APPENDIX B

STATEMENT OF SERVICES (SOS)

ANTON ANDERSON MEMORIAL (WHITTIER) TUNNEL MAINTENANCE AND OPERATIONS SERVICES

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

MAINTENANCE AND OPERATION

CENTRAL REGION

ANCHORAGE, ALASKA

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MISSION STATEMENT

It is the mission of the Anton Anderson Memorial Tunnel (AAMT) to provide safe and efficient transportation services to its users, and to maintain a reliable link between Prince William Sound and South-Central Alaska.

1.0 INTRODUCTION

The Anton Anderson Memorial Tunnel is located on the Portage Glacier Highway, which connects the City of Whittier and Prince William Sound to the Seward Highway and the rest of South-Central Alaska (see Exhibit B-1). The tunnel operation services the Port and City of Whittier, the Alaska Marine Highway System, the freight and tour industries and provides access for recreation on Prince William Sound.

The Anton Anderson Memorial Tunnel is a landmark effort that boasts several "firsts":

- The longest highway tunnel in North America (13,300 feet or 2.5 miles).
- The longest combined rail-highway use tunnel in North America.
- The first tunnel in the United States that has a ventilation system that combines jets and portal fans.
- The first tunnel with a unique computerized traffic control system that regulates both rail and highway traffic.
- The first tunnel designed to operate in temperatures down to minus 40 degrees F. and in winds up to 150 mph.
- Portal Buildings engineered to withstand avalanches.

It is the purpose of this contract to provide for the maintenance and operation of this unique facility, providing efficient and effective service to the people of Alaska, while preserving the State of Alaska's investment for the future.

1.0.1 Contract History

This document represents the fifth issuance of a contract for this facility. The first contract was the initial design, build, operate and maintain contract. This contract was held in prime by Kiewit, with VMS as their sub for the two year maintenance and operation phase. The second contract dated May 30, 2002 was held by VMS in prime. This contract covered seven years in duration, with several amendments added to perform upgrades and/or enhance service. The Contracting Agency entered into a partnership agreement with VMS during that contract period. The third issuance was to VMS rebranded as Transfield Services North America, this contract lasted one year. The fourth issuance was to Transfield Services North America and lasted five years.

2.0 FACILITY OVERVIEW

The facility that services the Anton Anderson Memorial Tunnel is made up of several components: Portage Lake Tunnel, Tunnel Control Center and out buildings, Bear Valley Staging Area, Bear Valley Portal Building, Anton Anderson Memorial Tunnel, Whittier Portal Building, and the Whittier Staging Area. A descriptive narrative of each component is provided below:

2.0.1 Portage Lake Tunnel

This small two lane tunnel is situated adjacent to Portage Lake, and provides access to Bear Valley. This tunnel is equipped with ice control lining, a glycol ice control system, automatic lighting and emergency phones. This tunnel is outside the Tunnel Control Center area.

2.0.2 Tunnel Control Center

This group of buildings is located in Bear Valley and limits access to the Bear Valley Staging Area. The buildings comprise of the Tunnel Control Building, toll booths, and restrooms, as defined below:

2.0.3 Tunnel Control Building

This building houses the nerve center of the facility. All camera and computer control functions are centralized at the operator's panel. In addition to control, the operator's panel monitors the field devices for state changes. This building also houses one of three toll lanes available at the tunnel, as well as the central processing for all toll transactions. One of the facility's UTV fire attack vehicles is housed in this building.

2.0.4 Toll Booths 2 & 3

These booths provide the human interface to the toll system. Each booth has all necessary equipment for toll transactions and communicating with operator. This equipment includes a touch screen, one credit card readers, and telephone. The toll booths are the first point of contact with the public and provide the safety information necessary for tunnel travel.

2.0.5 Restrooms

Public restrooms are provided by a single structure. The west side of the building houses the men's restroom and the women's is on the east. Access to the wet wall, heating and sewer controls are though the women's restrooms.

2.0.6 Warm Storage Building

This building provides cover for the Case 921C loader, DOT snow removal equipment, as well as smaller equipment that are used to keep the tunnel operating. One of the facilities ATV's is housed in this facility.

2.0.7 Bear Valley Staging Area

The asphalt pad of the staging area is divided into six (6) lanes; these lanes are used to segregate traffic for safety and efficiency. All vehicles are classified at the toll booths. The vehicle type and load are used to determine the appropriate lane to send them to. Traffic is held in the staging area, via gates and lights. This control allows for bidirectional operations; once rail or other highway traffic has cleared the tunnel the operator with raise the gates and direct traffic with the lanes light. Released traffic is spaced via the meter light. The timing for that light is designated by the tunnel operator, and is appropriate for the class of traffic being released to travel through the tunnel. *See Toll Collector Manual – Appendix G, for Vehicle Classifications.*

2.0.8 Bear Valley Portal Building

The AAMT's emergency response equipment, and emergency power are contained in the portal building, each side of the building contains a 300 horse power portal fan. These fans are primarily used to evacuate the tunnel of smoke, both after a train and in the event of a fire.

Ventilation for the first four safe houses is located in the north side of this building, as is the backup generator, the ice melt boiler and the domestic boiler. The south side of the building contains an emergency response vehicle, an Oshkosh T-1000 AARF fire engine.

Currently emergency power consists of a single 175 KW generator. It is expected that backup power consisting of 1 MW or 2 500 W generators will be located here at some future date. Contractors shall consider future maintenance demands for equipment of this type in the price proposal.

2.0.9 Anton Anderson Memorial Tunnel

The AAMT is a 13,300 feet single bore through solid rock. Originally constructed in the 1940's to service the railroad and port operations in Whittier, the tunnel was upgraded to service both rail and highway traffic in 1998 and 1999. Features of those upgrades are as follows:

2.0.9.1 Ice Melt Arches

These structures provide insulation for the glycol heating system designed to control icing in the tunnel. Each arch is equipped with access panels for servicing the interior of the structure.

2.0.9.2 Hot Water Drip & Drainage

The tunnel is equipped with a hot water drip system. This system located on the Bear Valley end of the tunnel is designed to keep the drainage free of ice by introducing 140 degree F. water. The drainage flows from Bear Valley to Whittier with sumps situated at each safe house to move the water to the next station.

2.0.9.3 Overhead Net

Overhead net has been installed to control for rock release. The net made of chain link and rock bolted to the tunnel is designed to hold up 3000 pounds per square foot (psf) of rock. Occasionally this net requires cleaning to remove any loose rock that has been contained.

2.0.9.4 Safe Houses

Safe Houses have been built into the north side of the tunnel at 1600 feet spacing. Each Safe House is designed to accommodate 55 people seated or 80 people standing. They are equipped with first aid, blankets, drinking water, chemical toilets, emergency flash lights and phones for communicating with the tunnel operator. The Safe Houses are fire rated for 6 hours (2 fire doors rated at 3 hour each) and designed to provide refuge and fresh air in the event of a fire.

2.0.9.5 Jet Fans

Positioned at safe houses 1 and 8 (3 fans each), jet fans provide for the flow of air in the direction of traffic. Each fan is rated at 75 HP and can be reversed in direction to correspond with traffic. The air must be flowing in the direction of travel.

2.0.10 Whittier Portal Building

The portal building in Whittier is similar in design to the Bear Valley building. The south side contains all rescue equipment with the north side housing most of the electrical panels and boiler equipment. In the Whittier Portal Building the backup power is on the South side, and the South houses the Remote Control Center (RCC). The North side houses the facilities second UTV and ATV. The second Case 931 C is stored at the Portal Building during the summer and at the Restrooms in winter.

2.0.11 Whittier Staging Area

The Whittier Staging Area is similar in layout to the one in Bear Valley. There are 8 lanes in Whittier instead of 6. Traffic control via the same light and gate system found in Bear Valley, but is augmented with live traffic control to ensure compliance with the lane designation and the order of release. The lighting in this staging area is designed to separate the inbound and outbound lane, further aiding in the control of traffic.

2.0.11.1 Drainage Outfall

On the south side of the Whittier Staging Area is the tunnel drainage. The out fall for this drainage must be kept clean to ensure that water does not back up into the tunnel.

2.0.12 Restrooms

Whittier is equipped with pit toilets for convenience of tunnel users. These facilities are unisex and require frequent maintenance and cleaning.

3.0 MAINTENANCE AND OPERATION SERVICES

The following conditions shall apply to these specifications and subsequent service agreement for the duration of the contract period.

3.0.1 General Contract Requirements

The Contractor shall be responsible for providing all labor, equipment, tools, supervision, materials, supplies, and any other incidental items necessary for the maintenance, repair, operation and documentation thereof of the Anton Anderson Memorial Tunnel (AAMT hereafter) and all specified facilities and systems contained herein.

Prior to commencement date, the Contractor shall have completed all training and obtained all permits, certificates and documents required to maintain and operate the AAMT facilities as outlined in this contract. Any cost associated with training, permitting and certification shall be incidental, and should be

built in to the price proposal. All required documentation shall be submitted to the Contracting Agency prior to commencement of work.

3.0.2 Facility Limits

For the purpose of this contract, the limits of the facility shall begin at the entrance to the Portage Lake Tunnel, including the entirety of the Portage Lake Tunnel, extending across Placer Creek to Bear Valley, through the AAMT to the end of the Whittier Staging Area, and all facilities therein including but not limited to the descriptions in Section 2.

3.0.3 Contracting Agency's Representative

During the course of this agreement and in accords with the terms of this contract, the Contractor shall coordinate with and take direction from the Contracting Agency's Tunnel Manager.

