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**APPENDIX N      TRAFFIC MITIGATION PLAN**



# ALASKA LNG

## TRAFFIC MITIGATION PLAN

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**Plan Status**

The following Alaska LNG Project (Project) Draft *Traffic Mitigation Plan (Plan)* was developed to provide a template of the general measures that the Project entity would implement to mitigate for potential traffic impedance during construction. This *Plan* would be used by each construction contractor to develop a Plan for its respective construction spread(s).

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## 1.0 INTRODUCTION

This draft *Traffic Mitigation Plan (Plan)* identifies general measures to be taken by the Alaska LNG Project (Project) entity and its construction contractor(s) in order to mitigate potential over-the-road traffic related effects from Project construction. Site-specific plans for each construction spread would be developed during construction planning in coordination with the Alaska Department of Transportation and Public Facilities (ADOT&PF), and local stakeholders as applicable.

## 1.1 SAFETY MEASURES

The goal of this *Plan* is to reduce impacts to existing traffic, emergency services, and landowner access to residences while maintaining the safety of the general public, construction workers, and wildlife during construction. Each contractor would coordinate efforts with ADOT&PF and local authorities to provide for appropriate traffic management and signage. Each contractor would also implement the necessary safety measures, developed in compliance with applicable permits for work on public roadways. All required road closures would be coordinated with federal, state, and local emergency responders (i.e., law enforcement, fire, and medical).

The Project entity would work with the Alaska Trucking Association and trucking service providers to establish performance metrics and SSHE (Security, Safety, Health, and Environment) expectations by which all trucking companies would be required to abide.

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## 2.0 PROJECT-RELATED TRAFFIC

### 2.1 TRAFFIC IMPACTS

Over-the-road transportation needs for the Project include:

- Transporting personnel to and from the construction camps to work sites;
- Transporting materials and equipment between their point of origin (e.g., port, in-state manufacturing site, lower 48) and work sites;
- Transporting truckable modules between their point of origin and final destination;
- Transporting gravel from material sites to the various fill locations; and
- Transporting the line pipe from the double jointing yards and pipe storage yards to the right-of-way (ROW).

Roadway infrastructure in Alaska is limited with few, if any, alternative routes. There are only a few highways connecting ports and cities, with most highways limited to two lanes. In addition, there are stretches of highways that are fairly narrow with long sections of curvy/winding road and steep grades. Seasonal temperature fluctuations result in the need for recurring summer repairs. During spring seasons, weight restrictions are often put into effect, reducing maximum axle weight. In addition, in winter months, snow and ice can be significant factors that delay material transport.

### 2.2 TRAFFIC MITIGATION

Based on anticipated logistics requirements and routing assumptions, Project-related demands on roadway infrastructure have been evaluated. Resource Report No. 5 describes the anticipated annual impacts on average annual daily traffic counts. The following subsections provide the general approach proposed for mitigating potential impacts of Project-related traffic combined with existing traffic.

#### 2.2.1 Project Execution and Logistics Planning

To reduce the potential for impacts on area traffic and residents using public roads from Project construction vehicles, including traffic related to material deliveries and workforce commuting, the following steps would be implemented:

- A temporary material offloading facility (MOF) would be constructed at the Liquefaction Facility site. This would allow for the delivery of oversized materials (e.g., modules) via waterway and reduce the need for over-the-road transport.
- A new dock head at West Dock would be constructed for delivery of materials, equipment, and modules via marine transport to convey oversized items and also reduce the need for over-the-road transport.
- The Alaska Railroad would be used as practicable.
- Temporary camps would be constructed to house the construction workforce contiguous to Project construction areas.
- Busses would be used to transport personnel from construction camps to the job site.
- The Project entity would plan for shifting of deliveries among port locations as practicable to alleviate the associated roadway traffic.

