

Date: July 14, 2020
Re: Unalaska Police Station (JYW No. 18072)
Conceptual Design Narrative

General

Project is a new police station on a currently undeveloped flat site. The site is located adjacent to City Hall in the middle of town and has immediate access to water, waste water, and electrical services in the adjacent city streets.

Project is two stories:

- 10,286 gsf on the first floor (including a 742 sf garage-like Sallyport)
- 5,912 gsf on the second floor
- **16,198 gross square feet total**

SITE

Site Conditions

Historically, the project location was a shallow lake. This lake was filled in 1989 using excavated rock material from a nearby project. Generally, the site is underlain by 15 feet of medium to very dense Sandy Gravel with Silt and Boulders over 10 feet of loose to very loose silty sand with organics, peat, and ash over a variable depth of loose to dense silty gravel and sands atop bedrock varying in depth. Because of the danger of long-term settlement, a shallow foundation system is not recommended for the site.

Pavements for parking

Pavement areas will require some subexcavation to remove near-surface organics. Pavement sections in parking areas and drive lanes should consist of a minimum of 2 inches of asphalt overlying 4 inches of base course. The subbase should consist of 24 inches of non-frost-susceptible classified material.

The parking lots will be graded to catch basins with new storm drain lines connecting to the existing storm drain in Airport Beach Road. Roof drains will also be collected and piped to the storm drain system. There will be approximately 2 catch basins, 3 manholes and 300' of 18" CPEP drain line.

Site Amenities

Improved portions of the site will have some landscaping, including native plants placed around boulder and rockery walls and slopes. Site improvements will include a few benches, two flagpoles, a monumental sign, and several bicycle racks.

EXTERIOR / STRUCTURAL

Building Foundations

Foundations will be supported on piles driven and seated in bedrock. Piles may require drilling to advance through boulders in the fill. Boreholes indicate the bedrock depth is approximately 45' below the surface. The foundation system will consist of the following:

- 16" steel pilings
- 36" x 36" concrete piling caps
- continuous 24" x 36" concrete grade beam
- continuous 8" concrete stemwall 48" tall
- 6" concrete structural slab spanning between grade beams

Exterior Wall Assembly

- Structural system consisting of HSS columns and brace frames.
- 5/8" type-x GWB, taped and painted
- 6" light gage steel studs @ 16" o.c.
- Un-faced batt insulation
- ½" fiberglass mat gypsum sheathing (GP "Densglass")
- Vapor Barrier (Grace "Ice and Water Shield")
- 4" rigid insulation (extruded polystyrene)
- Water Barrier (Vaproshield "SA")
- Metal hat channel furring, flat @ 24" o.c.
- Concealed metal siding (Centria "Concept Series") with marine exposure-rated painting system
- Non-bearing CMU wainscot below metal siding, 36" high around entire building perimeter. The CMU will be 4"d x 8" x 16", ground face with integral color. The veneer will be held to the structure with adjustable masonry veneer anchors.

Interior Partitions

- 5/8" type-x GWB, taped and painted, both sides
- Bearing partitions: 6" or 3-5/8" light gage steel studs @ 16"
- Un-faced batt sound insulation

Second Floor Assembly

- Steel wide flange joists and girders
- 2-1/2" light-weight concrete over 1-1/2" steel deck

Roof Assembly

- 1/2" type-x GWB, taped
- Poly vapor barrier
- Pitched open web steel joists and wide flange girders
- R-60 batt insulation in two layers, laid perpendicular
- 1-1/2" x 20 ga. metal deck
- 5/8" CDX plywood
- Asphalt-impregnated underlayment
- Standing seam galvanized 24-gauge metal roof with marine exposure-rated painting system
- Continuous snow cleats around all sides of the roofing
- Industrial gutters and downspouts (Metal Era "Seal-Tite")

Windows

- Triple-glazed fiberglass. Mix of fixed and awning units. (Cascadia "Universal Series").