3.0.4 Reservation Clause

The Contracting Agency reserves the right to develop and implement an observation/mentoring program with the Contractor for the purpose of allowing the Contracting Agency's personnel to acquire knowledge of the process of the operations and maintenance of the tunnel system.

3.0.5 "Little" Davis-Bacon

"Little" Davis-Bacon Wages (title 36.05) are not required for the maintenance and operations work of this contract.

3.0.6 On-Call Services

The Contractor shall provide on-call maintenance support services for a six (6) month period immediately following the completion and non-renewal of this contract. This service shall include response personnel capable of addressing any maintenance or technical problem that could be experienced.

3.0.6.1 Contract Agency's use of On-Call Services

Should the Contracting Agency or the Contracting Agency's Tunnel Manager find it necessary to utilize the services of the out-going Contractor, cost for said services shall be deducted from monies due the current Contractor in addition to any applicable fines.

3.0.6.2 Current Contractor use of On-Call Services

In the event that the current Contractor utilizes this service all costs shall be paid by the current Contractor at rate negotiated between the out-going and current Contractors. This cost shall not affect the contract price established through the bid process with the Contracting Agency.

3.0.7 Traffic Control Personnel

Any and all Traffic Control Personnel in association with or required by this contract shall meet the State of Alaska standards for training and certification, and proper signage and equipment shall be used during all traffic control activities. This requirement is mandatory for all traffic control, and maintenance

personnel who are exposed to traffic. See ATSSA State Training Requirements webpage: http://www.atssa.com/TrainingCertification/StateTrainingRequirements.aspx

3.0.8 Fines for Nonperformance

The Department's Tunnel Manager has the authority to assess fines for nonperformance or substandard performance for items that affect safety and/or the comfort of the tunnel users. The applications of fines shall be in accordance with the process outlined in this document.

3.0.8.1 Formal Process for Assessing Fine

1) First occurrence - In a written warning, the Tunnel Manager will notify the Contractor of the deficiency. This notification will define the required remedy and expected date for correction.

2) Second occurrence - The Tunnel Manager will notify the Contractor of the deficiency in writing. This notification will define the required remedy and expected date for correction. Fine will be assessed at the rate specified for the contract item found to be out of compliance. Fine shall be paid by the contract no later than 30 days after the time of assessment.

3) Subsequent occurrences - The Tunnel Manager will notify in writing, the Contractor, and the Department's Contracting Officer of the deficiency. This notification will define the required remedy and expected date for correction. Fine will be assessed at the rate specified for the contract item found to be out of compliance. Fine shall be paid by the contract no later than 30 days after the time of assessment.

Written warnings may not be appealed. The Contractor may appeal the fine for the first occurrence to the Department's Tunnel Manager for reconsideration, if there are mitigating circumstances. No other appeals will be accepted once a decision has been made. The Contractor may appeal to the Department's Contracting Officer after the third occurrence. The Contracting Officer's decision will be final.

3.0.9 Consumer Price Index Price Adjustment

This contract shall allow for a contract price adjustment for each annual renewal period based on the Consumer Price Index (CPI). Contractors must request price adjustments, in writing, 30 days prior to the renewal date. The price adjustment shall be made in accordance with the percentage change in the U.S. Department of Labor Consumer Price Index (CPI-U) for All Urban Consumers, All Items, Anchorage Area.

The price adjustment rate shall use the latest two 2nd Half (July-December) averages and shall be the percentage change of the six month average from the same six month average the previous year. No retroactive contract price adjustments will be allowed.

3.0.10 Training

The Contractor shall train the subsequent contractor's personnel in the maintenance and operations of the AAMT and its systems, in coordination with the subsequent contractor's schedule, within six (6) months prior to the end of the outgoing contract period. Training shall be both in the classroom and on-site, and

shall be performed by qualified and experienced personnel. The required hours of training for each maintenance and operations management position is:

- Contract Manager: 20 hours
- Project Manager: 80 hours
- Tunnel Control Operator: 120 hours
- Safety Coordinator: 120 hours
- Training Coordinator: 80 hours
- Toll Collection Supervisor: 120 hours
- Office Manager: 40 hours
- Maintenance Supervisors(two positions): 120 hours

The cost of subsequent Contractor training and coordination will be considered incidental, and no separate payment will be made.

The training required for each position shall be deemed satisfied if the subsequent contractor secures the employment of the Contractor's personnel for each position.

Training must be conducted at the AAMT and must be continuous until the required hours have been met.

3.0.11 Submittals

The Contractor shall maintain and provide to the Contracting Agency accounting records of all tunnel maintenance and operations, including but not limited to the following:

- Monthly time sheets for all personnel, identified by job classification, indicating hours worked and tasks performed
- Invoices for all materials and services used in the maintenance and operations of the tunnel and associated facilities
- Invoices for maintenance and operation supplies, including fuel and oil, etc.

Service logs for all equipment, including but not limited to the following:

- Monthly logs for all equipment, identifying equipment, hours used and task performed
- Monthly service logs for all equipment indicating type of service performed (for both preventative and corrective service) and the time period the specific equipment is not available for use at the tunnel facilities
- Performance logs for all operation equipment
- Usage records, by hour and date

The Contractor shall allow the Contracting Agency access to all books and records regarding the operation and maintenance of the AAMT, including but limited to operational activities, incident reports and revenue reconciliation for toll collection. All records must be retained for a period of five (5) years, and turned over to the Contracting Agency at the end of the contract period. Documents older than five (5) years shall be destroy by the Contractor with the approval of the Contracting Agency.

All traffic data, toll collection records and video are property of the Contracting Agency and shall be available for inspection or copies provided upon request. These records may not be supplied to any party without the permission of the Contracting Agency's Tunnel Manager or Contracting Agency, except as evidence required by law enforcement in the discharge of their duties.

The Contractor shall provide the Contracting Agency's Tunnel Manager quarterly reports summarizing inspections and results, maintenance activities and time, parts, fluids and consumables used for each task. Reports shall be in electronic format, with hard copies available upon request. The report must contain a management summary of all hours and costs associated with the tunnel for all maintenance activities.

In case of a defect that may affect the integrity or safety of any tunnel component, the Contractor shall report the defect to the Contracting Agency within 2 to 4 hours of discovery and perform repairs within 24 hours of discovery. Failure to comply with this provision shall result in a fine not less than $2000.00 per day for each day the repairs have not been completed.

per day for each day the repairs have not been completed.

3.0.11.1 Buy America Provision

The Contractor shall comply with the requirements of 23 CFR 635.410, Buy America Requirements, and shall submit a complete Materials Origin Certificate Form 25D-60, prior to Award of Contract. All steel and iron products which are incorporate into the work shall be manufactured in the United States except that minor amounts of steel and iron products of foreign manufacture may be used, provided the aggregate cost of such does not exceed one tenth of one percent (0.001) of the total contractual amount, or $2500.00, whichever is greater, For the purpose of this paragraph the cost is the value of the products as they are delivered to the project including freight.

"Manufacture in the United States" means that all manufacturing processes starting with the initial mixing and melting through the final shaping, welding and coating processes must be undertaken in the United States. The definition of "manufacturing process" is smelting or any subsequent process that alters the material's physical form, shape or chemical composition. These processes include rolling, extruding, machining, bending, grinding, drilling, etc. The application of coatings, such as epoxy coating, galvanizing, painting or any other coating that protects or enhances the value of the steel or iron materials shall also be considered a manufacturing process subject to the "Buy America Requirements,"

Buy America does not apply to raw materials (iron ore), pig iron and processed palletized and reduce iron ore. It also does not apply to temporary steel items (e.g., temporary sheet piling, temporary bridges, steel scaffolding, and false work). Further, it does not apply to materials which remain in place at the Contractor's convenience (e.g., sheet pilings and forms).

The North American Free Trade Agreement (NAFTA) does not apply to the Buy America Requirement. There is a specific exemption within NAFTA (Article 1001) for grant programs such as the Federal-aid highway program.

When steel and iron products are installed on or in them (e.g., electronic components in a steel cabinet), the steel and iron are considered to meet the requirements of the subsection. The Contractor shall take whatever steps are necessary to ensure that all manufacturing processes for each covered product comply

with this provision; Non-conforming products shall be replaced at no expense to the State. Failure to comply may result in criminal penalties prescribed under title 18 US Code Section 1001 and 1020. (0831/99)s 13.

This Buy America Provision is also referred to as subsection 106-1.01, see Exhibit B-2.

3.1 MAINTENANCE

For the entire contract period and throughout any or all extensions of said contract, the Contractor shall provide for the maintenance and repair of the complete facility, including all tunnel systems and other features both inside and outside the tunnels, the staging area structure, traffic control systems, traffic monitoring systems, and track (Reference the Operating Agreement between the Alaska Railroad Company (ARRC) and the Contracting Agency, Appendix (I), for the systems maintained by the ARRC.)

The AAMT equipment requiring Contractor maintenance and repair includes but is not limited to such fixed equipment as boilers, multiple computers and software, communications equipment and systems, PLCs, standby generators, multiple UPS units, the ice control systems, safe house ventilation fans, portal fans, jet fans, various message boards, radar signs, signals and any and all systems linked to those listed.

At a minimum the Contractor shall adhere to the requirements specified by each of the equipment Manufacturers' recommended maintenance plan and schedule. The Contractor shall develop a recommended Maintenance Plan and Schedule that provides for the preservation and longevity of the assets given the environmental conditions. Said Maintenance Plan and Schedule, with the approval of the Contracting Agency's Tunnel Manager, shall be implemented.

