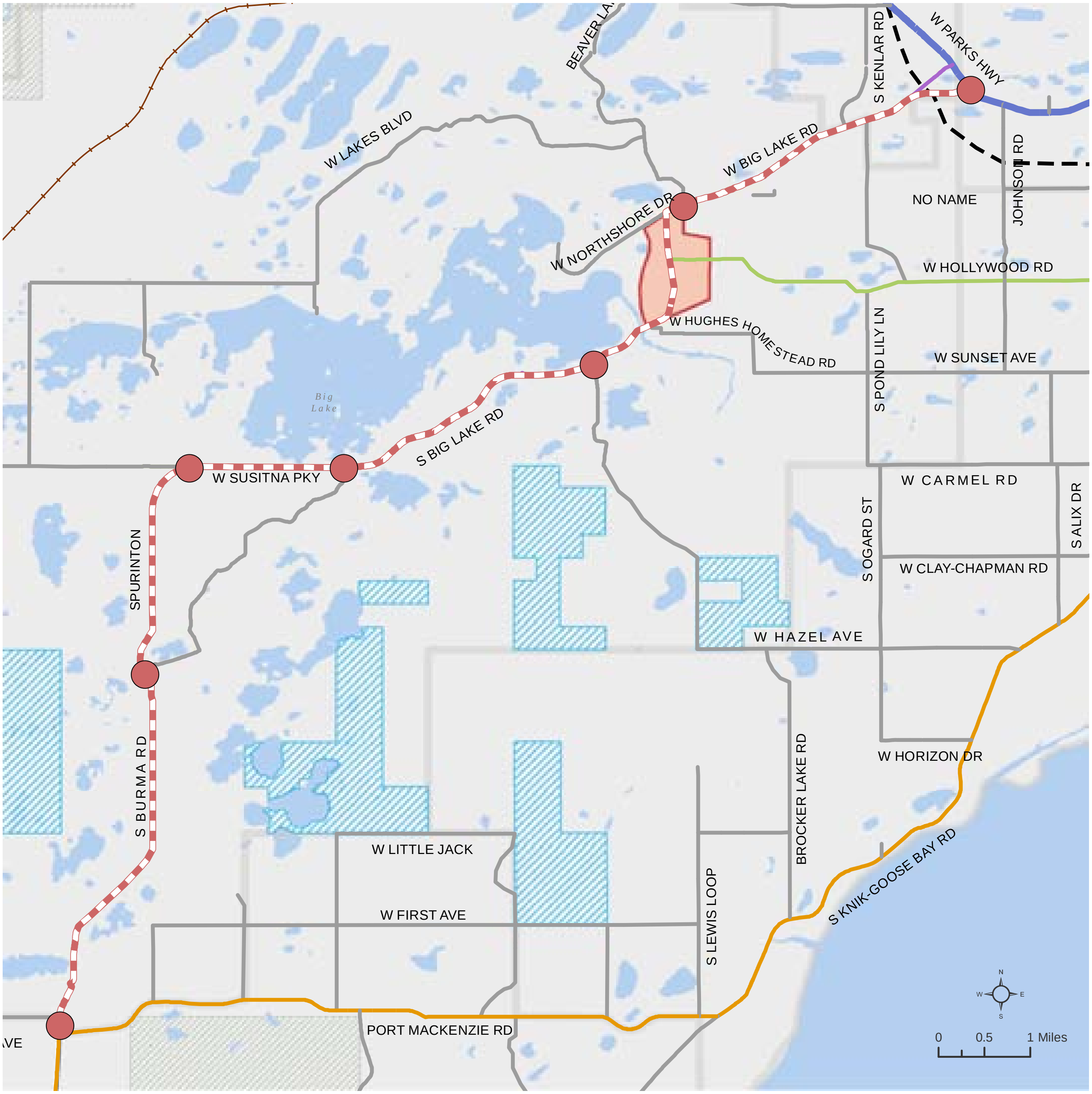
Impact Category	Corridor
	2
How will routes affect "downtown" Big Lake"?	Relatively little impact on cohesion does not split established neighborhoods
How will routes alter the size and social character of Big Lake?	Least induced population growth due to its westerly location.
How will routes affect residential neighborhoods?	Minor. Majority of land is vacant and undeveloped. Section of road near Papoose Lakes would separate these areas from points east.
How will routes affect recreational and open space, a major element of quality of life?	Would alter the character areas north, west, and south of B.L. important for trails, which make a large contribution to the experience and quality of life of the community.
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Septic	
Base Population	15,114
Route Impact	2,879
Total Population	**17,993**
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Public Sewer	
Base Population	15,114
Route Impact	5984
Total Population	**20,498**

Safety Summary

Impact Category	Corridor
	2
Traffic Safety	Controlled access improves safety by reducing conflict points. This route will likely have lower traffic volumes. Traffic will still use and increase along B.L Road increasing traffic/safety conflicts in the B.L. Town Center.
Pedestrian and bicycle safety	Least likely to be used by pedestrians and bicyclists as a transportation route because these is less potential for nearby development. Potential impact to more developed areas of Houston
Crime	Unlikely to change
Emergency Response Times	Least change in response time. Out of the way nature makes it less useful for core population areas. May require additional facilities in Houston.

Visual Conditions

Impact Category	Corridor
	2
How will routes affect Big Lake's visual character	Land mostly vacant and undeveloped fewer people to see the new road. May substantially affect visual character at trail crossings. May substantially impact Houston Town Center.



ALTERNATIVE 3 - City Center/Existing Road Route

Big Lake Community Impact Assessment

Highway

Major Arterial

Minor Arterial

Major Collector

Minor Collector

Big Lake Town Center

Community Council Boundary

Park or Refuge

Existing Rail

Port MacKenzie Rail Extension

LRTP Wasilla Bypass

Proposed

Highway

Interchange

9/17/2013

Corridor 3 – City Center/Existing Road Route

Land Use Summary

Impact Category	Corridor 3
Expected Changes in Land Use	Major changes in B.L. Town Center. Intersection at New Burma/Susitna Pkwy develops as a commercial center.
Growth along the corridor affected by land quality?	Moderate to high growth potential with less than 5% of land along this route is poorly drained; portions have topographic limitations increasing development costs.
Vacant land available for development?	Much of this corridor already has road access, and existing development. Land available along New Burma Road corridor.
Consistent with Land Use Policies in Big Lake Comprehensive Plan?	Arterial through B.L. Town Center is inconsistent with plan's town center goals. Route serves area designated for a combination of commercial and residential uses.
Likelihood to develop into unplanned Commercial Strip?	Substantial pressure on B.L. Town Center. Could become a commercial strip with frontage roads.
Effects on Comprehensive Plan vision for road.	The comp plan identifies the need to reserve a corridor that travels slightly east of downtown B.L., not through downtown as shown in this alternative.

Mobility & Access

Impact Category	Corridor 3
Changes to Traffic Patterns	Least changes as alternative mostly follows established roads; controlled access will eliminate some existing connections to existing routes.
Change To Traffic in Town Center	Greatest increase in traffic because it bisects the B.L. Town Center
Public Transit	Unlikely to substantially increase transit service as it does not provide a direct route between Wasilla and Anchorage.
Change to Existing/Planned Roads	Substantial as it upgrades and modifies existing Burma and Big Lakes roads, converting them to highway New interchange at the southern end of Houston at the BL Road/Parks intersection

Economic Conditions Summary

Impact Category	Corridor 3
Business Impacts	Substantial impacts to the B.L. Town Center. Will bisect, relocate, and spread out the core business district making it more highway/ auto-oriented. Businesses will likely develop at the New Burma Road/Susitna Parkway junction.
Employment Impacts	Highest potential for direct employment effects (both positive and negative) for the B.L. Town Center. Road development would divide the B.L. Town Center and could lead to sprawl style strip development. Moderate increase to southern Houston in the BL Road Parks Highway intersection area.
Big Lake Tax Base	B.L. lacks direct taxing authority. Increased development within the B.L. CC area could increase B.L. tax base over time.

Public Services

Impact Category	Corridor 3
Public Facility Relocations or affects (within 0.25 miles)	Potential effects to Fire Station 8-1, Library and Post Office. Each of these facilities is within 0.25 miles
School Impacts	Impact to B.L. Elementary School.
Parks and Recreation Areas	Impacts to Fish Creek Park and Jordan Lake Park
Big Lake Trail Impacts*	Moderate (4 Crossings)
Total Trail Crossings*	Moderate (4 Crossings)

ROW Land Ownership in the BLCC

Owner	Corridor	
	3	
	BLCC	Total
Private	**412.7**	**456.2**
Matanuska-Susitna Borough	**143.7**	143.7
State of Alaska	**35.9**	35.9
Mental Health Trust	**0.0**	0.0
Federal	**0.0**	0.0
City	**0.0**	0.0
Cooperative	**1.2**	1.2
Public University	**4.6**	4.6
Native Corporation	**31.0**	32.1
Unknown	**172.6**	172.6
Total	**801.7**	846.3

Displacement

Impact Category	Corridor
	3
Potential ROW	Approximately 846 acres of ROW is needed. 94.7% (802 acres) of ROW is in B.L.

BLCC Land Use Converted to Transportation/ROW Use(Acres)

Land Use Category	Corridor	
	3	
	BLCC	Total
Residential	132.0	140.0
Transient Lodging	0.5	0.5
Mobile Home	2.0	3.4
Residential/ Commercial	0.8	0.8
Commercial	22.3	22.5
Industrial	0.0	0.0
Manufacturing	1.0	1.0
Agricultural	3.4	3.4
Churches	1.7	1.7
Communications	0.2	0.2
Education	8.5	8.5
N/A	1.8	2.0
Public Administration	0.9	0.9
Recreation	1.1	1.1
ROW/Vacant	40.9	40.9
Transportation	2.9	2.9
Vacant	581.8	616.7
Total	801.7	846.3

Physical Conditions

Impact Category	Corridor
	3
Noise	Traffic related noise will increase and has the highest potential to impact noise sensitive land uses concentrated in B.L. Town Center. Will affect residential areas south and east of the Lake.
Presence of walls or other barriers	Fencing is likely through developed areas, similar to Seward Highway in Anchorage.
Dust/Odor	Increase dust from winter sanding and truck traffic especially on the south and east sides of the lake and B.L. Town Center

Social and Psychological Summary

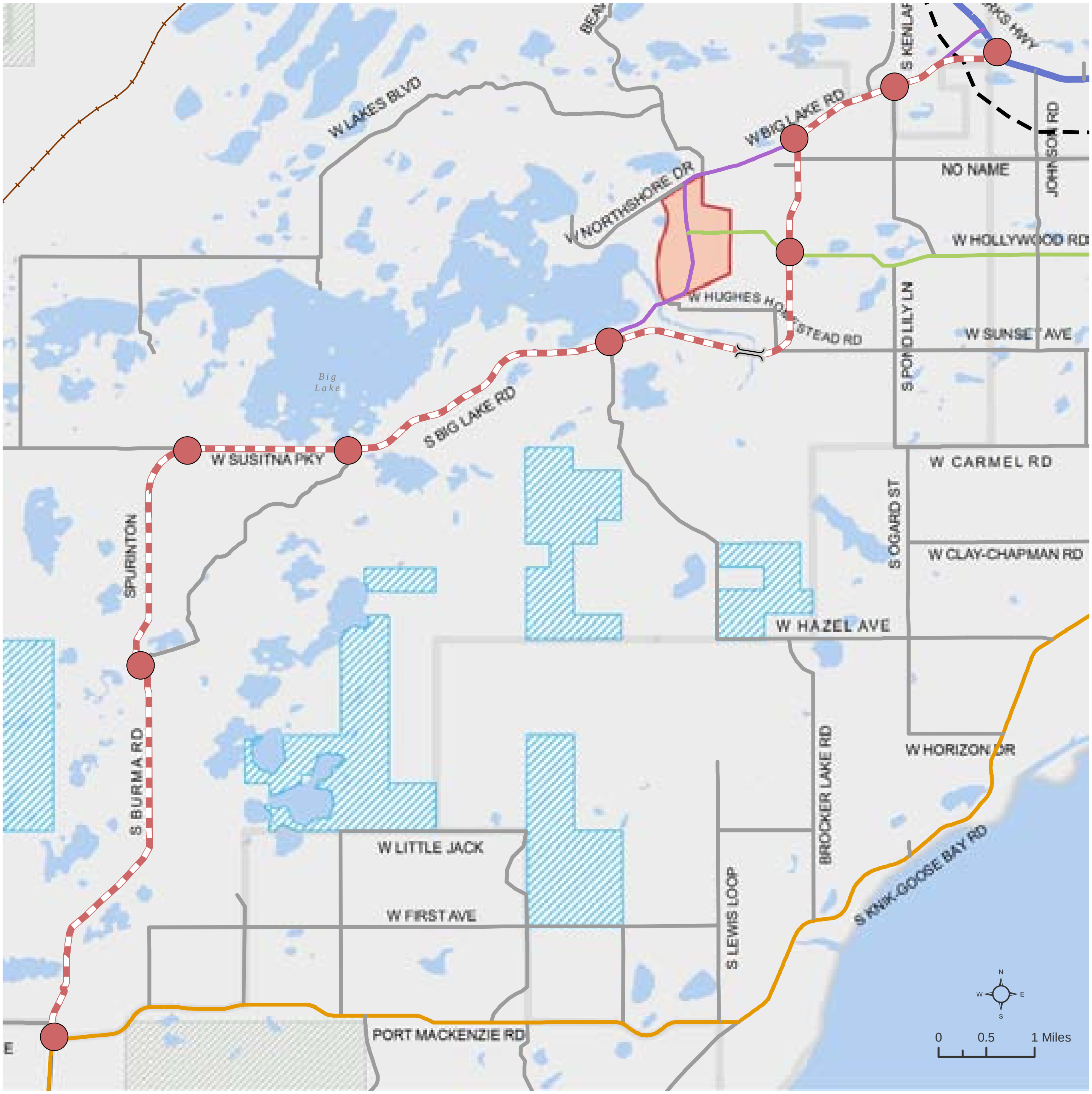
Impact Category	Corridor
	3
How will routes affect “downtown” Big Lake”?	A route through the heart of downtown be a substantial barrier affecting residential and commercial cohesion
How will routes alter the size and social character of Big Lake?	Substantial affects through the center of Big Lake Town Center. Would physically divide the community more centered around autos and less around pedestrians.
How will routes affect residential neighborhoods?	Substantial. A major highway on this alignment would divide the residential neighborhoods along this corridor.
How will routes affect recreational and open space, a major element of quality of life?	Substantial affect on B.L. Town Center. Affecting small town feel. Substantial affect or recreational/ residential quality of life along south and east shores of the lake near the corridor.
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Septic	
Base Population	15,114
Route Impact	4,661
Total Population	**19,775**
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Public Sewer	
Base Population	15,144
Route Impact	10,439
Total Population	**25,553**

Safety Summary

Impact Category	Corridor
	3
Traffic Safety	Controlled access improves safety by reducing conflict points. B.L community residents would be the main users of this route. . Increased traffic through B.L. Town Center may increase safety conflicts in B.L. Town Center.
Pedestrian and bicycle safety	Pedestrian and bicycle crossings and related facilities will be incorporated into the final design to address B.L. Town Center needs. Potential impacts in the southern Houston area.
Crime	Unlikely to change
Emergency Response Times	Generally faster response times to and from B.L. Town Center though increase congestion in the Town Center may cause some delays during peak hours.

Visual Conditions

Impact Category	Corridor
	3
How will routes affect Big Lake’s visual character	Would significantly change the visual character along the entire route from Ayrshire to Parks Highway Changes would be less significant along the B.L. Road commercial corridor near the Parks Hwy. Highway through downtown would substantially change the visual character.



ALTERNATIVE 3 BYPASS - OPTION A

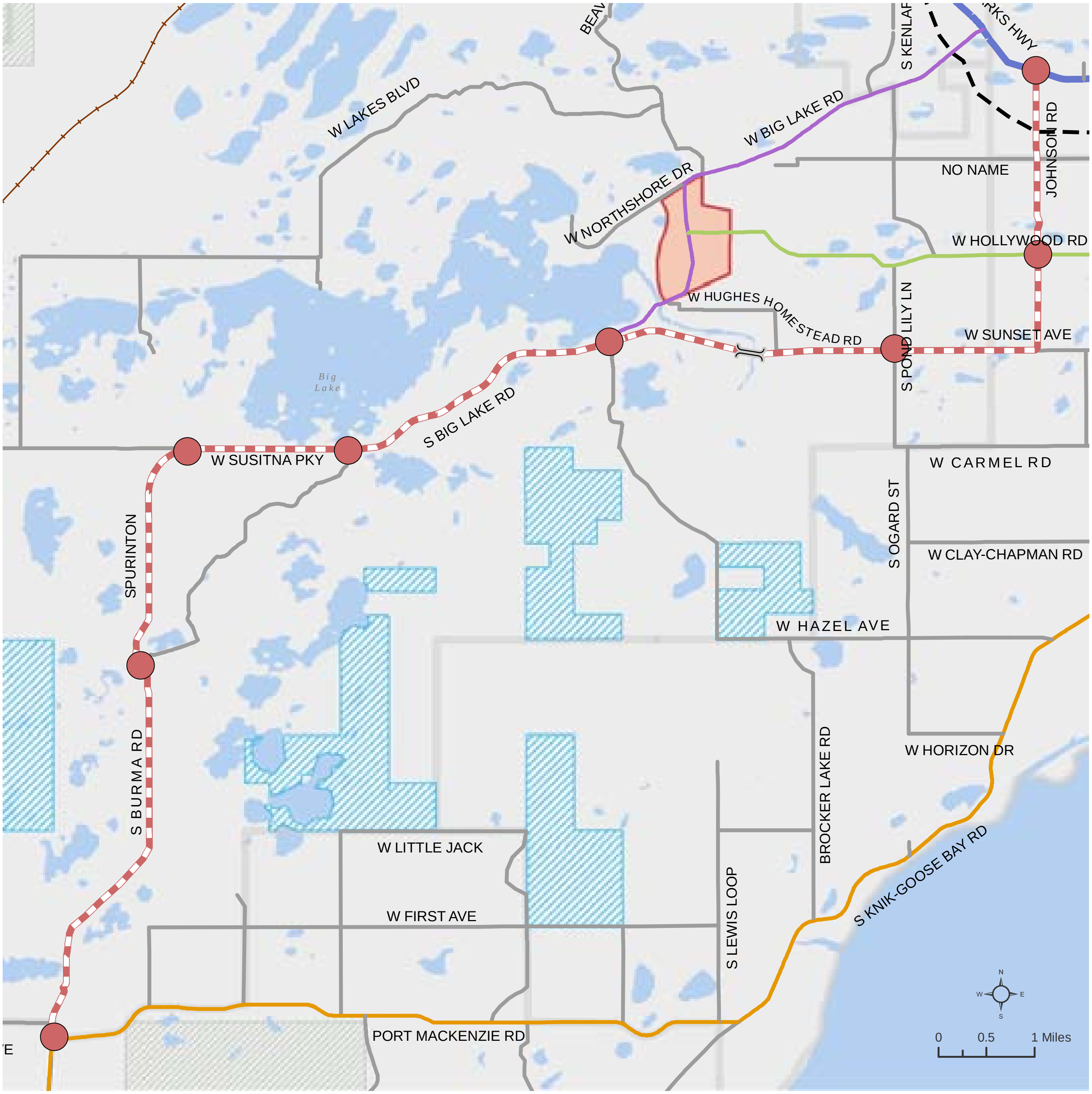
Big Lake Community Impact Assessment

- Highway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Minor Collector - Proposed
- Bridge over Fish Creek

8/18/2013



ALTERNATIVE 3 - OPTION B

Big Lake Community Impact Assessment

- Highway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Bridge over Fish Creek

8/18/2013

Corridor 3 Bypass – Option A & B

Land Use Summary

Impact Category	Corridor
	3 Bypass (A&B)
Expected Changes in Land Use	Major changes east of B.L. Town Center. Intersection at New Burma/Susitna Pkwy develops as a commercial center.
Growth along the corridor affected by land quality?	Low to moderate growth potential since 50% of land adjoining this route is poorly drained, and is relatively costly to develop.
Vacant land available for development?	Large majority of land along east-west portion is vacant; northern portion already has road access and is 50-60% developed.
Consistent with Land Use Policies in Big Lake Comprehensive Plan?	Consistent. Most of route designated “dispersed residential” or “close in” residential.
Likelihood to develop into unplanned Commercial Strip?	Little pressure on B.L. Town Center. Should develop more like Eagle River.
Effects on Comprehensive Plan vision for road.	The comp plan identifies the need to reserve a corridor that swing slightly east of downtown B.L. (similar to option A), not 4-5 miles east of downtown as shown in option B.

Mobility & Access

Impact Category	Corridor
	3 Bypass (A&B)
Changes to Traffic Patterns	Minor changes as alternative mostly follows existing roads; controlled access will eliminate some connections to existing routes.
Change To Traffic in Town Center	Moderate because of its close proximity to B. L. Town Center. Bypass will tend to moderate the effect downtown. Option A will make a bigger difference than option B.
Public Transit	Unlikely to substantially increase transit service given it does not provide a direct route between Wasilla and Anchorage.
Change to Existing/Planned Roads	Substantial as most of route would upgrade existing roads except for portions through Town Center. Bypass will tend to moderate the effect downtown

Economic Conditions Summary

Impact Category	Corridor
	3 Bypass (A&B)
Business Impacts	Would divert development from the B.L. Town Center, but would leave the core intact. Potential for increased business development along the east/west corridor running to the Johnson Road north/south corridor. Development may be limited by poor soils.
Employment Impacts	Corridor could pull employment from the B.L. Town Center while leaving it physically intact. Highest direct employment effects would be felt at the intersection with Johnson Road, along Burma Road, and at the along the Johnson Rd/South Knik-Goose Bay.
Big Lake Tax Base	Similar to Corridor 2 with less direct effect on the B.L. Town Center and more development towards the eastern edge of the B.L. Community Council.

Public Services

Impact Category	Corridor
	3 Bypass (A&B)
Public Facility Relocations or affects (within 0.25 miles)	No existing public facilities identified along corridor.
School Impacts	No Impact.
Parks and Recreation Areas	
Big Lake Trail Impacts*	Moderate (A has 6 Crossings and B has 5)
Total Trail Crossings*	Moderate (A has 6 Crossings and B has 5)

ROW Land Ownership in the BLCC

Owner	Corridor			
	3 Bypass (A&B)			
	Option A		Option B	
	BLCC	**Total**	**BLCC**	**Total**
Private	412.7	456.2	448.8	492.3
Matanuska-Susitna Borough	143.7	143.7	154.5	154.5
State of Alaska	35.9	35.9	42.2	42.2
Mental Health Trust	0.0	0.0	0	0
Federal	0.0	0.0	0	0
City	0.0	0.0	0	0
Cooperative	1.2	1.2	0	0
Public University	4.6	4.6	35.5	35.5
Native Corporation	31.0	32.1	32.1	32.1
Unknown	172.6	172.6	90.1	108.1
Total	**801.7**	**846.3**	**803.2**	**864.7**

Displacement

Impact Category	Corridor
	3 Bypass (A&B)
Potential ROW	For Option A, approximately 865 acres of ROW is needed. 92.9 % (803 acres) of ROW is in B.L. For Option B, approximately 931 acres of ROW is needed. 82.0% (764 acres) of ROW is in B.L.

BLCC Land Use Converted to Transportation/ROW Use(Acres)

Land Use Category	Corridor			
	3 Bypass (A&B)			
	Option A		Option B	
	BLCC	**Total**	**BLCC**	**Total**
Residential	132.0	140.0	137.4	218.5
Transient Lodging	0.5	0.5	0.0	0.0
Mobile Home	2.0	3.4	1.8	9.4
Residential/ Commercial	0.8	0.8	0.0	0.0
Commercial	22.3	22.5	2.9	6.0
Industrial	0.0	0.0	0.0	0.0
Manufacturing	1.0	1.0	0.0	0.0
Agricultural	3.4	3.4	3.4	3.4
Churches	1.7	1.7	0.0	0.0
Communications	0.2	0.2	0.0	0.0
Education	8.5	8.5	0.0	0.0
N/A	1.8	2.0	1.8	1.8
Public Administration	0.9	0.9	0.0	0.0
Recreation	1.1	1.1	0.0	0.0
ROW/Vacant	40.9	40.9	35.2	41.7
Transportation	2.9	2.9	0.0	0.0
Vacant	581.8	616.7	581.3	650.6
Total	801.7	846.3	763.8	931.4

Social and Psychological Summary

Impact Category	Corridor
	3 Bypass (A&B)
How will routes affect "downtown" Big Lake"?	Avoids splitting B.L. Town Center. Creates a barrier with areas east of Town Center.
How will routes alter the size and social character of Big Lake?	Avoids the heart of B.L. Town Center encouraging growth in the community, but with less of the disruption to downtown cha1racter.
How will routes affect residential neighborhoods ?	Similar affects as Alt. 3. Bypass area is currently mostly vacant and undeveloped having less affect on neighborhoods.
How will routes affect recreational and open space, a major element of quality of life?	Avoids major affect on B.L. Town Center's small town feel. Substantial affect or recreational/ residential quality of life along south shore of B.L. near the corridor.
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Septic	
Base Population	15,114
Route Impact	5741/5625
Total Population	**20,855/20,739**
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Public Sewer	
Base Population	15,114
Route Impact	11,951/11,835
Total Population	**27,065/26,949**

Physical Conditions

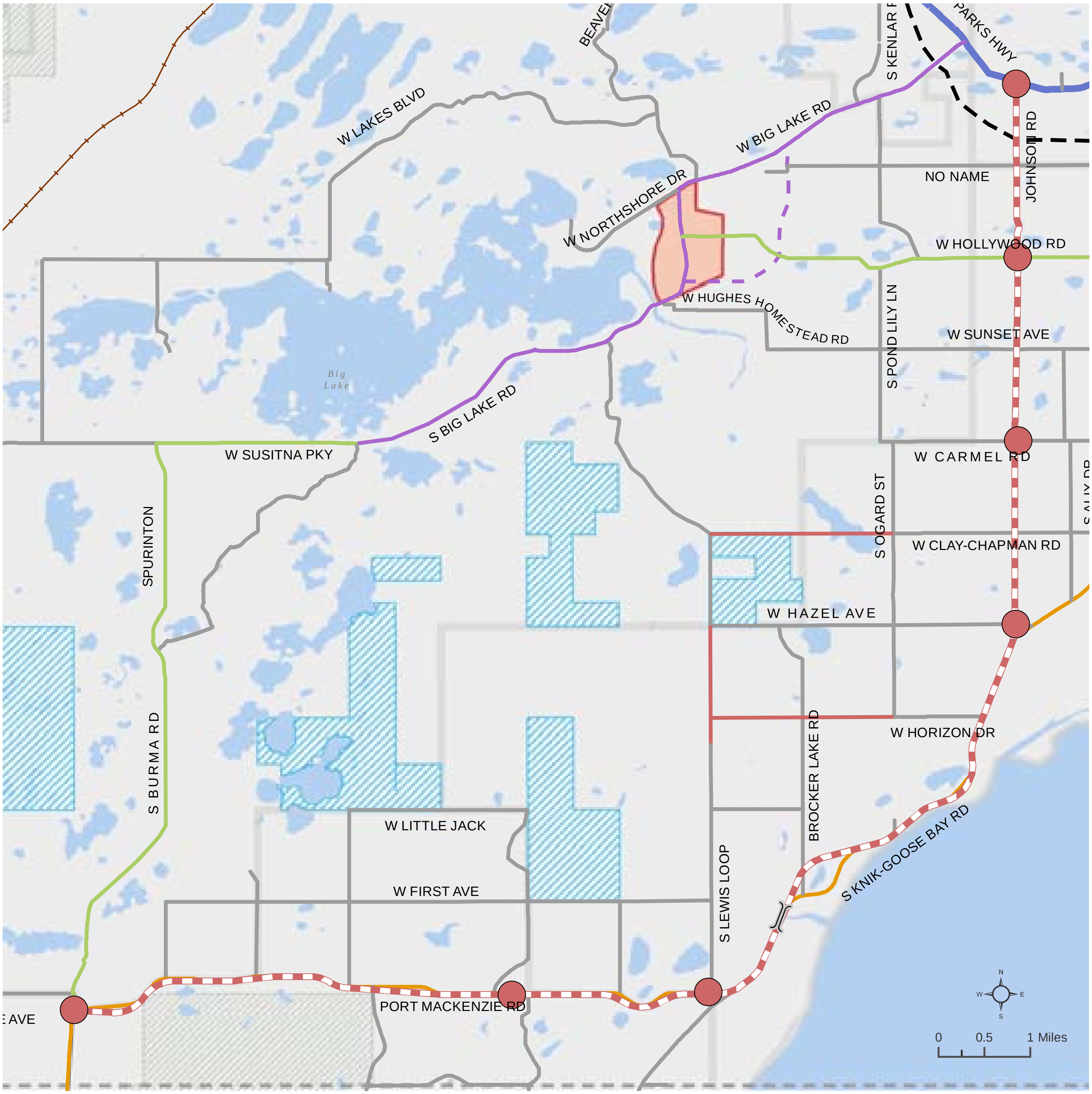
Impact Category	Corridor
	3 Bypass (A&B)
Noise	Increase in traffic related noise in residential areas. Bypass lessens affect in B.L. Town Center. Will affect residential areas south of the Lake.
Presence of walls or other barriers	Fencing is likely through developed areas, similar to Seward Highway in Anchorage.
Dust/Odor	Increase dust from winter sanding and truck traffic will affect people on the south side of the lake.

Safety Summary

Impact Category	Corridor
	3 Bypass (A&B)
Traffic Safety	Controlled access improves safety. B.L community residents would be the main users of this route. Traffic bypasses downtown, less safety conflicts there with a bypass.
Pedestrian and bicycle safety	With bypass, most impacts to the B.L. Town Center are averted. Option A may have potential impacts in the southern Houston area. Option B has no impacts to Houston since the highway ties into Johnson Road well east of Houston's City Limits.
Crime	Unlikely to change
Emergency Response Times	Faster response times to and from B.L. Town Center.

Visual Conditions

Impact Category	Corridor
	3 Bypass (A&B)
How will routes affect Big Lake's visual character	Similar impacts as Alt 3. The bypass east of B.L. is currently mostly vacant and undeveloped, but a new road in this area would substantially change the visual character.



ALTERNATIVE 5 - Johnson Road Route

Big Lake Community Impact Assessment

- Highway
- Major Arterial
- Minor Arterial
- Minor Arterial (location not determined)
- Major Collector
- Minor Collector
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Proposed

- Highway
- Interchange
- Road
- Bridge over Fish Creek

9/17/2013

Corridor 5 – Johnson Road Route

Land Use Summary

Impact Category	Corridor 5
Expected Changes in Land Use	Intensification of commercial and residential uses along southern Knik-Goose Bay and Johnson Roads. Moderate effects on northern Knik-Fairview community.
Growth along the corridor affected by land quality?	Moderate growth potential since 20-30% of land adjoining this route is poorly drained, and is relatively costly to develop.
Vacant land available for development?	Large majority of land along east-west portion is vacant; northern portion already has road access and is 50-60% developed. Further northern development limited by wetlands and soils.
Consistent with Land Use Policies in Big Lake Comprehensive Plan?	Avoids major conflicts with Comprehensive Plan by running along the east edge of the community Council.
Likelihood to develop into unplanned Commercial Strip?	Intensification of commercial and residential uses along southern Knik-Goose Bay and Johnson Roads. Moderate effects on northern Knik-Fairview community.
Effects on Comprehensive Plan vision for road.	Moderate growth potential since 20-30% of land adjoining this route is poorly drained, and is relatively costly to develop.

Mobility & Access

Impact Category	Corridor 5
Changes to Traffic Patterns	Minor changes as alternative mostly follows existing roads east of Big Lake; controlled access will eliminate some connections to existing routes. Unlikely to see sharp increase on local Big Lake roads.
Change To Traffic in Town Center	Minimal affect to B.L. Town Center. Likely to have a substantial affect to South KGB and Johnson Road corridor. Will remove Port traffic from B.L. Town Center
Public Transit	Would provide the most direct route from population centers in MSB to Anchorage
Change to Existing/Planned Roads	Substantial - requires reconstruction of existing KGB and other roads converting them to highway

Economic Conditions Summary

Impact Category	Corridor 5
Business Impacts	Limited business impacts to the B.L. Town Center. Businesses will likely develop along Johnson Road north/south corridor and South KGB . There may be some business development pulled away from B.L. Town Center. Commercial development may occur near the Big Lake Road and Hollywood intersection.
Employment Impacts	Lowest direct employment potential for B.L. and the highest for south and west Knik-Fairview Community Council. B.L. employment would likely be limited to the Burma/Ayrshire road junction. The west end of Hollywood is likely to develop commercially and may provide a second gateway to the B.L. Town Center. Knik area employment could be spread along the road corridor.
Big Lake Tax Base	Corridor 5 would likely have limited direct effect on B.L.'s future Tax Base. Future tax base could develop to the east. .

Public Services

Impact Category	Corridor 5
Public Facility Relocations or affects (within 0.25 miles)	No public identified public facilities affected in BLCC. Corridor is adjacent/near to proposed Knik school campus.
School Impacts	May provide more direct access to the Knik school campus.
Parks and Recreation Areas	
Big Lake Trail Impacts*	Minimal (0 Crossings)
Total Trail Crossings*	Minimal (2 Crossings)

ROW Land Ownership in the BLCC

Owner	Corridor	
	2	
	BLCC	Total
Private	7.2	588.2
Matanuska-Susitna Borough	1.9	21.5
State of Alaska	0.0	5.2
Mental Health Trust	0.0	10.6
Federal	0.0	0.0
City	0.0	0.0
Cooperative	0.0	2.7
Public University	0.0	46.2
Native Corporation	0.7	44.0
Unknown	0.3	195.5
Total	**10.1**	**914.0**

Displacement

Impact Category	Corridor
	5
Potential ROW	Approximately 914 acres of ROW is needed. 1.1 % (10 acres) of ROW is in B.L.

BLCC Land Use Converted to Transportation/ROW Use(Acres)

Land Use Category	Corridor	
	5	
	BLCC	Total
Residential	1.0	216.3
Transient Lodging	0.0	0.0
Mobile Home	0.0	11.2
Residential/ Commercial	0.0	0.0
Commercial	0.0	5.6
Industrial	0.0	0.0
Manufacturing	0.0	0.0
Agricultural	0.0	0.0
Churches	0.0	2.6
Communications	0.0	0.0
Education	0.0	0.0
N/A	0.0	2.1
Public Administration	0.0	3.2
Recreation	0.0	0.0
ROW/Vacant	0.3	167.2
Transportation	0.0	0.0
Vacant	8.8	505.7
Total	**10.1**	**913.9**

Physical Conditions

Impact Category	Corridor
	5
Noise	Increase in traffic related noise expected to increase in area between B.L. Town Center and along Johnson Road/ Knik-Fairview. Passes by proposed Knik school campus.
Presence of walls or other barriers	Fencing is likely through developed areas, similar to Seward Highway in Anchorage.
Dust/Odor	Increase dust from winter sanding and truck traffic will affect people along Knik Goose Bay Rd and Johnson Roads. Minor impact in B.L.

Social and Psychological Summary

Impact Category	Corridor
	5
How will routes affect "downtown" Big Lake"?	Relatively little impact within B.L. Community Council.
How will routes alter the size and social character of Big Lake?	Largely outside of B.L.. Less likely to induce growth in B.L. that would change its character. Likely to shift growth east of B.L. affecting social character and growth to the east.
How will routes affect residential neighborhoods?	Minor effects on B.L. neighborhoods. A major highway on this route would impact the western and southern Knik Fairview Community Council area.
How will routes affect recreational and open space, a major element of quality of life?	Largely avoids affects on B.L. Community, only impacting its eastern boundary. Will affect connectivity of and cohesion between B.L. and Knik-Fairview. Avoid areas of concentrated trail use.

2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Septic	
Base Population	15,114
Route Impact	6,173
Total Population	**21,287**

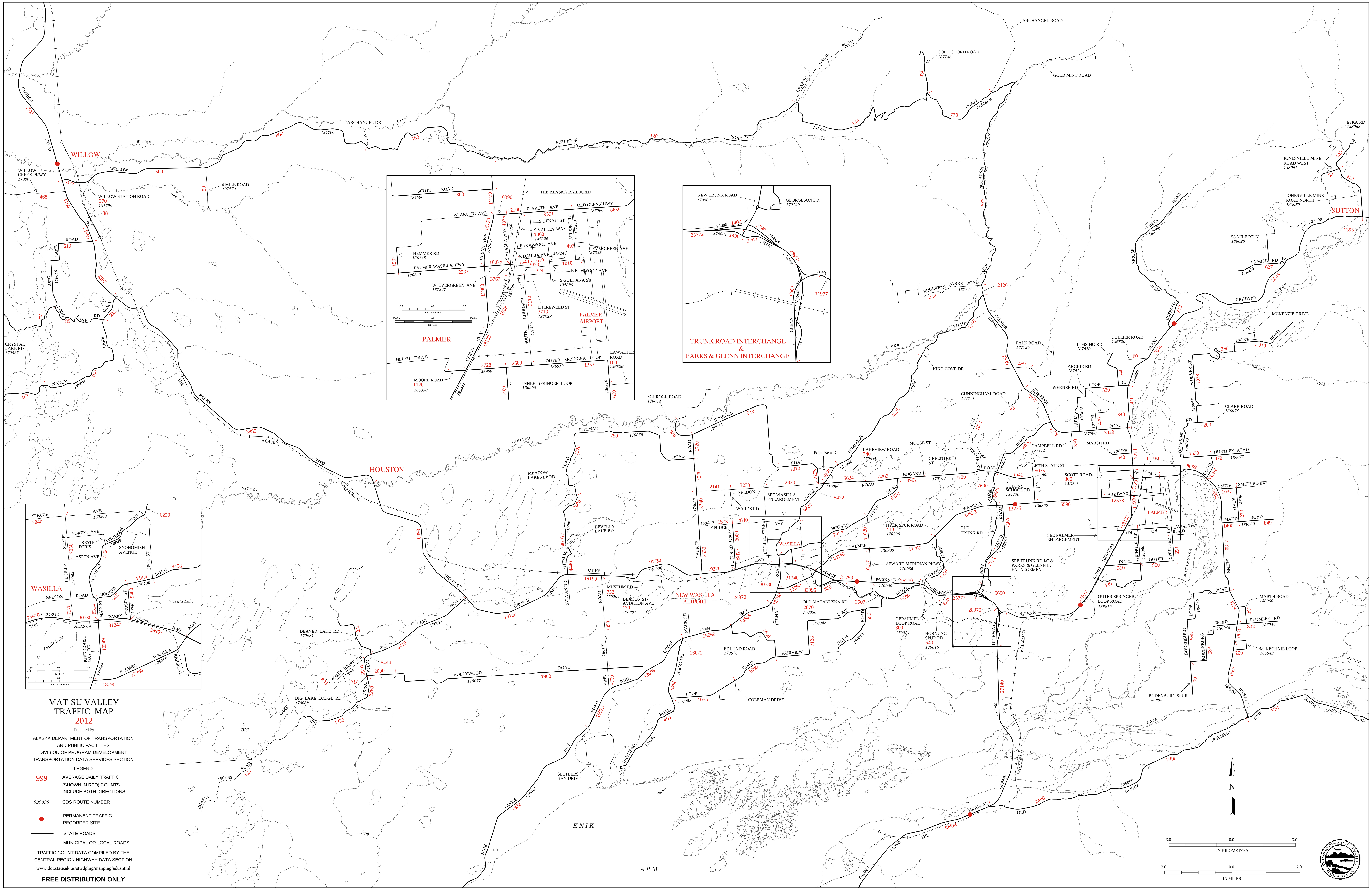
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Public Sewer	
Base Population	15,114
Route Impact	12,815
Total Population	**27,929**

Safety Summary

Impact Category	Corridor
	5
Traffic Safety	Controlled access improves safety. This alternative serves the greatest population density meaning most benefit to traveling public.
Pedestrian and bicycle safety	Little affect on pedestrians or bicycles in B.L. Community Council area since development occurs along its eastern boundary.
Crime	Unlikely to change
Emergency Response Times	Little change to response times in Big Lake CC. Potential improvement elsewhere. Connects into highest population centers.

Visual Conditions

Impact Category	Corridor
	5
How will routes affect Big Lake's visual character	Much of this route already has road access, and existing development. Expansion of the highway along existing KGB road would create less significant visual impacts than along undeveloped sections of the Johnson Road segment of this and compared to the other alternatives.



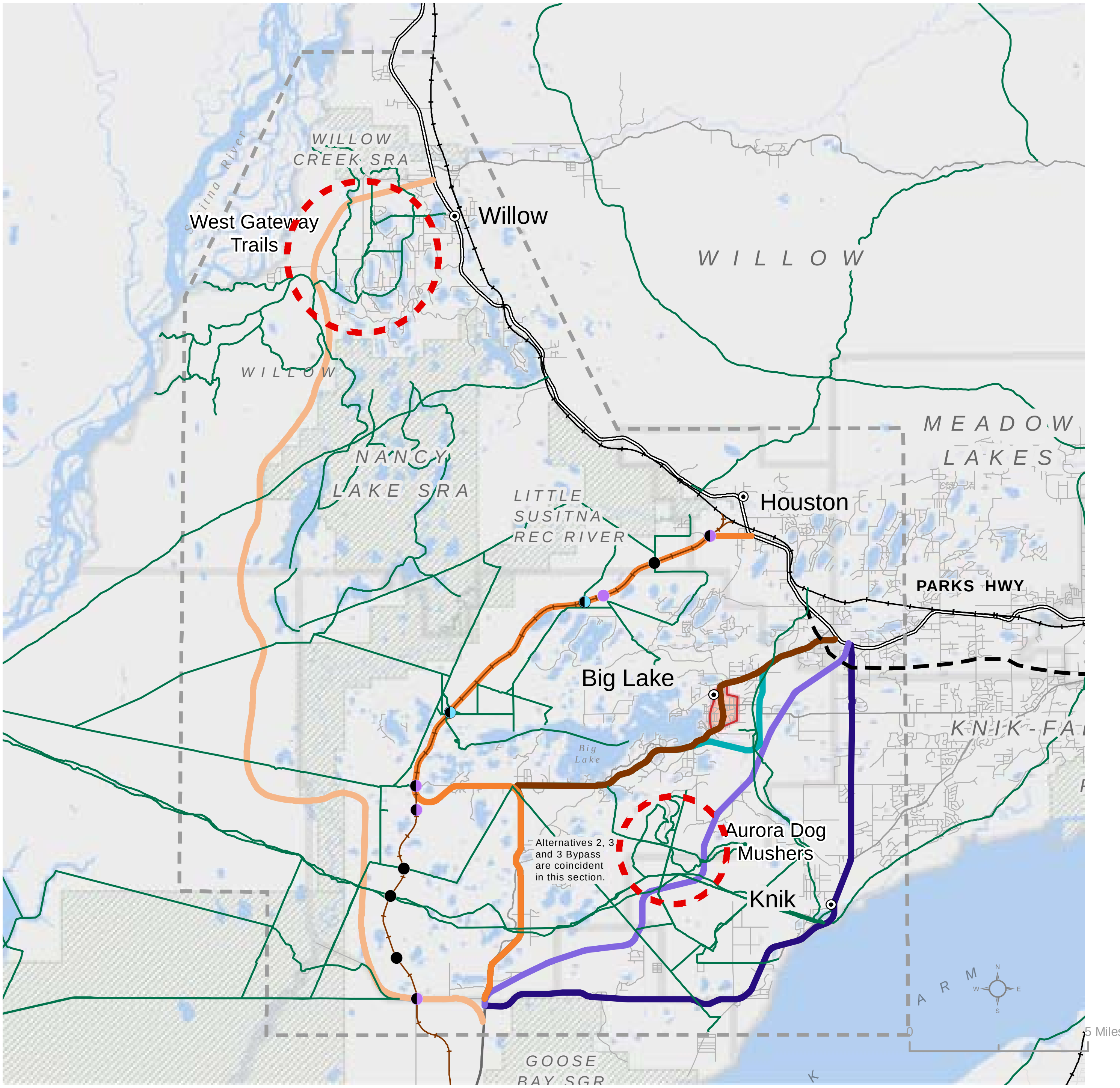
MAT-SU VALLEY
TRAFFIC MAP
2012
Prepared By
ALASKA DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
DIVISION OF PROGRAM DEVELOPMENT
TRANSPORTATION DATA SERVICES SECTION
LEGEND
999 AVERAGE DAILY TRAFFIC (SHOWN IN RED) COUNTS INCLUDE BOTH DIRECTIONS
999999 CDS ROUTE NUMBER
PERMANENT TRAFFIC RECORDER SITE
STATE ROADS
MUNICIPAL OR LOCAL ROADS
TRAFFIC COUNT DATA COMPILED BY THE
CENTRAL REGION HIGHWAY DATA SECTION
www.dot.state.ak.us/stwdplng/mapping/adt.shtml
FREE DISTRIBUTION ONLY
WILLOW
HOUSTON
WASILLA
PALMER
SUTTON
NEW WASILLA AIRPORT
PALMER AIRPORT
TRUNK ROAD INTERCHANGE
&
PARKS & GLENN INTERCHANGE
SEE WASILLA ENLARGEMENT
SEE PALMER ENLARGEMENT
SEE TRUNK RD I/C & PARKS & GLENN I/C ENLARGEMENT
ARCHANGEL ROAD
GOLD CHORD ROAD
GOLD MINT ROAD
FISHHOOK ROAD
ESKA RD
JONESVILLE MINE ROAD WEST
JONESVILLE MINE ROAD NORTH
58 MILE RD N
MCKENZIE DRIVE
KNIK
ARM
3.0 0.0 3.0
IN KILOMETERS
2.0 0.0 2.0
IN MILES
N

PUBLIC ENGAGEMENT TO DATE:

- Sept. 2012 Community Council Meeting
- Oct. 2012 Transportation Meeting
- Oct. 2012 Community Meeting
- Feb. 2013 Booth at Winterfest
- May 2013 Transportation Meeting
- Aug. 2013 Booth at Transportation Fair
- **Sept. 19, 2013 Community Meeting**

PROJECT BENEFITS

- Identify a fast, efficient trucking route between Port MacKenzie and destinations north along the Parks Hwy.
- Reserve a corridor to handle commuter vehicle traffic if the Knik Arm Bridge is constructed.
- Plan for future community growth and avoid creating a bottleneck like the Parks Hwy in Wasilla.
- Involve communities in the process to minimize community disruption and maximize community benefits.
- Address residents' concerns about effects of a major highway through neighborhoods and community centers.



TRAIL CONSTRAINTS

Big Lake Community Impact Assessment

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 3 Bypass
- Alternative 4
- Alternative 5

- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

- Trail

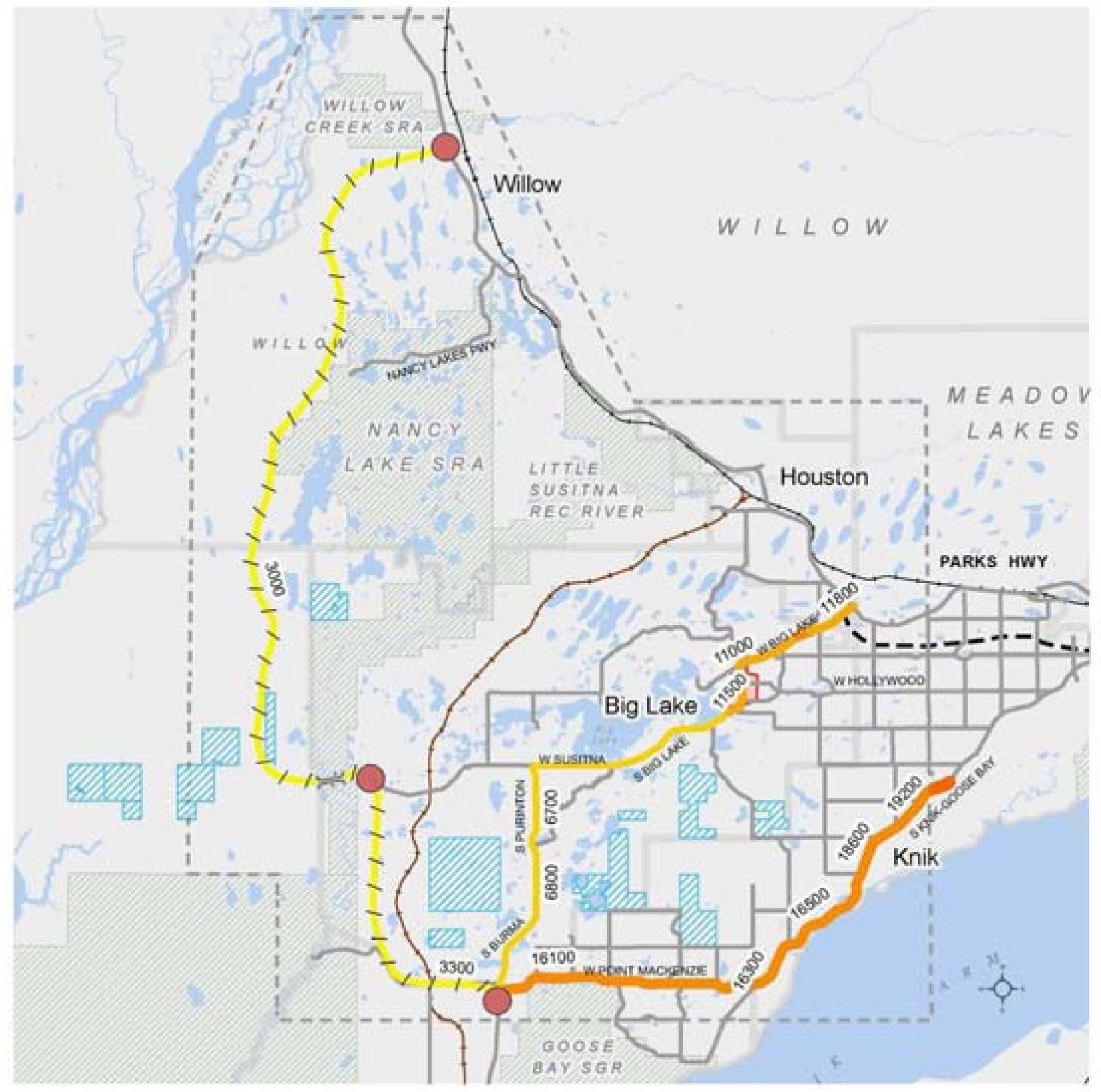
Port MacKenzie Rail

- Stream/Trail Crossing
- Road Crossing
- Trail Crossing
- Road/Trail Crossing

2/4/2013

Community BIG LAKE Impact Assessment

Traffic Forecast - 2060



ALTERNATIVE 1 - Willow Route

Big Lake Community Impact Assessment

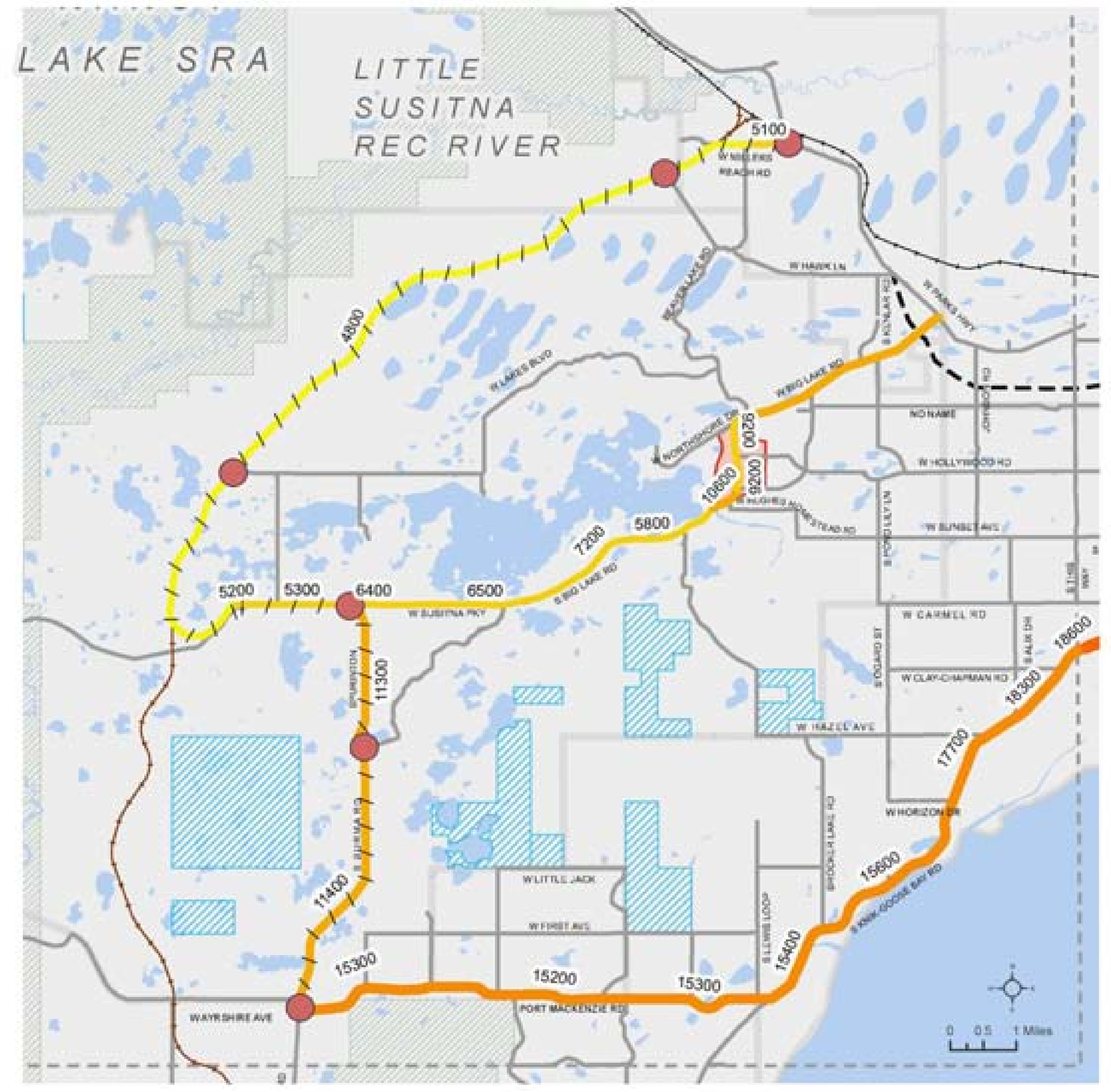
Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchange
- Bridge over Little Su

9/17/2013



ALTERNATIVE 2 - Rail Route

Big Lake Community Impact Assessment

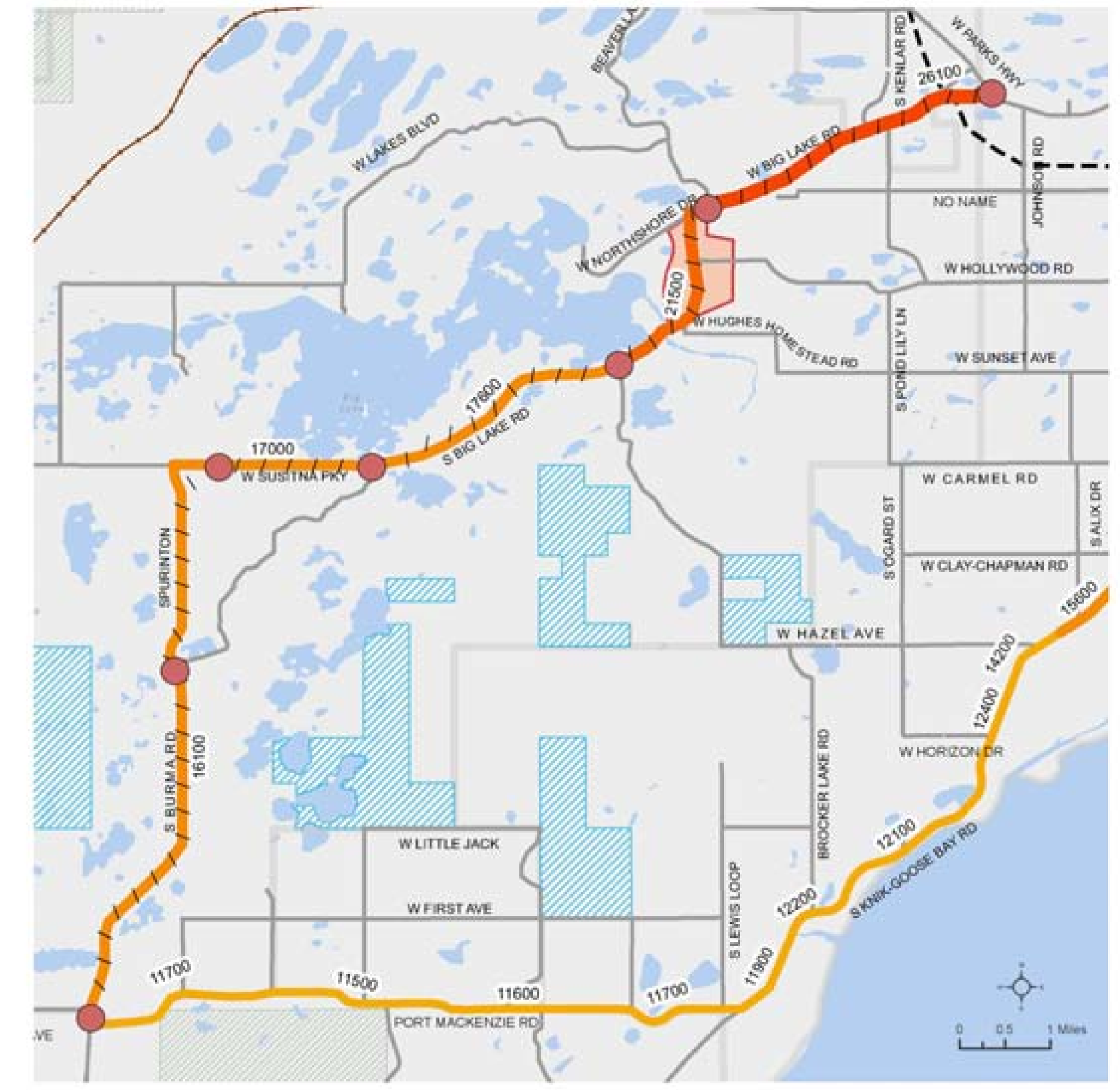
Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchange

9/17/2013



ALTERNATIVE 3 - City Center/Existing Road Route

Big Lake Community Impact Assessment

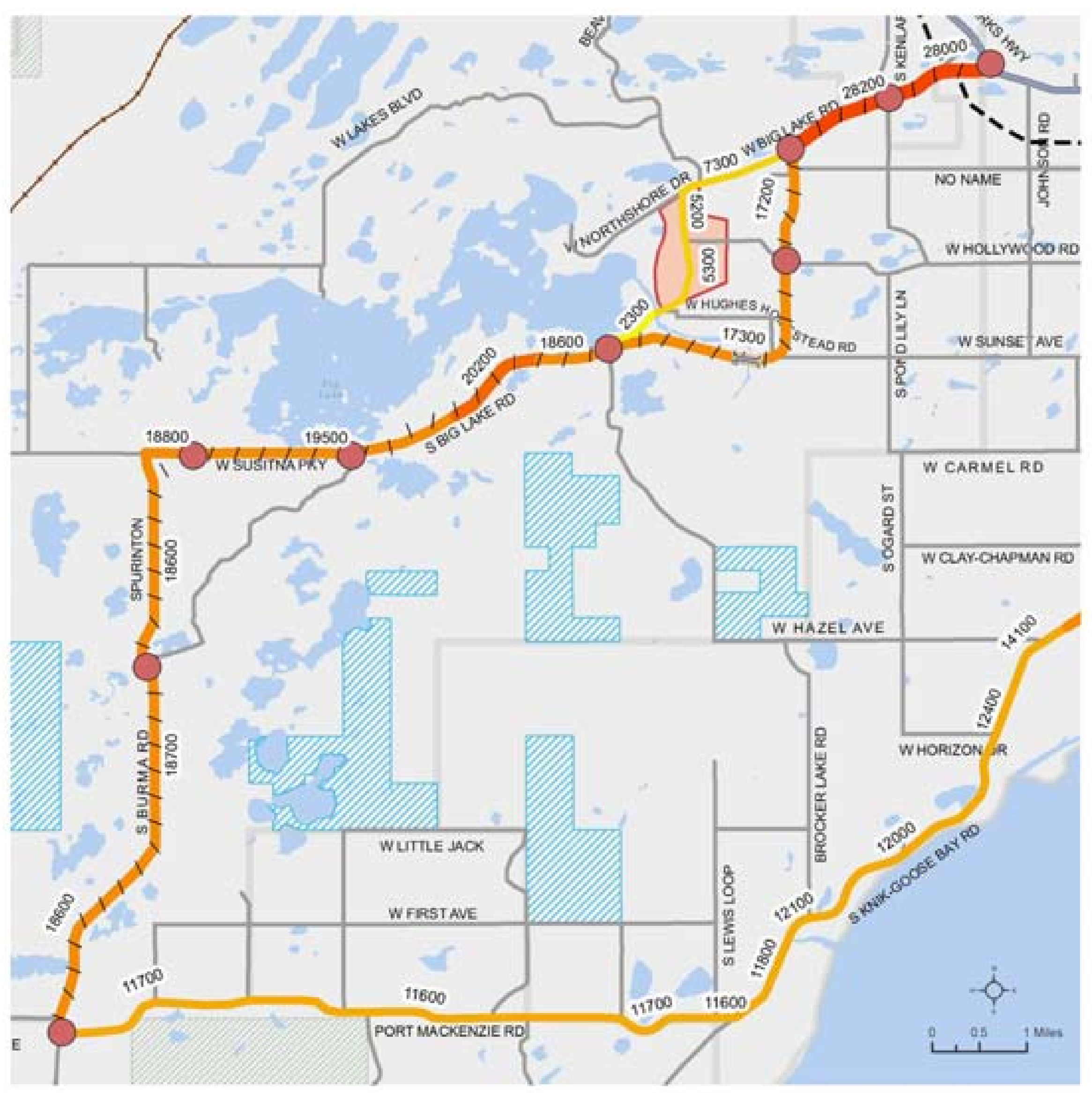
Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchange

9/17/2013



ALTERNATIVE 3 BYPASS - OPTION A

Big Lake Community Impact Assessment

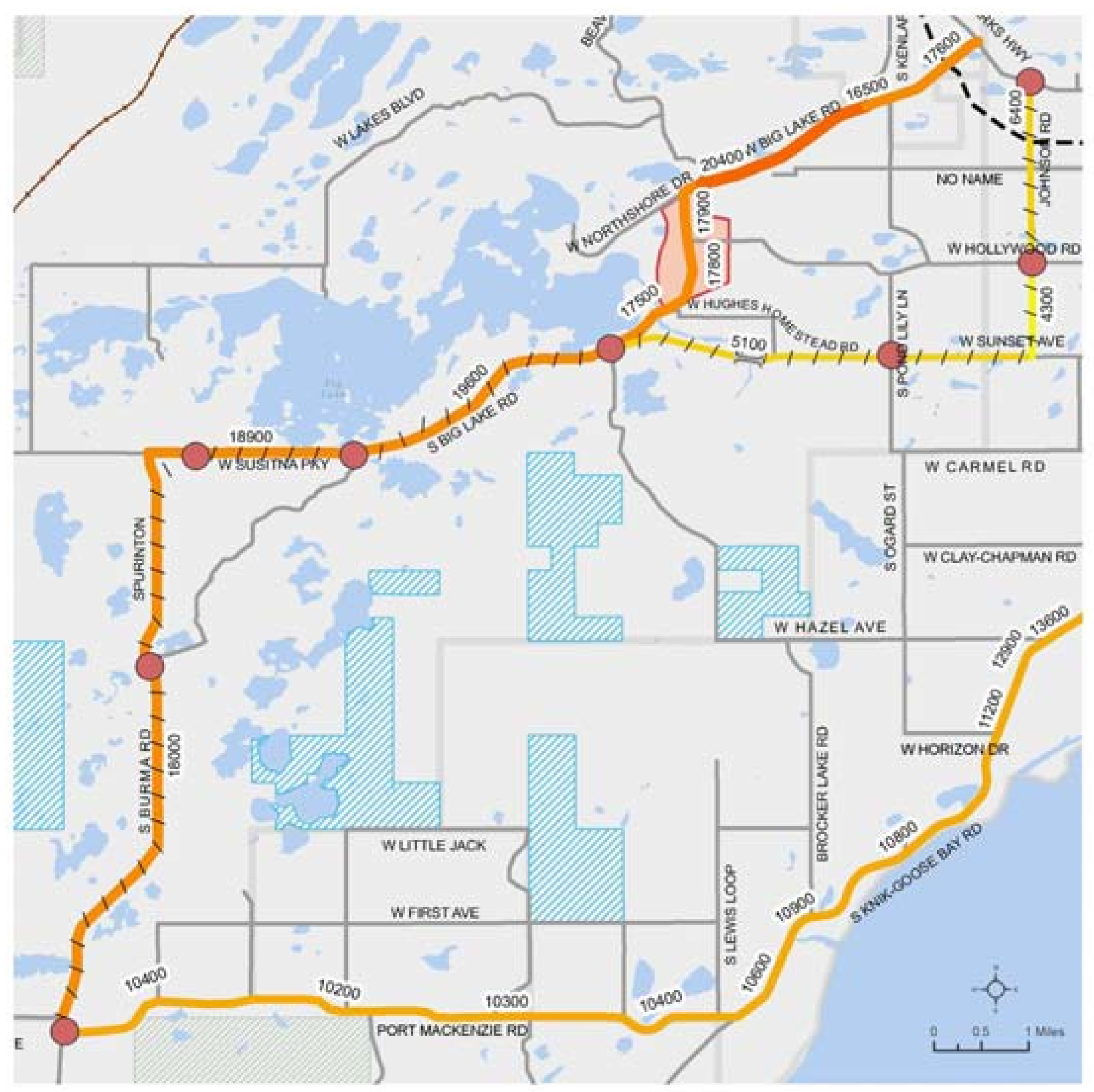
Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchanges
- Bridge over Fish Creek

9/17/2013



ALTERNATIVE 3 BYPASS - OPTION B

Big Lake Community Impact Assessment

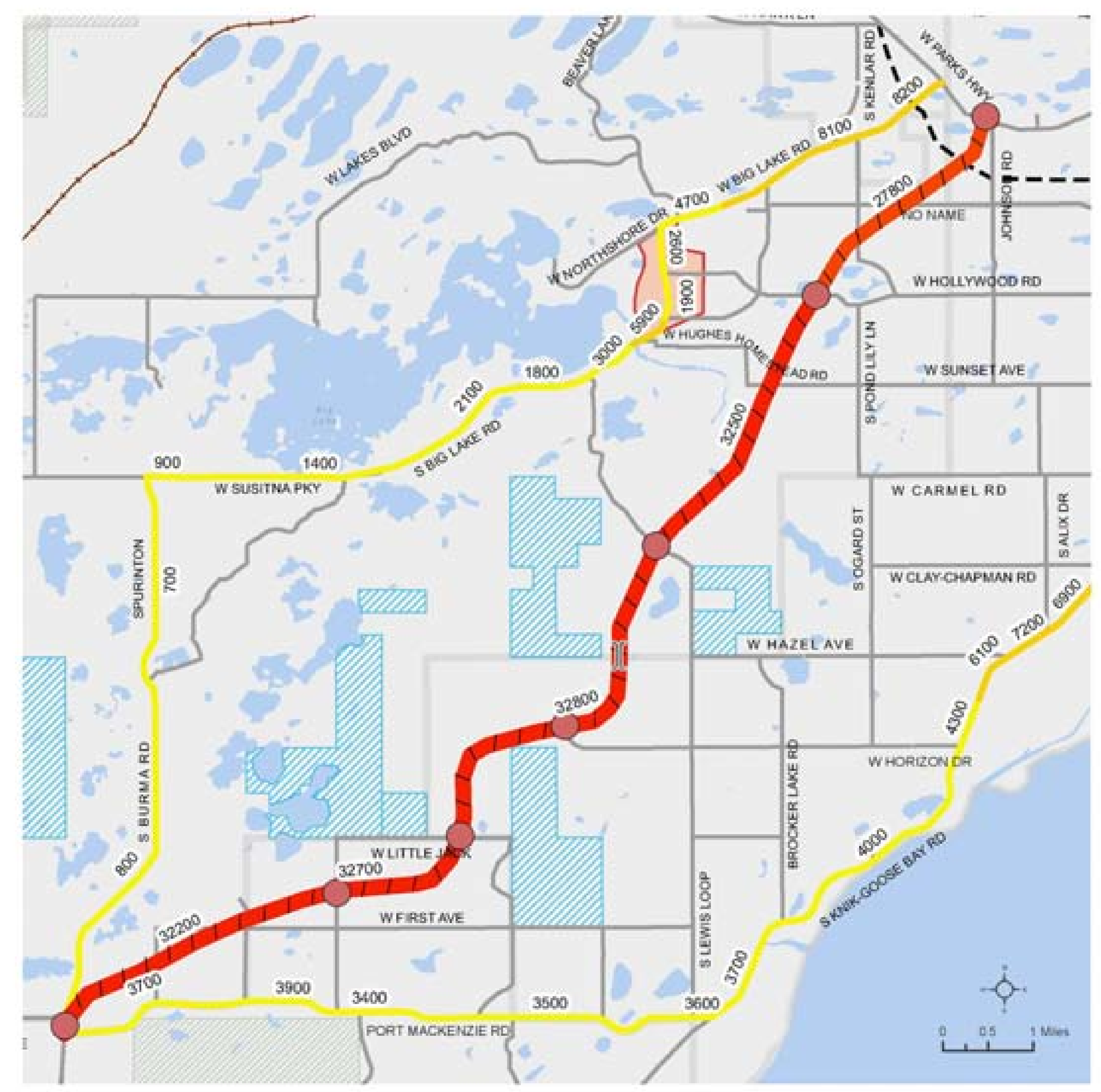
Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchange
- Bridge over Fish Creek

9/17/2013



ALTERNATIVE 4 - Wetlands Route

Big Lake Community Impact Assessment

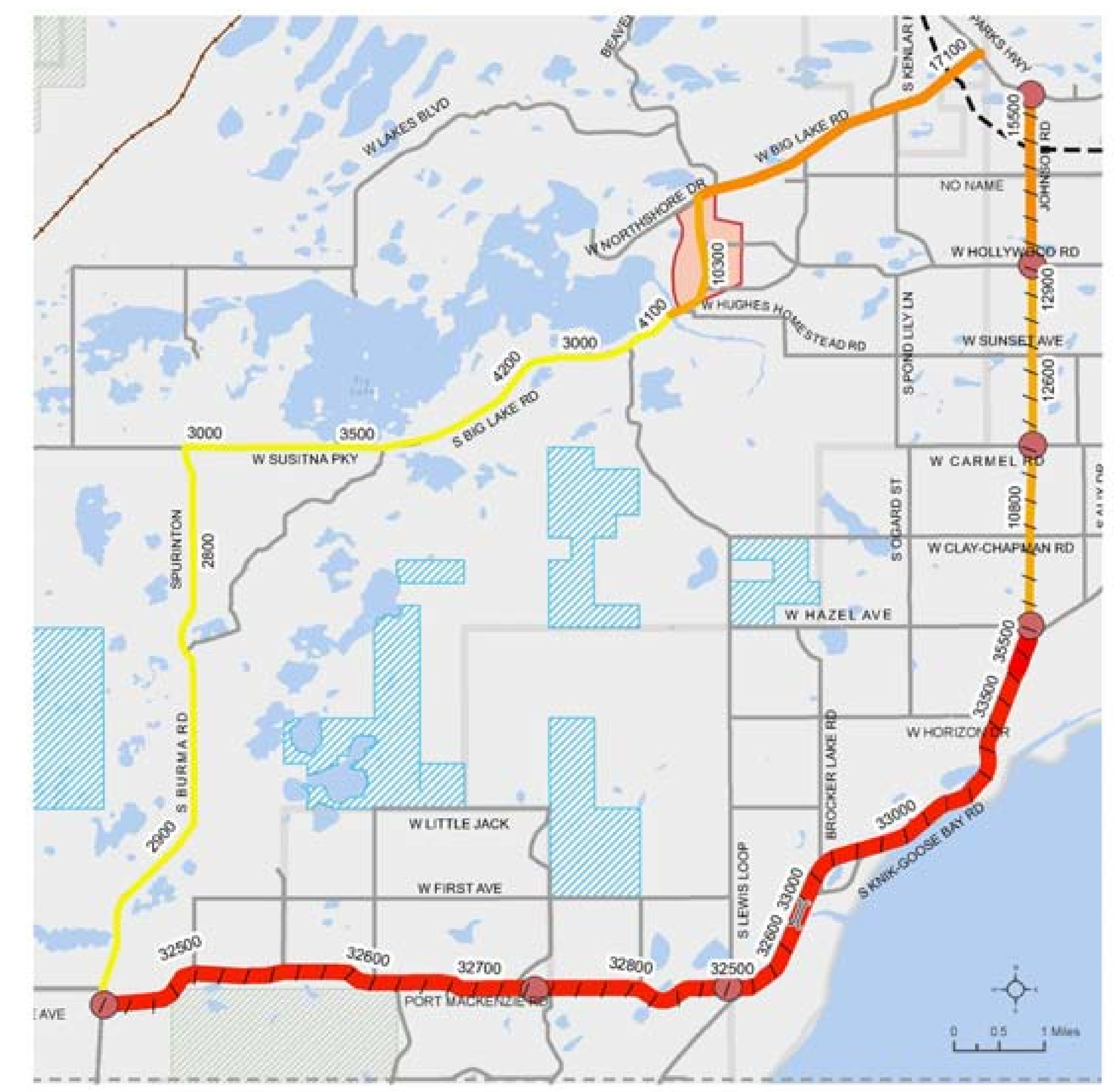
Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchange

9/17/2013



ALTERNATIVE 5 - Johnson Road Route

Big Lake Community Impact Assessment

Traffic Forecast for 2060

0 - 5000	20001 - 25000
5001 - 10000	25001 - 30000
10001 - 15000	30001 - 35000
15001 - 20000	35001 - 40000

Wetland Bank

Proposed
- Highway
- Interchange
- Bridge over Fish Creek

9/17/2013

4.0 Big Lake Impact Assessment

Introduction

This chapter presents an analysis of the potential highway alternative for the community of Big Lake in accord with the FHWA's publication *Community Impact Assessment: A Quick Reference for Transportation*. The analysis examines the relationship between the proposed National Highway System connections and community life in Big Lake and includes both the identification and investigation of impacts. We examine the anticipated future with the transportation action in comparison to the anticipated future without the transportation action (baseline). The following general considerations guided the analysis:

- Recognizing both positive and negative impacts.
- Considering short-term and long-term impacts
- Identifying secondary and cumulative effects.
- Identifying impacts relative to community goals as expressed in the Big Lake Comprehensive Plan.
- Incorporation of public concerns and issues that have been identified through our public outreach.
- The analysis focuses on primary issues or topics of potential controversy.

The following topics have been studied for this analysis:

- 4.1 Land use
    - 4.1.1 How would land use change
- 4.2 Mobility and Access
- 4.3 Economic Conditions
- 4.4 Public Services
- 4.5 Physical
- 4.6 Visual
- 4.7 Safety
- 4.8 Displacement
    - 4.8.1 Who owns the land the project will be built on?
- 4.9 Social and Psychological
    - 4.9.1 Will environmental justice populations (minority or low income) be impacted

Assumptions

The summary of assumptions outlined below helps to specify the character and function of a potential road corridor from the Parks Highway to the Point MacKenzie Road/West Aryshire Avenue intersection. The summary also clarifies several other key working assumptions used to evaluate the potential impact of corridor alternatives on the Big Lake community.

1. **What is the anticipated traffic demand? Why the need to reserve a corridor for a limited access highway?**
   - Mat-Su Borough, Anchorage and Alaska in general, will continue to grow, both in terms of increasing population and new, more diverse economic activities.
   - The highway has a direct connection to Anchorage via the Knik Arm Bridge.
   - Once constructed, the highway will serve the transportation needs of residents, visitors and businesses of the southern Mat-Su Borough, as well as supporting freight and other traffic passing through the area.

2. **What is the timing of increased traffic demand?**
   - No firm assumptions are made regarding when traffic demand will grow sufficiently to justify the construction of the full planned highway.
   - Traffic demand is anticipated to be relatively light to start but would grow over time with a four lane highway eventually being needed.
   - The goal of the project is to reserve a corridor route today - for future need.