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- Opportunities for scheduling over-the-road material and equipment deliveries during off-peak traffic hours would be evaluated.
- The number of pull-outs and rest stops is estimated to be sufficient to meet anticipated Project roadway traffic. Additional pull-outs and rest stops would be constructed if necessary.

## 2.2.2 Roadway Use Coordination

Although the Project entity would construct the onsite MOF in Nikiski for the LNG Plant and the dock head at West Dock in Prudhoe Bay, as well as make use of the Alaska Railroad to the extent practicable, there would still be deliveries associated with all of the Project components (e.g., pipe, modules, small materials, consumables, granular material, chemicals, etc.) that would be made using public roadways. Project contractors would coordinate with ADOT&PF and local entities for the use of public roads. In addition, Project contractors would coordinate with landowners for the use of private access roads.

## 2.2.3 Public Roads

Early coordination would be conducted for anticipated occurrences of relatively high volumes of Project-related traffic. In addition, all weight restrictions and height limitations would be adhered to, unless otherwise approved. Bridges are the primary constraints, limiting weight and width of loads. Overhead lines can limit the height of the load and would also be taken into consideration.

### 2.2.3.1 Alaska Department of Transportation and Public Facilities (ADOT&PF)

Applications would be made to ADOT&PF ROW Division for new roads and driveways that would provide connection to ADOT&PF roads (e.g., aboveground facilities, material sites, pipe storage yards, camps). These applications would include a traffic impact analysis and be approved prior to construction. Per 17 AAC 10.070, if a development is projected to generate more than 100 vehicle trips on a highway during any hour of the day, or the traffic generated is expected to detract from the safety of the highway, an applicant must perform a traffic impact analysis. ADOT&PF ROW Division coordinates the reviews and approvals of the other affected ADOT&PF Divisions, including the Traffic Division.

Early coordination with ADOT&PF would be conducted to identify planned or active construction activities that might be impacted by Project construction-related traffic. Efforts would be made to either reroute the Project-related traffic or to schedule it in time periods that would minimize the impacts to both the Project and ADOT&PF.

Additional coordination between ADOT&PF and the Project entity would include the provision of supplemental traffic control measures as determined in advance and on a case-by-case basis. Examples could be the provision by the Project of traffic control measures on ADOT&PF roads at the entrances to the material sites and worksites during periods of heavy Project-related traffic (e.g., gravel hauling or pipe stringing operations along the Dalton and Parks highways and in the Nikiski area). Traffic control measures could include some, or a combination of, the following measures: the installation of additional signage, provision of flaggers, provision of pilot cars, or the installation and operation of temporary traffic signals.

In particular, Project-related traffic in the Nenana Canyon area would require upfront coordination with ADOT&PF. While the work is ongoing, there may be a requirement to restrict traffic to a single lane for distances of up to 4 miles. Mitigation measures could include scheduling the work to occur during periods of lower traffic flow, avoiding periods of increased ADOT&PF maintenance activity, and the use of flaggers and pilot cars.



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**2.2.3.2 Local Entities**

Several local community roads would incur direct traffic impacts from the Project construction activities. Project traffic would range from gravel, pipe, and equipment hauling trucks to crew buses and pick-ups.

Early coordination with the local entities would be conducted to identify planned or active construction activities that might be impacted by Project construction-related traffic. Efforts would be made to either reroute the Project-related traffic or to schedule it in time periods that would minimize the impacts to the Project and local communities.

Examples of impacts would be increased traffic on local roads in the Healy, Cantwell, Trapper Creek, Beluga, and Nikiski areas. In advance of construction, local entities would be contacted and informed of the pending construction schedule and anticipated activities. Mitigations could include the provision of supplemental traffic control measures including, but not limited to, installation of additional signage and the provision of flaggers and or pilot cars, as determined on a case-by-case basis.