The Contractor shall be responsible for staining all exposed wood surfaces, sealing all concrete surfaces, and painting all painted surfaces each summer or as directed by the Contracting Agency's Tunnel Manager.

The Contractor shall conduct seasonal repairs to all structures as required, and as directed by the Contracting Agency's Tunnel Manager.

Pavement markings in both the Bear Valley and Whittier Staging Areas and inside the AAMT shall be the responsibility of the Contractor, and shall be re-painted as directed by the Contracting Agency's Tunnel Manager.

Maintenance shall be performed during Open Maintenance Modes wherein the tunnel operator maintains control over the AAMT. Maintenance other than emergency maintenance that requires a suspension of traffic operations shall be performed before or after scheduled traffic operations.

Emergency, law enforcement, ARRC and Contracting Agency vehicles, shall be permitted access through the AAMT during Open Maintenance Modes. ARRC vehicles may access the tunnel during this period, with advanced coordination with the Contractor. Any other vehicle may pass only with clearance from and the approval of the Contracting Agency's Tunnel Manager.

3.1.1 Maintenance Training

The Contractor awarded this contract shall train the subsequent Contractor in the maintenance of the AAMT and its systems, in coordination with the subsequent contractor's schedule, within six (6) months prior to the completion of this contract. The training shall be completed by the end of the contract period. The training of the Maintenance Supervisors (two positions) shall be for 120 hours conducted both in the classroom and on-site by qualified and experienced personnel. The training requirement shall be deemed satisfied if the subsequent contractor secures the employment of the current Contractor's maintenance supervisors.

3.1.2 Work Orders

During the course of the contract, work items that are outside normal preventative and corrective maintenance may need to be performed. The Contractor shall submit proposals of all time and materials necessary to perform the work. Materials shall also have attached the approved overhead and profit included for any proposed work. The Contracting Agency reserves the right to reject any or all proposals and conduct the work with another contractor, or using Contract Agency personnel. Proposals shall be requested and submitted on the Contracting Agency's approved forms.

3.1.3 Snow Removal

The Contracting Agency will provide major snow removal services on the roadway from the Portage Lake Tunnel up to and including the Bear valley Staging Area, and the Whittier Staging Area.

The Contractor shall be responsible for snow removal around the buildings, doors, portals and fixed object within the facility, including but not limited to poles, signs and gates.

3.1.4 Flangeways, Road Surface and Clearance Envelope

The Contractor shall be responsible for keeping the flangeway, both inside and outside of the tunnel, free from snow, ice and all foreign objects which could pose a danger to rail traffic; and for ensuring that the road surface and side walk is clear of rocks and debris.

The Contractor shall maintain the clearance envelope in both the AAMT and the Portage Lake Tunnel and ensure that they are free of snow and ice and all other low hanging objects. The clearance envelope is the area that permits safe passage of traffic both rail and highway. The envelope for the AAMT is approximately 15 feet wide and 21 feet high.

The Contractor shall have ten (10) hours to perform the repairs. A failure to meet this requirement shall result in a $200.00 per hour fine until the situation is corrected.

3.1.5 Rock Cleaning

The Contractor shall also be responsible for clearing the chain link fence of fallen rocks and debris as part of routine maintenance. If the structural integrity of the ceiling fence is such that immediate or imminent failure exists (failure estimated to occur within 24 hour) and is perceived as a risk to the traveling public and through no negligence of the Contractor, the tunnel may be closed by the Contracting Agency's

Tunnel Manager for repairs. Such emergency repairs shall be conducted by the Contractor in the manner specified by the methods found in the approved tunnel maintenance documentation. All repairs shall be subject to inspection and approval by the Contracting Agency's Tunnel Manager. Any repairs not approved shall be brought into compliance by the Contractor. The Contractor shall remain responsible for purchasing all materials under $1500.00 per incident.

The Contractor shall have ten (10) hours to perform the repairs. A failure to meet this requirement shall result in a $200.00 per hour fine until the situation is corrected.

3.1.6 Gates, Lights, Traffic Signals, Signs and Delineators

All gates, lights, traffic signals, signs, and delineators shall be maintained for function and safety. Gates referenced in this section include the main security gates in Bear Valley and Whittier. A failure to meet this requirement shall result in a $50.00 per hour fine until the situation is corrected.

No fine will be assessed if a flagman is employed to fulfill the task performed by the defective equipment.

3.1.6.1 Traffic Control Gates

Traffic controls gates include the entry and exit gates inside the Bear Valley and Whittier staging areas. Any damaged traffic control gate wherein the damage renders it inoperable or in any way affects safe operations shall be manned by a flagman during all open hours at the expense of the Contractor.

3.1.6.2 Main Security Gates

The main gates must be repaired prior to end of business, or an approved means of securing the facility must be provided.

3.1.6.3 Lights and Traffic Signals

All lights and traffic signals in the facility shall be maintained, and must be kept in good working order. Cleaning of lights must be performed at regular intervals, or as needed to maintain safety.

Lights and signals that affect traffic control, present a safety hazard, or that are found to be non-functioning shall be repaired immediately. If a light that affects safety cannot be immediately replaced, a flagman, at the expense of the Contractor, must be used in its place or in the case of a single lane light; the lane must be rendered out of service by signage, barricades and cones. Non-functioning lights that do not present a safety hazard or otherwise not specified above, may be replaced during routine maintenance.

3.1.6.4 Signs

The Contractor shall be responsible for all signs within the gated area of the facility. Signs that provide traffic control information, if damaged or missing, shall be repaired or replaced immediately. Traffic control signs that cannot be immediately replaced must, at the Contractor's expense, be substituted with a flagman, or temporary signage. Signs of an informational nature may be replaced during routine maintenance.

3.1.6.5 Delineators

The contractor shall be responsible for installing all traffic lane delineators in the spring and removing all delineators in the fall. Delineators shall be installed no later than the 20th day of May, and removed no earlier than the 20th day of September of each year.

The contractor shall provide for all replacement hardware and replacement parts associated with mounting the delineators to the pavement.

3.1.7 Rest Rooms

The public restrooms shall at a minimum be cleaned once daily during every day of the year. This includes, but is not limited to, trash removal, mopping, sanitizing (including scrubbing sinks, urinals and toilets); and restocking of toilet paper, paper towels and soap. It is expected that stainless steel urinals and toilets shall be free from calcium buildup and maintained in a natural stainless appearance. Buffing and polishing shall be performed as necessary.

During the summer schedule, all restrooms shall be cleaned twice daily at a minimum, with periodic inspections and additional cleaning as needed. Cleaning and inspections shall be recorded on a sheet, located in the plain sight of the public. The restrooms shall be kept free of graffiti, and the walls clean; and shall receive new coats of paint as needed to preserve the clean appearance. Failure to maintain to the specification contained herein shall subject the Contractor to a non-compliance fine of $50 per occurrence. The Contractor is expected to remedy cleaning and supplies immediately upon notice.

Any structural repair required, including but not limited to the walls, roof and doors of the restrooms, shall be performed by the Contractor and at the Contractor's expense.

3.1.8 Kiosks

The Contractor shall maintain the Kiosks. This maintenance includes cleaning, painting, and repairing and/or replacing damaged or worn parts. The information at the kiosk shall be maintained to be in a readable format for the tunnel users. Information at the Kiosks shall be changed from time to time, but shall be limited to tunnel history, Whittier history, or information on or about Prince William Sound.

3.1.9

Tunnel and Safe Houses

The tunnel shall be inspected each day, prior to opening to the public. All safety devices shall be inspected for proper function and operation. Safety devices include but are not limited to fire extinguishers, phones, and alarms.

The air supply sump pumps and the pump alarms shall be checked daily to ensure they are functioning. If any defect is found, that defect shall be repaired prior to tunnel opening. Delays to traffic operations exceeding one (1) hour as a result of sump pump repair shall result in a $1000 per hour noncompliance fine to the contractor.

The safe houses shall be checked to ensure that all safety components are in place and that those components function properly. Safe houses shall be kept clean, both inside and outside, with cleanings scheduled at regular intervals. Emergency water supplies shall be changed every six (6) months to ensure freshness. First aid cabinets shall be inspected unless sealed, and missing or expired items shall be replaced as needed. Safe house inspection records shall be posted in public view and kept up to date. Failure to maintain safe houses in ready condition or as described shall result in a $50.00 fine per occurrence.

3.2 OPERATIONS

Operations of the tunnel include traffic management using facility traffic control devices and Contractor personnel, toll collections, emergency response and management, and security/regulatory enforcement. The Contractor shall be responsible for paying all operation expenses including, but not limited to utilities and fuel charges during the life of the contract. All operations shall be based on the Operating Plan and the traffic modes outlined in this section. The Contracting Agency's Tunnel Manager may modify the Operational parameters contained in the Operating Plan and in this Contract in consultation with the Contractor as needed to provide for the best interest of the public and/or the State. Changes that do not impact the Contractor's cost shall not be considered out-of-scope and shall be implemented.

3.2.1 Operations Records

The Contractor shall update all manuals as required by the Tunnel Manager. Those manuals include, but are not limited to the following:

Tunnel Segment Operations Manual (Appendix A)

Emergency Response Plan (Appendix B)

Fire Brigade Manuals (including Fire, Safety & First Aid Operations) (Appendices C,D & E)

3.2.2 Operations Manual

At a minimum, operations of the tunnel shall be in accordance with the Operations Manual found in Appendix A. The Contractor shall have the responsibility for providing recommendations for changes to the Operations Manual for optimum performance. All changes must be reviewed and approved by the Contracting Agency. The Contracting Agency's Tunnel Manager may enact changes to the Operations Manual at any time during the contract period. Changes which do not cause the Contractor to incur additional actual cost shall not be considered out-of-scope and shall be implemented as directed.

