

ANACORTES FERRY TERMINAL BUILDING & SITE IMPROVEMENTS PROJECT



PRE-DESIGN STUDY

October 15, 2009

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1.0 EXECUTIVE SUMMARY

The Anacortes Ferry Terminal Building and Site Improvements project is the culmination of more than 10 years of planning and design. The existing terminal building is fifty years old and was originally planned for replacement in 1999. Recent updates to the Life Cycle Cost Model (LCCM) in 2007, at the behest of the Legislature, revised the "design life" upwards to 50 years, for a new replacement date of 2009. This "retirement age" reflects the condition of the building and its unique and individual systems. Its 1959 design has never been modified to bring the structure up to current building and seismic codes.

Furthermore, the building has become functionally inadequate for today's operations. The typical operation of a ferry terminal has drastically changed over the last fifty years, from an increase in ridership to complying with new requirements such as Homeland Security, the Americans with Disabilities Act (ADA), and new accounting and fare recovery requirements. Circulation at the site is inefficient and creates conflicts between the various modes of transportation using the facility: pedestrians, bicyclists, and motor vehicles. There is no designated pick-up and drop off area for passengers, and the site and overhead loading ramp are non-compliant with ADA design requirements.

The identified deficiencies of the existing facility will only be exacerbated as the ridership continues to increase over the next decades.

The study herein evaluates various alternatives for the replacement of the Anacortes terminal building and related site work.

Currently, WSDOT leases the property underlying the Anacortes Ferry Terminal from the Port of Anacortes. Prior to investing significant resources at the Anacortes Ferry Terminal, a lease vs. own property analysis needs to be completed. A real estate analysis is beyond this report's discussion but will be completed once this project is restarted. Discussions will follow with the Port of Anacortes.

1.1 Project Analysis:

The selection of a preferred alternative was based on a combination of program requirements, building code and ADA requirements, and project costs. While optimizing the balance between capital and operating investments based on a life-cycle cost analysis, the new facility will meet WSF current and future operational needs at Anacortes. As mandated by RCW 39.35D, the new building will meet the requirements of the Leadership in Energy and Environmental Design (LEED) Silver criteria. Based on this analysis, a preferred alternative was selected with the following scope:

- new terminal building (approximately 17,000 square feet).
- construction of a new overhead loading walkway, including foundations, bridging the gap between the new building and the shore.
- replacement of three spans of the existing overhead loading walkway, including foundations.

- site improvements (minor grading and earthwork, paving of terminal access lanes, paving of parking lots surrounding the terminal building, and new sidewalks).
- mitigation elements (4,000 foot Guemes Channel trail thru the adjacent Ship Harbor wetland and improvements to the City of Anacortes sewer pump station).

The two other alternatives considered were preserving and maintaining the existing structure and constructing a larger, 22,000 square foot building. The 22,000 square foot alternative also included a new pedestrian bridge over the exit lanes, retrofitting a portion of the existing overhead loading walkway and connecting it to the new building, site improvements, and mitigation elements.

The construction of the project will be managed by WSF Terminal Engineering using a General Contractor/Construction Manager (GC/CM) contracting method. The proposed construction is scheduled to last between 18 and 24 months with a start date dependent upon the project receiving federal funding.

1.2 Program Analysis:

The program for the new Terminal building was developed using General Administration guidelines for employee spaces and WSF Terminal Sizing Standards for passenger areas based on the 2030 ridership projections revised in March 2009. All functional spaces required to be accommodated by the facility were identified through a detailed Facility Planning exercise summarized in Appendix B.

1.3 Site Analysis:

The process and criteria used to evaluate the site were shaped by the following planning process and environmental requirements:

- ADA requirements
- Wetland buffer setbacks
- Cultural resources and tribal interest
- Beach erosion
- City of Anacortes permit mitigation requirements
- Transit
- Adjacent land use and local zoning requirements
- Minimum disruptions to ferry operations during construction

1.4 Project Budget Analysis:

State funding for construction of a new terminal building was eliminated during the 2009 Legislative Session although a provision allows for construction of the new building should sufficient federal funds be procured. The 2009-11 state transportation budget provides \$500,000 for the replacement of the terminal building roof. Applications for federal funding through the 2009 American Recovery and Reinvestment Act and for Congressional High Priority Projects were submitted for the preferred alternative.

A benefit and life cycle cost analysis based on initial construction, preservation, maintenance and operation costs was performed for all three alternatives over a 30 year period.

1.5 Master Plan and Policy Coordination:

The Anacortes Ferry Terminal Building and Site Improvement project is consistent with the intent of the 1997 Multi-modal Ferry Terminal Master Plan developed for the improvement and modernization of the Anacortes Ferry Terminal. Several modifications have been made to the plan since its inception. The project will comply with applicable State Policies including the State Environmental Policy Act (SEPA), the Growth Management Act (GMA), the Shoreline Management Act (SMA,) Engrossed Substitute House Bills (ESHB) 2358, and RCW 39.35D (High-performance public buildings). If the project receives federal funding, it will also be required to comply with the National Environmental Policy Act (NEPA).

1.6 Operation and Maintenance Requirements:

None of the alternatives presented in this study will create a need for additional FTEs. Operations and maintenance costs were compiled for each of the presented alternatives.

2.0 PROJECT ANALYSIS

The existing Anacortes terminal building is fifty years old and the LCCM updated in 2007 lists a new replacement date of 2009. This "retirement age" reflects the condition of the building and its unique and individual systems. Its 1959 design has never been modified to bring it up to current building and seismic codes. Furthermore, the building has become functionally inadequate for today's operations, a situation that will become even more acute as ridership increases over the next decades.

Circulation at the site is inefficient and creates conflicts between the various modes of transportation using the facility: pedestrians, bicyclists, and motor vehicles. There is no designated pick-up and drop off area for passengers, and the site and overhead loading ramp are non-compliant with ADA design requirements.

2.1 Operational Needs

The Anacortes Ferry Terminal serves the San Juan domestic route and the international route to Sidney, British Columbia. The terminal is located on Fidalgo Island in Skagit County at the terminus of the State Route 20 Spur, as shown on the vicinity map in Appendix A. Ferry terminals and the routes they serve are integral parts of the highway system as identified by the Washington State Constitution and statutory laws (for example, RCW 47.17.735). The design of these facilities needs to support the overall mission of the Ferries Division to provide a safe, secure, efficient, reliable, and environmentally sound marine transportation system for people and goods throughout Puget Sound.

The terminal is principally used by three passenger types: San Juan County residents, tourists visiting the San Juan Islands, and tourists traveling between Sidney (Vancouver Island, British Columbia), Canada and the United States of America.

San Juan County has approximately 15,900 residents (OFM, April 2007) and is annually projected to grow 2.2% (OFM projection) to 2.5% (SJ Comp Plan projection) through 2030. Projected ridership for 2030 is shown in the table below.

The 2008 ridership for the San Juan/Anacortes/Sidney route was nearly 1.72 million drivers and passengers (including walk-ons and bicyclists). Anacortes has one of the highest summertime walk-on passenger ridership rates in the system. While today's ridership has dropped from a high of 1.85 million passengers in 2006, based on data compiled by WSF Planning in March 2009, it is expected to increase over the next two decades. The 2030 projected ridership increase is documented in Table 1:

Table 1: Year 2030 daily ridership increase projection

Route	Vehicles	Total Riders ¹	Walk-on Passengers
Anacortes to/from San Juan Islands	33%	42%	26%
Anacortes to Sidney, BC via San Juan Islands	27%	47%	57%
Total	33%	43%	28%

1. Total Riders consist of drivers, vehicle passengers, and walk-on passengers

In the peak summer season, WSF operates 38 sailings to and from Anacortes between the hours of 4:30 a.m. and midnight. A single sailing includes one arrival and one departure. In the off-season there are up to 30 daily sailings. Four vessels sail to/from Anacortes daily. A fifth boat is assigned to the San Juan route as an inter-island boat and does not dock in Anacortes except for fueling or repairs. The four vessels typically include three *Super* class vessels (144-car, 2,500 passenger capacity) and one *Issaquah* class vessel (124-car, 1,200 passenger capacity). Occasionally, a smaller *Evergreen State* class vessel (87-car, 983 passenger capacity) will serve the Sidney or inter-island routes.

2.2 Current Terminal Operations

Washington State Ferries (WSF) terminal buildings provide a number of functions to both the traveling public using the ferry service and the staff operating the facility.

The Anacortes terminal facility is operated and maintained by a staff of WSF employees. In the busy summer season, up to 24 people provide daily staffing (24-hours/day) for all on-shore operations. This count does include part-time and full-time employees. "On-call" employees are primarily added for peak weekends and holidays. During the less busy off-season, the staff numbers about 18 employees.

These employees include sellers (both at the toll booths and inside the terminal building), traffic attendants, ticket takers, and terminal supervisors. Job duties, in addition to their obvious job titles, include, performing security sweeps and checks, assisting traveling customers, cleaning and maintaining restrooms and public areas, garbage collection and disposal, coordinating fuel and vendor deliveries, and other miscellaneous duties.

2.3 Alternatives

Alternatives were evaluated on a combination of program requirements, building code and ADA requirements, and project costs. While optimizing the balance between capital and operating investments based on a life-cycle cost analysis, the new facility will be required to meet WSF current and future operational needs at Anacortes. As mandated by RCW 39.35D, the new building will meet the requirements of the Leadership in Energy and Environmental Design (LEED) Silver criteria.

The following three alternatives were considered:

- Continue to maintain and preserve the existing 6,400 square foot terminal building.
- Replace the existing terminal building with a 17,000 square feet building, construct a new permanent overhead loading walkway and replace portion of the existing one, implement minor site improvements and mitigation elements.
- Replace the existing terminal building with a 22,000 square feet building, provide temporary retrofit of portions of the existing overhead loading walkway and new connection to the building, construct a new pedestrian bridge over the exit lanes, and implement site improvements and mitigation elements.

A Terminal Facility Planning exercise was conducted in order to identify the spaces required to support the operation of the Terminal. Spaces allocated for each function in

each of the alternatives were compared to the General Administration (GA) standards which were used as design guidelines. A summary table is provided in Appendix B.

In the early project development phase, an alternative driven by now out dated assumptions and the desire to create a destination quality facility by utilizing public-private partnerships was also considered. It included a new four story-terminal building providing 53,000 square feet of interior space and 9,000 square feet of exterior passenger waiting area and covered parking. This alternative was dropped because of high project costs, greater environmental impacts and opposition to the overall size of the project.

2.3.1 Alternative 1 – Maintain and preserve the existing terminal building

Alternative 1 would address the most pressing issue with the existing terminal building by replacing the roof. As seen on the front cover photograph, the existing roof is a complex, multi-level framed roof design with various pitches and materials. It includes nine pyramid shapes with skylights that provide natural light to the public spaces in the building. This roof has a chronic leakage problem which can be traced to the extensive amount of flashing required by its complex shape and the various materials used. The poor condition of the building foundation and associated settlement, as documented in the LCCM, only exacerbate the problem and, unless they are addressed, will significantly shorten the life of the new roof. The initial project cost of Alternative 1 is \$533,000. A detailed scoping level estimate is included in Appendix E.

The total cost of Alternative 1 over the next 30 years (\$65 million) is discussed in Section 5. It assumes that the replacement of the building will be deferred until 2029. Until then, the preservation needs of the building, site, and overhead loading (immediately addressed by the other two alternatives) will need to be addressed by a phased preservation program. Within five years of the roof replacement, the building foundation and structural frame will need to be retrofitted to address settlement and loss of load bearing capacity due to corrosion. Five years later, the windows will need to be replaced. Five years after that, the building-related systems not inventoried in the LCCM, including Fire Protection, Communication, HVAC, Power and Lighting, which will all have exceeded their usable service life, will need to be replaced. For each of these systems, some original components from the 1959 building remain in active service, and clearly do not meet the standards of current building code regulations. The overhead loading (OHL) roof, siding, and paint system will come due for preservation in 2010 while the walkway and foundations will come due in 2019. Finally, the terminal building parking lot and traffic lanes will need to be repaved in 2013 and 2017 respectively.

Outlying structures (office trailer, IT trailer, conex boxes, and storage units) which, over the years, have been installed on the site to compensate for the lack of space in the existing building also require ongoing maintenance as detailed in Appendix E.

While Alternative 1 has a low initial cost, it would not solve any of operational inadequacies of the existing building, overhead loading, and site. These are the result of a significant change in the operation of the terminal over the last 50 years related to an increased ridership and new statutory requirements such as Homeland Security, the American with Disabilities Act (ADA), and new accounting and fare recovery requirements. The existing situation will only become more acute as ridership increases over the next decades.

Building and Overhead Loading Inadequacies:

- Interior waiting space: Based on 2008 data from WSF Planning, in the summer travelling season 143 sailings currently have over 100 walk-on passengers, 46 sailings over 200, 11 sailings over 300, and 2 sailings over 400. These numbers do not include the 30% of drive-on passengers (~300) who access the building while they wait for the ferry and do not account for two sailings being scheduled back to back (twice a day in the summer), which translates in two waiting crowds overlapping in the terminal building. In the off-season, around 200 passengers currently access the terminal building. Thus the current number of passengers waiting at the terminal can range from 200 in the off-season to upward of 700 in the summer months. The existing building provides 1,000 sf of interior waiting, which based on industry standards for space can accommodate 66 seated or 117 standing passengers. As a result of limited indoor waiting area, passengers wait in front of the building and in the employee parking lot, which creates a safety risk. The walk-on passengers waiting to board the ferry also conflict with the off-loading passengers. Typically the employee parking lot crowd will tend to split into two groups to make space for offloading passengers and one group will spill into the vehicular traffic exit lanes, which creates another safety risk. The detailed methodology used to size passenger waiting spaces is described in Section 3.4.1.
- Public restrooms: two women stalls, which by code can accommodate 50 passengers, are provided in the existing building. Long lines are a common occurrence throughout the year. One men restroom is provided (two toilets and two urinals).
- Building interior circulation: the existing building was retrofitted in 2005 to accommodate the new Electronic Fare System (EFS). Three rotating and one ADA turnstiles were installed. The space available for turnstiles was not sufficient to install the preferred paddle gate turnstiles. Paddle gate turnstiles are wider and better suited to Anacortes passengers who usually carry luggage. Consequently, terminal passenger sellers have to operate the one wide ADA gate during loading in order to meet the sailing schedule.

Beyond the 4 turnstiles, the passengers funnel sequentially through three narrow doors, a hallway, and then a single door into the overhead loading walkway. These bottlenecks and poor building layout impede the flow of passengers and increases vessel dwell time. This becomes a significant operational issue when 2 boats are in the slips simultaneously or the vessels are running behind schedule as the second vessel can not begin unloading until the first boat is loaded.

- Office space: multiple functions have to share the limited space available. There is no space available for training, public meetings, or incident response inside the current building. These functions are held off-site, either at WSF headquarters in Seattle or in a rented public space. This expense is funded by either the operational or capital budgets. In 2008, \$12,500 in travel expenses and 504 labor hours were spent to send the Anacortes vessel crew (72 people) to off-site training in Everett (68 miles/1.5 hour travel time one-way) or Seattle (87 miles/1.75 hour travel time one-way).
- Revenue control: the existing building does not provide separate rooms for the supervisor's counting room and seller's safe room, as would be needed to support

revenue control and single point liability processes. With daily revenue deposits ranging from \$20K to \$100K, the separation of these activities has been a long standing WSF standard and Anacortes is the only terminal remaining system wide that does not meet this standard. The terminal supervisor is held solely accountable for the daily revenue deposit, while sellers are held accountable for their daily receipts. Consequently, WSF must ensure that accountability is not compromised.