3. **What are the physical characteristics of the road corridor?**
   - The road corridor includes a 400' right-of-way (ROW) corridor – wide enough to support a highway comparable to the Parks Highway east of Wasilla.
   - At full build out, the corridor will support a high speed, limited access, 4-lane divided highway, with the option for frontage roads with controlled access.
   - The road is likely to be developed in phases over an extended period. For example: Sections of the road are likely to be constructed as 2-lane roads, and as traffic increases, expanded to four lanes.

4. **Which corridor alternatives are being considered?**
   - The assessment process began by identifying and reviewing six alternatives.
   - After initial review, this initial set of alternatives was refined and narrowed to four options that are the focus of this analysis (Alternatives 2, 3, 3 Bypass, 5).
   - The reduction of alternatives from six to four was based on the following considerations:
     - Physical capability – the land along Alternative 4 is significantly constrained by large wetlands, and areas designated for winter trails; Alternative 1 also crosses extensive wetland areas and the Little Susitna River, and crosses and/or borders on state park/refuge area.
     - Transportation needs met – the highway needs to serve population centers and through traffic freight needs; Alternative 1 is too far west to meet this need. If alternative 1 were built, port and commuter traffic to and from most of the Mat-Su population center would continue to overload Knik Goose Bay Road and Burma/Big Lake Road Corridors.
     - Cost. Alternative 1 costs the most due to its length. Given the low population served for the high cost, means the benefits of that route would be low.

5. **How will the assessment use information gained from the Mat-Su Borough "Build-Out Analysis"? How will the CIA evaluate growth and traffic levels associated with different alternatives?**
   - DOT/PF traffic projections for the six original routes will be completed later this spring, and will be used to confirm preliminary conclusions regarding traffic volumes.

- Now that four alternatives have been defined, a basic “build-out analysis” is being developed describing the likely location of future growth in the greater Big Lake area based on how the highway connections will affect that growth. Results of this work will be used to refine the preliminary CIA information presented in this document.

6. **How detailed is the assessment? To what degree does the assessment gauge “actual impacts” on Big Lake?**
   - The actual impacts on Big Lake of this future highway will vary significantly as a function of land and transportation management decisions yet to be made, by Big Lake, the Borough and the State. For example:
     - Policies on reservation of trail crossings will determine the nature and extent of the impact of the highway on winter and summer trail use.
     - Policies regarding road side development, such as rules affecting the extent and character of commercial development, would determine whether the highway has a commercial strip character and where frontage roads might be needed.
     - Policies on the secondary road system in the community – the location of arterial and collector roads linking to this highway corridor – will also have and impact on mobility and growth patterns

   This level of detail is not included in the assessment, but is part of future route selection and development.

4.1 Land Use

Table ??-?? Land Use Summary				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
Expected Changes in Land Use	Minor, mostly along New Burma Rd. Intersection at New Burma/ Susitna Pkwy develops as a commercial center. Railroad is a barrier to change to the west. Moderate effects on Houston Town Center.	Major changes in B.L. Town Center. Intersection at New Burma/Susitna Pkwy develops as a commercial center.	Major changes east of B.L. Town Center. Intersection at New Burma/Susitna Pkwy develops as a commercial center.	Intensification of commercial and residential uses along southern Knik-Goose Bay and Johnson Roads. Moderate effects on northern Knik-Fairview community.
Growth along the corridor affected by land quality?	Limited growth potential since 70% of land adjoining this route is poorly drained, and is relatively costly to develop.	Moderate to high growth potential with less than 5% of land along this route is poorly drained; portions have topographic limitations increasing development costs.	Low to moderate growth potential since 50% of land adjoining this route is poorly drained, and is relatively costly to develop.	Moderate growth potential since 20-30% of land adjoining this route is poorly drained, and is relatively costly to develop.
Vacant land available for development?	Large majority of land along this route is vacant and undeveloped and is located both east and west of railroad. Development is	Much of this corridor already has road access, and existing development. Land available along New Burma Road corridor.	Large majority of land along east-west portion is vacant; northern portion already has road access and is 50-60% developed.	Large majority of land along east-west portion is vacant; northern portion already has road access

	limit by soil conditions and wetlands.			and is 50-60% developed. Further northern development limited by wetlands and soils.
Consistent with Land Use Policies in Big Lake Comprehensive Plan?	Consistent. Most of route designated “conservation residential” – low density and/or clustered residential.	Arterial through B.L. Town Center is inconsistent with plan’s town center goals. Route serves area designated for a combination of commercial and residential uses.	Consistent. Most of route designated “dispersed residential” or “close in” residential.	Avoids major conflicts with Comprehensive Plan by running along the east edge of the community Council.
Likelihood to develop into unplanned Commercial Strip?	Least likely to divert traffic from B.L. Town Center. Traffic through downtown could create commercial pressure. Increase traffic in Houston may lead to increase pressure.	Substantial pressure on B.L. Town Center. Could become a commercial strip with frontage roads.	Little pressure on B.L. Town Center. Should develop more like Eagle River.	Pressure on B.L. Town Center avoided. Growth pressure will shift east.
Effects on Comprehensive Plan vision for road.	This alternative opens up the opportunity for a new road on the west and north side of B.L., as recommended by the comp plan.	The comp plan identifies the need to reserve a corridor that travels slightly east of downtown B.L., not through downtown as shown in this alternative.	The comp plan identifies the need to reserve a corridor that swing slightly east of downtown B.L. (similar to option A), not 4-5 miles east of downtown as shown in option B.	Little affect on planned roads in B.L.

4.1.1 How would land use change?

Table ??-?? BLCC Land Use Converted to Transportation/ROW Use(Acres)										
Land Use Category	Corridor									
	2		3		3 Bypass				5	
					Option A		Option B			
	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total
Residential	82.7	92.7	132.0	140.0	167.5	175.0	137.4	218.5	1.0	216.3
Transient Lodging	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Mobile Home	2.6	2.9	2.0	3.4	3.3	3.7	1.8	9.4	0.0	11.2
Residential/Commercial	0.0	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	22.3	22.5	6.3	6.5	2.9	6.0	0.0	5.6
Industrial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufacturing	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	0.0	0.0
Churches	0.0	0.0	1.7	1.7	0.0	0.0	0.0	0.0	0.0	2.6
Communications	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Education	0.0	0.0	8.5	8.5	0.0	0.0	0.0	0.0	0.0	0.0
N/A	0.0	1.5	1.8	2.0	3.0	3.1	1.8	1.8	0.0	2.1
Public Administration	0.0	0.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	3.2
Recreation	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
ROW/Vacant	24.6	32.4	40.9	40.9	0.0	0.0	35.2	41.7	0.3	167.2
Transportation	0.0	0.0	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Vacant	798.7	952.6	581.8	616.7	619.8	673.1	581.3	650.6	8.8	505.7
Total	912.0	1,085.6	801.7	846.3	803.2	864.7	763.8	931.4	10.1	913.9

Note: Based on a 400ft corridor. Totals may not match due to rounding.

4.2 Mobility and Access

Table ??-?? Mobility & Access				
Impact Category	Corridor			
	2	3	3 Bypass (A&B)	5
Changes to Traffic Patterns	Port to Parks Hwy thru traffic	Least changes as alternative mostly	Minor changes as alternative mostly	Minor changes as alternative mostly

	will be mostly west of B.L. Town Center with this alternative. A certain level of traffic will still tend to use Big Lake Rd. with congestion in downtown B.L. Moderate increase to Houston Town Center.	follows established roads; controlled access will eliminate some existing connections to existing routes.	follows existing roads; controlled access will eliminate some connections to existing routes.	follows existing roads east of Big Lake; controlled access will eliminate some connections to existing routes. Unlikely to see sharp increase on local Big Lake roads.
Change To Traffic in Town Center	Moderate effect. Traffic will still tend to use Big Lake Rd. with added congestion in B.L. Town Center. Additional commercial traffic and possible congestion in Houston Town Center.	Greatest increase in traffic because it bisects the B.L. Town Center	Moderate because of its close proximity to B. L. Town Center. Bypass will tend to moderate the effect downtown. Option A will make a bigger difference than option B.	Minimal affect to B.L. Town Center. Likely to have a substantial affect to South KGB and Johnson Road corridor. Will remove Port traffic from B.L. Town Center
Public Transit	Unlikely to increase transit service.	Unlikely to substantially increase transit service as it does not provide a direct route between Wasilla and Anchorage.	Unlikely to substantially increase transit service given it does not provide a direct route between Wasilla and Anchorage.	Would provide the most direct route from population centers in MSB to Anchorage
Change to Existing/Planned Roads	Minimal as mostly follows new alignment. Upgrades and	Substantial as it upgrades and modifies existing Burma and Big	Substantial as most of route would upgrade existing roads except for	Substantial - requires reconstruction of existing KGB and

	modifies Burma Road. Creates new Park HWY interchange at Houston Town Center.	Lakes roads, converting them to highway New interchange at the southern end of Houston at the BL Road/Parks intersection	portions through Town Center. Bypass will tend to moderate the effect downtown	other roads converting them to highway

4.3 Economic Conditions

Table ??-?? Economic Conditions Summary				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
Business Impacts	Limited/neutral business impacts to the B.L. core. Businesses will likely develop at the New Burma Road/Susitna Parkway junction. Potential increase in business activities in Houston.	Substantial impacts to the B.L. Town Center. Will bisect, relocate, and spread out the core business district making it more highway/ auto-oriented. Businesses will likely develop at the New Burma Road/Susitna Parkway junction.	Would divert development from the B.L. Town Center, but would leave the core intact. Potential for increased business development along the east/west corridor running to the Johnson Road north/south corridor. Development may be limited by poor soils.	Limited business impacts to the B.L. Town Center. Businesses will likely develop along Johnson Road north/south corridor and South KGB . There may be some business development pulled away from B.L. Town Center. Commercial development may occur near the Big Lake Road and Hollywood intersection.
Employment Impacts	Concentrated along Burma Road and Susitna Parkway with a minor potential for diversion away from the B.L. Town Center. Houston could see additional employment at	Highest potential for direct employment effects (both positive and negative) for the B.L. Town Center. Road development would divide the B.L. Town Center and could lead to	Corridor could pull employment from the B.L. Town Center while leaving it physically intact. Highest direct employment effects would be felt at the intersection with Johnson Road, along	Lowest direct employment potential for B.L. and the highest for south and west Knik-Fairview Community Council. B.L. employment would likely be limited to the Burma/Ayrshire road junction. The west

	northern intersection with the Parks Highway. Potential increase in service sector jobs in Houston.	sprawl style strip development. Moderate increase to southern Houston in the BL Road Parks Highway intersection area.	Burma Road, and at the along the Johnson Rd/South Knik-Goose Bay.	end of Hollywood is likely to develop commercially and may provide a second gateway to the B.L. Town Center. Knik area employment could be spread along the road corridor.
Big Lake Tax Base	B.L. lacks direct taxing authority. Limited potential MSB property tax base increases at road termini and junctions.	B.L. lacks direct taxing authority. Increased development within the B.L. CC area could increase B.L. tax base over time.	Similar to Corridor 2 with less direct effect on the B.L. Town Center and more development towards the eastern edge of the B.L. Community Council.	Corridor 5 would likely have limited direct effect on B.L.'s future Tax Base. Future tax base could develop to the east. .

4.4 Public Services

Table ??-?? Public Services				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
Public Facility Relocations or affects (within 0.25 miles)	No existing public facilities identified along corridor.	Potential effects to Fire Station 8-1, Library and Post Office. Each of these facilities is within 0.25 miles	No existing public facilities identified along corridor.	No public identified public facilities affected in BLCC. Corridor is adjacent/near to proposed Knik school campus.
School Impacts	No impact	Impact to B.L. Elementary School.	No Impact.	May provide more direct access to the Knik school campus.
Parks and Recreation Areas		Impacts to Fish Creek Park and Jordan Lake Park		
Big Lake Trail Impacts*	Substantial (9 trail crossings)	Moderate (4 Crossings)	Moderate (A has 6 Crossings and B has 5)	Minimal (0 Crossings)
Total Trail Crossings*	Substantial (10 trail crossings)	Moderate (4 Crossings)	Moderate (A has 6 Crossings and B has 5)	Minimal (2 Crossings)

*Only officially recognized trails were analyzed. Trails may be crossed multiple times.

4.5 Physical

Table ??-?? Physical Conditions				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
Noise	Least effect due to having the most undeveloped land. Port MacKenzie Rail Embankment will help shield noise. Some effect to Houston Town Center	Traffic related noise will increase and has the highest potential to impact noise sensitive land uses concentrated in B.L. Town Center. Will affect residential areas south and east of the Lake.	Increase in traffic related noise in residential areas. Bypass lessens affect in B.L. Town Center. Will affect residential areas south of the Lake.	Increase in traffic related noise expected to increase in area between B.L. Town Center and along Johnson Road/ Knik-Fairview. Passes by proposed Knik school campus.
Presence of walls or other barriers	Port Mackenzie Rail embankment is a barrier to being able to cross the corridor except at limited designated intersections.	Fencing is likely through developed areas, similar to Seward Highway in Anchorage.	Fencing is likely through developed areas, similar to Seward Highway in Anchorage.	Fencing is likely through developed areas, similar to Seward Highway in Anchorage.
Dust/Odor	Least impact due to lack of adjacent development. Limited impacts to Houston during construction.	Increase dust from winter sanding and truck traffic especially on the south and east sides of the lake and B.L. Town Center	Increase dust from winter sanding and truck traffic will affect people on the south side of the lake.	Increase dust from winter sanding and truck traffic will affect people along Knik Goose Bay Rd and Johnson Roads. Minor impact in B.L.

4.6 Visual

Table ??-?? Visual Conditions				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
How will routes affect Big Lake's visual character	Land mostly vacant and undeveloped fewer people to see the new road. May substantially affect visual character at trail crossings. May substantially impact Houston Town Center.	Would significantly change the visual character along the entire route from Ayrshire to Parks Highway Changes would be less significant along the B.L. Road commercial corridor near the Parks Hwy. Highway through downtown would substantially change the visual character.	Similar impacts as Alt 3. The bypass east of B.L. is currently mostly vacant and undeveloped, but a new road in this area would substantially change the visual character.	Much of this route already has road access, and existing development. Expansion of the highway along existing KGB road would create less significant visual impacts than along undeveloped sections of the Johnson Road segment of this and compared to the other alternatives.

4.7 Safety

Table ??-?? Safety Summary				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
Traffic Safety	Controlled access improves safety by reducing conflict points. This route will likely have lower traffic volumes. Traffic will still use and increase along B.L Road increasing traffic/safety conflicts in the B.L. Town Center.	Controlled access improves safety by reducing conflict points. B.L community residents would be the main users of this route. . Increased traffic through B.L. Town Center may increase safety conflicts in B.L.	Controlled access improves safety. B.L community residents would be the main users of this route. Traffic bypasses downtown, less safety conflicts there with a bypass.	Controlled access improves safety. This alternative serves the greatest population density meaning most benefit to traveling public.

		Town Center.		
Pedestrian and bicycle safety	Least likely to be used by pedestrians and bicyclists as a transportation route because these is less potential for nearby development. Potential impact to more developed areas of Houston	Pedestrian and bicycle crossings and related facilities will be incorporated into the final design to address B.L. Town Center needs. Potential impacts in the southern Houston area.	With bypass, most impacts to the B.L. Town Center are averted. Option A may have potential impacts in the southern Houston area. Option B has no impacts to Houston since the highway ties into Johnson Road well east of Houston's City Limits.	Little affect on pedestrians or bicycles in B.L. Community Council area since development occurs along its eastern boundary.
Crime	Unlikely to change	Unlikely to change	Unlikely to change	Unlikely to change
Emergency Response Times	Least change in response time. Out of the way nature makes it less useful for core population areas. May require additional facilities in Houston.	Generally faster response times to and from B.L. Town Center though increase congestion in the Town Center may cause some delays during peak hours.	Faster response times to and from B.L. Town Center.	Little change to response times in Big Lake CC. Potential improvement elsewhere. Connects into highest population centers.

4.8 Displacement

Table ??-?? Displacement				
Impact Category	**Corridor**			
	2	**3**	**3 Bypass (A&B)**	**5**
Potential ROW	Approximately 1,086 acres of ROW is needed. 84.2	Approximately 846 acres of ROW is needed. 94.7% (802 acres) of	For Option A, approximately 865 acres of ROW is needed.	Approximately 914 acres of ROW is needed. 1.1 % (10 acres) of

	% (914 acres) of ROW is in B.L.	ROW is in B.L.	92.9 % (803 acres) of ROW is in B.L. For Option B, approximately 931 acres of ROW is needed. 82.0% (764 acres) of ROW is in B.L.	ROW is in B.L.

4.8.1 Who owns the land the project will be built on?

Table ??-??
ROW Land Ownership in the BLCC

Owner	Corridor									
	2		3		3 Bypass				5	
					Option A		Option B			
	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total	BLCC	Total
Private	242.1	279.7	412.7	456.2	448.8	492.3	413.1	553.9	7.2	588.2
Matanuska-Susitna Borough	209.2	209.2	143.7	143.7	154.5	154.5	181.4	182.0	1.9	21.5
State of Alaska	23.6	23.6	35.9	35.9	42.2	42.2	23.9	29.1	0.0	5.2
Mental Health Trust	327.6	327.6	0.0	0.0	0	0	0.0	0.0	0.0	10.6
Federal	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0
City	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0
Cooperative	0.0	0.0	1.2	1.2	0	0	0.0	0.0	0.0	2.7
Public University	0.0	0.0	4.6	4.6	35.5	35.5	27.0	27.0	0.0	46.2
Native Corporation	68.2	188.9	31.0	32.1	32.1	32.1	53.3	56.2	0.7	44.0
Unknown	42.9	56.6	172.6	172.6	90.1	108.1	65.1	83.2	0.3	195.5
Total	913.5	1085.6	801.7	846.3	803.2	864.7	763.8	931.4	10.1	914.0

4.9 Social and Psychological

Table ??-??
Social and Psychological Summary

Impact Category	Corridor			
	2	3	3 Bypass (A&B)	5
How will routes affect "downtown" Big Lake"?	Relatively little impact on cohesion does not split established neighborhoods	A route through the heart of downtown be a substantial barrier affecting residential and commercial cohesion	Avoids splitting B.L. Town Center. Creates a barrier with areas east of Town Center.	Relatively little impact within B.L. Community Council.
How will routes alter the size and social character of Big Lake?	Least induced population growth due to its westerly location.	Substantial affects through the center of Big Lake Town Center. Would physically divide the community more centered around autos and less around pedestrians.	Avoids the heart of B.L. Town Center encouraging growth in the community, but with less of the disruption to downtown character.	Largely outside of B.L.. Less likely to induce growth in B.L. that would change its character. Likely to shift growth east of B.L. affecting social character and growth to the east.
How will routes affect residential neighborhoods?	Minor. Majority of land is vacant and undeveloped. Section of road near Papoose Lakes would separate these areas from points east.	Substantial. A major highway on this alignment would divide the residential neighborhoods along this corridor.	Similar affects as Alt. 3. Bypass area is currently mostly vacant and undeveloped having less affect on neighborhoods.	Minor effects on B.L. neighborhoods. A major highway on this route would impact the western and southern Knik Fairview Community Council area.
How will routes affect recreational and open space, a major element of quality of life?	Would alter the character areas north, west, and south of B.L. important for trails, which make a large contribution to the experience and quality of life of the community.	Substantial affect on B.L. Town Center. Affecting small town feel. Substantial affect or recreational/ residential quality of life along south and east shores of the lake near the corridor.	Avoids major affect on B.L. Town Center's small town feel. Substantial affect or recreational/ residential quality of life along south shore of B.L. near the corridor.	Largely avoids affects on B.L. Community, only impacting its eastern boundary. Will affect connectivity of and cohesion between B.L. and Knik-Fairview. Avoid areas of concentrated trail use.

2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Septic				
Base Population	15,114	15,114	15,114	15,114
Route Impact	2,879	4,661	5741/5625	6,173
Total Population	**17,993**	**19,775**	**20,855/20,739**	**21,287**
2060 BLCC Build Out Population Assuming KAC and New Parks Hwy Connection with Public Sewer				
Base Population	15,114	15,144	15,114	15,114
Route Impact	5984	10,439	11,951/11,835	12,815
Total Population	**20,498**	**25,553**	**27,065/26,949**	**27,929**

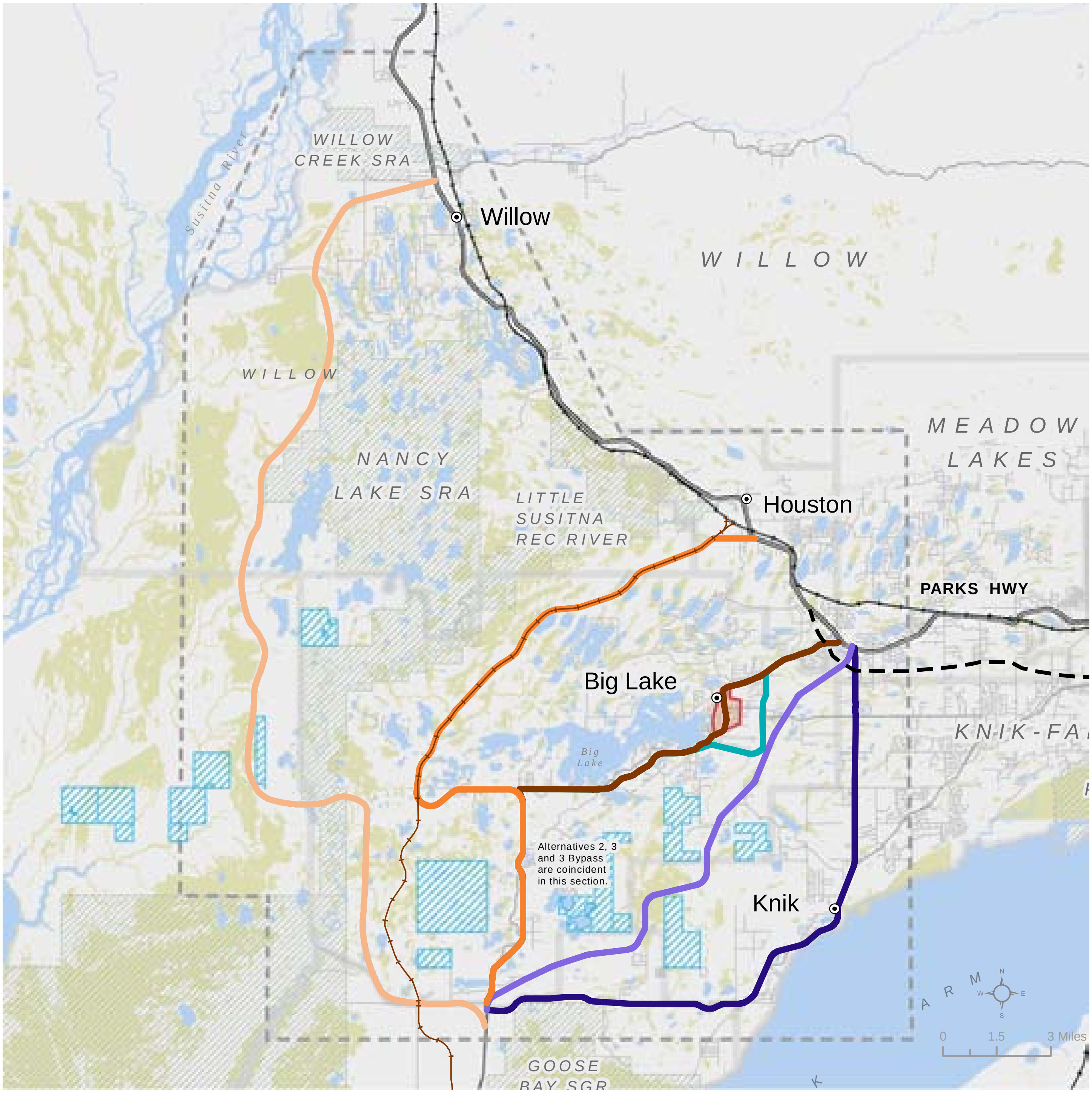
4.9.1 Will environmental justice populations (minority or low income) be impacted?

Big Lake's population includes people across a fairly diverse economic spectrum. According to local residents, information on median earnings masks the fact that the community has a substantial percentage of residents who are relatively wealthy, and an equally large percentage with relatively low incomes. One indication is that Big Lake Elementary School is a Title 1 school. As defined by the U.S. Department of Education, a school is eligible for Title 1 status and associated programming funds when the poverty level (determined by free and reduced meal counts, Aid for Dependent Children [AFDC], census, or Medicaid) is at or above 40 percent (see Community Profile, Table X.X or Table X.X below for Census and other relevant data), http://www2.ed.gov/policy/elsec/leg/esea02/pg1.html.

Table ??-??
Social and Psychological Summary

Statistic	Big Lake 2010	Alaska 2010	US 2010
Median Household Income	$61,250	$60,566	$50,4431
Persons in Poverty	434		
Percent Below Poverty	13.5%	9.9%	15.3%

Source: State Department of Labor and Workforce Development



WETLAND CONSTRAINTS

Big Lake Community Impact Assessment

Alternative 1

Alternative 2

Alternative 3

Alternative 3 Bypass

Alternative 4

Alternative 5

Big Lake Town Center

Community Council Boundary

Park or Refuge

Existing Rail

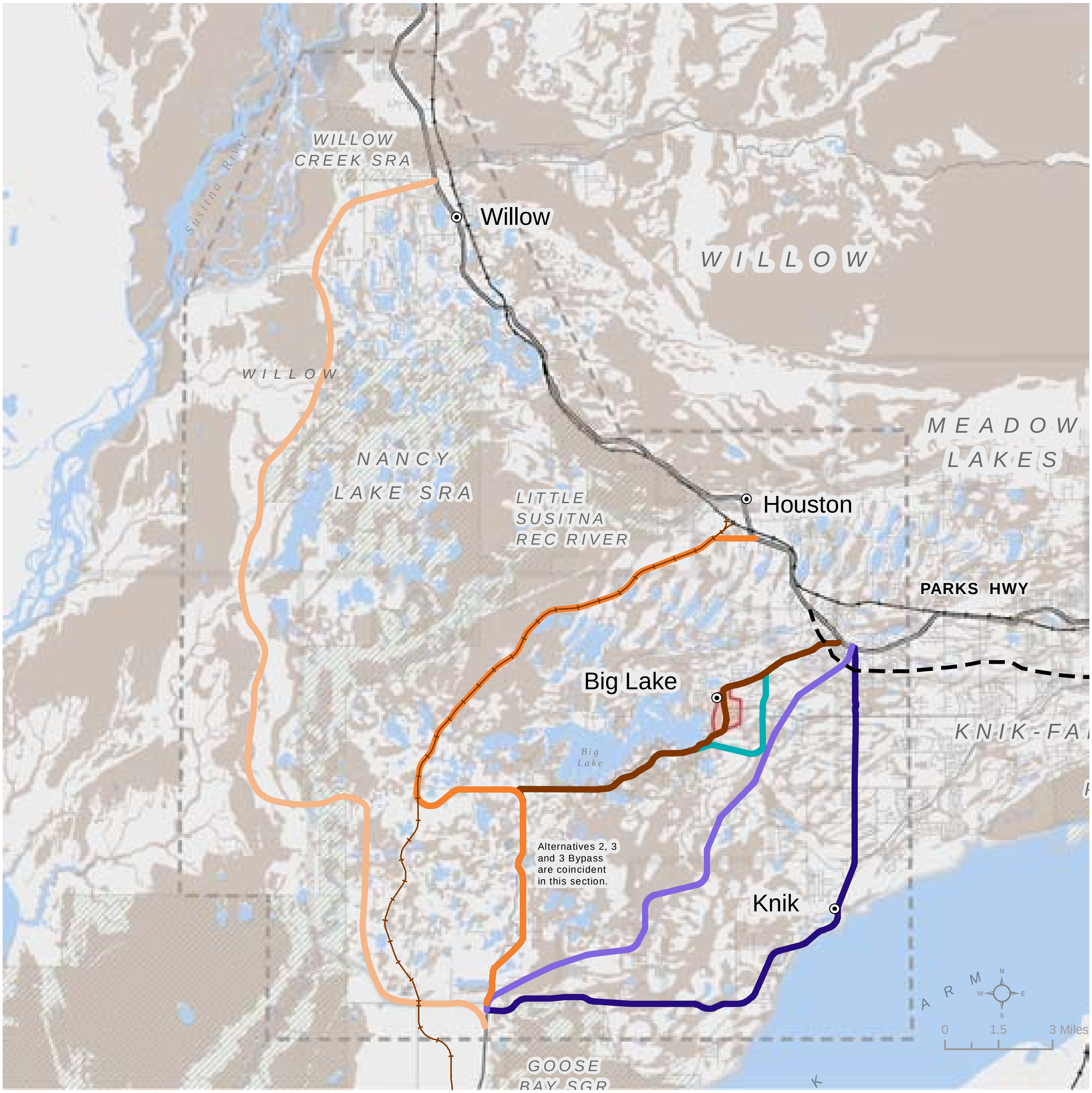
Port MacKenzie Rail Extension

LRTP Wasilla Bypass

Existing and Proposed Wetland Bank

Wetlands, Category 3 and 4

2/4/2013



SOIL CONSTRAINTS

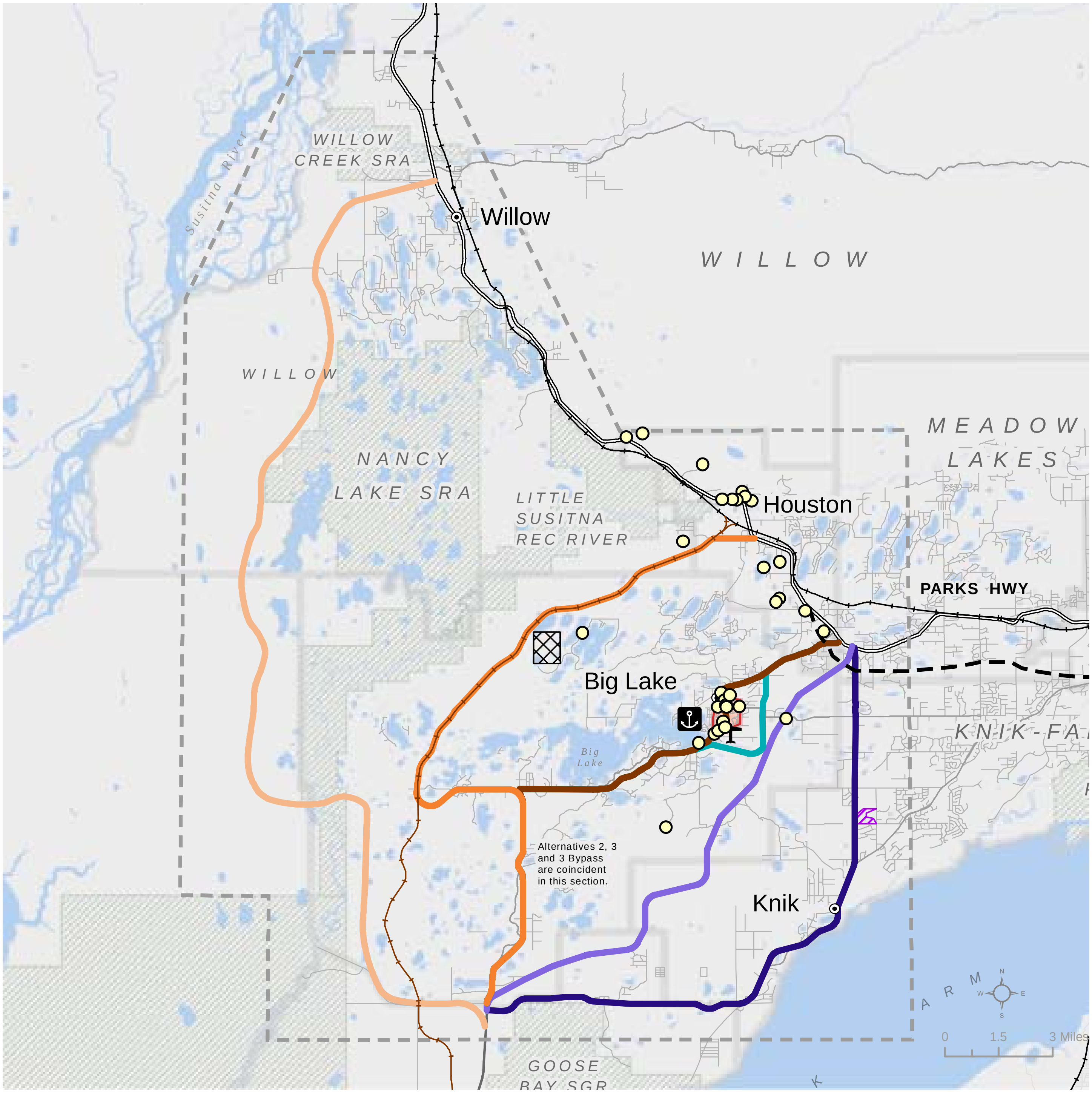
Big Lake Community Impact Assessment

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 3 Bypass
- Alternative 4
- Alternative 5
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

Severely Limiting Soils

- Severely Limiting Soils

2/4/2013



OTHER CONSTRAINTS

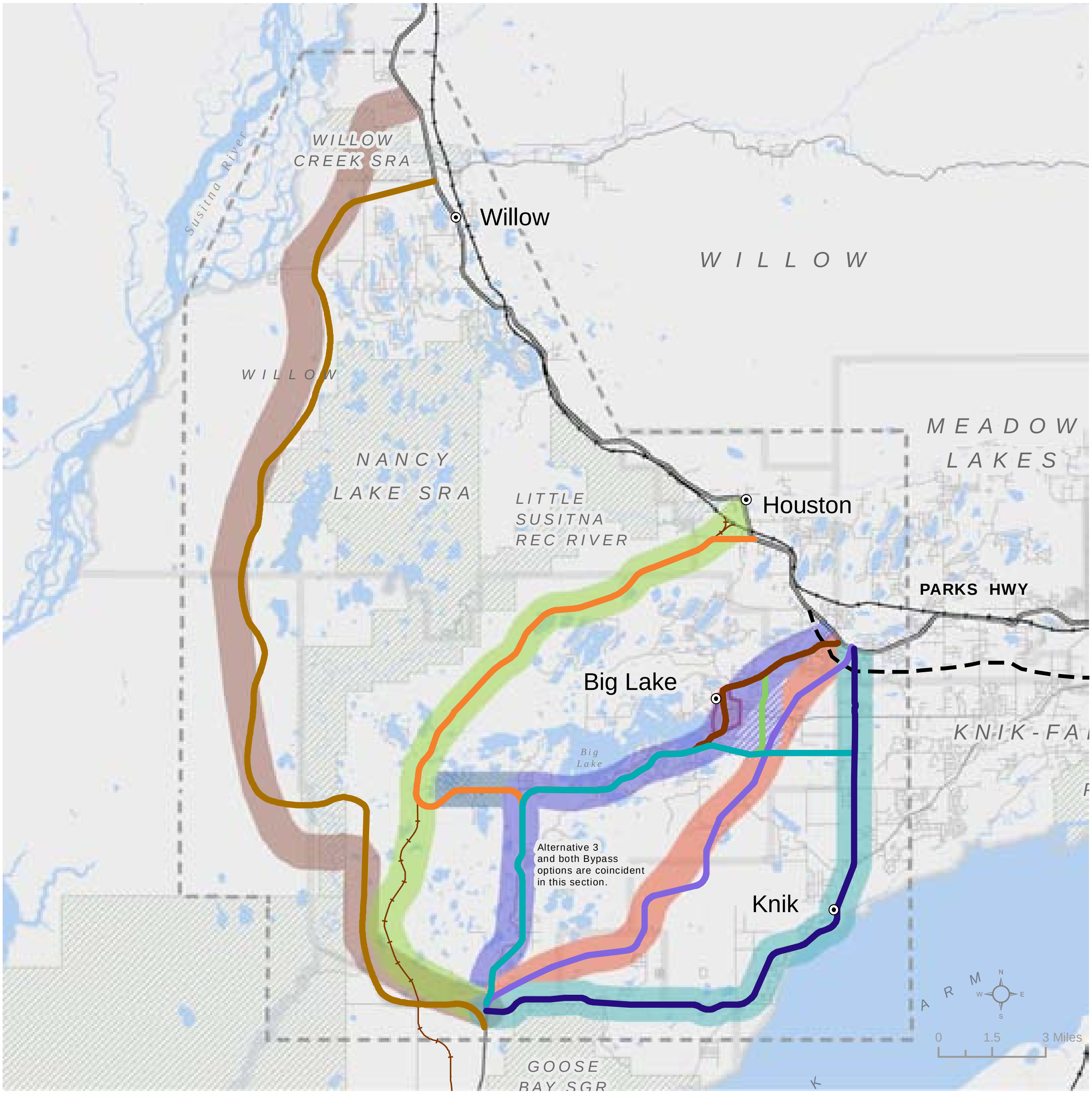
Big Lake Community Impact Assessment

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 3 Bypass
- Alternative 4
- Alternative 5
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass
- Community Facility
- Knik High School Site
- FAA VORTAC Easement

Port MacKenzie Rail

- Stream/Trail
- Road Crossing
- Trail Crossing
- Road/Trail Crossing

2/4/2013

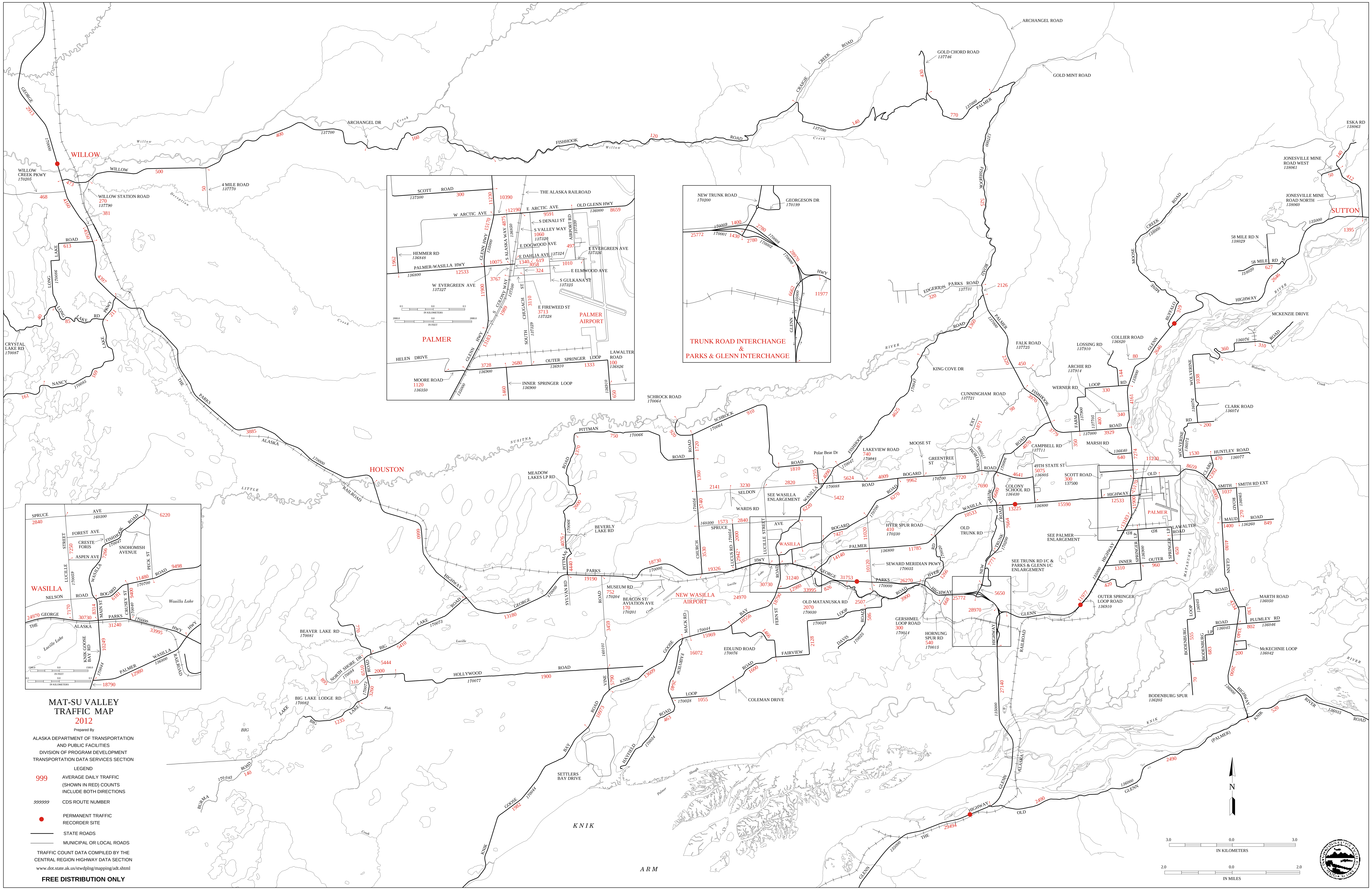


BIG LAKE ALTERNATIVES MAP

Big Lake Community Impact Assessment

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 3 Bypass - Option A
- Alternative 3 Bypass - Option B
- Alternative 4
- Alternative 5
- Big Lake Town Center
- Community Council Boundary
- Park or Refuge
- Existing Rail
- Port MacKenzie Rail Extension
- LRTP Wasilla Bypass

9/5/2013



MAT-SU VALLEY
TRAFFIC MAP
2012
Prepared By
ALASKA DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
DIVISION OF PROGRAM DEVELOPMENT
TRANSPORTATION DATA SERVICES SECTION
LEGEND
999 AVERAGE DAILY TRAFFIC (SHOWN IN RED) COUNTS INCLUDE BOTH DIRECTIONS
999999 CDS ROUTE NUMBER
PERMANENT TRAFFIC RECORDER SITE
STATE ROADS
MUNICIPAL OR LOCAL ROADS
TRAFFIC COUNT DATA COMPILED BY THE
CENTRAL REGION HIGHWAY DATA SECTION
www.dot.state.ak.us/stwdplng/mapping/adt.shtml
FREE DISTRIBUTION ONLY
WILLOW
HOUSTON
WASILLA
PALMER
SUTTON
PALMER AIRPORT
NEW WASILLA AIRPORT
TRUNK ROAD INTERCHANGE
&
PARKS & GLENN INTERCHANGE
SEE WASILLA ENLARGEMENT
SEE PALMER ENLARGEMENT
SEE TRUNK RD I/C & PARKS & GLENN I/C ENLARGEMENT
KNIK ARM
IN KILOMETERS
IN MILES
N

Do You have More To Say?

We'd like to hear it! Please send us your comments. We welcome your comments to us by mail, fax, email or phone. We look forward to hearing from you!

Contact Us

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Visit us on the web:
http://biglakecommunityimpact.org

Big Lake Community Impact Assessment
Transportation Committee Meeting Notes
November 13, 2012

Meeting Participants Attendees

- Bill Heariet
- Cathy Mayfield
- Cindy Bettine
- Darwin Fischer
- Dan Mayfield
- Gary Swearer (chair)
- Gerard Billinger
- Rosa Shilanski
- Scott Rose
- Todd Rinaldi
- Seth Kelley

Agenda

1. Debrief public meeting
2. Review revised corridor map
3. Preliminary discussion of comparative impacts of four corridors
4. Road design characteristics
5. Next steps

Notes + Discussion

NOTE: Items in **red** are recommended responses to Transportation comments, questions and concerns.

Meeting Debrief

- Group reviewed summary section of meeting notes and agreed notes as written generally captured key points of the meeting.

Traffic Projections

- A lot of questions about predicted levels of residential and commercial growth; predicted traffic levels; mix of through vs. local traffic; impact of bridge or no bridge; amount of use of bridge if it is built; impact of port industrial development, etc.
  - *Suggested response*: We need to provide the public information so this issue is not a continuous distraction; a three part strategy.
    1. Share basic traffic and population projections, to give residents a general understanding of the quantity of traffic that may someday travel north south through the community. Example: "What is the build-out potential of Meadow Lakes?" For the Transportation Committee, it may be useful to do a couple of presentations to include:

        - Build out analysis that shows MSB forecasts. These forecasts incorporate potential growth/traffic as result of proposed bridge.
        - Allen Kemplen can do a presentation to on the traffic modeling for the area.
    2. Explain the expected relative split of through vs. local traffic.
        - Allen Kemplen can provide this data.
    3. Explain the need to reserve a corridor/route is not tied to the particular timing of increased traffic demand. The goal is to reserve a route for the likely inevitable future point when the community will be glad a corridor was reserved. This could be in 10 years or in 50.

Incremental Road Improvements

- Transportation Committee wants to better understand the likely phasing of road improvements. For example: Will the road be two-lane first and four-lane later? Will it all be built at once or incrementally over time? Should we be talking about a system of roads, and multiple road routes rather than focusing on this one primary corridor?
    - *Suggested response:* Need to explain, in simple terms, the possible phasing of road improvements, referencing growth and traffic projections mentioned above. Short answer is:
        - Yes, it will be two-lane first. Yes, it will be built in segments. It is too expensive to build at once.
        - The purpose of the project is to carry through traffic. A patched together network would not accomplish that.

Road Purpose

- Committee and public need to understand the road has three purposes:
    - Serve thru traffic (e.g., port-bound trucks).
    - Serve local through traffic (e.g., residents of surrounding communities going to jobs at the port, or perhaps eventually, bridge commuters).
    - Serve destination traffic (people traveling to and from Big Lake).
        - *Suggested response:* We need to explain this point very clearly with the Committee and general public; so the community and the CIA do not neglect east side options.

Revised Map

- Committee Recommendations
    - The revised map is generally acceptable and provides a workable set of Corridors for analysis.
    - The group would like to add a connector creating a hybrid Corridor – up Burma Road, west on Susitna Parkway, thence to Corridor 2.
- Supporting maps – Committee and public need access to maps that clarify factors that led to the corridors, e.g., information on land ownership, soils, and wetland reserves.

- Terminology – Confusion remains regarding what is meant by corridor, and the difference between corridor and route.
  - Suggested response: Add definitions to our maps; make clear a corridor does not mean a bulldozed mile wide swath. It should be clear that this plan is working on "corridors" and IS NOT identifying routes. Routes are very specific and will be identified when design occurs.
- Miscellaneous comments:
  - Project Purpose – Even the people closest to the project – this committee– remain confused about the ultimate purpose of the CIA.
    - *Suggested response:* Keep making clear the CIA will evaluate impacts of corridors, not identify the preferred route. Need to get everyone on board with an at-a-glance version of USDOT, Federal Highway Administration document: "Community Impact Assessment: A Quick Reference for Transportation", http://www.ciatrans.net/CIA_Quick_Reference/CIA_QuickRef.pdf. Pull out key components and share back with community on website.
  - Business community is divided. Some say, "We don't want more traffic, don't want to grow our businesses." Others say, "We're not opposed to more auto traffic; just don't want lots of trucks". Others say, "The right amount of additional traffic could help create the business opportunities that could support development of a town center."
  - Railroad EIS process already looked at all these routes; why do we think this analysis would draw different conclusions (response – different kind of project)?
  - Consider the option of using Corridor 3A – swing around the east side of downtown; then stay to the southeast of Big Lake Highway (instead follow a route closer to Corridor 4).
  - Corridor 4 is not quite as wet as Corridor 2; current recreation use tends to be more dog mushing, skiing vs. snowmachines further west. Overall less recreational use. Residential uses along Corridor 4 tend to be large parcel homesteads.

Impact Assessment Categories + Potential Criteria (?)

- Group talked through evaluation of Corridor 2, as a way of defining the types of evaluation criteria that need to be included in the eventual CIA. Discussion points/evaluation criteria:
  - Environment
    - Very wet terrain. Constructing a road in this area would inevitably impact flow of surface and subsurface water.
    - The rail road corridor "stitched together" a number of small better drained hills. The theory is that the materials from these slightly elevated areas could be used to fill the wet spaces in between. This approach works for a single, narrow RR line but not for a wider road.
  - Recreation
    - Loss of trails is a huge issue; Railroad is willing to providing for some crossings; road would dramatically reduce value of major community and visitor trails
    - Construction of road would greatly increase hunting and trapping pressure, e.g., moose hunters.

- Residential
  - Mixed impacts – many year round and seasonal homes in the Horseshoe Lake and West Lake areas – improved mobility on the one hand, change in character on the other.
  - Better access means more pressure, more development (see community character below).
  - Limited developable land becomes available as a result of this route.
- Land use/commercial
  - Because most of the land adjoining this route is wet, this corridor provides limited opportunities for roadside development, for commercial benefit. That is good or bad depending on your objectives.
  - Improved access from the south (up to Susitna Parkway) provides a measure of improved access to Big Lake town center area.
  - Railroad vs. highway. Lots of questions about the option to place a road next to a railroad: is that permissible? Is the main issue the potential cost of railroad crossings by spurs coming off the north south corridor? Is there a minimal separation distance between road and rail? Would placing the road next to railroad be an advantage, as it would enforce the alleged limited access character of the road; or is it a liability, as the proximity of the rail corridor would inhibit desirable roadside development?
- Access and Mobility
  - This route is midway between Corridor 1 and Corridor 3 and 4: provides some benefits for local commuters, some benefits for through traffic.
  - How much and what type of traffic would this route carry relative to other options?
- Community Facilities and Features
  - Little or no impact on churches, schools, airport, etc. – Corridor 3 is a different story.
- Community Character
  - New development in currently quiet areas, quiet lakes, quiet neighborhoods – Corridor 2 has less impact than 3, likely less than 4.
  - Pressure for build-out of currently vacant areas.
  - "Change in why people chose to live here".
  - Noise, sound, dust, visual impacts.
  - Road creates a barrier.
- Historical Resources
  - Minimal, e.g., not a route of Iditarod.

Road Design and Mitigation Options

- Variation in impact – the same route could have very different impacts depending on how it is developed. Key variables include:
  - Limited access or not; nature of policies designed to ensure a commitment to limited access.

- Width of right of way; number and width of lanes.
- Treatment of trail and stream crossings.
- Traffic speed
- Intersection treatment.
- Connecting secondary roads – options for "feeder traffic".
- Road profile.

Next Steps

- Schedule – the group discussed and supported a project schedule as outlined below:
  December
  - Arrange for meeting with local legislators.

  January
  - Reconnaissance Engineering Study
  - Technical Expert/Agency Meeting

  February
  - Share existing population and traffic projection information

  March
  - Consulting team will prepare draft impact evaluation information; circulate to Transportation for feedback; and refine as necessary (2-3 meetings?).
  - Start community outreach re: spring/early summer meeting.

  April
  - The full set of evaluation information will be compiled and published as Draft CIA + Corridor Reconnaissance Study.
  - Big push for outreach.

  April/May
  - Hold Community Workshop #2.
- Legislative Meeting:
  - Shelly needs to work with Cindy, Community Council and others to pick the right time for this meeting.
  - Meeting should be arranged so host is BLCC, Transportation Committee with A::B assist.
  - To be valuable, this meeting will require upfront data collection, to ensure the facts are available on key subjects, including west side gas line easement; purpose and need for the road; status of past road evaluation projects, answers re road and railroad.
- Technical/Expert Meeting: "We need to know the facts about the decision making process. What is status, significance of previously identified 'DOT preferred routes'?"
  - Need to set up a tight, realistic schedule, so consulting team can get material in front of the advisory committee sufficiently early to provide for meaningful discussion. This will require a very smooth process within the consulting team and borough

BIG LAKE COMMUNITY IMPACT ASSESSMENT

APPENDIX B: INDEX OF OUTREACH MATERIALS

October 15, 2012

Dear [insert name],

We are pleased to announce the kick-off of the Big Lake Community Impact Assessment. The project will investigate the potential impacts, including possible benefits and likely challenges, of road corridors that could connect the Parks Highway with the Port MacKenzie Road/West Aryshire intersection. The goals of this assessment project are to engage the community early in the process, to better understand possible impacts of different highway corridors on the Big Lake community, and to set the stage for informed, sensible decisions in the future. The Mat-Su Borough is sponsoring this project, working with a consulting team that includes HDR Alaska and Agnew::Beck Consulting.

The heart of this project is listening to the community. What are the potential benefits, challenges, opportunities of potential highway corridors? How can a new highway preserve and/or improve the quality of life for Big Lake residents? The consulting team has met with the Big Lake Community Council Transportation Committee and now wants to gather feedback from a group of key stakeholders. This list includes community leaders from the business, education, transportation and other key sectors, as well as leadership from Big Lake's regional and statewide partners. The Transportation Committee has identified you as one of these stakeholders. Our project team would like to talk with you individually, by phone, to:

1. Understand what you see as key opportunities and concerns regarding corridor development process, including potential criteria for route selection;
2. Learn how you would define a successful road project;
3. Identify your views on the most efficient, effective tools for keeping the community and other stakeholders involved.

We would like to set up a time to talk soon. In preparation of our conversation, we have included the following items on page two of this letter:

- **Project Timeline** – The timeline provides an overview of key components of the Community Impact Assessment process and estimated time of completion for each component.
- **Public Participation Opportunities** – In addition to our phone conversation, there will be a number of opportunities for you to participate in the assessment process. Details for how to connect to the project website, contact our project team, and information regarding the October 23rd community meeting are outlined here.
- **Contact Information** – We have included the names, phone and emails for our two main project contacts – Lauren Driscoll, Mat-Su Borough Planner, and Shelly Wade, Public Participation Lead and Senior Planner for Agnew::Beck Consulting.

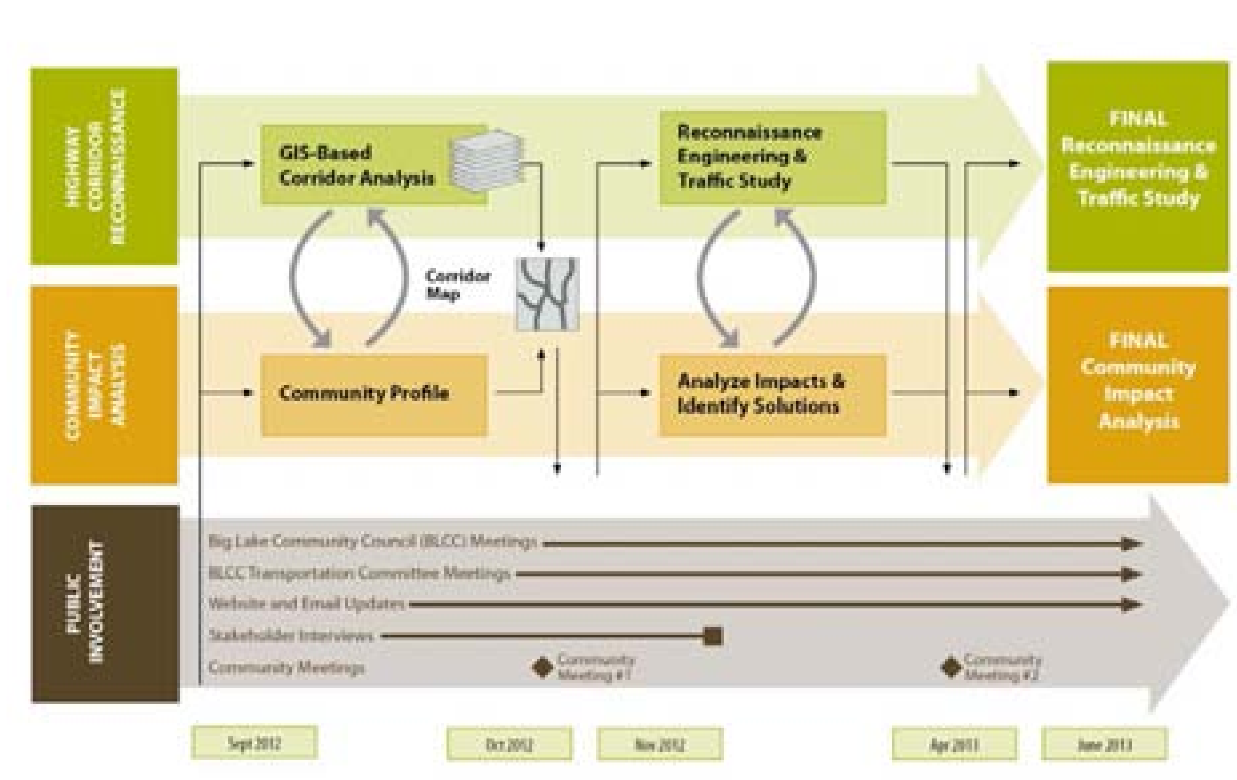
Thank you and we will be in touch soon to set up a time to talk. We are hoping to take approximately 30 minutes of your time.

We look forward to the opportunity to work with you!

Sincerely,

The Big Lake Community Impact Assessment Project Team

Project Timeline:



Public Participation Opportunities

- Visit our **website** – www.biglakecommunityimpact.org
- Attend the **community meeting:** October 23rd 2012, 7-9pm at the Faith Bible Fellowship Church. The purpose of the meeting is to work with the community to:
  - Provide an overview of the purpose of the project;
  - Share and get feedback on a set of preliminary corridor alternatives;
  - Identify and refine an approach for evaluating potential corridors, including possible benefits and challenges of specific corridors;
  - Identifying additional ways of getting Big Lake residents involved and engaged in the assessment process.
- **Get in touch** with us using the contact information listed below.
- Sign up for our **email distribution list** to receive regular project updates.

Contact Information

- Mat-Su Borough Planner – Lauren Driscoll, 907-745-9855, Lauren.Driscoll@matsugov.us
- Public Participation Lead – Shelly Wade, Agnew::Beck Consulting, 907-242-5326, shelly@agnewbeck.com

Big Lake Community Impact Assessment: List of Meetings + Events

September 12, 2012	Big Lake Community Council Meeting
October 16, 2012	Big Lake Community Council Transportation Committee Meeting
October 23, 2012	Big Lake Community Meeting #1
December 17, 2012	Big Lake Chamber Meeting: Project Update
February 5, 2013	Big Lake Community Council Transportation Committee Meeting
February 15-17, 2013	Big Lake Winter Fest
April 1, 2013	Big Lake Chamber Meeting: Project Update
May 23, 2013	Big Lake Community Council Transportation Committee Meeting
August 7, 2013	Mat-Su Transportation Fair
September 19, 2013	Big Lake Community Meeting #2
November 13, 2013	Big Lake Community Council Transportation Committee Meeting

Community BIG LAKE Impact Assessment

www.biglakecommunityimpact.org

Studying the Impacts of Potential Road Corridors from the Parks Highway to the Point MacKenzie Road/West Aryshire Avenue Intersection

COMMUNITY MEETING

7-9 p.m. Tuesday, Oct. 23

at the Faith Bible Fellowship Church

What are the challenges and opportunities of different road corridors?

How can we best make decisions about road corridors in the future?

What's the best way to keep the community involved in creating future transportation routes?

Visit the website – www.biglakecommunityimpact.org
Sign up to receive regular e-mails about project updates.

For more information, please contact:
Mat-Su Borough Planner – Lauren Driscoll,
907-745-9855, Lauren.Driscoll@matsugov.us
Public Participation Lead – Shelly Wade,
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Agnew::Beck Consulting

Sponsored by the Mat-Su Borough. Project team includes HDR Alaska and Agnew::Beck Consulting.

www.**biglakecommunityimpact**.org

Studying the Impacts of Potential Road Corridors from the Parks Highway to the Point MacKenzie Road/West Aryshire Avenue Intersection

JOIN US: COMMUNITY MEETING #2

6-8 p.m. Thursday, Sept. 19

at Faith Bible Fellowship

14225 W Kluane Road, Mile 0.5 Hollywood Road, Big Lake

6:00 - 6:30 p.m. OPEN HOUSE

Your opportunity to review the most recent project information and talk with the project team. We will have maps of the route alternatives and the preliminary Assessment findings. Light refreshments will be provided.

6:30 - 8:00 p.m. COMMUNITY MEETING

Learn what has been accomplished since the first community meeting.
See back side of this flyer for more project information and community engagement to date!

GIVE US YOUR FEEDBACK ON:

- **The proposed alternative routes**
- **Potential impacts of each route**
- **Challenges and opportunities of each route**
- **Next steps: What happens after the Community Impact Assessment is completed?**

Need more information?
Visit the website –
www.biglakecommunityimpact.org

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Project Fact Sheet

Project Scope

A highway connecting Port MacKenzie and the Parks Highway has been under discussion for some time. The need for a trucking connection is growing as the expansion of Port MacKenzie continues. A corridor needs to be reserved to serve projected future population and business growth in the southern Borough. This route would also be well-positioned to handle projected traffic if the proposed Knik Arm Bridge connecting Anchorage and the Mat-Su is built.
The Mat-Su Borough (MSB) is currently studying five alternatives to better understand the costs and benefits of different routes. Building the highway requires environmental clearance, permits and securing funding for construction. The state funding process can take three to seven years, longer if using federal funds. The construction would be phased, with an initial two-lane highway built in segments and later expanded to four lanes.

What is a Community Impact Assessment? ("CIA")

- A formal process to better understand the social and economic impacts of a proposed road project on a community.
- A method to add community knowledge and views into the impact assessment process, such as:
  - Improvements to a neighborhood's mobility and potential adverse impacts to its quality of life.
  - Impacts on existing community facilities and uses, such as schools or churches.
  - Potential to improve local business opportunities, as well as risks of disruption to the character and safety of community commercial centers.
  - Potential environmental impacts and on trails and recreation areas.

Why is Big Lake doing a Community Impact Assessment?

- The community of Big Lake is concerned about the impact of additional traffic and a corridor through downtown Big Lake and surrounding areas.
- The assessment is a way to plan for the future, to provide access that works for Big Lake, and avoid situations like the Parks Highway bottleneck in Wasilla.

The assessment process gets the community into the process early, in order to capture and convey community views before decisions are made.

Community Engagement to Date:

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- Aug 8, 2013 – Big Lake Community Impact Assessment Information Booth at *Mat-Su Borough Transportation Fair*
- **COMING SOON!!!**

Sept 19, 2013 – Community Meeting #2

Proposed Corridors

Map produced for the Mat-Su Borough by HDR Inc

Project Benefits

- Identify a fast, efficient trucking route between Port MacKenzie and destinations north along the Parks Hwy.
- Reserve a corridor to handle commuter vehicle traffic if the Knik Arm Bridge is constructed.
- Plan for future community growth and avoid creating a bottleneck like the Parks Highway in Wasilla.
- Involve communities in the process to minimize community disruption and maximize community benefits.
- Address residents' concerns about effects of a major highway through neighborhoods and community centers.

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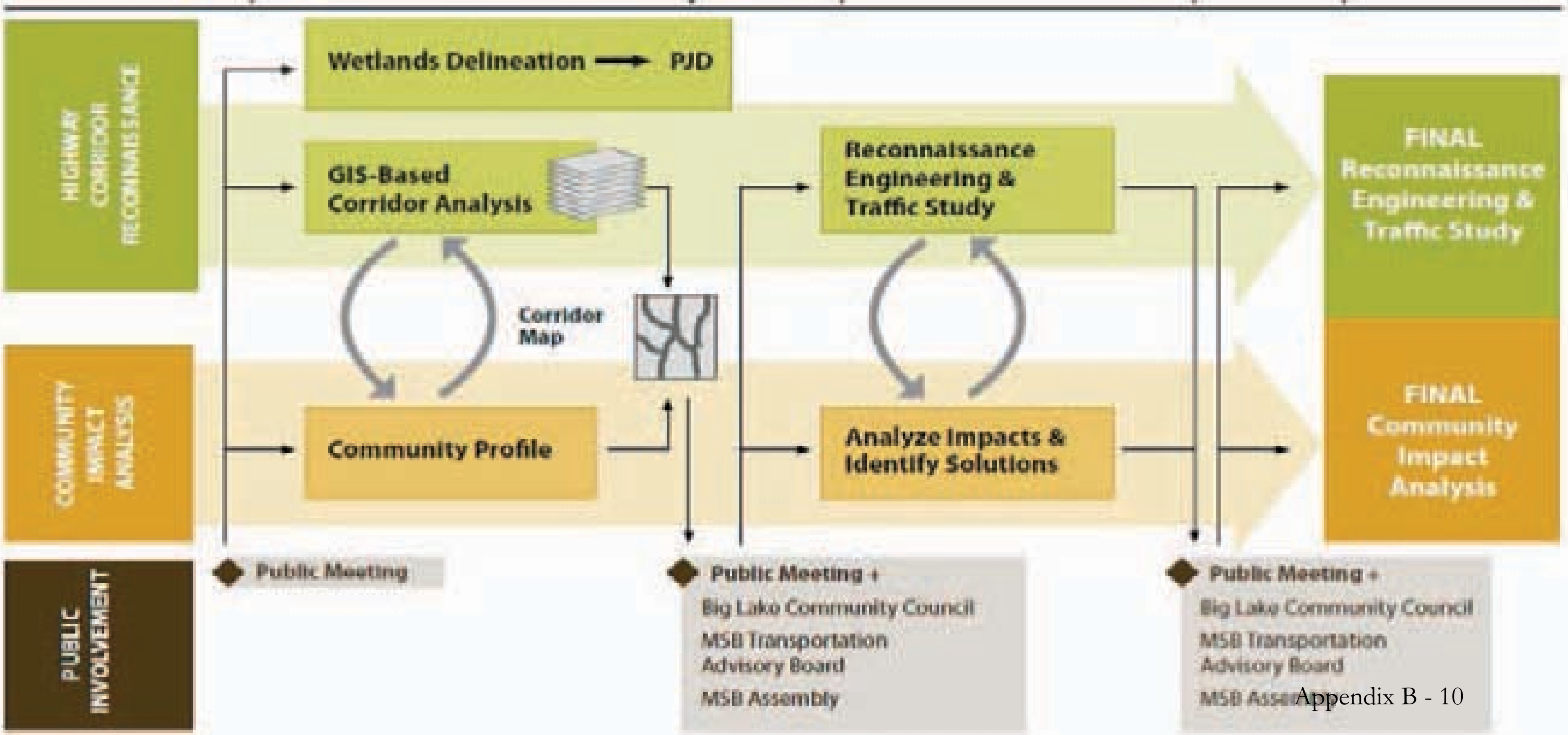
- Address residents' concerns about effects of a major highway through neighborhoods and community centers.

Project Schedule, February to June 2013

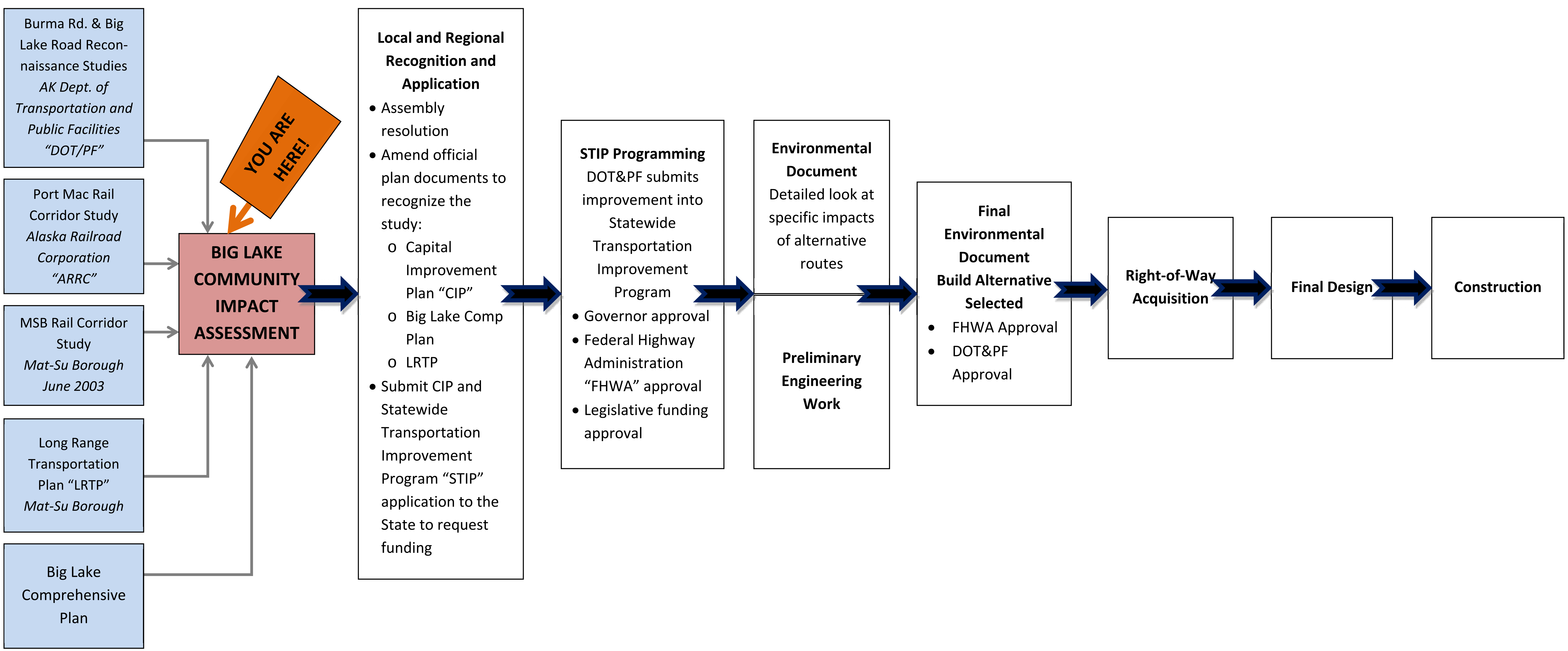
Estimated Timeframe	**Key Activities**
February 2013	▪ Identify highway corridor alignments, road characteristics + conceptual cost estimates. ▪ Confirm existing/projected population + traffic figures. ▪ Refine highway corridor evaluation criteria + start evaluation. ▪ Share preliminary alignments w/ BLCC Transportation Committee.
February - March	▪ Share + present project Fact Sheet to Mat-Su Delegation. ▪ Engineering team conducts highway reconnaissance ▪ Planning team evaluates community impacts.
March - April	▪ Work w/ community to publicize Community Workshop #2. ▪ Meet w/ BLCC Transportation Committee to review initial corridor evaluation and draft impact assessment findings.
May	▪ Complete full *Draft Community Impact Assessment + Highway Corridor Reconnaissance Study*. Review w/ BLCC Transportation Committee, distribute to public. ▪ Hold **Community Workshop #2**. ▪ Revise *Draft Community Impact Assessment + Highway Corridor Reconnaissance Study*.
June 2013	▪ Finalize *Community Impact Assessment + Highway Corridor Reconnaissance Study*.


HIGHWAY CORRIDOR RECONNAISSANCE
COMMUNITY IMPACT ANALYSIS
PUBLIC INVOLVEMENT
Wetlands Delineation → PJD
GIS-Based Corridor Analysis
Corridor Map
Community Profile
Reconnaissance Engineering & Traffic Study
Analyze Impacts & Identify Solutions
FINAL Reconnaissance Engineering & Traffic Study
FINAL Community Impact Analysis
Public Meeting
Public Meeting +
Big Lake Community Council
MSB Transportation Advisory Board
MSB Assembly
Public Meeting +
Big Lake Community Council
MSB Transportation Advisory Board
MSB Assembly

BIG LAKE ROAD CORRIDORS – COMMUNITY IMPACT ASSESSMENT AND CORRIDOR RECONNAISSANCE STUDY

ONE STEP IN THE PROCESS TO SELECT THE RIGHT ROUTE FOR A MAJOR NORTH SOUTH ROADWAY

EARLY STEPS → CORRIDOR IMPACTS → PRE- FUNDING → FUNDING → ENVIRONMENTAL AND PERMITTING → DESIGN AND CONSTRUCTION PROCESS



Do You have More To Say?

We'd like to hear it! Please send us your comments. We welcome your comments to us by mail, fax, email or phone. We look forward to hearing from you!

Contact Us

Lauren Driscoll
Matanuska-Susitna Borough
Phone 907-745-9855
E-mail lauren.driscoll@matsugov.us

Shelly Wade
Agnew::Beck Consulting
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441 West 5th Avenue, Suite 202
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Fax 907-222-5426
E-mail shelly@agnewbeck.com

Visit us on the web:
http://biglakecommunityimpact.org

Big Lake CIA + Corridor Reconnaissance Study
Proposed FAQs + Responses
For Team Review
January 4, 2013

Frequently Asked Questions (answers would be "hidden" behind question w/link)

1. What is a Community Impact Assessment?

- A process to evaluate effects of a transportation action (such as a road corridor) on a community and its quality of life.
- A recommended part of road project planning, that:
    - Shapes outcomes of the project.
    - Documents current and anticipated social environment of a geographic area – with and without the road corridor.
    - Looks at mobility, safety, employment, relocation, isolation, and other important community issues.

2. Why is Big Lake doing a Community Impact Assessment?

- A CIA gives the people of Big Lake a voice in the road corridor development decision making process.
- The study provides the community of Big Lake a chance to ensure human values and concerns receive proper attention during project development.
- Provides community input early in the process to guide decisions before funding is suddenly available.
- As a way to plan for the future, to provide access that works for Big Lake, and avoids the Wasilla-like bottleneck.
- The community of Big Lake is concerned about the impact of additional traffic and a corridor through the downtown core and surrounding areas.

3. What is the Highway Corridor Reconnaissance Study?

- An engineering analysis to determine what routes may be used to move traffic from Port MacKenzie to the Parks Highway through the Big Lake area.
- Reconnaissance engineering considers terrain, physical constraints, and engineering criteria to evaluate potential alignments.

4. What is the purpose and need for the Highway Corridor Reconnaissance Study?

The purpose of the corridor reconnaissance study is to:

- Determine what routes may be used to move Port MacKenzie to Parks Highway traffic through the Big Lake area.
- Improve the mobility of people and goods between Port MacKenzie area and the Parks Highway.
- Improve safety for motorized and non-motorized traffic.
- Accommodate projected traffic growth related to the Knik Arm Bridge, Port MacKenzie and the Point MacKenzie area.
- Analyze the potential corridor connection points at the Parks Highway and possible impacts on the community of Houston.

The need for the corridor reconnaissance study is:

- Automobile and truck traffic in the corridor is projected to increase due to new development, including the Goose Creek Correctional Center, Port MacKenzie, the Knik Arm Bridge and increasing residential and recreational use in the area.

- The existing road networks are not adequate to carry increased volumes of traffic through the Big Lake area.
- The Point MacKenzie to Parks Highway corridor is expected to be the primary connection for freight moving north out of Port MacKenzie and freight from the interior moving south to the Port. The corridor will also carry a residential and commercial traffic between the Parks Highway and the Knik Arm Bridge.

4. What is the difference between a "corridor" and "route"?

- The project team started the study by identifying several broad (one-mile wide) corridors for more detailed evaluation. Within those broad corridors engineers will be delineating routing alignments based on roadway engineering criteria and terrain.

5. What is the timing for this project and route selection?

- The study started in the fall of 2012 and is scheduled to be completed by June 2013. If the project moves forward, it will require environmental clearance and permits, more detailed engineering design, and right-of-way acquisition before construction would begin. The timing for these activities is dependent on additional funding and decisions by local, state, and federal agencies. This process can take between three and seven years when using state funds, but can also take much longer if federal funding or permits are involved. The following graphic shows the different steps in the corridor identification and route selection process. **(insert item #9 – road corridor process into the body of the answer to this question)**

6. Will this project be phased? What incremental road improvements can we expect?

- Due to the large overall cost, it is likely that this road project will be phased in over time.
- A likely phasing scenario would be to first develop a two-lane, two-way highway in segments. Over time, as demand grows, the road would be upgraded to a 4-lane divided highway (2 lanes in each direction), also in segments that address the areas of higher traffic volumes first.
- The intent of the study is to identify and start reserving a corridor now, which will serve as the connecting highway corridor well into the future.

7. Is this project taking into consideration projected growth in the Mat-Su Borough?

- Yes, this project is in response to growth associated with Port MacKenzie, the Port MacKenzie industrial area, Goose Creek Correctional Facility, and the Knik Arm Crossing. In addition, the project will accommodate residential and community growth and is being coordinated with Mat-Su's build-out analysis and travel growth projected by ADOT&PF and KABATA.

8. How is the Big Lake CIA and Highway Corridor Reconnaissance Study funded?

- The study is State funded. Grant funding for the study came through a legislative request from the Mat-Su Borough and Big Lake leadership.