Exterior Doors

- Insulated glazed fiberglass entry doors ("Therma-Tru") with painted galvanized steel frames.
- Insulated 14 gauge galvanized steel for exterior non-public use. All exterior doors shall have stainless steel kick-plates.
- Overhead Doors: Heavy duty "Thermacore 592" by Overhead Door. Overhead door to have two full sections of glazing, R-value of R17.5, and air infiltration of .08cfm/ft² at 25 mph or less. Doors will be motor operated with remote control system.
- Glazing in Doors and Overhead Doors and will be double-paned.

INTERIOR

Interior Stairs

- Metal stair stringers with metal treads and risers.
- Concrete filled pans for treads, anchored metal tread nosing.
- Painted steel hand and guardrails

Elevator

- 3,000 lb rated, 150 fpm, two-stop elevator. Machine room less with equipment located in pit. (Thyssenkrupp "Endura HMRL")

Interior Construction (non-detention)

- Partitions: 2x4 studs (2x6 studs at plumbing walls) with 5/8-inch gypsum wallboard.
- Door Frames: Pre-primed steel metal frames.
- Doors (non-detention): Wood-veneer solid core doors at offices and restrooms. Painted steel 16 gauge steel at mechanical, storage, and evidence rooms.

Interior Finishes (non-detention)

- Interior floor finishes outside the detention area will be mostly modular carpet tiles. The main Lobby will have durable porcelain paver tiles. Wet rooms such as the Janitor, and Storage Rooms will have a patterned vinyl sheet floor. Restrooms and Showers will have ceramic tile flooring.
- Interior wall finishes will mostly be painted GWB with rubber or hardwood base. The Entry and Lobby will have running wood trim at the wall base and at with a 36" AFF with wainscot of vinyl wall covering between.
- Hallways will have 36" rigid sheet vinyl wainscoting with hardwood trim above and below. (InPro "Palladium")
- Except for in mechanical and garage spaces, lay-in acoustical 24x24 ceilings at 8'-0" will be used throughout the building to allow ducts and other mech. items to run concealed above the ceiling.
- In the Sallyport and other interior concrete floor surface, the floor will be sealed. Sealer to be "ArmorPoxy II" with "ArmorUltra" top coating by Armorpoxy. Super heavy-duty, high performance 2-part epoxy floor coating.

Casework

- Casework in the office and storage areas will have plastic laminate countertops.

- Casework in the Break room, Kitchen, and Evidence Rooms will have quartz solid-surface countertops.

Specialties

- The Training Room and Squad Room will contain a vinyl-impregnated cork board and marker boards surrounded by hardwood trim.
- All exposed corners in the Entry, Lobby, and hallways will have 36" high stainless steel corner guards.
- All spaces will be labeled with ADA-compliant signage.
- Toilet accessories in each Toilet Room will consist of a stainless steel paper towel dispensers, soap dispensers, toilet paper dispensers and mirrors.
- Provide Level 3 (7/16") bullet resistant fiberglass panels in the wall between the Lobby and Reception. Panels are to be mounted behind the finished drywall. Reception window to be bullet resistant.
- Evidence lockers between Evidence Preparation and the Evidence Room will be built-in steel lockers with keyless access system. (SpaceSaver "Pass-Thru Lockers")
- Storage in Evidence Room will be compacting mobile shelving units (SpaceSaver "Heavy Duty Mobile Shelving")

Furnishings

- Roller shades will be provided at all exterior windows except in the Lobby.
- Roller shades in the Training Room will be powered.

Equipment

- The Break Room and Kitchen will contain a residential-quality microwaves, refrigerators, hood and stove/oven.

DETENTION

Detention Construction and Finishes

- Walls throughout the detention area will be grout-filled 8" CMU block to 8'-0" AFF.
- Ceilings throughout the detention area will be painted GWB below ¾" plywood supported by metal joists.
- Security hollow metal doors and frames are to be detention grade.
- The detention hardware includes both mechanical locking devices for manual operation and electro-mechanical locking devices for remote operation.
- Security glass & glazing shall consist of ½" polycarbonate at Inmate Cells, Cell Doors with glazing, and interior security windows. Use 13/16" polycarbonate at Visitation, Dispatch, and Booking.
- Interior concrete floor surfaces will be sealed. Sealer to be "ArmorPoxy II" with "ArmorUltra" top coating by Armorpoxy. Super heavy-duty, high performance 2-part epoxy floor coating.