- Storage: janitor supplies are currently kept in the electrical room or other open floor space because of lack of available space, which creates a safety issue and L&I citations. Wheel chairs are stored in the common waiting area because there is no space available for secured storage. Without the availability to control these assets, the public is allowed to use the chairs at their own will. Often times this leads to stolen chairs and unavailable chairs when other customers require their usage (customers may not return the chairs to the terminal building, leaving them in various places around the site).
- Use of remote and temporary structures: because of lack of space in the existing building, several functions are housed in remote and temporary structures located throughout the site. The Network/Communication/Security equipment is in a temporary trailer on the east side of the holding lanes, while the vessel crew area, employee overnight room, and vendor storage are in trailers, storage areas or cargo containers around the dock. These various structures require separate utilities, security, and maintenance from that of the building.
- ADA Compliance: there are no automatic doors in the terminal building as required by ADA. The existing overhead loading walkway slope is greater than the 1:12 maximum allowed by code. The walkway longest segment between the 90 degree bends is 160 feet long and has no rest platforms; ADA requires platforms every 30 ft for slopes greater than 1:20. With the aging and disabled population in the United States increasing, ADA compliance issues are rising to the forefront of improvement projects for WSDOT facilities.
- Regulatory and audit requirements: these have evolved over the past 50 years in areas such as Homeland Security (cameras and monitoring), Customs (Anacortes is a custom's Point of Entry for the United States), ADA, revenue control, and waste management requirements. These requirements have been difficult or have yet to be accommodated in the existing facilities. It is anticipated that these requirements will expand in the future and require future facility modifications. For example, the capability for customs to expand their processing, screening, and have separate search facilities within their designated space cannot be met with the existing facility.

Site operational and design inadequacy:

In general, circulation at the site is unsafe because of conflicts between the various modes of transportation using the facility: pedestrians, bicyclists, kayakers, transit, and motor vehicles.

- ADA Compliance: there is only one ADA parking stall located adjacent to the Terminal building. Seventeen additional stalls are located in three separate areas within the Terminal Building Parking lot, 500 feet away from the building. Compliance with current ADA standards (2006 International Building Code (IBC))

requires a set aside of 2% for ADA parking stalls for lots within the 500-1000 range. An additional stall shall be provided for every 100 spaces after that. Stalls shall be placed as close as possible to the main entry of the terminal building or located so as not to cross traffic lanes when possible.

- Bicycle and kayak staging: a narrow sidewalk along the approach trestle is the only separate staging area provided for processed passengers with bicycles, kayaks or pets who board on the car deck. Prior to processing, passenger with bicycles or kayaks compete for limited space in front of the building and in the employee parking lot. This creates conflicts with parking lot and exiting vehicle traffic impacting the efficiency in off-loading the vessel. This also creates a safety hazard.
- Exit Lanes: a major safety risk currently exists because the terminal building and the holding lanes are separated by the exit lanes. Drive-on passengers who have used the terminal building during their wait for the ferry tend to linger after staff announcements and return to their cars once they hear off-loading ferry traffic. As a result, they attempt to cross the exit lanes while vehicles are driving off the vessel, which creates a safety hazard and impacts efficient operations by significantly extending dwell time. This safety risk will only become more acute as ridership increases.
- Passenger Pick-up and Drop-off: there is no designated pick-up and drop off area. Thus, passengers are transferred in various places throughout the terminal and can impact efficient operations or increase the congestion in already busy parking areas.
- Site sanitary sewer: currently the line carrying sewer from the vessels to the pump station runs exposed underneath the building. The vessel tank capacities range from 10,000 to 14,000 gallons and are pumped up to three times per day. If the line were to fail, raw sewage would enter the adjacent waters of Puget Sound. Access to the building and adjacent areas would have to be restricted until the line is repaired and the site is cleaned. The appropriate solution is to bury this line from the dock up to the City's sewer lift station.

2.3.2 Alternative 2 – New 22,000 sf terminal building

The scope of the Alternative 2 includes the following elements:

- **New LEED silver certified terminal building**: 22,000 square feet of public, staff, equipment, and vendor spaces in a two-story building level with the overhead loading walkway. Space needs assessment based on GA's Space Allocation Guidelines and WSF Terminal Sizing Standards. It should be noted that only an awning on the existing walkway is provided for Customs operations.
- **New pedestrian bridge**: safety improvement providing connection between the vehicle holding lanes and terminal building. Includes an elevator to meet ADA requirements. This would allow public access to the beach and proposed Ship Harbor Trail without passage through controlled space.
- **New overhead loading walkway sections and connection between building and shore**: three overhead loading foundation piers would need to be modified in order to connect the walkway to the second story of the building.

Replacement in-kind of the affected walkway sections was selected because of minimal cost difference with a retrofit option. Replacing the walkway will also minimize operational impacts during construction. The proposed retrofit would only be a short-term solution until the OHL structures were due for replacement in 2019.

Site improvements: re-grading and paving of terminal building parking lot, upgrade to the site circulation to include transit turnaround, pick-up/drop-off area, asphalt overlay and minor re-alignment of access/exit lanes, site utilities (power, communication, sewer, water, gas, and site lighting), and implementation of ADA parking and travel way requirements. Bus stops adjacent to the terminal building and landscaping around the building are included.

- **NEPA, SEPA and Shoreline Substantial Development Permit mandated work:** storm water improvements, pervious pavement, landscaping, bicycle lanes, sidewalks and pathways, sewer pump station improvements.
- **Temporary terminal building (~4,000 sf):** designed and constructed before demolition of the existing terminal building. The temporary terminal area will include in part: a passenger waiting space, public and staff restrooms, ticketing area, Supervisor/staff space, and a U.S. Custom check area (see Appendix A).

The initial construction cost of Alternative 2 was estimated to be \$25,998,000, as detailed in Appendix E. The total cost of Alternative 2 over the next 30 years (\$65 million) is discussed in Section 5.

Most noticeably, the new 22,000 square feet building would provide the following improvements:

- **Expanded indoor passenger waiting:** 6,662 sf will be provided (combination of chairs and benches). The methodology used to define this number is described in detail in Section 3.4.1.
- **Larger passenger restrooms:** two large (36 – 55 persons) and one small (1 - 15 persons – bicycle/kayak area) public restrooms will be provided.
- **Security:** space for secondary passenger security, which is a new Homeland Security requirement currently considered for Anacortes, will be provided. In addition, the security team will have a private space available in which to conduct their operations during an incident response occurrence. This space will be a multi-purpose room shared with visiting engineers and managers.
- **Passenger processing:** sufficient space will be available for rotating, ADA, and paddle gate turnstiles. The building layout will offer an efficient flow of passengers towards the overhead loading walkway.
- **Revenue control:** the new building will provide separate spaces for the supervisor's accounting room and seller's safe room, as needed to implement revenue control and single point liability processes. The terminal supervisor is held solely accountable for the daily revenue deposit, while sellers are held

accountable for their daily receipts. With daily revenue deposits ranging from \$20K to \$100K, it is a WSF standard to provide separate spaces for these activities in order to not compromise accountability. Anacortes Ferry Terminal is the only facility that does not have this separation.

Furthermore, the terminal supervisor tracks seller performance during this period of time. These notes are confidential and should not be recorded while sellers move throughout the room. If there is an ongoing investigation, the separation eliminates a source of compromise.

- Vessel crew room: a vessel crew room will be provided in the building for crews to use as they wait for the vessel. The Anacortes Terminal being in a remote location, vessel crews tend to arrive early for their assigned shifts. In the event of schedule delays, they might have to wait for an hour or more. Crew sizes range from 10 to 14 depending on the vessel class. Vessel crews' level of security (access to various secured areas throughout terminals, buildings, and vessels) differs from terminal staff. In order to maintain this differentiation at the terminal, a separate room with a separate entry door (and security access) is provided.
- Employee locker room: lockers will be provided to all employees assigned to the terminal based on regular summer staffing levels.
- Employee interactive/SMS/training room: this room will be used by the Terminal staff for mandated self-study trainings, which can be up to 4 hours a session and scheduled during their shifts.
- Alternate mode staging (bicycles and kayaks): passengers with bicycles and kayaks will continue to be loaded on the car deck. An outdoor staging area will be expanded for these passengers on the lower level under an overhang of the second floor. These passengers will be able to use a small indoor restroom on the lower level.
- Medium conference room: because of the remote location of the Anacortes terminal, a medium conference room with associated restrooms will be provided. It will be available for public outreach meetings, as well as staff meetings.
- Janitor closet: dedicated storage space will be available for janitor supplies.
- Wheel chair and luggage cart storage: a secured space will be provided so that wheel chairs and carts are no longer available as self-serve option, which leads to these items being stolen or displaced.
- In addition to accommodating functions that are not accommodated by the existing building, Alternative 2 would also consolidate in one building the spaces currently scattered in various trailers throughout the site.

While Alternative 2 would address all of the identified operational, program, and regulatory project requirements, it did not offer an optimal cost to benefit ratio over the next 30 years. The new building provided 30% more space than required in order to meet the essential operational needs of the facility. The scope of the OHL retrofit would only provide a temporary solution until the structure was due for replacement in 2019.

It also would not remediate some of the existing architectural limitations of the OHL, such as a low cost aluminum grating floor difficult to navigate for customers in wheel chairs or pulling luggage, and a semi-enclosed walkway exposed to the elements, including water and ice built-up in the winter. This option would also require demolition and removal of the existing building before beginning construction of the new building necessitating temporary terminal facilities. Consequently, Alternative 2 was not selected as the preferred alternative.

2.4 Project Description - Preferred Alternative

The preferred alternative was selected based on a combination of program requirements based on operational needs, building code and other statutory requirements, project costs and life-cycle cost benefits. The need for a temporary building during construction has been eliminated. The existing building will be modified slightly to accommodate the construction of the new building. A phased construction of the project will keep the building and the OHL operational as long as possible while accommodating the peak summer months and fish window requirements.

The scope of the preferred alternative includes the following elements:

- **New LEED silver certified terminal building:** Approximately 17,000 square feet of customer, staff, equipment, and vendor spaces in a two story building connecting to the overhead loading walkway on the second level. Space needs assessment based on GA's Space Allocation Guidelines and WSF Terminal Sizing Standards.
- **New overhead loading section:** A new overhead loading walkway (26 feet wide, 72 feet long) will be constructed to span the space between the new building and the shore. It will also serve as shared space for custom's holding during processing.
- **Replacement of existing overhead loading sections:** The first three spans of the existing walkway will be replaced, including foundations. The new walkway will provide an ADA compliant connection between the passenger level of the new building and the vessels.
- **Site improvements:** Asphalt overlay on the terminal building parking lot and access/exit lanes, upgrade to the site circulation to include transit turnaround, pick-up/drop-off area, site utilities (power, communication, network, sewer, storm sewer, water, gas, and site lighting). Minor grading of the lower parking lot, which will provide kayak and bicycle staging area, employee parking, and vendor access to their storage facility. The new site layout will include a bus pull-out dedicated to Skagit Transit and airport shuttle operators. Other buses will be able to park in front of the building short term, while longer term parking will be provided within 500 feet of the building. ADA parking stalls will be consolidated in front of the building. View corridor access and landscaping will also be provided in both upper and lower parking lots.
- **NEPA, SEPA and Shoreline Substantial Development Permit mandated work:** Guemes Channel trail (4,300 feet long, 12 feet wide paved trail) and

improvements to a sewer pump station, in partnership with the City of Anacortes.

Section 3 of the study provides a program analysis which describes the process followed to identify the requirements for all the spaces included in the new building. It also includes a detailed comparison of Alternative 2 and the preferred alternative.

The initial construction cost of the preferred alternative was estimated to be \$21,839,000, as detailed in Appendix E. The total cost of the preferred alternative over the next 30 years (\$57 million) is discussed in Section 5.

2.5 History and Prior Planning

Studies for improving the Anacortes terminal operations began in the mid-1980's, as the existing building approached the end of its design life. Following the Master Planning effort of the late 1990's, several building alternatives emerged. As time progressed, refinement of these alternatives took place, further supplemented by other ideas not in the original Master Plan. For example, the WSF 5-5-5 plan that proposed generating 5% revenues from sources other than the fare-box, led to discussions about public-private partnerships that would offer enhanced dining, reception rentals and other revenue-generating concepts.

2.5.1 Existing Building and Overhead Loading

The Anacortes terminal building was constructed in 1959. Over the years, as staff needs increased, an 840 square foot mobile home was added to the site to provide space for the San Juan Terminal Manager office, an on-site Inspector office, and terminal crew overnight quarters and training/orientation space. Lack of space in the existing building required the installation of another temporary trailer to accommodate the Network/Communication/Security equipment. Vendor storage is also scattered throughout the terminal site. Restroom size was reduced to accommodate the expansion of the IT room. Upgrades were made that included ADA improvements, food service and revenue control equipment, which further limited the available waiting area. Overall, the current terminal facility occupies 8,200 square feet of space including 6,400 square feet of building space and 1,800 square feet of outlying structures.

Today the building is in extremely poor condition, with the LCCM rating of the facility as "sub-standard," the lowest rating possible for WSF inventory. The building's design life was upgraded to 50 years in the last LCCM update and technically will meet the "end of its service life" in 2009. Due to its poor condition, yearly building and site maintenance repairs and utility consumption (discussed further in Section 7.0) are substantial.

As described in Section 2.3.1, increased ridership and new statutory requirements have made the existing building inadequate for today's operational requirements.

The existing overhead loading walkway and foundations were built in 1971. The roof, siding, and paint system will come due for preservation in 2010. Rusted and detached metal siding panels will need to be replaced, the work being complicated by the presence of lead paint. The walkway and foundations will come due for preservation in 2019. The existing foundations are battered steel H-piles, which limit structural retrofit options

to meet the latest seismic code requirements. The walkway does not meet ADA requirements.

2.5.2 Planning & Early Design Efforts

Planning for the new building and related site improvements started in the mid- 1980's as maintenance costs began to rise and the need for new building amenities increased. Funding at that time was largely relegated to new vessels and replacement of the building was effectively shelved.

In the mid-1990's, interest again surfaced to replace the building and in 1997 a formal Master Plan was developed for the entire site. The Master Plan included fly-over ramps, parking garages, a multi-level concourse, and numerous site amenities. This project was near the forefront of WSF's Terminal Engineering program until 2001 when monies were officially legislated to start design.

As scoping and preliminary design ensued, the proposed project followed many of the themes described in the 1997 Master Plan. The allotted budget at that time was approximately \$27 million for the building and some minor site improvements. Other site improvements were to be financed under a different funding category, but too often these numbers blended and the projects were eventually merged together.

In 2005, after much design work had been performed, an additional funding request for the building was proposed through the budget process and eventually the 2006 Legislature approved an additional \$13 million. This new money was targeted mainly to handle the large escalation/inflation pressures that were challenging the originally planned work, as well as the re-design of the project due to a shift in focus from revenue generation to meeting the core needs of the organization. Using these original numbers, the project budget was \$38.3 million.