9. Which corridors are being evaluated?

- A total of 5 broad (1-mile wide) corridors are being evaluated. A preliminary map that shows 4 of the 5 corridors is available. **(insert revised corridor map when we get it from John – the version he sent us that is on the share is distorted).**

10. How were the corridors developed?

- The study team compiled and reviewed transportation routes examined by the Alaska Railroad, DOT&PF, and the MSB. Environmental constraints such as parks and refuge lands, lakes, wetlands and opportunities such as public ownership were mapped and used to narrow down the possible corridors from the original "spaghetti" corridor map. Community representatives and the study team chose three corridors to gather more detailed information on. Public input on the corridors has resulted in 2 additional study corridors being added. The corridors were selected to provide for a range of possible engineering alignments to be studied.

11. What evaluation criteria will be used to assess the potential impact of proposed corridors?

Preliminary Corridor Evaluation Criteria (see [Community Impact Assessment: A Quick Reference for Transportation]() *for specific criteria)*

Broadly defined, the criteria include:

- Minimizing adverse impacts such as:
    - Disruption of community uses – residential neighborhoods, commercial areas, parks and trails, public facilities, and public gathering places.
    - Environmental impacts on wetlands, water quality, and habitat.
    - Construction costs.
- Maximize positive benefits such as:
    - Reserve a safe, convenient corridor for carrying through traffic.
    - Provide a safe, convenient circulation to and within the community.
    - Provide the right level of access to/through downtown – support goals of the comprehensive plan.

12. Will this project recommend a route for the highway corridor?

- No. The intent of the study is to identify and evaluate potential routing options. The decision on which route will be developed (if any) will be made through subsequent planning and environmental processes (e.g. the MSB Long Range Transportation Plan or an environmental process such as an Environmental Assessment or Environmental Impact Statement).

13. Is this project connected to the South Big Lake Road Realignment Project?

- No. The MSB is moving forward with a project to realign South Big Lake Road, a two-lane collector road between Jade Lake and Susitna Parkway. This project is only peripherally connected to the South Big Lake Road Realignment Project in that one of the Port MacKenzie to Parks Highway routes previously studied by DOT&PF followed an alignment along South Big Lake Road.

14. How is the Community Impact Assessment project connected to the Knik Arm Bridge and Toll Authority and Port MacKenzie Rail Extension projects? How are those projects being considered?

- The Knik Arm Crossing bridge access will be connected to the Point MacKenzie Road within the Port District. The Point MacKenzie Road will then carry bridge traffic north to the intersection with Burma and Ayrshire roads. The CIA is studying what route will carry the traffic from this point to the Parks Highway. When traffic volumes reach a certain level KABATA is planning for Point MacKenzie Road to be upgraded to a 4-lane divided highway. One of the routes studied in the CIA will continue that highway north, connecting the Knik Arm Crossing/Anchorage to the Parks creating a continuous National Highway System route.

- The project is complimentary with the Port MacKenzie Rail Extension, in that highway and rail connectivity are both needed to support and foster Port MacKenzie's growth and development.
- The project team is assuming that both the Knik Arm Crossing and Port MacKenzie Rail Extension projects will move forward and are thus considering them to be part of the base conditions in the study.

15. How do I share my comments, questions and concerns?

- Call or email us:
    - Lauren Driscoll, Matanuska-Susitna Borough, 907-745-9855, Lauren.Driscoll@matsugov.us
    - Shelly Wade, Agnew::Beck Consulting, 907-242-5326, shelly@agnewbeck.com
- Fill out a comment sheet **(insert comment form hyperlink)**. Email, mail or fax it to us:
    - Email: shelly@agnewbeck.com
    - Mail: 441 West 5th Avenue, Ste. 202, Anchorage, AK 99501
    - Fax: 907.222.5426

Big Lake CIA + Corridor Reconnaissance Study
Proposed Website Updates
December 23, 2012

Upcoming Meetings + Events

- Big Lake Community Council Transportation Committee – Tuesday, January 8th, 2013
- Visit us at the Big Lake Winterfest, February 2013! (details to follow)

Past Meeting Minutes + Relevant Materials

- November 13th, 2012 BLCC Transportation Committee Meeting Minutes **(on share)**
- December 11th, 2012, BLCC Transportation Committee
    - Lauren's presentation on MSB Build-out Analysis (need to get from Lauren)
    - Transportation Travel Demand Modeling 101 Overview (attached, item #1)
    - 2010 Traffic Models for Mat-Su Borough
        - Houston Base (attached, item #2)
        - Goose Bay (attached, item #3)
        - Point MacKenzie (attached, item #4)
        - Susitna Base (attached, item #5)

Maps

- Big Lake Community Impact Assessment + Corridor Reconnaissance Study Vicinity Map + Study Area (attached, item #6)
- Big Lake Corridor Map, December 2012 (attached, item #7)

Links to Useful Background Documents a+ Websites

- Big Lake Community Council
- Community Impact Assessment: A Quick Reference for Transportation
- Knik Arm Bridge Toll Authority
- Port MacKenzie Rail Extension
- Matanuska-Susitna Borough Density + Build-out Study

Frequently Asked Questions (answers would be "hidden" behind question w/link)

1. What is a Community Impact Assessment?

- Process to evaluate effects of a transportation action – on community, quality of life.
- Integral part of road project planning, development:
    - Shapes outcomes of project.
    - Documents current, anticipated social environment of a geographic area – with and without action.
    - Looks at mobility, safety, employment, relocation, isolation, and other important community issues.

2. Why is Big Lake doing a Community Impact Assessment?

- Gives people of Big Lake a strong voice in road decision making process.
- Without this study, Big Lake has less influence over road decisions.
- Need to be ready early; guide decisions before funding is suddenly available.
- A way to plan for the future, provide access that works for Big Lake, avoids Wasilla bottleneck.

3. What is a Highway Corridor Reconnaissance Study?

- Determine what routes may be used to move Port MacKenzie to Parks Highway traffic through the Big Lake area.
- Improve the mobility of people and goods between Port MacKenzie area and the Parks Highway.
- Improve safety for motorized and non-motorized traffic.
- Accommodate projected traffic growth related to the Knik Arm Bridge, Port MacKenzie and the Point MacKenzie area.
- Assess options for reaching the four goals above, while maximizing road benefits and minimizing road-related adverse impacts in the Big Lake area.

4. **Why do we need a Corridor Reconnaissance Study?**
   - Automobile and truck traffic in the corridor will likely increase due to new development, including the Goose Creek Correctional Center, Port MacKenzie, the Knik Arm Bridge, as well as increasing residential and recreational uses in the area.
   - Existing road networks cannot carry increased volumes of traffic through the Big Lake area.
   - The Point MacKenzie to Parks Highway corridor is expected to be the primary connections for traffic between Port MacKenzie and the Parks Highway.
   - The community of Big Lake is concerned about the impact of this traffic and corridor through the downtown core area and surrounding areas.

5. **What is the timing for this project? (on share)**

6. **What is the difference between a "corridor" and "route"?**

7. **What is the purpose of the proposed road corridor?** (prelim answers from 11-13 Trans Comm notes)
   - Serve thru traffic (e.g. port-bound trucks).
   - Serve local thru traffic (e.g. residents of surrounding communities going to jobs at the port, or perhaps eventually, bridge commuters).
   - Serve destination traffic (people traveling to and from Big Lake).

8. **Will this project be phased out? What incremental road improvements can we expect?** (prelim answers from 11-13 Trans Comm notes – Brad's comments, and some of A::B's)
   - Yes, it will be a two-lane road first. It will be built in segments. It is too expensive to build at once. The purpose of the project is to carry through traffic. A patched together network would not accomplish that.
   - We need to reserve a corridor now that is not tied to particular timing of increased through traffic demand. The goal is to reserve a route for the likely inevitable future point when the community will be glad a corridor was reserved. This could be in 10 years or in 50.

9. **Is this project taking into consideration projected growth in the Mat-Su Borough?**

10. **How was the Big Lake CIA and Highway Corridor Reconnaissance Study funded?** (see attached, item #8, legislative request/approval; need more details re: relationship to DOT)

11. **Which corridors are being evaluated?** (provide link to map above)

12. **How were the corridors developed?**

13. What evaluation criteria will be used to assess the potential impact of proposed corridors?

Preliminary Corridor Evaluation Criteria (see Community Impact Assessment: A Quick Reference for Transportation *for specific criteria):*

- Minimize adverse impacts such as:
    - Disruption of community uses – residential neighborhoods, commercial areas, parks and trails, public facilities and public gathering places.
    - Environmental impacts on wetlands, water quality and habitat.
    - Construction costs.
- Maximize positive benefits such as:
    - Reserve a safe, convenient corridor for carrying through traffic.
    - Provide a safe, convenient circulation to and within the community.
    - Provide the right level of access to/through downtown – support goals of the comprehensive plan.

14. Will this project recommend a route for the highway corridor?

- No. The Community Impact Assessment will evaluate impacts of corridors, not identify the preferred route. Identifying the preferred route is part of a longer process…INSERT a brief explanation **PLUS our graphic, see attached, item #9,** that shows longer process, including CIA ("you are here").

15. Is this project connected to the South Big Lake Road Alignment Project?

16. How is this project connected to the Knik Arm Bridge Toll Authority and Port MacKenzie Rail Extension projects? How are those projects being considered?

17. How do I share my comments, questions and concerns?

- Call or email us:
    - Lauren Driscoll, Matanuska-Susitna Borough, 907-745-9855, Lauren.Driscoll@matsugov.us
    - Shelly Wade, Agnew::Beck Consulting, 907-242-5326, shelly@agnewbeck.com
- Fill out a comment sheet (insert hyperlink). Email, mail or fax it to us:
    - Email: shelly@agnewbeck.com
    - Mail: 441 West 5th Avenue, Ste. 202, Anchorage, AK 99501
    - Fax: 907.222.5426

Molly Mylius

From:	Shelly Wade
Sent:	Tuesday, October 23, 2012 3:55 PM
To:	Shelly Wade
Cc:	Lauren Driscoll; Brad Sworts; Mike Campfield (Mike.Campfield@matsugov.us); McPherson, John (John.McPherson@hdrinc.com); Laurie Cummings; OBrien, Murph (Murph.Obrien@hdrinc.com); Shanna Zuspan; Anna Brawley
Subject:	Big Lake Community Impact Assessment + Corridor Reconnaissance Study - MEETING TONIGHT!
Attachments:	Big Lakeflyer1.pdf
Importance:	High

Tuesday, October 23, 2012

Dear Big Lake Community Member + Community Partner –
You are receiving this email for one or more of the following reasons:

1. You are a Big Lake community member.
2. You are a Big Lake property owner.
3. You are Big Lake business owner.
4. You represent the community of Big Lake as a local, regional and/or state policy maker.
5. You represent a regional, federal, state agency/entity that has/is working with the community of Big Lake on past or current community projects.
6. You were part of the Big Lake Comprehensive Plan process.
7. You are currently engaged in the Big Lake Water Quality Improvement Project.

In some way, we have identified you as someone that has a vested interested in the future of Big Lake. As such, we invite you to participate in the FIRST of TWO community meetings **TONIGHT** (please see attached flyer) on the **Big Lake Community Impacts Assessment + Corridor Reconnaissance Study** project. This email contains key information on the following: 1) meeting date, location and purpose; 2) project goals; 3) project process and timeline; 4) a list of ways for you to get involved in the process; 5) and finally, contact information for our project staff, including Lauren Driscoll with the Mat-Su Borough, and me, Shelly Wade, with Agnew::Beck Consulting.

We hope you can attend this evening's meeting. If not, we will be sure to share meeting results on the project website at www.biglakecommunityimpact.org. Additionally, we will continue to send as needed email updates through this email distribution list. If you ARE NOT interested in receiving email updates (approximately one or two emails per month), just let me know and I will remove you from our list.

We look forward to working with you and welcome any comments, questions or concerns.

Sincerely,
Shelly Wade, as part of the Big Lake Community Impact Assessment Project Team
shelly@agnewbeck.com

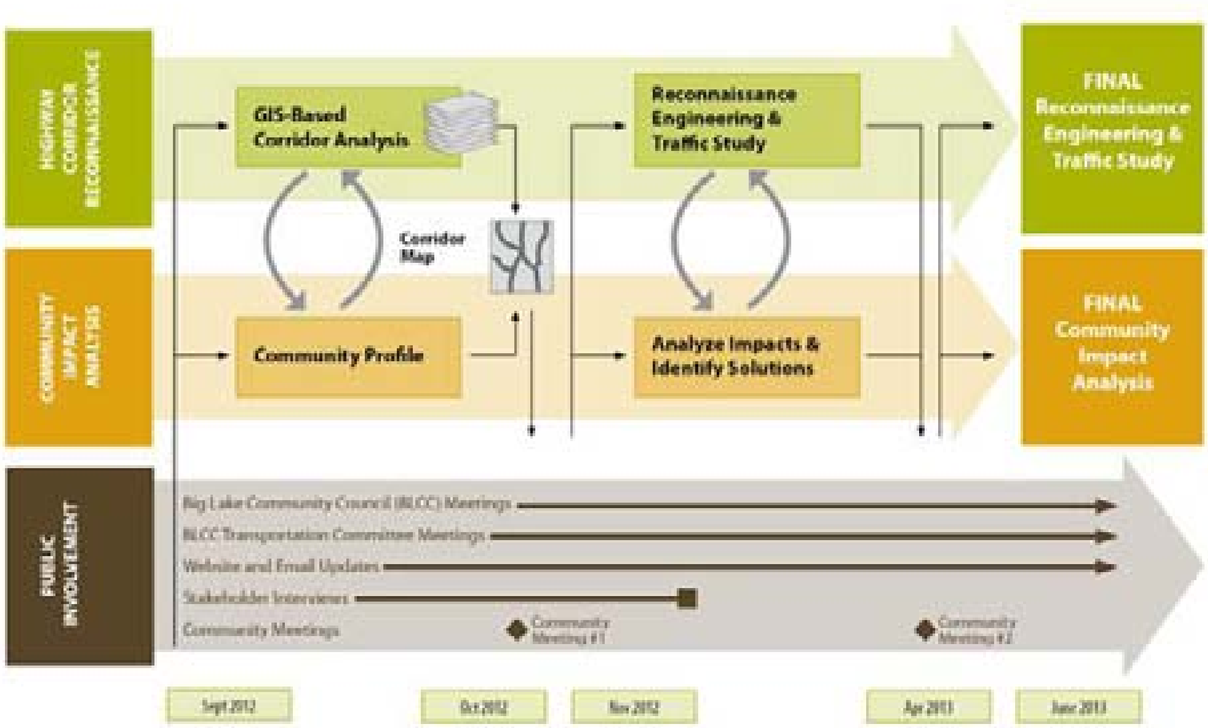
1. Meeting Date, Location + Purpose (FLYER ATTACHED)

- When: TONIGHT, Tuesday, October, 23, 2012, 7:00 PM – 9:00 PM
- Where: Faith Bible Fellowship Center, 14225 Kluane Drive (off of Hollywood Blvd) Big Lake, AK 99654
- Purpose: For community members and community partners to better understand:
  - Goals, value of Community Impact Assessment.
  - Scale, purpose of a new north-south road.
  - Assessment schedule, opportunities for public participation.
  - Route selection process, how Assessment fits in.
  - Highway corridor issues and options:
    - Past and current proposed highway routes ("spaghetti map")
    - Proposed short list of highway corridors; process used to identify these corridors.
    - Potential pros and cons of road corridors.
  - Next steps in assessment process.

2. Project Goals – What Is + Why Do a Community Impact Assessment?

- What is a Community Impact Assessment?
  - Process to evaluate effects of a transportation action – on community, quality of life.
  - Integral part of road project planning, development:
    - Shapes outcome of a project.
    - Documents current, anticipated social environment of a geographic area – with + without the action.
  - Looks at mobility, safety, employment, relocation, isolation, and other important community issues.
- Why is Big Lake doing a Community Impact Assessment?
  - Gives people of Big Lake a strong voice in road decision making process.
  - Without this study, Big Lake has less influence over road decisions.
  - Need to be ready early; guide decisions before funding is suddenly available.
  - A way to plan for the future, provide access that works for Big Lake, avoids Wasilla bottleneck.

3. Project Process + Timeline



4. Public Participation Opportunities

- Visit our **website** – www.biglakecommunityimpact.org
- **Get in touch** with us using the contact information listed below.
- Sign up for our **email distribution list** to receive regular project updates.

5. Project Contact Information

- Mat-Su Borough Planner – Lauren Driscoll, 907-745-9855, Lauren.Driscoll@matsugov.us
- Public Participation Lead – Shelly Wade, Agnew::Beck Consulting, 907-242-5326, shelly@agnewbeck.com

Molly Mylius

From:	Shelly Wade
Sent:	Monday, November 05, 2012 9:03 AM
To:	Shelly Wade
Cc:	Lauren Driscoll; Brad Sworts; Mike Campfield (Mike.Campfield@matsugov.us); McPherson, John (John.McPherson@hdrinc.com); Laurie Cummings; OBrien, Murph (Murph.Obrien@hdrinc.com); Shanna Zuspan; Anna Brawley
Subject:	11-5-2012, Big Lake Community Impact Assessment + Corridor Reconnaissance Study, EMAIL Update
Follow Up Flag:	Follow up
Flag Status:	Flagged

November 5, 2012

Dear Big Lake Community Member + Community Partner –

Thank you all for a very successful first community meeting on the *Big Lake Community Impact Assessment + Corridor Reconnaissance Study* project. There were an estimated 100 people at the Tuesday October 23rd meeting. Meeting participants representing local businesses, schools, trail users, neighboring communities, and a number of other stakeholders from the region and state, participated in a productive discussion about the purpose of and preliminary findings on the corridor project. Many thanks to everyone that helped get the word out. We look forward to working with you all of you to ensure that same high level of participation throughout the project.

Since the October 23rd meeting, we have received a number of requests from community members and others that would like more information, including copies of the presentation and maps presented on the 23rd. Thank you very much for your inquiries and interest in the project. Our project team has prepared a set of preliminary meeting notes that are currently under Mat-Su Borough review. The notes provide a meeting overview, including a summary of presentations from our project team, and most importantly, YOUR thoughts, concerns, recommendations on the preliminary set of corridors. Over the next week, we aim to share the notes, a set of preliminary maps and other useful information, via this email distribution list and the project website: www.biglakecommunityimpact.org. Our team wants to ensure you are receiving the most accurate and up-to-date information. We greatly appreciate your patience and support in helping us achieve that goal.

While you are waiting to receive more information from us, please feel free to call or email with any specific questions you may have about the project purpose or process, or what was presented or discussed on the 23rd. Don't hesitate to let us know what is on your mind. My email is shelly@agnewbeck.com. My direct number is 907-242-5326. We welcome any and all feedback. For those of you that have emailed recently, I will be in touch with you this week. You can also email and/or call Mat-Su Borough Planner, Lauren Driscoll, Lauren.Driscoll@matsugov.us, 907-745-9855. Between the two of us, we will try to answer your question and/or connect you to the right resource. And, please keep in mind, we are at THE BEGINNING OF THE PROCESS. No decisions have been made and there will be a number of opportunities throughout the process for you to provide feedback. YOUR input is critical to the success of this project.

Thank you again for your commitment to Big Lake, for your participation in the first meeting, and for your continued participation in this process. As previously mentioned, we will continue to send as needed email updates through this email distribution list. If you ARE NOT interested in receiving email updates (approximately one or two emails per month), just let me know and I will remove you from our list.

Sincerely,
Shelly Wade, as part of the Big Lake Community Impact Assessment + Corridor Reconnaissance Study Project Team
shelly@agnewbeck.com
907-242-5326

Shelly Wade, AICP
Senior Planner

441 West Fifth Avenue, Suite 202
Anchorage, Alaska 99501
t 907.222.5424
c 907.242.5326
f 907.222.5426
w www.agnewbeck.com

Molly Mylius

From:	Shelly Wade
Sent:	Monday, January 21, 2013 12:13 PM
To:	Shelly Wade
Cc:	Lauren Driscoll; Brad Sworts; Mike Campfield (Mike.Campfield@matsugov.us); McPherson, John (John.McPherson@hdrinc.com); Laurie Cummings; OBrien, Murph (Murph.Obrien@hdrinc.com); Shanna Zuspan; Anna Brawley
Subject:	1-21-2013, Big Lake Community Impact Assessment + Corridor Reconnaissance Study, EMAIL Update
Attachments:	BigLakeCIA_CorridorMap_Rev_Jan_13.pdf; BigLakeCIA_Comment_Sheet_Rev1-21-13.doc

January 21, 2013

Dear Big Lake Community Member + Community Partner –

Happy New Year to you all! We hope that you and yours had a good holiday season. Since our last email update on November 5th, we have been working on several components of the *Community Impact Assessment + Corridor Reconnaissance Study*. Outlined below is a brief summary of what we have been working on:

1. Convened Big Lake Community Council Transportation Committee – The Transportation Committee has met twice with the project team. The purpose of both meetings was to better understand community concerns and questions regarding the assessment process and to share and get feedback on existing and emerging data on the preliminary corridors.
2. Continued to Interview + Meet with Key Stakeholders – Our team has been meeting one-on-one and in small groups with various stakeholders from the Big Lake community and other partners to learn more about potential issues and opportunities associated with the preliminary corridors and the overall assessment process. A short list of folks we have talked to includes: Big Lake Chamber of Commerce and local business owners, Big Lake Road Service Area Board, Big Lake Elementary School, Mat-Su Borough Port Commission, Alaska Department of Transportation, Alaska Mental Health Trust Authority, Alaska Railroad, and the Knik Arm Bridge Toll Authority.
3. Revised Corridor Map (attached and on the project website) – Per the recommendation of the Big Lake Community Council Transportation Committee, the corridor map has been revised to incorporate a modification to Corridor 3, "Corridor 3 West". Additionally, a whole new corridor, "Corridor 5", has been added to the map and will be included in the evaluation process.
4. Initiated Reconnaissance Engineering Analysis – This work includes initial analysis of the proposed corridors to determine potential road alignments and road characteristics.
5. Updated Project Website, www.biglakecommunityimpact.org – The updated website now includes:
   a. Project Team Contact Information
   b. Downloadable Comment Form (also attached)
   c. Upcoming Meetings + Events
   d. Past Meeting Notes + Relevant Materials
   e. Maps

f. Links to Background Information + Other Useful Resources
g. Frequently Asked Questions
h. Contractor Team

In addition to the key activities listed above, we are also working on a project fact sheet and will continue to meet with the Big Lake Transportation Committee and share project updates via email and on the project website. We will also continue to meet with key stakeholders, including local leaders, to get a better understanding of issues, challenges and opportunities presented by the different study corridors. Outlined below is a preliminary project schedule for the remainder of the assessment project, that includes an estimated timeframe for remaining project activities.

PRELMINARY Big Lake Community Impact Assessment + Highway Corridor Reconnaissance Project Schedule

Estimated Timeframe	Key Activities
Jan – Feb 2013	• Identify highway alignments within each corridor, road characteristics and conceptual cost estimates. • Confirm existing and projected population and traffic figures. • Refine highway corridor evaluation criteria and start evaluation. • Share preliminary alignments with BLCC Transportation Committee.
Feb – March 2013	• Conduct an information sharing and Q + A session with Mat-Su Legislative Delegation. • Engineering team conducts highway reconnaissance engineering. • Planning team evaluates impacts.
March – April 2013	• Work with community to publicize Community Workshop #2. • Meet with the BLCC Transportation Committee to review initial corridor evaluation findings.
May 2013	• Prepare and present *Draft Community Impact Assessment + Highway Corridor Reconnaissance Study*; review with the Transportation Committee. • Hold Community Workshop #2. • Based on community and partner feedback, revise the *Draft Community Impact Assessment + Highway Corridor Reconnaissance Study*.
June 2013	• Finalize the *Community Impact Assessment + Highway Corridor Reconnaissance Study.*

As always, we welcome any feedback you have. We greatly encourage you to email or call with any comments, questions or concerns you have about the updates above and/or any part of the project. Your input and active participation in this process is critical to the success of this project.

Thank you for your time and commitment to Big Lake.

Sincerely,
Shelly Wade, as part of the *Big Lake Community Impact Assessment + Highway Corridor Reconnaissance Study* Project Team
shelly@agnewbeck.com
907-242-5326 (cell)

Shelly Wade, AICP
Senior Planner
907.222.5424 office
www.agnewbeck.com
Engage, Plan, Implement. Agnew::Beck

Molly Mylius

From:	Shelly Wade
Sent:	Thursday, September 19, 2013 12:36 PM
To:	Shelly Wade
Cc:	Lauren Driscoll; 'Brad Sworts'; 'Mike Campfield'; 'McPherson, John'; Laurie Cummings; 'OBrien, Murph'
Subject:	FUTURE TRAFFIC ALERT! Big Lake Community Impact Assessment Meeting TONIGHT, 6 PM - 8 PM
Attachments:	9-19-13_BLCIA_Mtg2Flyer.pdf
Importance:	High

REMINDER – **Big Lake CIA Meeting TONIGHT, 6PM-8PM, Faith Bible Fellowship**. Details below, and in attached flyer.
See you tonight!

Shelly Wade, AICP
907.242.5326 cell
907.222.5424 office
www.agnewbeck.com
Engage, Plan, Implement. Agnew::Beck

From: Shelly Wade
Sent: Friday, September 13, 2013 5:22 PM
To: Shelly Wade
Cc: Lauren Driscoll; 'Brad Sworts'; Mike Campfield (Mike.Campfield@matsugov.us); McPherson, John (John.McPherson@hdrinc.com); Laurie Cummings; OBrien, Murph (Murph.Obrien@hdrinc.com)
Subject: IMPORTANT: 9-19-2013, Big Lake Community Impact Assessment, Community Meeting, 6 PM - 8 PM
Importance: High

September 13, 2013

Dear Big Lake Community Member + Community Partner –

Attached, please find a **meeting flyer** for the upcoming **Big Lake Community Impact Assessment Project, Community Meeting #2**.

The meeting will be held on **Thursday, September 19th, 6:00 – 8:00 PM.** Light refreshments will be provided.

More details on the meeting location, including what we hope to accomplish at the meeting, are outlined below:

- **What** – Big Lake Community Impact Assessment, Community Meeting #2. Give us your feedback on:
  - The proposed alternatives.
  - Potential impacts of each route.
  - Challenges and opportunities of each route.

- Next steps: What happens after the Community Impact Assessment is completed?

- **When** – Thursday, September 19th, 6:00 PM – 8:00 PM
  - **6:00 – 6:30 OPEN HOUSE** – Review most recent project information, including maps of route alternatives and preliminary Assessment Findings. Talk with the project team!
  - **6:30 – 8:00 COMMUNTY MEETING**

- **Where** – Faith Bible Fellowship, 14225 W Kluane Road, Mile 0.5 Hollywood Road, Big Lake

- **Need more information?**
  - Contact:
    - Mat-Su Borough Planner, Lauren Driscoll, 907-745-9855, Lauren.Driscoll@matsugov.us
    - Agnew::Beck Consulting, Public Participation Lead, Shelly Wade, 907-242-5326, shelly@agnewbeck.com
  - Visit the project website – www.biglakecommunityimpact.org.
  - Check out Page 2 of the meeting flyer. There, you will find more info on:
    - Project Scope.
    - What a Community Impact Assessment (CIA) is.
    - Why Big Lake is doing a CIA.
    - The proposed corridors.
    - What has been the community engagement to date.
    - Project benefits.

Hope to see you all there!
Best,
Shelly

Shelly Wade, AICP
Managing Associate
907.242.5326 cell
www.agnewbeck.com
Engage, Plan, Implement. Agnew::Beck

Molly Mylius

From: Shelly Wade
Sent: Friday, September 20, 2013 6:26 PM
To: Shelly Wade
Cc: 'Brad Sworts'; Lauren Driscoll; Mike Campfield (Mike.Campfield@matsugov.us); McPherson, John (John.McPherson@hdrinc.com); Laurie Cummings; Chris Beck
Subject: BIG LAKE CIA - Meeting Materials, from 9-19-13 Big Lake CIA Meeting
Attachments: 9-19-13_BigLakeCIA_OPEN HOUSE DOCUMENTS.pdf; 9-19-13 _BigLakeCIA_COMMUNITY MEETING DOCUMENTS.pdf; Big Lake CIA_CommentForm.pdf

September 20, 2013

Dear Big Lake Community Member + Community Partner –

Thank you to everyone that participated and contributed to last night's Big Lake Community Impact Assessment meeting. At last count, we had approximately 85 folks attend. A special thank you goes out to the leadership and staff at Faith Bible Fellow for hosting the meeting. We had a diverse and representative group of meeting participants including:

- Big Lake Residents and Property Owners
- Big Lake Community Council and Transportation Committee Members
- Big Lake Road Service Area Board Members
- Big Lake Chamber of Commerce Members
- State Representative Mark Neuman
- City of Houston Mayor Virgie Thompson
- Mat-Su Borough Mayor Larry DeVilbiss
- Mat-Su Borough Port Commission Members
- Mat-Su Borough Staff
- Alaska Department of Transportation
- Knik Arm Bridge Toll Authority
- CIRI Corporation
- Knikatnu

My apologies if I've missed someone!

Attached please find the following three items:

1. **Open House Documents** – This package includes all of the posters that we shared during the Open House portion of the evening, including a current traffic volumes map for the Mat-Su (you can drill down to the Big Lake and surrounding areas).
2. **Community Meeting Documents** – This package includes the PowerPoint presentation and other materials that were shared during the Community Meeting part of the evening (including the detailed handout with impact tables, by impact assessment category, for each alternative).
3. **Comment Form –** Includes a space for you to write your comments, where to send them, and other relevant project contact information.

Over the next couple of days, we will get the same package of materials posted to the project website – www.biglakecommunityimpact.org.

In terms of next steps – As we shared at last night's meeting, we are aiming to release the full *Draft Community Impact Assessment* document within the next 6-8 weeks. Following that, there will be a 30-day comment period. In the interim, we strongly encourage you to read through the attached materials, and to share your comments, questions, concerns regarding the draft impact analysis. Specifically, please share with us:

- In what ways will each of the alternatives negatively and/or positively impact the community of Big Lake?
- Did we get it right? Have we missed any potential impacts? If so, what/where are they?

In other words, this is YOUR DOCUMENT, **the community's document**. We really need your help making sure we have captured all potential impacts. The more specific you can be with your comments, the better.

There are multiple ways you can share your feedback, including:

- Attend the upcoming **Big Lake Community Council Meeting** on **Wednesday, October 9th at Lakeshore Studio, 3261 S. Big Lake Road**.
- Complete the attached comment form and send it back to us.
- Contact a member of the project team:
  - Mat-Su Borough Planner, Lauren Driscoll, 907-745-9855, Lauren.Driscoll@matsugov.us
  - Agnew::Beck Consulting, Public Participation Lead, Shelly Wade, 907-242-5326, shelly@agnewbeck.com
- COMING SOON! – Check out the display of Big Lake CIA maps and impacts tables at the Big Lake Library.
- Wait for the full *Draft Community Impact Assessment* document to be released in 6-8 weeks, and comment during the 30-day comment period.

Thank you, again, for your commitment to Big Lake and for your contributions to the Big Lake Community Impact Assessment project.
Sincerely,
Shelly

Shelly Wade, AICP
Managing Associate
907.222.5424 office
907.242.5326 cell
www.agnewbeck.com
Engage, Plan, Implement. Agnew::Beck

BIG LAKE COMMUNITY IMPACT ASSESSMENT
APPENDIX C: COMMENTS RECIEVED
C-1 Comments Received

February 6, 2014

TO: Lauren Driscoll, MSB Planning: Lauren.Driscoll@matsugov.us
Shelly Wade, Beck Consuling: Shelly@agnewbeck.com

RE: **BIG LAKE COMMUNITY IMPACT ASSESSMENT & CORRIDOR RECONNAISSANCE STUDY - COMMENTS – Beth Fread, 907.354.7759, Beth@BethsValleyViews.com:**

BASE COMMENT – The *Draft Assessment, the Community Impact Assessment* documentation, including the initial *Public Information Group* meeting notes (where a larger group of community members participated) and the Big Lake Community Council *Transportation Committee Notes*, have reinforced public assertions that although Big Lake wants access from a route out of the Point MacKenzie area, they do not want a four-lane limited access highway running through their town center or community. Furthermore, a long-range Corridor 1 and Corridor 3 (CIA Figure 2-2, page 12) hybrid plan could be valuable and cost-effective when considered to be a true alternate route to the Parks Highway. The following Recommendation, Overview and Additional Comments are provided as a basis for this base comment.

Appendix A: Screening Analysis – Other constraints: "*The study team looked to see if there were any other constraints that would cause a corridor to be not reasonable. Some concerns not fatal flaws at this level. It was thought that Alternative 1 could take advantage of an existing easement that would reduce the amount of ROW to be purchased. Historically, there was a 600 foot transportation corridor from the Big Lake area down the north and west side of Cook Inlet to Beluga and beyond. This corridor was reserved as an Interagency Land Management Assignment (ILMA) from the Alaska Department of Natural Resources (DNR) to DOT&PF. It was known as ADL 203838. Over the years, portions of this corridor were eliminated and the remaining portions of the corridor were considered difficult to permit. Eventually, ADL 203838 was terminated and closed.*"

It is sad to learn that Alaska's transportation visionaries were ignored by their children and grandchildren. This corridor was defined and the right-of-way reserved. Now, or in the future, it will have to be re-opened.

RECOMMENDATION – HYBRID CORRIDOR (1 & Corridor 3) – As the MSB plans for the next 20 to 50 years (100 would be better), a more far-sighted and sensible plan would be for an eight-lane transportation corridor from the Port MacKenzie/ Knik Arm Crossing area to Trapper Creek (or beyond). Alaska and the MSB would benefit from a several phased design and build made over the next few decades. The Corridor should include the following:

I. A plan that resembles California's I-5 corridor from LA to Weed (near the Oregon border) would help us to avoid the problems we have encountered on the Glenn Highway Corridor from Anchorage to the Parks Highway (and beyond). An even better example of this type of design is the highway from Merritt to Peachland, British Columbia, Canada.
II. Phase I – 8-Lane ROW and 2 lane initial access from the Port to the Parks along the newly built railroad corridor with a 2-lane exit/arterial at Big Lake and a current final destination exit/arterial to Houston (CIA Draft – Corridor Alternative 2);
III. Phase I A – Corridor Access to and from the *Roads to Resources* via the Susitna Parkway;
IV. Phase II – Additional support for expanding residential and tourism areas with 8-lane ROW north and separate 2-lane exit/arterial access to and from the Willow and Talkeetna recreational areas;

V. An 8-lane plan that includes avoiding running similar routes through our existing communities along the Parks Highway by continuing north to *at least* Trapper Creek with a 2-lane exit/arterial for that community; and

VI. Additional exit "stub-outs" on both sides of the right-of-way for exits to future services and/or communities every two to five miles.

Since the first phase of the Corridor would probably include the new rail-bed with its destination being the new rail-hub in Houston, additional benefits in environmental, community and developmental cost-savings could be found by utilizing most of the information gathered in the rail-bed planning. Long-term investment in preparation and expansion to support the MSB estimated population growth, and reduced traffic congestion, as well as private and public contention over the existing Parks Highway would be another anticipated benefit. Finally, this would be a *true* alternate to the Parks Highway and could, therefore, probably be primarily funded by Federal Highway Administration funds.

OVERVIEW of Community Comment/Sentiment during *Big Lake Community Impact Assessment*

Public Sentiment – At the first public meeting four groups were formed and three of the four groups preferred Corridor 1, the route from Pt. MacKenzie to Willow. One of the groups preferred Corridor 3, the route from Pt. MacKenzie to the south of the Big Lake Town Center. Three of the four groups also encouraged *avoiding* the Horseshoe Lake area. The relevant comments from each group are identified below.

EVIDENCE

Group 1 (Preferred Corridor 1)

a. Avoid downtown Big Lake, and prefer the rail corridor.
b. Since rail spur already going along corridor 1 - don't want 1A between the other lakes.
e. Would also like to consider following west side of Little Susitna River, near Red Shirt Lake (Willow Connector). Serves two purposes – allows community to connect to the road without going through the middle of the Big Lake, AND allows trucks to get as far north as possible.
f. Many people would vote for the "off the table" west route if possible.
g. Don't want to go between Horseshoe Lake and Big Lake (1A).
h. Winter recreation is important: Big Lake offers backcountry/wilderness experience close to Anchorage, important to (local) tourism and trail system here. Road in the rail corridor area would have deep impacts on trail use, dog sled trails, snow machine trails.

Group 2 (Preferred Variation of Corridor 3)

a. Considered Big Lake Comp Plan – goal is benefiting downtown businesses, without directing too much through traffic through the heart of town.
b. Don't want to run the road through downtown, but would like it to go on corridor 3 (along the east route, take a jog at Hollywood Road).
c. Using corridor 2 would cut right into a residential area and also would affect snowmachines, dog trails, etc. recreation areas, and would go through downtown Big Lake
d. Going through 1 and 1A would get the road too far away from Big Lake, do want to maximize business opportunities along the new road.
e. Eastern route would provide compromise for commuters getting across Knik Arm Bridge and truckers going to Fairbanks. Minimal length of road, mileage for truckers going north.
f. Also didn't like Corridor 2 because it would be loud, heavy traffic – would echo across lake, also would be competing with local traffic along main road.

Group 3 (Preferred Corridor 1)

a. Generally like west route (1) – least congestion, best connection with Parks Hwy.

b. Need to think ahead at least 20-30 years, there will be population/development growth no matter what, need to assume more development in the area but have a route that doesn't cut through communities.

c. Trails can still be managed like Anchorage (tunnels under roads, or bridges) but don't want to put road through many communities.

d. Still provides access to Big Lake (if access points created) – would like to see surface road improvements on main Big Lake road, if those happen will benefit town.

e. Concern about corridor 1 area creating same types of problems for Horseshoe Lake as might happen with corridor 2 in downtown Big Lake.

f. Knik Goose Bay road is better option than 2, but would impact snowmachine trails, etc. Still prefer 1.

Group 4 (Preferred Corridor 1)

a. Also would like to see western route (Willow Connector) be studied.

e. Specific location of concern: Aurora Trail System (dog musher trails) – one of two dog musher trails in the borough for training sprint dogs. Great Land Trust is helping secure easements (owned by Borough) – wetland preservation area, possible conservation easement area. Don't want to put road through this wetland!

f. Disliked 1A because it would result in the Horseshoe Lake area being surrounded by the railroad to the north and the highway to the south.

ADDITIONAL COMMENTS

"*The CIA demonstrates that Alternative 2 and Alternative 5 had the fewest impacts to the BLCC as they avoid going through the Big Lake Town Center by several miles. However, Alternative 2 is less desirable because, according to the traffic forecast, very little traffic will use this alternative. This route mainly serves freight traffic going between Port MacKenzie and Fairbanks but it does not provide service to traffic as a whole. …*

… The traffic forecast showed that Alternative 2 did not attract large volumes of traffic and would likely result in congestion on Burma/Big Lake Road and Knik Goose Bay Road. Alternative 3 would attract high traffic volume. In the Big Lake Town Center, traffic volumes could be close to 21,500 cars per day. Alternative 3 Bypass – Option A was similar to Alternative 3 except traffic in downtown Big Lake was reduced to approximately 5,300 vehicles per day and the majority of traffic used the highway to bypass the town center. In Alternative 3 Bypass – Option B, the bypass did not attract as much traffic as Option A resulting in high traffic volumes (17,800) in downtown Big Lake. Alternative 5 resulted in high traffic volumes along Knik Goose Bay Road. Traffic in the Big Lake Town Center was approximately 10,300 vehicles per day."

KABATA estimates include a 30% diversion of traffic from the Glenn Highway that, as noted, would probably predominantly be commercial truck traffic heading to Houston (or through Big Lake). Add to that the anticipated growth in commercial truck traffic gained from increases in very large shipments to the Port, and there is a much larger volume of commercial traffic diverted from the KGB and Big Lake areas using Alternate 2 as a destination.

Current traffic on KGB would most likely be alleviated away from Wasilla and diverted to the crossing, feasibly beginning at Vine Rd., or even further south in Settlers Bay. Since this south-KGB area continues to be a source of residential development, and increased commercial efforts as well as a new school to support the area, the use of the crossing will most likely increase from these areas.

Another source of traffic, and current congestion in Wasilla through Meadow Lakes, is the week-end "tourism" traffic of recreational travelers heading to the northern Parks Highway access areas, which predominantly originate in Anchorage. They would definitely benefit from by-passing Wasilla/ Meadow Lakes and ending their trip to Houston in less than the amount of time they currently spend making that trip.

"*Eventually, the highway will be a high-speed, limited access, four-lane divided roadway with limited pedestrian facilities with the option for frontage roads. It would be similar to the Parks Highway east of Wasilla. As traffic demand is anticipated to be relatively light to start and to grow over time, the road is expected to be developed in phases as improvements are needed. For example, sections of the road are likely to be constructed initially as two-lane roads, and as traffic increases, expanded to four lanes (see Figure 1-2). A 400-foot right of way (ROW) corridor, sufficient to accommodate the final highway, would be acquired before any road construction begins.*"

The State of Alaska DOT has been involved in enough costly and contentious battles over its plans, many of them long-standing, for the Parks Highway that it surprises me that the Big Lake Community Impact Assessment is encouraging a continuation of more of the same. Additionally, plans for expanding the Glenn Highway are experiencing similar results. It is baffling as to why any planners would consider another 4-lane highway, built as a 2-lane highway (limited access), which can only continue to increase acrimony and adverse reaction in those communities as more people move in without knowing of those plans.

Thank you for the opportunity to comment.

Sincerely,
Beth Fread
907.354.7759
Beth@BethsValleyViews.com

PO Box 940065
Houston, AK 99694
10 February 2014

To: Lauren Driscoll, Chief of Planning, Matanuska-Susitna Borough, 350 E. Dahlia Ave, Palmer, AK 99645

Shelly Wade, Agnew-Beck Consulting, 441 West 5th Ave, Ste 202, Anchorage, AK 99501

Subject: Comments on the Draft Big Lake Community Impact Assessment and Corridor Reconnaissance Study

Thank you for this opportunity to submit comments regarding the Big Lake Community Impact Assessment and Corridor Reconnaissance Study. The transportation infrastructure development addressed in this study will not only affect the Big Lake Community. It will have profound socioeconomic impacts statewide, particularly if the wrong route is chosen.

The selection of either Alternative 3a or Alternative 5 as the preferred route, may meet near term (primarily local commuter) requirements, but could prove to be an inadequate, very costly and short-sighted regional solution. If this highway is envisioned to become a high speed, limited access, 4-lane divided highway, built to Federal Highway Guidelines similar to an interstate highway, why locate it in an already developed area where it will contribute to existing traffic congestion and where right-of-way acquisition for future upgrades will be more difficult and costly to obtain? It seems logical that a highway corridor of this size should be located in an area to accommodate growth 50 years hence, serving long term state highway requirements.

The statement of need as expressed in:

1.3 This CIA was developed in accord with the Federal Highway Administration's (FHWA) guidelines. Why is a highway connection needed?

A new Parks Highway connection west of Vine Road would serve multiple regional transportation needs, including:

• The need to address the projected significant increase in automobile and truck traffic in the corridor due to new development including the Goose Creek Correctional Center; Port MacKenzie Industrial District; the KAC; the Alaska Railroad Rail Reserve, and increasing commercial, residential, and recreational use in the area.

• The need to improve the existing road network, which is not adequate to carry increased volumes of traffic from the KAC and Port MacKenzie to the Parks Highway.

*• **The need to move freight north out of Port MacKenzie and freight from the Interior south to the Port in an efficient and effective manner.***

• The need to move residential and commercial traffic between the Parks Highway and the KAC in an efficient and effective manner.

seems to be at odds with

2.3 Traffic Analysis *The traffic forecast showed that Alternative 2 did not attract large volumes of traffic* and ***5.0Alternatives to be Carried Forward into Reconnaissance Engineering*** *Alternative 2 is less desirable because, according to the traffic forecast, very little traffic will use this alternative.* ***This route mainly serves freight traffic going between Port MacKenzie and Fairbanks but it does not provide service to traffic as a whole.***

Could the forecast of commercial truck traffic from Anchorage, to Port MacKenzie and on to the Parks Highway and points north be understated? After the Knik Arm Crossing, and one of these highway alternatives**,** replace the Glen-Parks Highway to become the main highway route between Alaska's two largest cities, will today's traffic forecast for Alternative 2 remain valid? How desirable is it to route increasing volumes of commercial truck/freight traffic through an already developed or planned residential area?

The closer this highway is built to existing borough core area development, the less useful it becomes in accommodating future growth, particularly commercial and industrial development associated with the PMRE, or provide an improved highway connection between Anchorage and Fairbanks.

The statement in 2.3 Traffic Analysis, *"The traffic forecast showed that Alternative 2 did not attract large volumes of traffic <u>and would likely result in congestion on Burma/Big Lake Road and Knik Goose Bay Road,"</u>* seems to be contradicted by 4.2 Land Use**,** "*Alternative 2 is likely to have the least impact on the existing road system due to the route being new through wetlands where development has not occurred.*"

The **Final Environmental Impact Statement (EIS),** Alaska Railroad Corporation - Construction and Operation of a Rail Line Extension to Port MacKenzie, Alaska - Office of Environmental Analysis (OEA), Surface Transportation Board, was published on March 25, 2011. This EIS has been successfully defended by the Mat-Su Borough against court challenges as to the suitability of the rail route. The rail project is referred to as the Port MacKenzie Rail Extension (PMRE) in Big Lake CIA documents. The PMRE EIS considered multiple rail route alternatives and lists the justification for why the PMRE route now being constructed was selected. Several of the Big Lake CIA highway alternatives are located in the vicinity of, or are at least partially the same as, PMRE route alternatives that were considered in the PMRE EIS. Therefore, it is reasonable to expect that many of the findings of the PMRE EIS are applicable to Big Lake CIA highway route alternatives. It seems that several of the conclusions presented in the Big Lake CIA may contradict the findings of the PMRE EIS.

The PMRE route chosen for construction was identified in the EIS as the Mac East Variant-Connector 3 Variant-Houston- Houston South Alternative. In the Big Lake CIA and Route Reconnaissance this is the Alternative 2 – Rail Route. It's confusing to learn that:

BL CIA **4.2 Land Use:** "*Alternative 2, on the west side of Big Lake, crosses through land with significant physical constraints, including poorly drained soils", and "Alternative 2 is likely to have the least impact on the existing road system due to the route being new through wetlands where development has not occurred.*"

while

The PMRE EIS states: 2. Proposed Action and Alternative (p. 52). *As explained below, OEA has identified the Mac East Variant-Connector 3 Variant-Houston- Houston South Alternative (see Figure 2-6) as its environmentally preferable alternative for the proposed rail line. OEA believes that this alternative, with OEA's final mitigation recommendations, would most effectively avoid, minimize, and reduce potential environmental impacts to the extent reasonable if the Board decides to authorize the construction and operation of the proposed rail line.*

This section summarizes the potential environmental impacts and describes in more detail OEA's basis for recommending the Mac East Variant-Connector 3 Variant-Houston-Houston South Alternative as the preferred alternative. The Mac East Variant-Connector 3 Variant-Houston-Houston South Alternative would have a comparatively low level of potential impacts to most of the specific resource categories in Table 2-2, making it the alternative with the least potential for environmental effects overall. This alternative is located in an area of flat topography. In addition, it is 1 of 2 alternatives with the fewest overall water crossings, proposed drainage structures, and culvert extensions; one of the alternatives with the fewest number of proposed culverts; it has a comparatively low level of both floodplain acres and floodplain and potential floodplain crossings; and it has the third lowest amount of wetlands and water acreages disturbed. This alternative also would have the second lowest amount of habitat acreage disturbed. It is 1 of 4 alternatives with the fewest number of fish-bearing stream crossings, 1 of 2 alternatives with the fewest number of anadromous stream crossings, and 1 of 2 alternatives with the lowest estimated index of upstream fish habitat potential. OEA's preferred alternative also would have the lowest number of known cultural resources affected, as well as a low probability for cultural resources, only 1 structure and no residences or businesses within the 200-foot ROW, a moderate number of officially recognized trails crossed and a small number of Iditarod Dog Sledding Historic District contributing trails crossed, and no impacts to state recreation or refuge areas.

and

EIS, **Summary of OEA Conclusions** (p. 7): *In sum, OEA has identified the Mac East Variant-Connector 3 Variant-Houston-Houston South Alternative as its environmentally preferable alternative for the proposed rail line. This alternative has been selected as environmentally preferable because it would have the least impacts to topography, water resources* ***(including wetlands)****, biological resources, cultural and historic resources, and land use.*

So, if this terrain was deemed suitable, even the best choice, for constructing the rail line linking Port MacKenzie with the main rail line in Houston, how has this same land now suddenly developed *significant physical constraints, including poorly drained soils and wetlands* making it undesirable for highway construction? If MSB can build a railroad on this land, why is it unsuitable for a highway?

In considering rail route alternatives, The EIS considered and rejected potential routes that lay in the general area of Big Lake CIA Alternatives 3a and 5. Several of the reasons for eliminating these alternatives as being undesirable for railroad construction may also apply and make them unsuitable for constructing a major highway.

EIS Potential Changes to Port MacKenzie Rail Extension Alignments Not Studied Further

Add an alternative in the eastern portion of the study area, east of the Big Lake Segment, that would be in part or all of the existing Port MacKenzie Road and Knik-Goose Bay Road corridors:

The east-west portion of the road is unsuitable for railroad construction due to undulating terrain in the western portion and large stretches of wetlands and compressible soils in the eastern portion. Constructing a rail line in the Knik-Goose Bay Road. The Knik-Goose Bay Road corridor serves as a primary transportation artery, and this proposal would introduce transportation conflicts between rail, road, and routes for all-terrain vehicles, cycling, and dog sledding, requiring frequent grade crossings or grade separations. Also of concern would be potential noise impacts and safety issues related to illegal crossing of the track.

Create an alignment between the current Big Lake Segment and Knik-Goose Bay Road. Such an alignment could possibly swing east and then north in a broad curve, taking advantage of higher ground, and connect with the main line near the proposed location for the current Big Lake Segment:

An alignment in this location would require a substantial increase in maximum elevation and change in elevation. Such an alignment, when compared to the current Big Lake Segment, would require taking approximately twice as many residences; increase the length of the rail line by approximately 2 miles; increase the number of at-grade roadway/rail crossings; increase the maximum grade from 0.5% to 1.0%; and increase the amount of deep cuts, including a large, 100-foot fill area.

SUBSTANTIVE CHANGES SINCE THE DRAFT EIS p. 10
4) In response to comments on the Draft EIS, OEA considered the feasibility of routes near the Susitna River to the west of the Willow Segment ***and between the Big Lake Segment and Knik Goose Bay Road,*** *which commenters suggested could maximize avoidance of waters of the United States and represent the least environmentally damaging practicable alternative (LEDPA) under the Clean Water Act permitting regulations (40 C.F.R. § 230.10(a)). OEA considered information provided by the Applicant and conducted an independent analysis.*

OEA also concluded that a route east of the Big Lake Segment would be impractical because substantially greater amounts of cut and fill would be required even if the track grade were doubled from 0.5 percent to 1 percent. In addition, such a route would require taking approximately twice as many residences as the Big Lake Segment.

Appendix E - City of Houston Profile

Why is this included in the Big Lake Community Impact Assessment? What is the purpose of the Houston profile in this document? If it was determined that because of the City's proximity to Alternative 2, it would be useful to include a Houston profile, why were similar profiles of Meadow Lakes, Knik Goose Bay and Wasilla not also included?

The map on page 2, Figure 1-1, is inaccurate. It includes features 13 and 21 years out of date.

The statement at the top of page 2, "*While Houston would like to have a more independent economic base, and the shorter commute times and additional local jobs associated with more* *commercial development****, it does not desire growth to the extent that it would interfere with the rural lifestyle currently enjoyed by residents***" is misleading and inappropriate. The last part of this statement is a distortion of the city's current comprehensive plan and it makes an unsubstantiated assumption that Houston residents see the potential for economic development versus maintaining a rural lifestyle as an either/or proposition.

The statement at the top of page 5, *"Hydropower is the primary power source in Houston,"* is incorrect. Currently, 100% of the power distributed in Houston by MEA is purchased from Chugach Electric Association. In 2012, 89 percent of the kilowatt-hours Chugach sold came from natural gas units, 10 percent from hydroelectric resources and 1 percent from wind.

The City of Houston Profile either misses or ignores recent city resolutions that are in direct support of Big Lake CIA Alternative 2 - the Rail Route. The Planning and Zoning Commission Resolution unanimously passed Resolution 13-PC-07 on 26 September 2013, forwarding recommendations in support of Big Lake Alternative Route #2, as established through the Big Lake Community Impact Assessment. Likewise, concurring with the Planning Commission, the City Council voted 7-0 on 10 October 2013 and passed Resolution 13-15, in support of Big Lake Community Impact Assessment Route 2. If a Houston Profile is included in the final report, the record must be corrected to reflect the city's support for the Alternative 2- Rail Route.

The current 2013 population estimate of City of Houston according to Department of Labor and Workforce Development is 2039.

Conclusion:

Even with the PMRE project several years from completion, there is growing interest in industrial development along the rail corridor, starting at the junction with the existing main line in Houston near the Parks Highway and progressing southwesterly towards the industrial area at the port. If this development trend continues, the need for a robust road system capable of accommodating a heavy volume of commercial traffic will force us to revisit this issue if the wrong highway corridor is chosen now.

While the road system between Big Lake Road and Knik Goose Bay Road may be inadequate to accommodate near term local traffic and needs improvement, constructing an interstate level highway along the proposed Alternative 3a or 5 corridors will be a mistake that will be costly to remedy in the future. Now is the time to build a new interstate type highway from the Knik Crossing at Port MacKenzie along the rail line to Houston or even farther north. This route should be designed to become the new high speed limited access "main" highway link between Anchorage and Fairbanks.

Thanks again for this opportunity to comment.

Lance Wilson
Houston
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Big Lake Highway Routes – Population Effects at Build-out – 4/19/13

This analysis calculates the expected 50-year build-out dwelling unit and population counts given six alternative routes for a potential highway linkage between a potential highway linking Pt. Mackenzie with the Parks Highway. The predominant additional density would result from interchanges or nodes along the six potential routes. These intersections generate additional housing and population according to various base densities proposed in the Mat-Su Density and Build-out Study or DBOS. The DBOS proposes a population in 2060 of 15,114 for the Big Lake Community Council area as shown in Figure 1. Build-out occurs when all vacant land that would be developed for new residential housing is consumed. The DBOS proposes that build-out would occur in 2060.

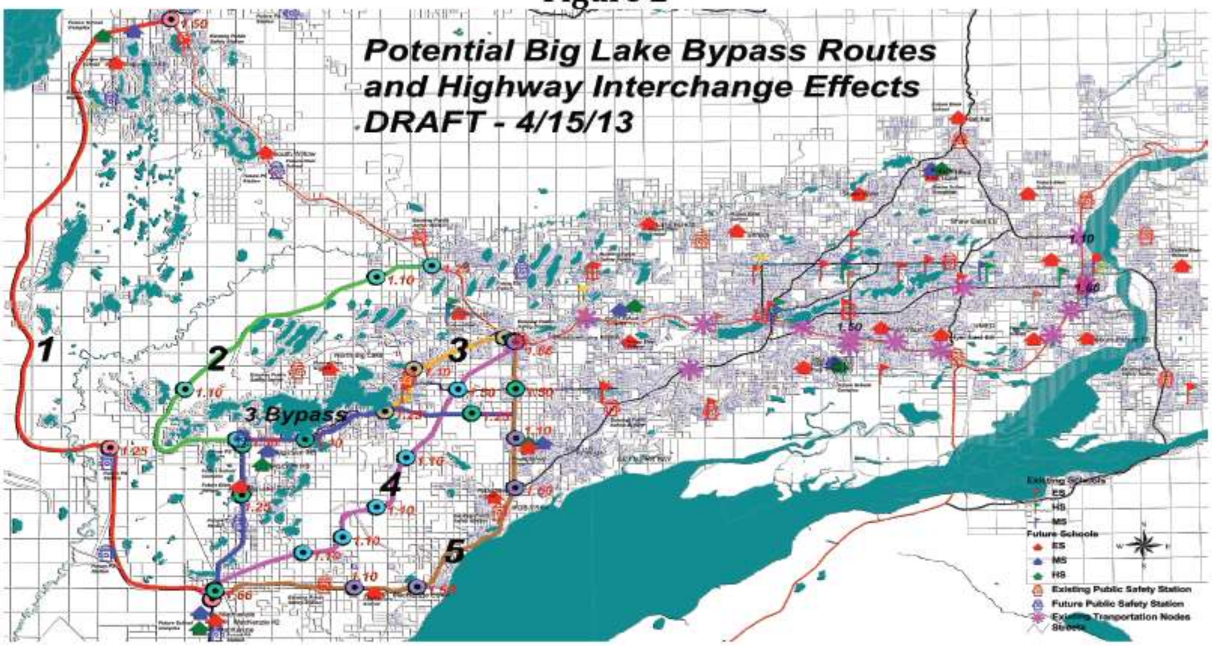
Figure 1

Base Case 2010 and Build-out Dwelling Unit and Population Counts - 10/1/12

Community Council	2010 Dwelling Units	Build-out Dwelling Units	2010 Population	Build-out Population
BIG LAKE	2,624	8,531	3,343	15,114
KNIK-FAIRVIEW	5,444	18,016	14,675	44,800
POINT MACKENZIE	289	8,537	574	17,699
Borough Total	**8,357**	**35,084**	**18,592**	**77,613**

The six routes are shown in the following map which also illustrates the new schools and fire stations to be constructed in the area. Interchanges were given a multiplier ranging from 1.10 to 1.66 depending upon the increased densities expected at various types of intersections with a 1.66 ratio interchangte having a 66% increase over an area with no highway intersection. Five categories of intersections or interchanges were developed by Mat-Su Borough staff based on existing interchange density growth for specific areas. The ratios are shown in red in Figure 2.

Figure 2



The interchange associated with the various routes create a defined area that would likely support increased density. The interchange influence areas range in size from 160 to 1000 acres and produce varying amounts of additional density depending upon whether the assumption is for a continuation of the use of wells and septic tanks for domestic water and wastewater or conversion to municipal utilities or public sewer. Figure 3 illustrates these assumptions.

Figure 3

Density Changes Resulting from Major Highway Routes and Interchanges - 4/19/13

Intersection Category	Trans Multiplier	Expected Density Per Acre With Well / Septic Tanks	Expected Density Per Acre With Public Sewer	Influence Area in Acres	Influence Distance From Intersection in Miles
MatSu Core Crossroads	1.66	1	2.5	1000	0.78
MatSu Intersection - Hwy / Major Arterial	1.5	1	2.5	640	0.5
Rural Crossroads	1.5	1	1.5	640	0.5
Rural Neighborhood Center	1.25	0.5	0.5	320	0.35
Rural Intersection	1.1	0.2	0.2	160	0.25

Western Demographics, Inc.

Given the number of interchanges created by the six scenarios for the various highway routes, different build-out (2060) population figures result, with scenario 5 having the highest population increase for the Big Lake community. Figure 4 illustrates these calculations.

Figure 4

Additional Population by Route Given Bridge / Highway with Interchanges at Build-out

Route	Dwelling Unit Differential with Well / Septic	Dwelling Unit Differential with Public Sewer	Population Differential (2.7PPH) with Well / Septic Tanks	Population Differential (2.7PPH) with Public Sewer
1	1,020	2,170	2,754	5,859
2	1,066	2,216	2,879	5,984
3	1,726	3,866	4,661	10,439
3 Bypass	2,083	4,383	5,625	11,835
4	1,653	3,793	4,463	10,241
5	2,286	4,746	6,173	12,815

Figures 5 through 10 illustrate the six routes and show the routes, their interchanges and the future schools and pubic safety stations proposed for the area.

Figure 5

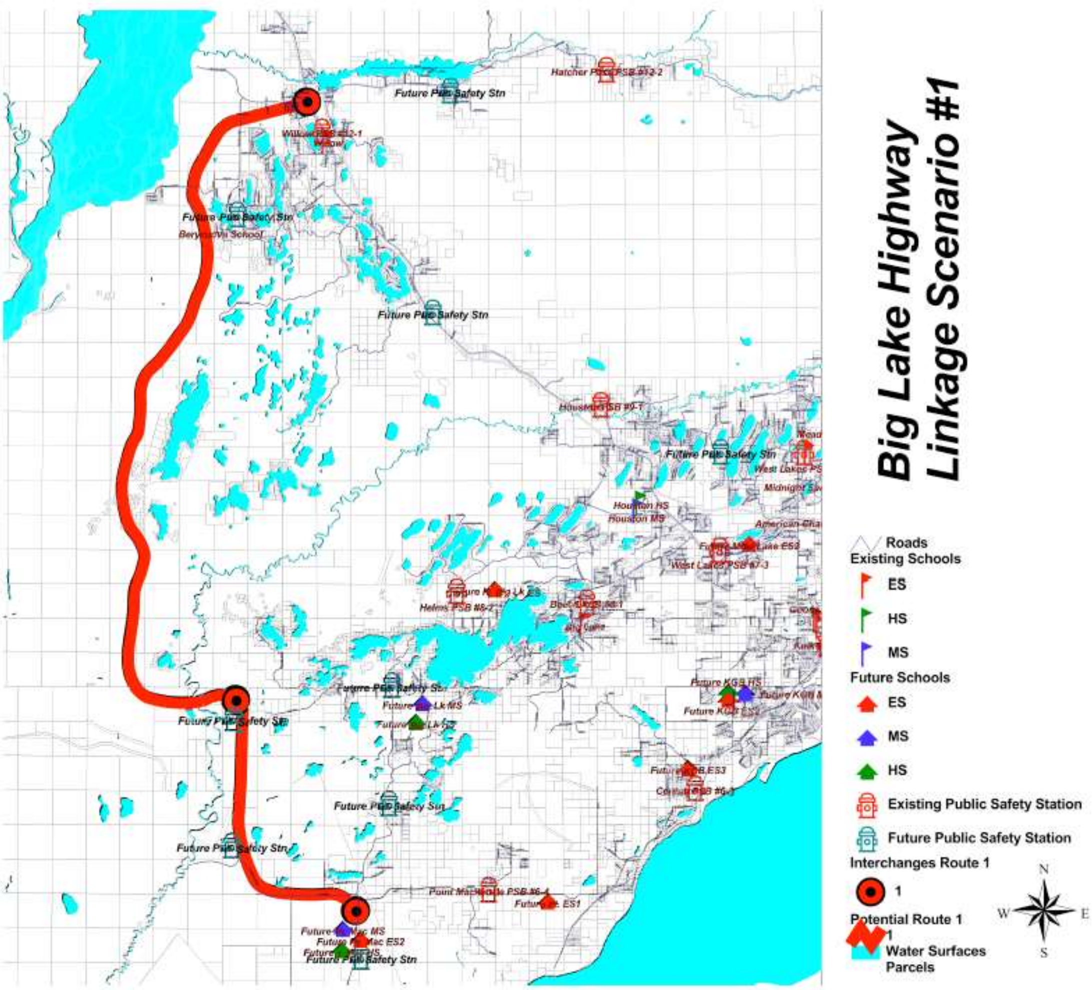


Figure 6

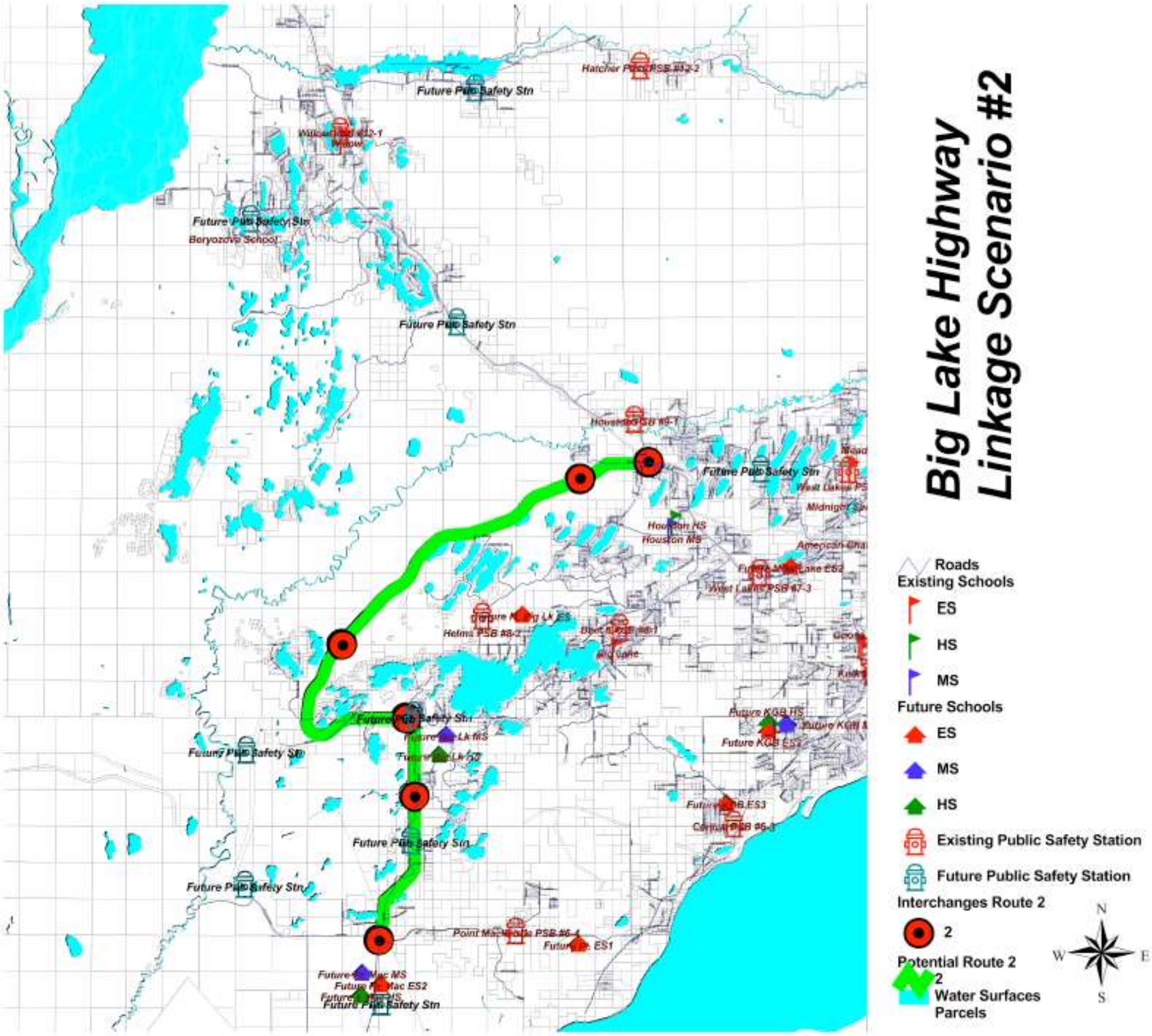

Big Lake Highway Linkage Scenario #2
Roads
Existing Schools
ES
HS
MS
Future Schools
ES
MS
HS
Existing Public Safety Station
Future Public Safety Station
Interchanges Route 2
2
Potential Route 2
2
Water Surfaces
Parcels
N
W
E
S
Future Pub Safety Stn
Houston HS
Houston MS

Figure 7

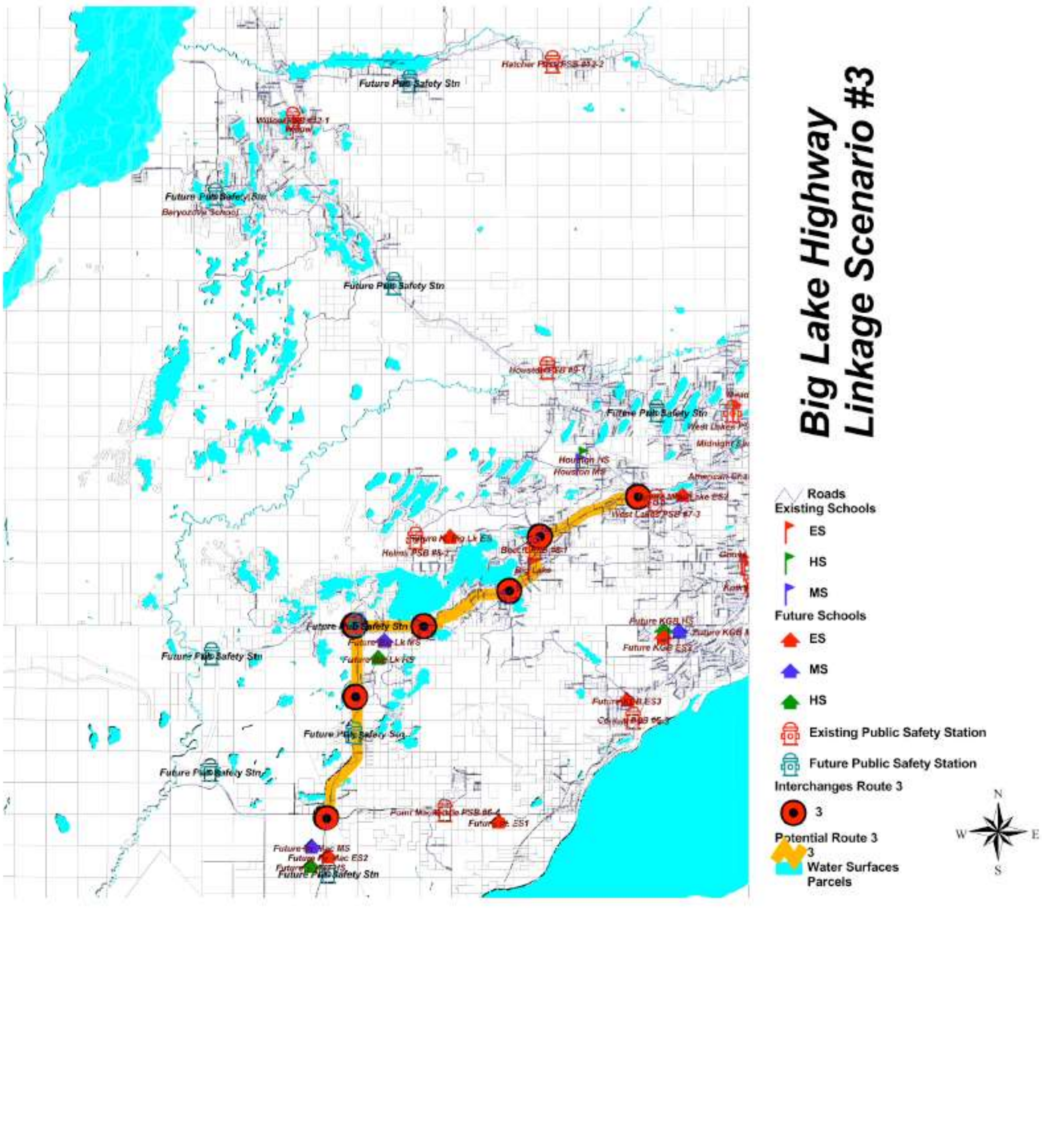
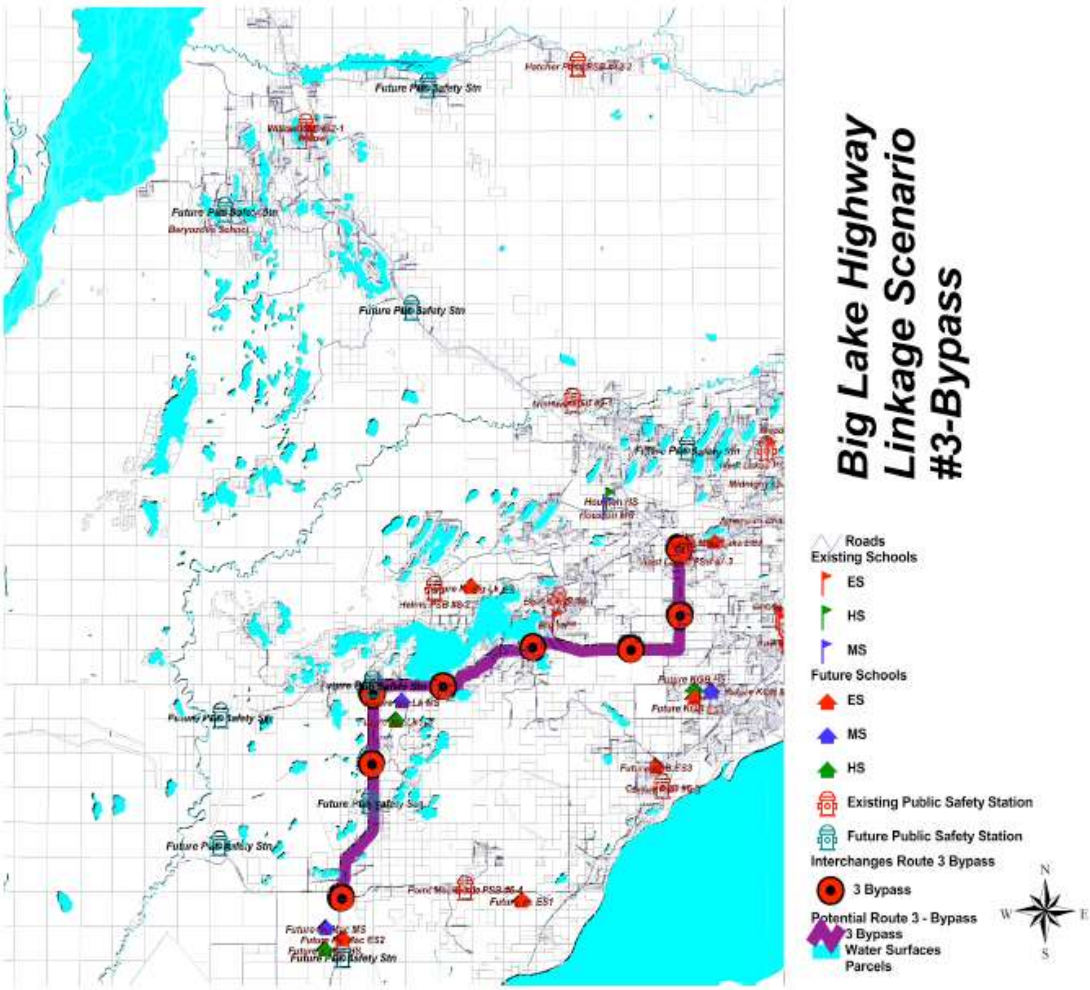

Big Lake Highway
Linkage Scenario #3
Roads
Existing Schools
ES
HS
MS
Future Schools
ES
MS
HS
Existing Public Safety Station
Future Public Safety Station
Interchanges Route 3
3
Potential Route 3
3
Water Surfaces
Parcels
N
W
E
S

Figure 8



Big Lake Highway Linkage Scenario #3-Bypass
Roads
Existing Schools
ES
HS
MS
Future Schools
ES
MS
HS
Existing Public Safety Station
Future Public Safety Station
Interchanges Route 3 Bypass
3 Bypass
Potential Route 3 - Bypass
3 Bypass
Water Surfaces
Parcels
N
S
E
W

Figure 9

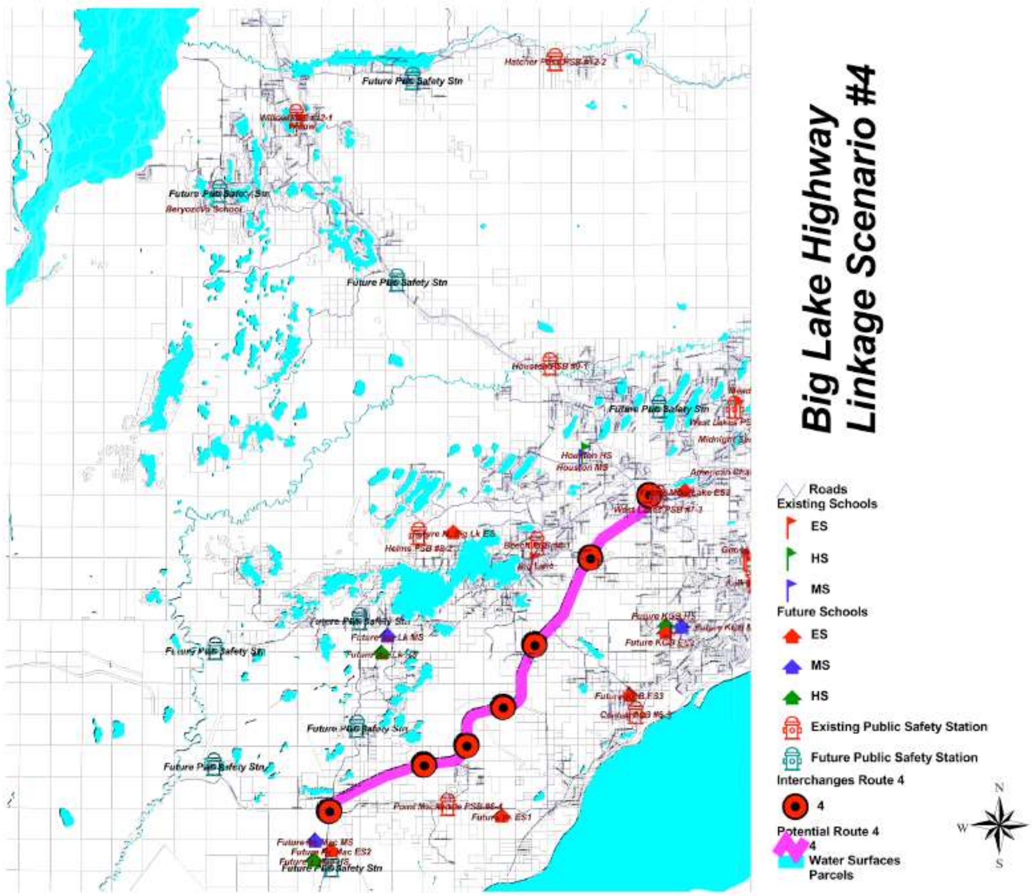
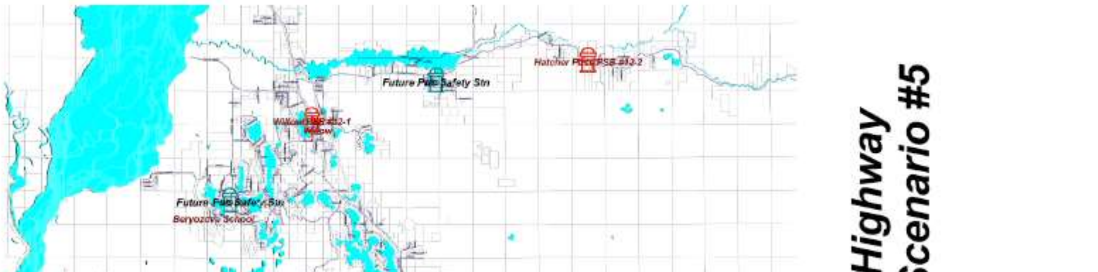

Big Lake Highway
Linkage Scenario #4
Roads
Existing Schools
ES
HS
MS
Future Schools
ES
MS
HS
Existing Public Safety Station
Future Public Safety Station
Interchanges Route 4
4
Potential Route 4
4
Water Surfaces
Parcels
N
W
E
S

Figure 10



The resulting additional population and dwelling units are summarized in the following table which shows differing approaches to water and sewer, either well and septic or public water and sewer.

