

West Capitol Campus Maintenance Facility
Olympia, WA

Schematic Design Report
June 10, 2008

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June 10, 2008

Penny Koal, Senior Architect
State of Washington
Dept. of General Administration
PO Box 41012
Olympia, WA 98504

Subject: Schematic Design Report for West Capitol Campus Maintenance Facility

Dear Penny:

We are pleased to present the enclosed report documenting the conclusion of the Schematic Design Phase for the West Capitol Campus Maintenance Facility. The design options proposed have been developed through a series of work sessions with yourself, the GA project team and the building users. We have enjoyed the interaction and feedback we have received to date and look forward to continuing this relationship.

We believe we have developed a strong framework from which we can proceed once we receive the budget set forth by the Legislature. We have a solid site layout strategy and have analyzed building and construction options that can be developed to fit into your budget and provide a functional maintenance facility. Once the project is funded, the next step will be to move into the next level of design and discussion with the building users to develop the project in detail.

We look forward to working with you and your colleagues in the future.

Sincerely,

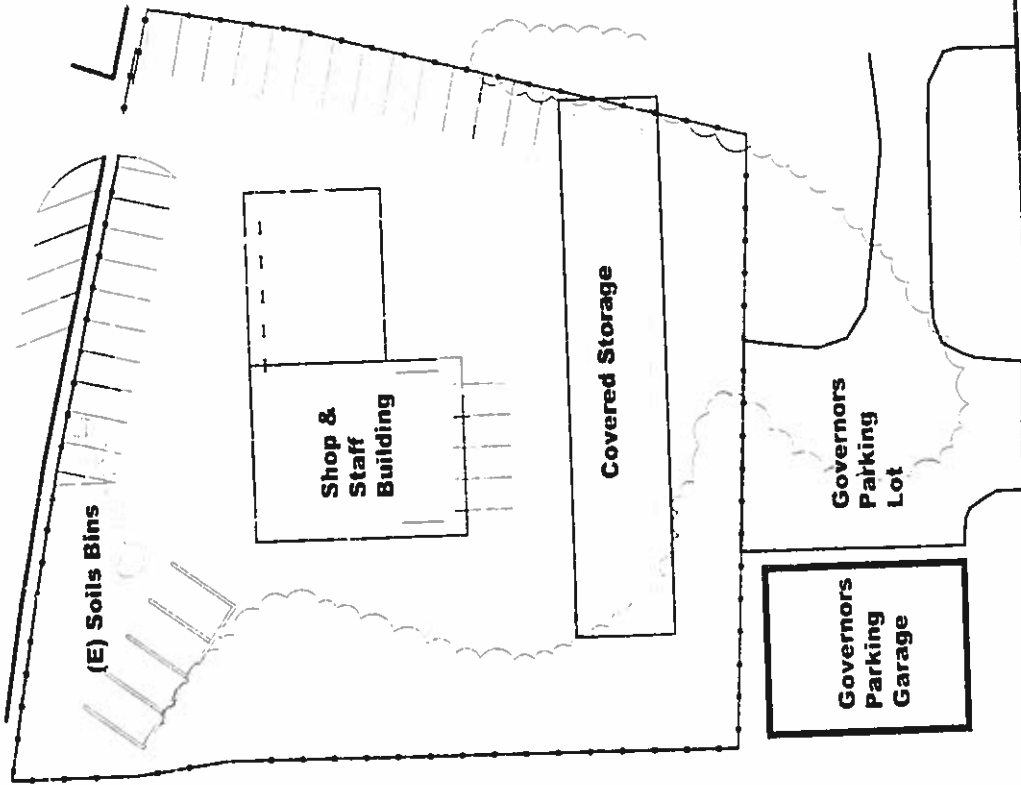
Dennis Forsyth, AIA

Keasa Jones

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1. Drawings
Existing Site Plan
New Site Plan
Floor Plan
Elevations Option A
Elevations Option B