The scope of the project was further reduced to offset the pressure of inflation/escalation (escalation in labor and materials costs have exceeded 30% in any three-year time period since 2001). Adjusting the scope to fit the original budget, the building size for the recommended alternative, for example, has been reduced to 17,000 square feet from the original Master Plan size of nearly 53,000 sq. ft.

In addition, site improvements were scaled down to better meet the minimum operational needs, rather than the extra features that had long dominated the project planning and design. This approach results in a lower cost facility with improved operations and lower maintenance than the original concept, in keeping with the vision of the 1997 plan.

In 2009, the project scope and building design were modified to meet the \$27 million construction budget. Most noticeably, the building design underwent a value engineering exercise to develop a concept that would optimize how the essential functions of the building would be met. This resulted in a square two-story building with reduced construction costs and increased space efficiency. State funding for the project was eliminated during the 2009 Legislative Session with the state transportation budget providing only \$500,000 for the replacement of the terminal building roof, although the building replacement project was approved to proceed if federal funding could be secured. Applications for federal funding through the 2009 American Recovery and Reinvestment Act and for Congressional High Priority Projects were submitted for the preferred alternative.

2.6 Stakeholders

WSF plays a large role in the communities it serves. This role becomes enhanced when the service is to a chain of islands with no physical connection to the mainland. For the San Juan Islands, the stakeholders include the full-time residents as well as the commuters that use the service, local governmental departments such as Public Works, and private commercial enterprises that use the ferry system to bring goods and services to and from the islands. Citizens of the State and tourists can also be included as stakeholders.

At the Anacortes terminal, stakeholders include adjacent property owners and other interested public parties. The terminal is located above the Ship Harbor Wetlands, an ecologically diverse and sensitive freshwater wetland home to many animal and plant species. The terminal site, which represents a fairly sizable area of the wetland watershed, currently feeds untreated stormwater into the watershed. Cannery Lake lies along the west side of the terminal facility, and is an equally ecologically important water body. Management of the lake is led by Western Washington University, which houses a research facility along the west side of the lake.

Tribal nations including the Swinomish, Tulalip, Suquamish, Lummi, and Samish are also considered stakeholders because their usual and accustomed areas for fishing and shellfish collection rights or their cultural resource interests are in the area.

Other stakeholders include State and Federal departments, which have regulatory jurisdiction over Puget Sound waterways. This list includes the Department of Natural Resources (DNR), Department of Ecology (DOE), Washington Department of Fish & Wildlife (WDFW), US Army Corps of Engineers, National Marine Fisheries Service (NMFS), and the US Fish and Wildlife Service.

2.7 Project Description

A Pre-Design Capital Project Request Report Summary is included in Appendix C.

2.8 Implementation Approach

Decision-making for the project is overseen by the WSF Director of Terminal Engineering who reports directly to the Assistant Secretary of the Ferries Division

Prior to 2007, consultants served as project managers because the agency did not have internal managers experienced in the delivery of project administered under GC/CM agreements. Consultants were also used in technical positions to supplement state force because of limited availability of FTEs and skill sets needed to implement a project of this size.

In 2007 a state employee was assigned as project manager to complete the design. The project team is made up of both state force and consultants to provide technical and administrative support.

WSF engaged the service of an independent consulting team to work with the project team to undertake a value engineering (VE) study for this project. The VE team objectively examined ideas and proposals. The team developed ideas for WSF to consider

for improving the project performance in terms of budget and operations. The VE has resulted in the development of the cost-saving preferred alternative.

2.9 Management Method Used and Project Management

As authorized under RCW 39.10, the Agency chose to utilize the General Contractor / Construction Manager (GC/CM) contracting procedure. This alternative procedure was selected because the project involves complex phasing and scheduling requirements related to the fact that the terminal will be operational all throughout the construction phase. Early involvement of the GC/CM Contractor during the design phase through a preconstruction services agreement ensures optimal coordination with the Agency. As part of the pre-construction services, the Contractor also provides construction cost estimates.

GC/CM contracts are awarded on a best value basis taking into account numerous factors including: 1) ability of the firm's professional personnel; 2) the firm's past performance in negotiation and complex projects; 3) the firm's ability to meet time and budget requirements; and 4) their fee.

After the design has reached 90%, the Contractor and the Owner may engage in what is commonly referred to as the "MACC Negotiations" (the MACC is the Maximum Allowable Construction Cost). It represents the maximum cost of the construction project. Typically the MACC is refined as the estimates between the GC/CM and the Architect are reconciled. If the Owner and the GC/CM are unable to agree on a MACC, the Owner is free to move forward under a traditional Design Bid Build (DBB) scenario by soliciting public bids for the project.

2.10 Schedule

The schedule of the project is dependent upon receiving federal funding. A preliminary schedule was developed under the assumption that funding would be available in October 2009. It is included in Appendix F.

Schedule risk items include:

- Environmental permits
- In-water construction fish window
- Peak travel season operational requirements

3.0 PROGRAM ANALYSIS

The space assignment for the new building is the result of an updated facility planning exercise that identified all functions and personnel to be accommodated by the new building. Space requirements for staff areas were developed following GA's "Space Allocation Guidelines". Public spaces were sized based on the methodology detailed in Section 3.4.1.

3.1 Assumptions

- The current terminal building program is based on year 2030 ridership projections revised in March 2009.
- The total passenger waiting area is based on the “85th percentile” method (55th busiest day), as described in Section 3.4.1.
- The route to Sidney will continue to be served requiring the facility to accommodate Customs.

3.2 Function and FTEs

Function areas of the terminal building include the passenger area, the staff area, the vendor area, and the common area.

Passenger area functions include:

- Indoor passenger waiting
- Interior causeway
- Staffed passenger ticket sales
- Customer information
- Public restrooms
- US Customs
- Wheel chair and luggage cart storage
- Janitor storage

Staff area functions include:

- Office spaces for supervisors, terminal staff and vessel crews
- Employee locker room
- Conference room
- Accounting rooms
- Ticket control areas
- Employee restrooms
- Visiting manager/Facility engineer/Security room
- Training room
- Equipment and storage rooms

Vendor area functions include:

- Vendor space
- Vendor storage

Common/utility area functions include:

- Electrical room
- Mechanical room

During the off-peak seasons (fall, winter, and spring), the Anacortes terminal requires up to 3 supervisors, 10 ticket sellers, 10 traffic attendants, and up to 5 part-time on-call employees for a 7-day work week schedule.

During the summer season, the Anacortes terminal requires up to 4 supervisors, 17 ticket sellers, 15 traffic attendants, and 5 part-time on-call employees for a 7-day work week schedule.

The preferred alternative will not alter the current staffing schedules.

3.3 Space Needs Assessment and Requirements

A facility planning exercise was conducted that identified all functions and personnel to be accommodated by the new building. Space requirements for staff areas were developed following GA's "Space Allocation Guidelines". Passenger waiting areas were sized based on the methodology outlined in section 3.4.1. An abbreviated version of the architectural design program is included in Appendix B.

Most noticeably, the new building will provide the following improvements:

- Passenger waiting: 4,250 sf of covered space would be provided (3,750 sf heated in the building/500 sf unheated at the building's entry). Based on an average of industry standards for standing and seating spaces, this space could accommodate 360 passengers. Predictions for the peak number of passengers accessing the terminal at one time in 2030 vary from 243 in the off-season to 672 in the summer (Appendix D). An exterior deck would also provide approximately 2,000 sf of additional uncovered waiting, which based on the industry standards for standing could accommodate 235 passengers. The methodology used to define this number is described in detail in Section 3.4.1.
- Larger passenger restrooms: two large (36 – 55 persons) and two small (1 - 15 persons – bicycle/kayak area) unisex public restrooms will be provided.
- Security: the security team will have a space available in which to conduct their operations during an incident response occurrence. This space will be integrated in a multi-purpose room shared with visiting engineers and managers.
- Passenger processing: sufficient space will be available for rotating, ADA, and paddle gate turnstiles. The building layout will offer an efficient flow of passengers towards the overhead loading walkway.
- Revenue control: the new building will provide separate spaces for the supervisor's accounting room and seller's safe room, as needed to implement revenue control and single point liability processes. The terminal supervisor is held solely accountable for the daily revenue deposit, while sellers are held accountable for their daily receipts. With daily revenue deposits ranging from \$20K to \$100K, it is a WSF standard to provide separate spaces for these activities in order to not compromise accountability. Anacortes Ferry Terminal is the only facility that does not have this separation.

Furthermore, the terminal supervisor tracks seller performance during this period of time. These notes are confidential and should not be recorded while sellers move throughout the room. If there is an ongoing investigation, the separation eliminates a source of compromise.

- Employee locker room: lockers will be provided to all employees assigned to the terminal based on summer staffing levels.
- Multi-purpose room: because of the remote location of the Anacortes terminal, a multi-purpose room with associated restrooms will be provided. It will be available for visiting managers, visiting engineers, terminal and vessel training, security events, and public outreach meetings.
- Janitor closet: dedicated storage space will be available for janitor supplies.
- Wheel chair and luggage cart storage: a secured space will be provided so that wheel chairs and carts are no longer available as self-serve option, which leads to these items being stolen or displaced.

In addition to accommodating functions that are not accommodated by the existing building, the preferred alternative will also consolidate in one building the spaces currently scattered in various trailers throughout the site. Vendor storage currently provided in three Connex boxes located in the waste management area and on the dock would move into the new building vacating space for longer term bus parking. The following table summarizes the spaces in the preferred alternative building and provides a comparison to the 22,000 square feet building proposed in Alternative 2.

Table 3: Space Allocation in the proposed Anacortes Ferry Terminal Building

	Alternative 2	Preferred Alternative
Building Space*	Area (sq ft.)	Area (sq ft.)
Passenger area	11,847	7,126
Staff area	3,984	3,454
Vendor area	2,582	3,788
Utility area	3,343	1,884
Total	21,756	16,252

*Detailed description of the spaces included in each area can be found in Appendix B.

3.4 Future Needs and Requirements

3.4.1 Passenger Waiting Area

The total passenger waiting area sizes were targeted using the “85th percentile” method or 55th busiest day based on 2030 ridership forecast revised in 2009. This is consistent with the Highway Capacity Manual’s recommendation. Using this methodology, the facility will meet Level of Service B for approximately 310 days of the year and be undersized for 55 days of the year, when it will function at Level of Service C or D. The total estimated waiting areas was then divided into indoor and outdoor waiting areas. At a minimum, indoor waiting should be provided for the number of walk-on passengers, drivers and vehicle passengers predicted to access the terminal on a typical off-season day, when the weather is too inclement for outdoor waiting. In the summer peak travelling season, the overflow of passengers will be accommodated in outdoor waiting areas.

The projected passenger volumes are summarized below. They are based on the assumption that 30% of vehicle passenger will leave the holding lanes and access the terminal building. Detailed calculations are included in Appendix D.

Table 4: 2030 Peak daily passenger volumes

Selected Days	Number of Walk-ons and Partial Vehicle Occupancy	Total Waiting Area (Indoor & Outdoor)
55 th busiest day (9/05)	672	9,800 sf
Off-Season day (11/01)	243	3,800 sf

Source: WSF Planning – March 2009

The preferred alternative provides 4,250 sf of indoor waiting, 2,000 sf of outdoor waiting provided by a deck on the upper level, and outdoor overflow waiting in the lower level area.

3.4.2 Staff Area

The assumptions used to define the staff area in the preferred alternative will be sufficient to accommodate the projected ridership increase to 2030.

3.4.3 Parking

As shown in Table 5, the preferred alternative will reduce the number of parking stalls currently available. However, in 2003, the Upper Parking Construction project added 221 parking stalls to the facility as a mitigation measure for the Terminal Building and Site Improvement project. The Preferred Alternative still provides 138 additional stalls to the pre-2003 upper-parking construction capacity. Currently, only on the busiest weekends are the various lots on the site used at capacity. As ridership increases over the next two decades, WSF will collaborate with the City and Skagit Transit to encourage the combined use of off-site parking and public transit. In May 2009, Skagit Transit service to the terminal was increased from 8 to 13 buses per day. The preferred alternative will provide a bus pull-out dedicated to Skagit Transit and airport shuttle operators in front of the terminal building.

Table 5: Parking Capacity

	On-Site Parking	Pre-2003 Upper parking construction	Post-2003 Upper parking construction	Preferred Alternative
1	Upper Parking	554	775	775
2	West Parking Lot	107	107	107
3	Southeast Parking Lot	115	115	115
4	Parking at Ferry Holding	42	42	42
5	Terminal Building Parking Lot	293	293	210
6	Other Surface Parking	16	16	16
7	U.S. Customs/Storage Area	11	11	11
	Total	1,138	1,359	1,276

3.5 Applicable Codes and Regulations

Applicable codes for terminal building design:

- International Building Code (IBC)
- Bridge Design Manual, M23-50, published by WSDOT
- AISC Manual of Steel Construction, ASD, Ninth Edition
- AASHTO LRFD Bridge Design Specifications (latest edition)
- American Concrete Institute (ACI) 318-05
- City of Anacortes Ordinance and Building Permit

Environmental Regulations (site and overhead loading work):

- Department of Ecology - SEPA Determination of Non-Significance (DNS), Water Quality Implementation Agreement (WQIA), Coastal Zone Management (CZM), National Pollutant Discharge Elimination System (NPDES).
- National Marine Fisheries Services- Endangered Species Act (ESA).
- City of Anacortes – Substantial Shoreline Development.
- Department of Fish and Wildlife – Hydraulic Project Approval.
- Corps of Engineers – Nationwide 3 Permit.
- Department of Archeology and Historic Preservation - Section 106 Concurrence.
- NEPA Documented Categorical Exclusion (DCE) issued by FHWA.

4.0 SITE ANALYSIS

4.1 Evaluating Potential Sites

The Anacortes Ferry Terminal is located on Rosario Strait and provides primary services to and from the San Juan Islands and Sidney, BC. The terminal property is owned by the Port of Anacortes and is leased to WSF. Land to the west of the terminal includes Cannery Lake and the Shannon Point Marine Center owned by Western Washington University. The Ship Harbor wetland is located immediately east of the ferry terminal. Single family residential homes are scattered south and west of the ferry terminal upper parking lot. The zoning classification for the terminal is commercial/marine. The topography of the site and surrounding land use limits the location of the ferry terminal to the current location.

Moving the terminal building to a different location would impact the locations of the holding area and trestles. It would also have significant environmental impacts. Therefore, is not practical or feasible to relocate it because of the costs, logistics, and local land use and environmental impacts associated with a new site.

An overview of the existing facility is shown on the Site Plan in Appendix A-5. The existing terminal facility includes a 6,400 square foot terminal building, holding lane area for more than 500 staged vehicles, five parking lots that hold

approximately 1,359 vehicles (after the 2003 Upper parking construction, but prior to the proposed project), two vehicle-accessible ferry slips, two vessel tie-up slips, a pedestrian overhead loading structure, U.S. customs areas for vehicles and walk-on passengers, storage buildings, and other ancillary equipment related to terminal operations.