3.2.3 Operations Schedule

The operational pattern for the tunnel is 15 minutes of scheduled in bound flow, followed by 15 minutes of rest, followed by 15 minutes of out bound flow, followed by 15 minutes of rest.

Typical Operational Pattern

+00:00 - Traffic is released from Whittier
+00:15 - Traffic flow is stopped

+00:21 - The last car traveling at 25 MPH exits the tunnel, and the tunnel is allowed to rest
+00:30 - Traffic is released into Whittier
+00:45 - Traffic flow is stopped
+00:51 - The last car traveling at 25 MPH exits the tunnel, and the tunnel is allowed to rest
+01:00 - Pattern repeats

In order to meet traffic demands, Alternate management strategies shall be employed under the direction of the Department's Tunnel Manager.

The operation schedule is 18 hours per day in the summer from May 1 until September 30 and 10.5 hours per day in winter from October 1 until April 10. The typical schedule is as follows:

Summer Schedule
May 1 - September 30
5:30am - 11:30pm

Winter Schedule
October 1 - April 10
8:00am - 7:00pm

Transition Schedule
April 11 - April 30
8:00 am - 8:30pm

The last 15 minutes of each schedule is provided to the Contractor as a lock up time.

Alaska Railroad and emergency response personnel are authorized to access the tunnel outside of operational hours. It shall be the responsibility of the Contractor to train these agencies and to report any untrained agencies attempting access the tunnel to the Contracting Agency. The Contracting Agency's Tunnel Manager will coordinate with these agencies in scheduling training for their personnel.

3.2.4 Unforeseen Events

The contractor shall provide an Hourly Extension Rate for extensions to the tunnel schedule. This rate will apply after the following has been met or in allowing others to purchase extensions to the schedule. The current rate is $620.00 per hour.

On occasion, due to unforeseen events, vehicular traffic through the AAMT is extended or delayed. When this occurs through no fault of the Contractor, there shall be no reparation for additional cost incurred to the Contracting Agency or to the Contractor for the first two hours of the delay or extension, limited to ten (10) hours total per State Fiscal Year. For each hour after the initial two hours of an extension or after the balance of hours have been expended, the Contractor shall be credited at the established Hourly Extension Rate.

Extensions requested by other agencies or person and parties other than the Contracting Agency shall be paid by the requestor. Extended tunnel hours may be purchased by any tunnel user with the consent of the Alaska Department of Transportation and Public Facilities, with clearance from the Alaska Railroad Corporation, and the availability of contract personnel to staff the extension. The cost for each hour of tunnel time shall be at the Hourly Extension Rate, and shall be made payable to the State. The Contractor

shall be reimbursed for this expense. This fee covers only the cost of contractor operations and does not include any or all tolls. The following conditions shall apply to all purchased extensions:

1) A request must be made no less than 48 hours in advance.

2) All requested hours must be contiguous with the existing tunnel schedule. Hours may be added to the beginning of the schedule or the end of the schedule as needed. No stand-alone hours are permitted.

3) All toll rates shall apply in addition to the Contractor's Hourly Extension Rate.

4) The Hourly Extension Rate may be paid using company check, cashier's check, or money order made payable to the State or payment may be made in cash.

5) The Contractor must receive payment for extended openings no less than 24 hours in advance of the extension.

6) The Contractor must receive any cancellation notice no later than 12 hours before the extension is in effect. Cancellations made by the customer after 12 hours are not refundable.

7) Unused portions of any extension are not refundable.

8) Toll fees shall be collected at the tollbooth at the time of the extended opening and are not refundable.

9) Trains shall have priority use of the tunnel, and no portion of the Contractor fee or toll shall be refunded for train delays, or delays caused by the interface equipment.

10) Extended openings will follow the traffic flow pattern of the schedule and are open to all tunnel users.

When the Contractor is responsible for the extension, the Contracting Agency shall not be charged for that extension. When the Contractor is responsible for a delay, or it takes longer than 2 hours to make sufficient repair to facilitate resumption of normal traffic patterns, a fine of $1,500.00 per hour during the summer schedule, $1,500.00 per hour during the transition schedule, and $1,000.00 per hour during the winter schedule shall be assessed against the Contractor for every hour of delay. Any increments less than an hour, after the initial 2 hours, shall be assessed at the fine rate divided by 60, and multiplied by the additional minutes.

3.2.5 Traffic Control and Management

Traffic control shall be provided using the facility traffic control devices, and by Contractor personnel as necessary. During the period from May 15 through September 7, covering from 9:00 am until 9:00 pm, the Contractor shall have a minimum of one person in the Whittier Staging Area to provide traffic control, and shall have one person available for use during all times outside this period and hours specified should traffic volumes warrant. Additionally during peak openings, the Contractor shall have one person available to assist in traffic control during the period specified above.

The Contractor shall have one person available for field traffic management as needed in Bear Valley to assist in operation. Following is a description of Traffic Control devices:

Traffic Signals at the Staging Areas are provided for the metering and/or platooning of vehicles into the tunnel. A signal at the head of each queuing lane directs vehicle platoons to enter the tunnel in a sequential manner.

Traffic Signals in the AAMT are provided to stop traffic in the event of a fire or traffic blockage to prevent traffic from bunching up behind the blockage.

Strobes in the AAMT signal passengers to exit their vehicles and enter a safe house or exit the tunnel in the event of a fire.

Vehicle Gates are provided to ensure that vehicles do not proceed into the tunnel from either direction, except when safe and signaled to do so by the tunnel operator.

Berms and other impassable features are used to prevent vehicles from circumventing the gates and traffic signals.

Pavement Markings and Reflectors in the AAMT is used to delineate the edge of the roadway, to channel traffic, to enhance roadway visibility and to improve the safety and comfort level of motorist navigating the tunnel.

Signs in the AAMT provide information on the posted speed, inform motorist of their current speed, and provide instructions in case of emergency.

Pavement Markings in the Staging Area designated lanes for queuing vehicles. Lanes are number accordingly and vehicles are segregated base on loads, size, and type or classification.

3.2.5.1 Tunnel Control Center Staffing

The TCC (Tunnel Control Center) shall be staffed by one Tunnel Operator during all hours of maintenance and operation. The Tunnel Operator may not leave the TCC or the command panel while traffic occupies the tunnel unless relieved by another equally qualified person.

During traffic operation periods a backup tunnel operator shall be available to relieve the tunnel operator for rest breaks and lunch or in the event the tunnel operator is unable to fulfill their duties. Tunnel operators, for safety reason, must be allowed a minimum fifteen (15) minute break for every two (2) hours of time in front of the panel, where break is defined as time away from the panel.

Failure to meet this requirement shall result in a fine of $200.00 per occurrence.

3.2.5.2 Tunnel Operator

The Tunnel Operator is charged with the day to day, direct management of traffic. It is the duty of the Tunnel Operator to make certain that the schedule is followed and to ensure the safety of the traveling public while in the tunnel or in the staging areas.

All movement inside the facility limits are governed by the direction of the Tunnel Operator. Failure to follow this direction may result in expulsion from the facility.

Tunnel Operators interface with the Alaska Railroad dispatcher and have the responsibility for scheduling train access. Where necessary, and in the best interest of tunnel operations, the tunnel operator is authorized to modify highway access to accommodate rail traffic as necessary for a safe and efficient use of the tunnel. Deviations from scheduled access shall be documented. Documentation shall provide an explanation and justification.

The Tunnel Operator shall be trained in traffic control and incident management (ICS 100 - 700), however it is not required that the Tunnel Operator be a fire fighter, since their duties prevent them from leaving the Tunnel Control Center. Due to the critical nature of this position, experienced tunnel operators are preferred by the Contracting Agency.

3.2.5.3 Normal Highway Traffic Operations

All vehicles entering the Bear Valley Staging Area must pass through the toll booth. It is at the toll booth that safety information is provided and instructions as to which lane will used by the motorist. It is at this point that vehicles are classified, and evaluated for potential risks and if outside the mandated regulations, denied access. All toll collectors shall be trained and tested on the regulations, and shall safe guard the safety of tunnel operation. Violations that fall outside the legal norms and may pose a risk to highway users shall be referred to law enforcement for determination.

Vehicles are allowed to enter the tunnel only when the way is cleared of opposing traffic and rail traffic, and all clear is verified by the tunnel operator through the use of the vehicle Remote Traffic Microwave Sensor (RTMS) detection system, loop detectors and Closed Circuit Television (CCTV). The RTMS and loop detectors shall not substitute an all clear check utilizing the CCTV.

Vehicles queued in the staging lanes are provided additional information on release times, delays, and additional safety information. When all clear has been verified, the tunnel operator commands the release of traffic by raising the gate arm and turning the lane light from red to green. Each lane is released in turn utilizing the lane lights.

Traffic entering the tunnel will be metered only to match traffic to the ventilation system capacity and/or to avoid potential overcrowding in safe houses in the event of a tunnel emergency.

The tunnel has been equipped with CO monitors, which are connected to the Tunnel Control System (TCS) computer and direct the operator how best to operate the ventilation or to suspend traffic if levels reached pose a health risk.