Detention Equipment

- Cells are to be steel, prefabricated units (Maximum Security Systems or TrussBilt pre-engineered, prefabricated steel detention cells). The five sided cells are to include the following:
 - Sliding security hollow metal doors and frames
 - Detention hardware
 - Acoustical foam filling in all cell walls
 - Metal conduit for electrical connections
 - Supply and return air grilles
 - Detention furnishings, including double bunks, desk, seat, shelf and mirror

- Detention lavatory/commode combo units
- Unit showers, including pans, walls, and fixtures
- Electrical items, including cell light fixtures, and boxes
- Security glazing, including cell door vision window
- Priming and finish painting of interior of cell
- Provide protective cell padding consisting of a synthetic resinous material on all walls, floors, doors, and frames in the Secure Holding Cell.
- Wall-mounted pistol lockers will be located outside all doors leading to the Detention Area
- All benches and counters in the detention area will be stainless steel with a stainless pipe located adjacent for handcuff attachment.

MECHANICAL

Heating

- The building will be heated using two oil fired, cast iron sectional boilers. Each boiler will be sized at 66% of the total heating load to provide back-up capacity should one boiler fail during extreme weather conditions. During most of the year a single boiler will carry the entire building load.
- A primary circulation pump and a back-up pump will be designed into the heating system to ensure back-up heat is always available. Circulation pumps will supply hydronic baseboard heat, hydronic heating coils in air handling units, and other terminal heating devices such as unit heaters and cabinet unit heaters. Recommend using water as heating media, with local glycol loop at air handler if needed for freeze protection at coils
- We propose to utilize variable speed sensor-less pumps as the basis of design. These pumps allow the operator to reduce the speed of the pump during off-peak times such as summer operation to both save electricity cost and better load match the heating system to the actual heating requirements. Heating pumps will be located in a vertical manifold, placing them within 5 feet of the ground for easy maintenance. Heating piping will be specified as Type L copper.
- A double wall above grade fuel storage tank complete with overflow protection is anticipated for fuel storage at the facility. The size of the storage tank will be based on fuel usage and the availability of local fuel filling services. The primary storage tank will supply a fuel oil day tank in the boiler room. Single pipe "Tigerloop" fuel deaerators will be utilized at each boiler burner.
- Exterior-adjacent spaces such as offices will be provided with commercial grade hydronic baseboard finned-tube heat for individual zone control.

Cooling

- A mechanical refrigeration system is not anticipated for the majority of the facility. Operable windows in each exterior office and exterior-adjacent space will be utilized to provide cooling and ventilation. A mechanical ventilation system will be utilized to supplement the cooling of the rooms. The air handling units will be designed to utilize economizers to cool the building using outside ventilation air.
- Mechanical cooling will be used for the detention areas which do not have operable windows to supplement economizer cooling. Cooling mechanically can reduce the size of the AHU and ducts for this area, compared to economizer cooling.

Ventilation

- To supplement the operable windows, the building will be mechanically ventilated. The air distribution system will be designed to conform to ASHRAE 2019 Standards to ensure good indoor air quality.