During a later stage of the Project, the Gas Treatment Plant (GTP) team would develop interface management plans with the Prudhoe Bay Unit (PBU) operators and the West Dock Users Group to define dock and road operations requirements and coordination procedures. Traffic management on the North Slope, particularly on the West Dock causeway, would be required to ensure the successful and timely transport of the GTP modules from Dock Head 4 to the module staging area. Existing operators, as well as private traffic, would be present on the causeway during the GTP sealift offloading period. Space restrictions on the causeway would not permit two-way traffic flow during module movements; therefore, careful planning and coordination with other road users would be required.

**2.2.4 Private Roads**

Project use of private roads would be negotiated on a case-by-case basis in advance and the terms of such use would be documented. Items to be negotiated could include the requirement for pre- and post-use surveys, agreements regarding the times and period of use, responsibility for maintenance, provision of traffic control measures, potential upgrades, and whether any upgrades would need to be removed at the end of the use period.

**2.2.4.1 Connecting of Public Roadways and Private Access**

As noted in Section 2.2.3-1, applications would be made to ADOT&PF ROW Division for new roads and driveways that would provide connection to ADOT&PF roads. This would include connections from the Liquefaction Facility, compressor stations, and other facilities (e.g., material sites, pipe storage yards, camps). These applications would include a traffic impact analysis and be approved prior to construction.

The GTP would not connect to any public roadways. Connections to the existing private roadways are described in detail in Resource Report Nos. 1 and 5.

**2.2.5 Site-Specific Traffic Plans**

In coordination with ADOT&PF and local entities, site-specific traffic plans would be developed as required. These plans would apply to, and be observed by, all of the contractors (including contractors’ subcontractors), as well as the transportation contractors. Site-specific plans would address the need for, but would not be limited to:

- Security and possible inspections;

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- Safety and road hazards mitigations (e.g., security fencing, lighting);
- Potential conflicts with recreational traffic;
- Potential conflicts with ongoing operations (e.g., oil and gas activities);
- Safety of cargo, including hazardous materials;
- Coordination and single point of contact for anything traffic related; and
- Potential environmental impacts (i.e., Applicant's *Upland Erosion Control, Re-Vegetation, and Maintenance Plan; Fugitive Dust Control Plan; Noxious and Invasive Plant and Animal Control Plan*).

In addition, site-specific plans would provide a detailed outline of planned communications for traffic control and safety (e.g., detour signage, posting notice of planned work, door hangers, letters to residents and businesses).

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### 3.0 PROJECT ROAD CROSSINGS

The only two components of the Project that would cross public and private roads outside of the control of the Project entity (i.e., existing roads which are not being used for Project access) are the Mainline and Point Thomson Gas Transmission Line (PTTL). The Mainline would be an approximately 806-mile-long, 42-inch natural gas transmission pipeline that would start on the North Slope and traverse to the Nikiski area in Southcentral Alaska. The PTTL would be an approximately 62-mile-long, 32-inch natural gas transmission line located on the North Slope between the Point Thomson Unit and the GTP. The PTTL would be installed above ground on vertical support members.

Impacts associated with pipeline road crossings would be subject to approval by federal agencies, local permits, and guidelines, and as permitted by local landowners. Generally, paved roads along the Mainline would be bored with traffic remaining unimpeded during installation of the pipe by bore. The pipeline would be installed at a depth meeting U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration requirements. See Construction Typical drawing Bo. CONST-01 for Bored Road Crossings attached in Resource Report No. 1.

Gravel or dirt roads would generally be crossed using an open-cut method, installing metal plates each day to allow traffic to use the roads at certain times.

At the completion of the Project, roads affected by construction would be restored per agreements with the landowner, land management agency, or road authority (local or state).

A listing of mitigation measures that would be planned during construction of open-cut and overhead road crossings is included in Section 3.1.