Figure 11

Additional Population Dwelling Units by Route - Big Lake Bypass Scenarios - 4/15/13												
Intersection Category	Trans Multiplier	Expected Density Per Acre With Well / Septic Tanks	Expected Density Per Acre With Public Sewer	Influence Area in Acres	Default Build-out Units With Well / Septic Tanks	Default Build-out Units With Public Sewer	Build-out Units With Well / Septic and Highway Interchanges	Build-out Units With Public Sewer and Highway Interchanges	Dwelling Unit Differential with Well / Septic	Dwelling Unit Differential with Public Sewer	Population Differential (2.7PPH) with Well / Septic Tanks	Population Differential (2.7PPH) with Public Sewer
MatSu Core Crossroads	1.66	1	2.5	1000	1000	2500	1660	4150	660	1650	1782	4455
MatSu Intersection - Hwy / Major Arterial	1.5	1	2.5	640	640	1600	960	2400	320	800	864	2160
Rural Crossroads	1.5	1	1.5	640	640	960	960	1440	320	480	864	1296
Rural Neighborhood Center	1.25	0.5	0.5	320	160	160	200	200	40	40	108	108
Rural Intersection	1.1	0.2	0.2	160	32	32	35.2	35.2	3.2	3.2	8.64	9

Figure 12 shows the complete calculation of density.

Figure 12

Additional Population by Route Given Bridge / Highway with Interchanges at Build-out

Route	Multiplier	Build-out Density	Default_Den	Dwelling Unit Differential with Well / Septic	Dwelling Unit Differential with Public Sewer	Population Differential (2.7PPH) with Well / Septic Tanks	Population Differential (2.7PPH) with Public Sewer		
								1	**5,859**
1	1.66	1 - 2 DUAC	1.5	660	1650	1782	4455		
1	1.5	1 - 2 DUAC	1.5	320	480	864	1296		
1	1.25	VLowOS	0.2	40	40	108	108		
Incremental Units (Route Totals)				**1020**	**2170**	**2754**	**5859**		
2	1.66	1 - 2 DUAC	1.5	660	1650	1782	4455		
2	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
2	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
2	1.25	VLowOS	0.2	40	40	108	108	**2**	**5,984**
2	1.25	VLowOS	0.2	40	40	108	108		
2	1.5	VLowOS	0.2	320	480	864	1296		
Incremental Units (Route Totals)				**1066**	**2216**	**2879**	**5984**		
3	1.66	1 - 2 DUAC	1.5	660	1650	1782	4455		
3	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
3	1.5	VLowOS	0.2	320	480	864	1296		
3	1.25	VLowOS	0.2	40	40	108	108		
3	1.25	VLowOS	0.2	40	40	108	108	**3**	**10,439**
3	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
3	1.66	VLowOS	0.2	660	1650	1782	4455		
Incremental Units (Route Totals)				**1726**	**3866**	**4661**	**10439**		
3 Bypass	1.66	1 - 2 DUAC	1.5	660	1650	1782	4455		
3 Bypass	1.25	2 - 5 DUAC	3.5	40	40	108	108		
3 Bypass	1.25	VLowOS	0.2	40	40	108	108		
3 Bypass	1.5	VLowOS	0.2	320	480	864	1296		
3 Bypass	1.25	VLowOS	0.2	40	40	108	108	**3 Bypass**	**11,835**
3 Bypass	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
3 Bypass	1.66	VLowOS	0.2	660	1650	1782	4455		
3 Bypass	1.5	VLowOS	0.2	320	480	864	1296		
Incremental Units (Route Totals)				**2083**	**4383**	**5625**	**11835**		
4	1.66	1 - 2 DUAC	1.5	660	1650	1782	4455		
4	1.66	VLowOS	0.2	660	1650	1782	4455		
4	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
4	1.5	VLowOS	0.2	320	480	864	1296	**4**	**10,241**
4	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
4	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
4	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
Incremental Units (Route Totals)				**1653**	**3793**	**4463**	**10241**		
5	1.66	1 - 5 DUAC	2.5	660	1650	1782	4455		
5	1.5	2 - 5 DUAC	3.5	320	480	864	1296		
5	1.1	2 - 5 DUAC	3.5	3.2	3.2	8.64	9		
5	1.5	2 - 5 DUAC	3.5	320	480	864	1296	**5**	**12,815**
5	1.66	VLowOS	0.2	660	1650	1782	4455		
5	1.5	VLowOS	0.2	320	480	864	1296		
5	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
Incremental Units (Route Totals)				**2286**	**4746**	**6173**	**12815**		

Big Lake Area Highway Corridor Scenarios – Population Effects at Build-out – 6/20/13

Introduction - This analysis calculates the expected 50-year build-out dwelling unit and population counts given seven alternative highway corridors Pt. Mackenzie with the Parks Highway. Additional density would result from interchanges or nodes along the seven potential highway corridors according to the Mat-Su Density and Build-out Study or DBOS. This report documents calculation of 1the increased density.

MSB - Density and Build-out Study (DBOS) - Overview

The Mat-Su Density and Build-out Study (DBOS) is a projection of ultimate future population and housing for small areas in the Borough. The base data of the DBOS was developed in 2012 and was integrated into the Borough's Geographic Information System (GIS). The analysis combines historical growth trends, census data, soil suitability and other land reservation factors and future expectations for growth in the Borough.

The DBOS is not a future land use plan or suggestion of "zoned" land use ,but instead a forecast of probable densities based on historical and current density trends. The following pages describe a partial explanation of the DBOS and its implications for Wastewater. The entire DBOS document is available from the Borough Planning Department if readers require further detail.

The DBOS proposes a future land use and density pattern for the Borough, which preserves the current atmosphere while consuming remaining vacant land. A central high-rise urban core similar to Anchorage would not be part of this future but a solidification of the current mid-rise scheme found in Palmer and Wasilla.

The assumptions of the DBOS incorporate these factors as well as others including:

- Housing growth expectations given 42 years of Borough development data,
- Developable soils,
- Expected commercial development,
- Removal of parkland, reserves and water surfaces,
- University of Alaska at Anchorage ISER annual growth rates of 3.09% for the Borough

Borough-Wide Quantities from the Study

The following population and dwelling unit quantities were derived from the DBOS. A population of approximately 400,000 would be reached at "build-out". "Build-out" is defined as the time at which all land parcels have been consumed and housing or other uses have been constructed on them.

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Borough-Wide Quantities from the Study

- Total Existing Persons – 88,754 (2010)
- Total Build Out Persons – 398,322
- Total Potential Additional Persons – 309,651
- Existing Dwelling Units – 41,066
- Total Build Out Dwelling Units – 186,540
- Potential New Dwelling Units – 145,651
- University of Alaska at Anchorage Institute for Social and Economic Research (ISER) Annual 3.09% Base Rate Suggests Build-out in 2060
- Actual Build-out is Probable in a 50 – 100-year Timeframe with the central area achieving "build-out" by 2060 and the North Susitna corridor in a 100-year timeframe.

The DBOS proposes a population in 2060 of 15,114 for the Big Lake Community Council area as shown in Figure 1. Build-out occurs when all vacant land that would be developed for new residential housing is consumed. The DBOS proposes that build-out would occur in 2060.

Figure 1

Base Case 2010 and Build-out Dwelling Unit and Population Counts - 10/1/12

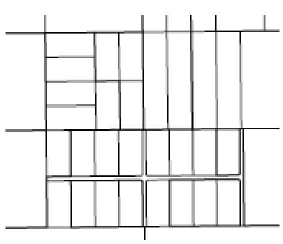
Community Council	2010 Dwelling Units	Build-out Dwelling Units	2010 Population	Build-out Population
BIG LAKE	2,624	8,531	3,343	15,114
KNIK-FAIRVIEW	5,444	18,016	14,675	44,800
POINT MACKENZIE	289	8,537	574	17,699
Borough Total	**8,357**	**35,084**	**18,592**	**77,613**

Effects of Water and Sewer Mechanisms on Expanded Density

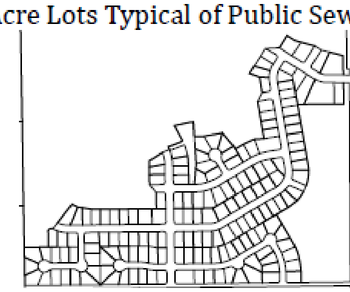
The way in which public water and sewer is provided in the Big Lake / KGB area has a significant impact on the density that might result from various highway corridor scenarios. Typically, public sewer systems allow lot sizes smaller than one acre and result in more dwelling units and population. Well and septic systems, which are the predominant system in the Mat-Su Borough, result in lot sizes over one acre. Figure 2 illustrates the typical look of both types of residential development. The calculations presented for the highway corridor scenarios calculate densities according to these two alternative potentials.

Figure 2

Large Lots Typical of Well / Septic



Sub-1-Acre Lots Typical of Public Sewer



Density Multipliers at Intersections
Interchanges were given a multiplier ranging from 1.10 to 1.66 depending upon the increased densities expected at various types of intersections with a 1.66 ratio interchange having a 66% increase over an area with no highway intersection. Five categories of intersections or interchanges were developed by Mat-Su Borough staff based on existing interchange density growth for specific areas and other factors. The five classifications of interchanges developed by staff are described in Figure 3.

Figure 3

Density Changes Resulting from Major Highway Routes and Interchanges - 4/19/13

Intersection Category	Trans Multiplier	Expected Density Per Acre With Well / Septic Tanks	Expected Density Per Acre With Public Sewer	Influence Area in Acres	Influence Distance From Intersection in Miles
MatSu Core Crossroads	1.66	1	2.5	1000	0.78
MatSu Intersection - Hwy / Major Arterial	1.5	1	2.5	640	0.5
Rural Crossroads	1.5	1	1.5	640	0.5
Rural Neighborhood Center	1.25	0.5	0.5	320	0.35
Rural Intersection	1.1	0.2	0.2	160	0.25

Western Demographics, Inc.

The seven potential highway corridor scenarios are shown in Figure 4. The density multiplier ratios are shown in red. The interchanges associated with the various highway corridors create a defined area that would likely support increased density.

The interchange influence areas range in size from 160 to 1000 acres and produce varying amounts of additional density depending upon the assumption for a continuation of the use of wells and septic tanks for domestic water and wastewater OR conversion to municipal utilities or public sewer.

Given the number of interchanges created by the seven scenarios for the various highway corridors, different build-out (2060) population figures result, with scenario 5 having the highest population increase for the Big Lake community. The two sceanrios that route the highway west of Big Lake have the lowest population impact. Figure 5 illustrates these calculations.

Figure 4

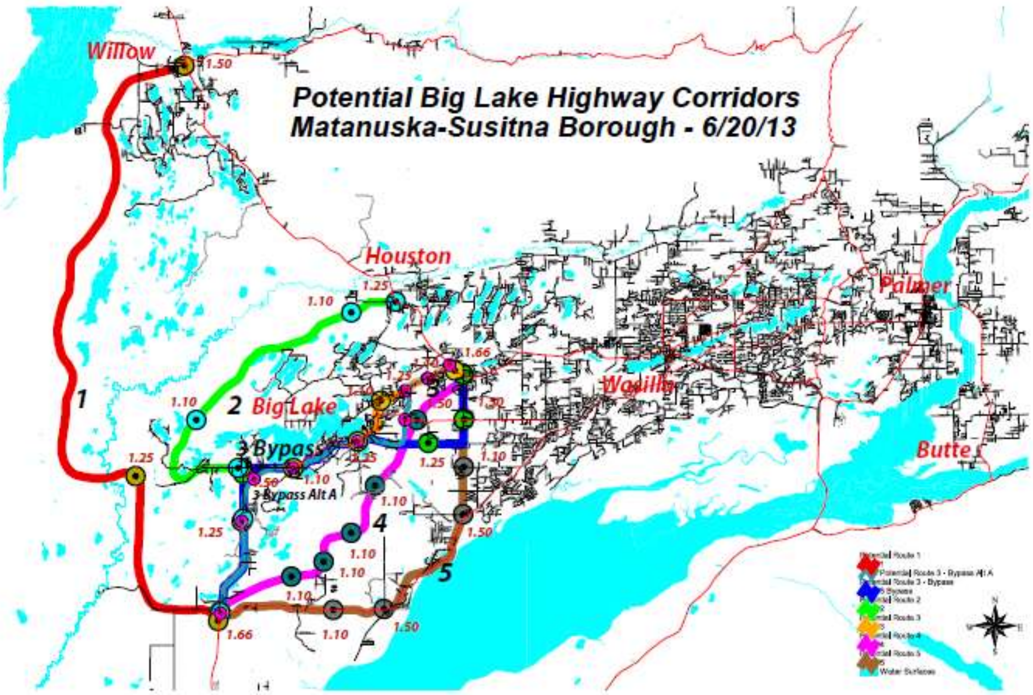


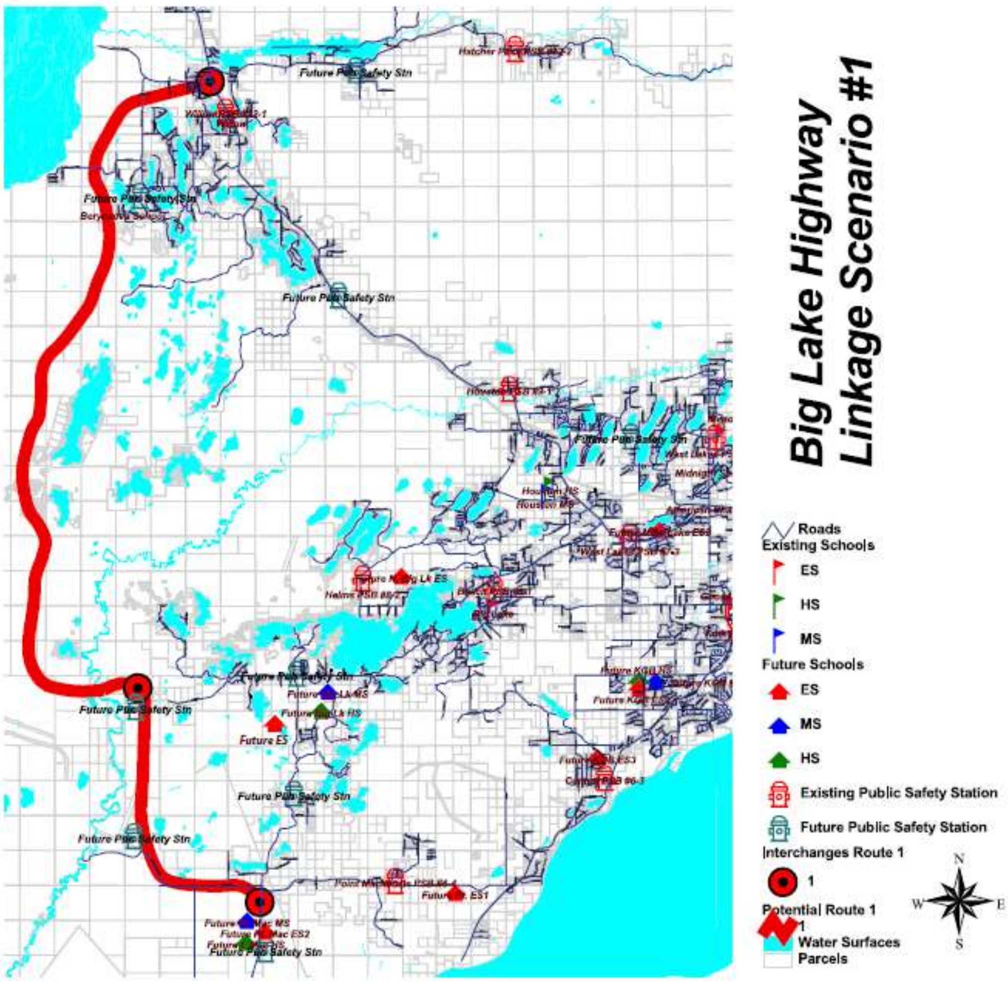
Figure 5

Additional Population by Corridor Scenario Given Bridge / Highway with Interchanges at Build-out

Corridor Scenario	Additional Dwelling Units with Well / Septic	Additional Dwelling Units with Public Sewer	Additional Population (2.7PPH) with Well / Septic Tanks	Additional Population (2.7PPH) with Public Sewer
1	1,020	2,170	2,754	5,859
2	1,066	2,216	2,879	5,984
3	1,726	3,866	4,661	10,439
3 Bypass	2,083	4,383	5,625	11,835
3 Bypass Alternative A	2,126	4,426	5,741	11,951
4	1,653	3,793	4,463	10,241
5	2,286	4,746	6,173	12,815

Figures 6 through 17 illustrate the seven corridors and show the routes, their interchanges and the future schools and pubic safety stations proposed for the area.

Figure 6

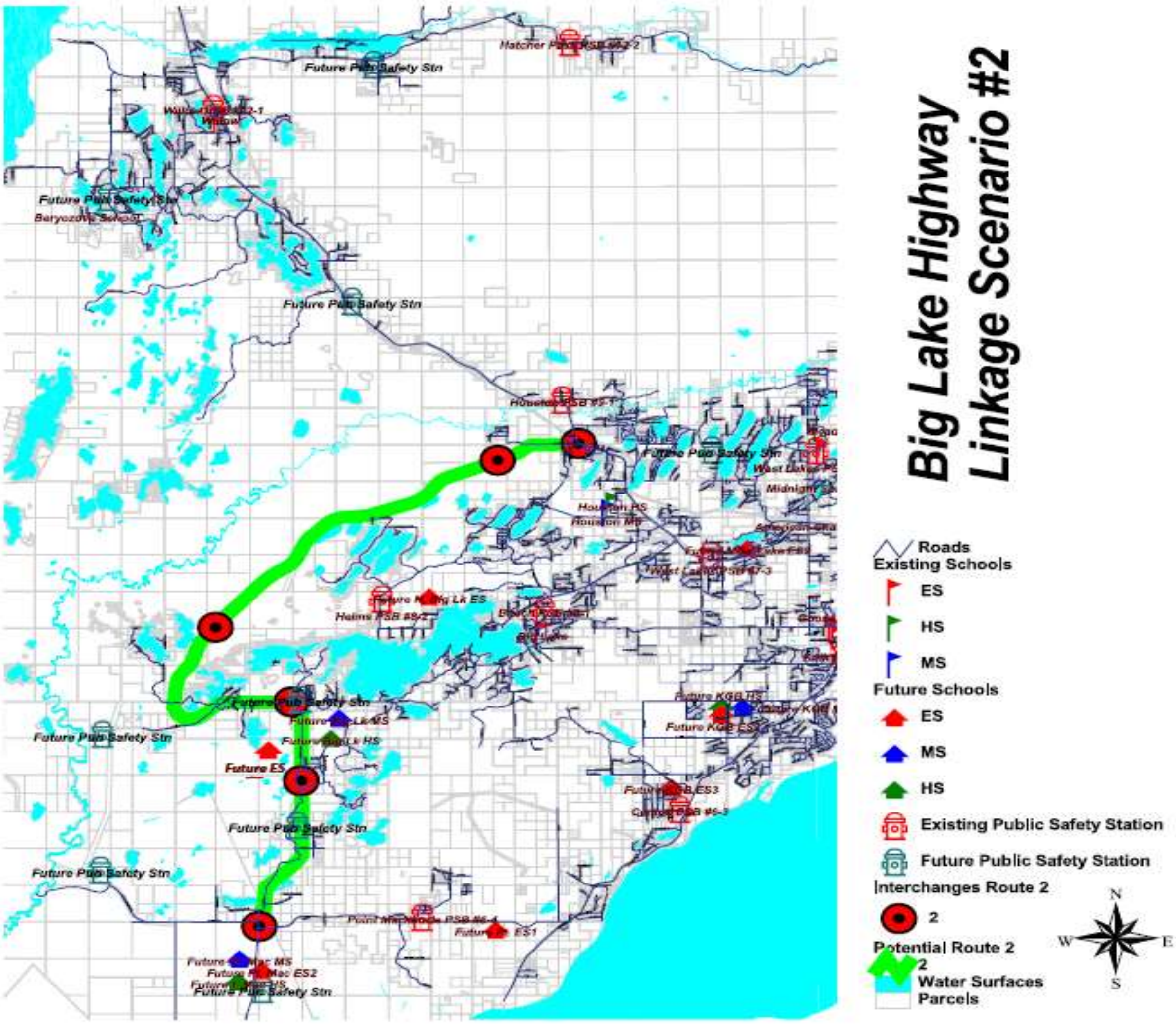


Corridor Description - Scenario 1 proceeds westerly from the north end of Point MacKenzie Road along Ayrshire Road, then northerly through undeveloped area joining the Parks Highway at its intersection with Willow Fishhook Road.

Figure 7 - Highway Corridor Scenario 1

Existing	Counts			
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future	**Counts**		**Dwelling Units**	**Population**
Miles of Road	31.9		Well / Septic	Well / Septic
ES	3		1020	2754
MS	1		Public Sewer	Public Sewer
HS	1		2170	5859
Public Safety Stations	6			
Interchange(s)	3			

Figure 8

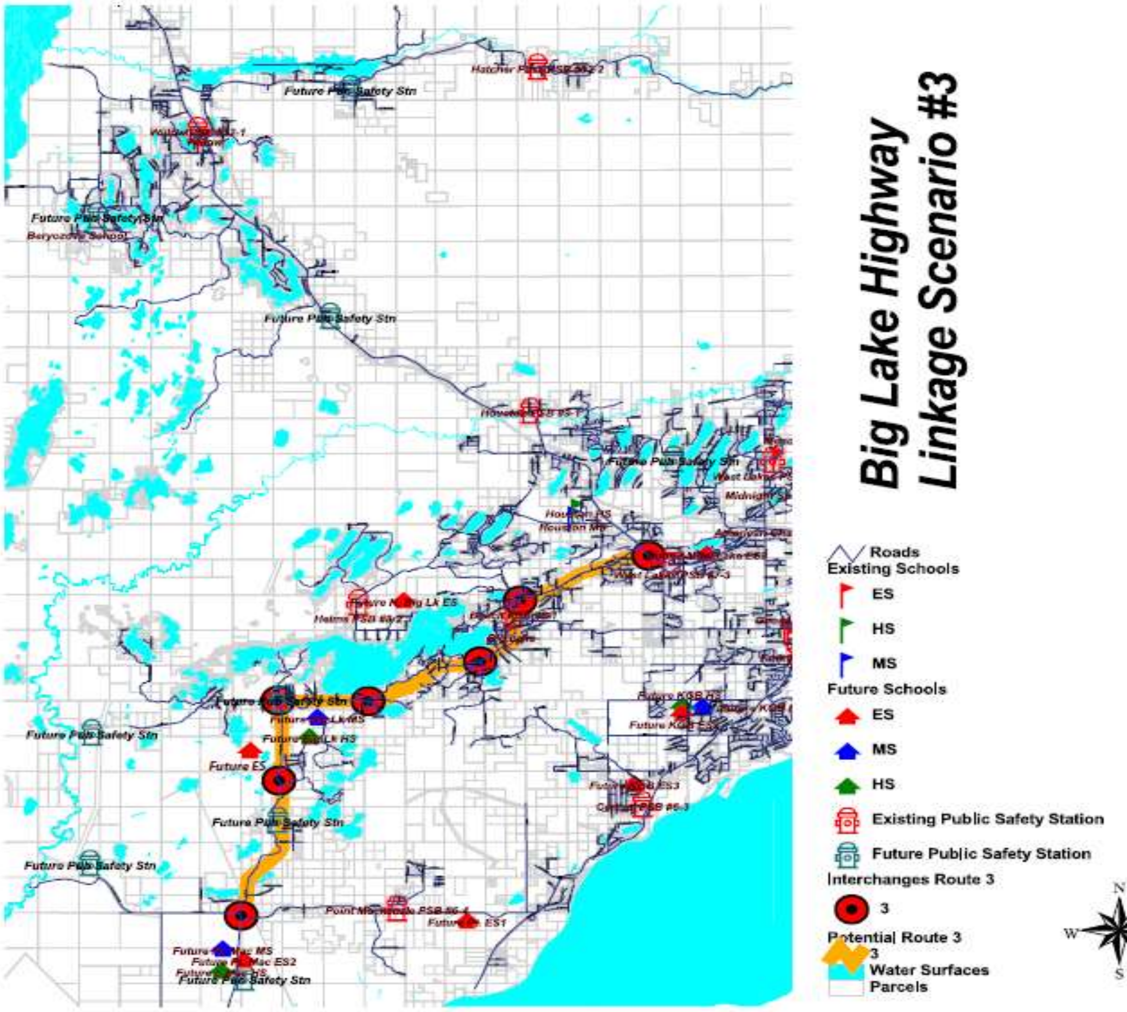


Corridor Description - Scenario 2 proceeds northerly from the end of Point MacKenzie Road along Burma Road. At the intersection with West Susitna Parkway, this corridor proceeds westerly, then northerly to its intersection with the Parks Highway near Houston.

Figure 9 - Highway Corridor Scenario 2

Existing				
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future			Dwelling Units	Population
Miles of Road	22.4		Well / Septic	Well / Septic
ES	3		1066	2879
MS	1		Public Sewer	Public Sewer
HS	1		2216	5984
Public Safety Stations	6			
Interchange(s)	6			

Figure 10

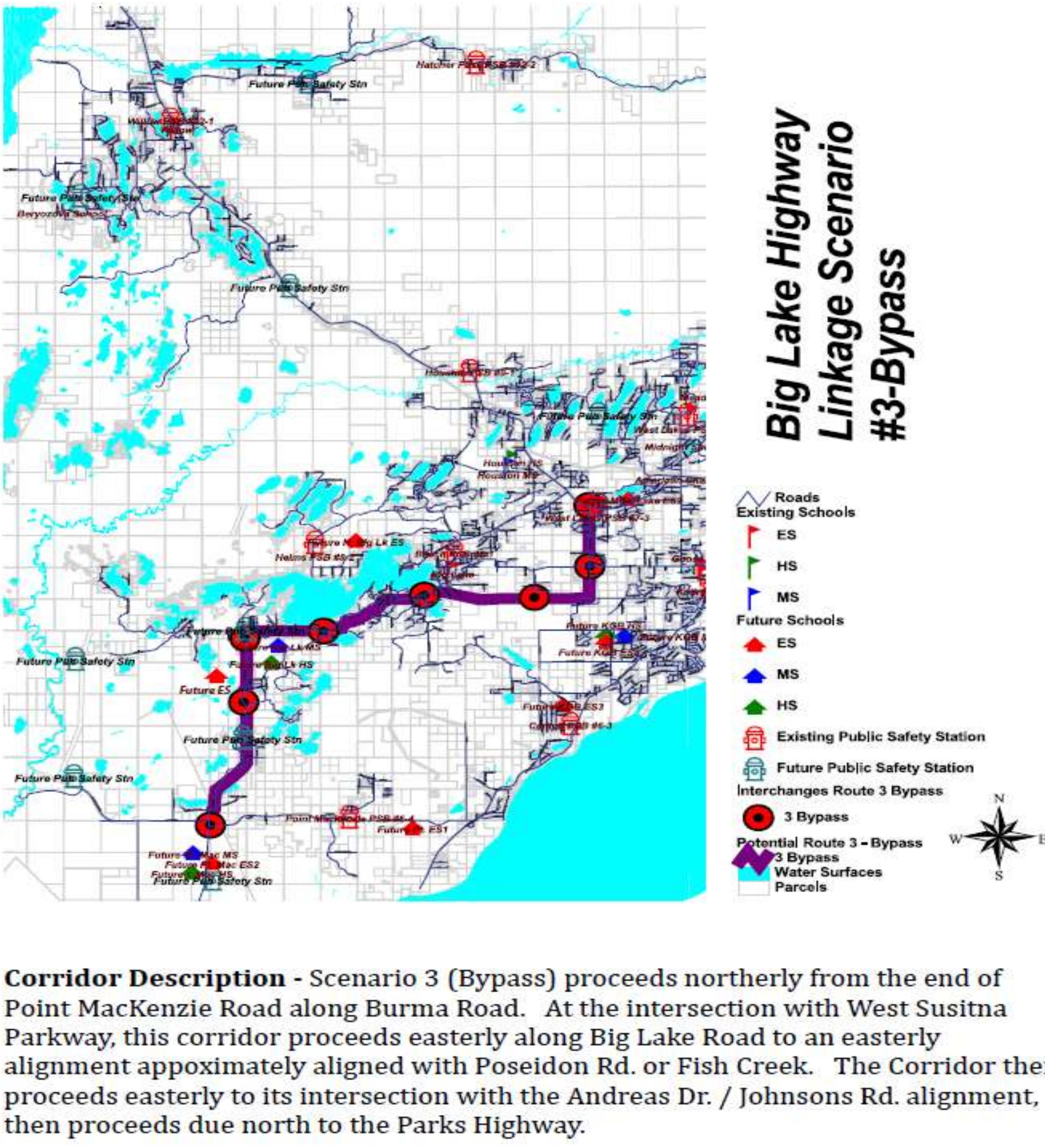


Corridor Description - Scenario 3 proceeds northerly from the end of Point MacKenzie Road along Burma Road. At the intersection with West Susitna Parkway, this corridor proceeds easterly along Big Lake Road to its intersection with the Parks Highway near Houston.

Figure 11 - Highway Corridor Scenario 3

Existing				
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future			Dwelling Units	Population
Miles of Road	17.4		Well / Septic	Well / Septic
ES	4		1726	4661
MS	1		Public Sewer	Public Sewer
HS	1		3866	10439
Public Safety Stations	6			
Interchange(s)	7			

Figure 12



Corridor Description - Scenario 3 (Bypass) proceeds northerly from the end of Point MacKenzie Road along Burma Road. At the intersection with West Susitna Parkway, this corridor proceeds easterly along Big Lake Road to an easterly alignment appoximately aligned with Poseidon Rd. or Fish Creek. The Corridor then proceeds easterly to its intersection with the Andreas Dr. / Johnsons Rd. alignment, then proceeds due north to the Parks Highway.

Figure 13 - Highway Corridor Scenario 3 Bypass

Existing				
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future			Dwelling Units	Population
Miles of Road	19.2		Well / Septic	Well / Septic
ES	4		2083	5625
MS	1		Public Sewer	Public Sewer
HS	1		4383	11835
Public Safety Stations	6			
Interchange(s)	8			

Figure 13A

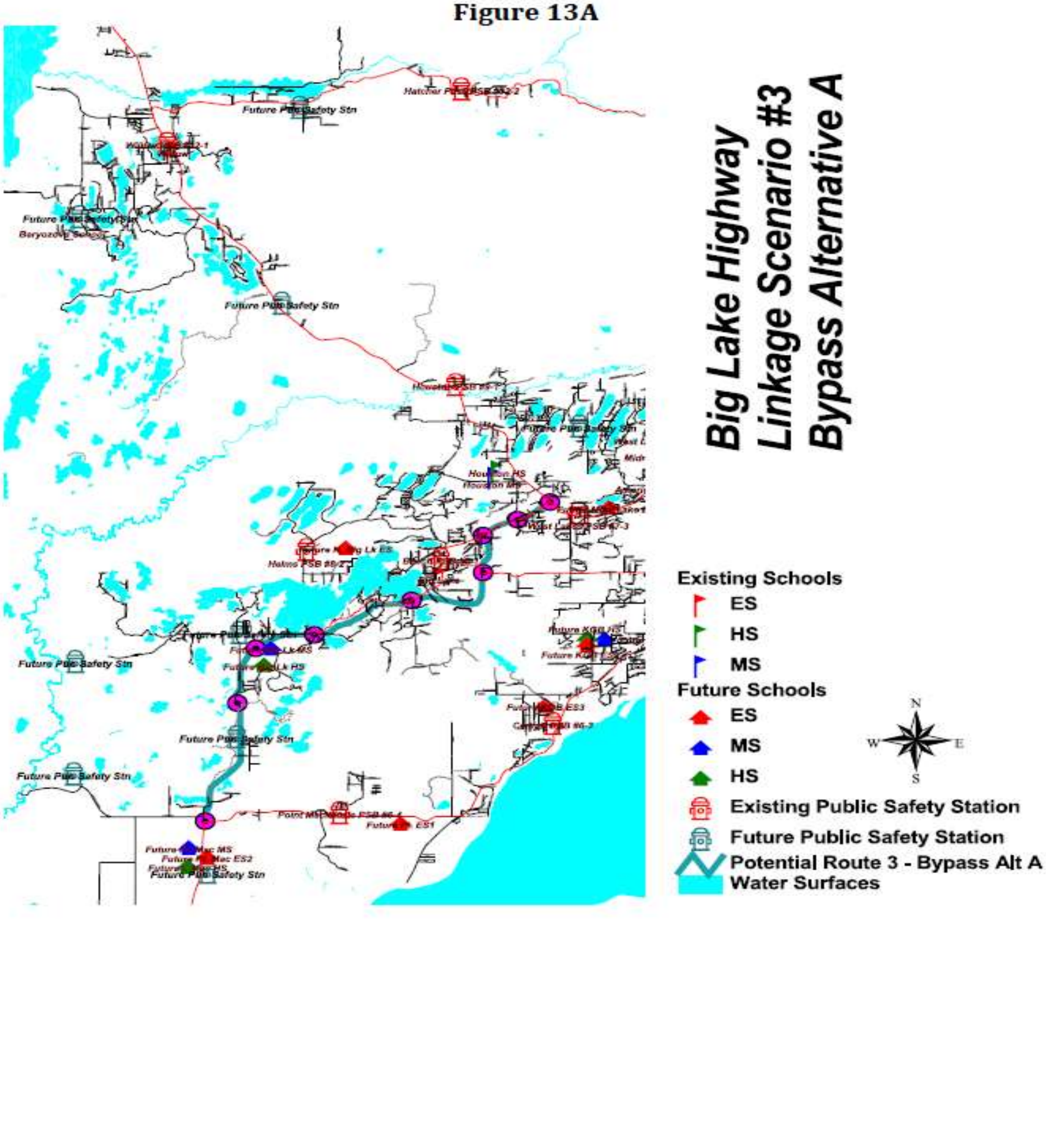
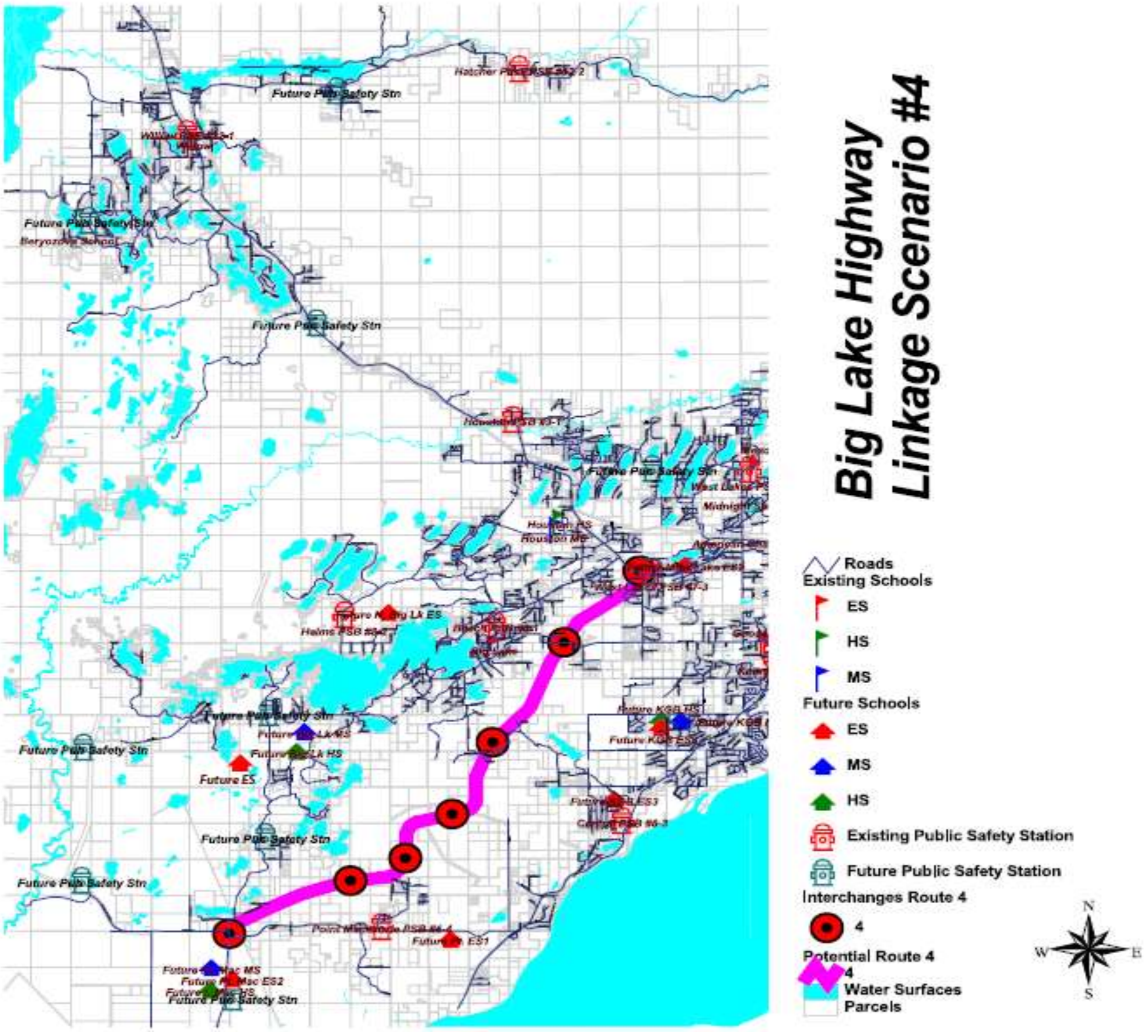

Big Lake Highway
Linkage Scenario #3
Bypass Alternative A
Existing Schools
ES
HS
MS
Future Schools
ES
MS
HS
N
W
E
S
Existing Public Safety Station
Future Public Safety Station
Potential Route 3 - Bypass Alt A
Water Surfaces

Figure 13B - Highway Corridor Scenario 3 Bypass Alterantive A

Existing				
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future			Dwelling Units	Population
Miles of Road	19.16		Well / Septic	Well / Septic
ES	4		2126	5741
MS	1		Public Sewer	Public Sewer
HS	1		4426	11951
Public Safety Stations	6			
Interchange(s)	10			

Corridor Description - Scenario 3 (Bypass) **Alterantive A** proceeds northerly from the end of Point MacKenzie Road along Burma Road. At the intersection with West Susitna Parkway, this corridor proceeds easterly along Big Lake Road to an easterly alignment appoximately aligned with Poseidon Rd. or Fish Creek. The Corridor then proceeds easterly to its intersection with Fish Creek where it bridges the creek, then turns north proceeding to Big Lake Rd. This alignment then proceeds northeasterly to the Parks Highway.

Figure 14

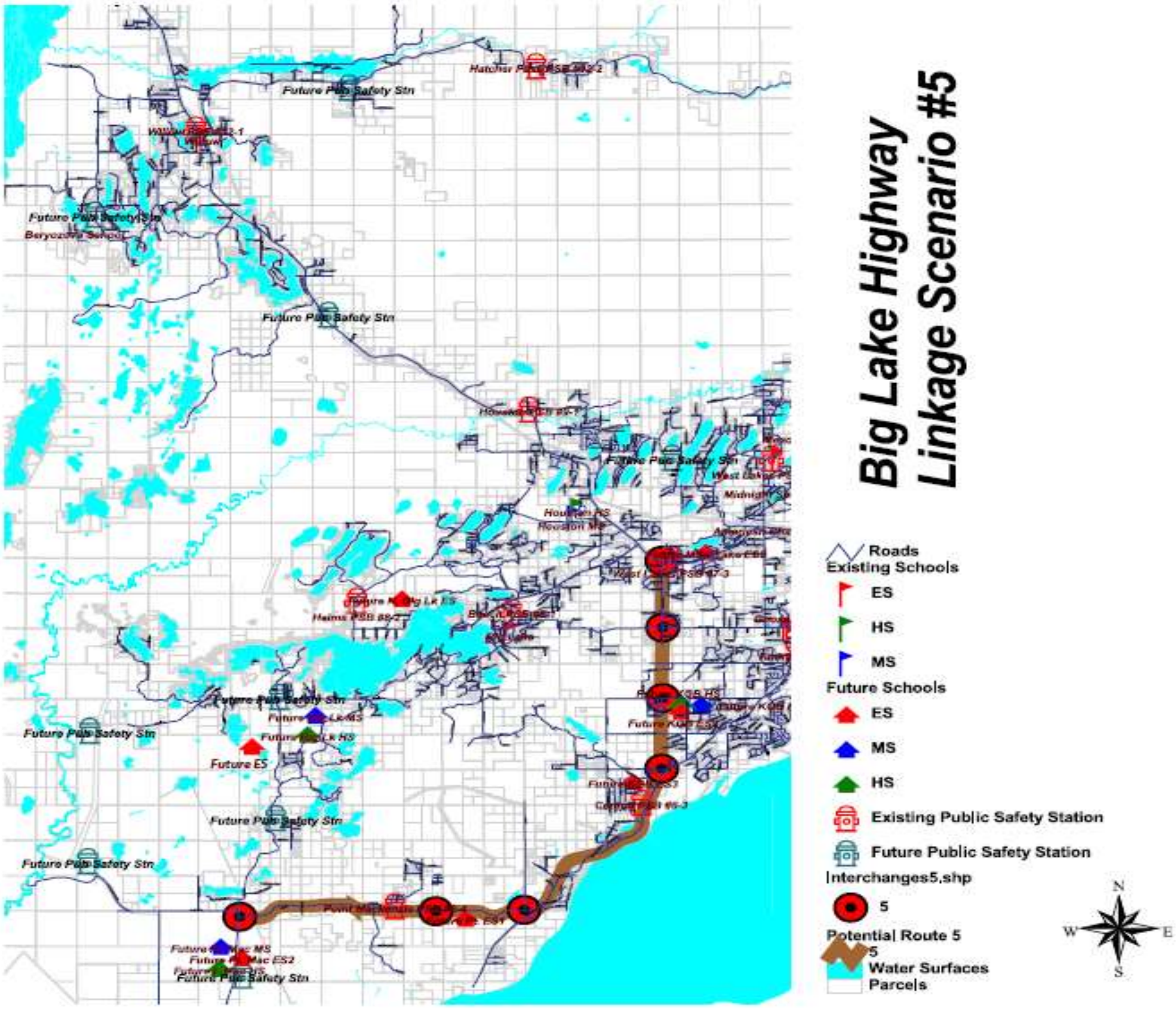


Corridor Description - Scenario 4 proceeds northeasterly through undeveloped areas from the end of Point MacKenzie Road to its intersection with the Parks Highway near the Johnsons Rd. alignment. This alignment is best described as the following the buffer between the Big Lake and Knik-Fairview Community Councils.

Figure 15 - Highway Corridor Scenario 4

Existing				
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future			Dwelling Units	Population
Miles of Road	15.8		Well / Septic	Well / Septic
ES	4		1653	4463
MS	1		Public Sewer	Public Sewer
HS	1		3793	10241
Public Safety Stations	6			
Interchange(s)	7			

Figure 16



Corridor Description - Scenario 5 proceeds from the intersection of Ayrshire and Pt. MacKenzie Roads easterly along Pt. MacKenzie Road to its intersection with Knik-Goose Bay Road. The corridor then proceeds northeasterly along KGB Road to its intersection with the Andreas Dr. / Johnsons Rd. alignment. The corridor then proceeds due north along the Andreas Dr. / Johnsons Rd. alignment to the Parks Highway.

Figure 17 - Highway Corridor Scenario 5

Existing				
Miles of Road	To Be Collected			
ES	1			
MS	1			
HS	1			
Public Safety Stations	2			
Future			Dwelling Units	Population
Miles of Road	18.8		Well / Septic	Well / Septic
ES	4		2286	6173
MS	1		Public Sewer	Public Sewer
HS	1		4746	12815
Public Safety Stations	6			
Interchange(s)	7			

Additional Population From Highway Interchanges by Type

The resulting additional population and dwelling units for each individual, additional highway interchange are summarized in Figure 18. These calculations address differing approaches to water and sewer, either well and septic or public water and sewer. The transportation multiplier shows the additional density expected due to the nature of the highway interchange that would result from a given scenario. Density increase factors for a continuation of the current well and septic system approach vs. adding public sewer are also shown in columns three and four. The remaining columns show the calculations for expected additional density for the well and septic model (green) and the public sewer model (yellow).

Figure 18

Additional Population Dwelling Units by Route - Big Lake Bypass Scenarios - 4/15/13

Intersection Category	Trans Multiplier	Expected Density Per Acre With Well / Septic Tanks	Expected Density Per Acre With Public Sewer	Influence Area in Acres	Default Build-out Units With Well / Septic Tanks	Default Build-out Units With Public Sewer	Build-out Units With Well / Septic and Highway Interchanges	Build-out Units With Public Sewer and Highway Interchanges	Dwelling Unit Additional Density with Well / Septic	Dwelling Unit Additional Density with Public Sewer	Population Additional Density (2.7PPH) with Well / Septic Tanks	Population Additional Density (2.7PPH) with Public Sewer
MatSu Core Crossroads	1.66	1	2.5	1000	1000	2500	1660	4150	660	1650	1782	4455
MatSu Intersection - Hwy / Major Arterial	1.5	1	2.5	640	640	1600	960	2400	320	800	864	2160
Rural Crossroads	1.5	1	1.5	640	640	960	960	1440	320	480	864	1296
Rural Neighborhood Center	1.25	0.5	0.5	320	160	160	200	200	40	40	108	108
Rural Intersection	1.1	0.2	0.2	160	32	32	35.2	35.2	3.2	3.2	8.64	9

Highway Corridors - Additional Density from Sum of Proposed Interchanges

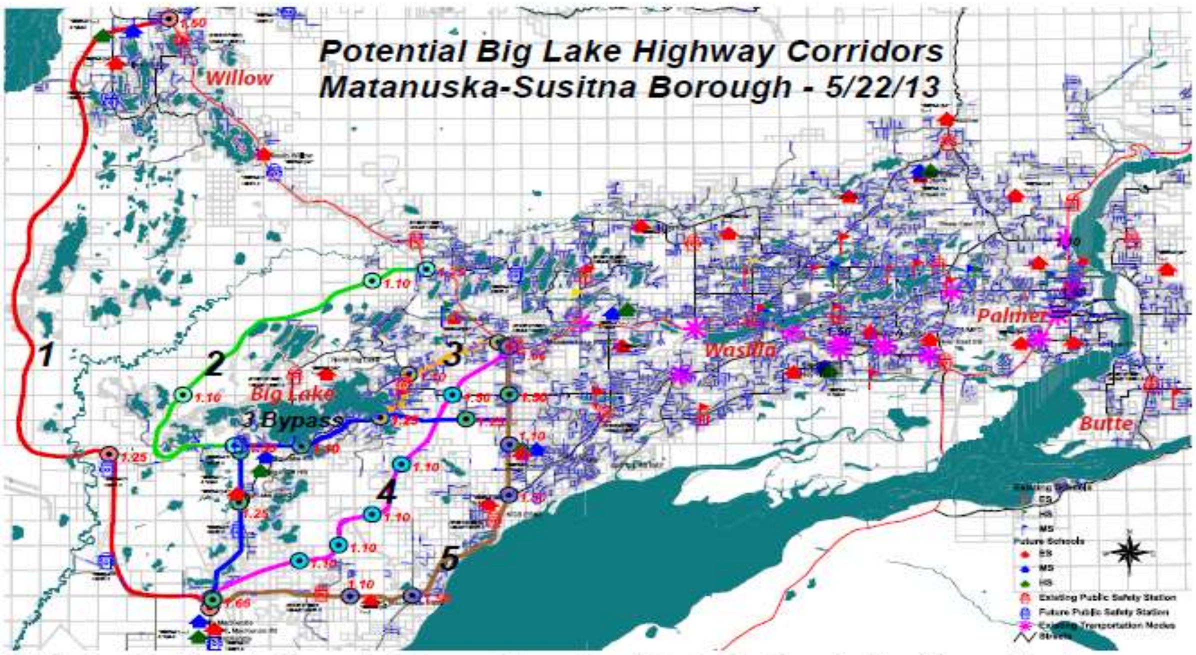
The total count of the interchanges that make up a given highway corridor scenario are addressed in Figure 19. The figure also shows the complete calculation of density by summing the individual additional density expected from each interchange for the schedule of interchanges for each highway corridor scenario. The two columns on the right display the expected additional population from the seven scenarios given either a continuation of well / septic (green) or the inclusion of public sewer (yellow).

Figure 19

Additional Population by Route Given Bridge / Highway with Interchanges at Build-out

	Multiplier	Build-out Density	Default_Den	Dwelling Unit Additional Density with Well / Septic	Dwelling Unit Additional Density with Public Sewer	Population Additional Density (2.7PPH) with Well / Septic Tanks	Population Additional Density (2.7PPH) with Public Sewer	*Additional Population with Well / Septic*	*Additional Population with Public Sewer*
1	1.66	- 2 DUA	1.5	660	1650	1782	4455	**2,754**	**5,859**
	1.5	- 2 DUA	1.5	320	480	864	1296		
	1.25	VLowOS	0.2	40	40	108	108		
				1020	**2170**	**2754**	**5859**		
2	1.66	- 2 DUA	1.5	660	1650	1782	4455	**2,879**	**5,984**
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.25	VLowOS	0.2	40	40	108	108		
	1.25	VLowOS	0.2	40	40	108	108		
	1.5	VLowOS	0.2	320	480	864	1296		
				1066.4	**2216.4**	**2879.28**	**5984.28**		
3	1.66	- 2 DUA	1.5	660	1650	1782	4455	**4,661**	**10,439**
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.5	VLowOS	0.2	320	480	864	1296		
	1.25	VLowOS	0.2	40	40	108	108		
	1.25	VLowOS	0.2	40	40	108	108		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.66	VLowOS	0.2	660	1650	1782	4455		
				1726.4	**3866.4**	**4661.28**	**10439.3**		
3 Bypass	1.66	- 2 DUA	1.5	660	1650	1782	4455	**5,625**	**11,835**
	1.25	- 5 DUA	3.5	40	40	108	108		
	1.25	VLowOS	0.2	40	40	108	108		
	1.5	VLowOS	0.2	320	480	864	1296		
	1.25	VLowOS	0.2	40	40	108	108		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.66	VLowOS	0.2	660	1650	1782	4455		
	1.5	VLowOS	0.2	320	480	864	1296		
				2083.2	**4383.2**	**5624.64**	**11834.6**		
3 Bypass Alternative A	1.66	- 2 DUA	1.5	660	1650	1782	4455	**5,741**	**11,951**
	1.25	- 5 DUA	3.5	40	40	108	108		
	1.25	VLowOS	0.2	40	40	108	108		
	1.5	VLowOS	0.2	320	480	864	1296		
	1.25	VLowOS	0.2	40	40	108	108		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.25	VLowOS	0.2	40	40	108	108		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.66	VLowOS	0.2	660	1650	1782	4455		
	1.5	VLowOS	0.2	320	480	864	1296		
				2126.4	**4426.4**	**5741.28**	**11951**		
4	1.66	- 2 DUA	1.5	660	1650	1782	4455	**4,463**	**10,241**
	1.66	VLowOS	0.2	660	1650	1782	4455		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.5	VLowOS	0.2	320	480	864	1296		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
				1652.8	**3792.8**	**4462.56**	**10240.6**		
5	1.66	- 5 DUA	2.5	660	1650	1782	4455	**6,173**	**12,815**
	1.5	- 5 DUA	3.5	320	480	864	1296		
	1.1	- 5 DUA	3.5	3.2	3.2	8.64	9		
	1.5	- 5 DUA	3.5	320	480	864	1296		
	1.66	VLowOS	0.2	660	1650	1782	4455		
	1.5	VLowOS	0.2	320	480	864	1296		
	1.1	VLowOS	0.2	3.2	3.2	8.64	9		
				2286.4	**4746.4**	**6173.28**	**12815.3**		

Figure 20*



* *This Graphic Excludes Scenario 3 Bypass Alternative A Due to the Complexity of Recreating the Graphic with an Additional Scenario*

Conclusion - This analysis calculates the expected increased density from seven highway linkage scenarios using assumptions consistent with the MatSu DBOS. All seven highway corridors seem to provide a logical degree of access to the southwestern portion of the Borough at ultimate build-out as shown in Figure 20. The highest population and dwelling unit increases come from corridor scenario 5. The other scenarios produce less population.

Big Lake Highway Reconnaissance Engineering Study

Matanuska-Susitna Borough

350 E. Dahlia Avenue

Palmer, AK 99645

March 2014

Table of Contents

1 Introduction

The intent of the Big Lake Community Impact Assessment (CIA) project is to identify socioeconomic impacts to the Big Lake Community Council (BLCC) and the City of Houston that could result from an improved connection between the Point MacKenzie Road/Ayrshire Road intersection and the Parks Highway. The CIA screens various corridors and establishes reasonable alternatives to be further studied in this report. This Reconnaissance Engineering report refines the alignments, establishes design criteria, and develop quantities for use in more detailed construction construction sot estimates. These estimates are based on preliminary alignment locations within the corridor, limited geotechnical data, and a cursory overview of the potential impacts. Since the final location of the roadway will be further adjusted to optimize construction materials and account for final impacts, the estimate reported herein should be used for comparison of alternatives rather than an accurate estimate of construction costs.

The proposed project will be built in two phases. Phase 1, the initial phase, would be a two lane divided highway with signalized intersections. Phase 2, the ultimate build out, would be a four lane divided highway with grade separated interchanges and frontage roads.

1.1 Purpose and Need

The project has many purposes, including:

- Determining what routes may be used to move Port MacKenzie- to-Parks Highway traffic through the Big Lake area.
- Improving the mobility of people and goods between Port MacKenzie area and the Parks Highway.
- Improving safety for motorized and non-motorized traffic.
- Accommodating projected traffic growth related to the Knik Arm Crossing (KAC), Port MacKenzie, and the Point MacKenzie area.

The needs for the project include the following:

- Automobile and truck traffic in the corridor is projected to increase due to new development, including the Goose Creek Correctional Center, Port MacKenzie, the KAC, and increasing residential and recreational use in the area.
- The existing road networks are not adequate to carry increased volumes of traffic through the Big Lake area.
- The Point MacKenzie-to-Parks Highway corridor is expected to be the primary connection for freight moving north out of Port MacKenzie and freight from the interior moving south to the Port. The corridor will also carry residential and commercial traffic between the Parks Highway and the KAC.

1.2 Study Area

The study area is between the Point MacKenzie/Ayshire Road intersection and the Parks Highway (see Figure 1).

2 Existing Infrastructure

There are no highways within Big Lake, although one of the primary access points to the Big Lake Community Council (BLCC) is via Big Lake Road from the Parks Highway. Some of the major roads within BLCC include South Big Lake Road, West Susitna Parkway, Burma Road, and West Hollywood Road. Most of the BLCC is located within the Big Lake Road Service Area (RSA) but portions of the southeast community council are located in the Knik RSA and a portion on the western edge of the BLCC is outside an RSA.

Alternative 3 and Alternative 3 Bypass – Option A largely follow Burma and Big Lake Roads. Burma Road is classified by DOT&PF as a rural local road. The road is mostly gravel with steep grades and tight curves. It is narrow by current standards. Big Lake Road is classified as a rural minor arterial by DOT&PF and is a 2 lane paved road. An approximately 2.5 mile section between Burma Road and Jade Lane is currently being realigned to improve safety and mobility. Construction is expected to be complete in the fall of 2014. The MSB is also planning to reconstruct the intersections of Big Lake Road with Northshore Drive and Hollywood Drive.

Alternative 3 Bypass – Option A follows the same route at Alternative 3 except for a 4.5 mile long bypass around the downtown area on the east side. At Echo Lake Drive, the alternative continues to the east requiring a bridge across Fish Creek. It then turns to the North requiring new roadway until it intersects with the existing Big Lake Road.

Alternative 5 largely follows Knik Goose Bay Road between Point MacKenzie Road and Johnson Road. This segment of Knik Goose Bay Road is classified by DOT&PF as a major collector. Johnson Road between Knik Goose Bay Road and Sunset Avenue has not been constructed. Between Sunset Avenue and the Hollywood, Johnson Road has been classified as a local road and only a portion of this segment has been constructed. Between Hollywood Road and the Parks Highway, Johnson Road is considered a major collector.

The barge dock at Port MacKenzie has recently been expanded. The Matanuska-Susitna Borough is currently constructing a rail extension between the Port and the railroad mainline near Willow.

3 Transportation Demand

3.1 Traffic Analysis

For each of the reasonable alternatives, a traffic forecast was developed to identify how much traffic would be attracted to each alternative. The traffic forecast was based on the MSB's Traffic Model. In order to incorporate the MSB build out projections for each alternative, traffic forecasts were developed using the 2010 socioeconomic conditions and the 2035 roadway network to model future traffic conditions. The traffic volumes were then grown using the population increase predicted by the MSB build out to forecast future traffic volumes. The build out year is assumed to be in year 2060. Refer to Appendix C of the Big Lake Community Impact Assessment for detailed traffic maps of each alternative.

Table 1 Average Daily Traffic at Build Out

Alternative	Downtown Big Lake	Burma	Knik-Goose Bay	Big Lake Road @ Parks Highway
3	21,500	16,100	12,100	26,100
3 Bypass – Option A	5,300	18,700	12,000	28,000
5	10,300	2,900	33,000	17,100

3.2 Construction Sequencing

Development and construction costs of the alternative assume phased construction. Initially, the two-lane typical section would be developed along the corridor, utilizing existing 2-lane roadway where possible. During this initial phase of the project, ROW for the full 4-lane would be purchased to secure the area needed for the ultimate expansion and preserve the corridor. Construction costs assume ROW acquisition in the first phase of project development. Depending on development patterns and timing of the increased traffic, the 2-lane roadway will be ultimately developed into the 4-lane divided highway section. Costs are shown for the full 4-lane divided with frontage roads representing the full build out option. The conversion of the 2-lane section to the 4-lane divided section will likely occur in phases depending on where along the corridor communities develop.

3.3 Design Criteria

Currently, Point MacKenzie Road is a designated as part of the National Highway System from tie-in to the future Knik Arm Crossing to Ayrshire Road. The proposed connection would also become part of the National Highway System (NHS). To maintain continuity along the corridor, the design criteria for the project have been proposed to be consistent with the future upgrade of Point MacKenzie Road (the north end of the Knik Arm Crossing). The design criteria conform to the current edition of the Alaska Department of Transportation & Public Facilities (DOT&PF) *Highway Preconstruction Manual* (PCM) and to the American Association of State Highway and Transportation Officials (AASHTO) *Policy on Geometric Design of Highways and Street* (PGDHS) 2004 guidelines. The design criteria used for the reconnaissance engineering and analysis for the highway are shown in Table 4-1, and the criteria used for the frontage roads are shown in Table 4-2.

Table 2 Project Design Criteria – 4-Lane Divided Highway

Element	Value	Source
Functional Classification	Rural Principal Arterial	AASHTO, 2004, p.8
Design Year	2035	
Design Year ADT	Burma Road North - 7,400 Point MacKenzie Rd East – 10,600	Burma Road Recon Report, 2011

Element	Value	Source
Design Hourly Volume (DHV)	15% of ADT	AASHTO, 2004, p.61
Level of Service	B	AASHTO, 2004, p.504
Design Vehicle	WB-120D Tractor Double Trailer	
Design Speed	70 mph	AASHTO, 2004, p.503
Terrain	Level to Rolling	AASHTO, 2004, p.231
Stopping Sight Distance	730 feet	AASHTO, 2004, Exhibit 3-1
Passing Sight Distance	2,480 feet	AASHTO, 2004, Exhibit 3-7
Maximum Allowable Grade	4.0%	AASHTO, 2004, Exhibit 8-1
Minimum Allowable Grade	0.0%	PCM, 2005, Figure 1120-1
Minimum Curve Radius	2,040 feet @ 6% superelevation	AASHTO, 2004, Exhibit 3-26
Minimum K Value for Vertical Curves	Crest: 247 *SSD 2,197 **PSD Sag:181 *SSD	AASHTO, 2004, Exhibit 3-73 AASHTO, 2004, Exhibit 3-72 AASHTO, 2004, Exhibit 3-75 *Stopping Sight Distance **Passing Sight Distance
Number of Roadways	One	
Number of Lanes	2 – Initial Phase 4 Divided – Final Build-out	
Width of Traveled Way	12 feet	AASHTO, 2004, p.504-505
Width of Shoulders	Outside – 10 feet Inside – 4 feet	AASHTO, 2004, p.505
Median Width (Edge of traveled way to edge of traveled way)	46 feet	AASHTO, 2004, p.509
Proposed Right-of-Way	400 feet	
Surface Treatment	Paved	
Side Slopes Ratios (within Clear Zone)	Foreslopes – 6:1 Backslopes – 2:1	PCM, 2005, Table 1130-2
Degree of Access Control	Access management/full control	

Element	Value	Source
Illumination	Ramp and intersection safety lighting	
Curb Usage and Type	Intersection delineation	
Pedestrian/Bicycle Provisions	12 feet Joint-use pathway	PCM, 2005, Table 1210-1
Clear Zone	30 feet	PCM, 2005, Table 1130-2

Table 1 Project Design Criteria – Frontage Road

Element	Value	Source
Functional Classification	Minor Collector	AASHTO, 2004, p.9
Design Year	2035	
Design Year ADT	Unknown	
Design Hourly Volume (DHV)	15% of ADT	AASHTO, 2004, p.61
Level of Service	C	AASHTO, 2004, p.420
Design Vehicle	WB-67 Tractor-Trailer	
Design Speed	55 mph	AASHTO, 2004, p.422
Terrain	Level to Rolling	AASHTO, 2004, p.231
Stopping Sight Distance	425 feet	AASHTO, 2004, Exhibit 3-1,
Passing Sight Distance	1,835 feet	AASHTO, 2004, Exhibit 3-7
Maximum Allowable Grade	7.0%	AASHTO, 2004, Exhibit 8-1
Minimum Allowable Grade	0.0%	Alaska Highway Preconstruction Manual, 2005, Figure 1120-1
Minimum Curve Radius	833 feet	AASHTO, 2004, Exhibit 3-26
Minimum K Value for Vertical Curves	Crest: 84 *SSD 1,203 **PSD Sag:96 *SSD	AASHTO, 2004, Exhibit 3-73 AASHTO, 2004, Exhibit 3-72 AASHTO, 2004, Exhibit 3-75 *Stopping Sight Distance **Passing Sight Distance
Number of Roadways	Two	
Number of Lanes	2	

Element	Value	Source
Width of Traveled Way	12 feet	AASHTO, 2004, p.504-505
Width of Shoulders	6 feet	AASHTO, 2004, p.512 and 384 (assuming 1500 ADTmin)
Proposed Right-of-Way	Inclusive in overall 600-foot ROW proposed above	
Surface Treatment	Paved	
Side Slopes Ratios (within Clear Zone)	Foreslopes – 6:1 Backslopes – 2:1	PCM, 2005, Table 1130-2
Degree of Access Control	Regulated	
Illumination	Ramp and intersection safety lighting	
Curb Usage and Type	Intersection delineation	
Pedestrian/Bicycle Provisions	12 foot joint-use pathway	PCM, 2005, Table 1210-1
Clear Zone	18 feet	PCM, 2005, Table 1130-2

3.4 Design Speed

Design speed is an important standard, and should not be confused with posted speed. Posted speeds are set mostly by studies of driver comfort, and usually represent the 85th percentile of users. Design speed is critical because many of the other parameters of a project are based on this criterion. The above minimum design values should be used wherever practical, especially on a sparsely populated rural road.

For a rural principal arterial with controlled access in rolling terrain, AASHTO recommends design speeds from 60 to 75 MPH. A design speed of 70 MPH is recommended for this project and is consistent with the design speed for Point MacKenzie Road (which will be upgraded as part of the Knik Arm Crossing Project). The design speed of 55 MPH is proposed on the frontage road system.

4 Access Management & Control

AASHTO recommends access control on any new facility where the likelihood of development would exist. Managing access is critical to the successful operation of a major highway and protection of the investment, while failing to manage access is a major cause of highway obsolescence. This is particularly important for the National Highway System. Thus, to prevent future congestion from uncontrolled accesses, as experienced on regional facilities such as the Parks Highway through Wasilla, the corridor will be protected with the controlled-access designation. Frontage roads and access interchanges will be provided when traffic or safety considerations warrant construction.

5 Right-of-Way

For this project, a ROW controlled access corridor of 400' to 450' is recommended to accommodate the final build out typical section. Anything less than this width will likely result in the loss of frontage road connectivity and threaten the access control program outlined by the Knik Arm Crossing Project.

6 Design Alternatives

The Big Lake CIA has identified three alternatives to connect the Point MacKenzie/Ayrshire Road intersection and the Parks Highway These proposed alternatives are the result of refinement of alternatives through engineering analysis and public process, preliminary engineering based on previous studies in the area (including the Matanuska-Susitna Borough (MSB) Long Range Transportation Plan, the Burma Road Improvements Reconnaissance Engineering Report (DOT&PF 2011 – Appendix C), the South Big Lake Road Realignment Reconnaissance Engineering Report (DOT&PF 2010), the Port MacKenzie Rail Corridor Study (ARRC 2007), the Matanuska-Susitna Borough Rail Corridor Study (Tryck Nyman Hayes, 2003), the 2010 BLCC Transportation Projects Location Map, and the BLCC Comprehensive Plan (Agnew::Beck 2009)) and input from local stakeholders such as the MSB, BLCC representatives, local residents, and others. The initial corridors were one mile wide and are to indicate the general location of a connection between Port Mackenzie Road/Ayeshire Road and the Parks Highway. Alignments within these corridors were developed balancing earthwork needs, and minimizing impacts. During the CIA planning process, 7 alternatives (5 corridors with two variants) were considered, several were dismissed due to a failure to meet the purpose and need for the project or for other considerations. Refer to the CIA for detailed review of all the alternatives.

6.1 Alternative 3

Alternative 3 starts at Point MacKenzie Road/Ayrshire Road and connects to the Parks Highway near Big Lake Road. This alternative generally follows Burma Road, Susitna Parkway, South Big Lake Road, and Big Lake Road. Portions of this alignment have had reconnaissance reports completed by DOT&PF for S. Big Lake Road (2010) and Burma Road (2011). However, a reconnaissance study for Big Lake Road through downtown Big Lake has not been completed. Construction costs estimates results from the 2011 Burma Road Reconnaissance Study are included with the further evaluation in this report with the final cost estimates presented representing the full alternative from Point MacKenzie Road/Ayshire Road to the Parks Highway.

6.2 Alternative 3 Bypass – Option A

Alternative 3 Bypass – Option A is similar to Alternative 3, except that it includes a short bypass around the Big Lake Town Center to the west (between Echo Lake Drive and Maplewood Drive). The bypass is approximately one mile east of Big Lake Road. Costs presented for this alternative also include the results of the 2011 Burma Road Reconnaissance Report.

6.3 Corridor 5

Corridor 5 starts at Point MacKenzie/Ayrshire Road and connects to the Parks Highway west of Big Lake. This corridor generally follows Port MacKenzie Road, Knik Goose Bay Road, and Johnson Road.

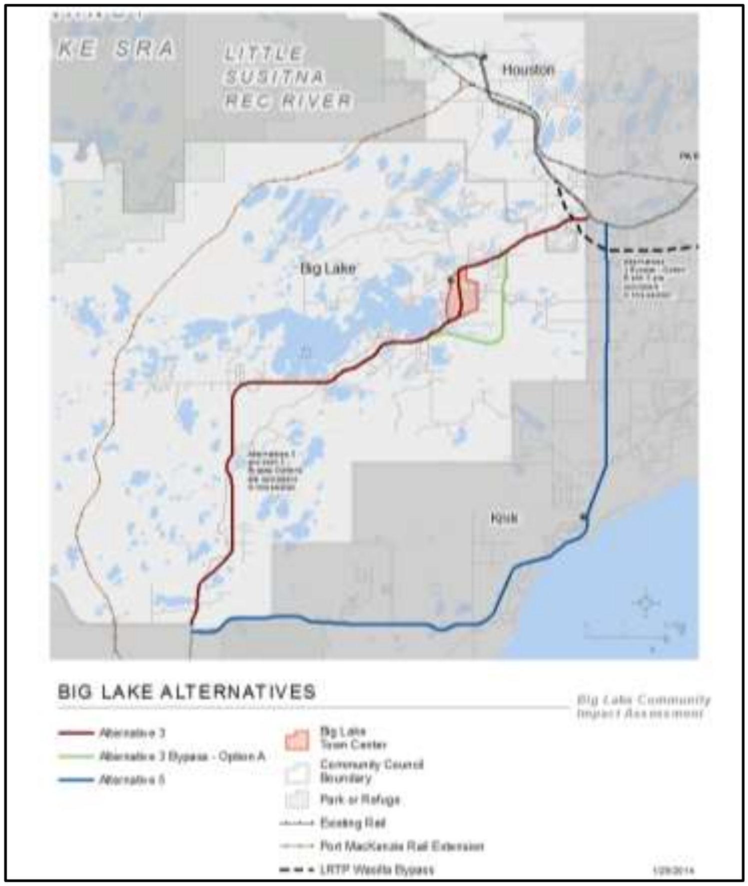


Figure 1 Alternatives

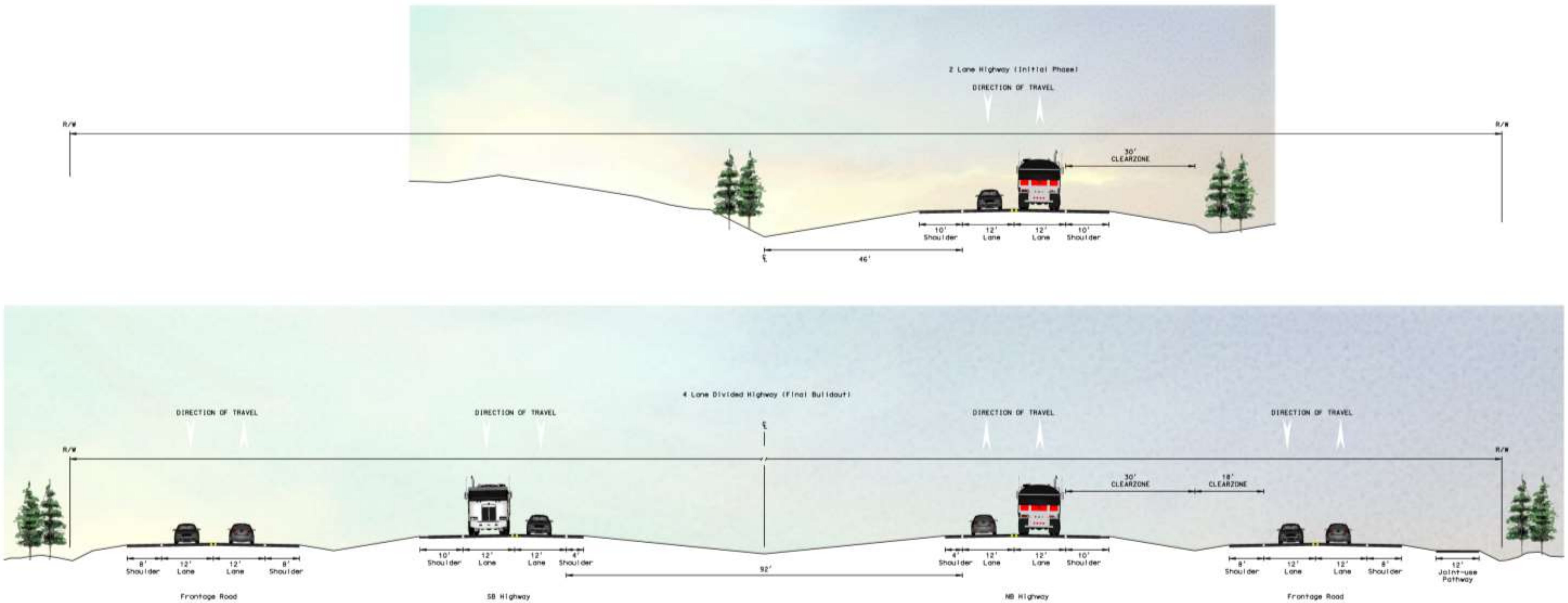
6.4 Typical Section

Each preliminary build alternative consists of an initial two-lane highway with paved shoulders. An ultimate build out would consist of a four-lane divided highway with controlled access, and two-lane, two-way frontage roads on each side where necessary.

- Paved shoulders are 10 feet wide on the outside of the highway, 4 feet on the inside of the highway and 8 feet on the frontage roads;
- Typical fill sections: 6:1 foreslopes for 30 feet, then to 2:1 slopes;
- Typical cut sections: 6:1 foreslopes for 30 feet, then 2:1 backslopes;
- Ditch depths are 4 feet.

Typical sections for the initial and ultimate build scenarios are shown in Figure 2. The initial build assumes use of existing 2-lane roadway where the alignment coincides, except for Alternative 5 between Point MacKenzie Road and Knik Goose Bay Road. This 2-lane section of existing roadway will need to be rebuilt for the initial phase, due to existing pavement condition, geometry, and should width deficiencies.

Figure 2 Typical Sections



6.5 Lane Widths

Roadway lane widths are influential to the safety and comfort of driving. Following the guidance of AASHTO, travel lanes for the highway and frontage roads will be designed to be 12 feet wide. This will provide desirable clearance for opposing traffic and increase the level of service of the new roadway.

6.6 Shoulders

The shoulder is the "portion of the roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use, and lateral support of the sub-base, base, and surface courses," as recommended by AASHTO and DOT&PF, the initial two-lane highway will have 8-foot shoulders. The ultimate four-lane highway will have inside and outside shoulders that are 4 feet and 10 feet wide, respectively. The frontage roads will have 8-foot shoulders.

6.7 Sideslopes

According to AASHTO, sideslopes are "designed to ensure roadway stability and to provide a reasonable opportunity for recovery for an out-of-control vehicle." A vehicle can negotiate a slope of 6:1 or less with a high chance of recovery, and thus is the desirable sideslope ratio. Where practical, 6:1 sideslopes will be proposed in the design of the alternatives to provide a reasonable recovery area prior to the transition to a more cost-effective 2:1 slope. On more significant fills, a 2:1 fill slope, protected by guardrail, will be incorporated into the design to reduce earthwork quantities as well as to reduce impacts to area resources.