- Variable volume air handling units will provide heating or cooling air to the building. To reduce energy use, the systems will be turned down when unoccupied. Even though parts of facility may be occupied 24/7, there will still be decreased uses of portions of the building during off hours.
- The air handler discharge temperature will be based on outside air temperature. Zone coils located in the distribution ductwork will be utilized to provide temperature control for different solar exposures. The coil control valve will modulate proportionately to maintain the proper supply air temperature.
- Ventilation air supplied to each space will transfer from the occupied spaces either back to the air handling units or will be relieved directly to the exterior. If possible, non-ducted return plenums will be used.
- Heat recovery will be incorporated into central exhaust fan system
- Restrooms, shower rooms and the janitor closet will be provided with central exhaust fans that operate based on occupancy.
- The Kitchen and Break Room Break room will have residential-type kitchen hood would exhaust to the outside wall.
- Evidence storage and armory areas should not recirculate air to any of the building – recommend exhaust with heat recovery for the combined areas.
- The holding cells will have security-type diffusers with supply air delivered at the ceiling and exhaust air taken from low in the room probably near the plumbing fixtures. Each occupied space would have a supply grille(s) and return/exhaust grille. The detention cells and holding areas will have a dedicated AHU.
- The Sallyport area would have two wall mounted fan coil units for ventilation and heating. In addition this space would have a wall mounted exhaust fan, EF-1, that would be controlled by a CO sensor. When the CO sensor senses too high of a level it would operate at a high capacity in order to evacuate the toxic fumes quickly. Preliminary size of EF-1 is 1200 cfm.
- Recommend avoiding all roof-mounted equipment and openings. Design to account for wind, water, snow issues.

Controls

- A stand-alone direct digital control DDC system is anticipated to control the heating/cooling system with remote connection via internet connection for trouble shooting. Computer station with printer would be provided by the controls contractor with graphics of the building mechanical systems for ease in monitoring, trending, and scheduling operation of mechanical systems. Estimate a total of 100 input-output control points. Controls contractor will be present during substantial completion inspections, training, commissioning, and a 6 month post-construction visit.

Sprinkler Systems

- A wet sprinkler system shall serve the building with the sprinkler header located in the Building Mechanical room. Dry heads branched off the main sprinkler system will serve the Vehicle Sallyport. Sprinkler heads to be recessed where ceilings are present or pendant heads otherwise. Sprinkler heads in all cell rooms will be penal type off a separate branch to allow for isolation if damaged. Sprinkler system shall be designed and installed per NFPA 13. Connection to the existing 4-inch water service with new double check backflow preventer and sprinkler header are be anticipated.

Elevator Drainage

- A sump pump P-2 (1/2 hp) located in the elevator will discharge effluent from the sump to a service sink. An oil sensor and control panel will monitor for hydraulic fluid and stop operating the sump pump and provide an alarm.

Waste, Vent, And Water Piping System

- Domestic cold and hot water piping interior to the facility will be Type L copper. A 2-inch cold water service is anticipated to serve the domestic water requirements from a branch off of the 4-inch water service. Domestic hot water will be supplied by high efficiency 100 gallon electric hot water tank. A tempering valve will be installed at the hot water tank and will temper the water for a maximum of 115F water temperature. Hot water recirculating system is anticipated with hot water recirculating pump P-1 (1/4 hp) located in Building Services room.

Plumbing Fixtures And Equipment

- Handicapped accessible ADA fixtures will be used where required. Fixtures will be the water saving type. Sink in Break Rooms, Work Rooms, and Kitchen will be stainless steel with undercoating and single lever gooseneck faucet. Water closets will be wall mounted, elongated bowl, high elevation type, battery operated electronic flush valve type. Lavatories will be wall mounted fixtures with manual single lever faucets. Service sinks, located in Janitor rooms, will be floor mounted enamel cast-iron with mixing faucet. Floor drains with trap primers will be located in toilet room, each cell room, and in front of the Showers. Floor sinks will be located in the Mechanical room and behind jail cells. Drinking fountains would be non-cooler type, hi-lo type.
- Jail cells will come as prefabricated assemblies with plumbing fixtures included. Mechanical contractor will provide rough in piping to each cell's fixture. Sallyport will have two area drains connected to sanitary plumbing system. Area drains will drain to a 40 gallon oil-water separator and then to the sanitary system.