The safe houses have been designed to accommodate 55 adults sitting, the occupants of 22 cars or a full size bus, and in emergencies 80 adults standing, the occupants of 32 cars (with 2.5 occupants per car). Metering shall occur if the space between safe houses exceeds 32 cars.

The formula for calculating feet per second (fps) at 25 miles per hour (mph) is:

$$X \text{ fps} = \frac{Y \text{ mph} * 5280 \ \frac{\text{feet}}{\text{mile}}}{\left(60 \ \frac{\text{minutes}}{\text{hour}}\right)\left(60 \ \frac{\text{seconds}}{\text{minute}}\right)}$$

$$X \text{ fps} = \frac{25 \text{ mph} * 5280 \ \frac{\text{feet}}{\text{mile}}}{\left(60 \ \frac{\text{minutes}}{\text{hour}}\right)\left(60 \ \frac{\text{seconds}}{\text{minute}}\right)}$$

$$X \text{ fps} = 36.67 \text{ fps}$$

The formula for calculating metering at 25 mph is: $T \text{ metering} = \frac{X \text{ ft}}{36.67 \text{ fps}}$

Cars: 2.73 seconds = $\frac{100 \text{ ft}}{36.67 \text{ fps}}$ or 2.5 seconds = $\frac{90 \text{ ft}}{36.67 \text{ fps}}$

Trucks: 13.6 seconds = $\frac{500 \text{ ft}}{36.67 \text{ fps}}$500 ft/ 36.67 fps@25mph

Buses: 44 seconds = $\frac{1600 \text{ ft}}{36.67 \text{ fps}}$ The optimum spacing for ventilation and safe house capacity for each vehicle types are:

Vehicle Type	Distance (feet)	Distance (seconds)
Cars and light trucks	90-100 ft	2.5 – 2.73 s
Trucks, RVs, and vehicles pulling trailers	500 ft	13.6 s
Buses	1600 ft	44 s

Driver reaction time combined with the following spacing rules will achieve the desired spacing.

The metering signal at the gate is designed to adjust the spacing and flow of traffic. The detection loop at the entry gate controls the timer on the metering signal. Once a vehicle passes over the detection loop, the metering light changes to red and the timer starts. At the expiration of the preset time the metering light changes green, unless interrupted by the operator.

Optimum use of the tunnel design can be achieved by the use of the following spacing rules:

Cars, under normal operations, shall receive a steady green (Platoon) and shall be used for traffic volumes greater than 20 cars, but not more than a maximum of 400 cars. The occupancy and CO levels shall be controlled by delaying release between lanes by no less than 15 seconds and if necessary metering traffic at a 1.5 second interval. Unless warranted by the CO levels and or safe house capacity, no spacing between lane releases will be required.

Trucks, RVs, small buses (10 - 29 passengers) and vehicles pulling trailers, under normal operations, shall be metered at 7.5 second intervals.

Buses with a capacity greater than 29 and up to 55 passengers shall be metered at no less than 44 seconds, under any operation mode, except when the buses are empty (driver only).

Empty buses shall follow the 7.5 second spacing rule.

In most cases the ventilation will be able to control for CO, however, in cases of higher than desired CO levels, the meter time may be increased in order to decrease traffic loading and subsequently lower the CO loading inside the tunnel.

The TCS is not intended, nor is capable of maintaining a safe separation between vehicles once they pass the metering signal. Under no circumstance shall the safe house traffic signals be used in an attempt to maintain vehicle separation or speed control. The risk of causing a collision is too great.

Large commercial vehicles are segregated from passenger and recreational vehicle releases and in many cases may be required to wait until the end of the opening or occupy the tunnel as the sole vehicle. Operational and safety training shall be made available to commercial vehicle drivers by the Contractor on a scheduled basis. The Contractor, through contact with DOT Commercial Vehicles, will provide a schedule for driver training.

Hazardous cargoes are directed to the Alaska Railroad for passage.

Fresh air in the tunnel is provided by a system of jet fans located in the crown of the tunnel. The jet fan system can be used under all but the most severe environmental conditions, at which time the portal fans and doors must be used. The ventilation system shall always move the air in the direction of traffic flow (During periods of extreme cold and low traffic volumes, it is conceivable that fans may not be required. In these instances however, the intervals between vehicles must be increased to no less than 7.5 seconds, and the portal fans and doors shall be used to maintain ventilation at the ready).

3.2.5.4 Normal Rail Traffic Operations

In response to a request from the ARRC, the tunnel operator initiates the actions necessary to convert the tunnel from Open Vehicle Mode to Train Mode. These actions are carried out through the use of the TCS. Trains are allowed to enter the tunnel when the way is cleared of highway traffic and the clear condition is verified by the tunnel operator using the RTMS, Detection Loops and CCTV.

The RTMS and detection loops shall not substitute verification using the CCTV.

Communication between the Tunnel Operator, ARRC dispatch and/or the train is conducted using the ARRC radio and/or the Hotline to the Dispatch office. The Hotline is used to request signals, and **DOES NOT** constitute a verbal hand off of the tunnel. The tunnel can only be transferred by the TCS.

Once the request has been transmitted by ARRC dispatch and accepted by the Tunnel Operator, the train is signaled via lights located in front of the Train Limiting Device (TLD) to proceed. During rail operations, highway control devices are disabled.

At no time may a train be permitted in the tunnel if the tunnel operator retains any control of the devices. Isolation is required for safe operations in any mode. In the event that control is retained the ARRC

dispatcher must be notified that control is retained and that rail passage is not possible until the issue is resolved.

It should be noted that during rail operations the Tunnel Operator may signal an emergency condition via the over-ride button. This emergency condition is also set when the gate arms are lifted in train mode. Emergency conditions require both ARRC signal and Tunnel Maintenance personnel to clear up, and should only be used in an emergency.

Once the train clears the circuit on the opposite end of the tunnel, the Train Signal System (TSS) releases control of the tunnel back to the TCS.

3.2.5.5 Blocked Traffic as a Result of a Stalled or Inoperative Vehicle

Safety associated with stalled or inoperative vehicles requires a quick identification of, and response to, the problem, and communication of the response activities to motorists and other response personnel. Identification of, and response to, an accident relies first on the RTMS to detect a discontinuity in the traffic flow (the vehicle count has changed in some manner). The TCS alerts the Tunnel Operator and automatically moves the CCTV to observe the area of concern. Upon verification that an incident has occurred, the Tunnel Operator;

1) stops traffic behind the incident; and

2) stops additional traffic from entering the tunnel.

The tunnel operator determines the response equipment and personnel required to reopen the tunnel to traffic, and dispatches accordingly. Stalled or inoperative vehicles are either pushed or towed from the tunnel. For self-help responses, pull-out areas in the tunnel are used on a temporary basis to hold disabled vehicles until the remaining traffic in the tunnel can be cleared. Vehicles in the pull out must be clear of the foul line painted on the pavement. If room exists at the pull-out for additional vehicles to occupy the pull out containing the disabled vehicle, then normal operations may continue until a tow vehicle arrives. If there is no room for other vehicles then, traffic operations must be restricted by spacing or number or suspended until the disable vehicle has been removed.

In the event of an emergency, the loader shall be used to clear the tunnel permitting, passage of emergency vehicles.

Control of air quality in this event is attained by limiting the number of vehicles in the tunnel, and by instructing motorists to shut off their vehicles.

3.2.5.6 Fire Incident in the Tunnel

Tunnel safety includes the combined resources of three groups to respond to fire and life safety incidents in the tunnel. These groups include:

(1) The motorist, who is present at the scene of the incident and can take immediate action using the extinguishers provided;

(2) Tunnel staff trained to handle all but the most severe life threatening incidents; and

(3) Fire Departments from Whittier and the Municipality of Anchorage. Public safety is the primary concern in the event of a fire incident, with property damage coming in a distant second.

Tunnel firefighting equipment consists of (1) dry chemical fire extinguishers, primarily for use by motorists, (2) portable foam tanks at each of the eight safe houses and intended for use by the response team, (3) two fire trucks one stationed at each end of the tunnel and used by the Fire Brigade and (4) the UTV fast attack vehicles.

Fire response relies on early detection and identification of an event by the TCS and/or the Tunnel Operator. Early detection is the best way to contain a fire incident; therefore it is imperative that the Tunnel Operator attends to the TCS panel and CCTV system during traffic operations. Detection of a fire incident again relies on the recording of an anomaly in the traffic flow by the RTMS, and alerts of the operator of this anomaly by the TCS. Secondary notifications are (1) the use of the emergency phones, (2) the alarm generated by the opening of a safe house door, or (3) the loops detecting vehicle in a pull-out. The TCS operates in conjunction with the CCTV system to direct the cameras onto the area of alarm. The Tunnel Operator then verifies the event and evaluates the status and severity of the situation.

Upon verification, the tunnel operator (1) stops all traffic behind the incident in the tunnel; (2) stops additional traffic from entering the tunnel; and (3) notifies motorists, via the strobe, to evacuate to the nearest safe house or exit.

Ventilation is then transferred from the jet fans to the portal fans. The emergency ventilation system is operated at full capacity to (1) control smoke and (2) ensure that the safe houses have an independent air supply.

The door upstream of the fire is always closed. This allows the downstream door to be opened for emergency response ingress. The doors and fans are used in conjunction maintain a critical air velocity in the tunnel cross-section at which the buoyant effect of hot gases is overcome by longitudinal airflow.

Vehicles ahead of the incident are allowed to clear the tunnel thereby clearing the path for remediation.