The width of the clear zone area is 30 feet on the highway and 18 feet on the frontage roads as measured from the edge of the travel way.

6.8 Pathways

Joint-use pathways are important for allowing pedestrians and bicycles to use a roadway while physically separating them from vehicle traffic. As part of the four-lane highway, a 12-foot joint-use pathway is recommended.

6.9 Intersections/Interchanges

Phase 2 – Number of Interchanges

Alternative	# of Interchanges
3	7
3 Bypass	8
5	7

Interchange

Figure 3 Interchange Locations

6.10 Frontage Roads

The location of frontage roads will be identified at a later date as it depends on adjacent land uses. Frontage roads should be considered in areas where increased access is needed such as area with high intensity commercial use.

6.11 Construction Costs

Construction costs were determined using a combination of project quantities and general percentage-of-construction-cost items. These costs for the phase construction are shown in Appendix B and are summarized below.

CONSTRUCTION COSTS						
	ALTERNATIVE 3 2 LANE	ALTERNATIVE 3 4 LANE	ALTERNATIVE 3A 2 LANE	ALTERNATIVE 3A 4 LANE	ALTERNATIVE 5 2 LANE	ALTERNATIVE 5 4-Lane
CONSTRUCTION TOTAL	$46,512,180	$459,064,226	$80,997,577	$536,398,188	$132,779,949	$514,841,297
ENVIRONMENTAL PERMITTING (5%)	$2,325,609	$22,953,211	$4,049,879	$26,819,909	$6,638,997	$25,742,065
DESIGN ENGINEERING (10%)	$4,651,218	$45,906,423	$8,099,758	$53,639,819	$13,277,995	$51,484,130
UTILITIES (2%)	$930,244	$9,181,285	$1,619,952	$10,727,964	$2,655,599	$10,296,826
ROW*	$8,430,000	$0	$9,040,000	$0	$10,050,000	$0
SUBTOTAL	$62,849,251	$537,105,145	$103,807,165	$627,585,880	$165,402,541	$602,364,317
ICAP (5%)	$3,142,463	$26,855,257	$5,190,358	$31,379,294	$8,270,127	$30,118,216
GRAND TOTAL	**$65,991,713**	**$563,960,402**	**$108,997,523**	**$658,965,174**	**$173,672,668**	**$632,482,533**

*ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase

6.12 Utilities

Natural gas provided by Enstar is located in some parts of the Big Lake area with the main utility being electric supplied by Matanuska Electric Association (MEA). MEA is a member-owned cooperative. The

Matanuska Telephone Association (MTA) is a member-owned telecommunications cooperative that offers telecommunications service to the Big Lake area. A detailed design and comprehensive survey will be needed to accurately locate all utilities and fully determine the impacts and costs. Utility costs were determined to be 3% of the construction costs for this effort.

6.13 ROW

Right-of-way costs were estimated at $10,000.00 per acre and for an assumed width of 400 feet along the entire roadway alignment. Although many sections of the alignments include existing MSB and/or DOT&PF ROW, the full acreage was assumed to account for relocation and re-establishment of access costs. Further analysis to determine actual

6.14 Soils

The Natural Resources Conservation Service (NRCS) produces a soil survey that shows the location and arrangement of different soil types. The survey includes soil properties, their potential uses, and their limitations such as the soil's suitability for road construction, building construction, and septic system drainage. Soil that is considered severely limiting does not mean that the construction can not be developed there; rather it means that the area is likely to have a higher construction cost or higher maintenance cost than an area that is not severely limiting. For the purposes of this analysis, soil that is considered severely limiting for road construction, building construction and septic systems was considered a constraint. Evaluation of severely limiting soils for the 3 alternatives is shown below.

Severely Limiting Soils

Alternative	Length in Severely Limiting Soils (mi)	Total Length	% in Severely Limited Soils
3	4.28	17.41	24.58
3A	6.78	19.16	35.39
5	8.13	18.80	43.24

7 Environmental Requirements and Coordination

7.1 Contaminated Sites, Spills, and Underground Storage Tanks

The Alaska Department of Environmental Conservation (DEC) Contaminated Sites Program Database and map of contaminated sites identifies 30 contaminated sites or Leaking Underground Storage Tanks (LUSTs) as having an address in Big Lake. Twelve of these sites are located are located near the waterbody of Big Lake, two are located in the vicinity of the Parks Highway and Big Lake Road intersection, one is located near the Parks Highway and Johnson Road intersection, and one is located on the south side of Big Lake Road, approximately one mile from the Parks Highway and Big Lake Road intersection. Cleanup has been completed at all but four active sites. A review of the DEC map indicates there are no known contaminated sites or LUSTs along this section of Knik Goose Bay Road. The DEC also reports 16 underground storage tanks (USTs) as having an address in Big Lake.

Additional research regarding the location of contaminated sites, spills, and underground storage tanks should be conducted at a later time.

7.2 Wetlands

Wetlands were categorized from 1 to 4. Areas with uplands were classified 0. Wetlands with rating of Category 1 are expected to allow for the easiest construction and have the fewest regulatory and design permitting challenges. Areas with a suitability rating of Category 4 are expected to pose the greatest challenges to construction, including the most permitting and design challenges. Category 4 areas would likely require water crossings, addressing strong regulatory concern and stringent environmental considerations, and result in a longer, more complicated permit acquisition process. These suitability categories are based on the wetland type associated with the NWI mapping data and the general wetland functions that these wetland types typically perform. The wetland data indicates there are

Figure 4 – Wetland Constraints

wetlands present on all three alignments. Ultimately, wetland locations need to be field verified in the future.

7.3 Fish and Wildlife

Anadromous Fish Streams: The Alaska Department of Fish and Game *Atlas to the Catalog of Waters Important to the Spawning, Rearing or Migration of Anadromous Fishes* indicates that are several cataloged anadromous waterbodies in the project vicinity. Alternatives 3 and 3 Bypass – Option A cross two (Fish Creek and Lucille Creek, and Alternative 5 crosses three (Goose Creek, Fish Creek, and Lucille Creek).

Resident Fish Streams: Smaller streams, ditches, and other water bodies along each alignment would require further study to determine the presence of fish.

Essential Fish Habitat: NOAA classifies the habitat associated with salmon spawning listed in ADF&G's *Atlas to the Catalog of Waters Important to the Spawning, Rearing or Migration of Anadromous Fishes* as Essential Fish Habitat (EFH).

Threatened and Endangered Species: The USFWS website indicates no threatened, endangered, proposed, or candidate species in the study area.

Eagle Nests: Eagle nests may be impacted by any of the alignments. A recent survey for eagle nests prior to vegetation removal or road development will be needed to be in compliance with the Bald and Golden Eagle Protection Act (16 USC 668a - 668d).

National Wildlife Refuges: The USFWS website indicates no National Wildlife Refuges would be crossed by any of the alignments.

7.4 Navigability

Per the Corps of Engineers Alaska District, there is one navigable waterway, the Little Susitna River, identified within the study area. This river is not impacted by any of the alternatives.

7.5 Air Quality

The project area is not in a nonattainment area so no air quality analysis was performed.

7.6 Noise

No noise analysis was performed as part of this study. Noise levels and noise abatement measures will be evaluated at a later time.

7.7 Floodplain

The US Army Corps of Engineers website includes no mapped floodplains in the project area; however, the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) identifies the area adjacent to the Little Susitna River as Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood.

7.8 National Parks, Preserves, Monuments and Wild and Scenic Rivers

The Bureau of Land Management and National Park Service Alaska Region websites on CCC indicate no National Parks, Preserves, Monuments, or Wild and Scenic Rivers in the study area.

7.9 Trails

Trails are important to residents in the Big Lake area. They are used for a variety of recreational purposes including snow machining and dog mushing. The trails are regularly used by teams training for sled dog races such as the Iditarod. Two areas with high concentration of heavily used trails include the Aurora Dog Mushing area and the West Gateways Trail area. Both of these area are not affected by the 3 alternatives reviewed. The table shows the number of potential trail crossings[1].

Alternative	Length	Trail Crossings	Notes
3	17.5 Miles	4	
3A	18.6 Miles	5	
5	20.5 Miles	2	

7.10 State, Borough or Local Parks and Recreation Areas

See CIA

7.11 Historical, Archeological and Cultural Properties

Historic, archaeological and cultural properties may be found in the study area, and the Iditarod National Historic Trail crosses the study area. A study of these resources should be conducted when an alternative is chosen to comply with federal and state regulations.

8 Maintenance Considerations

The Department will maintain the full 4-lane highway as part of the NHS. Expenses are usually expressed in terms of cost ($9,000) per lane-mile. Each pass of a grader is considered a “lane”, so if a roadway also has a shoulder to plow, each is considered an additional lane. Therefore, a typical two-lane paved road with 8-foot shoulders (40-feet wide) will cost approximately $36,000/mile to maintain for a year. With an average length of ~18 miles, the costs for maintaining the 2-lane (4 lane miles) and 4-lane divided section (8 lane miles) would be ~$648,000 and ~$1,230,000, respectively.

[1] The actual number of trail crossing is likely to vary for a variety of reasons include some trails have not been mapped, some trails are informal trails and do not have official standing, some trails are likely to be rerouted as they become official trails or to reduce the number of crossings, and the local of the project may be refined to reduce the number of crossings.

9 Conclusions

The alignments presented above represent reasonable alternative for connecting traffic from the Port MacKenzie Road the Parks Highway. Further analysis of ROW impacts and associated costs of maintaining access along existing routes in needed to further refine the location of the alignment within the corridors. Specifically, the ROW required along alternative 3 and 3a impacts a substantial number of developed parcels. Additional geotechnical and survey date, combined with utility impacts will also support further analysis of the impacts and refinement of the construction.

Appendix A - Plan Set

Appendix B – Cost Estimate Worksheets

Appendix C –Burma Road Improvements Reconnaissance Engineering Report, DOT&PF, 2011

Big Lake Corridor Reconnaissance Study & Community Impact Assessment

ALTERNATIVE 3, 2-LANE OPTION

COST ESTIMATE

TYPICAL SECTION

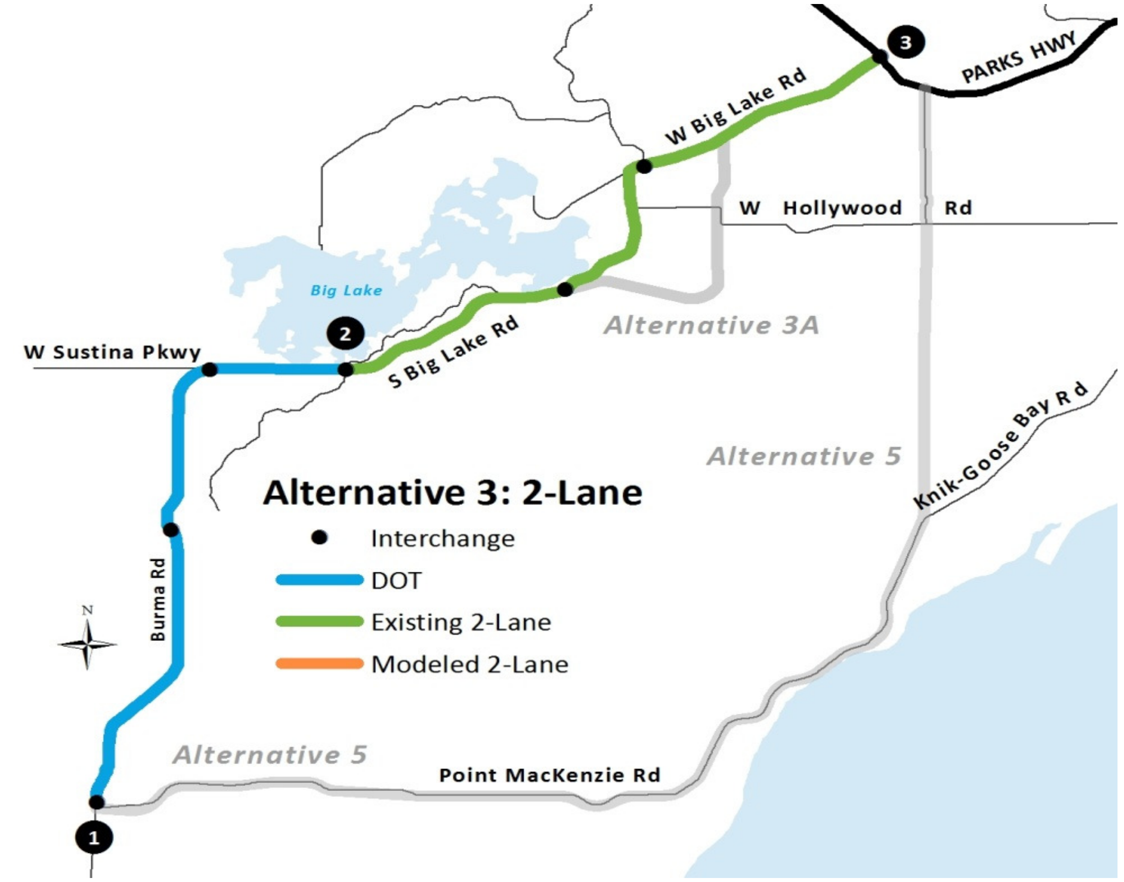
Proposed 2-Lane Highway: 10' -- 12' - 12' - 10' = **44-feet or Existing Roadway**

ROADWAY LENGTHS

SEGMENT 1 (Point 1 to 2)	DOT&PF	8.6	MILES
SEGMENT 2 (Point 2 to 3)	EXISTING	8.2	MILES
TOTAL LENGTH		**16.8**	MILES

STRUCTURAL SECTION (inches)

ACP Type II =	2"
ABC =	6"
Borrow "A" =	24"
Borrow "C" =	varies



MSB CONSTRUCTION SEGMENT BREAKDOWN

DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201(3A)	ACRE	$10,000.00	0.0	$0.00
UNCLASSIFIED EXCAVATION	203(3)	CU YD	$7.00	0	$0.00
BORROW, TYPE A	203(6A)	TON	$8.00	0	$0.00
BORROW, TYPE C	203(6C)	TON	$5.00	0	$0.00
CRUSHED AGGREGATE BASE COURSE	301(1)	TON	$22.50	0	$0.00
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401(1)	TON	$135.00	0	$0.00
ASPHALT CEMENT, GRADE 58-34	401(2)	TON	$700.00	0	$0.00
SEEDING	618(1)	ACRE	$5,000.00	0.0	$0.00
TOPSOIL	620(1)	SQ YD	$1.50	0	$0.00
SIGNING AND STRIPING		LANE MILE	$100,000.00	0	$0.00
INTERCHANGE		EACH	$24,000,000.00	0	$0.00
FISH PASSAGE		EACH	$1,000,000.00	0	$0.00
TRAIL CROSSING		EACH	$700,000.00	0	$0.00
DRAINAGE MEASURES (10%)		LUMP SUM	$0.00	ALL REQUIRED	$0.00
EROSION AND POLLUTION (3%)		LUMP SUM	$0.00	ALL REQUIRED	$0.00
SURVEYING (3%)		LUMP SUM	$0.00	ALL REQUIRED	$0.00
CONSTRUCTION TRAFFIC CONTROL(5%)		LUMP SUM	$0.00	ALL REQUIRED	$0.00
MOBILIZATION(5%)		LUMP SUM	$0.00	ALL REQUIRED	$0.00
ROADWAY SUBTOTAL					**$0**
CONTIGENCY (20%)					**$0**
CONSTRUCTION ENGINEERING (15%)					**$0**
SEGMENT 1 (AKDOT&PF ESTIMATE)*					**$46,512,180**
SEGMENT 2 (EXISTING ROADWAY)					**$0**
CONSTRUCTION COSTS SUBTOTAL					**$46,512,180**
ENVIRONMENTAL PERMITING (5%)					**$2,325,609**
DESIGN ENGINEERING (10%)					**$4,651,218**
UTILITIES (2%)**					**$930,244**
ROW($10,000/Acre)***					**$8,430,000**
SUBTOTAL					**$62,849,251**
ICAP (5%)					**$3,142,463**
CONSTRUCTION GRAND TOTAL					**$65,991,713**

*Escalated from 2011 Dollars to 2014 Dollars using AK CPI inflation figures

** Utility impacts estimated at 2% of Construction Costs

***ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase

ASSUMPTIONS: Clear Zone: 30-feet
Slopes: 6:1 (20'); 2:1

TABLE of ESTIMATING FACTORS

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	
Crushed Aggregate Base Course (tons)	145 lb/ft^3	
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft^3	
ACP (tons)	152 lb/ft^3	
ATB AC Oil (tons)	5.5 % of ATB	

Big Lake Corridor Reconnaissance Study & Community Impact Assessment

ALTERNATIVE 3, 4-LANE OPTION

COST ESTIMATE

TYPICAL SECTION

Proposed 4-Lane Highway with Frontage Roads: 10' -- 12' - 12' - 8' - 42' - 42' - 8' - 12' - 12' -10' -12' - 12'= 192 **Feet**

Frontage Roads: 10' -12' - 12' - 10' =44 Feet

Maximum Typical Section Width = 347 Feet

ROADWAY LENGTHS

SEGMENT 1 (Point 1 to 2)	DOT&PF	8.6	MILES
SEGMENT 2 (Point 2 to 3)	MSB	8.9	MILES
TOTAL LENGTH		**17.5**	MILES

STRUCTURAL SECTION (inches)

ACP Type II =	2"
ABC =	6"
Borrow "A" =	24"
Borrow "C" =	varies

MSB CONSTRUCTION SEGMENT 2 BREAKDOWN

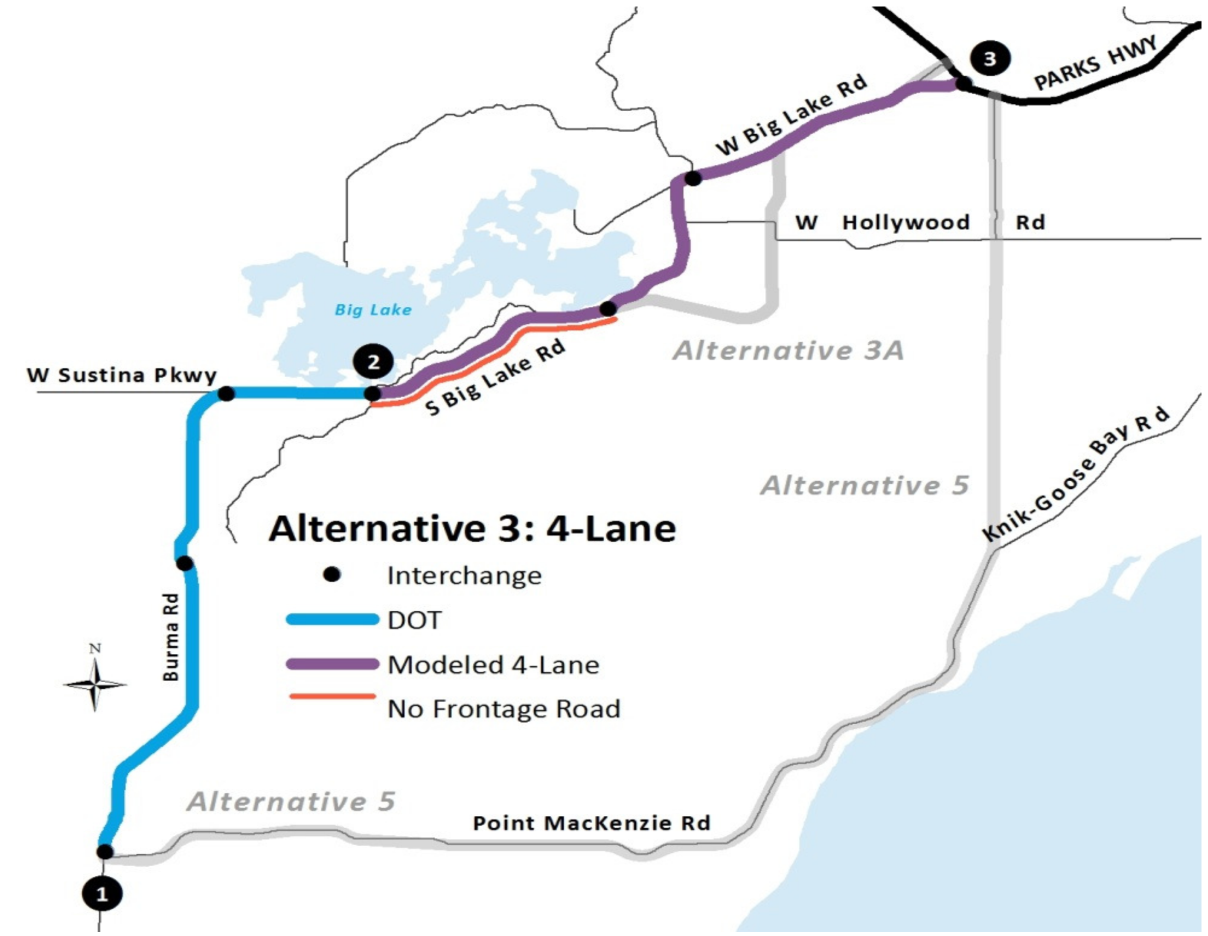
DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201(3A)	ACRE	$10,000.00	391.3	$3,913,400.00
UNCLASSIFIED EXCAVATION	203(3)	CU YD	$7.00	4,463,977	$31,247,835.92
BORROW, TYPE A	203(6A)	TON	$8.00	1,301,816	$10,414,531.88
BORROW, TYPE C	203(6C)	TON	$5.00	1,763,257	$8,816,283.95
CRUSHED AGGREGATE BASE COURSE	301(1)	TON	$22.50	242,459	$5,455,318.77
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401(1)	TON	$135.00	82,999	$11,204,844.02
ASPHALT CEMENT, GRADE 58-34	401(2)	TON	$700.00	4,565	$3,195,455.52
SEEDING	618(1)	ACRE	$5,000.00	240.9	$1,204,722.26
TOPSOIL	620(1)	SQ YD	$1.50	1,166,171	$1,749,256.71
SIGNING AND STRIPING		LANE MILE	$100,000.00	71	$7,120,000.00
INTERCHANGE		EACH	$24,000,000.00	7	$168,000,000.00
FISH PASSAGE		EACH	$1,000,000.00	3	$3,000,000.00
TRAIL CROSSING		EACH	$700,000.00	4	$2,800,000.00
DRAINAGE MEASURES (10%)		LUMP SUM	$25,812,164.90	ALL REQUIRED	$25,812,164.90
EROSION AND POLLUTION (3%)		LUMP SUM	$7,743,649.47	ALL REQUIRED	$7,743,649.47
SURVEYING (3%)		LUMP SUM	$7,743,649.47	ALL REQUIRED	$7,743,649.47
CONSTRUCTION TRAFFIC CONTROL(5%)		LUMP SUM	$12,906,082.45	ALL REQUIRED	$12,906,082.45
MOBILIZATION(5%)		LUMP SUM	$12,906,082.45	ALL REQUIRED	$12,906,082.45

SEGMENT 2 ROADWAY SUBTOTAL	**$258,121,649**
SEGMENT 2 CONTIGENCY (20%)	**$51,624,330**
SEG. 2 CONSTRUCTION ENGINEERING (15%)	**$38,718,247**
SEGMENT 1 (AKDOT&PF ESTIMATE)*	**$110,600,000**
CONSTRUCTION COSTS SUBTOTAL	**$459,064,226**
ENVIRONMENTAL PERMITING (5%)	**$22,953,211**
DESIGN ENGINEERING (10%)	**$45,906,423**
UTILITIES (2%)**	**$9,181,285**
ROW($10,000/ACRE)***	**$0**
SUBTOTAL	**$537,105,145**
ICAP (5%)	**$26,855,257**
CONSTRUCTION GRAND TOTAL	**$563,960,402**

*Escalated from 2011 Dollars to 2014 Dollars using AK CPI inflation figures

** Utility impacts estimated at 2% of Construction Costs

***ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase



ASSUMPTIONS: Clear Zone: 30-feet

Slopes: 6:1 (20'); 2:1

TABLE of ESTIMATING FACTORS

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	
Crushed Aggregate Base Course (tons)	145 lb/ft^3	
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft^3	
ACP (tons)	152 lb/ft^3	
ATB AC Oil (tons)	5.5 % of ATB	

Big Lake Corridor Reconnaissance Study & Community Impact Assessment

ALTERNATIVE 3A, 2-LANE OPTION

COST ESTIMATE

TYPICAL SECTION

Proposed 2-Lane Highway: 10' -- 12' - 12' - 10' = **44-feet**

ROADWAY LENGTHS

SEGMENT 1 (Point 1 to 2)	DOT&PF	8.6	MILES
SEGMENT 2 (Point 2 to 3)	EXISTING	3.7	MILES
SEGMENT 3 (Point 3 to 4)	MSB	5.6	MILES
SEGMENT 4 (Point 4 to 5)	EXISTING	0.7	MILES
TOTAL LENGTH		**18.6**	MILES

STRUCTURAL SECTION (inches)

ACP Type II =	2"
ABC =	6"
Borrow "A" =	24"
Borrow "C" =	varies

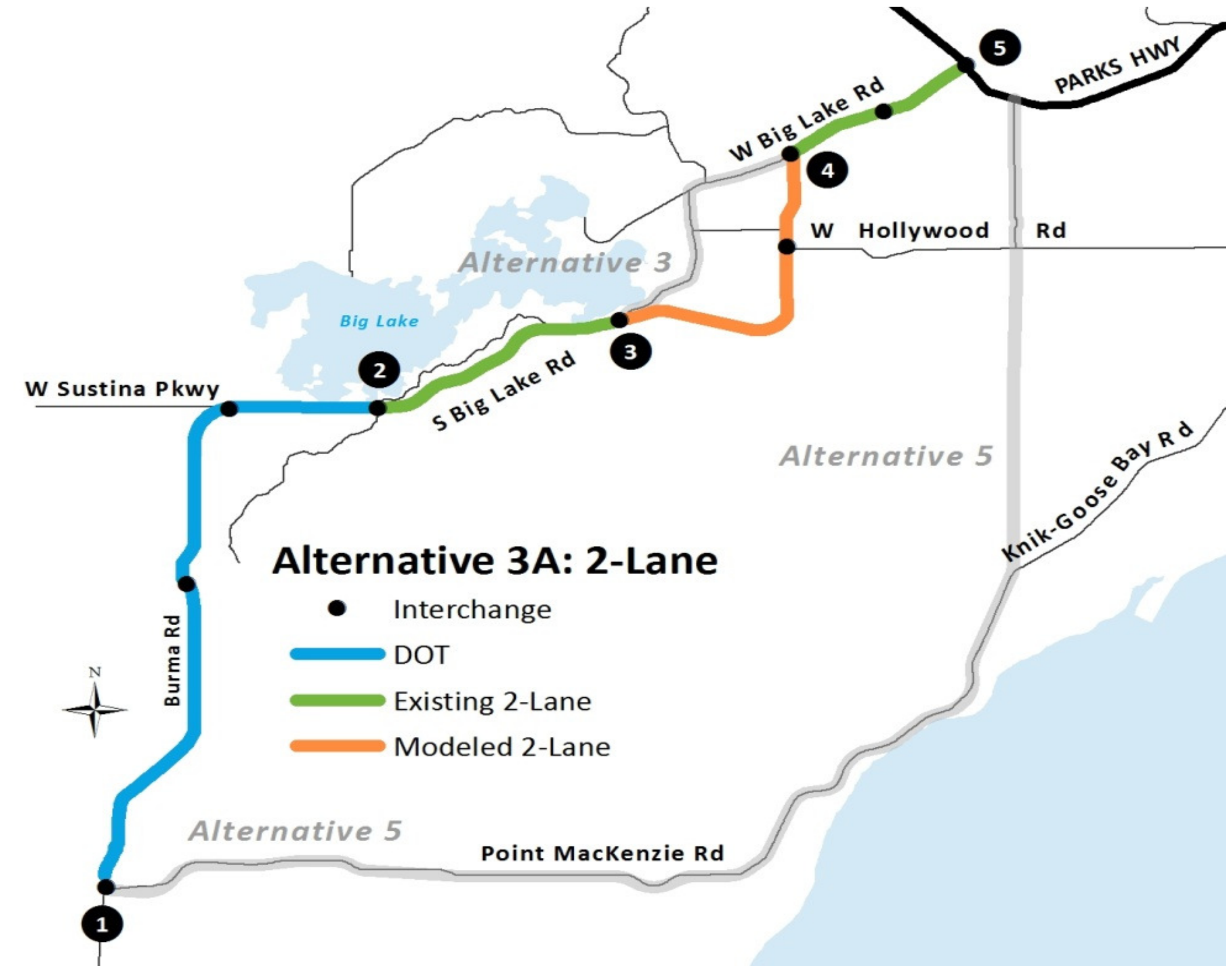
MSB CONSTRUCTION SEGMENT 3 BREAKDOWN

DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201(3A)	ACRE	$10,000.00	60.9	$609,000.00
UNCLASSIFIED EXCAVATION	203(3)	CU YD	$7.00	586,819	$4,107,735.17
BORROW, TYPE A	203(6A)	TON	$8.00	208,128	$1,665,024.76
BORROW, TYPE C	203(6C)	TON	$5.00	273,642	$1,368,209.08
CRUSHED AGGREGATE BASE COURSE	301(1)	TON	$22.50	38,024	$855,539.27
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401(1)	TON	$135.00	11,981	$1,617,483.77
ASPHALT CEMENT, GRADE 58-34	401(2)	TON	$700.00	659	$461,282.41
SEEDING	618(1)	ACRE	$5,000.00	39.2	$195,947.68
TOPSOIL	620(1)	SQ YD	$1.50	189,677	$284,516.03
SIGNING AND STRIPING		LANE MILE	$100,000.00	45	$4,480,000.00
INTERCHANGE		EACH	$24,000,000.00	0	$0.00
FISH PASSAGE		EACH	$1,000,000.00	5	$5,000,000.00
TRAIL CROSSING		EACH	$700,000.00	7	$4,900,000.00
DRAINAGE MEASURES (10%)		LUMP SUM	$2,554,473.82	ALL REQUIRED	$2,554,473.82
EROSION AND POLLUTION (3%)		LUMP SUM	$766,342.15	ALL REQUIRED	$766,342.15
SURVEYING (3%)		LUMP SUM	$766,342.15	ALL REQUIRED	$766,342.15
CONSTRUCTION TRAFFIC CONTROL(5%)		LUMP SUM	$1,277,236.91	ALL REQUIRED	$1,277,236.91
MOBILIZATION(5%)		LUMP SUM	$1,277,236.91	ALL REQUIRED	$1,277,236.91
SEGMENT 3 ROADWAY SUBTOTAL					**$25,544,738**
CONTIGENCY (20%)					**$5,108,948**
CONSTRUCTION ENGINEERING (15%)					**$3,831,711**
SEGMENT 1 (AKDOT&PF ESTIMATE)*					**$46,512,180**
SEGMENT 2 (EXISTING ROADWAY)					**$0**
SEGMENT 4 (EXISTING ROADWAY)					**$0**
CONSTRUCTION COSTS SUBTOTAL					**$80,997,577**
ENVIRONMENTAL PERMITING (5%)					**$4,049,879**
DESIGN ENGINEERING (10%)					**$8,099,758**
UTILITIES (2%)**					**$1,619,952**
ROW($10,000/ACRE)***					**$9,040,000**
SUBTOTAL					**$103,807,165**
ICAP (5%)					**$5,190,358**
CONSTRUCTION GRAND TOTAL					**$108,997,523**

*Escalated from 2011 Dollars to 2014 Dollars using AK CPI inflation figures

** Utility impacts estimated at 2% of Construction Costs

***ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase



ASSUMPTIONS: Clear Zone: 30-feet

Slopes: 6:1 (20'); 2:1

TABLE of ESTIMATING FACTORS

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	
Crushed Aggregate Base Course (tons)	145 lb/ft^3	
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft^3	
ACP (tons)	152 lb/ft^3	
ATB AC Oil (tons)	5.5 % of ATB	

Big Lake Corridor Reconnaissance Study & Community Impact Assessment

ALTERNATIVE 3A, 4-LANE OPTION

COST ESTIMATE

TYPICAL SECTION

Proposed 4-Lane Highway with Frontage Roads: 10' -- 12' - 12' - 8' - 42' - 42' - 8' - 12' - 12' -10' -12' - 12'= 192 **Feet**

Frontage Roads: 10' -12' - 12' - 10' =44 Feet

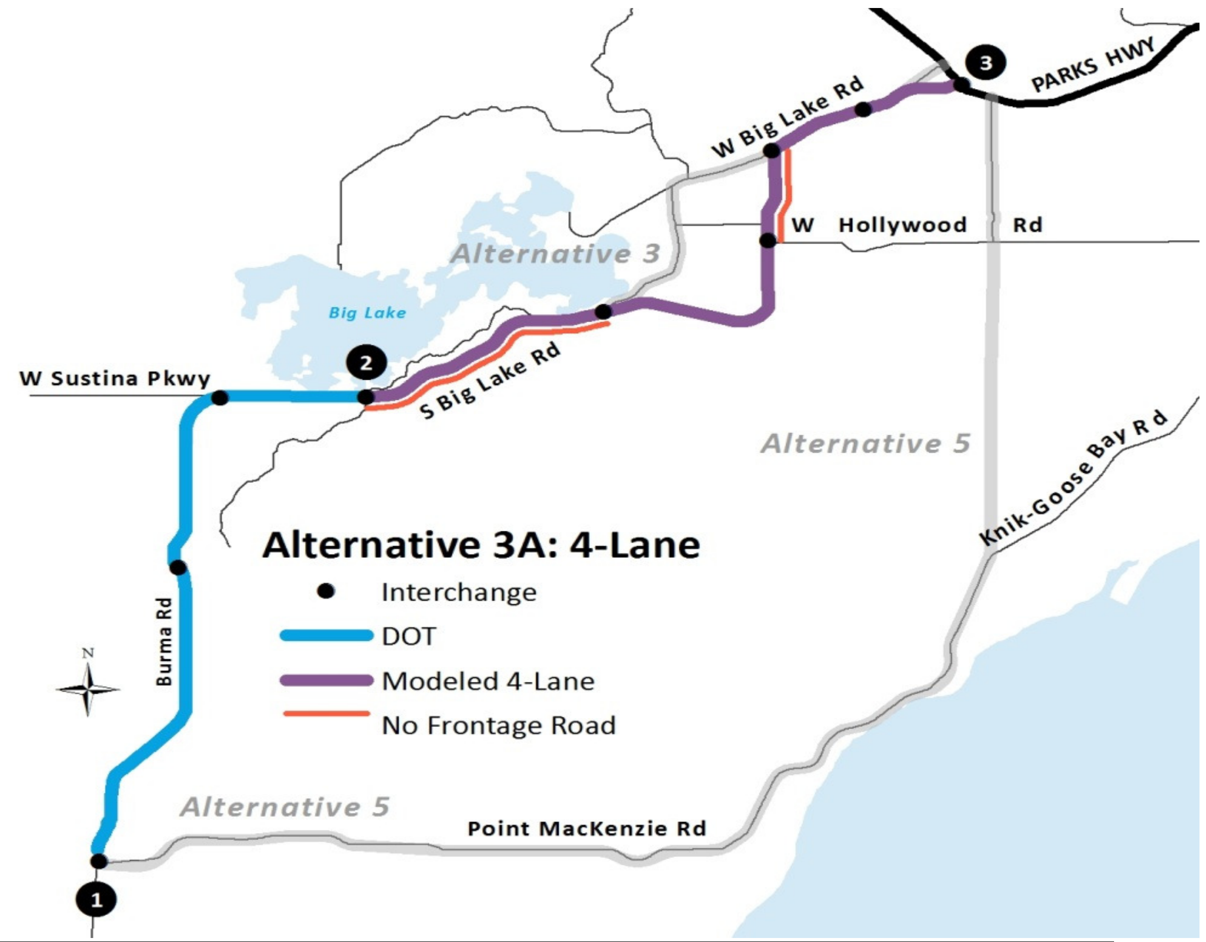
Maximum Typical Section Width = 347 Feet

ROADWAY LENGTHS

SEGMENT 1 (Point 1 to 2)	DOT&PF	8.6	MILES
SEGMENT 2 (Point 2 to 3)	MSB	10	MILES
TOTAL LENGTH		**18.6**	MILES

STRUCTURAL SECTION (inches)

ACP Type II =	2"
ABC =	6"
Borrow "A" =	24"
Borrow "C" =	varies



MSB CONSTRUCTION SEGMENT 3 BREAKDOWN

DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201(3A)	ACRE	$10,000.00	399.8	$3,998,000.00
UNCLASSIFIED EXCAVATION	203(3)	CU YD	$7.00	4,671,319	$32,699,235.03
BORROW, TYPE A	203(6A)	TON	$8.00	1,306,297	$10,450,374.49
BORROW, TYPE C	203(6C)	TON	$5.00	2,302,765	$11,513,825.57
CRUSHED AGGREGATE BASE COURSE	301(1)	TON	$22.50	241,123	$5,425,265.96
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401(1)	TON	$135.00	82,743	$11,170,368.88
ASPHALT CEMENT, GRADE 58-34	401(2)	TON	$700.00	4,551	$3,185,623.72
SEEDING	618(1)	ACRE	$5,000.00	249.9	$1,249,335.95
TOPSOIL	620(1)	SQ YD	$1.50	1,209,357	$1,814,035.79
SIGNING AND STRIPING		LANE MILE	$100,000.00	80	$8,000,000.00
INTERCHANGE		EACH	$24,000,000.00	9	$216,000,000.00
FISH PASSAGE		EACH	$1,000,000.00	5	$5,000,000.00
TRAIL CROSSING		EACH	$700,000.00	7	$4,900,000.00
DRAINAGE MEASURES (10%)		LUMP SUM	$31,540,606.54	ALL REQUIRED	$31,540,606.54
EROSION AND POLLUTION (3%)		LUMP SUM	$9,462,181.96	ALL REQUIRED	$9,462,181.96
SURVEYING (3%)		LUMP SUM	$9,462,181.96	ALL REQUIRED	$9,462,181.96
CONSTRUCTION TRAFFIC CONTROL(5%)		LUMP SUM	$15,770,303.27	ALL REQUIRED	$15,770,303.27
MOBILIZATION(5%)		LUMP SUM	$15,770,303.27	ALL REQUIRED	$15,770,303.27
SEGMENT 2 ROADWAY SUBTOTAL					**$315,406,065**
CONTIGENCY (20%)					**$63,081,213**
CONSTRUCTION ENGINEERING (15%)					**$47,310,910**
SEGMENT 1 (AKDOT&PF ESTIMATE)*					**$110,600,000**
CONSTRUCTION COSTS SUBTOTAL					**$536,398,188**
ENVIRONMENTAL PERMITING (5%)					**$26,819,909**
DESIGN ENGINEERING (10%)					**$53,639,819**
UTILITIES (2%)**					**$10,727,964**
ROW($10,000/ACRE)***					**$0**
SUBTOTAL					**$627,585,880**
ICAP (5%)					**$31,379,294**
CONSTRUCTION GRAND TOTAL					**$658,965,174**

*Escalated from 2011 Dollars to 2014 Dollars using AK CPI inflation figures

** Utility impacts estimated at 2% of Construction Costs

***ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase

ASSUMPTIONS: Clear Zone: 30-feet

Slopes: 6:1 (20'); 2:1

TABLE of ESTIMATING FACTORS

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	
Crushed Aggregate Base Course (tons)	145 lb/ft^3	
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft^3	
ACP (tons)	152 lb/ft^3	
ATB AC Oil (tons)	5.5 % of ATB	

Big Lake Corridor Reconnaissance Study & Community Impact Assessment

ALTERNATIVE 5, 2-LANE OPTION

COST ESTIMATE

TYPICAL SECTION

Proposed 2-Lane Highway: 10' -- 12' - 12' - 10' = **44-feet**

ROADWAY LENGTHS

SEGMENT 1 (Point 1 to 2)	MSB	8.5	MILES
SEGMENT 2 (Point 2 to 3)	EXISTING	3.1	MILES
SEGMENT 3 (Point 3 to 4)	MSB	9.1	MILES
TOTAL LENGTH		**20.7**	MILES

STRUCTURAL SECTION (inches)

ACP Type II =	2"
ABC =	6"
Borrow "A" =	24"
Borrow "C" =	varies

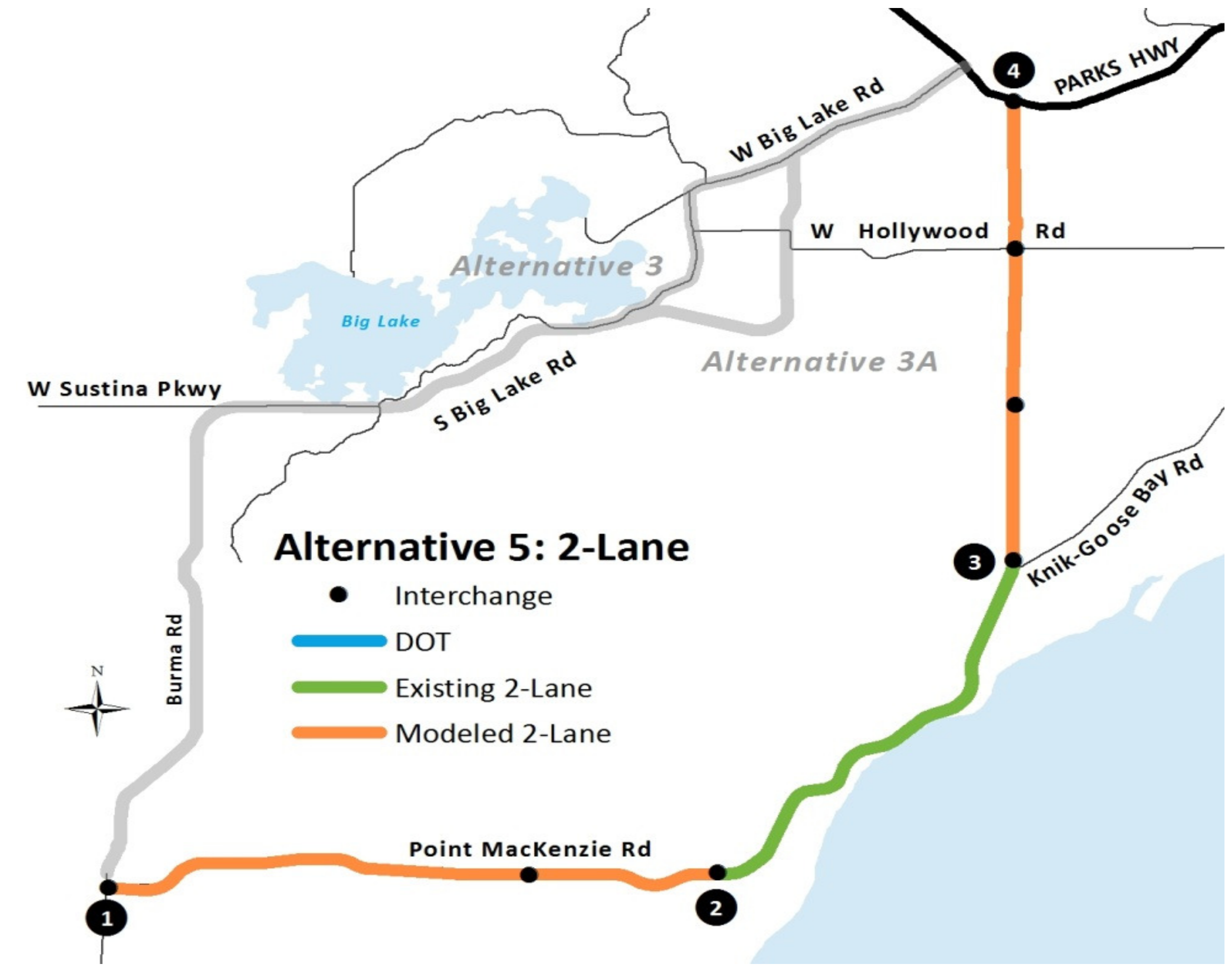
MSB CONSTRUCTION SEGMENT 1 AND 3 BREAKDOWN

DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201(3A)	ACRE	$10,000.00	216.1	$2,161,000.00
UNCLASSIFIED EXCAVATION	203(3)	CU YD	$7.00	1,890,609	$13,234,264.61
BORROW, TYPE A	203(6A)	TON	$8.00	621,326	$4,970,604.58
BORROW, TYPE C	203(6C)	TON	$5.00	9,579,013	$47,895,065.60
CRUSHED AGGREGATE BASE COURSE	301(1)	TON	$22.50	113,513	$2,554,045.09
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401(1)	TON	$135.00	35,768	$4,828,682.99
ASPHALT CEMENT, GRADE 58-34	401(2)	TON	$700.00	1,967	$1,377,068.85
SEEDING	618(1)	ACRE	$5,000.00	151.3	$756,438.18
TOPSOIL	620(1)	SQ YD	$1.50	732,232	$1,098,348.24
SIGNING AND STRIPING		LANE MILE	$100,000.00	141	$14,080,000.00
INTERCHANGE		EACH	$24,000,000.00	0	$0.00
FISH PASSAGE		EACH	$1,000,000.00	4	$4,000,000.00
TRAIL CROSSING		EACH	$700,000.00	2	$1,400,000.00
DRAINAGE MEASURES (10%)		LUMP SUM	$9,835,551.81	ALL REQUIRED	$9,835,551.81
EROSION AND POLLUTION (3%)		LUMP SUM	$2,950,665.54	ALL REQUIRED	$2,950,665.54
SURVEYING (3%)		LUMP SUM	$2,950,665.54	ALL REQUIRED	$2,950,665.54
CONSTRUCTION TRAFFIC CONTROL(5%)		LUMP SUM	$4,917,775.91	ALL REQUIRED	$4,917,775.91
MOBILIZATION(5%)		LUMP SUM	$4,917,775.91	ALL REQUIRED	$4,917,775.91
SEGMENT 1 AND 3 ROADWAY SUBTOTAL					**$98,355,518**
CONTIGENCY (20%)					**$19,671,104**
CONSTRUCTION ENGINEERING (15%)					**$14,753,328**
SEGMENT 2 (EXISTING ROADWAY)					**$0**
CONSTRUCTION COSTS SUBTOTAL					**$132,779,949**
ENVIRONMENTAL PERMITING (5%)					**$6,638,997**
DESIGN ENGINEERING (10%)					**$13,277,995**
UTILITIES (2%)**					**$2,655,599**
ROW($10,000/ACRE)***					**$10,050,000**
SUBTOTAL					**$165,402,541**
ICAP (5%)					**$8,270,127**
CONSTRUCTION GRAND TOTAL					**$173,672,668**

*Escalated from 2011 Dollars to 2014 Dollars using AK CPI inflation figures

** Utility impacts estimated at 2% of Construction Costs

***ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase



ASSUMPTIONS: Clear Zone: 30-feet
Slopes: 6:1 (20'); 2:1

TABLE of ESTIMATING FACTORS		
ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	
Crushed Aggregate Base Course (tons)	145 lb/ft^3	
Asphalt Treated Aggregate Base Course (to	148 lb/ft^3	
ACP (tons)	152 lb/ft^3	
ATB AC Oil (tons)	5.5 % of ATB	

Big Lake Corridor Reconnaissance Study & Community Impact Assessment

ALTERNATIVE 5, 4-LANE OPTION

COST ESTIMATE

TYPICAL SECTION

Proposed 4-Lane Highway with Frontage Roads: 10' -- 12' - 12' - 8' - 42' - 42' - 8' - 12' - 12' -10' -12' - 12'= 192 Feet

Frontage Roads: 10' -12' - 12' - 10' =44 Feet

Maximum Typical Section Width = 347 Feet

ROADWAY LENGTHS

SEGMENT 1 (Point 1 to 2)	MSB	20.7	MILES
TOTAL LENGTH		**20.7**	MILES

STRUCTURAL SECTION (inches)

ACP Type II =	2"
ABC =	6"
Borrow "A" =	24"
Borrow "C" =	varies

MSB CONSTRUCTION SEGMENT 1 BREAKDOWN

DESCRIPTION	ITEM No	Pay Unit	Unit Price	Quantity	Amount
CLEARING AND GRUBBING	201(3A)	ACRE	$10,000.00	864.4	$8,644,000.00
UNCLASSIFIED EXCAVATION	203(3)	CU YD	$7.00	8,650,938	$60,556,562.71
BORROW, TYPE A	203(6A)	TON	$8.00	3,122,635	$24,981,080.05
BORROW, TYPE C	203(6C)	TON	$5.00	8,577,456	$42,887,282.19
CRUSHED AGGREGATE BASE COURSE	301(1)	TON	$22.50	590,432	$13,284,724.72
ASPHALT CONCRETE PAVEMENT, TYPE II, CLASS A	401(1)	TON	$135.00	201,294	$27,174,725.67
ASPHALT CEMENT, GRADE 58-34	401(2)	TON	$700.00	11,071	$7,749,829.17
SEEDING	618(1)	ACRE	$5,000.00	499.7	$2,498,254.05
TOPSOIL	620(1)	SQ YD	$1.50	2,418,310	$3,627,464.88
SIGNING AND STRIPING		LANE MILE	$100,000.00	166	$16,560,000.00
INTERCHANGE		EACH	$24,000,000.00	7	$168,000,000.00
FISH PASSAGE		EACH	$1,000,000.00	4	$4,000,000.00
TRAIL CROSSING		EACH	$700,000.00	2	$1,400,000.00
DRAINAGE MEASURES (10%)		LUMP SUM	$38,136,392.34	ALL REQUIRED	$38,136,392.34
EROSION AND POLLUTION (3%)		LUMP SUM	$11,440,917.70	ALL REQUIRED	$11,440,917.70
SURVEYING (3%)		LUMP SUM	$11,440,917.70	ALL REQUIRED	$11,440,917.70
CONSTRUCTION TRAFFIC CONTROL(5%)		LUMP SUM	$19,068,196.17	ALL REQUIRED	$19,068,196.17
MOBILIZATION(5%)		LUMP SUM	$19,068,196.17	ALL REQUIRED	$19,068,196.17
ROADWAY SUBTOTAL					**$381,363,923**
CONTIGENCY (20%)					**$76,272,785**
CONSTRUCTION ENGINEERING (15%)					**$57,204,589**
CONSTRUCTION COSTS SUBTOTAL					**$514,841,297**
ENVIRONMENTAL PERMITING (5%)					**$25,742,065**
DESIGN ENGINEERING (10%)					**$51,484,130**
UTILITIES (2%)**					**$10,296,826**
ROW($10,000/ACRE)***					**$0**
SUBTOTAL					**$602,364,317**
ICAP (5%)					**$30,118,216**
CONSTRUCTION GRAND TOTAL					**$632,482,533**

*Escalated from 2011 Dollars to 2014 Dollars using AK CPI inflation figures

** Utility impacts estimated at 2% of Construction Costs

***ROW needed for full-width build out assumed to be acquired for initial 2-Lane construction phase

ASSUMPTIONS: Clear Zone: 30-feet
Slopes: 6:1 (20'); 2:1

TABLE of ESTIMATING FACTORS

ITEM	FACTOR	QUANTITY
Select Material Type C (tons)	140 lb/ft^3	
Select Material Type B (tons)	140 lb/ft^3	
Select Material Type A (tons)	145 lb/ft^3	
Crushed Aggregate Base Course (tons)	145 lb/ft^3	
Asphalt Treated Aggregate Base Course (tons)	148 lb/ft^3	
ACP (tons)	152 lb/ft^3	
ATB AC Oil (tons)	5.5 % of ATB	

REVISIONS		
NO.	DATE	DESCRIPTION

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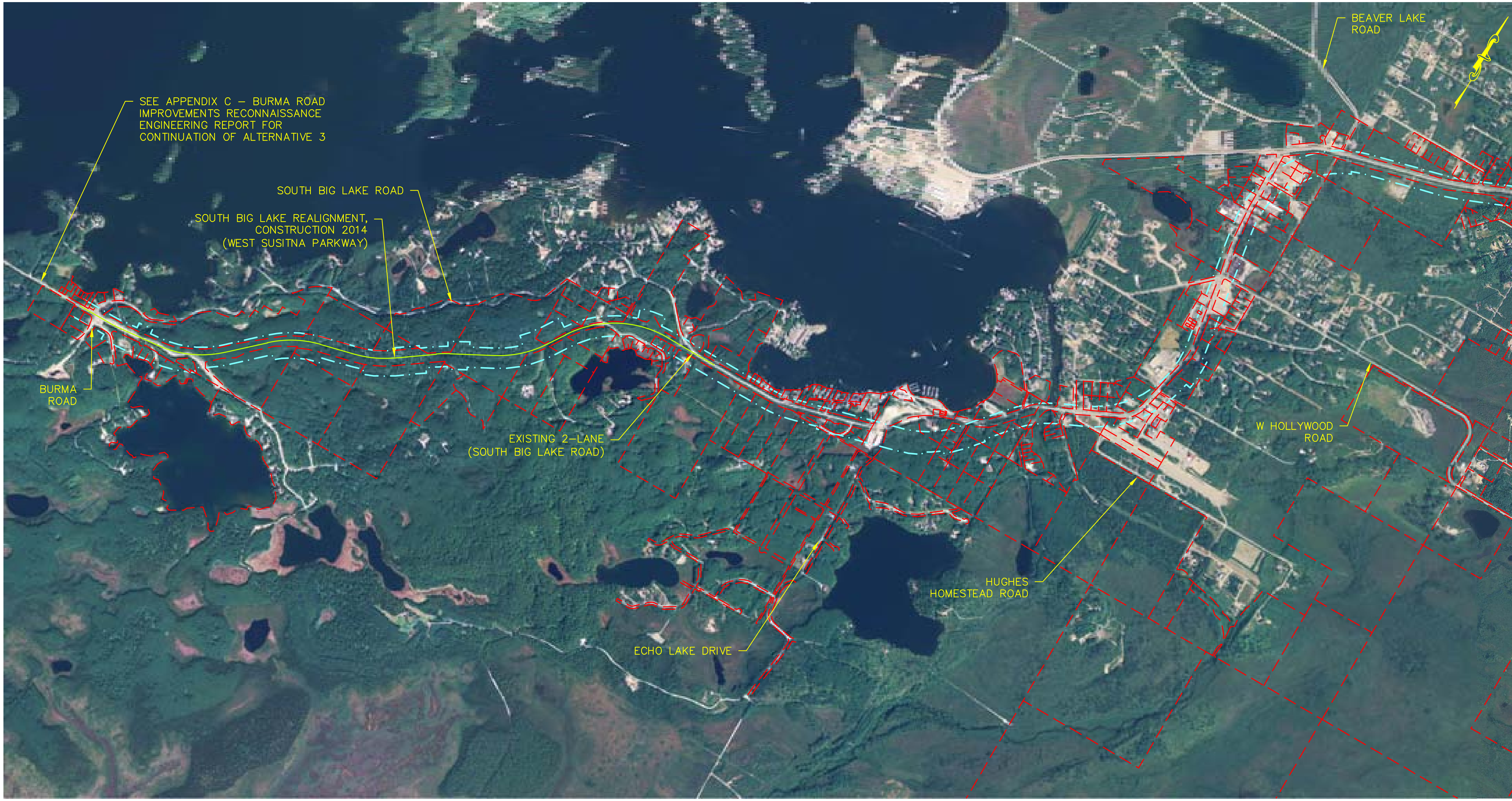

EXISTING ROW
PROPOSED ROW
SOUTH BIG LAKE ROAD CENTERLINE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3
2–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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NO.	DATE	DESCRIPTION

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ALASKA		2014	2	16

EXISTING ROW
PROPOSED ROW
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3
2-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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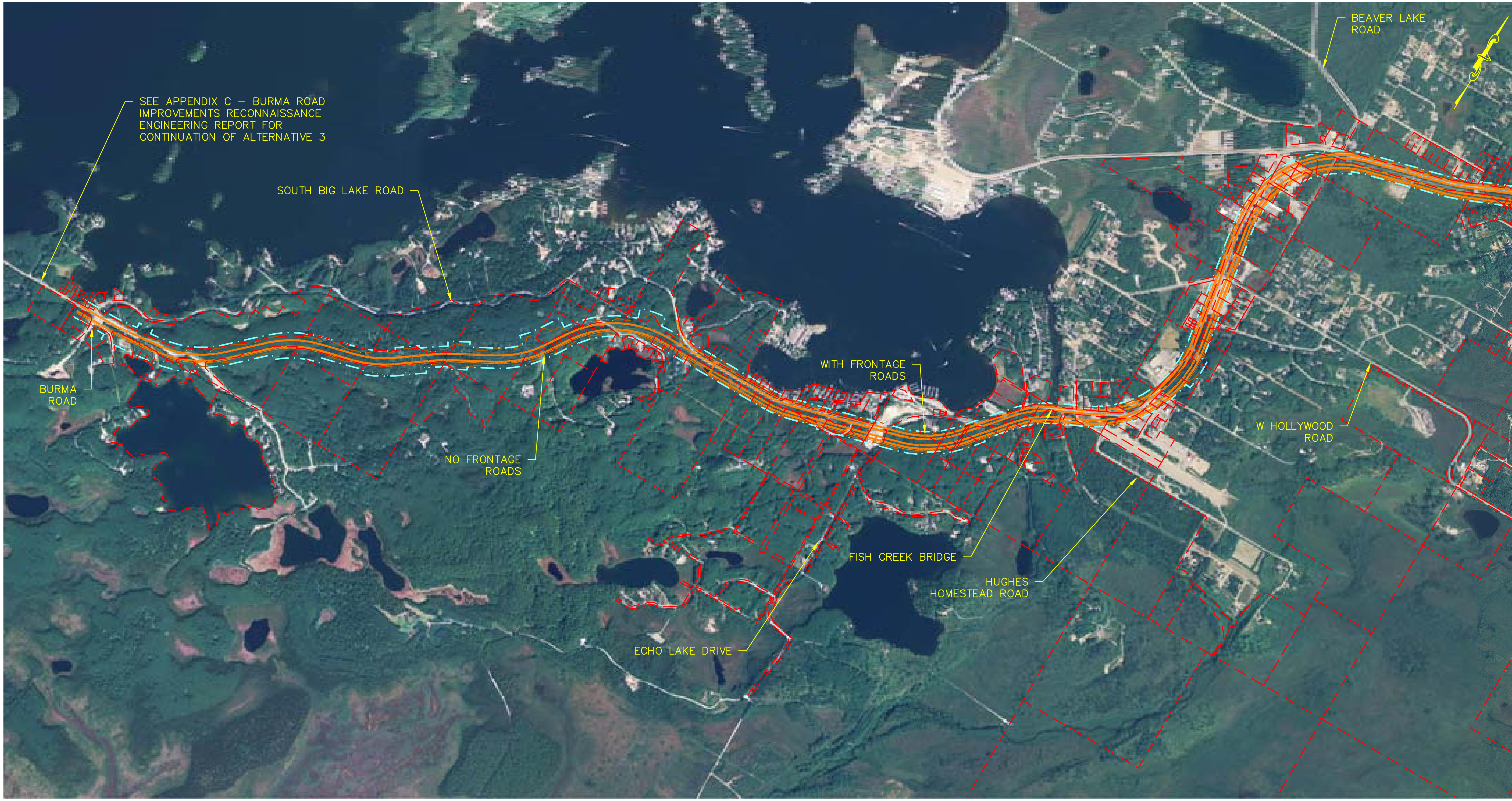

EXISTING ROW
PROPOSED ROW
SOUTH BIG LAKE ROAD CENTERLINE
ALTERNATIVE 3 – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3
4–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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NO.	DATE	DESCRIPTION

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EXISTING ROW
PROPOSED ROW
ALTERNATIVE 3 – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3
4–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

DESIGNED BY --
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DRAFTED BY --

XREFS
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SCALE
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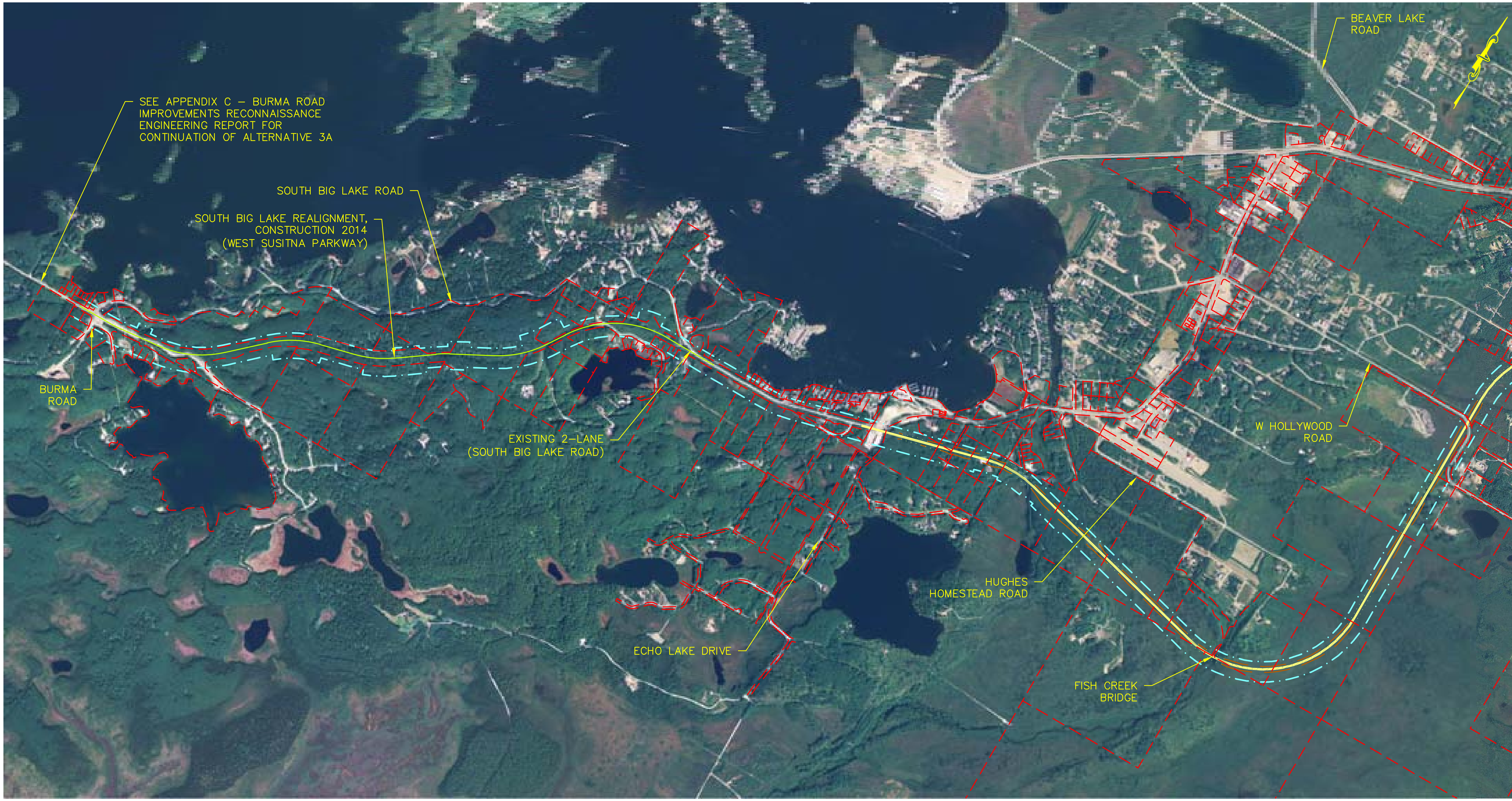

EXISTING ROW
PROPOSED ROW
SOUTH BIG LAKE ROAD CENTERLINE
ALTERNATIVE 3A – 2 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3A
2–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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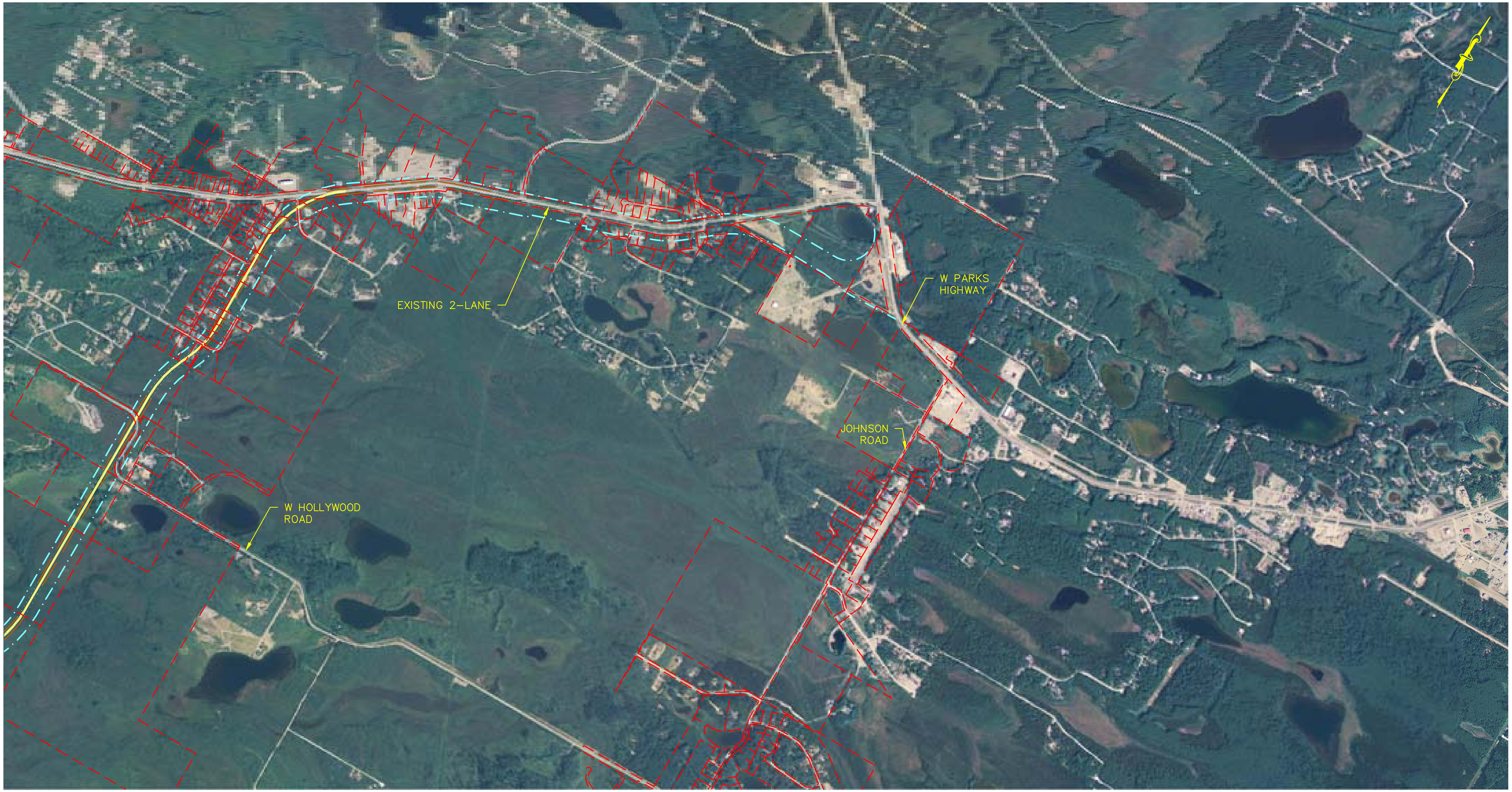

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 3A – 2 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3A
2-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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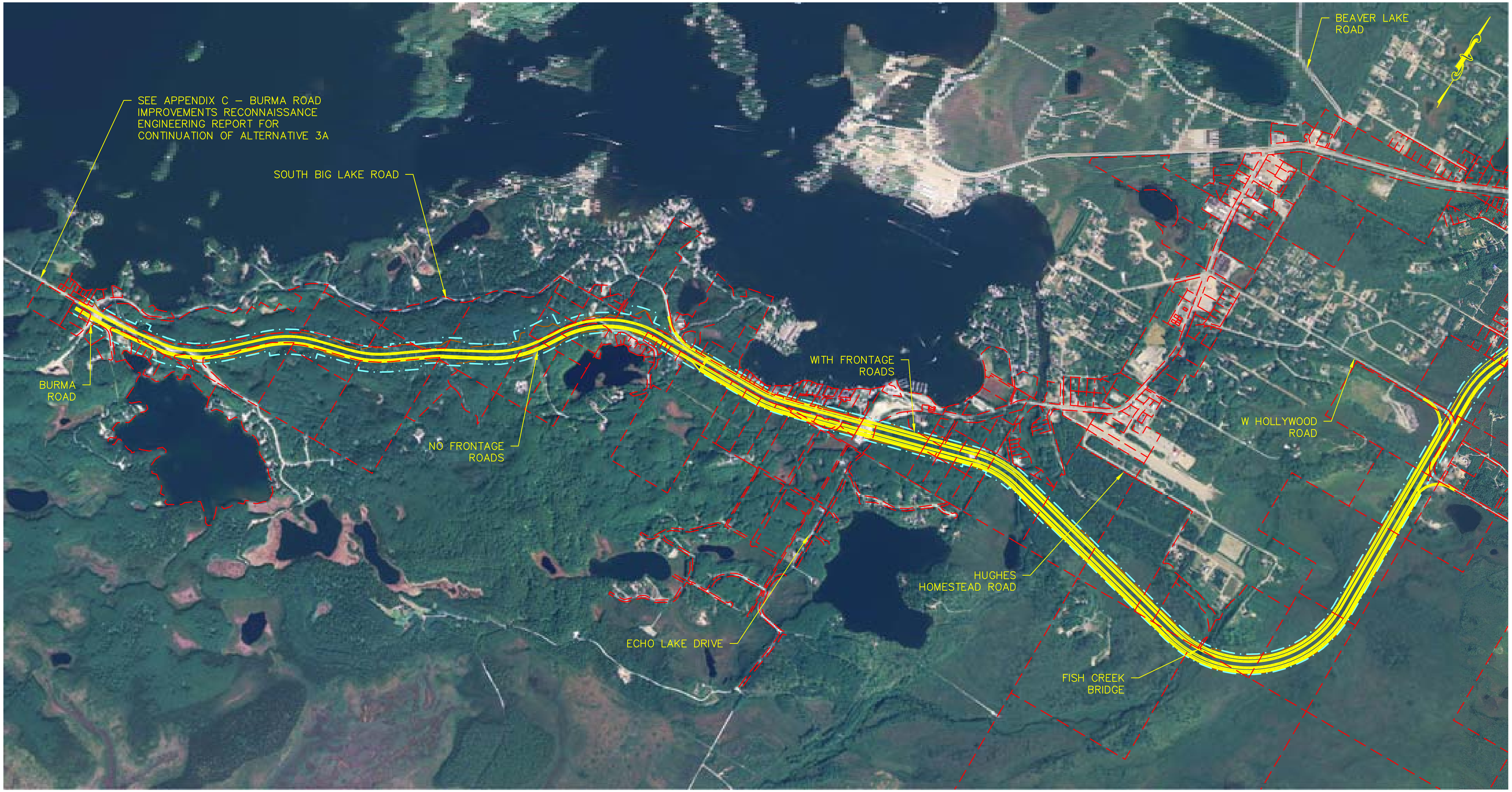

EXISTING ROW
PROPOSED ROW
SOUTH BIG LAKE ROAD CENTERLINE
ALTERNATIVE 3A – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3A
4-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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EXISTING ROW
PROPOSED ROW
SOUTH BIG LAKE ROAD CENTERLINE
ALTERNATIVE 3A – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 3A
4-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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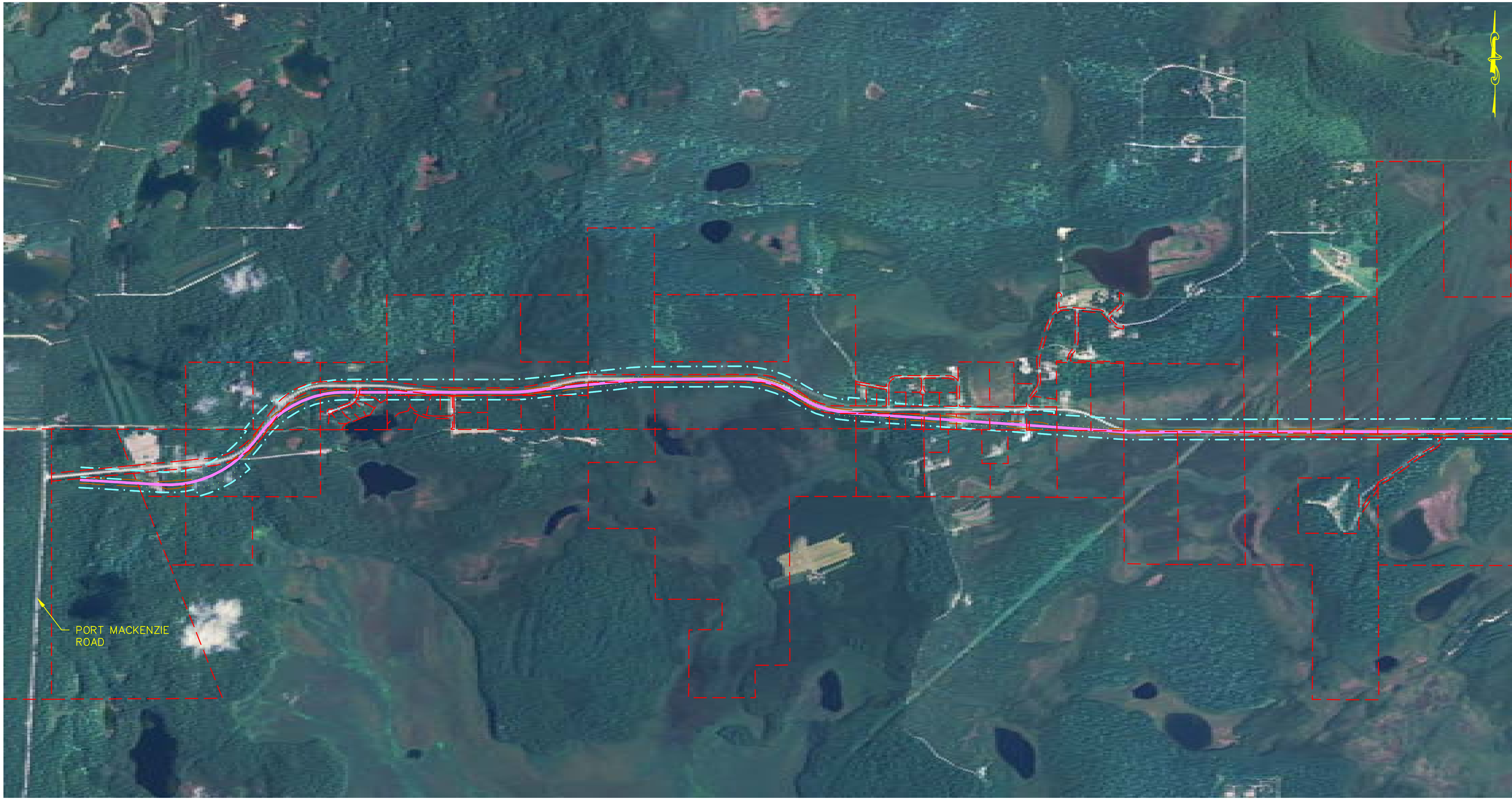