ELECTRICAL

Critical Operations Power Systems (COPS):

- The nature and usage of this building requires portions of the areas within the building to be designated as "Designated Critical Operation Area" (DCOAs). DCOAs for this facility are anticipated to be: police station/dispatch/operations areas, evidence storage, and all jail areas (especially the control room). DCOAs are required to be provided with Critical Operations Power Systems (COPS) to comply with NEC Article 708 requirements. The following requirements are ones identified as having the biggest impact to the design, but are not all inclusive:
 - Generator is required.
 - The generator should be capable of operating for a minimum of 72 hours at full load with +/- 10% voltage regulation.
 - A portable generator connection should be provided to comply with NEC 708 requirement that "portable, temporary, or redundant power source should be available for use when the COPS power source is out of service for maintenance or repair."
 - The automatic transfer switch serving the NEC 708 COPS system branch should be bypass isolation, open transition type and shall only supply COPS loads.
 - A risk assessment plan for any environmental hazards shall be conducted and a mitigation strategy be developed.
 - A physical security plan shall be developed and implemented.
 - The facility's electrical system shall be fully commissioned before final turnover to the Owner (City of Unalaska).
 - A full witness test of the working electrical system shall take place by the AHJ, in this case the City of Unalaska.

- The building electrical system shall be fully selectively coordinated. This requirement requires a full engineering study be conducted during construction and after the electrical equipment has been approved. This can be performed by the contractors engineer representative, or by the electrical engineer of record as an addition to the design contract.

Incoming Service

- An existing utility will be extended underground to the project site. The building will be served at 208Y/120 volts, 3 phase, 4 wires. The incoming service will be routed underground in conduit to a pad mounted transformer located near the southeast corner of the facility. From the transformer the service will run underground in conduit via an exterior CT cabinet to a service entrance rated main disconnect breaker. A lockable main service disconnect will be provided on the exterior of the building so that power to the building can be shut off without entering the building.

Main Distribution

- Preliminary calculations indicate that an 800 Amp, 208Y/120V service will be required. A single 800A main circuit breaker will supply an 800A main distribution panel located in the main electrical room. The main distribution panel will distribute 208Y/120V power to branch circuit panels as required. Spare circuit breakers will be provided in the main distribution panel to supply future loads.
- Branch circuit panels will be located in the mechanical room to serve the mechanical equipment in these areas. In addition, branch circuit panels will be placed strategically throughout the facility as required by the load density and to minimize branch circuit homerun lengths.
- A power monitoring device will be provided in the main distribution switchboard. Additional sub-metering will be provided if required by the Owner. Metering procedures and installations shall be consistent across the building.

Surge Protective Devices (SPDs)

- SPDs will be provided on the Main Distribution Panel and on all branch circuit panelboards. A SPD is a device that attenuates (reduces in magnitude) random, high energy, short duration electrical power anomalies caused by utilities, atmospheric phenomena, or inductive loads such as motors. Such anomalies occur in the form of voltage and current spikes with a duration of less than half an AC cycle. These high energy power spikes can damage sensitive electronic equipment, such as computers.

On-site Generation System

- A 3-phase on-site standby generator will be provided, sized to supply the entire facility at full load for a minimum of 72 hours. The generator will be located in an environmental enclosure (not walk-in) at the southwest corner of the project site. The generator will feed a service rated automatic transfer switch located in the main electrical room which will in turn feed the main distribution panel. The recommended size of the generator and potential loads that would be available to shed will be further refined during the next design phases.

Lighting Systems

- It is anticipated that LED fixtures will be utilized throughout the building. Decisions on specific lamp types will be finalized based on input from the Owner and engineering judgment.
- Lighting fixture types in the detention area will be high abuse, tamperproof type.
- Exit signs will be LED type for long life and energy savings and will be provided with a battery back-up unit.
- Emergency egress lighting will be provided by a central inverter.