4.2 Minimizing Costly Mitigation Requirements

Tribal Nations – WSDOT's Executive Order E1025 requires consultation with all tribal nations that have ancestral and/or treaty fishing rights in the project vicinity, in conjunction with the Centennial Accord between federally recognized Indian Tribes in Washington State and Washington State (1989). As part of this consultation process, tribal nations comment on the subject project and, where appropriate and applicable, mitigation efforts (e.g. structural, procedural, or financial) are developed to offset impacts the project may cause to the environment and the tribes' loss of fishing and shellfish collection area.

City of Anacortes - As part of the State's Shoreline Management Act, local jurisdictions are responsible for following Ecology regulations for shoreline management in sensitive areas. The shoreline regulations apply to all in-water work and development within 200 feet of the "ordinary high water mark," which is considered the mean high-high water line in tidal areas. The City of Anacortes enforces a permitting process that ensures the Shoreline Management Act and guidelines developed therein are addressed.

In February 2007, WSF's submitted a Shoreline Substantial Development Permit (SSDP) application for the planned work, as the new building is sited less than 200 feet from the shoreline. This application did not include any in-water work. The SSDP was issued in May 2007. The City requires WSF, as part of the project, to adhere to 18 various permit provisions. These requirements range from mitigating parking losses, to performing sewage pumping station analysis and funding traffic studies along the SR-20 spur (completed). These requirements would obligate WSF to fund upwards of \$1 million worth of terminal and site modifications: bike lanes, sidewalks and associated electrical relocation (\$900K), landscaping (\$125K), and pump station improvements (\$41K), fund/perform wetland studies, and build off-site and on-site trails.

Where practical, WSF project management has made efforts to adopt and implement the provisions in the shoreline permit, although the need and extent of these requirements has been contested on several occasions with the City, in an effort to manage program costs. WSF met with City staff on May 29, 2009 and requested a SSDP permit extension. While a one-year extension was granted in June 2009, discussions with the City regarding mitigation will continue given the scope revisions and lessened impacts.

The construction of the terminal building is governed by the International Building Code.

4.3 Acquisition Process

The original site plan called for the purchase of two properties owned by Diller and Hinshaw for parking loss mitigation purposes. However, the State and

owners were not able to reach an agreement and efforts to purchase the property were stopped.

4.4 Building Footprint

The footprint (slab on grade) of the new terminal is approximately 8,000 square feet (the top floor footprint is larger when vendor and custom's overhangs are included). A detailed breakdown of general space requirements can be found in Appendix B (Ferry Terminal Facility Planning).

4.5 Site Considerations such as Physical, Regulatory, and Access Issues

Major factors that influence the location, design and orientation of the building include natural lighting, prevailing wind flow, geotechnical and wetland issues, cultural resources, historical uses of the site (old cannery), and environmental regulations. To meet ADA accessibility requirements, a clear, direct and level path from the building entry to the vessel passenger deck will be provided.

4.5.1 SEPA/NEPA compliance

A SEPA Checklist was prepared and a Determination of Non-Significance (DNS) decision was made followed by a Notice of Action taken under SEPA. The SEPA checklist will need to be amended if any changes in the project scope are implemented. Since the project has received federal funds a NEPA process will be started when the predesign has been approved.

4.5.2 Sensitive Area

The 1997 Master Plan acknowledged and respected the 50 foot setback to wetlands that was the requirement at that time. The setback requirements have since been expanded to 200 feet. The City of Anacortes' Sensitive Area Ordinance was written to accommodate the 1997 plan and accepts the footprint of the 1997 master plan as a given. Thus, any modifications to the 1997 plan will be acceptable if they do not expand beyond its delineated footprint.

The building location has to be pushed further away from the beach where there is occurrence of natural erosion. A beach erosion study of the site indicated that locating the building closer to the beach would increase the cost by triggering the need for a retaining wall, in addition to exacerbating the erosion problem. This would require mitigation for the beach impacts.

5.0 PROJECT BUDGET ANALYSIS

5.1 Relating Budget to Scope of Work

Funding in 2007-09 was allocated to the design and property acquisition phases of the project. It has since been determined that the properties that would have been acquired are no longer needed.

5.2 Assumptions

Major assumptions used in preparing the cost estimates include the following:

- Construction cost estimates are in May 2009 dollars.
- The project will be accomplished under a single construction contract. The agency is proposing to use the GC/CM procurement process.
- The project must conform to Washington State laws governing public contracting including prevailing wages, workers compensation and other applicable RCWs and WACs.
- Hazardous material will be removed from the project.
- Reimbursables (construction facilities, reproduction services, laboratory testing, field engineering) and General Requirements (liability insurance, survey, traffic and pedestrian control, temporary utilities) as defined in Division 1 of the GC/CM contract, will not exceed 10% of the total contract cost.

5.3 Detailed Estimates

Detailed program estimates for the three alternatives considered are included in Appendix E. Alternative 1 and the preferred alternative are scoping level estimates and therefore include standard design allowances and contingencies.

It is worth noting that the Escalated MACC Cost per square foot shown in the Cost Estimate Detail sheets for Alternative 2 and the preferred alternative are based on the total MACC for the project, which includes other scope elements such as site work, overhead loading, pedestrian bridge and mitigation elements. Unit building costs for the two alternatives based only on facility construction costs are shown in Table 6. Also shown in the Cost Estimate Detail sheets is the space efficiency of each building. This number is calculated by subtracting circulation, structure, envelope, and unused surface areas from the building gross square footage.

Table 6: Unit Building Costs

	Alternative 2 22k sf building	Preferred Alternative 17k sf building
Cost per square foot	\$ 432	\$ 328
Space efficiency	80%	87%

It should be noted that the design Estimate to Complete (ETC) for Alternative 2 would fund the completion of the OHL design, and of the electrical and civil designs, as well as detailing linked to the removal of the third floor monitor room. Additional design funds would be necessary to accommodate Customs inside the building, incorporate some revisions based on operational requirements, and re-design the temporary terminal.

Maintenance costs (preventive and corrective), operation costs (staffing and utilities), and a LCCM analysis were computed for all three alternatives in order to compare the total project costs over a thirty year period. It was assumed that under Alternative 1, a new building would be built in 2029.

Table 7: Total Project Costs

	Alternative 1 New roof	Alternative 2 22k sf building	Preferred Alternative 17k sf building
Expended Design Fees	\$ 12,257,000	\$ 12,257,000	\$ 12,257,000
Initial Investment (2009\$)	\$ 533,000	\$ 26,836,000	\$ 24,646,000
30y Maint. And Oper. (2009\$)	\$ 12,506,000	\$ 11,362,000	\$ 11,178,000
LCCM (2009\$)	\$ 39,834,000	\$ 14,952,000	\$ 8,804,000
Total 30 year costs (2009\$)	\$ 65,130,000	\$ 65,407,000	\$ 56,885,000
Benefit-Cost Ratio	-	0.40	0.57

5.4 Funding Sources

State funding for the project was reduced to \$500,000 in the 2009-11 state transportation budget which is the estimate to replace roof on the existing building. As discussed previously, the Legislature left open the possibility of constructing a new building should federal funds become available.

6.0 MASTER PLAN AND POLICY COORDINATION

In 1997 a “Multi-modal Ferry Terminal Master Plan” was developed for the improvement and modernization of the Anacortes Ferry Terminal. The Master Plan included three scope elements which are not included in the preferred alternative: a grade separation of ferry egress traffic from traffic accessing the terminal building, a pedestrian bridge over the exit lanes, and a third operating slip.

6.1 Other Significant State Policies

The project will comply with significant state policies as follows:

Clean Air Act of 1991

Design standards for emissions and indoor air quality will be implemented in the building design stages as part of a comprehensive LEED strategy.

Growth Management Act of 1990

The Growth Management Act of 1990 requires state agencies to comply with local land use regulations adopted pursuant to the Act.

Shoreline Management Act

Since the project includes in-water work elements and elements located within 200 feet of ordinary high water line of Puget Sound, it must comply with Anacortes Shoreline Master Program. The City of Anacortes has issued a Shoreline Substantial Development Permit for the project. An extension of the permit has been requested. Project scope revisions and lessened impacts will require continued discussion with the City.

Governor’s Executive Order 90-94 for Protection of Wetlands

WSF has surveyed the wetland areas within the project limits required by the Growth Management Act and the Governor’s Executive Order.

Detailed surveys were prepared for use during project planning to ensure that wetland resources remain protected. The project will not encroach into any wetlands.

Clean Water Act

WSF is incorporating storm water, drainage and erosion control plan requirements into its construction documents for all major capital projects. National Pollutant Discharge Elimination System (NPDES) permit requirements will be implemented through the installation and mitigation.

Washington State Legislation- Ferries Financing Bill –ESHB 2358

The 2007 Washington State legislature enacted legislation that places a number of requirements and initiatives on the department and Transportation Commission. Among these requirements was to examine operational strategies that include managing travel demand through pricing strategies and reservations, in addition to other operational efficiencies and structural improvements to the terminal. A draft report on the operational strategies developed by WSF and their consultants was completed in December 2008, and was subsequently presented to the JTC and others for review. The highlight of this work is the implementation of a reservation system for which a pilot project is underway on the Port Townsend/Keystone route. Should this pilot project be successful, its effects will most likely impact the San Juan routes, as the two travel sheds are similar demographically and operationally.

RCW 39.35D High-performance Public Buildings

All publicly funded major facilities shall meet the design and construction requirements of the LEED Silver certification.

7.0 FACILITY OPERATIONS AND MAINTENANCE

The Anacortes terminal building and site will receive the same WSF level of staffing as the existing building currently receives. Building infrastructure and utilities maintenance, as well as equipment support are provided by Eagle Harbor Maintenance. The terminal staff provides routine cleaning of the facility as a common practice of WSF. This practice is expected to continue in the new terminal building and site. Electrical and heating costs should be higher with a larger building. However, the LEED silver certified design should offset some of the increased costs and will provide better energy control systems and human comfort. A detailed operation cost forecast for the three alternatives considered is included in Appendix E.

Maintenance costs were forecasted for the three alternatives considered and are included in Appendix E.

8.0 PROJECT DRAWINGS / DIAGRAMS

See Appendix A.

9.0 OTHER CONSIDERATIONS

9.1 Quality Standards

The new building will include ceramic tile flooring and wall finishes in the restrooms to reduce maintenance. Metal roofing will provide long term low maintenance roofing. Flooring will also be low maintenance with high slip resistance rating. Public restrooms will be equipped with blow-out toilets.

9.2 Energy Conservation

The building will comply with the Washington State Energy Code requirements for new buildings. All exterior windows will be Low-E.

9.3 LEED requirements

As required by *RCW 39.35D High-performance Public Buildings* the new building will meet the design and construction requirements of the LEED Silver certification. The project will actively pursue the following credits: providing for alternate means of transportation, reducing heat island effect, water efficiencies (use of low flush toilets in the employee area), fundamental and enhanced commissioning, waste management program, use of recycled materials, use of low volatile organic compound emitting materials, and use of day lighting measures.

9.4 Constructability

Construction of the preferred alternative will meet the following requirements:

- Existing building will remain operational until new building is constructed.
- OHL construction will require loading passengers on the vehicle transfer span. The transition of passengers from the building to the OHL during construction will also require prior planning.
- Revenue collection during the construction of the overhead loading will require some planning.
- Customs operations will need to be preserved.

The following construction phasing sequence would allow construction to proceed while minimizing impact to operations:

Phase 1: The contractor would relocate the utilities to the existing building to allow for the remodel of the existing terminal into an interim terminal. Site preparation, a new entry ramp and interior tenant improvements would then allow for the partial demolition of the existing building. Customs and general pedestrian traffic would still process through the existing building. The existing trailer located adjacent to the terminal building would also be removed.

Phase 2: The Contractor would start with site preparation for the new building. This would include grading, excavation, and site utilities installation. Next, the new building would be constructed. Concurrently the construction of the new overhead loading walkway could begin offsite. Site work for the upper parking lot would then be completed (once the building is nearing completion), which would include overlay and striping of the parking lot, construction of the sidewalks, and landscaping. Operations, passengers, and the vendors would then move into the new building.

Phase 3: This phase would start with the installation of some container structures on the dock that would allow for Customs to operate during the demolition of the existing building. Pedestrian loading would then proceed through the building, down the stairs and load either on the car deck or on the existing OHL. Modifications to the shore end of the OHL would be needed in order to continue using the OHL until the overwater structure is demolished. This work could happen concurrently with the upland foundation work or could be delayed until after the summer season and/or outside of the fish window. Domestic passengers would continue to load and unload on the car deck once the OHL structure is demolished.

Following would be the construction of the OHL drilled shafts, the pad foundations, and the installation of the new OHL and its architectural finishes. With the completion of the OHL, Customs and domestic passengers would then be allowed to process through the new OHL. The Contractor would then be allowed to complete the lower bike/kayak/parking/delivery area with its landscaping and fencing.

9.5 Coordination with Department of Archeology and Historic Preservation (DAHP)

The Anacortes Ferry Terminal site is rich in historical and cultural heritage. There is known presence of shell middens on the site. The site was also the home of an old cannery. Therefore, the location and footprint of the terminal building has been carefully evaluated to avoid and/or minimize impacts to historic and archaeological resources during construction.

In July 2006 DAHP concurred that the project would have no adverse effect under Section 106. An updated project description will be sent to DAHP to communicate the latest changes in the project scope. The revised project is expected to receive a similar concurrence.