During a fire incident, the fire response units converge on the incident from both ends of the tunnel. A specially equipped fire truck enters from the downstream side of the tunnel, entering into the smoke and attempt to contain the fire using water, foam and dry chemical. A second team enters from the upstream side of the fire using the UTV and ATV, and using the walkway for access. This second crew uses the portable foam tanks at the safe house or the UTV fire truck to attack the fire from behind.

Primary response teams are made up from trained Contractor personnel on both the Whittier and Bear Valley sides of the tunnel. In Bear Valley the tunnel staff shall man the Fire Department. In Whittier standby members shall man the Fire Department. Fire department personnel from the Municipality of Anchorage, Community of Girdwood and the Whittier Volunteer Fire Department shall provide the secondary response to tunnel fires.

3.2.6 Anton Anderson Memorial Tunnel Fire Brigade

At a minimum the Contractor shall operate in accordance with the Emergency Response Plan and Fire Brigade Policy, Section 100 Fire Operations (Appendix C). The Contractor shall review and update the Manual as needed to meet any new standards or to improve the level of service.

The safety aspects of the AAMT were designed around NFPA 600. Specific requirements are further defined in the Emergency Response Plan and Fire Brigade Policy and Procedure Manual, which cover all elements of fire protection and emergency response planning.

The Contractor shall be responsible for providing a reasonable degree of protection of life, and protecting the private property in the tunnel, as per the Emergency Response Plan and Fire Brigade Policy and Procedure Manual. Nothing in this contract is intended to restrict new technologies or alternate arrangements provided that the level of safety prescribed is not lowered.

The Contractor at a minimum shall maintain three (3) fire fighters and one (1) incident commander trained as a fire fighter in Bear Valley. In addition, the Contractor shall maintain three (3) fire fighters on standby in Whittier. The minimum number of Fire Brigade trained fire fighters shall be on duty during all hours of traffic operation, but shall not be required during closed periods or maintenance periods.

All standby personnel must be able to respond within fifteen (15) minutes, and active personnel shall be able to respond within ten (10) minutes of receiving a call. Standby on the Bear Valley side may be approved as needed by the Contract Agency's Tunnel Manager.

All fire fighters shall be uniformed and carry appropriate identification. Identification may include, but is not limited to uniforms, logo and badges. Identification is important when dealing with the public. Any time contact is made all communications shall be preceded by identifying one’s self.

Acceptable safety systems and equipment shall be approved by the Contracting Agency. In determining the acceptability of installation or procedures, equipment or materials, the Contracting Agency may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards the Contracting Agency shall require evidence of proper installation, procedure, or use. Any changes to the Emergency Response Plan shall be approved by the Contracting Agency and other governing agencies.

The Contractor shall provide a Fire Chief/Safety Officer to administer implementation of the Emergency Response Plan and Fire Brigade Policies and Procedures. It is the function of this individual to ensure that all training requirements are met, compliance with all applicable laws and to track and ensure that the equipment provided meets all standards necessary to keep response personnel and the public safe. Anything that could affect safety shall be reported to the Contracting Agency’s Tunnel Manager as soon as the deficiency has been noted along with options and recommendations.

The Contractor shall conduct tests of all the fire incident response procedures, including emergency egress/refuge as needed. The Contracting Agency and local authorities having jurisdiction shall be included in the test program. At a minimum, full Fire Brigade training drills shall be conducted twice a year, before the change of a seasonal schedule and shall include all tunnel emergency response resources.

Quarterly response tests shall be conducted to ensure readiness.

At a minimum fire fighters shall be trained to the Fire Fighter I level, with additional training to meet all Fire Brigade requirements. The Contractor is encouraged to train to higher standards in order to provide the highest qualified people.

The Contracting Agency has coordinated with the State Fire Marshall to ensure that the successful proposer will receive certification for providing training for all fire fighters at the Fire Fighter I level. In addition the successful proposer can expect guidance and direction from the State Fire Marshall's Office in meeting their obligation under this contract.

The Contracting Agency, through its Tunnel Manager, reserves to the right to test any and all safety aspects of the tunnel, including but not limited to incident response times. Standby personnel included in any Agency initiated test shall be compensated by the Contractor. The Contracting Agency will not test more than once per quarter (each shift and tour), unless the Contractor fails to meet the expectations defined in the Emergency Response Plan (Appendix B), in which case testing shall continue until compliance is attained. Failure to meet the requirements of this section shall result in a fine of $2500.00 per occurrence.

The Contracting Agency has endeavored to provide all equipment necessary to meet the requirements of this contract. For this contract, it is expected that the contractor shall price their bid with the expectation that the contractor will inventory and replace/augment fire response equipment during the first year of the contract term. This shall include Turnouts, Air Packs and Communication Equipment. Equipment needs after the first year shall be submitted to the Contracting Agency's Tunnel Manager for consideration. If the equipment requested should have been replaced in the first year, the Tunnel Manager may deny the request and require the Contractor to purchase said equipment at the Contractor's expense. Costs vary based on the type and quantities of equipment. The Contractor's price proposal for this item shall not exceed $20,000. Any additional costs will be covered by the Contracting Agency.

3.2.6.1 Emergency Response Plan

At a minimum the Contractor shall operate in accordance with the Emergency Response Plan. The Contractor shall review and update the plan as needed to meet any new standards or to improve the level of service. Any changes to the plan shall be approved by the Contracting Agency prior to implementation.

3.2.6.2 Spill Response

The Contractor shall contain and clean up any spillage, except for spills that fall within the scope of the Alaska Railroad responsibilities.

3.2.6.3 Emergency Medical System

At a minimum the Contractor shall operate in accordance with the Emergency Response Plan and Fire Brigade Policy, Section 200 First Aid Operations, and Section 300 Safety Operations. The Contractor shall review and update the manuals as needed to meet any new standards or to improve the level of safety. Any changes to the plan shall be approved by the Contracting Agency prior to implementation. At a minimum the Contractor Fire Brigade Members shall be trained in Basic Life Support, or ETT level.

No restriction shall be made by the Contractor prohibiting the use of life saving knowledge by any employee who may be covered by any and all "Good Samaritan" laws. (Title 09 Code of Civil Procedure Chapter 65 Actions, Immunities, Defenses, and Duties, Section 09.65.090)

3.2.7 Toll Collection

All tolls are set by the Contracting Agency and shall be collected by the Contractor. Tolls will be adjusted as deemed necessary by the Contracting Agency. Any changes to the tolls shall not be considered out-of-scope. Toll schedules may be varied by the Contracting Agency to reflect peak and off-peak times of the day, week, month, or season.

There are three toll collection booths and associated equipment in the Bear Valley Staging Area, all of which support manual collection methods. Operators shall have the necessary equipment to accept cash, check (all business and local personal checks), coupons, prepaid cards, passes and credit cards.

Gross revenues from the operation of the toll facilities shall be held in trust by the Contractor while the funds are in the Contractor's custody and control. If any gross revenue is lost, stolen, or otherwise unlawfully removed from the custody and control of the Contractor, the Contractor shall remain responsible for the toll revenue, and will deposit a like sum of monies in the account designated and approved by the Contracting Agency within forty-eight (48) hours after discovery of such loss, theft or unlawful removal. Once this deposit has been made, if the loss, theft, or unlawful removal is insured or otherwise secured by the Contractor; any payment made to the Contracting Agency by the insurance company, bonding company, or other will be reimbursed to the Contractor.

The Contracting Agency will forgive the Contractor the first bad check taken from any user. Any repeated bad checks from the same user shall be covered by the Contractor and monies in the amount of the bad check shall be deposited into the account designated and approved by the Contracting Agency within forty-eight (48) hours after discovery. Once this deposit has been made, if the bad check is rectified, any payment made to the Contracting Agency will be reimbursed to the Contractor.

Toll classification errors that are not caught and corrected and result in a loss of revenue shall be made up for by the Contractor. Monies in the amount of the difference and shall be deposited in to the account designated and approved by the Contracting Agency within forty-eight (48) hours after discovery.

The Contractor shall provide direct deposit of all tolls into a State approved account for the term of the contract. Deposits shall be made on a daily basis during the summer schedule and on a weekly basis during all other schedules. However, should revenue volume reach summer levels during any other schedule, the Contractor shall turn over all tolls on a daily basis. The maximum allowable interval between deposits shall be seven (7) days. The Contractor shall also provide for secure transportation for the deposit of toll funds, as approved by the Contracting Agency's Tunnel Manager. Secure transportation shall include armor car or licensed and bonded courier services. The Contractor shall insure all monies in the care of an armor care or courier service until deposited into a State approved account.

3.2.7.1 Manual Toll Collection

The manual toll collection system has cash handling equipment for receipt of bills and coins, and for dispensing change and receipts as required for toll facility operation. It also has credit card and check

handling equipment, and is capable of processing coupons, prepaid account cards, and passes. The Contracting Agency requires the Contractor to obtain prior authorization approval of credit cards before accepting payment. The Contracting Agency reserves the right to require prior approval of checks, should losses due to a lack of approval become substantial as defined by the Contracting Agency.

Users providing large quantities coins as payment for the toll shall be given rolls, moved aside, and asked to roll the coins and return to the toll booths. Once the coins have been rolled payment for passage shall be accepted, with the users' name, contact information, and driver's license number attached to each of the rolled coins.

3.2.7.1.1 Toll Collection Staffing

The toll collections facilities shall be manned by a minimum of one toll collector during all operational hours. During the summer schedule there shall be a minimum of two toll collectors on duty during all operations hours. Additional toll collectors shall be available to man the third booth during peak periods or as warranted by traffic demands. Toll collectors may be trained and qualified as fire fighters as needed to meet the contract required minimum for fire fighters.