Lighting Control

- General lighting control in public areas and office areas will be accomplished with manual and automatic control. Automatic control will be via occupancy sensors located within the space. Manual control will be via switches located within the spaces to be controlled. Automatic daylight activated control will be considered in large open areas with significant daylight contributions.
- Dimming control will be provided in areas with LED fixtures. Multi-level switching will be provided in areas with fluorescent fixtures.
- Suggested Lighting Controls Strategy:
 - Inmate Housing Areas
 - Cells:
 - Touch-bolt type switch inside cell for inmate control to switch light on/off.
 - Override of lighting in cells and dayroom at central control room.
 - Cell lights in entire section overridden together.
 - Dayroom lighting: Half of dayroom lights on one override, other half of lights on another override.
 - No occ sensors.
 - Night lighting (in Cells and Dayrooms): Shall not be switched and shall always remain on 24/7.
 - Halls:
 - Lights stay on 24x7, no local switching.
 - Option: ONLY IF Owner is acceptable from a security standpoint, to provide for additional energy savings the following may be implemented:
 - Provide occ sensors in hallway areas to dim lights to 60% level and come to 100% upon occupancy detection.
 - Designated night lights/emergency egress lights within hallways shall not dim.
 - Inmate Services Areas
 - Holding Cells, Janitor, Changing Room, Property:
 - Switch with detention grade protective coverplate outside the room.
 - No occ sensors.
 - Booking:
 - Lights stay on 24x7, no local switching.
 - Option: ONLY IF Owner is acceptable from a security standpoint, to provide for additional energy savings the following may be implemented:
 - Provide occ sensors in Booking areas to dim lights to 60% level and come to 100% upon occupancy detection.
 - Designated night lights/emergency egress lights within Booking shall not dim.
 - Staff Services/Areas
 - Central Control and Dispatch:
 - Ceiling mounted occupancy sensors with override dimmable switch.
 - Lights in control room shall be dimmable
 - Enclosed Offices:
 - Wall mounted vacancy sensor switch, manual on auto off.
 - In large offices: ceiling mounted vacancy sensors, with override switch for manual on auto off.

- Open Office Areas:
 - Ceiling mounted vacancy sensors, with override switch for manual on auto off.
- Restrooms, Showers, Laundry Room:
 - Wall mounted vacancy sensor switch, manual on auto off.
- Corridors and Stairs:
 - No local switching.
 - Provide occ sensors to dim lights to 60% level and come to 100% upon occupancy detection.
 - Designated night lights/emergency egress lights shall not dim.
- Building Services/Support Areas
 - Plumbing Chases:
 - Wall mounted vacancy sensor switch, manual on auto off.
 - Electrical Rooms, Mechanical Rooms, and Fire Riser Rooms:
 - 3-way or 4-way switching, as required per size of room.
 - Switches to have pilot light.
 - No occ sensors.
 - IT/Data Rooms:
 - Wall mounted vacancy sensor switch, manual on auto off.
- Public Spaces/Areas
 - Lobbies, Reception, Waiting Areas, and other similar Public Areas:
 - Ceiling mounted occ sensors.
 - Switch at officer station.
 - Visitation/Interview Room:
 - Ceiling mounted occ sensors, no local switching.
 - Override control from central control room.

Power Systems

- General: Grounding type receptacles will be provided in accordance with National Electrical Code requirements, or as required to match equipment. Receptacles will be 20A/120V in all areas.
- Offices: One duplex receptacle per wall. Additional receptacles will be provided as required.
- Corridors: Duplex receptacles every 25-30 feet (nominal).
- For cell types that are determined by the Owner to receive outlets, the following shall be provided: One (1) duplex receptacle per inmate and one (1) coax TV connection. Receptacle devices in cells shall be automatically controlled via a relay system, with manual on/off control at the officer station and/or control room. All electrical circuits serving electrical outlets within cells shall be protected by a GFCI module (instead of GFCI receptacles or GFCI circuit breakers). GFCI module(s) shall be located within cell chase so correctional officers have a safe and secure means for resetting the module when/if it trips.
- Other Areas: As determined during design.

Telecommunication Distribution

- Telephone and telecommunications cabling will be routed in joint trench with the utility power and will be routed to the MTR..
- Cable and/or fiber counts required for the facility will be determined during the design development phase.
- A structured cabling system will be provided for telecommunications and data services. The building will be prewired to TIA/EIA Category 6A level of network performance using unshielded, twisted pair

products. The system will be in accordance with the latest currently adopted TIA/EIA standards for telecommunication. Conduit from the data outlets will be stubbed to the MTR or into accessible the accessible ceiling space. Cabling will be run in conduit below grade or open wiring via the accessible ceiling space to the nearest telecommunications room.