### 3.1 ROAD CROSSING MITIGATION MEASURES

The following mitigation measures would be planned during the construction of road crossings to reduce the potential for impacts to traffic and local residents, as practicable:

- A minimum of two weeks' advance notice would be given to area residences and local authorities prior to crossing the roadway.
- Applicable detours would be established before initiating construction.
- If no reasonable detour exists, then at least one lane of traffic would be kept open during construction, except during brief periods when it would be essential to close the road to install the pipeline during open-cut crossings.
- Appropriate traffic management (e.g., flagging, barrels) and signage would be set up in compliance with applicable permits for work in public roadways or as a best practice on private roads. This would include the use of traffic control personnel in areas of lane closures or heavy traffic.
- Applicable best management practices (BMPs) in the Applicant's *Upland Erosion Control, Revegetation, and Maintenance Plan* would be adhered to. This would include inspection and cleanup of sediment deposits on roadways.
- Applicable BMPs in the Project's *Fugitive Dust Control Plan* would be adhered to. This would include watering for dust control on either side of the road crossing.

Further, where a road would be crossed using the open-cut method, the following mitigation measures would also be planned, as practicable:

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- Construction work would be scheduled to reduce conflict with commuter traffic and schedules, and to minimize landowner inconvenience if the road leads to a residence; and
- Steel plates would be maintained on site to cover the open trench should emergency vehicles need to travel through the work area.

### 3.2 SITE-SPECIFIC TRAFFIC PLANS

In coordination with ADOT&PF and local entities, site-specific traffic plans would be developed as required. Site-specific plans would be developed after the construction contractors have been chosen and information from their construction plans is available. Site-specific plans would mitigate the potential for, but would not be limited to:

- Physical impacts (e.g., working days/hours restrictions, traffic control plans, haul-route approval, material and equipment parking restrictions, maintaining clear pedestrian and driveway access).
- Environmental impacts (e.g., dust, noise control, erosion control) with reference to applicable Project plans (i.e., the Applicant's *Upland Erosion Control, Revegetation, and Maintenance Plan, Fugitive Dust Control Plan*).
- Safety hazards (e.g., security fencing, lighting).

In addition, site-specific plans would provide a detailed outline of planned communications for traffic control and safety (e.g., detour signage, posting notice of planned work, door hangers, letters to residents and businesses).

For example, these areas would merit a site-specific plan that would be prepared by the corresponding construction contractors and submitted by the Project entity to the applicable agencies:

- Atigun Pass at milepost (MP) 180 including the Dalton Highway during and after construction.
- The Nenana River Gorge and Parks Highway crossings at MP 532.8 – the railroad, Parks Highway, and two power lines are presently in this very narrow river valley with steep side slopes along the pipeline route).
- Between the shore landing at the north end of Nikiski Bay and the Wik Road area near the south end of Nikiski Bay, where there are numerous homes and businesses with only one access route to/from the Spur Highway.
- At MP 796, the Nikiski Middle School and High School (both on the same campus) are approximately 1,200 feet southeast of the pipeline.
- Between MPs 797.3 to 797.6 – the planned route parallels Foreland Circle North, and crosses Wik Road at about MP 797.6. Wik Road and Foreland Circle North provide the only access to at least two homes and a number of oil field service firms in this area, including a Deutsche Oil and Gas Facility and an XTO Company support facility and helipad.
- MPs 801.6 to 802.3 – the route would be adjacent to or on top of a public bike/walking path that parallels the Kenai Spur Highway. This path is proximate to the public school and is the only pedestrian path. No pedestrian pathway exists on the other side of the highway.

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## 4.0 ACRONYMS AND TERMS

Term	Definition
ADOT&PF	Alaska Department of Transportation and Public Facilities
BMP	Best management practice
GTP	Gas Treatment Plant
MOF	material offloading facility
MP	milepost
PBU	Prudhoe Bay Unit
<i>Plan</i>	Draft <i>Traffic Mitigation Plan</i>
Project	Alaska LNG Project
PTTL	Point Thomson Gas Transmission Line
ROW	right-of-way
SSHE	Security, Safety, Health, and Environment