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 2 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
2–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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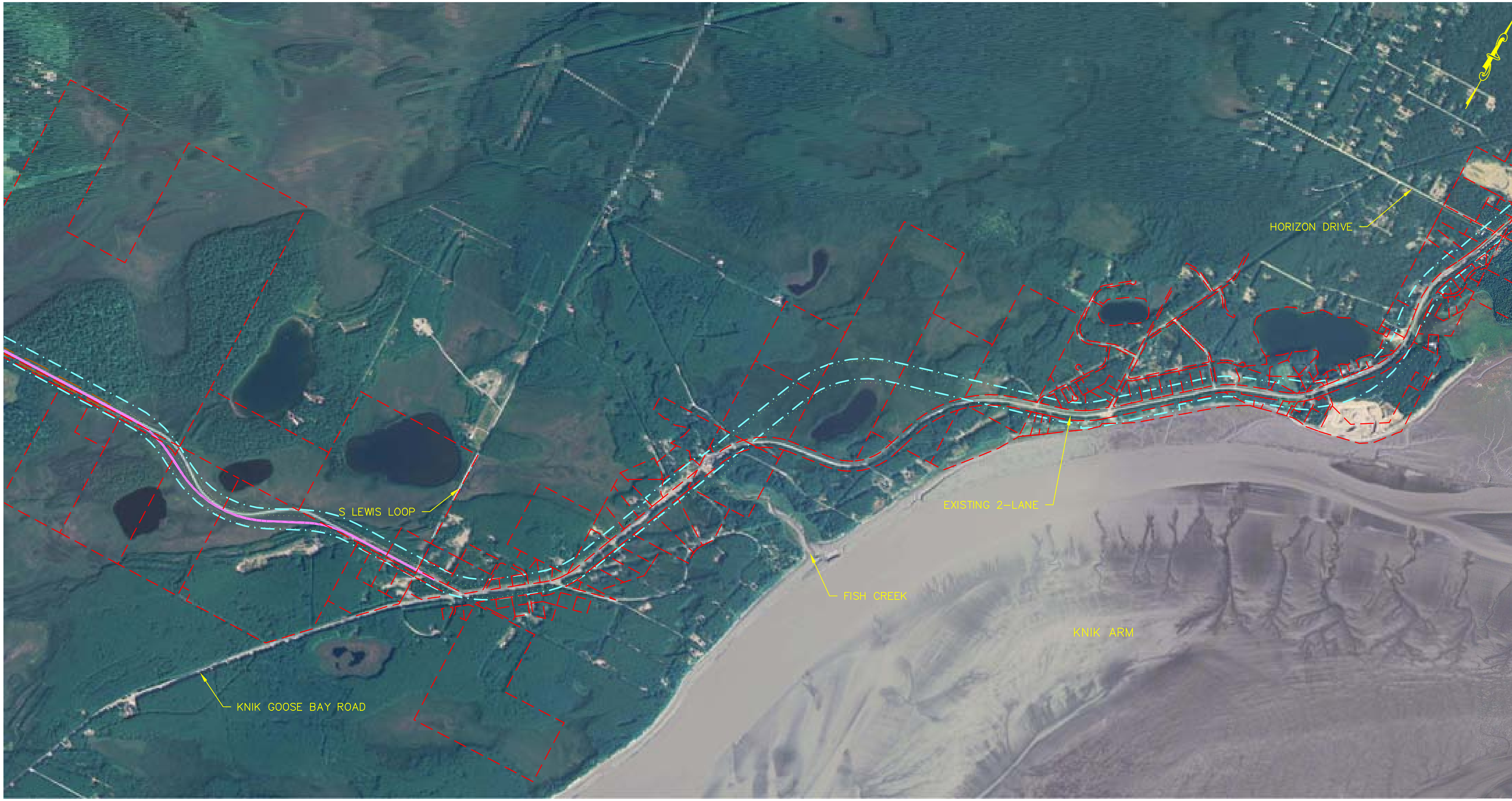

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 2 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
2-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 2 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
2-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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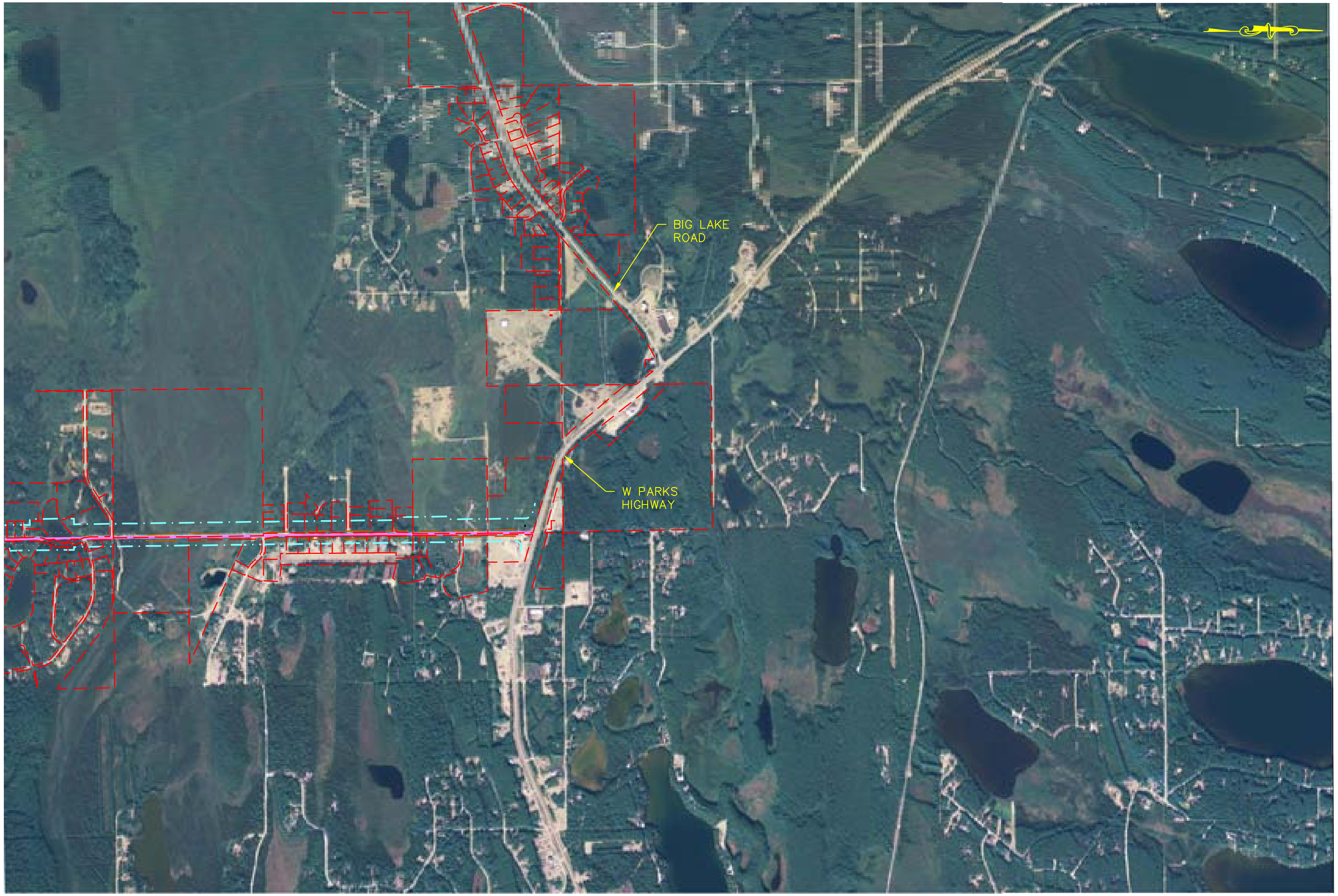

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 2 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
2-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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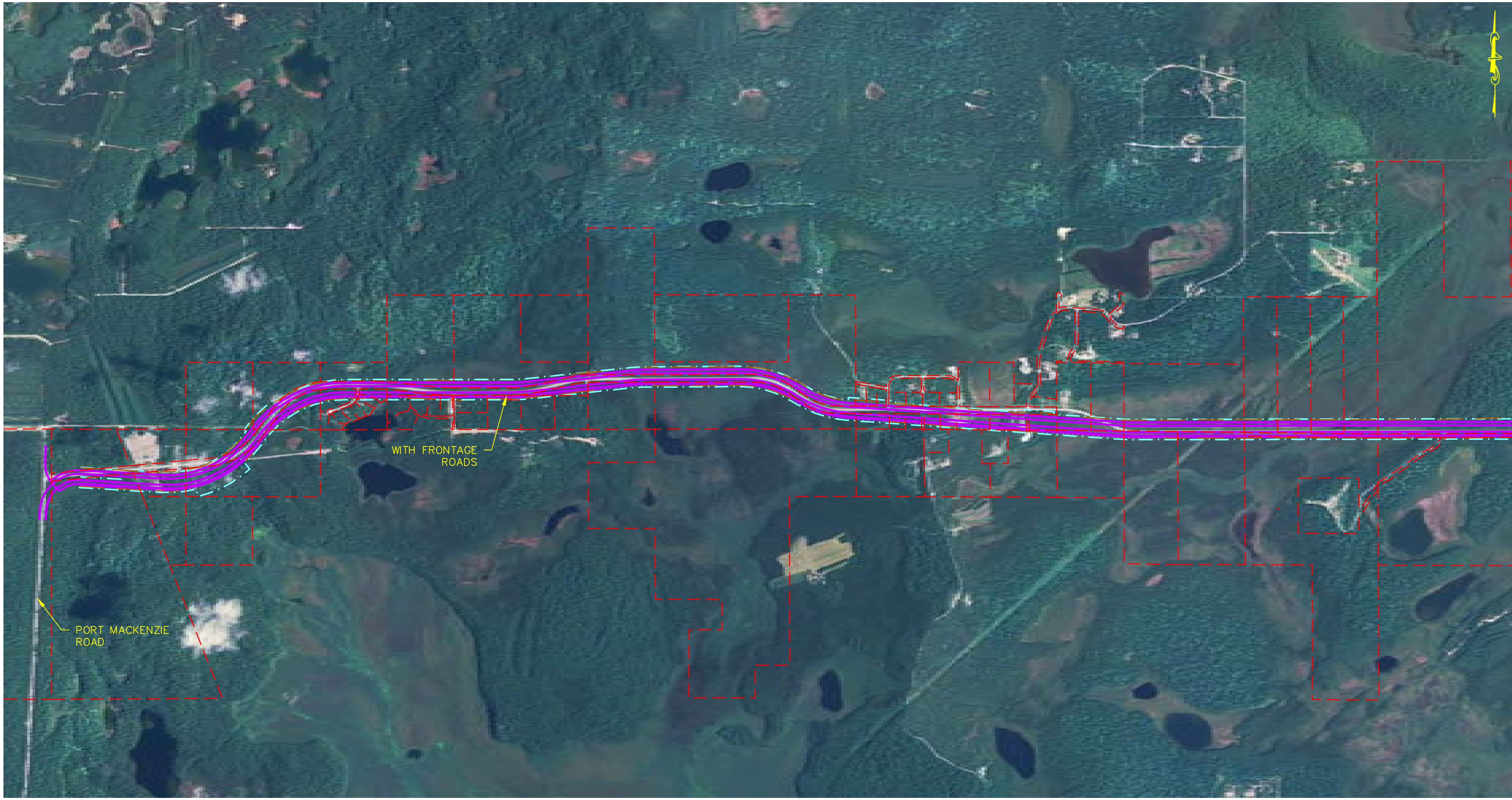

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
4–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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REVISIONS		
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA		2014	14	16

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
4–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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ALASKA		2014	15	16

EXISTING ROW
PROPOSED ROW
ALTERNATIVE 5 – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

MATANUSKA–SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
4–LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

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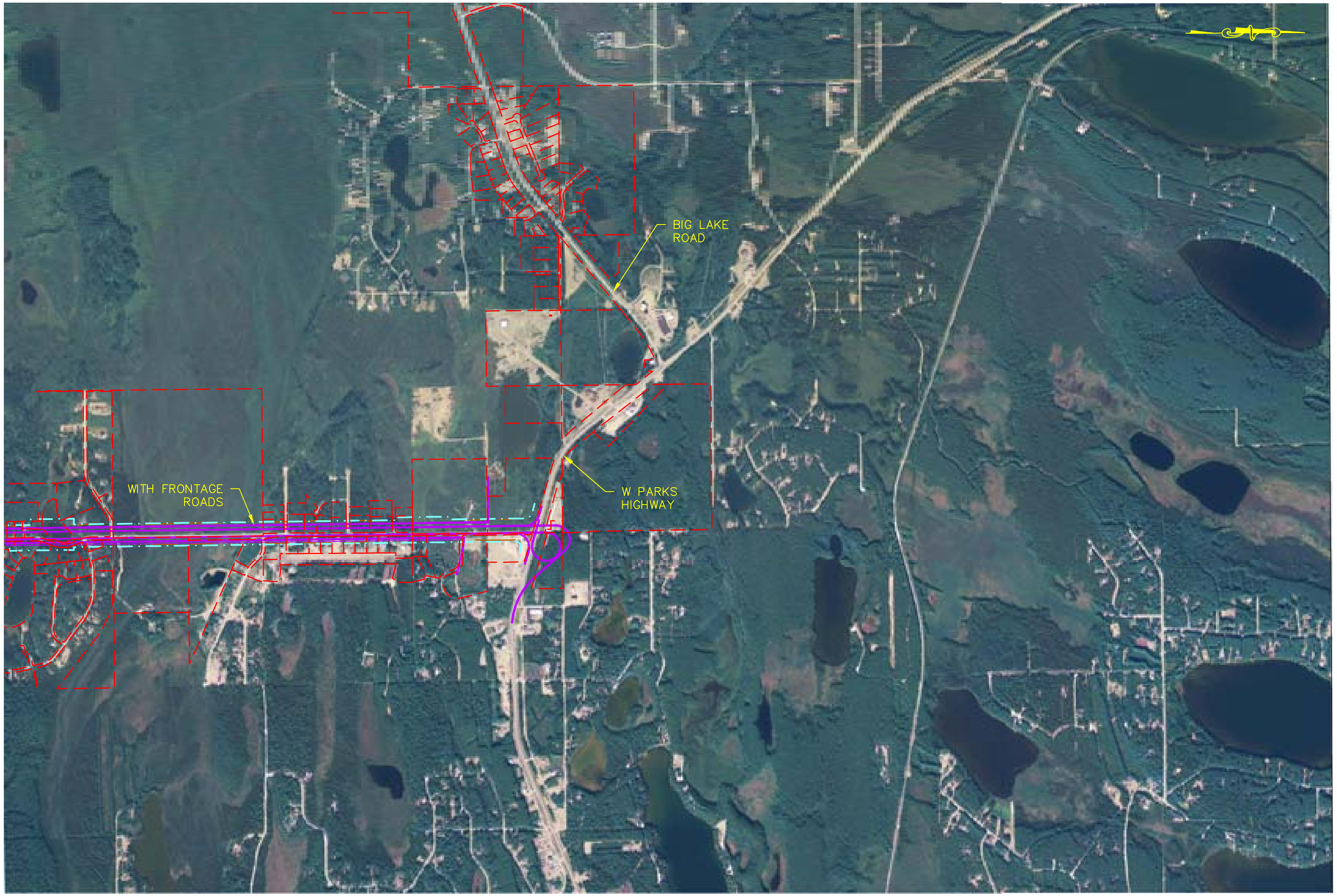

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ALTERNATIVE 5 – 4 LANE
FILL
CUT

1,000 0 500 1,000
SCALE IN FEET

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MATANUSKA-SUSITNA BOROUGH
DEPARTMENT OF PUBLIC WORKS

BIG LAKE COMMUNITY IMPACT ASSESSMENT

CORRIDOR 5
4-LANE TYPICAL
PRELIMINARY CONCEPT JAN 2014

2011

Department of
Transportation and
Public Facilities

BURMA ROAD IMPROVEMENTS

STATE PROJECT # 53199

RECONNAISSANCE ENGINEERING REPORT

October, 2011

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

CENTRAL REGION, PRELIMINARY DESIGN AND ENVIRONMENTAL SECTION

RECONNAISSANCE ENGINEERING REPORT
for

Burma Road Improvements
Project No. 53199
October 3, 2011

Prepared By:

10/6/2011

Gerry Welsh, PE
PD&E Project Manager
DOT&PF

Date

Recommended By:

10/7/11

Kim Stricklan, PE
Central Region PD&E Chief
DOT&PF

Date

Approved By:

10/11/2011

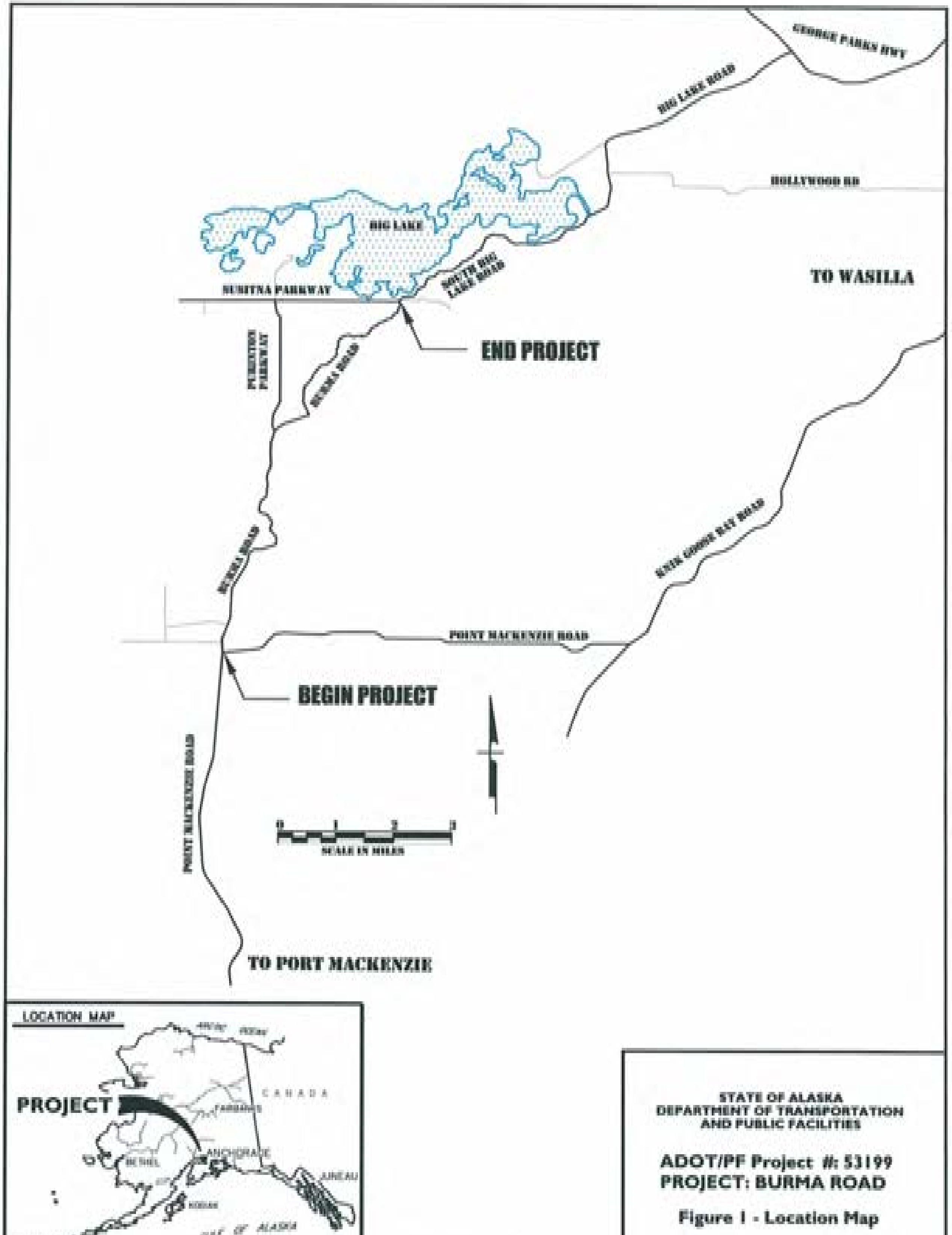
Kenneth M. Morton, PE
Central Region Preconstruction Engineer
DOT&PF

Date

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES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BIG LAKE ROAD
HOLLYWOOD RD
BIG LAKE
SOUTH BIG LAKE ROAD
TO WASILLA
SUSITNA PARKWAY
END PROJECT
BURMA ROAD
BURMA ROAD
KNIK GOOSE BAY ROAD
POINT MACKENZIE ROAD
BEGIN PROJECT
POINT MACKENZIE ROAD
0 1 2 3
SCALE IN MILES
TO PORT MACKENZIE
LOCATION MAP
PROJECT
CANADA
FAIRBANKS
ANCHORAGE
BETHEL
JUNEAU
KODIAK
GULF OF ALASKA
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
ADOT/PF Project #: 53199
PROJECT: BURMA ROAD
Figure 1 - Location Map

1.0 INTRODUCTION

This reconnaissance engineering report evaluates the potential for improving access in the Point MacKenzie area south of Big Lake in the Matanuska Susitna Borough (MSB). Potential development in the area, including port and industrial facilities, the new correctional facility, and the Knik Arm Bridge, is expected to result in increased traffic on Burma Road, Point MacKenzie Road, and South Big Lake Road. Point MacKenzie Road was paved in 2010 from Burma Road to Port MacKenzie, and a reconnaissance study for South Big Lake Road improvements was completed in 2010 by DOT&PF.

1.1 Project Purpose & Need

The purpose of this project:

- Improve the mobility of people and goods between the Knik Arm Bridge at Point MacKenzie and the Parks Highway.
- Improve safety for motorized and non-motorized traffic.
- Accommodate projected traffic growth related to the Knik Arm Bridge and development in the Point MacKenzie area.

The need for this project:

- Burma Road is currently narrow and unpaved, with many curves.
- Automobile and truck traffic in the corridor is projected to increase due to new development, including the Knik Arm Bridge, the correctional center, and Port MacKenzie, as well as due to increasing recreational use in the area.
- The Point MacKenzie – Burma - South Big Lake Road corridor is expected to be the primary connection from Point MacKenzie for northbound Parks Highway traffic.

1.2 Study Area

The study area is between the Burma Road/Point MacKenzie Road intersection and the Burma Road/South Big Lake Road intersection. The eight mile study corridor includes approximately four miles of Burma Road, two miles of un-built Purinton Parkway, and two miles of West Susitna Parkway. (Figure 1.)

1.3 Environmental Setting

The terrain in the project area is heavily forested gravel moraine characterized by steep slopes, sharp ridges, kettle holes and lakes. There are no perennial streams or other defined valley patterns. Drainage is largely through infiltration, and precipitation runs off to kettles or lakes, so only minor drainage structures would be necessary at a few locations along the proposed alternatives.

1.4 Knik Arm Crossing

Knik Arm Bridge and Toll Authority documents including a Cumulative Effects Technical Report and a Final EIS state the following about the bridge project:

- Development and infrastructure in the Mat-Su Borough (MSB) would increase with the construction of the proposed crossing.
- Increased accessibility could draw additional recreational traffic through the region.
- The bridge would create pressure for increased and improved infrastructure to support travel demand in the MSB, including bicycle and pedestrian facilities.
- The Federal Highway Administration has designated the Knik Arm Bridge as part of the National Highway System; KABATA seeks to acquire ROW for partial control of access. (Refer to Figure 7, Page 11.)
- The MSB and KABATA are developing a Memorandum of Agreement to develop a Corridor Study and Access Management Plan for the road from Port MacKenzie to the Parks Highway.

2.0 EXISTING TRANSPORTATION INFRASTRUCTURE

Through its connections with South Big Lake Road and Point MacKenzie Road, Burma Road provides access to port and industrial developments at Point MacKenzie, as well as to timberlands and residential, recreational, and agricultural areas to the west and south of Big Lake.

Burma Road is classified by DOT&PF as a Rural Local Road. The existing road is primarily gravel, with steep grades and many curves; it is narrow by current standards. Purinton Parkway is a Borough road that is currently platted and cleared, but not constructed. West Susitna Parkway is paved, and is owned and maintained by the MSB.

The intersection of Burma Road and South Big Lake Road was reconstructed in 1994. Point MacKenzie Road was paved in 2010 from its intersection with Burma Road to Port MacKenzie. A terminal building has been constructed at Port MacKenzie for a ferry connection to Anchorage, but there is no landing for loading and unloading. The barge dock at the Port has been recently expanded, and the Alaska Railroad and the Mat-Su Borough propose to construct a rail extension between the Port and the railroad mainline near Willow.

3.0 TRANSPORTATION DEMAND

3.1 Traffic Modeling

By 2035, Knik Arm Bridge traffic between Anchorage and Point MacKenzie is projected to reach 37,000 vehicles daily. Traffic modeling completed for Central Region in 2010 indicates that much of the bridge traffic would not continue north of the Port MacKenzie area. Traffic continuing beyond Port MacKenzie would go either eastbound to Wasilla via Point MacKenzie Road and Knik-Goose Bay Road, or northbound toward the Parks Highway near Big Lake via Burma Road and South Big Lake Road. A 2035 AADT of 17,300 is forecast for Point MacKenzie Road south of the Burma Road intersection, and 10,600 for Point MacKenzie Road east of Burma Road. Modeling forecasts a 2035 AADT of 7,400 vehicles on Burma Road between Point MacKenzie Road and South Big Lake Road, up from the 2010 average daily traffic (AADT) of 137 vehicles. Traffic on

Knik-Goose Bay Road at Vine Road is forecast to increase from an AADT of 8,200 in 2010 to 25,000 in 2035, and traffic on Vine Road is forecast to increase from 4,400 to 6,400. The Point MacKenzie Road Improvements project is under construction in 2011, and three separate Knik-Goose Bay Road projects are currently in design. Capacity and safety analysis were not performed for the existing Burma Road nor for any alternatives developed as part of this study; however, all alternatives considered would accommodate the projected traffic volumes.

3.2 Design Criteria

12,000 vehicles per day is generally the threshold volume for considering increasing roadway capacity for a 2-lane roadway by adding lanes. Current modeling indicates that much of the traffic from the 2-lane Knik Arm Bridge is not expected to continue north of the Port area. Traffic modeling predicts an AADT of 7,400 vehicles on Burma Road in 2035, indicating that two lanes would be adequate for the design year. Higher capacity alternatives are analyzed in this report, however, in the event that officials wish to consider them. Costs and impacts are provided for facilities ranging from a 2-lane up to a 4-lane divided highway with frontage roads on both sides. These provide information helpful in project programming and ROW preservation for potential development that could trigger a need for capacity increases beyond any customary design year.

Design criteria based on the highest function for the proposed roadway are used for geometrics in alternatives developed for this study. All alternatives satisfy NHS criteria for a 55 MPH design speed. Design criteria used to analyze the Burma Road corridor were based on many sources including the following publications and documents:

- *A Policy on Geometric Design of Highways and Streets AASHTO, 2001*
- *Roadside Design Guide AASHTO, 2002*
- *American Association of State Highway and Transportation Officials AASHTO, 2001*
- *Highway Preconstruction Manual, ADOT&PF, 2005*
- *Manual on Uniform Traffic Control Devices, 2003*

4.0 RIGHT-OF-WAY

Existing ROW throughout the corridor varies in width, type, and ownership. MSB tax maps provide approximate ROW/easement limits and parcel locations as base mapping for alternative development and assessment. Right-of-way mapping is not available. Widths of estimated ROW requirements are based upon excavation limits determined by a preliminary line and grade and assumed space requirements to construct each alternative. Refinement of ROW needs would be necessary during final design phase.

5.0 ACCESS MANAGEMENT & CONTROL

If access control is required, a Corridor Management Plan that defines limits and types of permissible access onto and across the highway would need to be developed. The proposed project corridor could be developed as a partial limited access facility with allowable access points defined by breaks in controlled access lines. Such a plan would not necessarily eliminate existing individual property access onto the highway; however, a proposed median would restrict movement at driveways and at some approach road intersections to right-in/right-out maneuvers. These controls, along with deliberate intersection design and location, would allow traffic to flow in more predictable and safer patterns throughout the area. A Corridor Management Plan protects and preserves the benefits of the proposed improvements, including improved safety, increased capacity, and enhanced travel efficiency. It would encourage development of a local collector system, as development occurs, to serve traffic generated by the development.

The existing Burma Road and other existing intersecting roads requiring any access would tie into the proposed mainline in accordance with current standards. Access would remain by permit for improved segments and be partially controlled for any new facility alignments. Figure 7, Typical Section 5, illustrates a 4-lane controlled-access divided highway with frontage roads on the Burma-Purinton alignment. A more direct alignment was eliminated from consideration because of topography, water bodies, and wetlands. The scope of this study did not include development of an entirely new access-controlled corridor for the entire distance from the Knik Arm Bridge to the Parks Highway.

6.0 DESIGN ALTERNATIVES

Topography is the primary factor limiting the number of suitable realignment alternatives. Alignments with significant terrain challenges, such as lakes and steep ridges, or with obvious large impacts on residences, wetlands, and other important resources, have been previously eliminated from consideration. Alignments previously eliminated for these reasons include a more direct route between the two ends of the project. Because of its favorable topography, the previously cleared Purinton Parkway corridor was incorporated in all alternatives.

6.1 No-Build Alternative

Evaluation of a No-Build Alternative provides a baseline for comparing the effects associated with build alternatives. Under the No-Build Alternative existing roadway would remain unchanged and only routine activities such as road maintenance and repair would occur during the next 20 years. No impacts would result from construction.

6.2 Alternative Alignments

Alignments "A" & "B": Two similar "Build" alignments are evaluated in this study. Both follow the existing corridors of Burma Road, Purinton Parkway (north-south portion) and West Susitna Parkway (east-west). Alignments "A" and "B" are identical except in that "A" provides through-movement to the Burma Road mainline with a curve and realigns Susitna Parkway to a stop-condition with the new roadway. Alignment "B" provides through-movement to Susitna Parkway with the relocated and realigned north-south section intersecting it with a T-intersection. Overviews of both are shown on **Figure 2**.

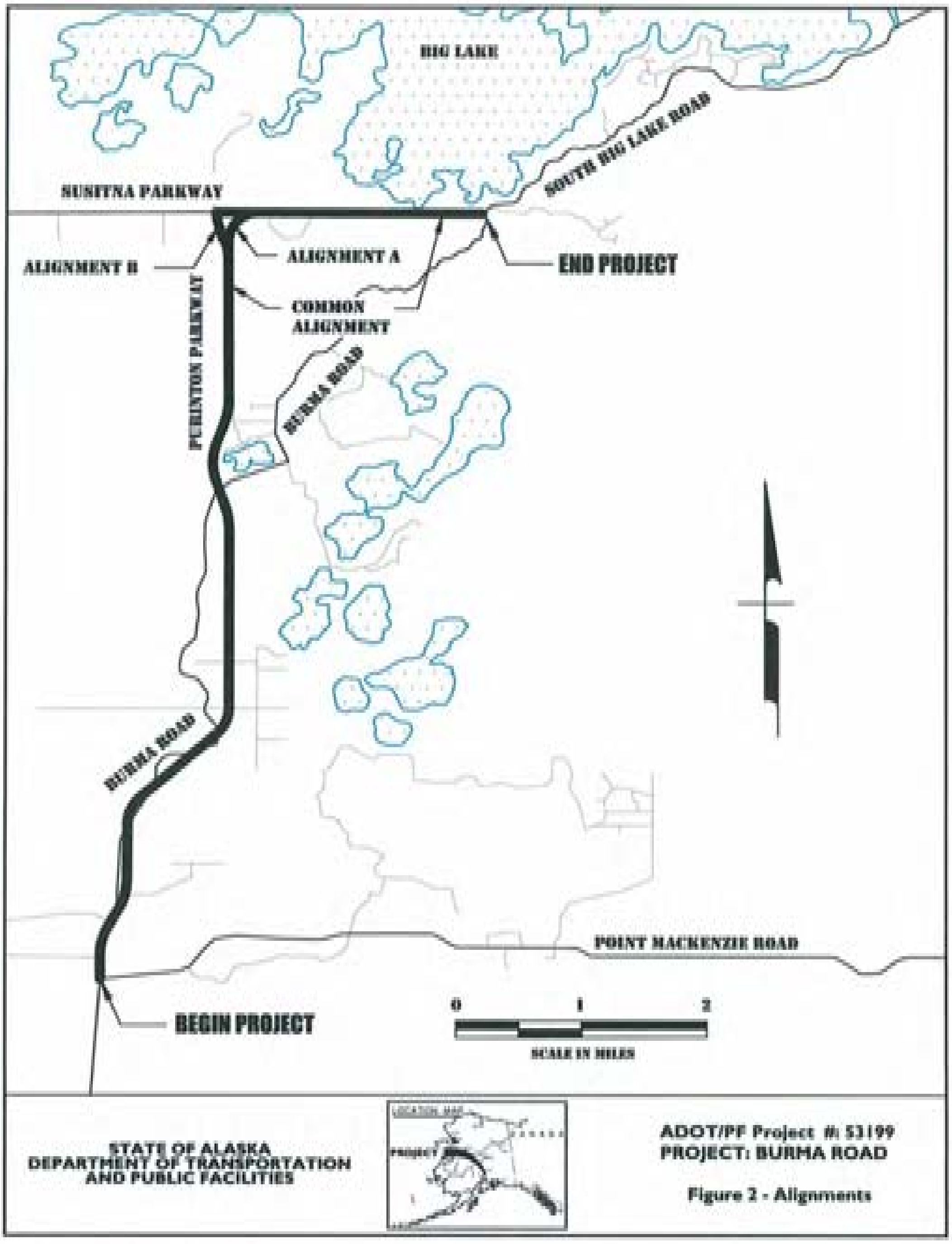


Figure 2 - Alignments

6.3 Typical Sections

Sections range from Typical Section 1, a simple two lane road, to Typical Section 5, a controlled access divided highway with frontage roads. All five typical sections are applied to Alignment "A". Typical Section #1 is applied only to Alignment "B" in this study, resulting in six alternatives. Because this is a preliminary study, all five sections, while conforming to current standards for major rural collectors, indicate conservative estimates of width and cost.

Figure 3 - Typical Section 1

Two-Lane: This section is a typical 2-lane rural highway section with two travel lanes, one in each direction, 8-foot shoulders, and a 15-foot utility corridor as requested by MSB.

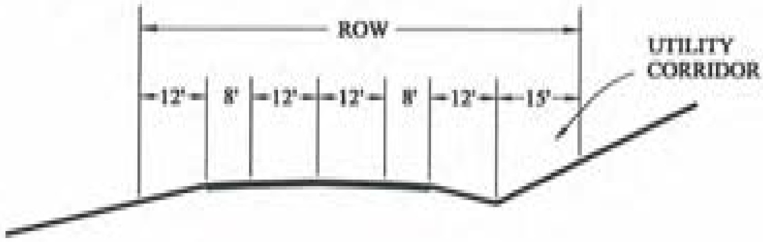


Figure 4 - Typical Section 2

Four-Lane with 30' Median: This section is a typical 4-lane divided highway section with 12-foot lanes, 30-foot median, 8-foot outside shoulders, and a 15-foot utility corridor.

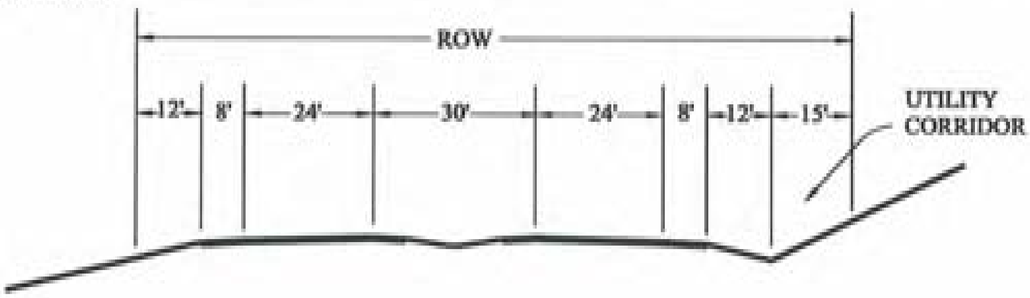


Figure 5 – Typical Section 3

Four-Lane with 42' Median: This section is a typical 4-lane divided highway section with 12-foot lanes, 42-foot median, 8-foot outside shoulders, and a 15-foot utility corridor.

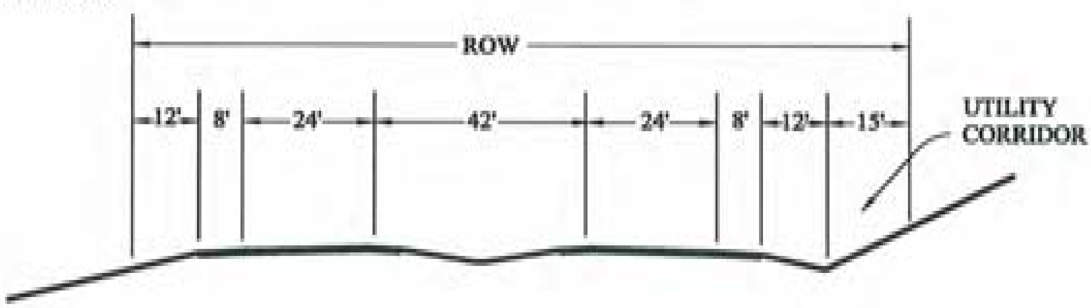


Figure 6 - Typical Section 4
Four-Lane with Pathway: This section is a typical 4-lane divided highway section with 12-foot lanes, 30-foot median, 8-foot outside shoulders, a 15-foot utility corridor, and a 10-foot separated multi-use pathway.

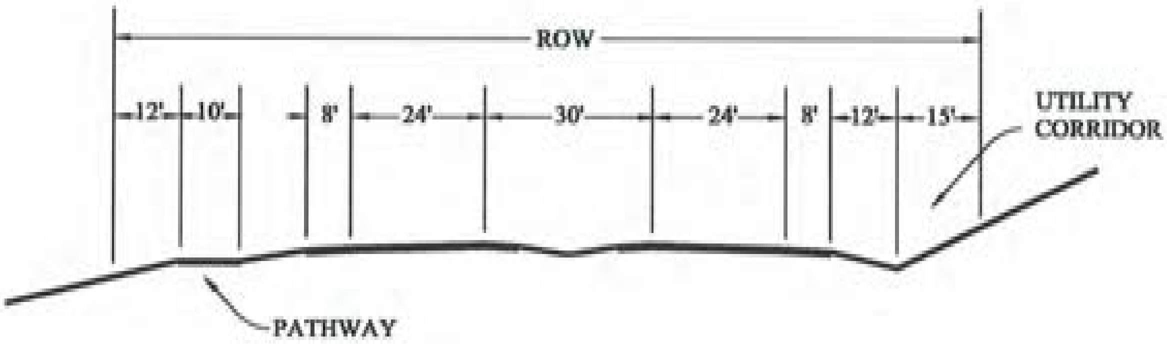
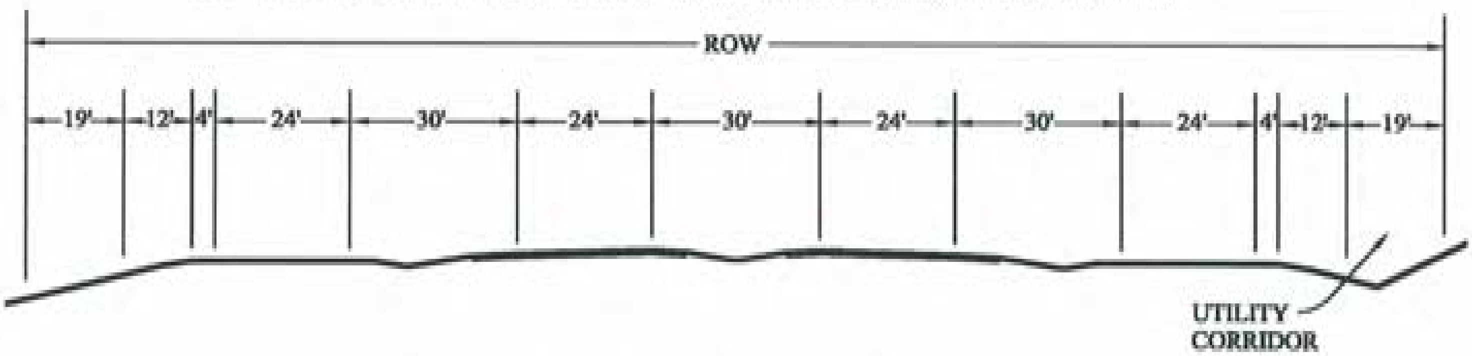


Figure 7 - Typical Section 5
Four-Lane with Full Frontage: This section is a typical freeway with a 4-lane controlled-access divided highway with 12-foot lanes, 30-foot median, 8-foot outside shoulders, two 15-foot utility corridors, and two 2-Lane two way frontage roads with 4-foot shoulders separated from the mainline traveled way by 30-foot medians.



Refer to Appendix A for additional details on alternatives.

7.0 COST ESTIMATES

7.1 Construction

Soil conditions within the project limits are known only in general terms; no current materials investigation was performed for this study. The area is known for its gravel moraines and ready availability of material suitable for road embankment construction. Availability of suitable materials sources in the project area is not anticipated to be a problem. Construction cost estimates are based on an assumed pavement section. Detailed construction cost estimates are included in **Appendix C**

7.2 Utilities

ENSTAR Natural Gas Company, Matanuska Electric Association, and Matanuska Telephone Association (MTA) have facilities within the study area. Preliminary utility estimates in this analysis do not represent a complete inventory of services in the area. A detailed design and comprehensive survey will be necessary to accurately locate all utilities and fully determine impacts and costs. Utility estimates are in **Appendix D.**

7.3 ROW

A 2005 photogrammetric surface of the corridor was used to evaluate the alignments. ROW mapping has not been performed for the project corridor. Anticipated required ROW widths vary with alternatives. Figures of each segment show preliminary anticipated ROW requirements. Some rerouting of intersecting roads would be needed to provide service to existing development; ROW requirements for these are also shown.

The ROW cost estimates for this study assume acquisition of adequate interest and no reimbursement to the MSB for their interest. No purchase of access rights was considered in ROW cost estimating. ROW mapping was not available for this study and no ROW survey was performed. Preliminary ROW and property limits are taken from MSB GIS tax map data. Estimates are based on available property tax assessments and reflect current costs of anticipated land and improvements; they include ROW engineering and mapping, and administrative costs related to acquisition. ROW estimates are in **Appendix E**.

Table 1 - Cost Estimates (Thousands - 2010 dollars) and Parcel Impact Summary

	Lane Miles	Design	ROW	Utilities	Construction	Total	Parcels
1A	**16.99**	**$7,300**	**$1,200**	**$770**	**$41,700**	**$51,000**	**85**
1B	**17.20**	**$7,100**	**$1,200**	**$770**	**$41,200**	**$50,300**	**85**
2	**34.41**	**$11,500**	**$1,600**	**$860**	**$66,500**	**$80,500**	**87**
3	**34.41**	**$12,200**	**$1,900**	**$910**	**$69,700**	**$84,800**	**94**
4	**34.41**	**$13,500**	**$1,900**	**$1,220**	**$77,500**	**$94,200**	**94**
5	**78.82**	**$19,300**	**$3,200**	**$1,220**	**$110,600**	**$134,400**	**99**

8.0 ENVIRONMENTAL REQUIREMENTS AND COORDINATION

The study area is defined by the area beginning from the Burma Road / Point Mackenzie Road intersection south of Ayrshire Road. The study area extends towards north along the existing corridor of Burma Road, portions of Purinton Parkway and W Susitna Parkway and ends at W Susitna Parkway / Burma Road / S Big Lake intersection. The study area extends 300 feet either side from the center line of proposed corridor.

8.1 Contaminated Sites, Spills and Underground Storage Tanks

Alaska Department of Environmental Conservation (ADEC) database, in January 2011, indicates no reports of leaking underground storage tanks, contaminated sites, spills or prevention and emergency response program sites in the study area.

8.2 Wetlands

The wetland data obtained from USFWS National Wetland Inventory (NWI) Wetland Mapper on January 2011 indicates small pockets of wetlands are present throughout the project corridor. Wetland locations delineated in the NWI would be field verified during the environmental phase.

8.3 Fish and Wildlife

Anadromous Fish Streams: The Alaska Department of Fish and Game (ADF&G) *Atlas to the Catalog of Waters Important to the Spawning, Rearing or Migration of Anadromous Fishes* indicates no cataloged anadromous waterbodies for the proposed Burma Road project.

Resident Fish Streams: Smaller streams, ditches, and other water bodies throughout the project corridor would require further study to determine the presence of fish.

Essential Fish Habitat: NOAA classifies the habitat associated with salmon species listed in ADF&G's *Atlas to the Catalog of Waters Important to the Spawning, Rearing or Migration of Anadromous Fishes* as Essential Fish Habitat (EFH).

State Refuges, Critical Habitat Areas and Sanctuaries: No State Refuges, Critical Habitat Areas, or Sanctuaries were identified in the study area.

Threatened and Endangered Species: The USFWS website indicates no threatened, endangered, proposed, or candidate species in the study area.

Eagle Nests: The Alaska Bald Eagle Nest Atlas in January 2011 indicates no eagle nests were found in the study area. If active eagle nests are found during the construction phase of the project within 660 feet of the project's area, DOT&PF, in consultation with the USFWS, would determine appropriate actions. Appropriate actions could include restricting construction activities during sensitive nesting time periods or monitoring the nest during construction.

National Wildlife Refuges: The USFWS website indicates no National Wildlife Refuges in the study area.

8.4 Air Quality

Study area is not in a nonattainment area; no air quality analysis was performed.

8.5 Noise

No noise analysis was performed as part of this study; however, noise abatement measures would be evaluated during a more advanced design phase of any project.

8.6 Navigability

There are no navigable waterways within the study project corridor.

8.7 Floodplain

The US Army Corps of Engineers or Matanuska- Susitna Borough floodplain websites indicates no mapped floodplains in this study area.

8.8 National Parks, Preserves, Monuments and Wild and Scenic Rivers

The National Park Service Alaska Region website on January 2011 indicates no National Parks, Preserves, Monuments, or Wild and Scenic Rivers in the study area.

8.9 Coastal Zone Management

The State Coastal Zone Boundaries Atlas indicates the study area is in the Anchorage coastal zone. Any proposed project in the study area would require a completed Coastal Project Questionnaire and consistency determination during the permitting, and coordination with the Municipality of Anchorage and Alaska Coastal Management Program during scoping.

8.10 State, Borough or Local Parks and Recreation Areas

The DNR website for Parks, Recreation Areas & Sites, and the ADF&G website for State of Alaska Refuges, Critical habitat Areas and Sanctuaries indicates no state lands designated as Parks, Recreation Areas & Sites, Refuges, Critical Habitat Areas, Sanctuaries, or Ranges in the study area.

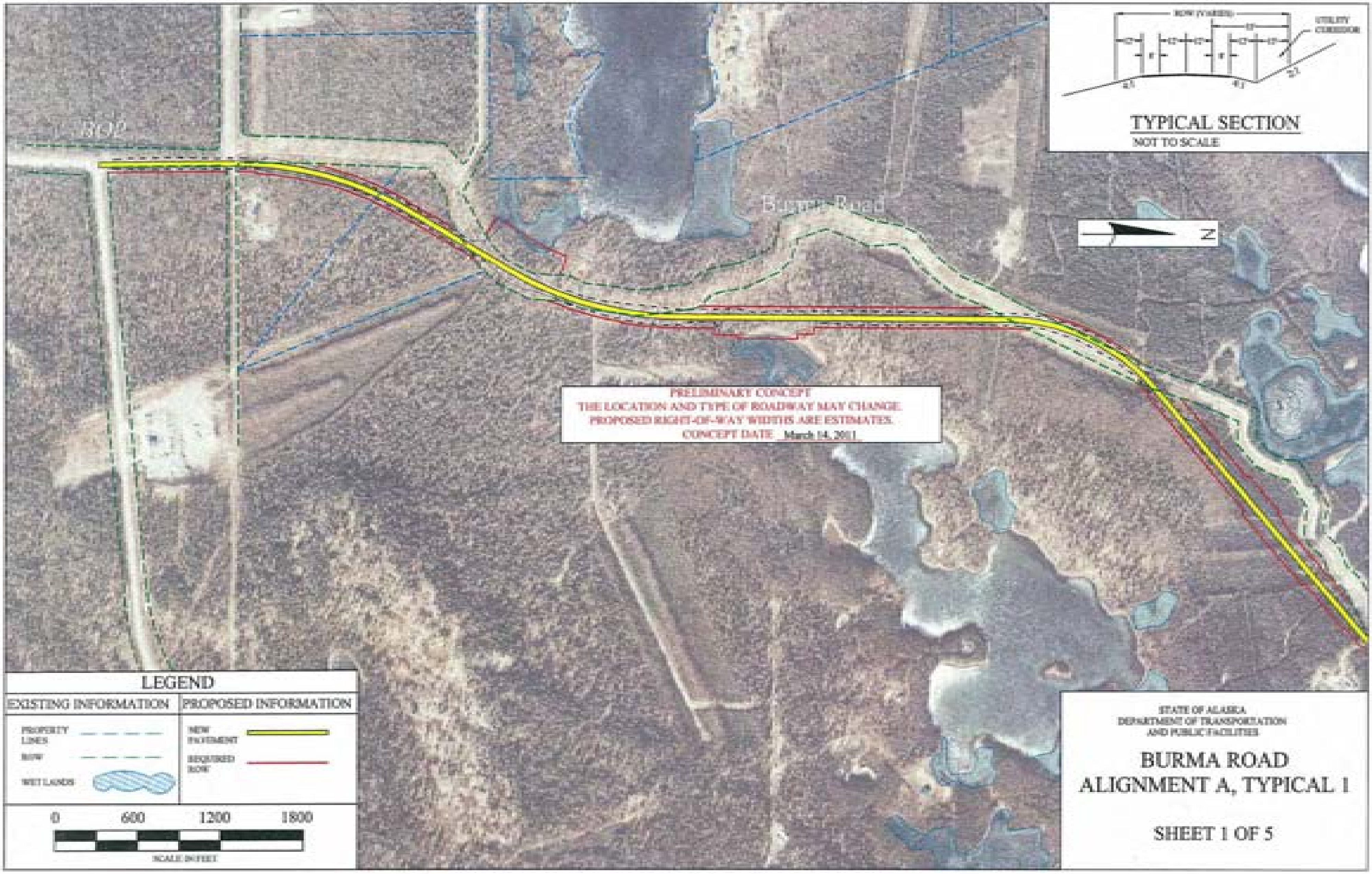
8.11 Historical, Archeological and Cultural Properties

Records of the Office of History and Archeology shows Knik-Rainy Pass Trail, a segment of Iditarod trail is a historical site in the study area. The trail passes through the study area crossing 2 miles west of Sevenmile Lake and then continues ½ mile northeast of Jewel Lake. Portions of this trail are also outlined on the Matsu parcel viewer. The portion of this trail in quad Anchorage A-8 is listed in the ARHS catalogue as ANC-761; the portion of this trail in quad Tyonek B-1 is listed as ARHS # TYO-84.

8.0 CONCLUSIONS & RECOMMENDATIONS

Traffic modeling completed in 2010 forecasts an average daily traffic of 7,400 vehicles on Burma Road in 2035; two lanes would be adequate for this volume. Higher capacity alternatives were analyzed in this report, ranging up to a 4-lane divided highway with frontage roads and pedestrian facilities. Future development in the Point MacKenzie area following completion of the Knik Arm Bridge could trigger a need for capacity increases beyond this forecast. It is recommended that right-of-way and access rights be acquired for the widest alternative to ensure the corridor can accommodate future expansion.

Appendix A
Concept Alignments



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CONCEPT DATE March 14, 2011
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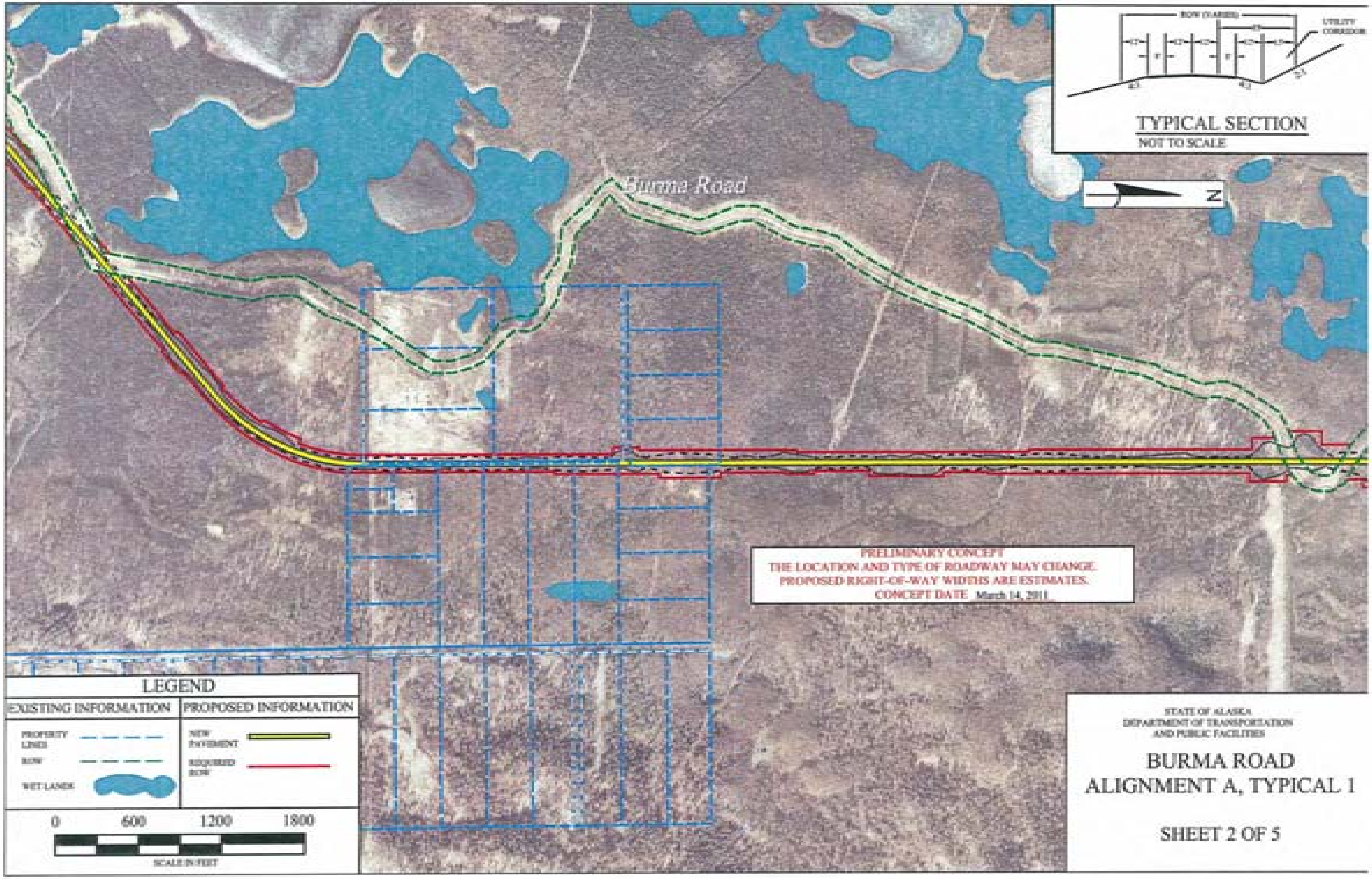
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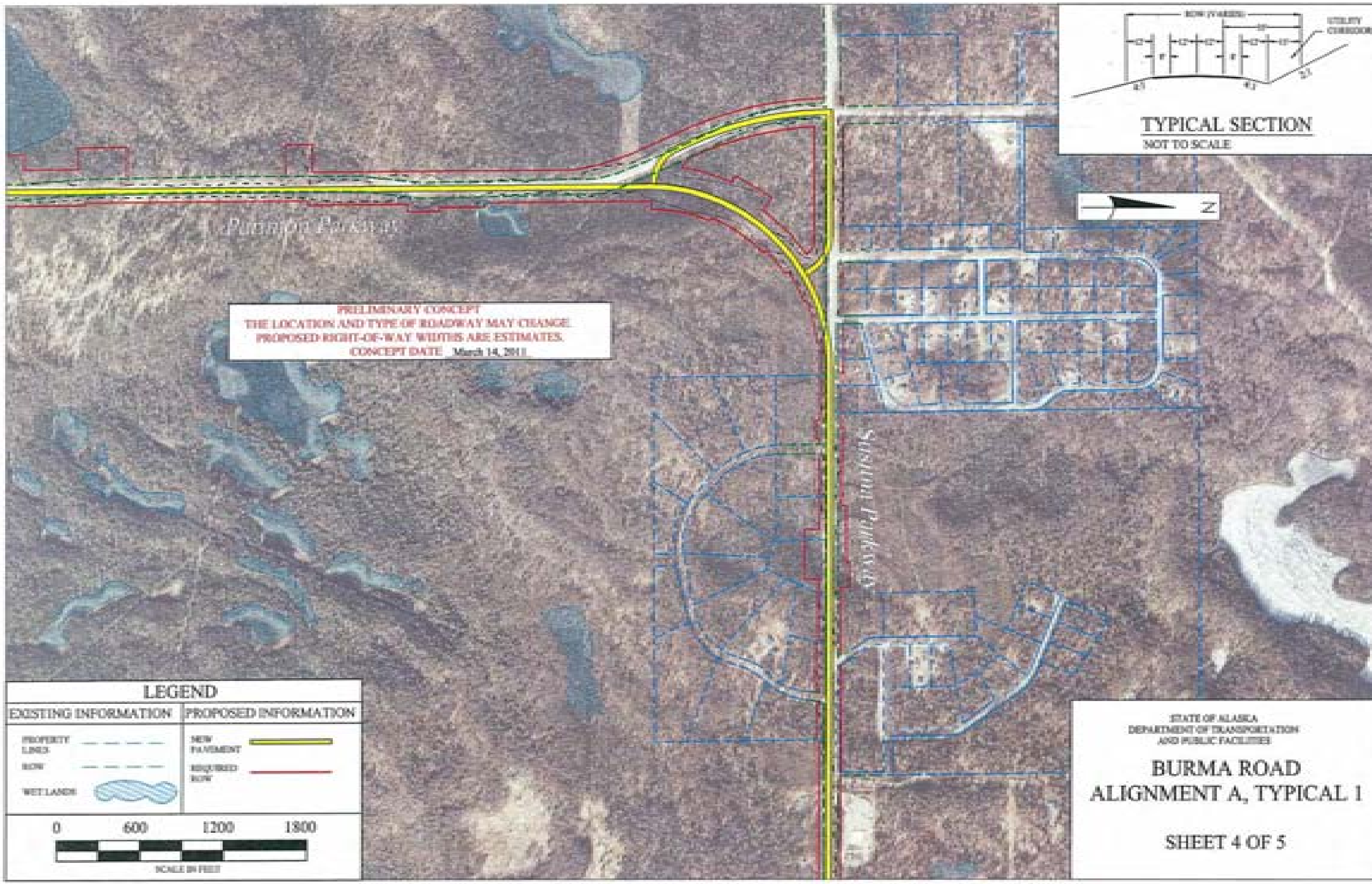
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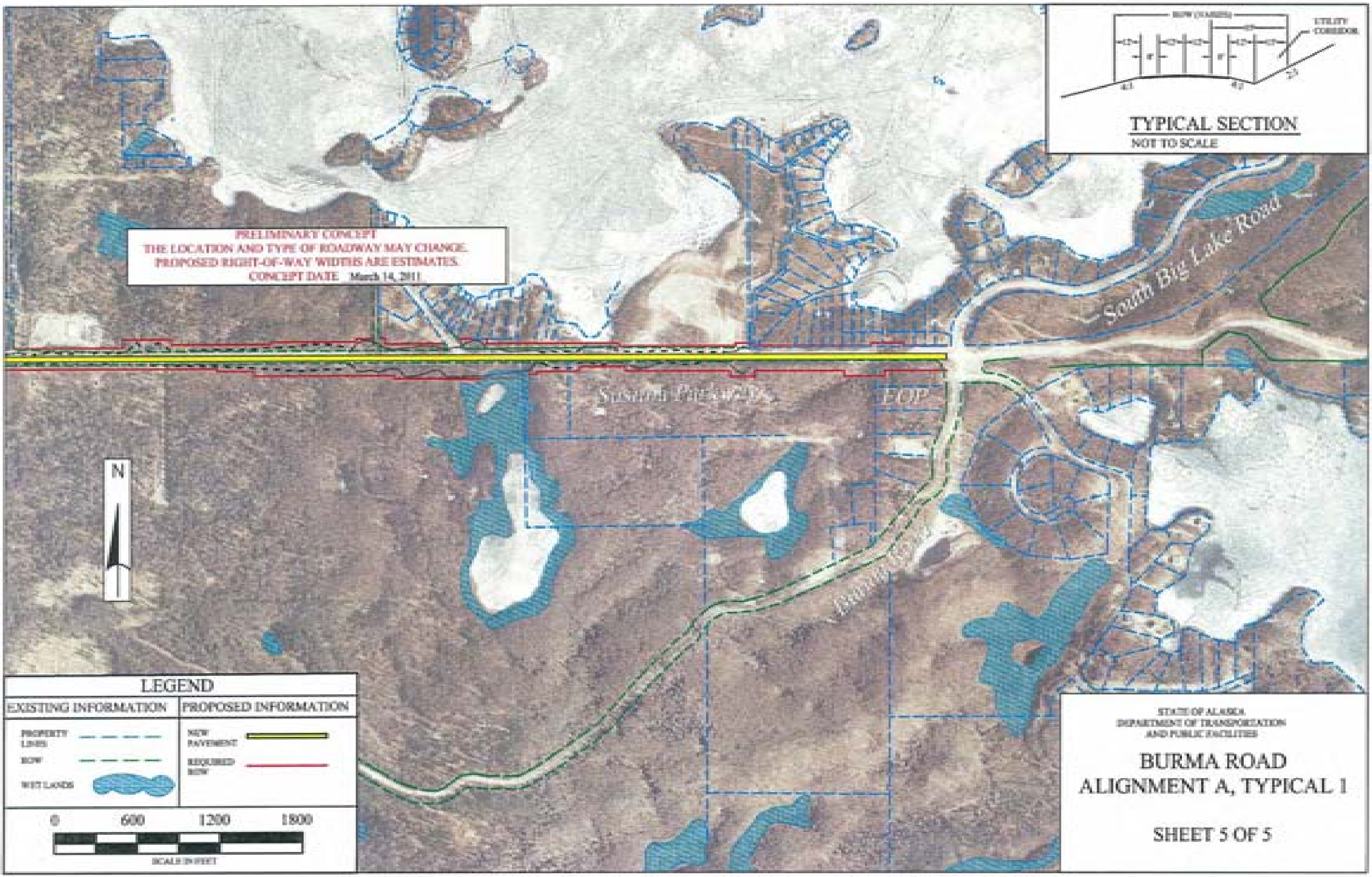

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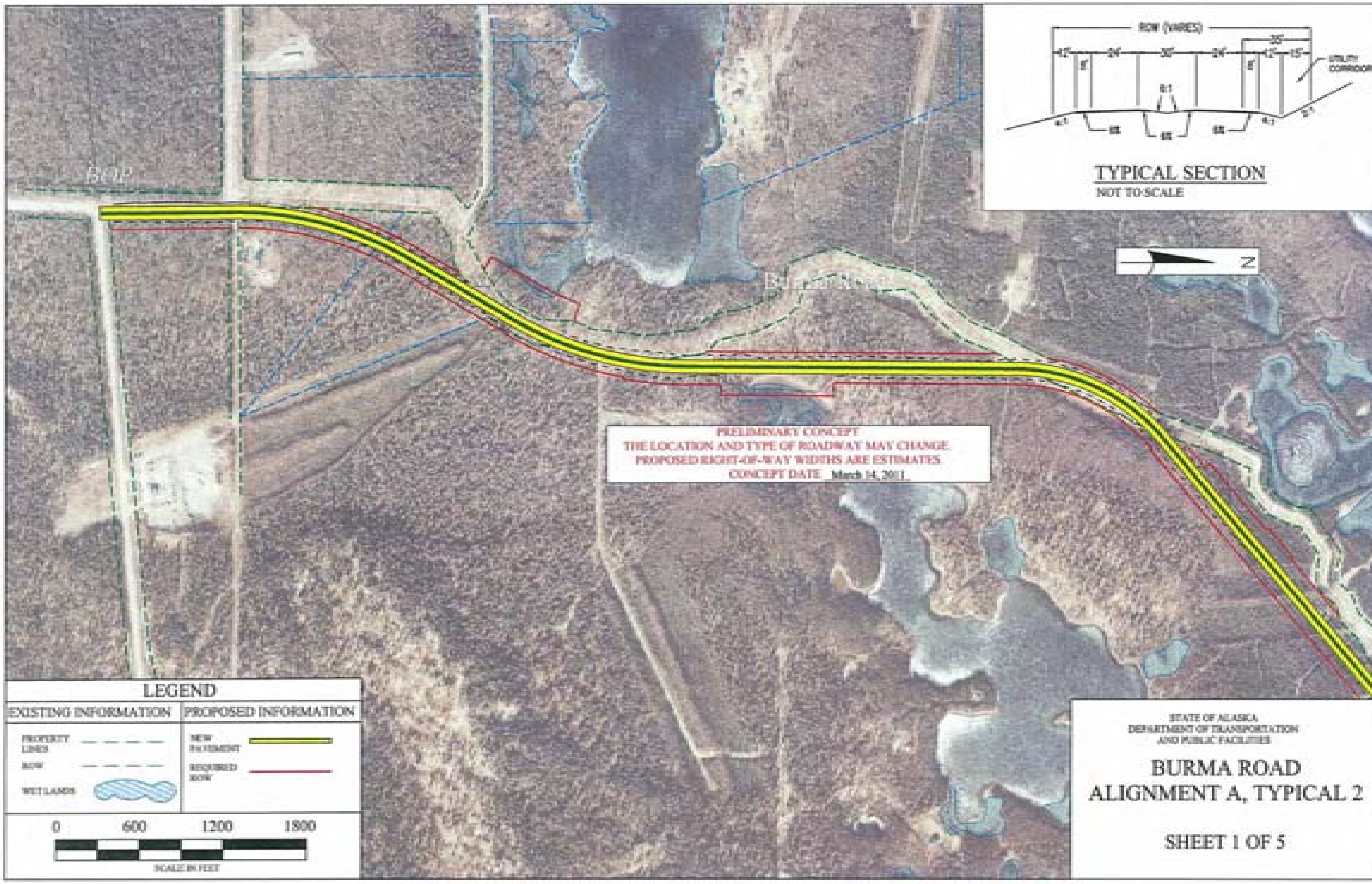
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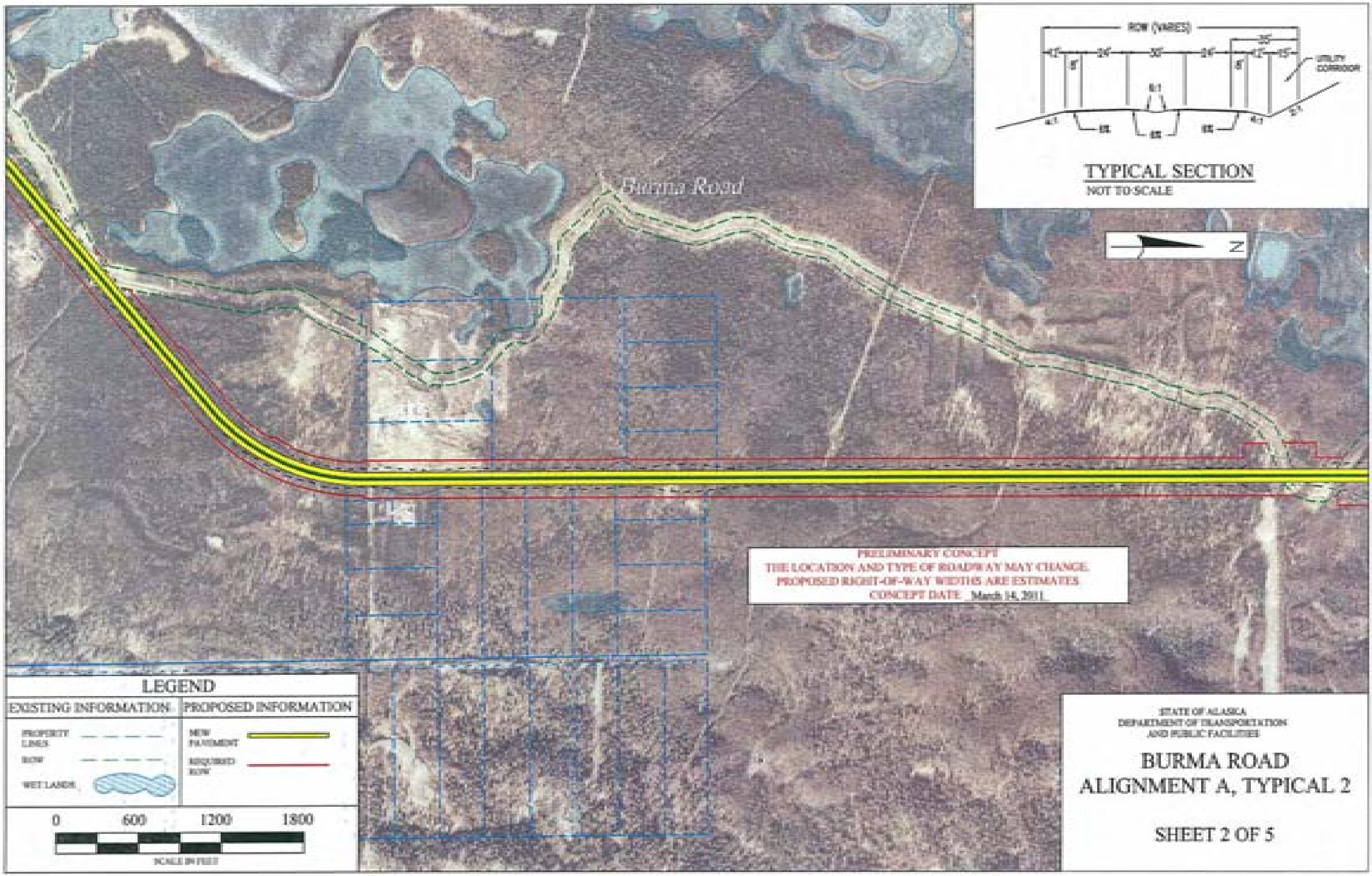

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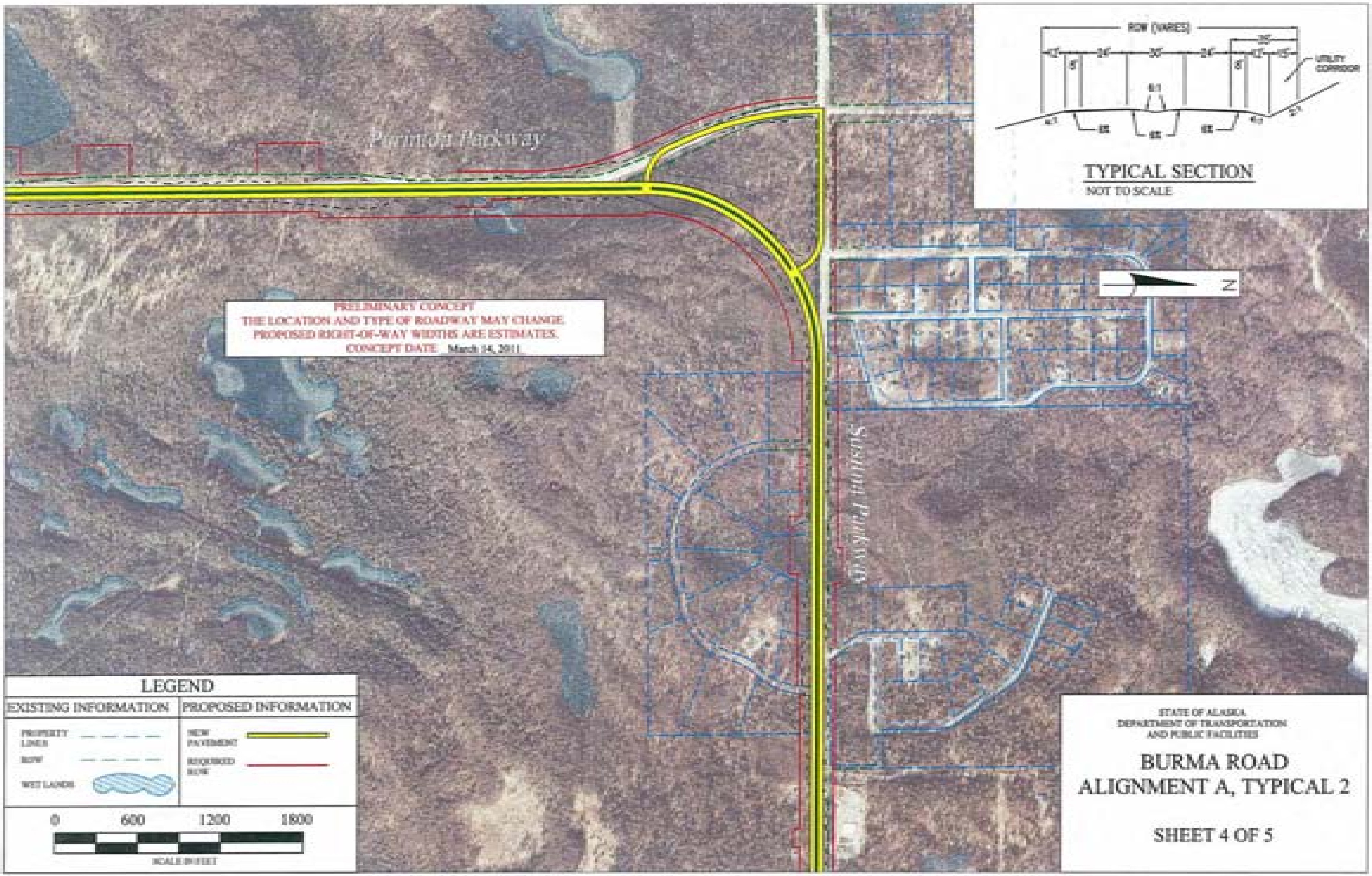