West Capitol Campus Maintenance Facility
Olympia, Washington

Date 04/25/08



Drawing Name

Site Plan



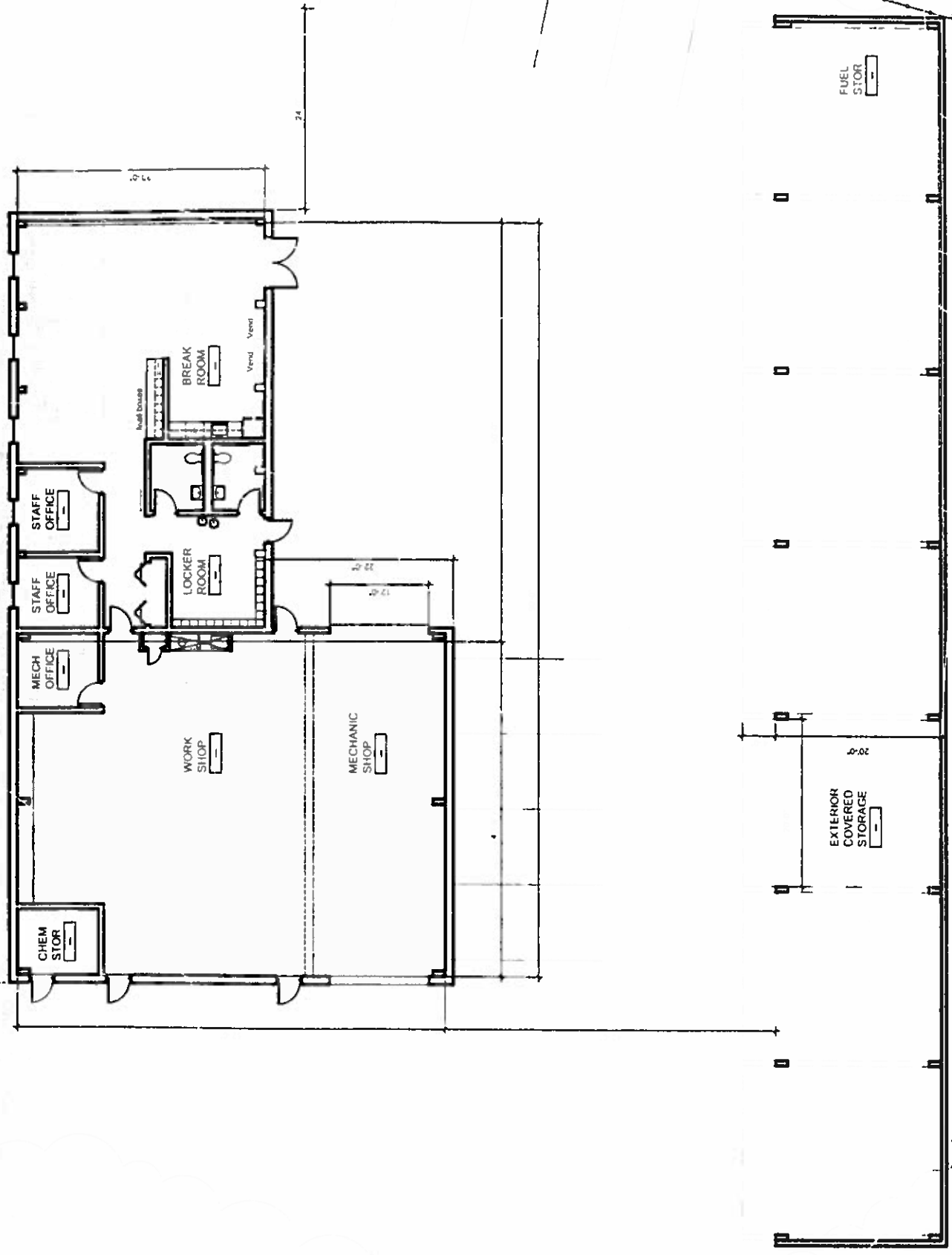
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West Capitol Campus Maintenance Facility
 Olympia, Washington