Toll collector breaks and lunches shall be scheduled outside peak traffic operations or the collector shall be relieved by another qualified collector. Failure to meet the minimum required toll collectors or unattended booths shall result in a fine of $200 per occurrence.

3.2.7.1.2 Auditors/Toll Collector Supervisors

Auditing shall be provided on a daily basis. At a minimum, there shall be one Auditor/Toll Collector Supervisor overlapping the morning and afternoon shifts for each day of operation. Auditor/Toll Collector Supervisors may be firefighting trained to meet the minimum fire fighter requirement specified in this contract.

3.2.7.2 Manuals Governing Toll Collection

At a minimum all toll collection shall be conducted in accordance with the latest revision of the Toll Collections Manual (Appendix G), and the Supervisors Cash Handling Procedures Manual (Auditors Manual – Appendix H). The Contractor shall be responsible for recommending and implementing updates to the manuals. All recommendations must be approved by the Contracting Agency prior to implementation.

3.2.7.3 Coupons, Prepaid Cards and Seasonal Passes

It shall be the responsibility of the Contractor to print, produce and manage the inventory of coupons for toll use. Coupons shall be printed in a format approved by the Contracting Agency. In addition travel vouchers used as refunds shall be printed and managed by the Contractor.

Prepaid cards and Season Passes shall be produced, and managed by the Contractor. The Contractor shall provide for the setup of prepaid accounts and shall take payment for these accounts as set forth in section 3.2 of the contract.

In the event of a lost or stolen card or pass, the Contractor may, with the approval of the Contracting Agency, charge the account holder a reasonable fee for the Contractor time spent producing a replacement or canceling the cards or account. In addition, the Contractor, with the approval of the Contracting Agency, may charge a reasonable fee (labor plus materials) for looking up account information for the account holder.

3.2.7.4 Fraud and Theft

At a minimum the Contractor shall adhere to the Fraud and Theft Protection Plan provided in the Toll Collection's Procedures Manual (Appendix G) and the Auditor Manual (Appendix H). In addition, the Contractor shall, within three (3) months of the Notice-To-Proceed of this Contract, supply a standalone Fraud and Theft Plan. Upon approval by the Contracting Agency, the Contractor must implement that plan.

3.2.8 Public Information System

The Contractor shall be responsible for operating and maintaining the Public Information System as defined:

Alaska 511 shall be used to post delays of more than an hour and/or closures and other significant changes to the schedule. The Contractor shall secure training in the use of this tool from the 511 Manager/Its Coordinator.

Driver Information via Toll Free Number shall consist of tunnel schedule, toll rates, rules and regulations, and travel advice related to tunnel passage. Updates shall be performed as conditions and information changes or as required by the Contracting Agency's Tunnel Manager.

Driver Information in the Tunnel is provided by signs and lights in the vicinity of each safe house. The signs and signals are located outside the railroad clearance envelope and are therefore sufficiently visible to be easily seen by vehicle operators and passengers.

Driver Information in the Staging Areas includes the variable message signs (VMS), lights, and fixed signs. One VMS is provided in each staging area and can be modified by the tunnel operator to communicate to motorists. The VMS at minimum shall be programmed with information about:

(1) The next tunnel opening

(2) Any anticipated delays

(3) Motorist advisories

(4) Public announcements

(5) Messages deemed important by the Contract Agency's Tunnel Manager.

The Contractor shall keep the VMS and its system and software current to ensure good communication with the public. The VMS shall be heated to maintain ice-free operations during the winter months and cooled as need in the summer months.

Driver Information Brochures shall be printed and provided to all motorists by the Contractor at the toll booth. Brochures shall summarize the rules and regulations for driving through the tunnel, and provide an easy step-by-step process for the public to follow in an emergency.

Static Signs in the Staging Areas provide user information and self-direct motorist to toll booths, restrooms, and queuing lanes.

3.2.9 Security/Law Enforcement

The Contractor shall be responsible for providing security and traffic law enforcement at the tunnel.

3.2.9.1 Security

Security services shall be provided by the Contractor 24 hours a day, 7 days a week, and 365 days a year.

The Contractor shall employ a security specialist. This position may be combined with another position (for example the Fire Chief) to meet this requirement. Background checks may be required at any time at the direction/recommendation of Homeland Security. Proposers shall account for this possibility in their price proposal.

The tunnel shall be secured from any unauthorized access by the Contractor during all hours. Security may include an on duty guard.

3.2.9.2 Law Enforcement

It is intended that this requirement will help minimize traffic violations, which adversely affects safe operations of the tunnel.

The Law Enforcement required may be fulfilled by contracting with a law enforcement agency vested with the authority to enforce the traffic laws in the State of Alaska, or through agreement with an agency that empowers qualified tunnel personnel with traffic law enforcement authority (deputized). These duties may be combined with the traffic control requirement section of this contract and the fire response requirement.

At a minimum, law enforcement shall be required onsite fifty percent (50%) or nine (9) hours of each day during traffic operations during the summer season and only during ferry times in the winter season. Summer enforcement shall include peak hours. Enforcement is expected to match the heaviest openings and demand, and shall include both sides of the tunnel. It is expected that law enforcement shall be present in Bear Valley for the 9:30 AM, 10:30 AM, and 11:30 AM openings. And present on the Whittier side of the tunnel for the 4:00 PM, 5:00 PM and 6:00 PM openings.

The Contractor will ensure that sufficient personnel and resources are in place to meet this requirement. Failure to meet this requirement shall result in a $200.00 daily fine and/or the Contracting Agency's Tunnel Manager ordering a termination of any sub-contracts for cause.

This requirement shall not include any maintenance periods, but shall include all emergencies.

4.0 Tunnel Commitments and Outside Services

The maintenance and operations of the AAMT shall be in accordance with the following commitments, requirements and restrictions, including but not limited to all restrictions shown herein. The Contractor shall be required to fully review each and every document specified herein to determine for its self the commitments, requirements and restrictions.

- AAMT Tunnel Segment Operations Manual (Appendix A)
- AAMT Emergency Response Plan (Appendix B)
- AAMT Fire Brigade Policy and Procedures Manual, Section 100 Fire Operations (Appendix C)
- AAMT Fire Brigade Policy and Proc. Manual, Section 200 First Aid Operations (Appendix D)
- AAMT Fire Brigade Policy and Procedures Manual, Section 300 Safety Operations (Appendix E)
- AAMT Site Security Manual (Appendix F)
- Toll Collector Manual (Appendix G)
- Auditor Supervisors Cash Handling Procedures Manual (Appendix H)
- Contracting Agency/AAMT Cooperative Operating Agreement (Appendix I)
- AAMT Fraud and Protection Plan (to be developed by the contractor)

4.0.1 Alaska Railroad Corporation Responsibilities

The Alaska Railroad Corporation has ownership of the tunnel, and through agreement, DOT operates the highway. In addition to their ownership, the ARRC retains the following responsibilities and any repair thereof is at their expense:

- Maintenance of the invert structure (Star Track panels and rail), any leveling, repair or replacement of the invert panels.
- Nondestructive internal inspection of the running rails.
- Repair or replacement of rail to correct for defects.

4.0.1.1 Signal System

The ARRC shall maintain the signal system in accordance with their agreement with the Contracting Agency for said services. Problems with the signal system shall be reported to the ARRC Dispatcher immediately.

4.0.2 Disable Vehicles Outside of Secure Areas

The Contractor is responsible for safety inside the staging areas. Disabled vehicles are to be protected and/or removed as follow:

- Service responses to vehicles in the staging areas are provided by local business service organizations.
- Contractor shall clear any vehicle obstructing traffic to an approved location.
- No unauthorized vehicles shall remain at the facility after hours. Authorization shall be obtained from the Contracting Agency's Tunnel Manager. Authorized vehicles include official State, Law Enforcement, ARRC, Contractor, and Contractor Employee vehicles.
- No vehicle may block or in any way impede access too or movement of emergency vehicles. Vehicle blocking emergency access shall be removed by any means necessary at the owner's expense.

4.0.3 Other Law Enforcement, Secondary Fire Services and EMS

Secondary fire and medical response services are provided by local fire and police departments. This is accomplished through established agreements between the Contracting Agency or the Contractor and the appropriate agencies regarding response planning, equipment, training and preparedness.

Except as provided for in this contract all other, law enforcement will be provided by Whittier Public Safety, with assistance by the Alaska State Troopers, Alaska Railroad Corporation, and the United States Forest Service Marshall as required.

5.0 Contractor Responsibilities

The Contractor shall be responsible for the following item as they relate to the "Whittier Access Operating Agreement and Right of Entry", also referred to as the Alaska Railroad Operation Agreement:

1. Insurance and Indemnification requirements,
2. Claims resulting from Contractor's operation or failure to properly maintain,
3. Damages due to stop work orders,
4. Mitigation actions to reduce liquidated damages,
5. Maintenance costs including ice control,
6. All insurance required with the exception of Railroad Protective Liability Insurance and Business Interruption Insurance.

Railroad Protective Liability Insurance and Business Interruption Insurance for the Maintenance and Operations of the tunnel as outlined in the Alaska Railroad Operation Agreement between the Contracting Agency and the Alaska Railroad Corporation.

The Contractor shall consider in their price proposal any costs resulting for the terms contained within this agreement.