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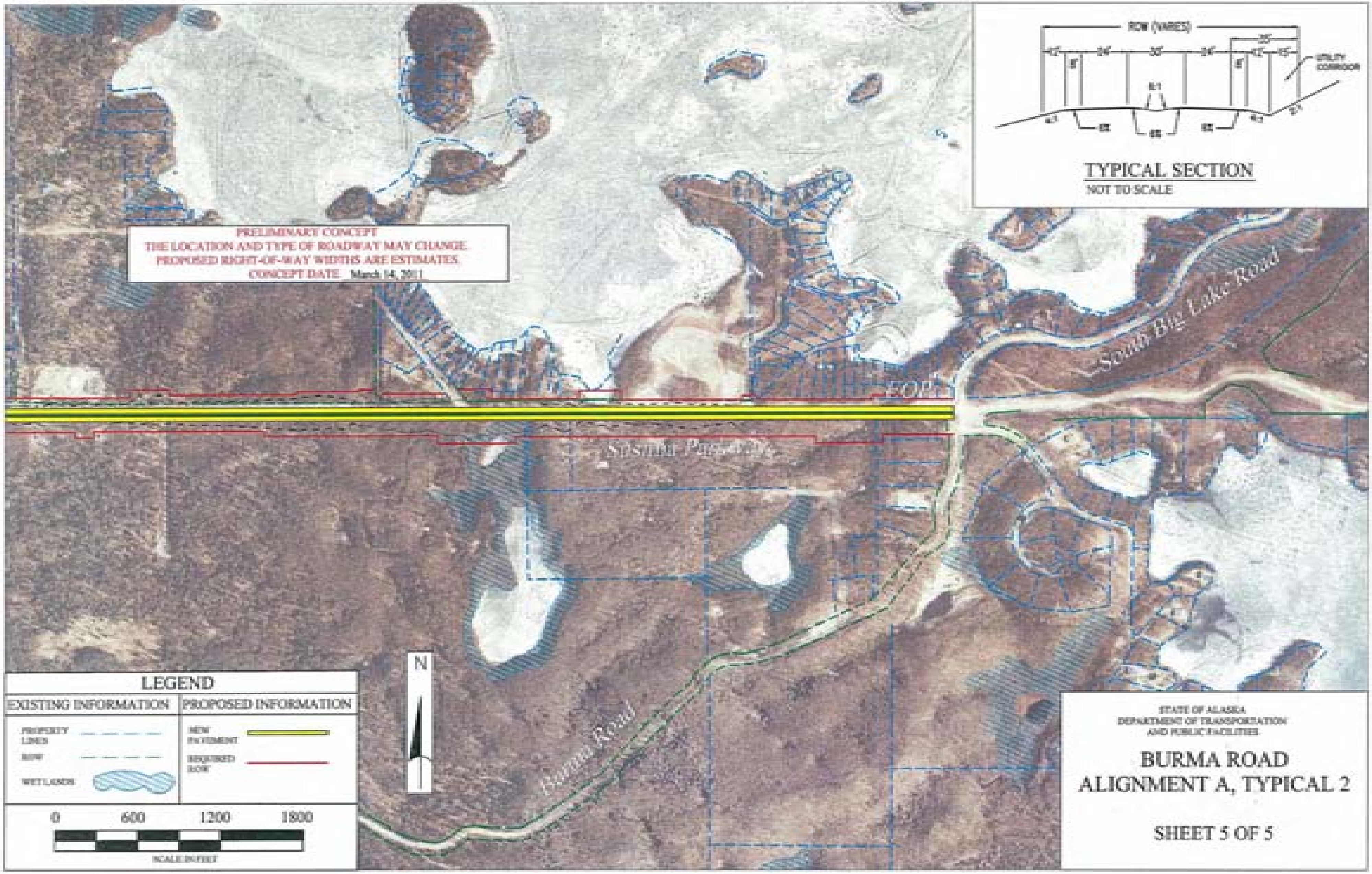
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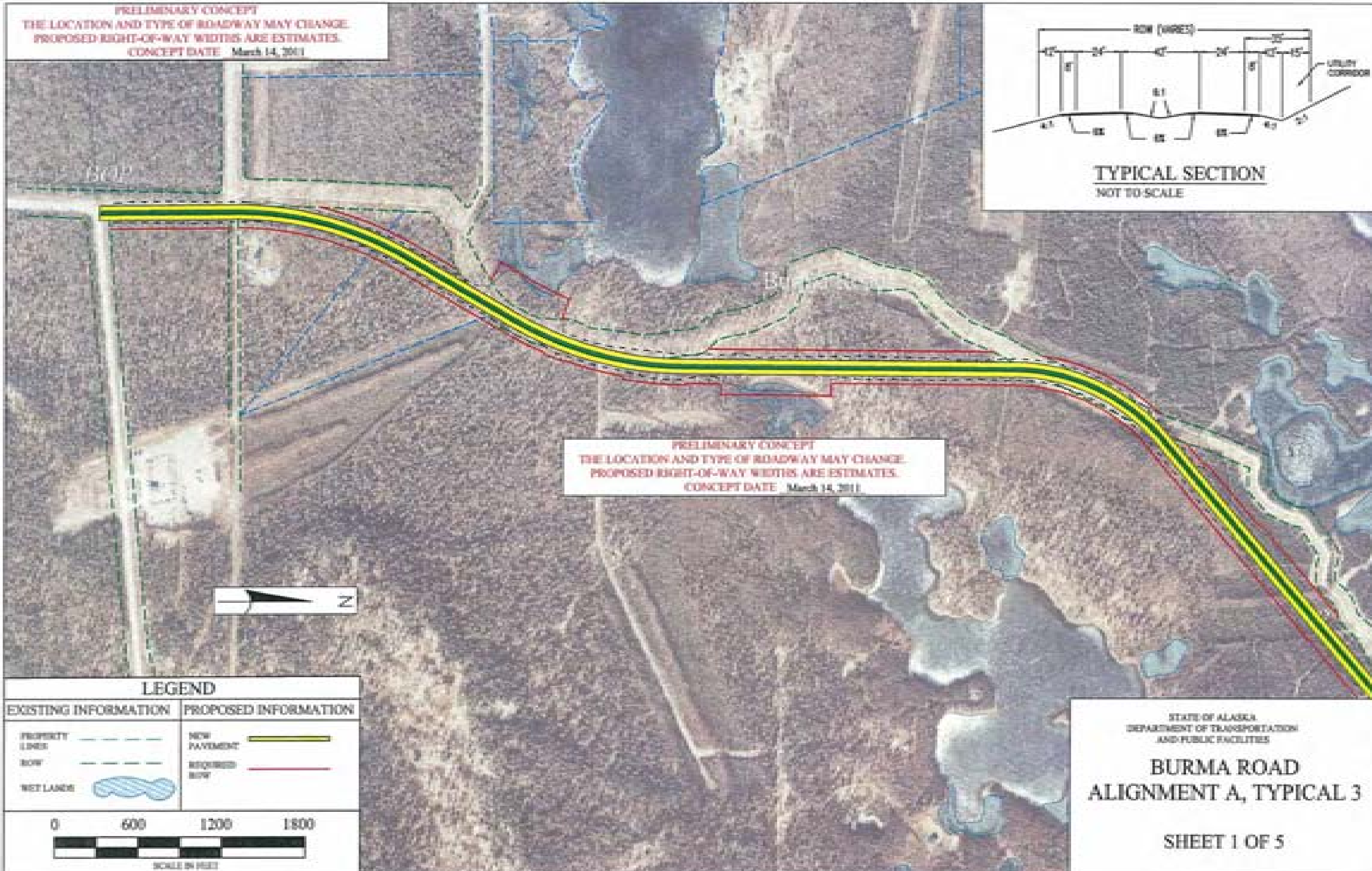
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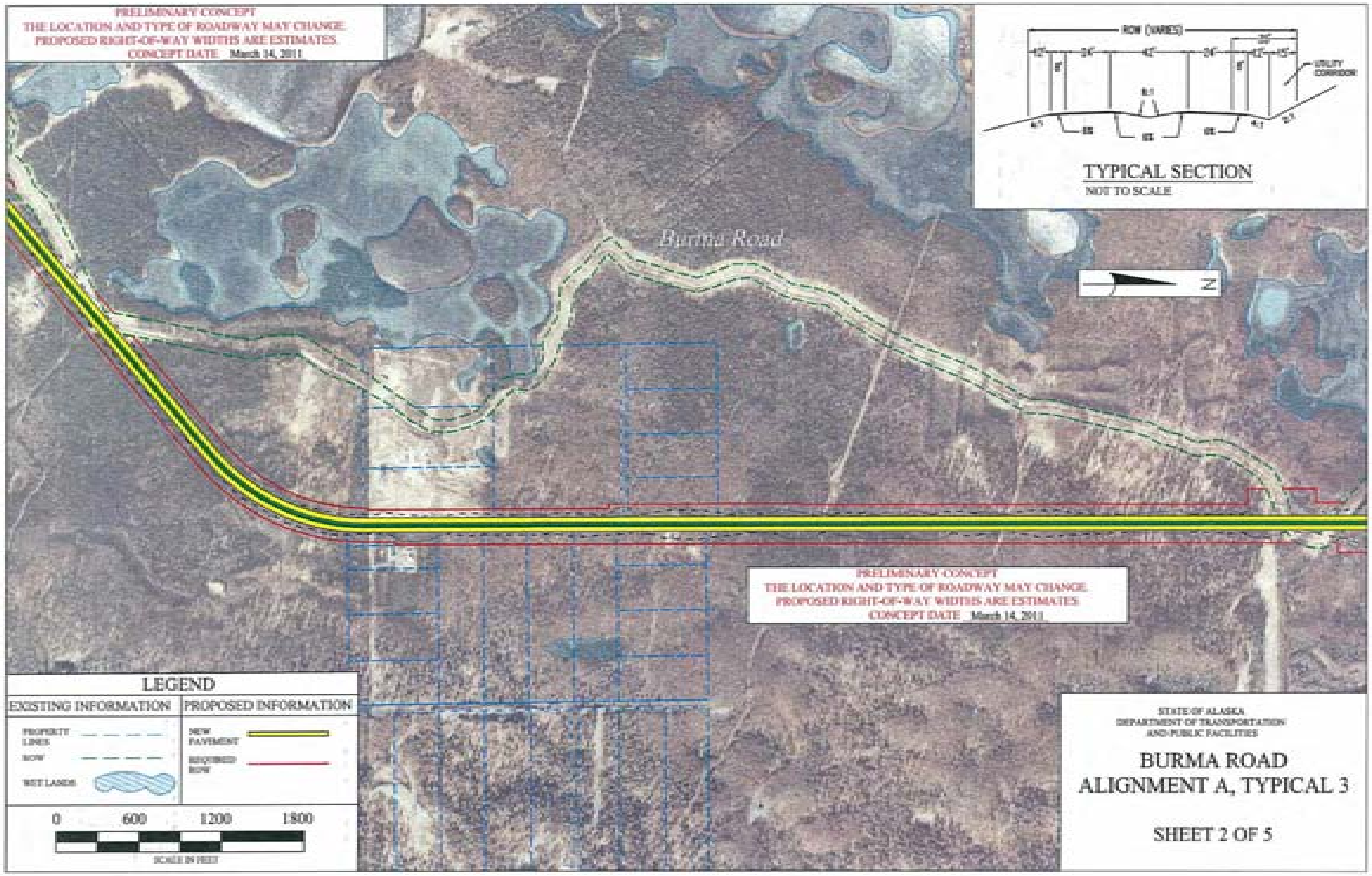
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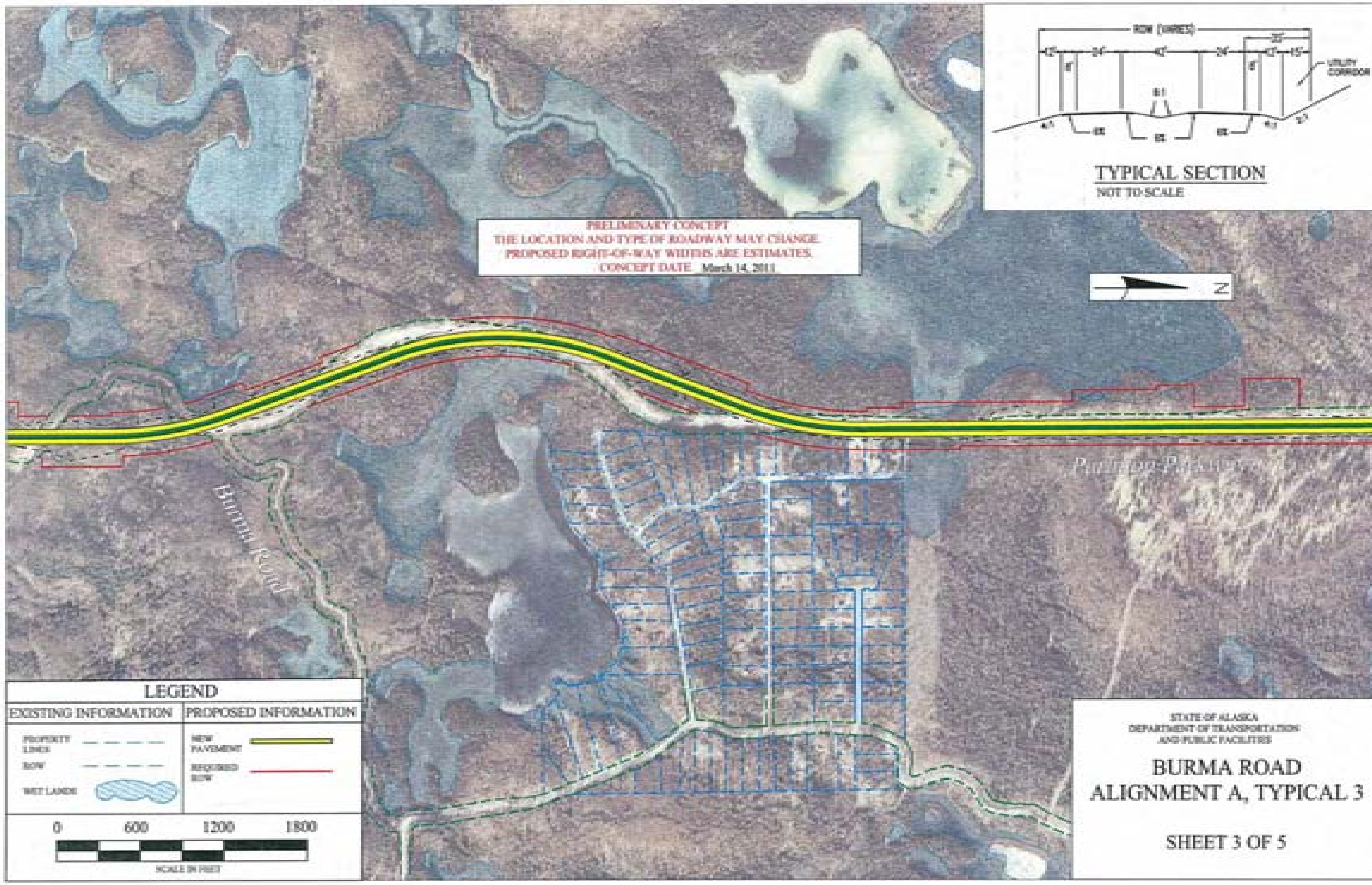
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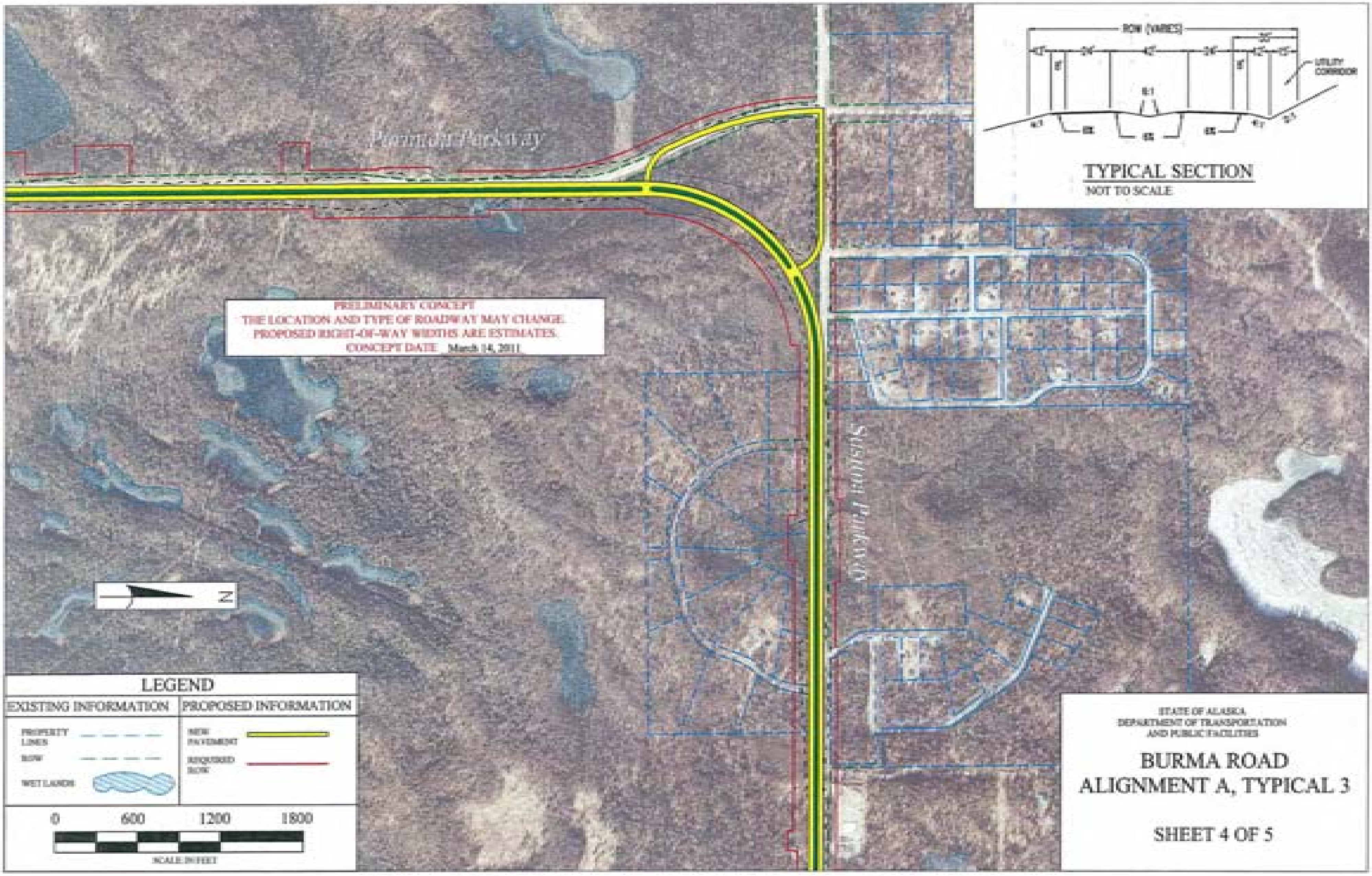
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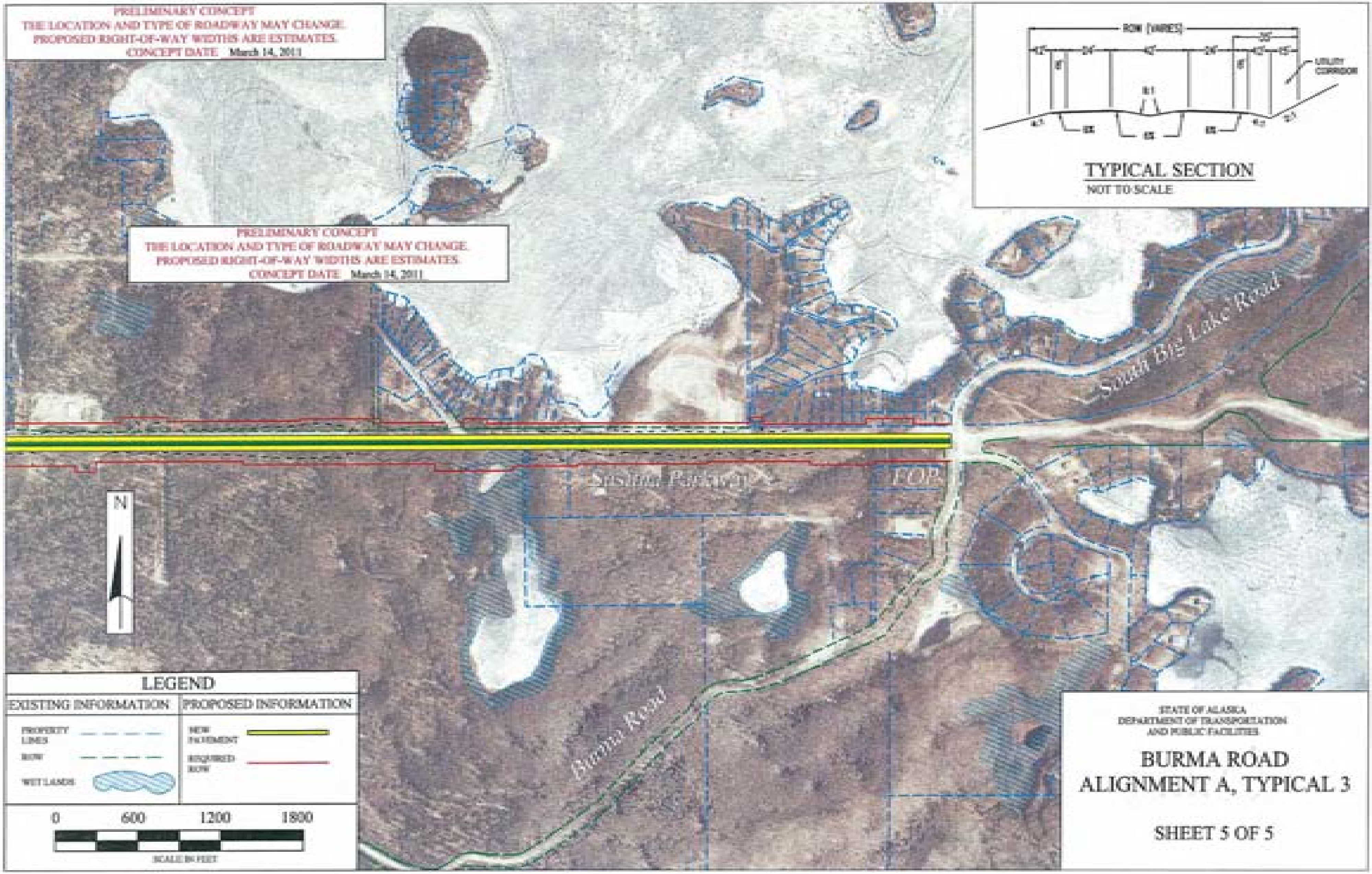
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REQUIRED ROW
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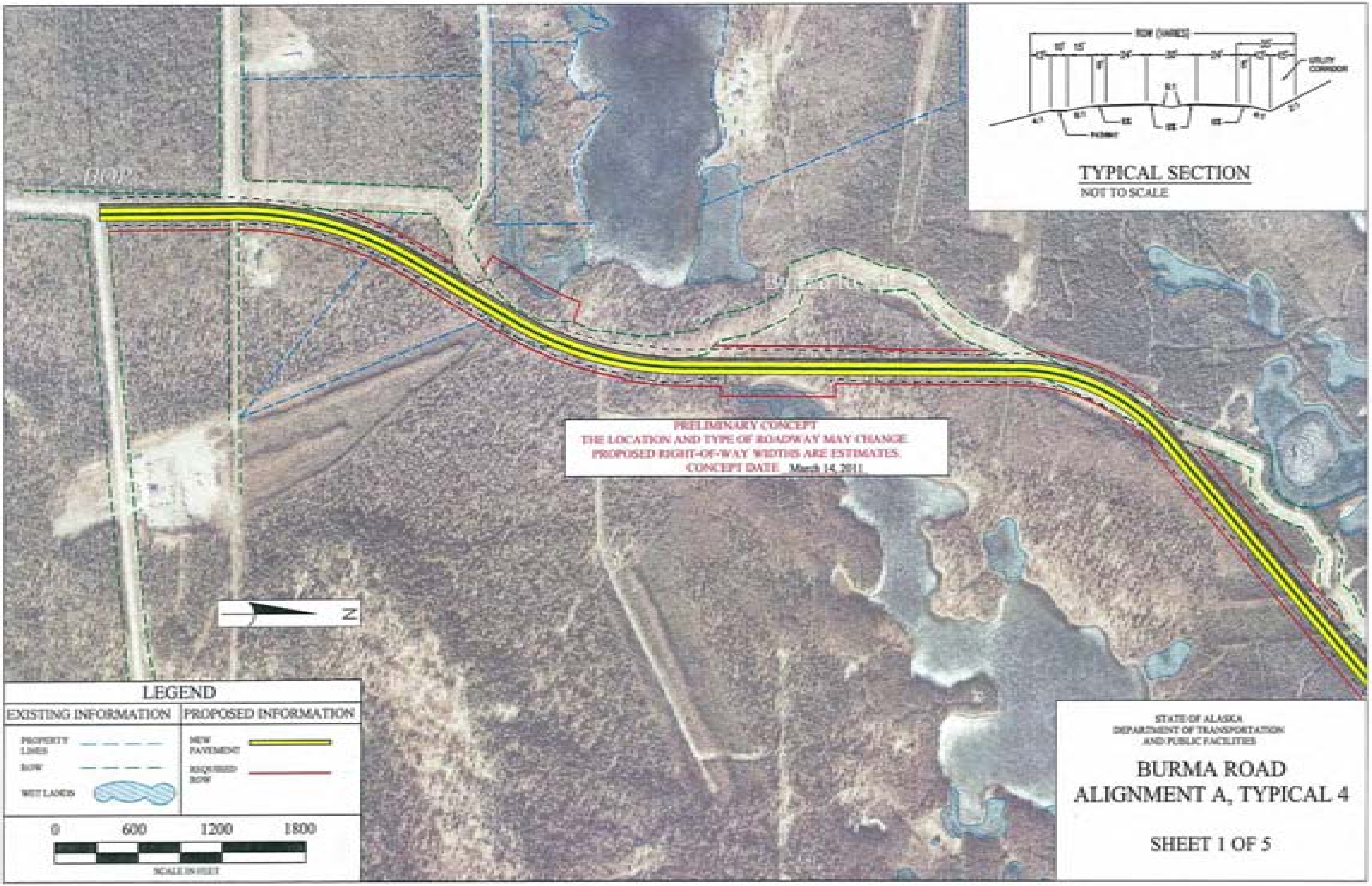
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 3
SHEET 5 OF 5



TYPICAL SECTION
NOT TO SCALE
ROW (VARIES)
UTILITY CORRIDOR
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
N
LEGEND
EXISTING INFORMATION
PROPERTY LINES
ROW
WET LANDS
PROPOSED INFORMATION
NEW PAVEMENT
REQUIRED ROW
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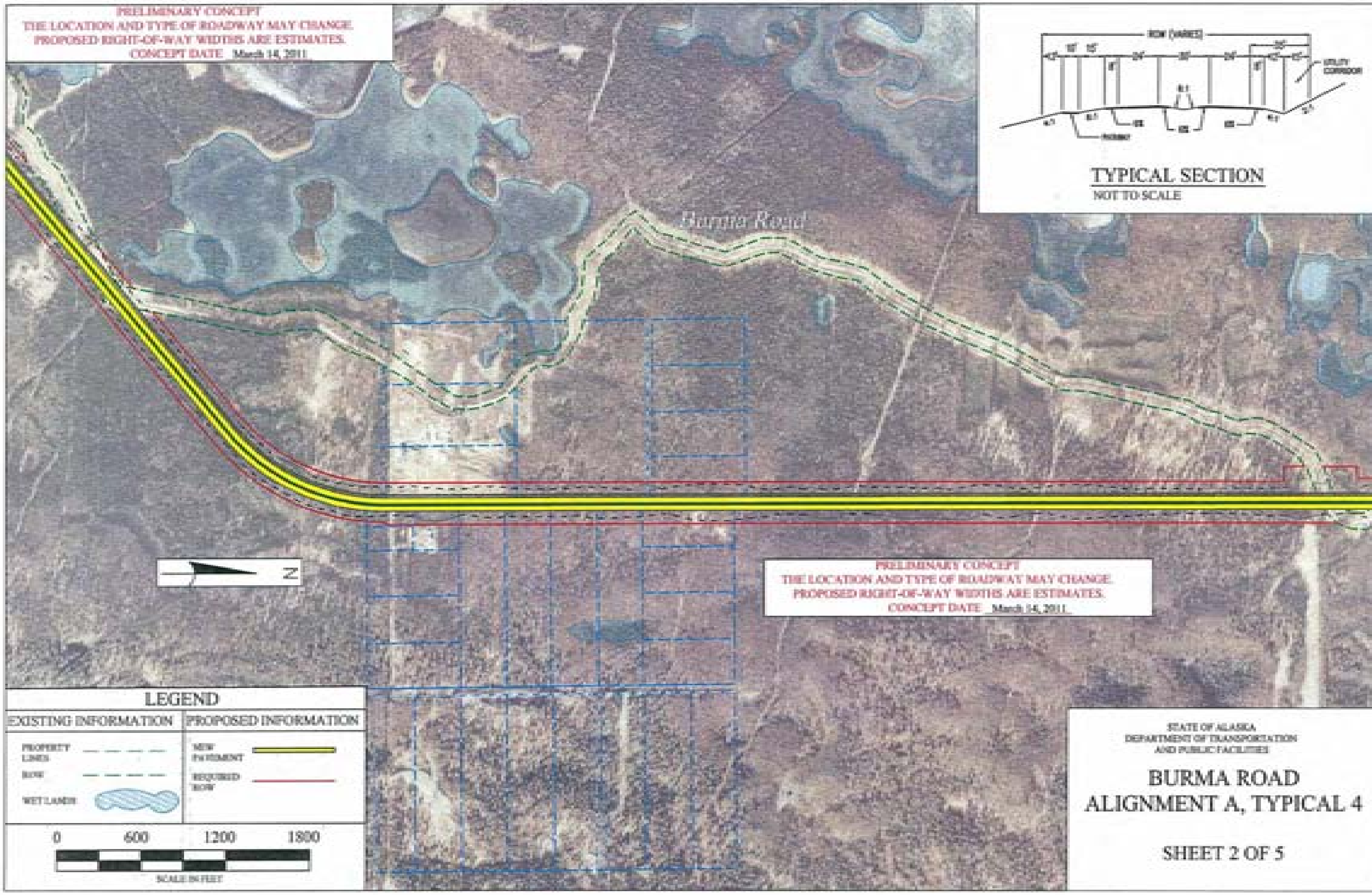
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 4
SHEET 1 OF 5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THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
TYPICAL SECTION
NOT TO SCALE
Burma Road
N
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
LEGEND
EXISTING INFORMATION
PROPERTY LINES
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WETLANDS
PROPOSED INFORMATION
NEW PAVEMENT
REQUIRED ROW
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SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 4
SHEET 2 OF 5


TYPICAL SECTION
NOT TO SCALE
ROW (VARIES)
UTILITY CORRIDOR
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
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Burma Road
LEGEND
EXISTING INFORMATION
PROPERTY LINES
ROW
WET LANDS
PROPOSED INFORMATION
NEW PAVEMENT
REQUIRED ROW
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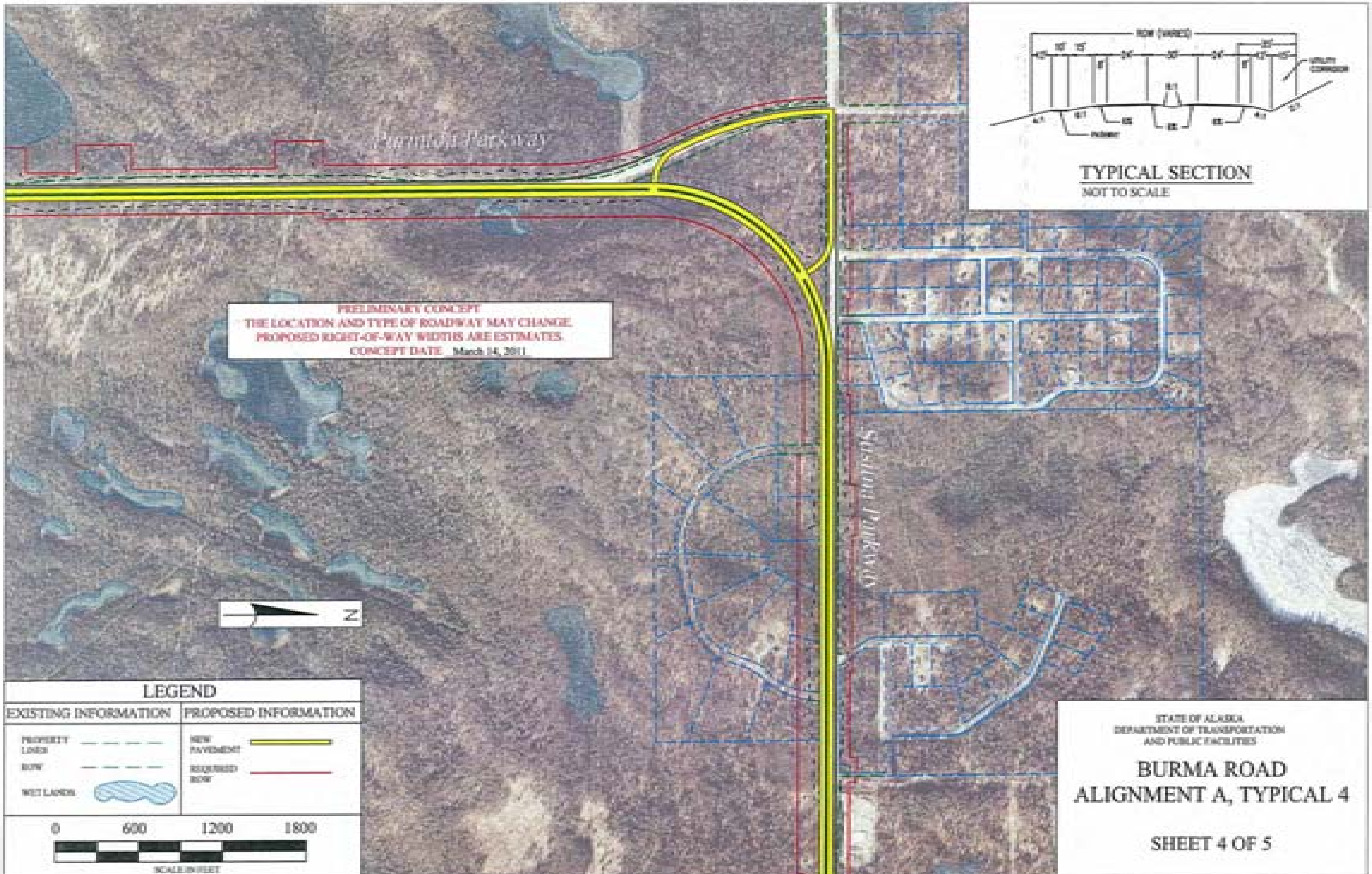
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 4
SHEET 3 OF 5



TYPICAL SECTION
NOT TO SCALE
Purinton Parkway
Susitna Parkway
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
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LEGEND
EXISTING INFORMATION
PROPOSED INFORMATION
PROPERTY LINES
ROW
WET LANDS
NEW PAVEMENT
REQUIRED ROW
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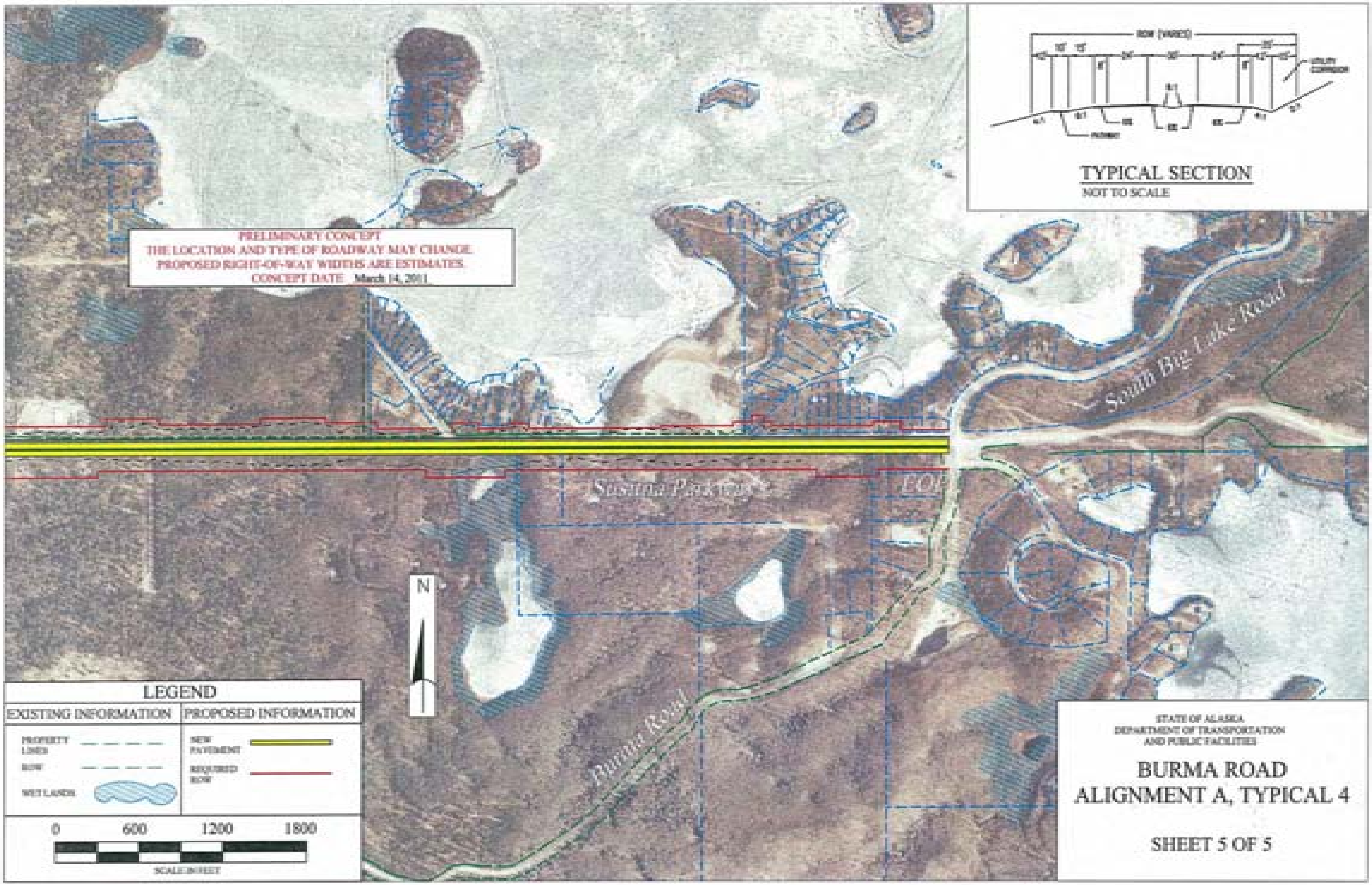
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 4
SHEET 4 OF 5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PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
South Big Lake Road
Susitna Parkway
EOP
Burma Road
N
LEGEND
EXISTING INFORMATION
PROPOSED INFORMATION
PROPERTY LINES
ROW
WETLANDS
NEW PAVEMENT
REQUIRED ROW
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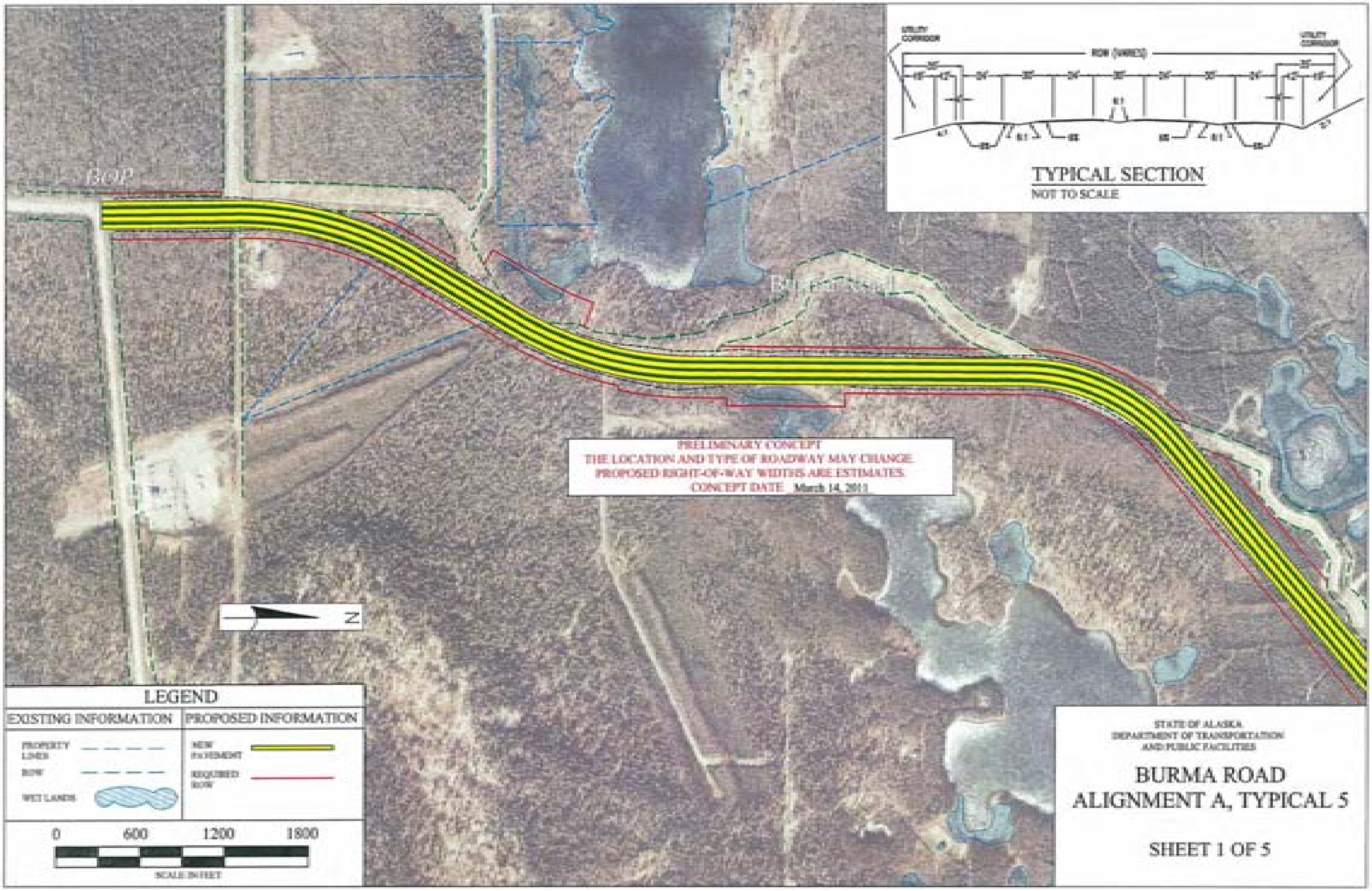
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 4
SHEET 5 OF 5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ROW (VARIES)
BOP
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PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
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LEGEND
EXISTING INFORMATION
PROPERTY LINES
ROW
WET LANDS
PROPOSED INFORMATION
NEW PAVEMENT
REQUIRED ROW
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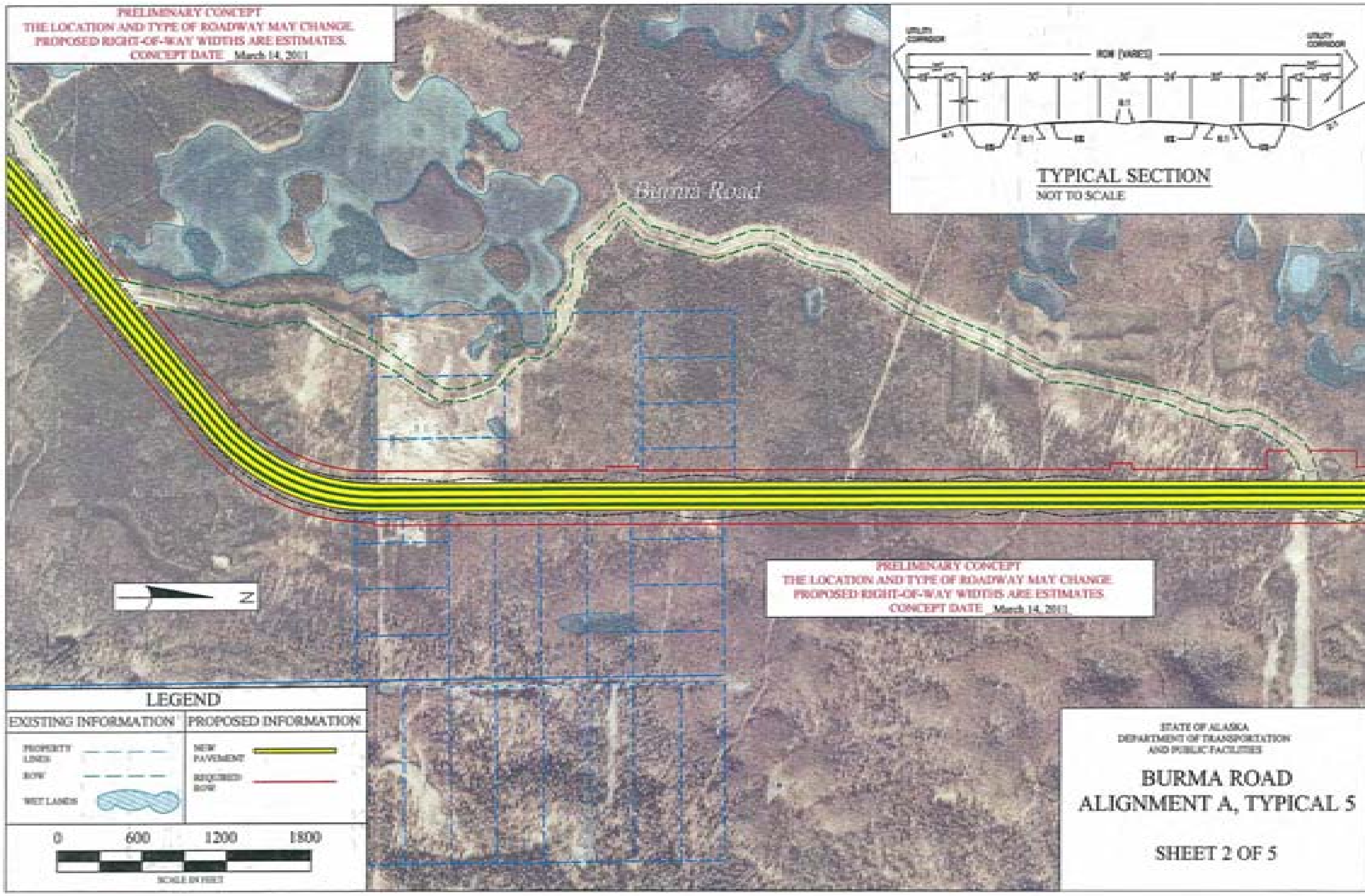
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 5
SHEET 1 OF 5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CONCEPT DATE March 14, 2011
TYPICAL SECTION
NOT TO SCALE
Burma Road
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
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LEGEND
EXISTING INFORMATION
PROPERTY LINES
ROW
WET LANDS
PROPOSED INFORMATION
NEW PAVEMENT
REQUIRED ROW
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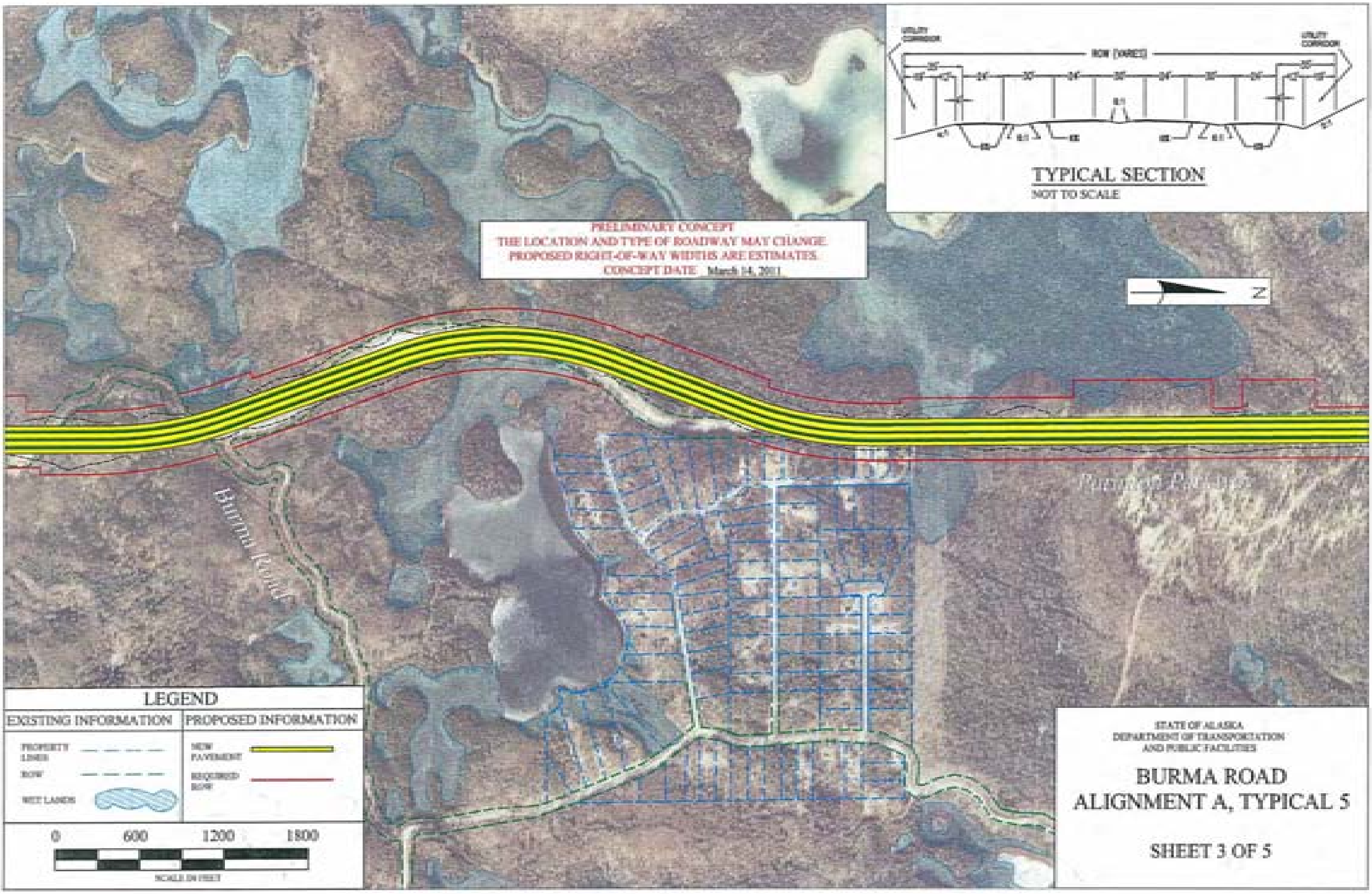
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 5
SHEET 2 OF 5



TYPICAL SECTION
NOT TO SCALE
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES
CONCEPT DATE March 14, 2011
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Burma Road
LEGEND
EXISTING INFORMATION
PROPERTY LINES
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WET LANDS
PROPOSED INFORMATION
NEW PAVEMENT
REQUIRED ROW
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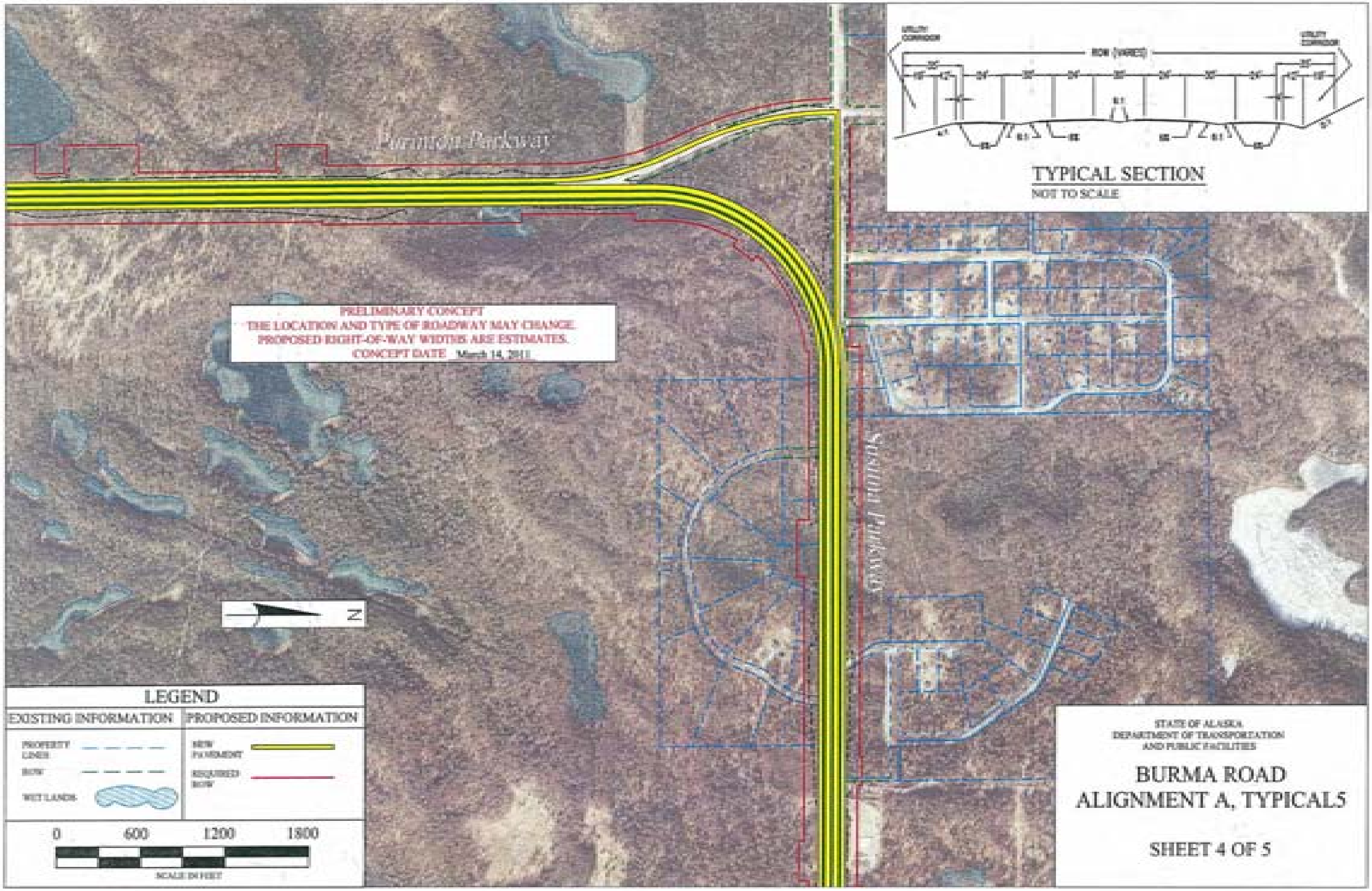
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 5
SHEET 3 OF 5


TYPICAL SECTION
NOT TO SCALE
Purinton Parkway
Susitna Parkway
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
N
LEGEND
EXISTING INFORMATION
PROPOSED INFORMATION
PROPERTY LINES
ROW
WET LANDS
NEW PAVEMENT
REQUIRED ROW
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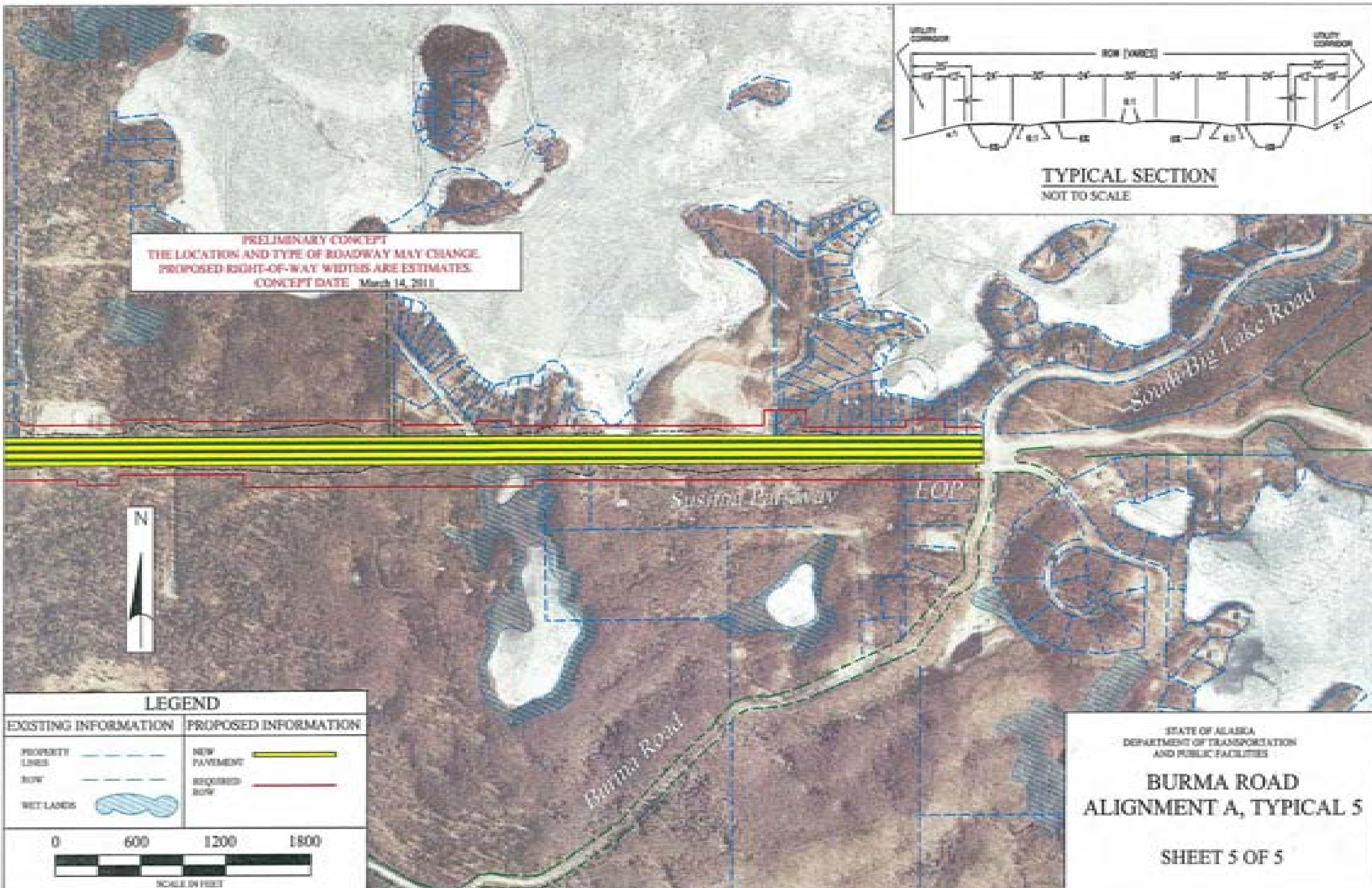
SCALE IN FEET
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL5
SHEET 4 OF 5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NOT TO SCALE
PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE March 14, 2011
South Big Lake Road
Susitna Parkway
EOP
Burma Road
N
LEGEND
EXISTING INFORMATION
PROPOSED INFORMATION
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600
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BURMA ROAD
ALIGNMENT A, TYPICAL 5
SHEET 5 OF 5

Appendix B
Design Designation & Site Map

DESIGN DESIGNATION

State Route Number: 170083 Route Name: Burma Road

Project Limits: Junction with Point Mac Kenzie Road and the Junction with South Big Lake Road

State Project Number 53199 Federal Aid Number:

Project Description: 3R Project with Passing Lanes

Design Functional Classification:

☐ Urban Arterial ☐ Rural Arterial ☐ Major Collector ☐ Minor Collector [X] Local

New Construction - Reconstruction: ☐ Rehabilitation (3R): [X] Other

Project Design Life (years): 5 ☐ 10 ☐ 20 [X] 25 ☐

	Existing Year	Construction Year	Mid-Life Year	Future Year
	2005	2010	2020	2030
ADT*	150	260	790	2,380
DHV	25	40	120	360
Peak Hour Factor	0.90	0.90	0.90	0.90
Directional Distribution	60/40	60/40	60/40	60/40
Percent Recreational Vehicles	NA	NA	NA	NA
Percent Commercial Trucks	9.9%	9.9%	9.9%	9.9%
Compound Growth Rate	11.70%	11.70%	11.70%	11.70%
Pedestrians (Number/Day)	NA	NA	NA	NA
Bicyclists (Number/Day)	NA	NA	NA	NA

* If urban then ADT is not required. Intersection diagrams shall be attached as part of this document.

Design Vehicles for Turning:

Design Vehicle Loading: HS15 ☐ HS20 ☐ HS25 ☐

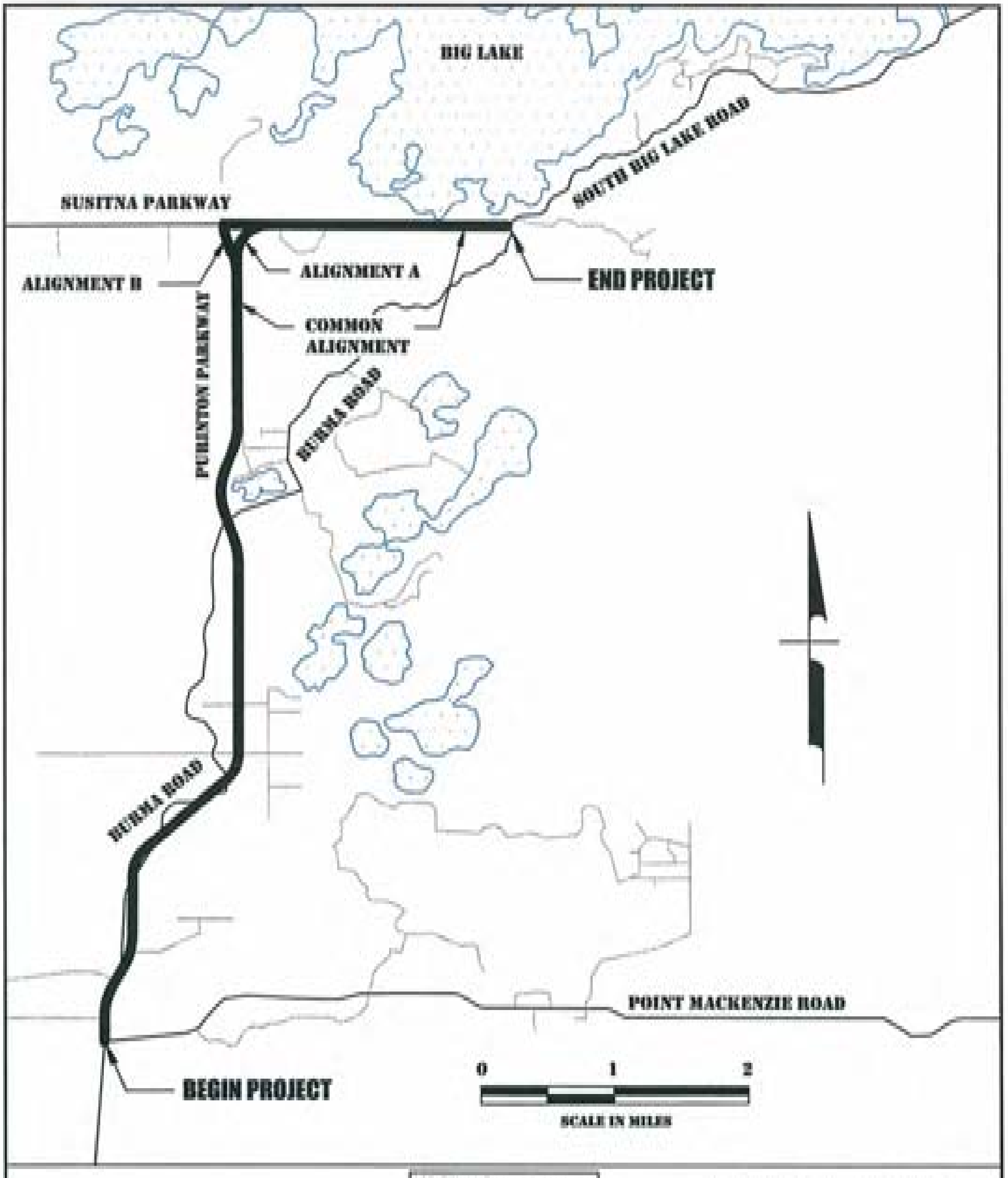
Equivalent Axle Loads:

REVIEWED ____________________ DATE ____________
Highway Data Manager

REVIEWED ____________________ DATE
Area Planner

APPROVED ____________________ DATE
Regional Preconstruction Engineer

Figure 1100-1
Design Designation Form



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

ADOT/PF Project #: 53199
PROJECT: BURMA ROAD

Figure 2 - Alignments

Appendix C

KABATA Agreement

AGREEMENT
Between
THE STATE OF ALASKA DEPARTMENT OF
TRANSPORTATION AND PUBLIC FACILITIES
And
THE KNIK ARM BRIDGE AND TOLL AUTHORITY
September 2, 2006

THIS AGREEMENT is entered into by and between the State of Alaska Department of Transportation and Public Facilities, ("ADOT & PF") the Knik Arm Bridge and Toll Authority, ("KABATA") as of and effective the 2 day of September 2006.

WHEREAS KABATA is a public corporation and an instrumentality within ADOT&PF but has a separate and independent legal existence from the state and,

WHEREAS, ADOT&PF is responsible for the planning, construction, maintenance, protection, and control of the state highway system; and

WHEREAS, KABATA is charged by State statute to plan, design, construct, operate and maintain a bridge spanning the Knik Arm of Upper Cook Inlet ("Knik Arm Bridge") to connect the Municipality of Anchorage ("Anchorage") and the Matanuska-Susitna Borough ("Mat-Su"); and

ADOT&PF and KABATA hereby confirm the foregoing recitals and agree as follows;

1. Purpose of Agreement. It is the purpose of this Agreement to delineate the respective responsibilities and commitments of the ADOT&PF and KABATA as to funding, design, construction, ownership, operation and maintenance of Projects 1-9 (the Projects) identified in the *Knik Arm Crossing Development Plan Concept* dated August 15, 2006, attached hereto solely for purposes of depicting general project alignment and location.

2. Responsible Contract Official. The responsible contract official and contact ("Contract Official") for ADOT&PF shall be the ADOT&PF Central Region Director and for KABATA shall be the KABATA Executive Director.

3. Coordination and Cooperation.

   (a) Communications Protocol. ADOT&PF and Central Region, and KABATA shall each continuously and timely keep the other and their respective Contract Officials informed of the status of and all matters, issues, and events relevant to their respective responsibilities under this Agreement. KABATA and ADOT&PF agree to work cooperatively on matters of mutual interest and responsibility, such as maintenance and operations, ITS and other technology, air quality conformance and highway data so as to achieve outcomes responsive to the overall public interest and the purposes of each agency.

   (b) Continuity of Highway Connections to Bridge. After ADOT&PF's acceptance of Projects 6-9 pursuant to paragraph four below, ADOT&PF shall maintain highway connectivity with the Bridge and shall not completely close to traffic the roadways accessing the Bridge except as may be necessary to conduct maintenance, snow removal and repair of said roadways, or as necessary to respond to emergency situations or situations creating safety hazards; and

(e) No Parallel Bridge to be Built. ADOT&PF shall not construct or operate any separate parallel highway bridge across Knik Arm within five miles of the proposed project that will lessen the volume of KABATA's Bridge toll traffic.

4. Projects and Project Responsibilities. ADOT&PF and KABATA agree as follows:

(a) KABATA's Role. KABATA shall have the sole and exclusive responsibility to design, construct and deliver Project No. 2 through Project No. 9. Design standards shall conform to the Alaska Highway Preconstruction Manual, and construction shall be in accordance with the Alaska Highway Construction Manual. KABATA shall be the sole point of contact and, subject to prior advice and in consultation and coordination with ADOT&PF, shall determine the design, location and alignment and shall have sole responsibility for the design, right-of-way acquisition, construction, construction management and delivery of the Projects.

(b) KABATA to Transfer Certain Projects. Upon KABATA's individual completion of construction activities for Project Nos. 6 through 9, KABATA may request that ADOT&PF accept the projects. The request shall include a written certification by KABATA and the responsible design engineer that the Project(s) conform to the standards agreed upon in 4(a). Upon ADOT&PF's agreement that all required work is satisfactory, ADOT&PF shall accept each such Project and KABATA shall thereupon transfer ownership of each Project No. 6 through and including Project No. 9 to ADOT&PF. The intent of this section is that each transferred project be provided on a "turn-key" basis, with ADOT&PF assuming ownership of a complete project.

(c) ADOT&PF's Acceptance of Certain Projects. Upon ADOT&PF's Paragraph 4(b) acceptance, ADOT&PF shall assume and shall be solely responsible thereafter for the operation and maintenance of such Projects including the funding for such operation and maintenance, and KABATA shall be relieved of any and all further responsibilities with respect thereto except as otherwise noted herein.

(d) KABATA's Long Term Responsibilities. KABATA shall retain ownership of Project No. 2 through and including Project 5. KABATA shall be solely responsible for the operation, maintenance and improvement of Project No. 2 through and including Project 5 including the funding for such operation, maintenance and improvements, and ADOT&PF shall have no responsibilities with respect thereto.

(c) Project No. 1, Point MacKenzie Road Paving. Project No. 1 is located in the Matanuska-Susitna Borough and is subject to a Grant Agreement by and between Mat-Su and the Alaska Department of Commerce, Community & Economic Development and a trilateral agreement between ADOT&PF, KABATA and Mat-Su, *Point MacKenzie Road Upgrade* dated December 15, 2005.

5. **Additional Project Responsibilities.** With respect to the Projects specified in this Agreement and in addition to the foregoing obligations, responsibilities and agreements, ADOT&PF and KABATA agree that

(a) KABATA shall:

(A) Identify and obtain funding in an amount sufficient for the planning, design and construction of Project No. 2 through and including Project No. 9, which amount shall also be sufficient to cover associated cost overruns, extras, and related project costs. It is the parties' understanding that such funding shall be, whenever possible, obtained from sources so as not to compete for transportation dollars contained in ADOT&PF's federal-aid program, including that program's State matching funds. KABATA is currently pursuing additional funding from the private sector as well as other debt financing. ADOT&PF shall have no responsibility for the identification or acquisition of funding for Projects Nos. 2 through 9, but KABATA and ADOT&PF shall coordinate in good faith their respective efforts for future additional funding.

(B) With the advice and in coordination of ADOT&PF, complete its Environmental Impact Statement and obtain a Record of Decision covering Project No. 1 through and including Project No. 9 at the earliest possible date;

(C) Obtain all regulatory permits, licenses and right-of-ways required for construction of Project No. 2 through and including Project No. 9 at the earliest possible date;

(D) With the advice and in coordination with ADOT&PF, design and construct Project No. 2 through and including Project No. 9;

(E) Have the sole and exclusive responsibility for the design, right-of-way acquisition, construction, construction management and delivery of Project No. 2 through and including Project No. 9, provided however, KABATA shall coordinate its activities and consult with ADOT&PF with respect thereto on a continuing and timely basis.

(b) ADOT&PF shall:

(A) With assistance from and subject to prior review by KABATA, incorporate Projects No. 1 through and including Project 9 into the Statewide Transportation Improvement Program 2006-2008 approved February, 2006, including any subsequent amendments or updates and, subject to approval by the AMATS

Policy Board, include the Projects in the AMATS Anchorage Long Range Transportation Plan and AMATS Transportation Improvement Program.

(II) Diligently apply for and prosecute obtaining approval from the FHWA for incorporating Projects No. 1 through and including Project No. 9 into and as part of the National Highway System.

6. Future Responsibilities and Obligations.

(a) Future Traffic Capacity. If in the future event that traffic volumes on Project No. 1 through and including Project No. 9 are determined by an independent traffic study performed by a mutually agreed upon consultant to necessitate the widening of one or more of said Projects or other traffic capacity improvements, KABATA shall have sole responsibility to fund such road widening or other traffic capacity improvements, and to perform design, right-of-way acquisition, construction, construction management and delivery of the projects.

(b) Future Connection to Anchorage Network. When future traffic volumes on the A/C Street Couplet are determined by an independent traffic study, performed by a mutually agreed upon consultant, to necessitate providing additional traffic capacity from the south end of Project 9 Government Hill roadway, ADOT&PF and KABATA shall coordinate plans to integrate Project 9 Government Hill roadway traffic volumes into the Anchorage transportation system. KABATA shall have the primary responsibility to fund such new connection or other capacity improvements, including the design, right-of-way acquisition, construction, construction management and delivery. ADOT&PF's responsibility will be limited solely to funding for an amount not to exceed the cost of the future connection described in the AMATS LRTP as project 502.

7. Benefit of Agreement. This Agreement is for the benefit of ADOT&PF and KABATA and their respective interests. This Agreement shall not confer any private right of action to any third party.

8. Miscellaneous.

(a) Severability. It is agreed and understood that this agreement is subject to applicable existing municipal, state and federal law, including any future changes. Should any of the provisions of this Agreement be found to be invalid, illegal or unenforceable, such provision shall be stricken and the remainder of this Agreement shall nonetheless remain in full force and effect unless striking such provision shall materially alter the intention of the parties.

(b) MPO Obligations. This agreement does not obviate or supersede the obligations that each party has to participate in federally required transportation planning, programming and coordination processes within any Metropolitan Planning

Organization boundary that KABATA's transportation elements are proposed or constructed.

(c) Entire Understanding. The terms set forth in this Agreement supersede all previous discussions, understandings and agreements among the parties hereto with respect to the terms of this agreement and are intended by the parties as a final, complete and exclusive expression of the terms of their agreement and may not be contradicted, explained or supplemented by evidence of any prior agreement, any contemporaneous oral agreement or any additional terms.

(d) Amendment. The parties hereto may amend, modify or supplement this Agreement at any time, but only in writing duly executed on behalf of all parties hereto.

(e) Waiver. No covenants, terms or conditions or the breach thereof shall be deemed waived, unless contained in a writing signed by a duly authorized officer or representative of the party sought to be charged with the waiver, and any waiver or the breach of any covenant, term or condition shall not be deemed to be a waiver of any preceding or succeeding breach of the same or any covenant, term or condition.

(f) Interpretation. This Agreement has been jointly negotiated and drafted. The language in this Agreement shall be construed as a whole according to its fair meaning and not strictly for or against any of the parties hereto.

(g) Dispute Resolution. Disputes arising out of the obligations imposed by this Agreement shall first attempt to be resolved between the Executive Director for KABATA, and the Commissioner for ADOT&PF. If the matter cannot be resolved, the parties shall present the matter to the Office of the Governor for review. The Office of the Governor may elect to resolve the matter, or may direct the parties to resolve the matter through mediation or arbitration.

10. Contacts: The Contract Official and contact for the parties shall be

For KABATA:

Henry Springer
KABATA, Executive Director
550 West 7th Avenue, Suite 1850
Anchorage, Alaska 99501
Phone: (907) 269-6679
FAX: 269-269-6697
e-mail: henry_springer@dot.state.ak.us

For ADOT&PF:

Gordon Keith
Central Region Director
ADOT&PF

P.O. Box 196900-6900
Anchorage, Alaska 99519-6900
Phone: (907) 269-0770
FAX: (907) 248-1573
e-mail: gordon_keith@dot.state.ak.us

IN WITNESS WHEREOF, the parties hereto have executed this agreement the date and year written below.

KNIK ARM BRIDGE AND TOLL AUTHORITY

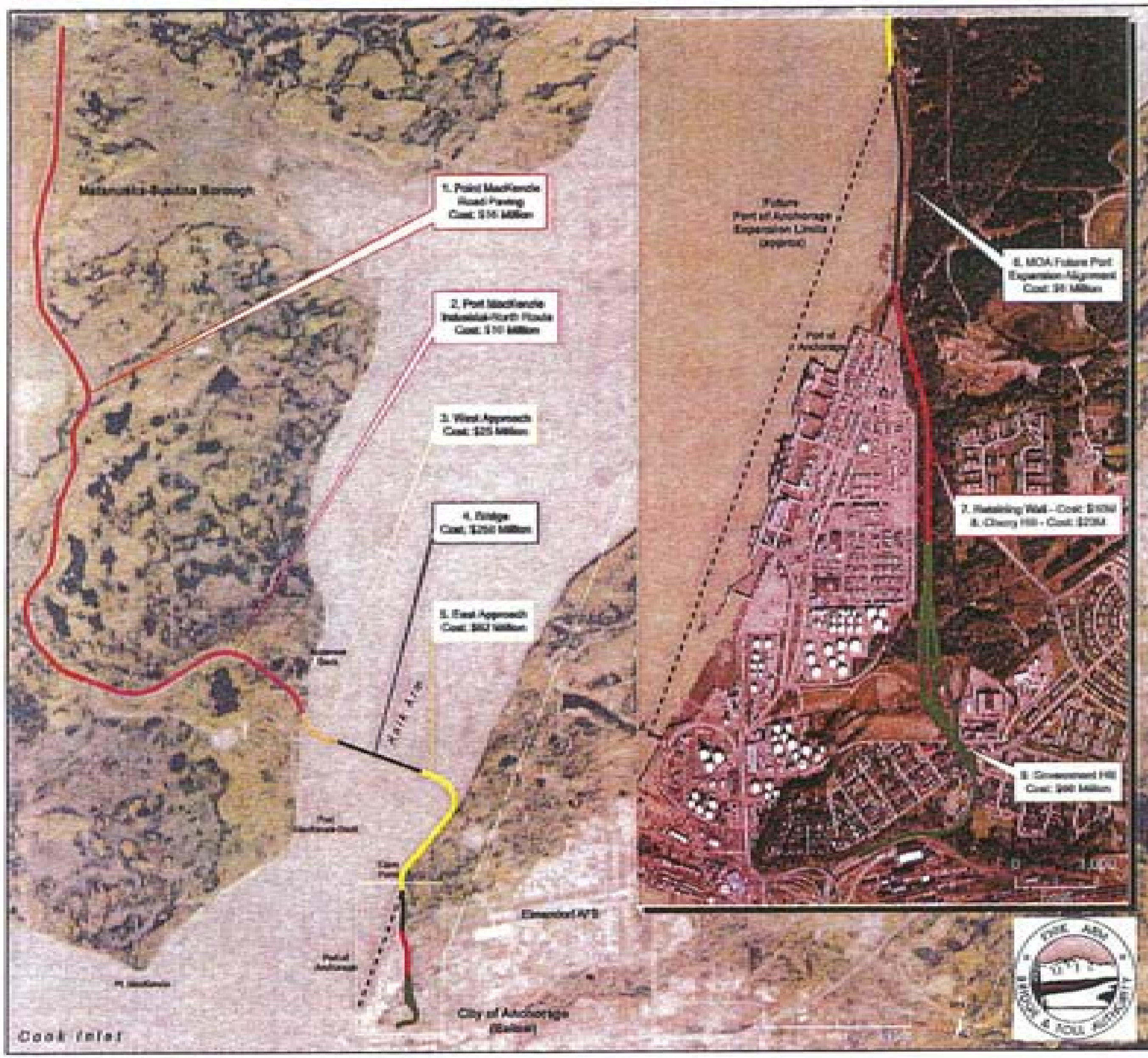
By: ________________ Date: 9/2/06
George Wuerch
Chairman of the Board of Directors

By: ________________ Date: 9/2/06
Henry Springer,
Executive Director

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

By: ________________ Date: 9/12/6
Mike Barton
Commissioner

By: ________________ Date: 9/6/06
Gordon Keith
Central Region Director



Knik Arm Bridge and Toll Authority's
Knik Arm Crossing
DEVELOPMENT PLAN CONCEPT
Construction Cost Summary (2006 Dollars)

Overview

The Legislature established the Knik Arm Bridge and Toll Authority (KABATA) in 2003 as a separate and independent public corporation and instrumentality of the State of Alaska within the Alaska Department of Transportation and Public Facilities. The specific mission of KABATA is to:

> "...develop, stimulate and advance the economic welfare of the state and further the development of public transportation systems in the vicinity of the Upper Cook Inlet with the construction of a bridge to span the Knik Arm and connect the Municipality of Anchorage and the Matanuska-Susitna Borough." AS. Stat. 19.75.011

It is important to note that the statute only directs KABATA build a bridge and that the bridge was only intended to [illegible] development of the transportation system in the vicinity of the Upper Cook Inlet. Accordingly, KABATA is responsible for a small section of the Upper Cook Inlet transportation infrastructure, specifically the Knik Arm Crossing. [illegible]

Nonetheless, KABATA stands ready to participate financially and functionally in developing the transportation systems that will ultimately use the bridge. Nine separate projects are contemplated to complete the connections between the EIS logical termini and the bridge across Knik Arm. [illegible] Point MacKenzie Road Paving (Project No. 1) and the Port of Anchorage expansion or the Port Security/Retaining Wall (Project Nos. 6 & 7).