APPENDIX A: FIGURES

**EXISTING BUILDING
& SITE PLANS**

\$USERNAMES \$DATES

\$FILES



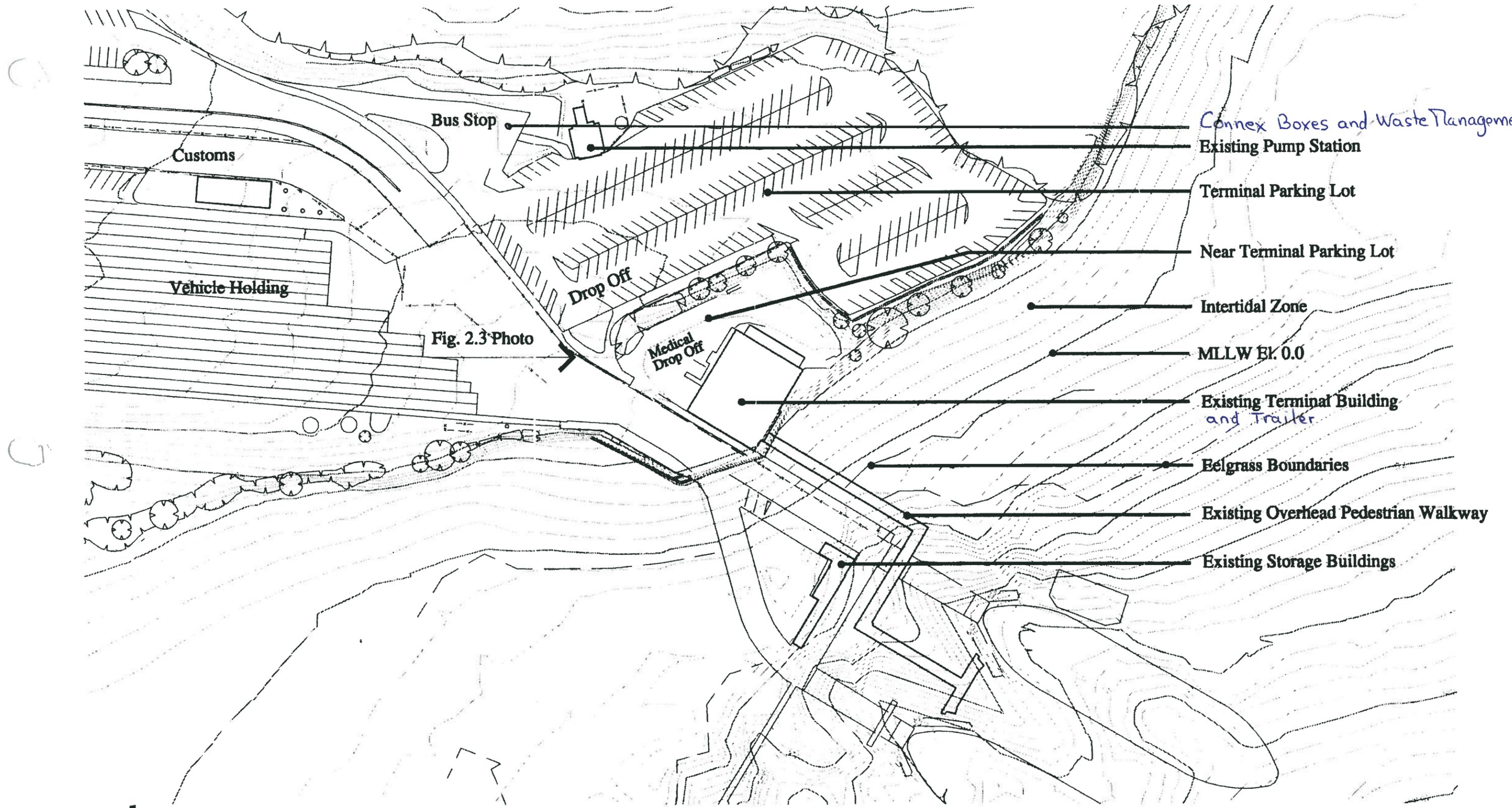
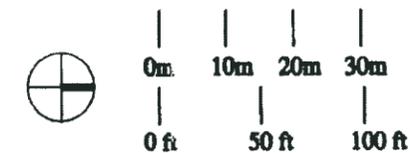


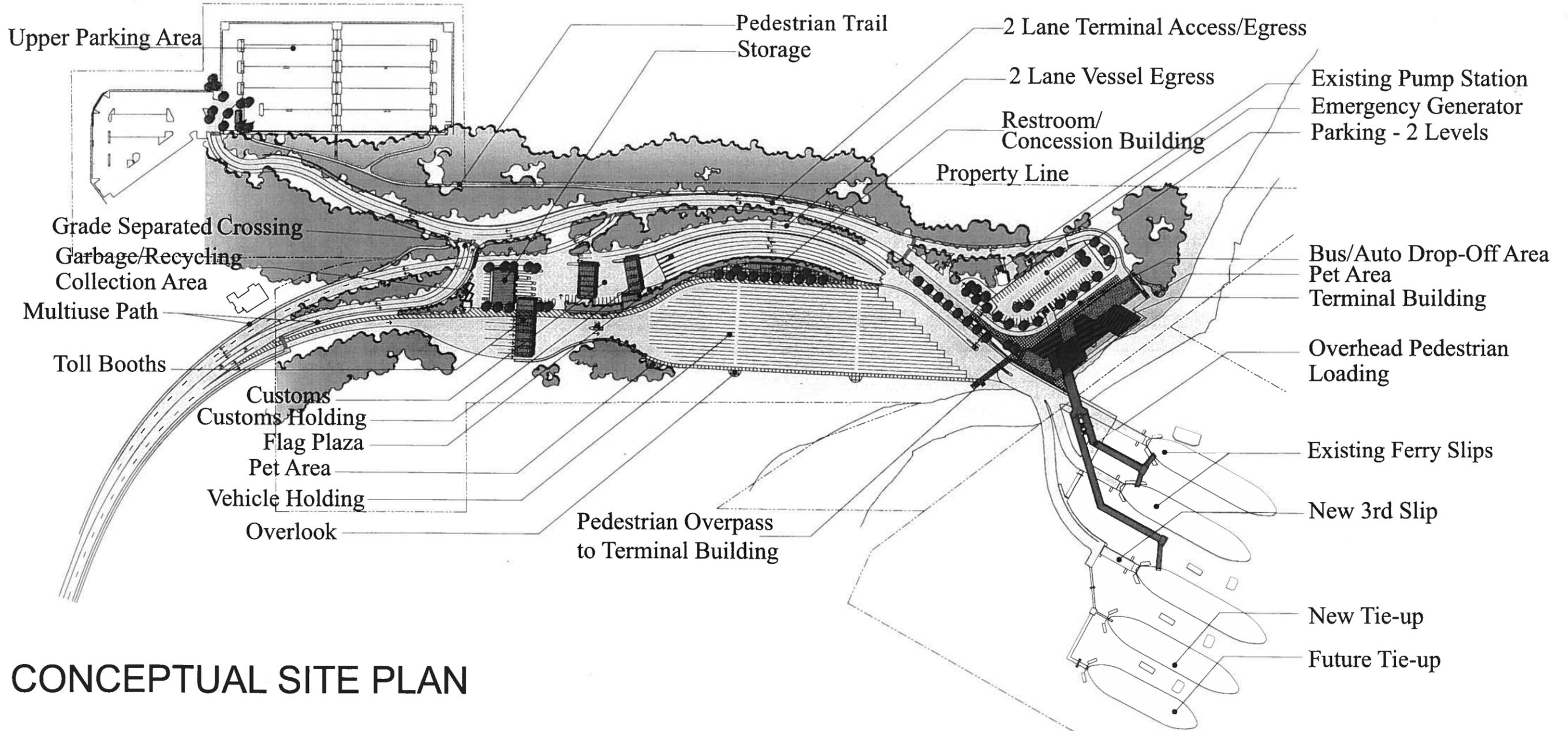
Figure 2.1: Existing Conditions

Anacortes Multimodal Ferry Terminal
 Washington State Ferries (From 1997 Master Plan)

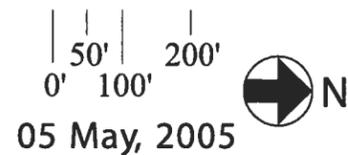


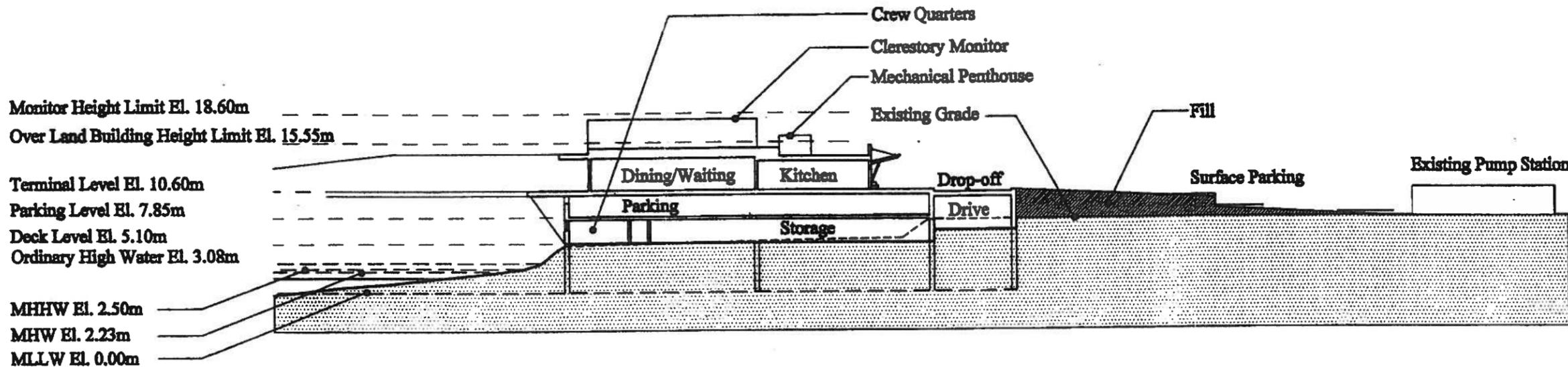
**BUILDING & SITE
PLANS
1997 MASTER PLAN**

ANACORTES FERRY TERMINAL

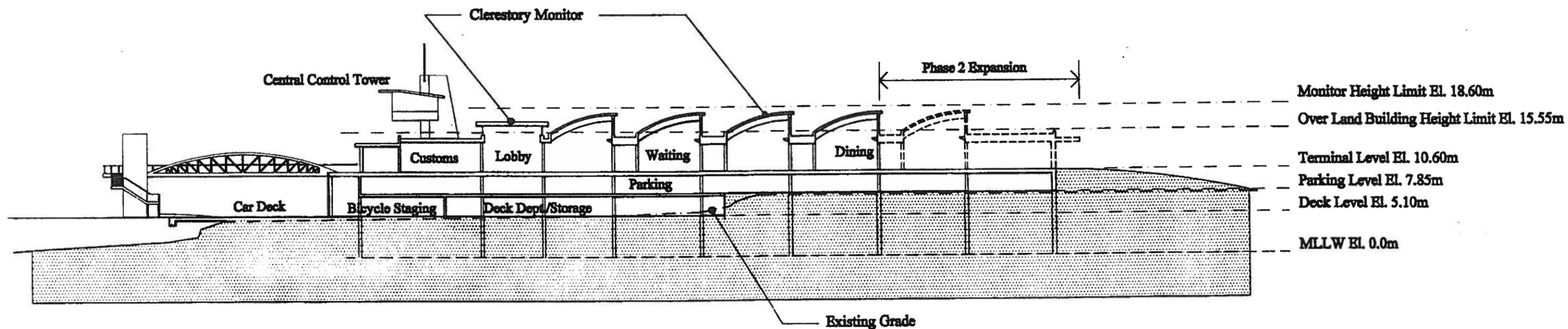


CONCEPTUAL SITE PLAN





Cross Section A

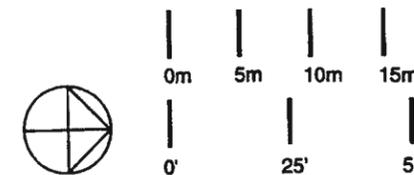


Longitudinal Section B

Figure 5.5: Building Sections

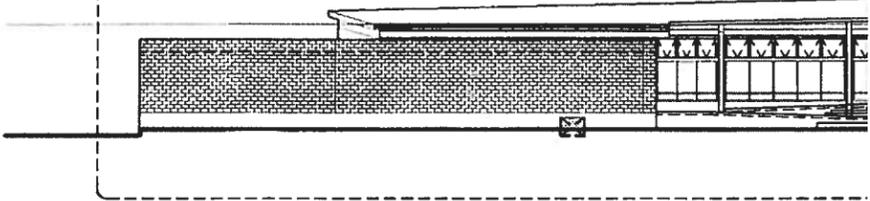


Anacortes Multimodal Ferry Terminal
 Washington State Ferries (From 1997 Master Plan)



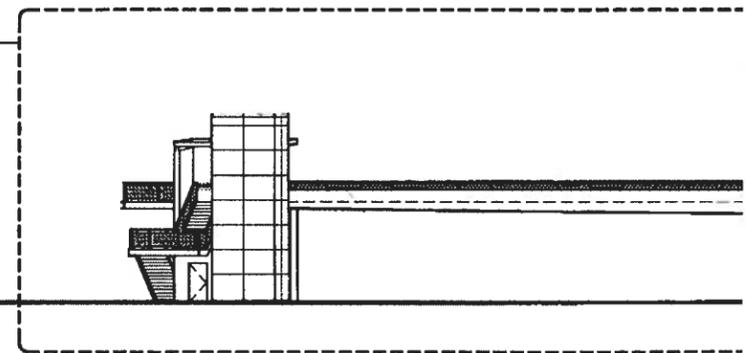
Sverdrup
 CIVIL, INC.
HEWITT ISLEY

1
A05.10



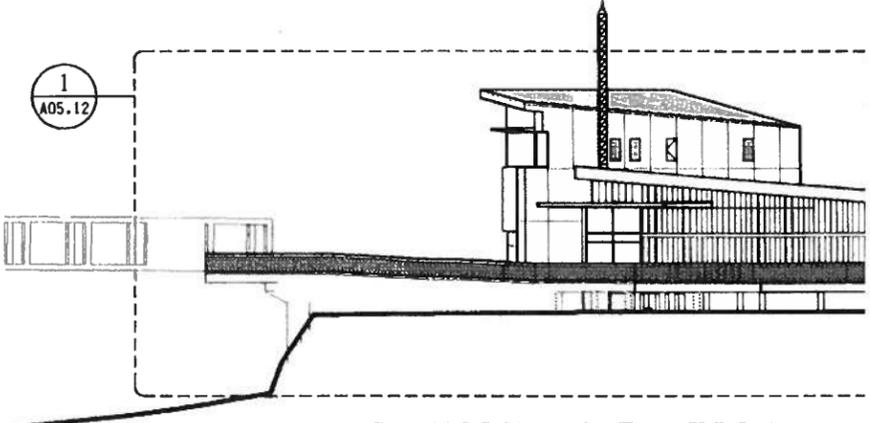
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A02.10 1/32"=1'-0"

1
A05.11



2 EAST ELEVATION
A02.10 1/32"=1'-0"

1
A05.12



3 NORTH ELEVATION
A02.10 1/32"=1'-0"

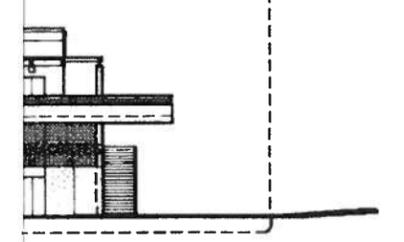
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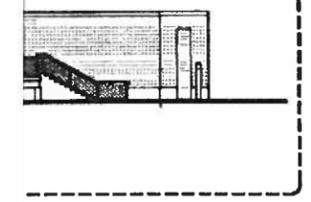
NOT TO BE USED FOR CONSTRUCTION

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WSF EXEC DIR:	D. MOSELEY	REVISION

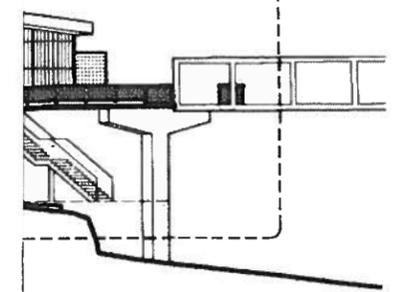
BUILDING & SITE PLANS ALTERNATIVE 2 2008