See Appendix D, Exhibit D-1, Modifications of Indemnification and Insurance Requirements

See Appendix I: Anton Anderson Memorial Tunnel Cooperative Operating Agreement

6.0 Contracting Agency Responsibilities

The Contracting Agency retains responsibility for several aspects of the AAMT maintenance and operations. Those responsibilities are defined as follows:

6.0.1 Rolling Equipment

All rolling equipment, such the loaders, fire trucks, UTVs, and ATVs will be maintained by the Contracting Agency. Except that the Contractor shall be responsible for performing daily checks to ensure operation and shall provide checks on oil and fuel and maintain those fluids at an operational level, as well as perform monthly mechanical checks, the results of which shall be provided to the Contracting Agency's maintenance group. All rolling equipment shall be cleaned as needed by the Contractor.

A failure to operate or a deficiency shall be reported to the Contracting Agency's maintenance group for repair.

6.0.2 Driver Training

For various fees, training opportunities are provided by the State of Alaska to commercial vehicle operators (trains, freight trucks, buses and emergency vehicles) who will be using the tunnel.

6.0.3 Roadway Signage

Any sign along the road system between the Main Gate and the Portage Lake Tunnel, but not including the Portage Lake Tunnel, will be maintained by the Contracting Agency.

All other signs are the responsibility of the Contractor.

6.0.4 Major Part Rule

The Contracting Agency will be responsible for providing the equipment or major parts of the equipment contained in this section, should they become no longer operable and that the failure operation was not the fault of the Contractor. For the purpose of replacement, "major parts" shall be defined as any part which (excluding shipping and handling) has a retail value over $1500.00.

The Contractor shall be responsible for installing the parts provided. In the event of failure of a "major part" the Contracting Agency's Tunnel Manager, due to criticality, may require the Contractor to purchase any parts, with the Contracting Agency reimbursing the Contractor for the actual cost of the part, plus shipping and handling. The "major part" rule shall apply ONLY to the following list of equipment, unless otherwise agreed to by the Contracting Agency or the Contracting Agency's Tunnel Manager.

Boilers (3) - Bear Valley (BV)

Boiler (1) - Portage Lake Tunnel

Boilers (2) - Whittier (WT)

Chain Link Net

TCS Computers/Software

Jet Fan 1 - Safe House 1

Jet Fan 2 - Safe House 1

Jet Fan 3 - Safe House 1

Jet Fan 4 - Safe House 8

Jet Fan 5 - Safe House 8

Jet Fan 6 - Safe House 8

Ice Control System - AAMT

Portal Fan South - BV

Portal Fan South - WT

Portal Fan North - BV

Portal Fan North - WT

Generators - BV

Generators - WT

Safe House Fan 1 - BV

Safe House Fan 2 - BV

Safe House Fan 1 - WT

Safe House Fan 2 - WT

Message Board - BV

Message Board - WT

6.0.5 Agency Coordination

The Contracting Agency will be responsible for the following items as they relate to the "Whittier Access Operating Agreement and Right of Entry", also referred to as the Alaska Railroad Operation Agreement:

1. Alaska Railroad plan review,
2. Offsite coordination with the Alaska Railroad Corporation,
3. The Contracting Agency's cost associated with the interim and future long-term Operating Agreement between the Contracting Agency and the Alaska Railroad Corporation.

7.0 Definitions

Anton Anderson Memorial Tunnel (AAMT) - The 2.5 mile (4 kilometer) long tunnel located between Bear Valley and Whittier, running through Maynard Mountain.

Communication System - The complete system required for communications with tunnel operations, maintenance, and emergency response personnel and tunnel users.

Driver Information System - System of fixed and variable message signs, traffic lights, strobes, radio, and printed pamphlets which provide emergency and operational information to motorists in the staging area and inside the tunnel.

Egress Lighting - The minimum illumination level required to provide safe egress following loss of normal power.

Emergency Response Plan - A Contracting Agency approved plan, defining response responsibilities during an emergency. This plan shall detail specific actions to be performed by all those assigned to respond during an emergency.

Fire Detection - Device(s) installed in the Tunnel to provide rapid alert to the Tunnel Control Center (TCC) operator of the presence of a fire in the Tunnel.

Incident - Any stopped or slowed vehicle in the Anton Anderson Tunnel for reasons other than congestion.

Incident Command Response (ICR) - The standard from which the Emergency Response Plan has been developed.

Interior Zone - The zone of illumination between the two transition zones at each end of the Tunnel. The interior zone illumination level is less than the transition zone.

Local Jurisdiction/or Fire and Medical Emergencies - This term refers to Contracting Agency and the Fire Departments from the Municipality of Anchorage and the City of Whittier.

Manual Toll Collection - Collection of tolls where operator is involved in transaction.

Motor Vehicle - A motor powered vehicle which usually travels on pavement and is not self-steering.

Motor Vehicle Modes - Tunnel Control System CTCS) modes of operation that when activated allow for the safe passage of motor vehicles through the Anton Anderson Tunnel, in either the Eastbound, or Westbound directions. Trains are prevented from entering the Tunnel in this mode.

Open Maintenance Mode - Tunnel Control System mode of operation designed to hold control over the tunnel for maintenance activities, but not open access to users. This mode protects maintenance personnel from rail traffic while the tunnel is not open for vehicle use.

Paved Track - The complete smooth, ice-free, paved railroad track transportation system, consisting of both the tunnel invert substructure and tunnel invert superstructure, for joint vehicle/rail use.

Pavement Structure - The combination of sub-base, base course, and surface course placed on a sub-grade to support the traffic load and distribute it to the roadbed.

Point of Safety - An enclosed fire exit that leads to a public way or safe location outside the Tunnel, an at-grade point beyond any enclosing structure, or an area that provides adequate protection for Tunnel users.

POL Tunnel- The tunnel located approximately 150 feet north of and parallel to the Anton Anderson Tunnel. This tunnel, which is approximately 8-feet in diameter, contains a petroleum oil line (POL) operated by Enstar Natural Gas Company, and fiber optic lines operated by Alascom.

Portage Lake Tunnel - The tunnel adjacent to Portage Lake, which provides entrance to Bear Valley.

Pull-Out Area - Tunnel area designated for stalled or disabled vehicles.

Railroad Modes - Tunnel Control System (TCS) modes of operation that when activated allow the safe passage of trains through the Anton Anderson Tunnel in either the Eastbound or Westbound directions. Motor vehicles are prevented from entering the Tunnel in this mode.

Remote Control Center (RCC) - The permanent facility at the Whittier Portal of the Anton Anderson Tunnel, which serves as a staging point for maintenance and emergency personnel, The RCC shall only be used for monitoring data from the TCC.

Remote Traffic Microwave Sensor (RTMS) - A radar-based sensor used to detect and measure traffic in the tunnel.

Summer Schedule - From May 1 through September 30.

Threshold Zone - The zone of tunnel illumination located at the tunnel entrance. The illumination level is highest in the threshold zone to allow drivers to adjust from daylight ambient levels of light to the lower illumination levels inside the Tunnel.

Train - A self-steering vehicle(s) which, by necessity, travels on and is guided by flanged wheels rolling on top of two parallel rails.

Train Limiting Device - A railway track appliance designed to prevent the undesired movement of a train along the track.

Transition Schedule - Any intermediate schedule created and implemented by the Contracting Agency which provides for additional hours of traffic operation and is imposed between the summer and winter schedules and the winter to summer schedules, typically the period from April 10 through April 30.

Transition Zone - The zone of tunnel illumination is located between the threshold zone and the interior zone. The transition zone illumination is less than the threshold zone and greater than the interior zone illumination.

Trained Response Personnel -Tunnel operations, ARRC, Contracting Agency, and Fire Contracting Agencies (from the Municipality of Anchorage and the City of Whittier) personnel trained in fire response for the Anton Anderson Tunnel.

Tunnel Closed Mode - Tunnel Control System (TCS) operating mode which allows authorized agencies and personnel to access the Anton Anderson Tunnel when the Tunnel is shutdown. All authorized personnel will be required to contact ARRC dispatch center for approval prior to accessing the tunnel.

Tunnel Control Center (TCC) - The permanent Tunnel facility at the Bear Valley Tunnel Portal, which serves as the central communication, control, and monitoring point of all tunnel systems.

Tunnel Control System (TCS) - Computer hardware/software system located at the TCC, which provides the remote monitoring and control of the Anton Anderson Tunnel systems and operations.

Tunnel Facilities - All facilities located within the Tunnel interior and staging areas. These facilities include, but are not limited to, toll booths, refuge areas, fan equipment room(s), traffic equipment room(s), and power equipment room(s).

Tunnel Invert - The concrete panels which integrate the roadway and paved track elements into a single transportation system for the entire length of the Anton Anderson tunnel.

Tunnel Invert Superstructure - The complete travel surface system for both motor vehicle and train traffic through the Tunnel.

Tunnel Manager – The Department of Transportation employee charged with the administration of the contract terms and conditions, including, but no limited to, those outlined in this document.

Tunnel Portal - a weather-tight structure, located at each end of the Anton Anderson Tunnel, which protects the ends of the tunnel and the railway/roadway as it enters the tunnel from the elements, including wind, snow, rain, freezing temperatures and avalanches.

Tunnel Track Approach - Track area in advance of the train limiting device.

Visual Surveillance System - Closed Circuit Television (CCTV) system for monitoring tunnel operations.

Water/Ice Control - Overhead and sidewall systems within the Tunnel necessary to intercept, control and divert water seepage or flow directly to the invert drains to avoid any flow or drip directly onto the Tunnel invert.

Winter Schedule - The period from October 1 through April 9.