This Development Concepts document is intended to identify conceptual systems that could be used to deliver all these projects and fulfill KABATA's mission to construct a Knik Arm Crossing. [illegible]

Role of KABATA

Pursuant to statutory direction, KABATA will finance, construct, operate, and maintain the Knik Arm Crossing to fulfill its statutory obligations. [illegible] KABATA by statute.

Development Plan

Immediate Development includes the nine projects that need to be in place before the public can utilize the new Knik Arm bridge facility and outlined in this Development Plan Concept. [illegible]

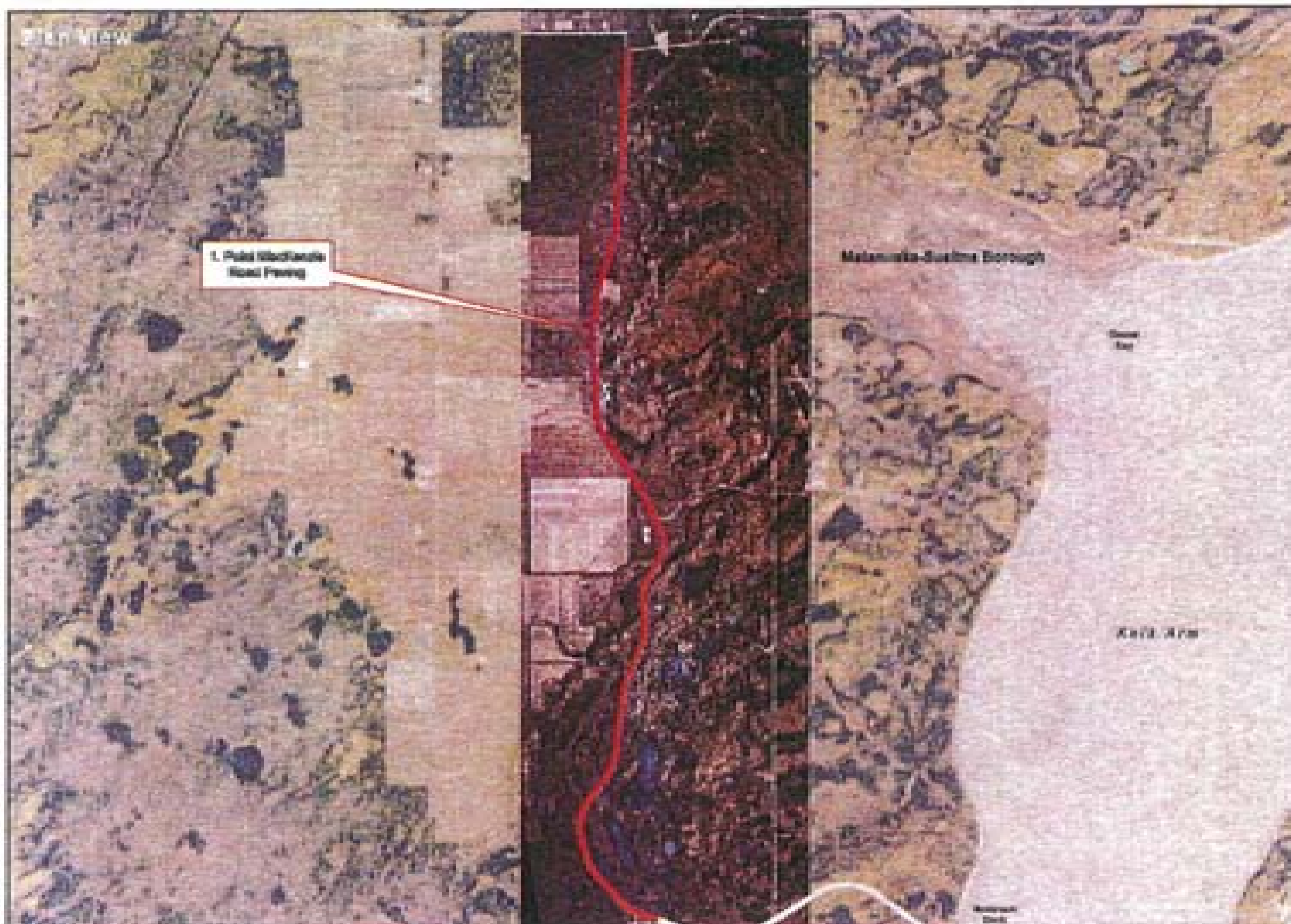
Mid-Range Development includes projects that enhance the serviceability or capacity of the bridge structure but are not necessary for its initial use. [illegible]

Long-Range Development includes development and expansion of the overall regional transportation system as traffic grows. [illegible]

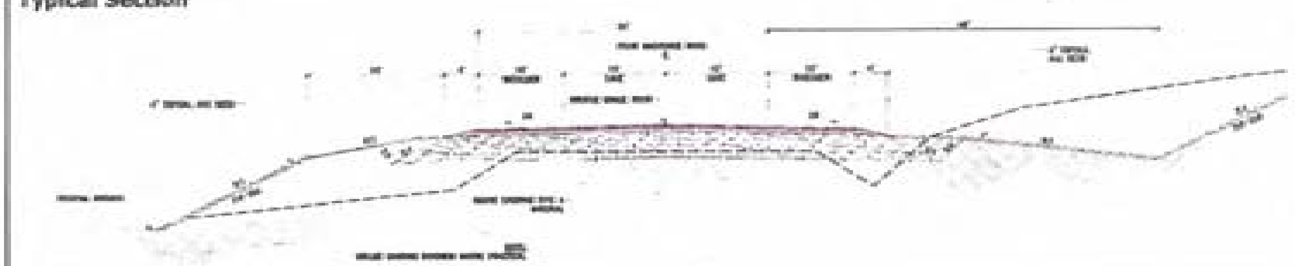
The Alaska State Transportation Improvement Plan (STIP) will include all nine of these projects in the National Highway System (NHS) improvements for the North Port of Anchorage Access.

Development Plan Concept Projects Overview

These aerial photographs depict the interrelationship and location of all nine projects that make up the Development Plan Concept, each of which is further described in the following pages.



Typical Section



Project No. 1. Point MacKenzie Road Paving

35% Design Estimate

Description

This project consists of minor realignments and paving just over 9.6 miles of the existing road from the intersection of Point MacKenzie and Burma Roads on the existing alignment south to the western boundary of the Port MacKenzie District. Initially, the alignment will be a two-lane roadway with provisions to allow for future expansion to a four-lane highway. Culverts will be used for cross drainage along the alignment. No bridge structures will be required.

The Point MacKenzie Road currently services the Point MacKenzie Port Industrial District. The District is building a high-speed ferry to begin service at Point MacKenzie in 2008. The upgrade of the Point MacKenzie road will occur regardless of whether a bridge services the area.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $1.45	$13,885,903
With 15% Contingency	$15,968,788

Funding Source

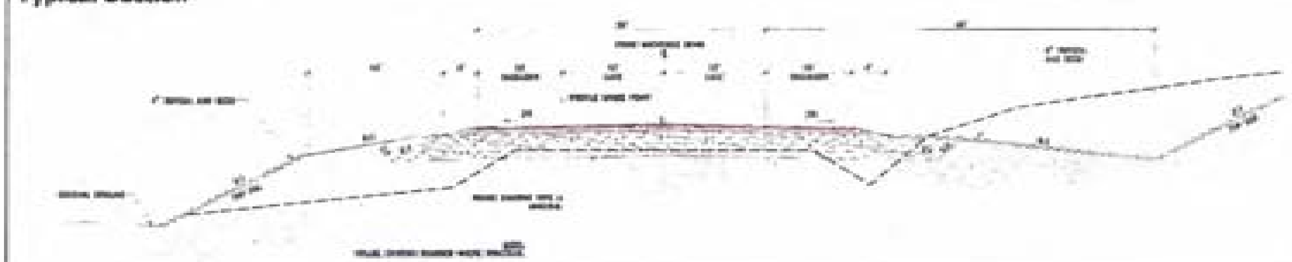
The Matanuska-Susitna Borough has been given a community grant from the Alaska Legislature through the Alaska Department of Commerce, Community and Economic Development for the explicit purpose of upgrading the Point MacKenzie Road to NHS standards by June of 2008. As this project has independent utility, Alaska has elected to complete the upgrade utilizing its own funding.

Map Design By:	PND - BP, PK
Date(s):	9/29/06
Project #:	041133
Project Name:	Knik Arm Crossing

1506 West 36th Avenue
Anchorage, Alaska 99503
907.561.1011 (phone)
907.563.4220 (fax)
www.pndengineers.com

PND ENGINEERS, INC.

Typical Section



Project No. 2. Port MacKenzie
Industrial-North Route
35% Design Estimate

Description
This project is an all-new alignment that departs from the existing Point MacKenzie Road at the western boundary of the Point MacKenzie District. The alignment would skirt the core Port MacKenzie area on the north side of Lake Lorraine leading to the western bluff of the Knik Arm. This 3.5-mile alignment traverses the bluff almost a third of the way down from the top and on approximately a 30 degree skew before entering onto the tidelands. A multi-use facility for road maintenance equipment will be positioned on the west side as will an intersection to allow access to the Port MacKenzie District and to the Anderson Dock area.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $2.49	$ 8,774,452
With 15% Contingency	$10,090,620

Funding Source
Funding will be the sole and exclusive responsibility of KABATA and there are three funding source scenarios possible.

The easiest mechanism, but most unlikely at this time, is 100% State of Alaska financing either directly with capital funds or with any number of traditional financing instruments or a combination thereof such as general obligation or revenue bonds.

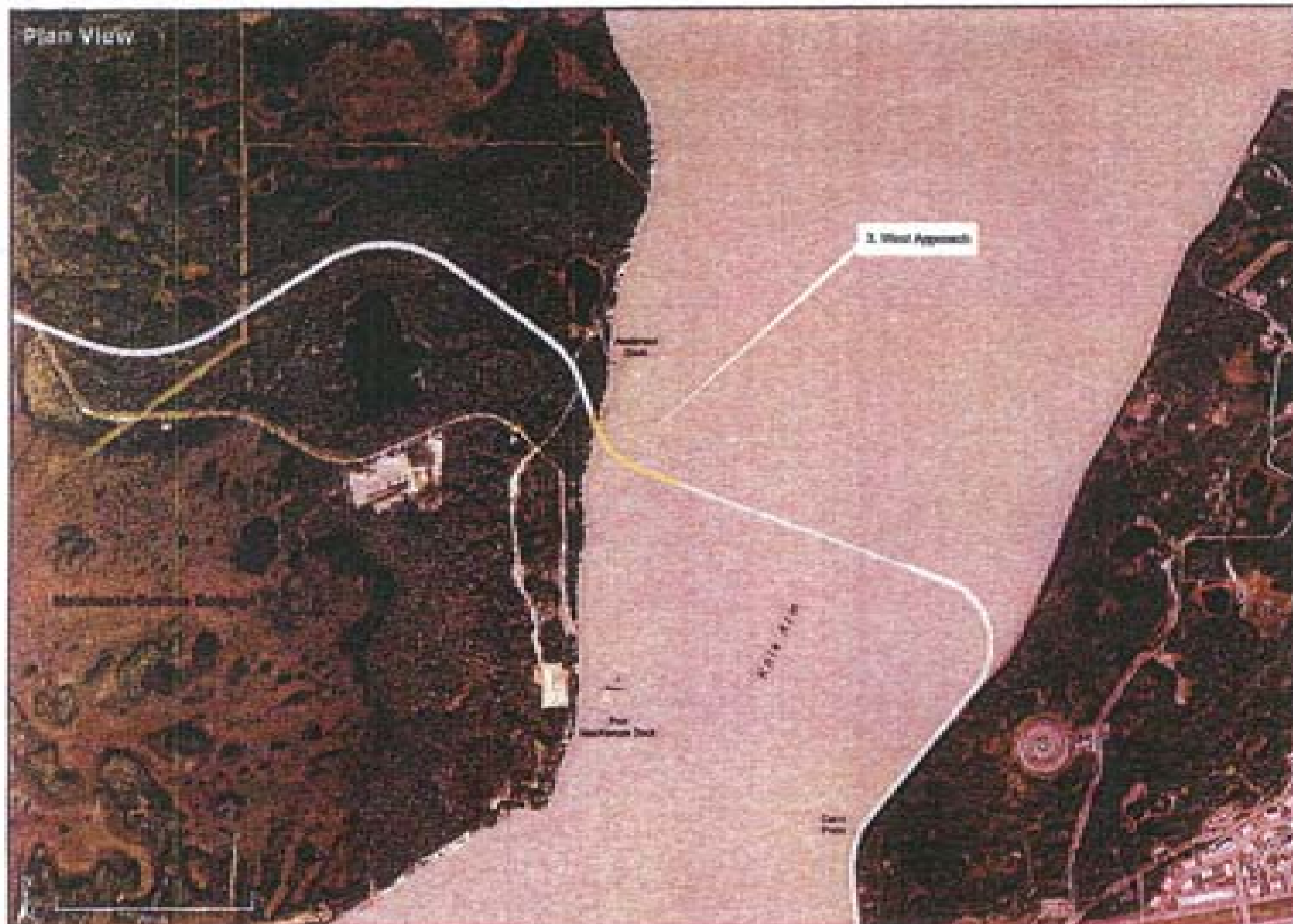
A more possible mechanism is a mixture of State of Alaska public equity for a sufficient down payment and toll-backed revenue bond financing for the balance. This second scenario allows KABATA to keep surplus cash flow for future project development. Preliminary Toll and Traffic Studies indicate this is possible if the financed portion drops to somewhere near $350 million.

Presently, the most likely mechanism is financing through the use of a P3 utilizing some combination of concession and toll revenue and/or revenue bond proceeds.

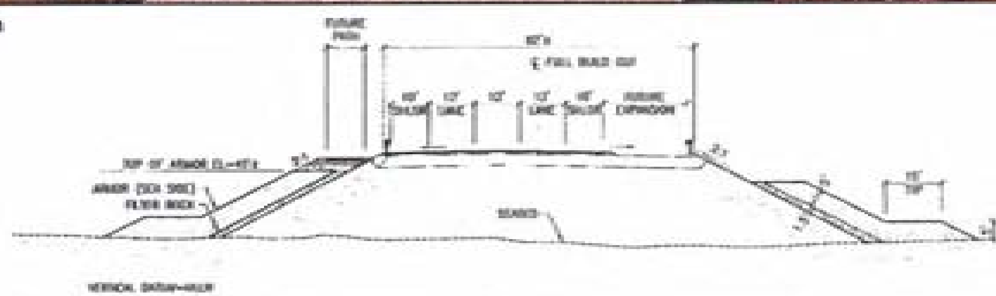
Map Design By:	PND - BP, PK
Date(s):	9/26/06
Project #:	041133
Project Name:	Knik Arm Crossing

PND Engineers, Inc

Plan View



Typical Section



Project No. 3. West Approach

35% Design Estimate

Description
The West Approach begins where the crossing alignment intersects the western bluff of the Knik Arm, approximately 1/3 the way down from top of the bluff. It terminates at the -10 MLLW contour in the Knik Arm at the proposed location of the west bridge abutment. The alignment curves slightly to form a tangent with the proposed bridge orientation. Total length of this phase is approximately 0.45 miles. Fill will consist of gravel, filter rock and armor for protection against wave action and ice. The approach will be constructed wide enough to accommodate expansion of the roadway from an initial two lanes to four.

The West Approach is work that, if bid separately, would fit within the expertise and bonding capacity of Alaskan companies and would increase competition for the work.

As the Point MacKenzie road presently exists the West Approach is ready for construction as soon as the Record of Decision is issued by FHWA.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $50.48	$21,706,479
With 15% Contingency	$24,962,451

Funding Source
Funding will be the sole and exclusive responsibility of KABATA and there are three funding source scenarios possible,

The easiest mechanism, but most unlikely at this time, is 100% State of Alaska financing either directly with capital funds or with any number of traditional financing instruments or a combination thereof such as general obligation or revenue bonds.

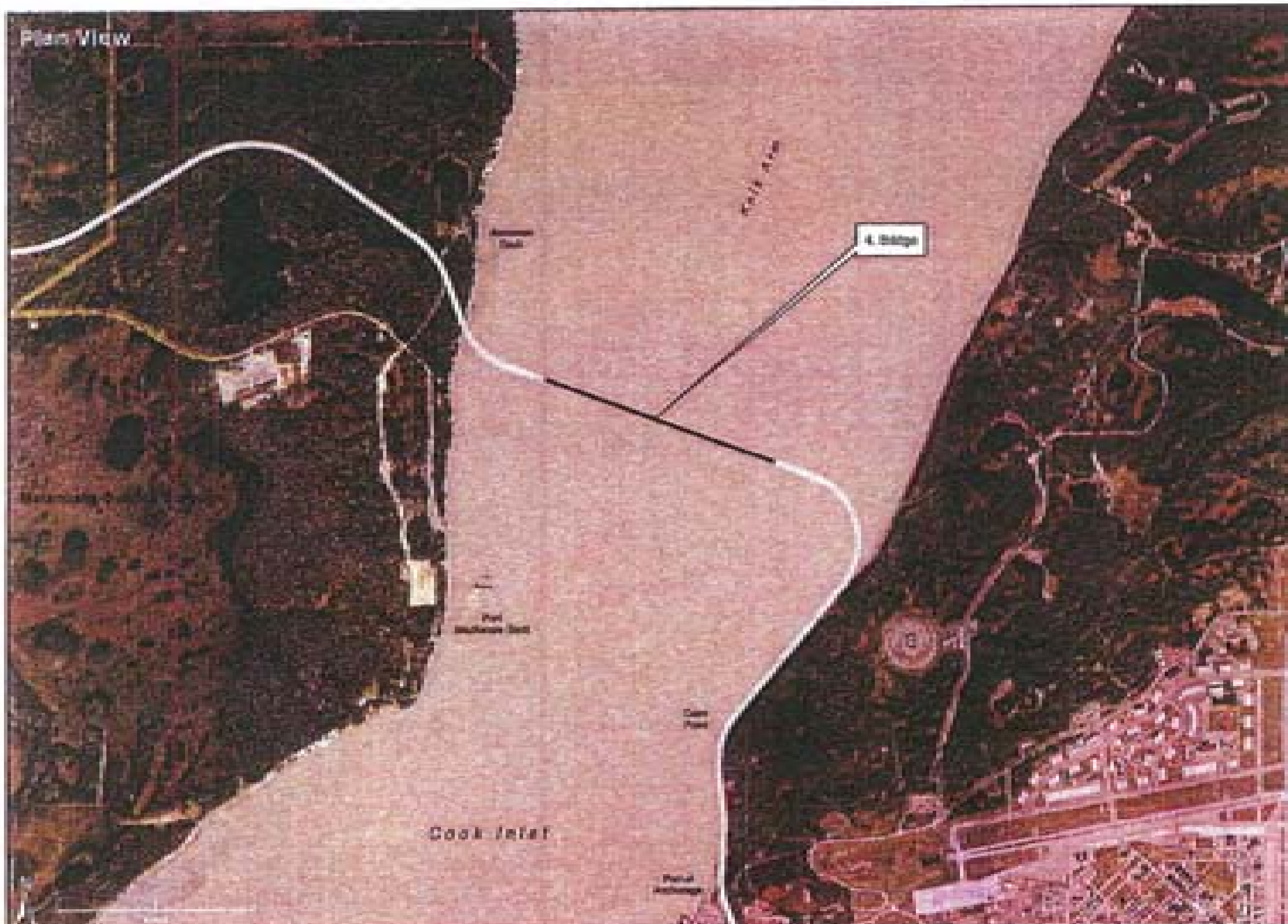
A more possible mechanism is a mixture of State of Alaska public equity for a sufficient down payment and toll-backed revenue bond financing for the balance. This second scenario allows KABATA to keep surplus cash flow for future project development. Preliminary Toll and Traffic Studies indicate this is possible if the financed portion drops to somewhere near $350 million.

Presently, the most likely mechanism is financing through the use of a P3 utilizing some combination of concession and toll revenue and/or revenue bond proceeds.

Map Design By:	PND - BP, PK
Date(s):	9/26/06
Project #:	041133
Project Name:	Knik Arm Crossing

1506 West 36th Avenue
Anchorage, Alaska 99503
907.561.1011 (phone)
907.563.4220 (fax)
www.pndengineers.com
PND ENGINEERS, INC.

Plan View



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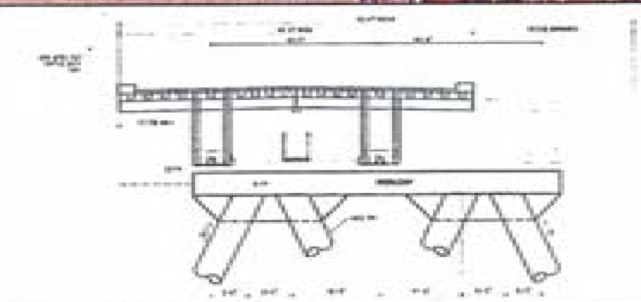

Project No. 4. Bridge

35% Design Estimate

Description
The Bridge structure is proposed to be 8,200 feet long positioned with abutments at the -10 MLLW contour on both sides of the Arm. Pier supports will be spaced approximately 250 feet apart along the bridge deck. A Coast Guard required clear height of 50 feet minimum will be provided for vessel passage near the mid-span of the bridge. Coast Guard required lighting would be provided as navigational aids. The bridge structure will accommodate two lanes however; it will be designed to allow expansion to four lanes in the future.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $139	$215,549,000
With 15% Contingency	$247,881,350

Funding Source
Funding will be the sole and exclusive responsibility of KABATA and there are three funding source scenarios possible,.

The easiest mechanism, but most unlikely at this time, is 100% State of Alaska financing either directly with capital funds or with any number of traditional financing instruments or a combination thereof such as general obligation or revenue bonds.

A more possible mechanism is a mixture of State of Alaska public equity for a sufficient down payment and toll-backed revenue bond financing for the balance. This second scenario allows KABATA to keep surplus cash flow for future project development. Preliminary Toll and Traffic Studies indicate this is possible if the financed portion drops to somewhere near $350 million.

Presently, the most likely mechanism is financing through the use of a P3 utilizing some combination of concession and toll revenue and/or revenue bond proceeds.

Map Design By:	PND - BP; PK
Date(s):	9/26/08
Project #:	041133
Project Name:	Knik Arm Crossing

1000 West 36th Avenue
Anchorage, Alaska 99503
907.561.1011 (phone)
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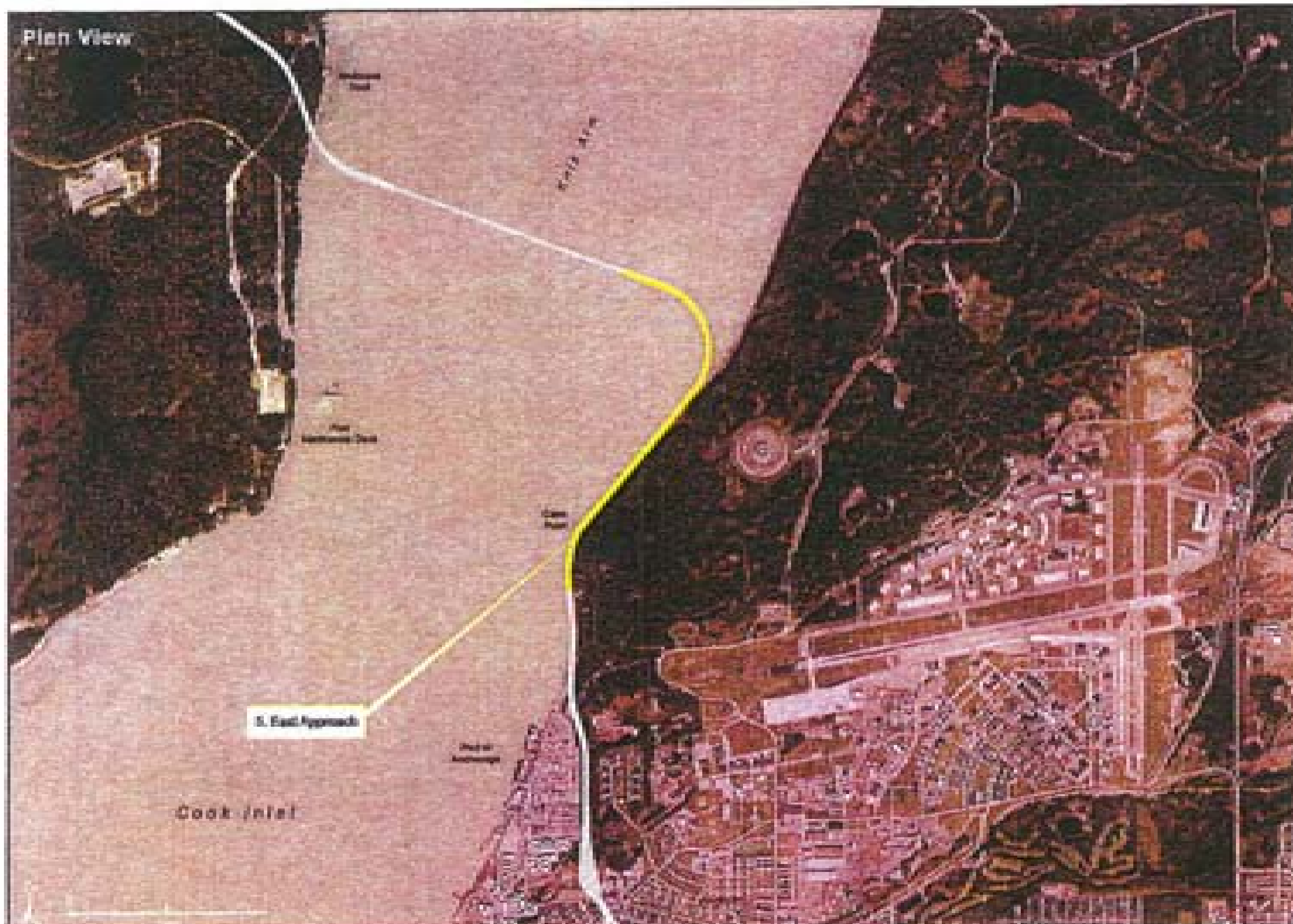
Plan View



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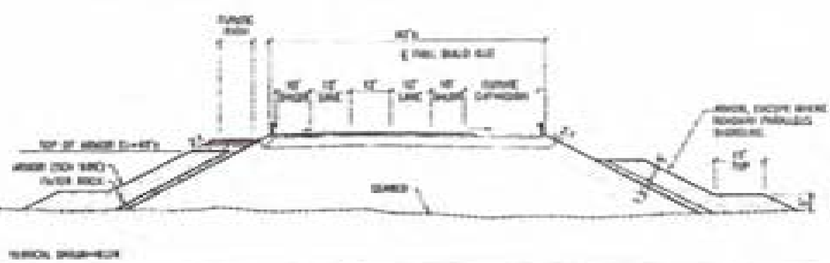

Project No. 5. East Approach
35% Design Estimate

Description
The East Approach begins at the east end of the bridge structure support for the abutment at -10 MLLW. The alignment then curves to the south following the east shoreline of the Knik Arm ending at the north end of the future Port of Anchorage expansion, a distance of approximately 1.95 miles. Fill will consist of gravel, filter rock and armor for protection against wave action and ice. The estimate includes sufficient funds to construct the approach wide enough to accommodate expansion of the roadway from an initial two lanes to four lanes. The East Approach is separated from the bridge structure for construction reasons as East Approach is work that, if bid separately, would fit within the expertise and bonding capacity of Alaskan companies.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $27.78	$53,616,396
With 15% Contingency	$61,658,855

Funding Source
Funding will be the sole and exclusive responsibility of KABATA and there are three funding source scenarios possible,.

The easiest mechanism, but most unlikely at this time, is 100% State of Alaska financing either directly with capital funds or with any number of traditional financing instruments or a combination thereof such as general obligation or revenue bonds.

A more possible mechanism is a mixture of State of Alaska public equity for a sufficient down payment and toll-backed revenue bond financing for the balance. This second scenario allows KABATA to keep surplus cash flow for future project development. Preliminary Toll and Traffic Studies indicate this is possible if the financed portion drops to somewhere near $350 million.

Presently, the most likely mechanism is financing through the use of a P3 utilizing some combination of concession and toll revenue and/or revenue bond proceeds.

Map Design By:	PND - BP, PK
Date(s):	9/26/06
Project #:	041133
Project Name:	Knik Arm Crossing

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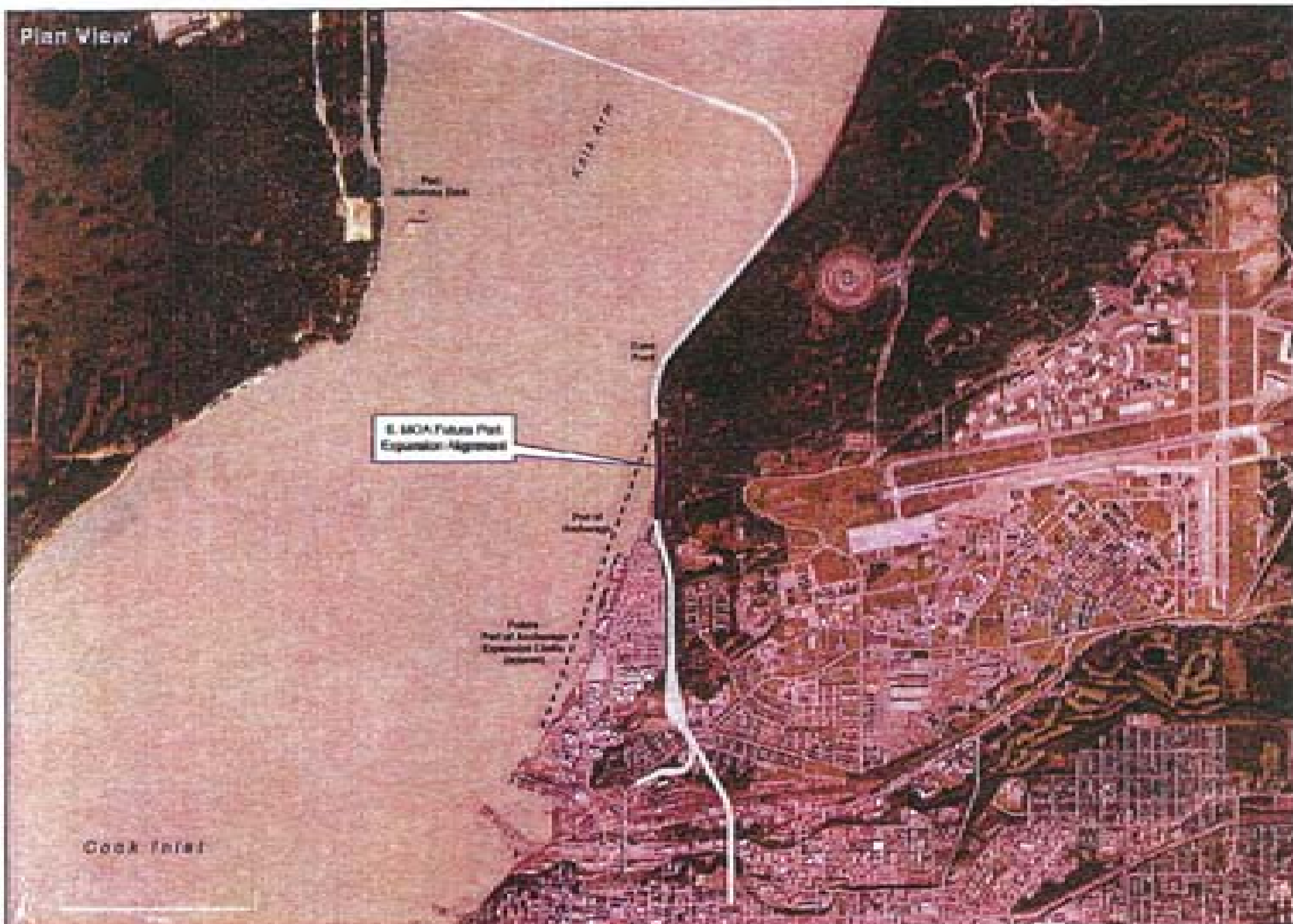
Plan View



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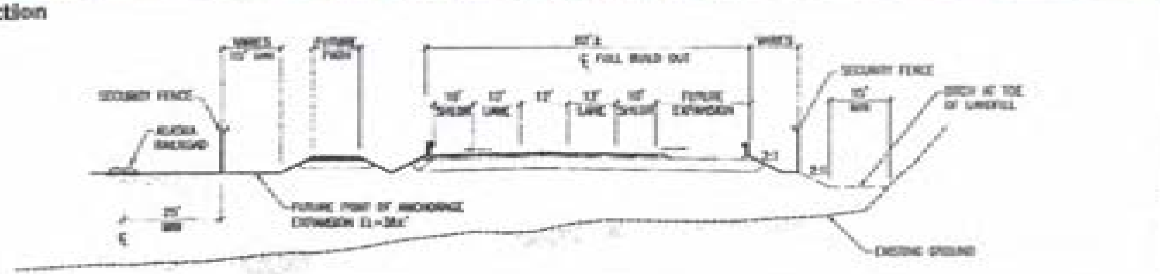

Project No. 6. MOA Future Port Expansion Alignment

35% Design Estimate

Description

This project consists of 0.60 miles of roadway alignment to be constructed atop the already permitted Municipality of Anchorage (MOA) Port of Anchorage fill expansion. Adequate space will be provided to allow for expansion of the roadway from the initial two lanes to four. The alignment will be constructed parallel and adjacent to the bluff on top of the future port expansion fill.

Port of Anchorage, under contract to KABATA will begin construction the summer of 2006 as part of its planned 129 acre Port of Anchorage expansion. The Port of Anchorage will fill the area to a specification that meets or exceeds the requirement for NHS standards for inclusion in the NHS improvements for the North Port of Anchorage Access.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $8.50	$5,098,080
With 15% Contingency	$5,862,792

Funding Source

Upon approval of the Record of Decision by FHWA, the Port of Anchorage will be paid for these improvements from funding already appropriated to the Knik Arm Crossing.

Map Design By:	PND - BP, PK
Date(s):	9/25/06
Project #:	041133
Project Name:	Knik Arm Crossing

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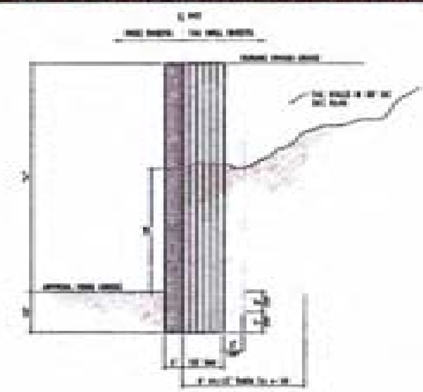
Plan View

Typical Section



Project No. 7. Security/Retaining Wall

35% Design Estimate

Description

To provide a security barrier between the roadway alignment behind the Port of Anchorage and the Port itself of Anchorage, a sheet pile barrier wall will be constructed along the toe of Elmendorf Air Force Base Cherry Hill. This security wall will also act to stabilize soft, seismically sensitive soils along this 0.9-mile alignment. The wall will be positioned to accommodate construction of the bridge access alignment to the east, allowing for both the initial two-lane roadway as well as room to expand to four lanes in the future. The project has independent utility in that the Port needs the retaining wall for Port separation, security, slope stabilization and subsequent construction of Project No. 8 regardless of whether a crossing of the Knik Arm is constructed.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $13.12	$8,398,800
With 15% Contingency	$9,658,620

Funding Source

Federal Funds are being sought as part of the national effort to upgrade United States security at ports. The Port of Anchorage received the designation of a "commercial strategic seaport" in September of 2005.

Map Design By:	PND - BP, PK
Date(s):	9/29/06
Project #:	041133
Project Name:	Knik Arm Crossing

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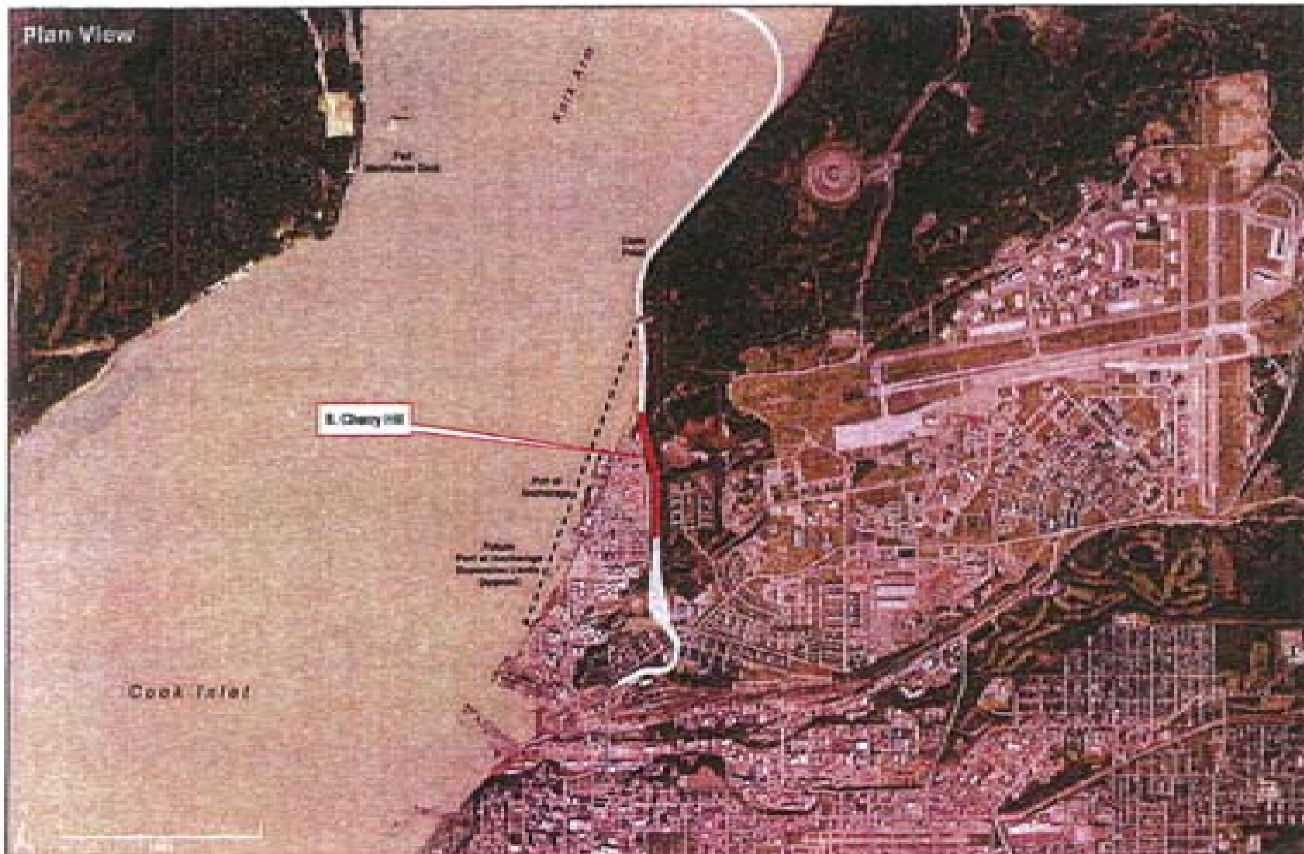
Plan View



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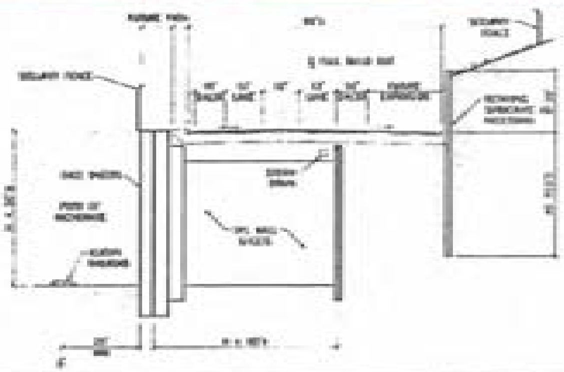

Project No. 8. Cherry Hill Approach & North Port Access

35% Design Estimate

Description

This project consists of the construction of a 0.65-mile road base and pavement. The roadway will be built east of the security wall, at an average height of 40 feet above the adjacent Port of Anchorage property. This project will also be constructed wide enough to allow expansion from its initial two lanes to four lanes.

The Alaska State Transportation Improvement Plan (STIP) will include the project as the NHS improvement for the North Port of Anchorage Access. Along with Project No. 7, this project has independent utility in that the Port needs this access regardless of whether a crossing of the Knik Arm is constructed.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $31.14	$19,926,667
With 15% Contingency	$22,915,667

Funding Source

Upon approval of the Record of Decision by FHWA, the Port of Anchorage will be paid for these improvements from funding already appropriated to the Knik Arm Crossing.

It is also anticipated that this work may benefit from the gravel transfer agreement between the Port of Anchorage and Elmendorf Air Force Base. The MOA Port Expansion Alignment Project has secured gravel from the adjacent Federal facility and should sufficient quantities exist, the location of the gravel will produce a great savings.

Map Design By:	PND - BP, PK
Date(s):	9/26/06
Project #:	041133
Project Name:	Knik Arm Crossing

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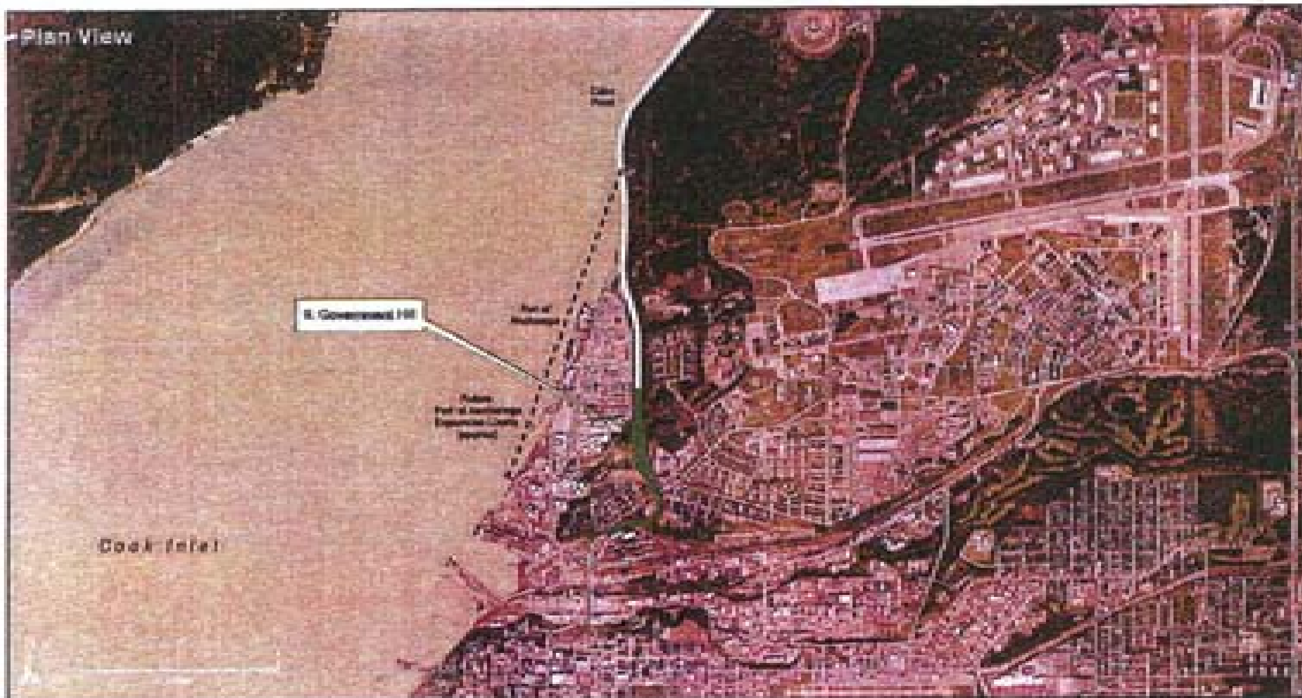
Plan View



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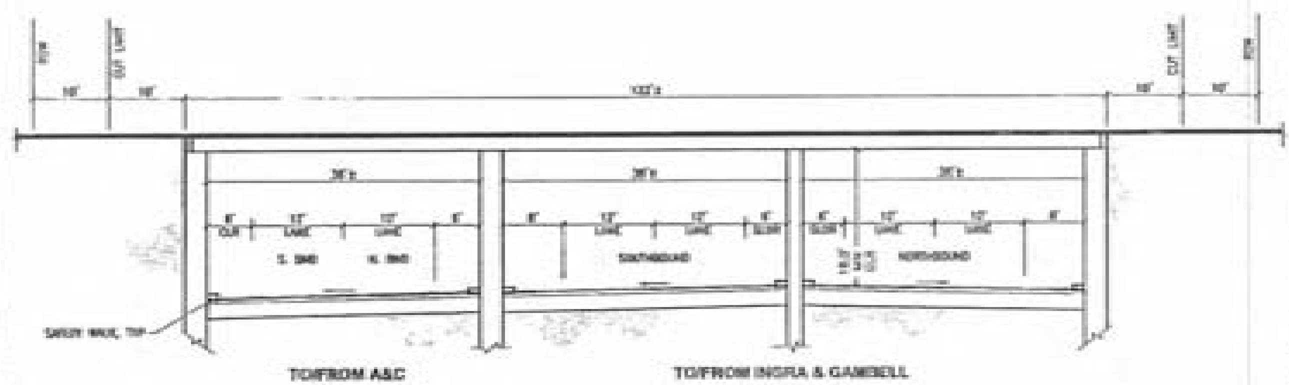

Project No. 9. A/C Street Connector

35% Design Estimate

Description

This 1.0-mile project will connect the Knik Arm Crossing access (Projects 6. and 7) from Cherry Hill into Anchorage at the A/C Street Connector. Construction will consist of a two-lane road traversing Government Hill via an 800-foot long cut and cover tunnel approximately 30 feet below Erickson or Degan Street. On the south side of the tunnel, East Loop Road will be modified to allow the roadway to join into the A/C Street Connector while maintaining local connectivity to, and within, Government Hill. The tunnel and associated approaches will require significant excavation and retaining walls.

Construction Cost Summary (2006 Dollars)	Totals
Cost per Mile (millions) $51.79	$51,791,600
With 15% Contingency:	$59,560,340

Funding Source

Upon approval of the Record of Decision by FHWA, the Port of Anchorage will be paid for these improvements from funding already appropriated to the Knik Arm Crossing. The A/C Street Connector is a complicated interchange in a very congested area. Difficulty of construction with minimal impact to surrounding neighborhoods, businesses, and a need to maintain access to the Port of Anchorage, Alaska Railroad, and Elmendorf Air Force Base contribute to the high cost.

Map Design By:	PND - BP, PK	1506 West 36th Avenue	
Date(s):	9/26/06	Anchorage, Alaska 99503	
Project #:	041133	907.561.1011 (phone) 907.563.4220 (fax)	
Project Name:	Knik Arm Crossing	www.pndengineers.com	PND ENGINEERS, INC.

Appendix D
Engineering Cost Estimate

APPENDIX C

Engineering Cost Estimate

Burma Road Typical 1, Alignment A

March 7, 2011

		Unit	Quantity	Cost	
Preliminary Engineering					
Design (Estimated)			0.2	$6,900,000	
Preparation of Environmental Document					
ICAP (4.79 %)		0.0479		$340,000	
TOTAL Pre-Construction					$7,300,000
Right-of-Way					
Engineering (Estimated)				$1,100,000	
ICAP (4.79 %)		0.0479		$60,000	
TOTAL Right-of-Way					$1,200,000
Utilities					
Utilities Relocated (Estimated)				$730,000	
ICAP (4.79 %)		0.0479		$40,000	
TOTAL Utilities					$770,000
Construction					
Construction Contract (Basic Bid)				$34,600,000	
Construction Engineering (15%)	%	0.15		$5,190,000	
ICAP (4.79%)	%	0.0479		$1,905,941	
TOTAL Construction					$41,700,000
PROJECT TOTAL					**$51,000,000**

Burma Road Alignment A Two Lane

	March 7, 2011			Length(ft) Width(ft)	44850 40
	Description	Total Quantity	Unit	Price Per Unit	Total
201(3A)	Clearing and Grubbing	45	Acre	$10,000	$450,000
203(3)	Unclassified Excavation	690,000	CY	$7.00	$4,830,000
203(6A)	Borrow, Type A	1,884,100	Tons	$8.00	$15,072,800
301 (1)	Aggregate D-1 6"	73,000	Tons	$15.00	$1,095,000
401 (1A)	Asphalt Type 2 Class B 2"	25160	Tons	$100.00	$2,516,000
	Asphalt Cement PG 52-28	1260	Tons	$700	$882,000
603(17-24)	24 Inch Pipe	9,000	FT	$90	$810,000
603(20-24)	24 Inch Pipe End Section	75	Each	$125	$9,375
606(1)	Guardrail	38,100	FT	$30	$1,143,000
606(11)	Extruder Terminal	136	Each	$4,000	$544,000
615(1)	Standard Sign	1	LS	$300,000	$300,000
618(2)	Seeding	3,500	Lbs	$100	$350,000
618(3)	Water For Seeding	3,500	M.Gal	$50	$175,000
630(1)	Geotextile, Separation	311,500	SY	$2.00	$623,000
639(1)	Driveways	100	Each	$1,500	$150,000
640(1)	Mob & Demob	All Req.	LS	$1,300,000	$1,300,000
640(4)	Per Diem	All Req.	LS	$85,000	$85,000
641(1)	E&PC Administration	All Req.	LS	$33,000	$33,000
	Temp. ES&P Control	All Req.	CS	$500,000	$500,000
642(1)	Construction Surveying	1	LS	$450,000	$450,000
643(2)	Traffic Maintenance	All Req.	LS	$350,000	$350,000
643(15)	Flagging	All Req.	LS	$500,000	$500,000
643(25)	Traffic Control	All Req.	LS	$500,000	$500,000
644(1)	Field Office	All Req.	LS	$30,000	$30,000
644(2)	Field Laboratory	All Req.	LS	$10,000	$10,000
644(10)	Engineering Communications	All Req.	LS	$5,000	$5,000
644(8)	Vehicle	2	Each	$25,000	$50,000
646(1)	CPM	All Req.	LS	$5,000	$5,000
670(1)	Traffic Markings	1	LS	$110,000	$110,000
	Total				$32,878,175
	Supplemental Items (5%)				$1,643,909
				TOTAL:	$34,600,000

Burma Road Typical 1, Alignment B

March 7, 2011

		Unit	Quantity	Cost	
Preliminary Engineering					
Design (Estimated)			0.2	$6,800,000	
Preparation of Environmental Document					
ICAP (4.79 %)		0.0479		$330,000	
TOTAL Pre-Construction					$7,100,000
Right-of-Way					
Engineering (Estimated)				$1,100,000	
ICAP (4.79 %)		0.0479		$60,000	
TOTAL Right-of-Way					$1,200,000
Utilities					
Utilities Relocated (Estimated)				$730,000	
ICAP (4.79 %)		0.0479		$40,000	
TOTAL Utilities					$770,000
Construction					
Construction Contract (Basic Bid)				$34,200,000	
Construction Engineering (15%)	%	0.15		$5,130,000	
ICAP (4.79%)	%	0.0479		$1,883,907	
TOTAL Construction					$41,200,000
PROJECT TOTAL					**$50,300,000**

Burma Road Alignment B Two Lane

	March 7, 2011			Length(ft)	45418
				Width(ft)	40
	Description	Total Quantity	Unit	Price Per Unit	Total
201(3A)	Clearing and Grubbing	42	Acre	$10,000	$420,000
203(3)	Unclassified Excavation	800,000	CY	$7.00	$5,600,000
203(6A)	Borrow, Type A	1,690,000	Tons	$8.00	$13,520,000
301 (1)	Aggregate D-1 6"	74,000	Tons	$15.00	$1,110,000
401 (1A)	Asphalt Type 2 Class B 2"	25500	Tons	$100.00	$2,550,000
	Asphalt Cement PG 52-28	1275	Tons	$700	$892,500
603(17-24)	24 Inch Pipe	9,000	FT	$90	$810,000
603(20-24)	24 Inch Pipe End Section	75	Each	$125	$9,375
606(1)	Guardrail	38,100	FT	$30	$1,143,000
606(11)	Extruder Terminal	136	Each	$4,000	$544,000
615(1)	Standard Sign	1	LS	$350,000	$350,000
618(2)	Seeding	3,500	Lbs	$100	$350,000
618(3)	Water For Seeding	3,500	M.Gal	$50	$175,000
630(1)	Geotextile, Separation	315,400	SY	$2.00	$630,800
639(1)	Driveways	100	Each	$1,500	$150,000
640(1)	Mob & Demob	All Req.	LS	$1,300,000	$1,300,000
640(4)	Per Diem	All Req.	LS	$85,000	$85,000
641(1)	E&PC Administration	All Req.	LS	$275,000	$275,000
	Temp. ES&P Control	All Req.	CS	$35,000	$500,000
642(1)	Construction Surveying	1	LS	$450,000	$450,000
643(2)	Traffic Maintenance	All Req.	LS	$350,000	$350,000
643(15)	Flagging	All Req.	LS	$525,000	$525,000
643(25)	Traffic Control	All Req.	LS	$525,000	$525,000
644(1)	Field Office	All Req.	LS	$30,000	$30,000
644(2)	Field Laboratory	All Req.	LS	$10,000	$10,000
644(10)	Engineering Communications	All Req.	LS	$5,000	$5,000
644(8)	Vehicle	2	Each	$25,000	$50,000
646(1)	CPM	All Req.	LS	$5,000	$5,000
670(1)	Traffic Markings	1	LS	$125,000	$125,000
	Total				$32,489,675
	Supplemental Items (5%)				$1,624,484
				TOTAL:	$34,200,000

Burma Road Typical 2, Alignment A

March 7, 2011

		Unit	Quantity	Cost	
Preliminary Engineering					
Design (Estimated)			0.2	$11,000,000	
Preparation of Environmental Document					
ICAP (4.79 %)		0.0479		$530,000	
TOTAL Pre-Construction					$11,500,000
Right-of-Way					
Engineering (Estimated)				$1,500,000	
ICAP (4.79 %)		0.0479		$80,000	
TOTAL Right-of-Way					$1,600,000
Utilities					
Utilities Relocated (Estimated)				$820,000	
ICAP (4.79 %)		0.0479		$40,000	
TOTAL Utilities					$860,000
Construction					
Construction Contract (Basic Bid)				$55,200,000	
Construction Engineering (15%)	%	0.15		$8,280,000	
ICAP (4.79%)	%	0.0479		$3,040,692	
TOTAL Construction					$66,500,000
PROJECT TOTAL					**$80,500,000**

Burma Road Alignment A 4 Lane with 30' Median

	March 7, 2011			Length(ft)	44850
				Width(ft)	122
	Description	Total Quantity	Unit	Price Per Unit	Total
201(3A)	Clearing and Grubbing	125	Acre	$10,000	$1,250,000
203(3)	Unclassified Excavation	900,000	CY	$7.00	$6,300,000
203(6A)	Borrow, Type A	3,054,250	Tons	$8.00	$24,434,000
301 (1)	Aggregate D-1 6"	152,000	Tons	$15.00	$2,280,000
401 (1A)	Asphalt Type 2 Class B 2"	52450	Tons	$100.00	$5,245,000
	Asphalt Cement PG 52-28	2635	Tons	$700	$1,844,500
603(17-24)	24 Inch Pipe	18,000	FT	$90	$1,620,000
603(20-24)	24 Inch Pipe End Section	150	Each	$125	$18,750
606(1)	Guardrail	38,100	FT	$30	$1,143,000
606(11)	Extruder Terminal	136	Each	$4,000	$544,000
615(1)	Standard Sign	1	LS	$510,000	$510,000
618(2)	Seeding	5,000	Lbs	$100	$500,000
618(3)	Water For Seeding	5,000	M.Gal	$50	$250,000
630(1)	Geotextile, Separation	623,000	SY	$2.00	$1,246,000
639(1)	Driveways	100	Each	$1,500	$150,000
640(1)	Mob & Demob	All Req.	LS	$1,500,000	$1,500,000
640(4)	Per Diem	All Req.	LS	$100,000	$100,000
641(1)	E&PC Administration	All Req.	LS	$50,000	$50,000
	Temp. ES&P Control	All Req.	CS	$650,000	$650,000
642(1)	Construction Surveying	1	LS	$550,000	$550,000
643(2)	Traffic Maintenance	All Req.	LS	$650,000	$650,000
643(15)	Flagging	All Req.	LS	$650,000	$650,000
643(25)	Traffic Control	All Req.	LS	$650,000	$650,000
644(1)	Field Office	All Req.	LS	$30,000	$30,000
644(2)	Field Laboratory	All Req.	LS	$10,000	$10,000
644(10)	Engineering Communications	All Req.	LS	$5,000	$5,000
644(8)	Vehicle	2	Each	$25,000	$50,000
646(1)	CPM	All Req.	LS	$5,000	$5,000
670(1)	Traffic Markings	1	LS	$250,000	$250,000
	Total				$52,485,250
	Supplemental Items (5%)				$2,624,263
				TOTAL:	$55,200,000

Burma Road Typical 3, Alignment A

March 7, 2011

		Unit	Quantity	Cost	
Preliminary Engineering					
Design (Estimated)			0.2	$11,600,000	
Preparation of Environmental Document					
ICAP (4.79 %)		0.0479		$560,000	
TOTAL Pre-Construction					$12,200,000
Right-of-Way					
Engineering (Estimated)				$1,800,000	
ICAP (4.79 %)		0.0479		$90,000	
TOTAL Right-of-Way					$1,900,000
Utilities					
Utilities Relocated (Estimated)				$860,000	
ICAP (4.79 %)		0.0479		$50,000	
TOTAL Utilities					$910,000
Construction					
Construction Contract (Basic Bid)				$57,800,000	
Construction Engineering (15%)	%	0.15		$8,670,000	
ICAP (4.79%)	%	0.0479		$3,183,913	
TOTAL Construction					$69,700,000
PROJECT TOTAL					**$84,800,000**

Burma Road Alignment A 4 Lane with 42' Median

	March 7, 2011			Length(ft)	44850
				Width(ft)	122
	Description	Total Quantity	Unit	Price Per Unit	Total
201(3A)	Clearing and Grubbing	140	Acre	$10,000	$1,400,000
203(3)	Unclassified Excavation	1,006,200	CY	$7.00	$7,043,400
203(6A)	Borrow, Type A	3,229,250	Tons	$8.00	$25,834,000
301 (1)	Aggregate D-1 6"	152,000	Tons	$15.00	$2,280,000
401 (1A)	Asphalt Type 2 Class B 2"	52450	Tons	$100.00	$5,245,000
	Asphalt Cement PG 52-28	2635	Tons	$700	$1,844,500
603(17-24)	24 Inch Pipe	18,000	FT	$90	$1,620,000
603(20-24)	24 Inch Pipe End Section	150	Each	$125	$18,750
606(1)	Guardrail	38,100	FT	$30	$1,143,000
606(11)	Extruder Terminal	136	Each	$4,000	$544,000
615(1)	Standard Sign	1	LS	$510,000	$510,000
618(2)	Seeding	5,570	Lbs	$100	$557,000
618(3)	Water For Seeding	5,570	M.Gal	$50	$278,500
630(1)	Geotextile, Separation	623,000	SY	$2.00	$1,246,000
639(1)	Driveways	100	Each	$1,500	$150,000
640(1)	Mob & Demob	All Req.	LS	$1,500,000	$1,500,000
640(4)	Per Diem	All Req.	LS	$100,000	$100,000
641(1)	E&PC Administration	All Req.	LS	$50,000	$50,000
	Temp. ES&P Control	All Req.	CS	$750,000	$750,000
642(1)	Construction Surveying	1	LS	$550,000	$550,000
643(2)	Traffic Maintenance	All Req.	LS	$650,000	$650,000
643(15)	Flagging	All Req.	LS	$650,000	$650,000
643(25)	Traffic Control	All Req.	LS	$650,000	$650,000
644(1)	Field Office	All Req.	LS	$30,000	$30,000
644(2)	Field Laboratory	All Req.	LS	$10,000	$10,000
644(10)	Engineering Communications	All Req.	LS	$5,000	$5,000
644(8)	Vehicle	2	Each	$25,000	$50,000
646(1)	CPM	All Req.	LS	$5,000	$5,000
670(1)	Traffic Markings	1	LS	$250,000	$250,000
	Total				$54,964,150
	Supplemental Items (5%)				$2,748,208
				TOTAL:	$57,800,000

Burma Road Typical 4, Alignment A

March 7, 2011

		Unit	Quantity	Cost	
Preliminary Engineering					
Design (Estimated)			0.2	$12,900,000	
Preparation of Environmental Document					
ICAP (4.79 %)		**0.0479**		**$620,000**	
TOTAL Pre-Construction					**$13,500,000**
Right-of-Way					
Engineering (Estimated)				$1,800,000	
ICAP (4.79 %)		**0.0479**		**$90,000**	
TOTAL Right-of-Way					**$1,900,000**
Utilities					
Utilities Relocated (Estimated)				$1,160,000	
ICAP (4.79 %)		**0.0479**		**$60,000**	
TOTAL Utilities					**$1,220,000**
Construction					
Construction Contract (Basic Bid)				$64,300,000	
Construction Engineering (15%)	%	0.15		$9,645,000	
ICAP (4.79%)	%	0.0479		$3,541,966	
TOTAL Construction					**$77,500,000**
PROJECT TOTAL					**$94,200,000**

Burma Road Alignment A 4 Lane with path

	March 7, 2011			Length(ft) Width(ft) Price Per Unit	44850 122 Total
	Description	Total Quantity	Unit	Price Per Unit	Total
201(3A)	Clearing and Grubbing	159	Acre	$10,000	$1,590,000
203(3)	Unclassified Excavation	1,261,350	CY	$7.00	$8,829,450
203(6A)	Borrow, Type A	3,485,500	Tons	$8.00	$27,884,000
301 (1)	Aggregate D-1 6"	170,500	Tons	$15.00	$2,557,500
401 (1A)	Asphalt Type 2 Class B 2"	58675	Tons	$100.00	$5,867,500
	Asphalt Cement PG 52-28	2960	Tons	$700	$2,072,000
603(17-24)	24 Inch Pipe	22,500	FT	$90	$2,025,000
603(20-24)	24 Inch Pipe End Section	150	Each	$125	$18,750
606(1)	Guardrail	38,100	FT	$30	$1,143,000
606(11)	Extruder Terminal	136	Each	$4,000	$544,000
615(1)	Standard Sign	1	LS	$525,000	$525,000
618(2)	Seeding	8,000	Lbs	$100	$800,000
618(3)	Water For Seeding	8,000	M.Gal	$50	$400,000
630(1)	Geotextile, Separation	623,000	SY	$2.00	$1,246,000
639(1)	Driveways	100	Each	$1,500	$150,000
640(1)	Mob & Demob	All Req.	LS	$1,500,000	$1,500,000
640(4)	Per Diem	All Req.	LS	$150,000	$150,000
641(1)	E&PC Administration	All Req.	LS	$60,000	$60,000
	Temp. ES&P Control	All Req.	CS	$850,000	$850,000
642(1)	Construction Surveying	1	LS	$600,000	$600,000
643(2)	Traffic Maintenance	All Req.	LS	$650,000	$650,000
643(15)	Flagging	All Req.	LS	$650,000	$650,000
643(25)	Traffic Control	All Req.	LS	$650,000	$650,000
644(1)	Field Office	All Req.	LS	$30,000	$30,000
644(2)	Field Laboratory	All Req.	LS	$10,000	$10,000
644(10)	Engineering Communications	All Req.	LS	$5,000	$5,000
644(8)	Vehicle	2	Each	$25,000	$50,000
646(1)	CPM	All Req.	LS	$5,000	$5,000
670(1)	Traffic Markings	1	LS	$350,000	$350,000
	Total				$61,212,200
	Supplemental Items (5%)				$3,060,610
				TOTAL:	$64,300,000

Burma Road Typical 5, Alignment A

March 7, 2011

		Unit	Quantity	Cost	
Preliminary Engineering					
Design (Estimated)			0.2	$18,400,000	
Preparation of Environmental Document					
ICAP (4.79 %)		0.0479		$890,000	
TOTAL Pre-Construction					$19,300,000
Right-of-Way					
Engineering (Estimated)				$3,000,000	
ICAP (4.79 %)		0.0479		$150,000	
TOTAL Right-of-Way					$3,200,000
Utilities					
Utilities Relocated (Estimated)				$1,160,000	
ICAP (4.79 %)		0.0479		$60,000	
TOTAL Utilities					$1,220,000
Construction					
Construction Contract (Basic Bid)				$91,800,000	
Construction Engineering (15%)	%	0.15		$13,770,000	
ICAP (4.79%)	%	0.0479		$5,056,803	
TOTAL Construction					$110,600,000
PROJECT TOTAL					**$134,400,000**

Burma Road Alignment A 4 Lane with Frontage Roads

	March 7, 2011			Length(ft) Width(ft)	44850 122
	Description	Total Quantity	Unit	Price Per Unit	Total
201(3A)	Clearing and Grubbing	250	Acre	$10,000	$2,500,000
203(3)	Unclassified Excavation	1,780,750	CY	$7.00	$12,465,250
203(6A)	Borrow, Type A	4,985,750	Tons	$8.00	$39,886,000
301 (1)	Aggregate D-1 6"	288,000	Tons	$15.00	$4,320,000
401 (1A)	Asphalt Type 2 Class B 2"	94,110	Tons	$100.00	$9,411,000
	Asphalt Cement PG 52-28	4830	Tons	$700	$3,381,000
603(17-24)	24 Inch Pipe	36,000	FT	$90	$3,240,000
603(20-24)	24 Inch Pipe End Section	150	Each	$125	$18,750
606(1)	Guardrail	38,100	FT	$30	$1,143,000
606(11)	Extruder Terminal	136	Each	$4,000	$544,000
615(1)	Standard Sign	1	LS	$575,000	$575,000
618(2)	Seeding	10,000	Lbs	$100	$1,000,000
618(3)	Water For Seeding	10,000	M.Gal	$50	$500,000
630(1)	Geotextile, Separation	997,000	SY	$2.00	$1,994,000
639(1)	Driveways	100	Each	$1,500	$150,000
640(1)	Mob & Demob	All Req.	LS	$1,500,000	$1,500,000
640(4)	Per Diem	All Req.	LS	$150,000	$150,000
641(1)	E&PC Administration	All Req.	LS	$70,000	$70,000
	Temp. ES&P Control	All Req.	CS	$950,000	$950,000
642(1)	Construction Surveying	1	LS	$650,000	$650,000
643(2)	Traffic Maintenance	All Req.	LS	$800,000	$800,000
643(15)	Flagging	All Req.	LS	$650,000	$650,000
643(25)	Traffic Control	All Req.	LS	$800,000	$800,000
644(1)	Field Office	All Req.	LS	$30,000	$30,000
644(2)	Field Laboratory	All Req.	LS	$10,000	$10,000
644(10)	Engineering Communications	All Req.	LS	$5,000	$5,000
644(8)	Vehicle	2	Each	$25,000	$50,000
646(1)	CPM	All Req.	LS	$5,000	$5,000
670(1)	Traffic Markings	1	LS	$550,000	$550,000
	Total				$87,348,000
	Supplemental Items (5%)				$4,367,400
				TOTAL:	$91,800,000

Appendix E

Utility Cost Estimate

MEMORANDUM

STATE OF ALASKA
Department of Transportation & Public Facilities

TO: Gerry Welsh, P.E.
Project Manager PD&E

DATE: March 3, 2011

FILE NO: 53199

THRU: Ken Morton, P.E.
Chief, Utilities Section

PHONE NO: 269-0634

SUBJECT: Project:
Burma Road

FROM: Jason Chestnutt
Utilities Section

Scoping Estimate

Purpose

The Utilities Section evaluated the Burma Road corridor from Point MacKenzie Road to W. Susitna Parkway for potential utility conflicts. The section evaluated five alternatives for the project.

MEA owns and operates the electrical distribution system within the project limits. The faculties are single and three phase overhead power. MTA owns and operates the telecommunications system within the project limits. The facilities are overhead and underground. Enstar owns and operates the natural gas distribution and transmission systems throughout the project limits

Utility system maps were referenced to evaluate the potential utility conflicts.

Assumptions

- Affected utilities include MEA, MTA, and Enstar
- Alignment "A" (sweeping curve) decreases each estimate ~$100,000
- Enstar's 20" high pressure main crosses Burma Road at Ayrshire Road. A regulator station is in the SE quadrant of the intersection. Estimates 1, 2, and 3 assume Burma Road can be shifted west to avoid the regulator station. Estimates 4 and 5 assume the regulator station is in conflict

Cost Estimate

Alignment Alternative	MEA	MTA	Enstar	Total
1. 2-Lane Rural w/ 15' utility easement (79' ROW)	$409,000	$311,000	$10,000	$730,000
2. 4-Lane Hwy w/ 30' median & 15' utility easement (133' ROW)	$499,000	$311,000	$10,000	$820,000
3. 4-Lane Hwy w/ 42' median & 15' utility easement (145' ROW)	$499,000	$311,000	$50,000	$860,000
4. 4-Lane Hwy w/ 30' median, 10' pathway, & 15' utility easement (158' ROW)	$499,000	$311,000	$350,000	$1,160,000
5. 4-Lane Hwy w/ 30' median, full frontage roads, & 2-19' easement (255' ROW)	$499,000	$311,000	$350,000	$1,160,000

Appendix F
ROW Cost Estimate

MEMORANDUM

STATE OF ALASKA

Department of Transportation and Public Facilities
Central Region Design & Construction
Preliminary Design and Environmental

To:	**File**	**Date:**	**March 17, 2011**
From:	**Quinten Arndt**	**Phone No:**	**269-0577**
		Subject:	**Burma Road** **ROW Estimates**

ROW estimates from Al Burton, by phone:

Typical Section 1, Alignment A or B, 2-lane, undivided	$1.1 million
Typical Section 2, Alignment A, 4-lane, 30 ft median	$1.5 million
Typical Section 3, Alignment A, 4-lane, 30 ft median, path	$1.8 million
Typical Section 4, Alignment A, 4-lane, 42 ft median	$1.8 million
Typical Section 5, Alignment A, 4-lane, 30 ft median, frontage roads	$3.0 million

Appendix G

BLCC Transportation Committee Plan Excerpts

INTRODUCTION

The Big Lake Community Council Transportation Committee

Last updated: Feb. 14, 2010

What is the BLCC Transportation Committee?

This is a committee of the BLCC charged with the task of creating a community forum to identify and address transportation issues in our area, and when appropriate, recommend actions for dealing with those issues. Members of the committee include:

Cindy L. Bettine	Gerard Billinger	Ken Walch,
Kim Woodbury	Paul DuClos	Scott Rose
Viki Kass		

Purpose of the Committee:

Growth and change is taking place in the Big Lake Community This committee was established to deal with surface transportation issues that we need to address as a result of that growth and change. Surface transportation issues are critical for Big Lake for a number of reasons:

1. Subdivision development that occurred 30 to 50 years ago created many small lake-front recreational lots that have no road access. The market for these lots was for week-end retreats and recreational properties where year-round access for full time residence was not a primary concern. A large number of subdivision developments that include major portions of the community do not have dedicated streets or legal road access to serve them.
2. Big Lake is rapidly evolving from a week-end recreational area with a fairly sparse population to a community with a substantial population of full-time, year-round residents with a substantial number of retired persons included in that population.
3. Recent development in and around the Big Lake area is increasing the number of full-time residents and the need for more community services which will necessitate an adequate and dependable road system.

The committee is tasked with identifying critical surface transportation needs and communicating those needs to the appropriate governmental entities.

The efforts of the committee shall be consistent with the Big Lake Community Council Area Comprehensive Plan.

Transportation Issues Being Considered

The transportation issues being considered are divided into three (3) groups:

1. Major roads and collector streets.
2. Minor collector streets to bring road access to subdivided properties not currently connected to the roadway system.
3. The Alaska Railroad expansion.

Community Involvement and Outcomes

The committee is charged with involving the community, which includes property owners within the Council boundaries, and both part time and full time residents, in determining transportation needs and priorities for the Big Lake Area. The committee will report to the Big Lake Community Council with recommendations and requests for resolutions for specific transportation projects to be sent to the Mat-Su Borough for further action.

You can participate by attending committee or Community Council meetings, by telling the committee what your concerns and suggestions are, by visiting (a soon to be established) Community Council Web Site, and by signing up to receive email communications on committee activities.

Current Projects Being Considered:

1. **So. Big Lake Road Realignment and the Big Lake Bypass:**
   These are really two separate projects that are closely linked to each other - primarily due to type of use and funding considerations.

   The **So. Big Lake Realignment Project** is a Borough and State DOT project for the realignment of the existing 3.9 miles of road between the Susitna Parkway/Burma Road intersection to the Fish Creek Bridge. The State DOT identifies this project as Project No. 57187. Preliminary designs are for four "build" alternative that include 2 and 4 lane options. The project is to provide access to recreational areas west and south of Big Lake, port and agricultural developments at Point MacKenszie, and timber lands to the west.

   The **Big Lake Bypass Road** is for new road construction to provide a bypass around the "business area" of Big Lake and provide a connection for commercial and higher volume traffic between the intersection of Susitna Parkway and Burma Road to the Parks Highway.
   A Bypass Road to carry commercial traffic around the Big Lake core business area is adopted it would have a major impact on the design and capacity of the So. Big Lake Road realignment. Its primary function would then be to serve as a residential collector road serving the local traffic to and from the business area and to serve the needs of a collector street for the residential areas it passes through. It is for these reasons these two projects are so closely linked to each other.

2. The **Burma Road Improvements**, State DOT Project No. 53199. This is a 9 mile project to improve the travel corridor between Big Lake and Point MacKenzie Road. The project begins at the intersection of Burma Road and Pt. MacKenzie Rd and goes north along Burma Road to the fire break (which is the extension of Puritan Parkway) and continues north to W. Susitna Parkway. It turns east at W Susitna Parkway and goes to the intersection with S. Big Lake Road.

3. The **North Loop Road** proposal to connect the existing road system on the north side of Big Lake (W. Lakes Blvd. and North Big Lake Blvd.) to W. Susitna Parkway somewhere in the vicinity of Crooked Lake.

Other Road Projects in the Comprehensive Plan

The **North and South Connection** is for new construction of a road around the north and west end of Big Lake to connect West Lakes Boulevard to Puritan Parkway via a bridge across the channel between Mud Lake and Flat Lake. I suspect the committee will look at an alternative to this that would take this road around the west end of Flat Lake.

West Susitna Parkway Extension would extend West Susitna Parkway to the Little Susitna River.

Hollywood Road would be an upgrade of the Existing Hollywood road to accommodate higher traffic levels that will come from future growth.

TRANSPORTATION & PUBLIC FACILITIES

STATE OF ALASKA

GREEN STAR