- The building will be wired to the latest TIA/EIA standard for telecommunications using Category 6A, unshielded, twisted pair products.
- The components of the telecommunications distribution system are as follows:
- Main Telecommunication Room (MTR): The MTR will serve as the main hub for the telecommunications systems for the facility. The MTR may be located in the interstitial space above the secure area of the building and will serve as the homerun location for all telecommunication cabling. The MTR will contain the following equipment:
 - Telephone service entrance.
 - Phone Switch of Voice of IP (VOIP) Headend (Owner provided).
 - Data and Voice horizontal modular patch panels.
 - Owner provided data network equipment.
- Telecommunication Outlets: Multi-port telecommunication outlets will be provided as determined during the next design phase.
- Wireless Access Points: Telecommunication cabling will be provided to strategic locations in the facility to provide wireless access via Owner furnished access points.

Fire Alarm System

- An electrically operated, electrically supervised addressable fire alarm system will be provided in accordance with the International Fire Code requirements. The system will comply with the applicable provisions of the current NFPA Standard 72 National Fire Alarm Code, local building codes, and meet all requirements by Underwriters Laboratories Inc. and/or the Factory Mutual System. The system will operate as a low voltage, general evacuation fire alarm system.
- Fire alarm devices in the secure area will be provided in accordance with International Fire Code requirements for a Group I-3 Occupancy.
- Alarms will be annunciated at the fire alarm control panel located in the main entry.
- Manual pull stations will be provided at every exit.
- Both audible and visual alarms will be provided throughout the facility to meet Code requirements and City of Unalaska requirements. Audio-visual horn/strobe units with combination horn and flashing alarm strobe will be used.
- Smoke detectors will be installed in mechanical return air ducts in accordance with International Mechanical Code (IMC) requirements and will shut down air handling units upon alarm.
- Sprinkler Switches: Sprinkler flow and tamper switches will be monitored to indicate flow in any part of the system or a partial or complete shutdown of the system at the gate valves.

Cable Television Distribution

- A pathway for Cable TV service will be brought into the MTR. Distribution methodology from the MTR to specific areas of the building will be determined during the next design phase.

A/V Systems

- A/V systems including display(s), program sources, amplifiers, speakers, input wall plates, etc. will be provided in the Training Room. These systems will be further developed during the next design phase.

Electronic Safety and Security

- Video visitation system will be required. It will include labor, equipment, and materials to install, program, calibrate, adjust, document, and test the total system. This includes:
 - Detention grade wall mounted enclosure in secure areas
 - Visitor grade wall mounted enclosure at visitor station
- LCD Display
 - Camera
 - Detention grade audio handsets
- An integrated security electronics management system will be required. This includes:
 - Touchscreens, monitors, and master intercom stations
 - Central control system electronics
 - Detention grade intercom and paging system
 - Central CCTV system
 - Security equipment racks and enclosures
- The programmable logic controller shall interface and control security sub-systems functions to include the follow:
 - Locking and unlocking of an individual door
 - Locking and unlocking of individual and groups of doors
 - Monitoring of security devices
 - Intercom master station and slave station matrix switching
 - Motorized/electric door lock hardware control
 - CCTV camera control and switching
 - Interface to other building microprocessor-based systems such as lighting controls and plumbing
- The touchscreen workstation includes a computer graphics-based security PC and touchscreen control terminal. The PC shall drive the touchscreen color graphic monitor to provide control and status monitoring of security system components including door locks, CCTV cameras, intercoms, and alarm device monitoring. The PC provides monitoring and control through the programmable logic controller.
- Provide a multi-camera/multi-monitor microprocessor-based, color closed circuit television system. The closed circuit television system allows for the surveillance/ viewing of remote areas from one or more control stations.
- The Access control system shall be integrated into the programmable logic controller security system and touchscreens. It allows the central control operator to be able to override the access control system in an emergency, including the ability to unlock doors on a maintained basis, or to lock down the card reader function and deny automatic access.
- The intercom system consists of devices that provide two-way voice communication with remote intercom stations and a central point of contact. The system will be designed for voice communication subsystems which integrate the slave intercom stations and paging speakers into the programmable logic controller and graphic panel controls.