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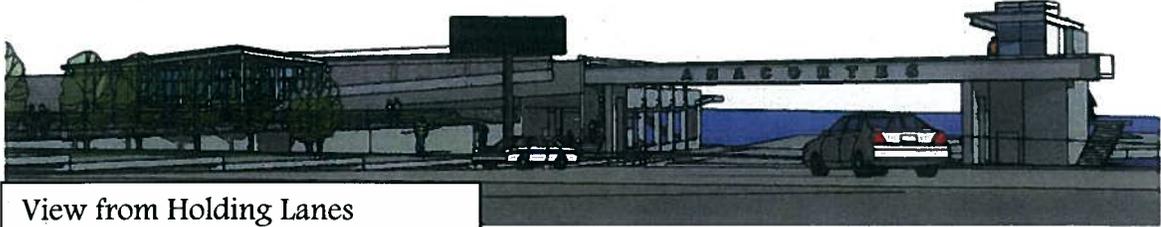


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SCALE IN FEET

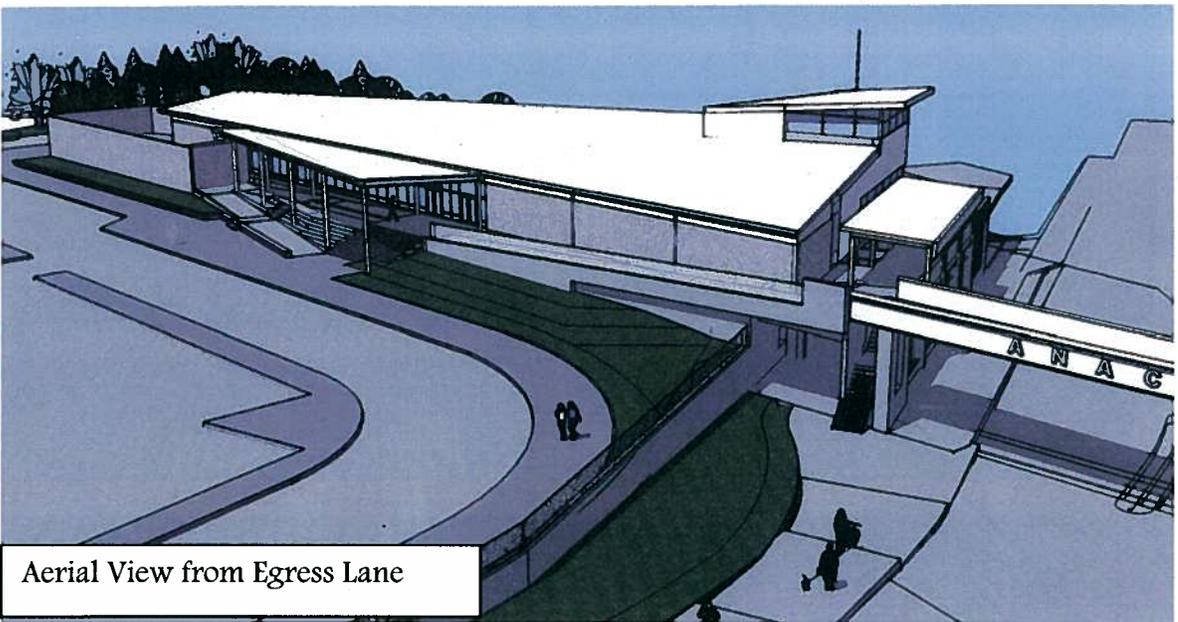
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	SHEET 41 OF 75 SHEETS

Perspectives

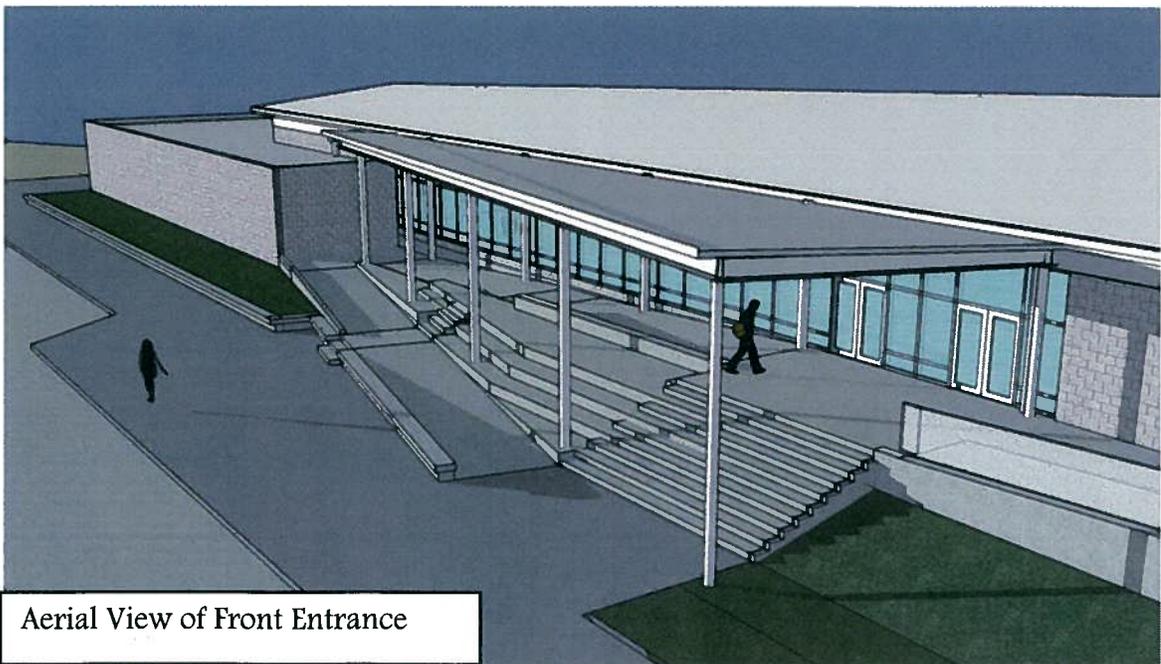
Monitor removed in this view for example if budget reduced



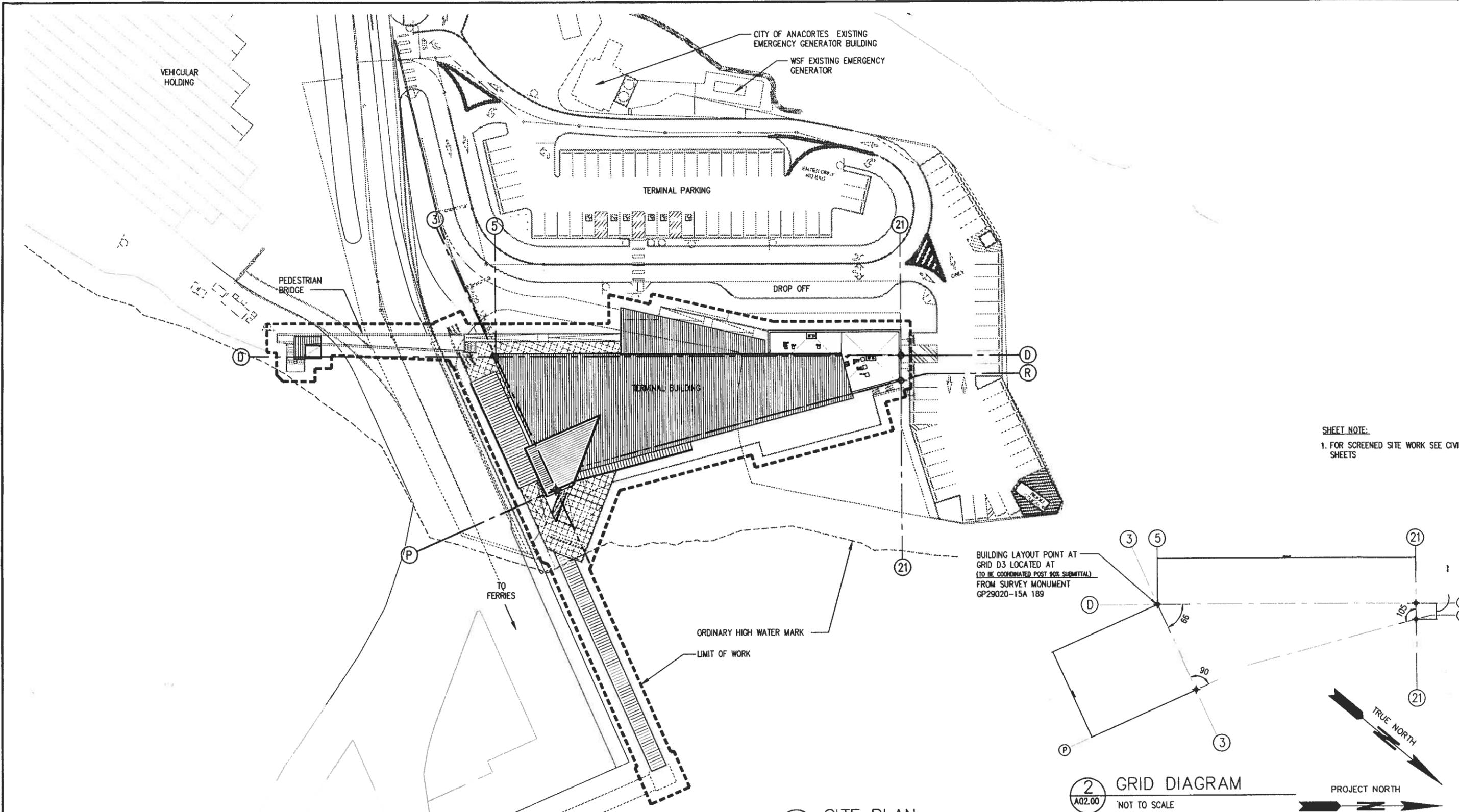
View from Holding Lanes



Aerial View from Egress Lane



Aerial View of Front Entrance

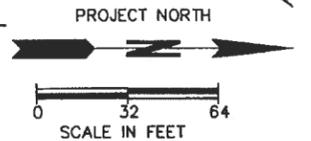


SHEET NOTE:
1. FOR SCREENED SITE WORK SEE CIVIL SHEETS

BUILDING LAYOUT POINT AT GRID D3 LOCATED AT (TO BE COORDINATED POST SUBMITTAL) FROM SURVEY MONUMENT GP29020-15A 189

1 SITE PLAN
A02.00 1/64"=1'-0"

2 GRID DIAGRAM
A02.00 NOT TO SCALE



90% PRINT 05/15/08

HEWITT

NOT TO BE USED FOR CONSTRUCTION

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CHECKED BY:	BR		
MAR PROJ ENGR:	D. SOWERS		
PM & ENGR MNGR:	N. MCINTOSH		
WSF EXEC DIR:	D. MOSELEY		

REVISION	DATE	BY

FED.AID PROJ.NO.	
*-WA-***	
REGION NO.	
STATE	
TO WASH	
JOB NUMBER	
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CONTRACT NO.	
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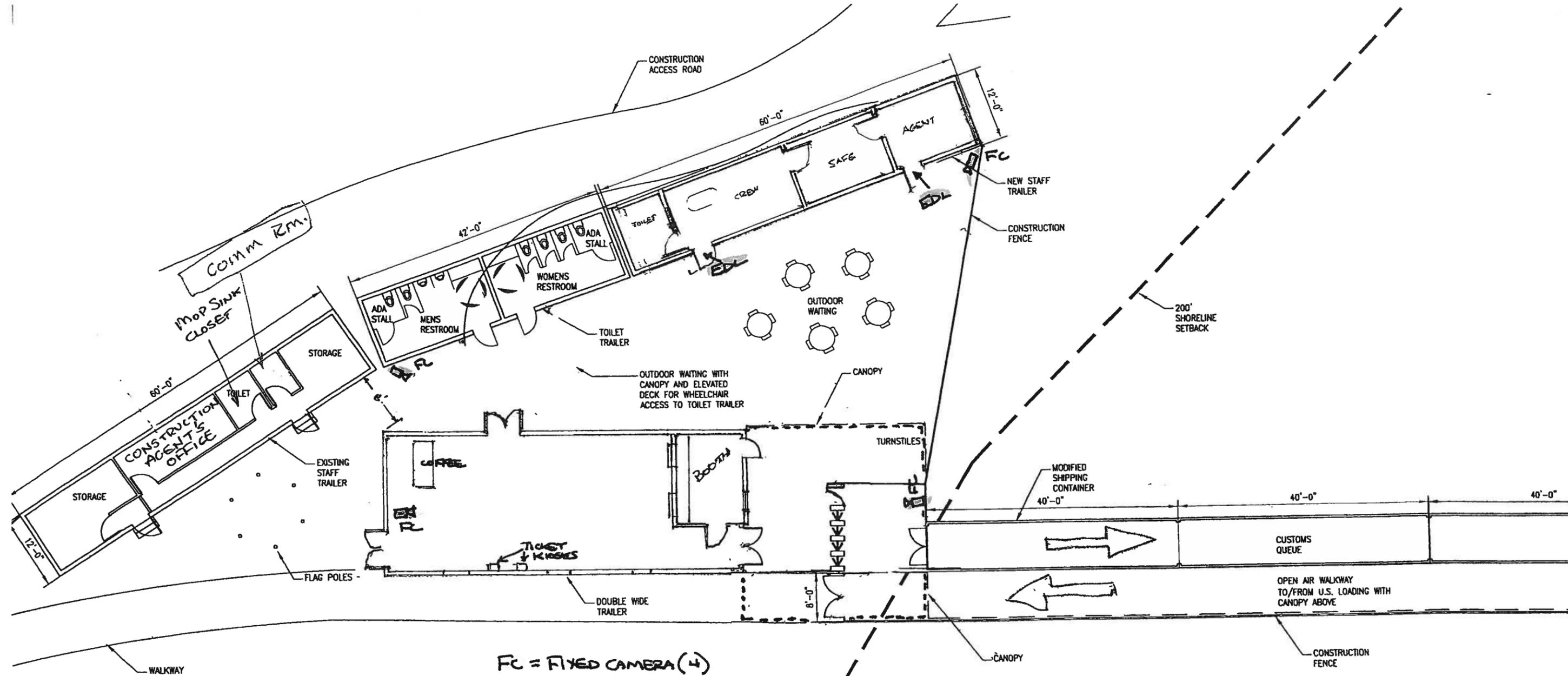
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Washington State
Department of Transportation
WASHINGTON STATE FERRIES

ANACORTES FERRY TERMINAL
BUILDING AND SITE IMPROVEMENTS

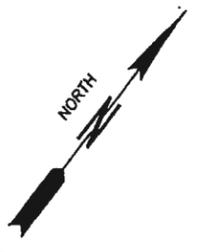
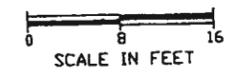
ARCHITECTURAL SITE PLAN

A02.00
SHEET
9
OF
75
SHEETS



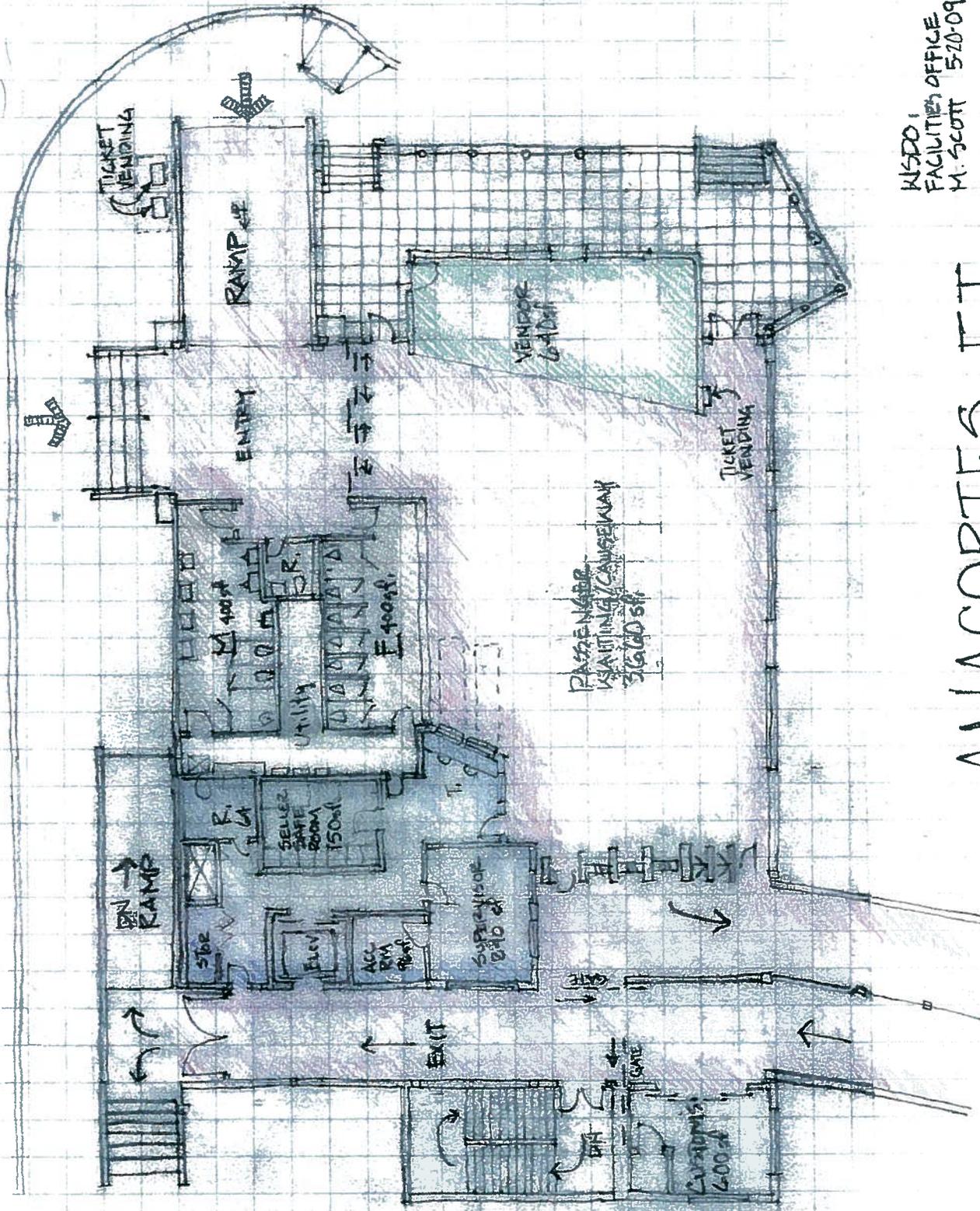
FC = FLYED CAMERA (4)
 EDL = ELECTRIC DOOR LOCKS (2)

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 1/16" = 1'-0"

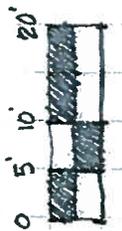


**ANACORTES TERMINAL BUILDING AND SITE IMPROVEMENTS
 ALTERNATIVE 2 - TEMPORARY TERMINAL**

**BUILDING & SITE
PLANS
PREFERRED
ALTERNATIVE
May 2009**



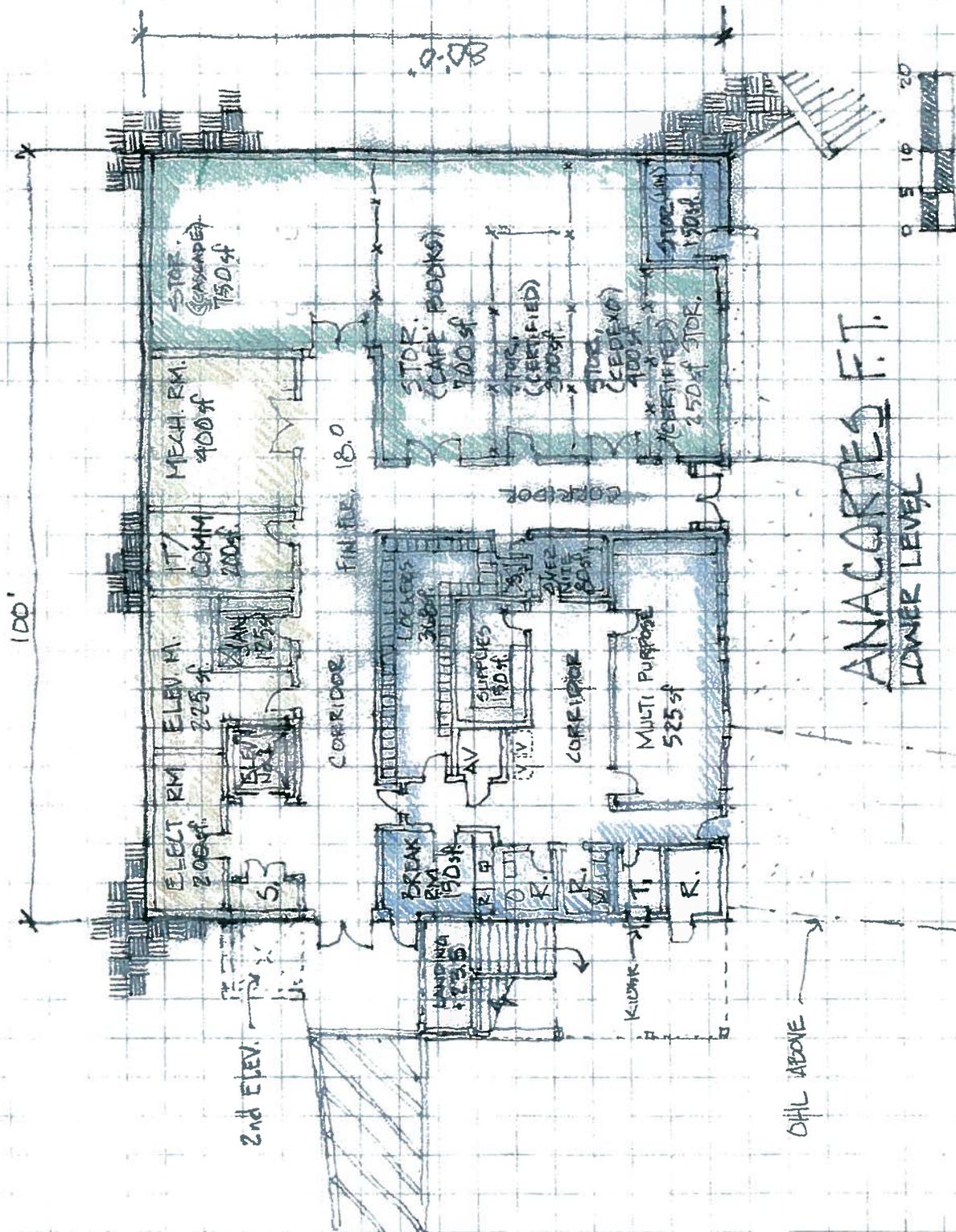
WSDO,
 FACILITIES OFFICE
 M. SCOTT 520-09



ANACORTES F.I.

UPPER LEVEL

WSDOT
Facilities Office
M. Scott
5-20-09



ANACOSTES F.T.
LOWER LEVEL

2nd ELEV.

OHL ABOVE

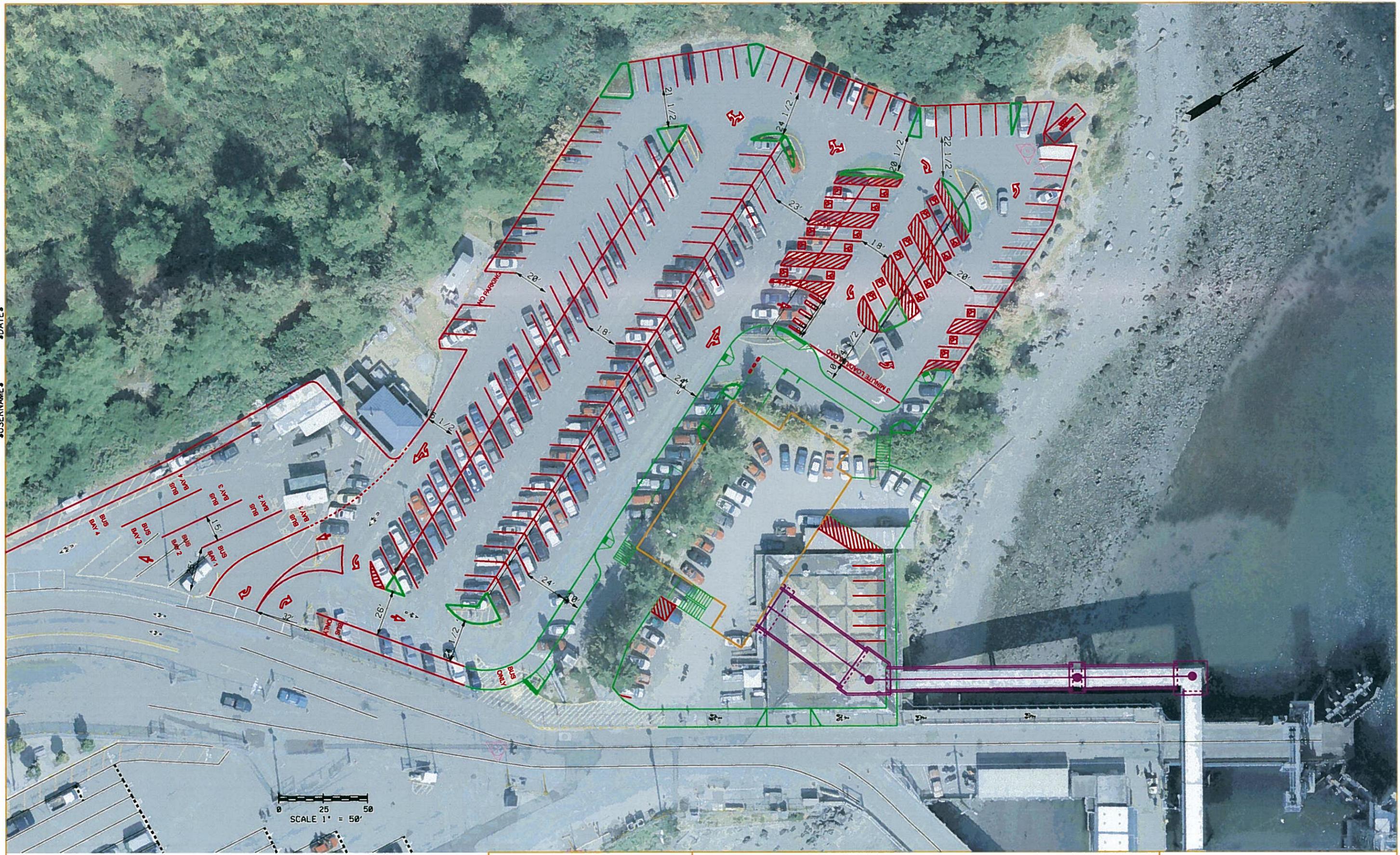


West Elevation



\$USERSNAME\$ \$DATE\$

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**APPENDIX B:
TERMINAL FACILITY
PLANNING AND
PROGRAM**

WASHINGTON STATE FERRIES PLANNING

Anacortes Terminal Facility Planning

FACILITY SPACE SUMMARY												
DESCRIPTION	QTY/ FLR	SIZE	AREA	OFM (GA/ DOT STD)	Existing Terminal SF	Alternative 2 SF	Essential to Operations	Preferred Alternative	Functional Criteria	Operational/Location Req.	NOTES	STAFF
												26%
SUPPLY STORAGE - LEVEL 1	1	10 x 15	150	150	96	99	✓	150	Shelving			
SMALL BREAK ROOM (LUNCHROOM) - LEVEL 2	1	10 x 15	150	150	144	169	✓	150	Seating for 4	Sink, fridge, microwave, cabinets, hot water		
EMP. LOCKER RM-(43 pers cap., 10 pers. max. occ.) - LEVEL 1	1	10 x 27	270	270	116	278	✓	338	OFM (2' x 5' x 10pers@ once)+(4sf x 43 lockers)			
EMPLOYEE RESTROOMS (1-15 persons) LEVEL 1	1	8 x 8	64	64	64	64	✓	0				
EMPLOYEE RESTROOMS (1-15 persons) LEVEL 2	1	8 x 8	64	64	0	64	✓	64				
TERMINAL SUPERVISOR - LEVEL 2	2	10 x 12	120	240	96	396	✓	240	Sized for 2 supervisors & sm. conference table	Space to conduct staff evaluations/customer interactions		
SUPERVISOR'S ACCOUNTING ROOM - LEVEL 2	1	8 x 12	96	96	64	90	✓	96	Secure room with full height walls	Access from Supervisor's Office		
SELLER SAFE ROOM - LEVEL 2	1	8 x 15	120	120	80	150	✓	150	Secure room with full height walls, 24 seller's safes @ 2'x2'x2'		ADD 4' X 8' TO RM	
EMP. INTERACTIVE/SMS/TRAIN'G/WORKROOM - LEVEL 1	1	8 x 10	80	80	0	188	✓	Integrated	Training equip., bulletin boards, fleet manuals, 40 indiv. mail slots		Integrated w/ Conf. Rm function	
VESSEL CREW ROOM - LEVEL 1	1	10 x 15	150	420	225	267	✓	0	Accommodate telephone, fax machine, copy machine, seating(14pers@30sf/pers)	Indoor space for crew mustering. Capacity: 6-8 persons	Exst'g On Dock - 15' x 15'	
FACILITIES ENG./VISIT'G MGR./TERM. SECURITY - LEVEL 1	1	10 x 15	150	150	141	154	✓	Integrated	Secured for authorized staff only	Space available for engineer/manager due to remote location.	Integrated w/ Conf. Rm. -Existing in trailer	
SHOWER FACILITY - LEVEL 1	1	3 x 3	9	9	0	9	✓	9			Prop part of 119; Exst'g in trailer	
OVERNIGHT EMPLOYEE ROOM - LEVEL 1	1	8 x 10	80	80	233	120	✓	80	Closet, table and lamp	Space available for term staff due to traveling distance & remote loc		
IT EQUIPMENT/SECURITY SYS./NETWORK LEVEL 1	1	10 x 18	180	180	195	203	✓	200	64 +130SF		64 + 40	
MEDIUM CONFERENCE ROOM (20 sf X 18 persons) LEVEL 1	1	15 x 24	360	360	126	368	✓	Integrated	18 persons, AV capable, WSF & FAC mtgs, training, security, incident response, facility eng.	Controlled access: For Official Use Only	Conf./Emp. Inter/SMS/Tm'g/Workrm/Fac Eng./Vist'g	
MULTI-PURPOSE ROOM - Integrated functions								525	Emp.interactive/sms/training/workrm/fac.eng/visit'g mgr./term security/conf room.	Controlled access: For Official Use Only	Mangr/Term SecurityExst in trailer	
REST ROOMS FOR CONF. RM 1-15 PERSON - LEVEL 1	2	8 x 8	64	128		116	✓	128			80+150+360=590	
Extra Wide Corridor for training, vending etc								135				
OFFICE SUPPLIES - LEVEL 2	1	6 x 10	60	60	4	60	✓	60	Doubles as Lost & Found Storage			
WSF LINEN CLOSET - Level 1	1	10 x 15	150				✓	150				
CIRCULATION MULTIPLIER & STRUCTURE AND ENVELOPE (employee areas)					681	412		727			635	Proposed - Half of lvl 1 & 2
									4' X 33'			
TICKET SALES QUEUING - LEVEL 2	1	2.5 x 10	25	50	50	50	✓	50				Part of causeway sf; 2 exst'g
EFS KIOSKS (EACH UNIT) - LEVEL 1(1) & 2(3)	1+3	2 x 3	6	24	12	24	✓	6	ADA & accessibility requirements	Staff access to all levels; public access to ped bridge & holding lanes		Part of causeway sf; 2 exst'g
KIOSK QUEUING (EACH UNIT) - LEVEL 2	2	2.5 x 10	25	100	100	100	✓	25				Part of causeway sf; 2 exst'g
TICKET CONTROL POINT(TURNSTILES) - LEVEL 2	2	4 x 5	20	80	40	40	✓	40	Located prior to overhead loading. Equipped w/Smartcard reader.	Secure revenue control after this point		Part of causeway sf; 2 exst'g
TICKET CONTROL POINT(ADA GATE) - LEVEL 2	1	5 x 5	25	25	25	25	✓	25	Located prior to overhead loading. Equipped w/Smartcard reader.	Secure revenue control after this point		Part of causeway sf; 1 exst'g
TICKET CONTROL POINT(PADDLE GATES) - LEVEL 2	2	4 x 6	24	96		48	✓	48	Located prior to overhead loading. Equipped w/Smartcard reader.	Secure revenue control after this point		Part of causeway sf; none exst
TICKET CONTROL POINT(RE-ENTRY GATE) - LEVEL 2	1	5 x 5	25	25		25	✓	25	Located prior to overhead loading. Equipped w/Smartcard reader.	Secure revenue control after this point		Part of causeway sf; none exst
TICKET CONTROL POINT(QUEUING) - LEVEL 2	5	3 x 10	30	150	75	150	✓	125				Part of causeway sf; 3 exst'g
SUBTOTAL FOR STAFF					2,298	3,984		3,454				
WHEEL CHAIR AND LUGGAGE CART STORAGE - LEVEL 2	1	6 X 16	96	96		76		96	2 carts/2 wheelchairs	Managed by staff		
PUBLIC TOILET RMs Bicycle/Kayak area(1 - 15 persons) - Level 1	2	8 x 8	64	128		116	✓	64		Required since no public elevator connects to level 2		
Family/ cleaning operation restroom								64				
JANITOR(restroom cleaning/fir care) Level 2	1	10 x 10	100	200		176	✓	275	Sized to hold cleaning supplies, sweeper/buffer, mop sink	Adjacent to public restrooms		
PUBLIC TOILET ROOM LARGE (36 - 55 persons) - LEVEL 2	2	15 x 24	360	720	296	800	✓	800	Room divider allows half to remain in operation during cleaning	Adjacent to entry/waiting area		
CIRCULATION MULTIPLIER & STRUCTURE AND ENVELOPE (Excludes Thru-put circulation)					297	77		304			151	Mech, Elect, & Storage not inc on Proposed terminal
STAFFED PASSENGER TICKET SALES AREAS - LEVEL 1 & 2	1	6 x 8	48	144	73	165	✓	96	Area increased to accommodate ADA requirements	Direct access to Administration area. Line of sight to turnstiles.		2 upstairs 1 down ; 2 exst'g
CUSTOMER INFO/FOLDER/BROCHURES - LEVEL 2	1	14 x 15	210		20	182	✓	60	One (1) ADA accessible pay phone	ATM, Stamp Machine/Mailbox, 2 Pay Phones, Change Machine		
INT. CAUSEWAY THRU-PUT and WAITING - LEVEL 2 1800sf-437sf	1	24 X 75	1363	1,363	300	1,363	✓	1,800	Includes queuing areas & kiosk area	Provides direct access from parking to vessels		Sf - turnstile area proposed;
PUBLIC WAITING AREA (to include all interior) - LEVEL 2	1				1000	6662	✓	2099		Automatic doors @ entrance & walk-ons		Stand 8.5sf, Sitting 15sf, Dine 22sf per person
PUBLIC WAITING AREA (to include all ext. under roof) - LEVEL 2	1	20 x 25					✓	500				
TERMINAL AND VENDOR RECYCLE AREA - LEVEL 2	1	30 X 50	1500		354	1,341		0	Shared by all vendors. Shielded from view, truck accessible.	Adjacent to food storage area & vendor area		
CUSTOMS HOLDING - LEVEL 2	1	89 x 13.5	1201		1233	***	✓	600	Additional 721sf of holding on double wide OHL bridge			***Proposed is part of OH exist
PASSENGER SECURITY - LEVEL 2	1	8 x 10	80	80	0	75		Delete		Incorporate into Staff Area with adjacency to main causeway		WSP; Homeland Security
STRUCTURE AND ENVELOPE MULTIPLIER*					95	179		587			521	
SUBTOTAL FOR PASSENGER					3,532	11,847		7,126				
VENDOR SPACE - LEVEL 2	4	20 x 20	400		620	1,250		640	As existing*. Includes internal storage	Adjacent to waiting area		Exst'g in terminal (café and books)

V e n d o r	VENDOR SPACE STORAGE	4	11 x 20	220		1,494	735		2,400	Includes Cedexo, Cascade, Certified, & Café books stor. Area	Accommodates daily supply. Located adjacent to vendor area.	Exst'g on dock and connexes (1,494 sf). To new building, numbers below: Café Books inc. from 464 sf to 700sf. Cedexo & Cascade inc. from 1,030 sf to 1,150 sf. Certified inc. from 0 sf to 550 sf. Alt. 2 provides 735 sf of general space for vendor storage.
	Circulation		7 x 134	940			428		500			
	STRUCTURE AND ENVELOPE MULTIPLIER*	7%			0	148	169		248			
	SUBTOTAL FOR VENDOR SPACES					2,262	2,582	0	3,788			
C O M M O N	FUTURE STORAGE AND SUPPORT	1	27 x 27	723			700		60			Proposed - Half of lvl 1 & 2
	TERMINAL ELECTRIC ROOM - LEVEL 1	1	10 x 20	200	200	96	120	✓	200			
	MECHANICAL ROOM - Level 1	1				34	1,707	✓	400			
	IT EQUIPMENT/SECURITY SYS./NETWORK LEVEL 1	1	10 x 18	180	180	194	203	✓	200	64 +130SF		64 + 40
	ELEVATOR - LEVEL 1 & 2	1	8 X 10	80	80		160	✓	80	Controlled access		
	ELEVATOR MACHINE ROOM - LEVEL 1	1	11 x 20	220	220		104	✓	225			
	JANITOR(restroom cleaning/flr care)	1	10 x 10	100	200		176	✓	125	Sized to hold cleaning supplies, sweeper/buffer, mop sink	Adjacent to public restrooms	
	INTERIOR EXIT PATHWAY	1						✓	475			
	STRUCTURE AND ENVELOPE MULTIPLIER*	7%			62	23	173		119			
SUBTOTAL FOR COMMON SPACES					347	3,343		1,884				
SUBTOTAL NET BUILDING REQUIREMENTS**						8,438	21,755		16,252			
*Columns and wall square footage.												
**Existing Terminal Sub-total includes terminal building, agent's trailer, IT trailer, 4 CONNEX boxes, vendor storage, and vessel crew room on the dock.												
SUBTOTAL BLDG. REQUIREMENTS plus circulation (less waiting, causeway, ext. circ., and holding lane access)						8,438	21,755	0	16,252			
W a i t i n g & P e s s e d	PUBLIC WAITING AREA (to include all ext.) - LEVEL 2	1				958	3,065	✓	1,716	Fixed benches, low maintenance landscape, secure trash cans.	Adjacent to food service for shared use	8.5sf/person and 15sf/person
	ELEVATED EXT. CIRC FROM OHL TO PARKING - LEVEL 2	1	13.5 x 261	3533		3,289	4,088	✓	0	Includes Customs Holding area (1200SF)		
	PAID HOLDING - LEVEL 2	1	26 x 66	1717		300	1717	✓	0	Causeway flows into this area		
	ENTRY RAMP - LEVEL 1 & 2	1	10 x 132	1320		50	1323	✓	600			
	ACCESS BRIDGE TO HOLDING LANES - LEVEL 2	1	10 X 100	1000			1,000		0		Safety from "at grade" crossing	
	VERTICAL CIRCULATION at BRIDGE (STAIRS) - LEVEL 1 & 2	1	12 X 20	240			240		0			
	VERTICAL CIRCULATION at BRIDGE (ELEVATOR) - LEVEL 1 & 2	1	12 x 12	144			144		0			
	BICYCLE/KAYAK HOLDING - LEVEL 1	1	27 x 115	3100		1,056	3,100		0	Covered	Direct access to vehicle loading deck	Exst'g on dock; both outdoor
TOTAL FACILITY BUILDING REQUIREMENTS						0	14,091	36,432	18,568			0

**APPENDIX D:
PASSENGER
CALCULATIONS**

Anacortes Ferry Terminal, Pedestrian Waiting Area Sizing
Base Passenger Calculations
85th Percentile Day (55th Busiest Day - 09/05/2003)

Maximum Walk-On Volume (Uncorrected Point of Sale Data)

247

Point of Sale (POS)/WSF Traffic Statistics Correction
 Converts raw data to actual to account for data collection errors.

84%

Adjusted 2003 Peak Walk-On Volume

295

Projected Growth in Walk-Ons - 2003 to 2030

128

Source: WSDOT Ferries Division Final Long-Range Plan December 2008

Estimated 2030 Peak Walk-On Volume

378

Full Vehicle Holding Capacity

560 Vehicles

No increase to vehicle holding capacity thru 2030

Estimated Vehicle Occupancy

1.75

Peak Vehicle Driver/Passenger Numbers (On-Site)

980

Percent Accessing Terminal

30%

Estimated 2030 Peak Vehicle Driver/Passenger Volume

294

Estimated 2030 Combined Walk-On, Driver/Passenger Volume

672

Anacortes Ferry Terminal, Passenger Waiting Area Sizing

Methodology

Peak Daily Walk-On Volume

378 passengers

"85th Percentile" (55th busiest day of the year) - 09/05/03. Numbers have been inflated to the year 2030.

Percent Walk-Ons Arriving in Time Slot	Time Slot		Number of People Waiting	Average Waiting Area per Passenger (sf)*	Required Waiting Area (sf)	Percent Standing	Percent Seating	Percent Table Seating
	Wait Time Before Boat Departs (in minutes)	Boat Departs						
13%	0	10	49	0.0	0	0%	0%	0%
22%	10	20	81	10.5	854	80%	10%	10%
19%	20	30	73	12.8	929	45%	45%	10%
19%	30	45	70	14.8	1,040	25%	55%	20%
28%	45	>	105	16.5	1,720	10%	60%	30%
			378	Total	4,543			

Peak Number of Vehicle Driver/Passengers Accessing the Terminal At Any One Time

294 passengers

Percent Arriving in Time Slot**	Time Slot		Number of People Waiting	Average Waiting Area per Passenger (sf)*	Required Waiting Area (sf)	Percent Standing	Percent Seating	Percent Table Seating
	Wait Time Before Boat Departs	Boat Departs						
0%	0	20	0	0	0	0%	0%	0%
0%	20	60	0	17.9	0	20%	20%	60%
100%	60	>	294	17.9	5,263	20%	20%	60%
			294	Total	5,263			

Total Passengers Accessing the Terminal (Walk-ons and Car Passengers)

672

TOTAL PASSENGER WAITING AREAS (INDOOR AND OUTDOOR)

9,800 square feet

*As waiting time increases, waiting area provided per passenger increases. Waiting area provided per passenger is an average based on the distribution of people standing (8.5 sf/person), seating (15 sf/person), or table seating (22sf/person). Unit square footage are industry standards.

**Vehicle Driver/Passengers are required to arrive 60 min. prior to departure in the summer months. Vehicle Driver/Passengers arriving 20 min. prior to departure are required to remain in their vehicles.

Anacortes Ferry Terminal, Pedestrian Waiting Area Sizing

Base Passenger Calculations

Off-season Day - 11/01/2003

Maximum Walk-On Volume (Uncorrected POS Data) 64

84%

Point of Sale (POS)/WSF Traffic Statistics Correction
Converts raw data to actual to account for data collection errors.

77

Adjusted 2003 Peak Walk-On Volume

128

Projected Growth in Walk-Ons - 2003 to 2030

Source: WSDOT Ferries Division Final Long-Range Plan December 2008

98

Estimated 2030 Peak Walk-On Volume

275 Vehicles
1.75

Estimated 2030 Vehicles Waiting at any one Time
Estimated Vehicle Occupancy

481

Peak Vehicle Driver/Passenger Numbers (On-Site)

30%

Percent Accessing Terminal

144

Estimated 2030 Peak Vehicle Driver/Passenger Volume

243

Estimated 2030 Combined Walk-On, Driver/Passenger Volume

Anacortes Ferry Terminal, Passenger Waiting Area Sizing

Methodology

Peak Daily Walk-On Volume

98 passengers

Off-season day - 11/01/03. Numbers have been inflated to the year 2030.

Percent Walk-Ons Arriving in Time Slot	Time Slot		Number of People Waiting	Average Waiting Area per Passenger (sf)*	Required Waiting Area (sf)	Percent Standing	Percent Seating	Percent Table Seating
	Wait Time Before Boat Departs (in minutes)							
13%	0	10	13	0.0	0	0%	0%	0%
22%	10	20	21	10.5	223	80%	10%	10%
19%	20	30	19	12.8	242	45%	45%	10%
19%	30	45	18	14.8	271	25%	55%	20%
28%	45	>	27	16.5	448	10%	60%	30%
			98	Total	1,184			

Peak Number of Vehicle Driver/Passengers Accessing the Terminal At Any One Time

144 passengers

Percent Arriving in Time Slot**	Time Slot		Number of People Waiting	Average Waiting Area per Passenger (sf)*	Required Waiting Area (sf)	Percent Standing	Percent Seating	Percent Table Seating
	Wait Time Before Boat Departs							
0%	0	20	0	0	0	0%	0%	0%
50%	20	60	72	17.9	1,292	20%	20%	60%
50%	60	>	72	17.9	1,292	20%	20%	60%
			144	Total	2,584			

Total Passengers Accessing the Terminal (Walk-ons and Car Passengers)

243

3,800 square feet

TOTAL PASSENGER WAITING AREAS

*As waiting time increases, waiting area provided per passenger increases. Waiting area provided per passenger is an average based on the distribution of people standing (8.5 sf/person), seating (15 sf/person), or table seating (22sf/person). Unit square footage are industry standards.

**Vehicle Driver/Passengers arriving 20 min. prior to departure are required to remain in their vehicles.