Date
 04/25/08



Drawing Name



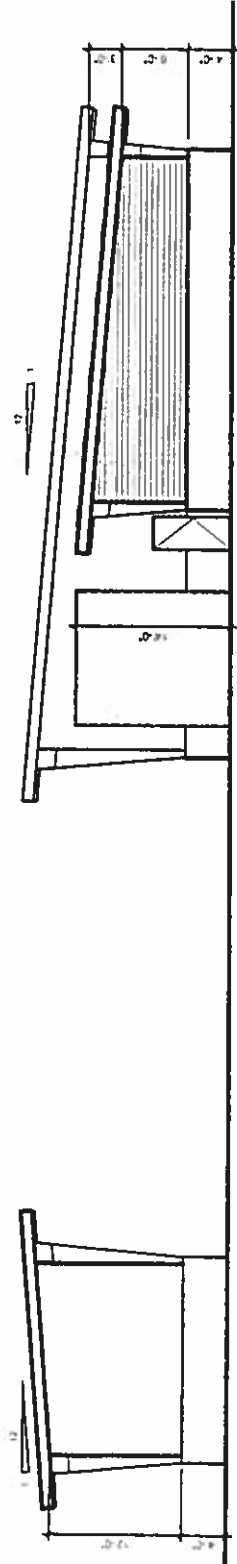
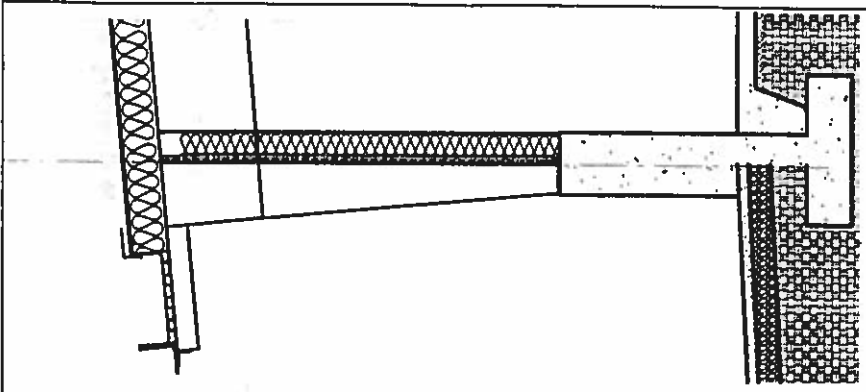
Floor Plan

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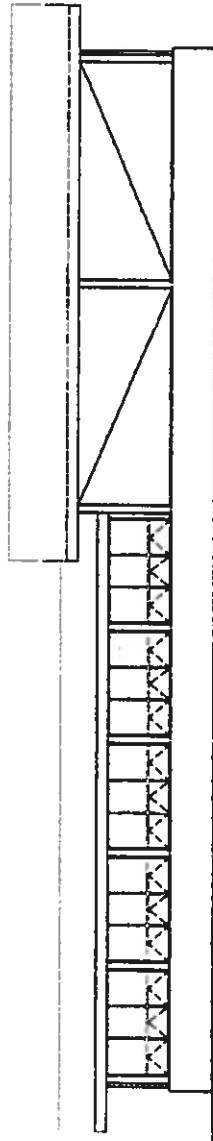


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EAST ELEVATION



NORTH ELEVATION

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West Capitol Campus Maintenance Facility

Olympia, Washington

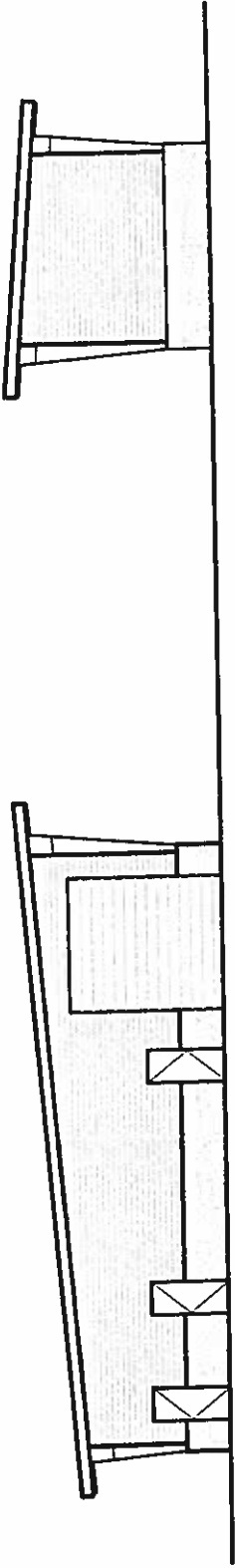
Date 04/25/08

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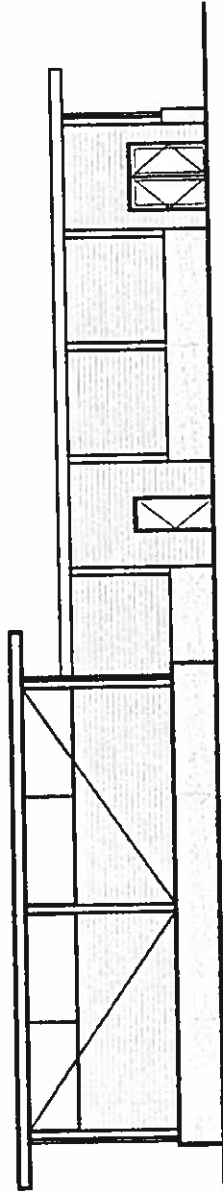
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Elevations A

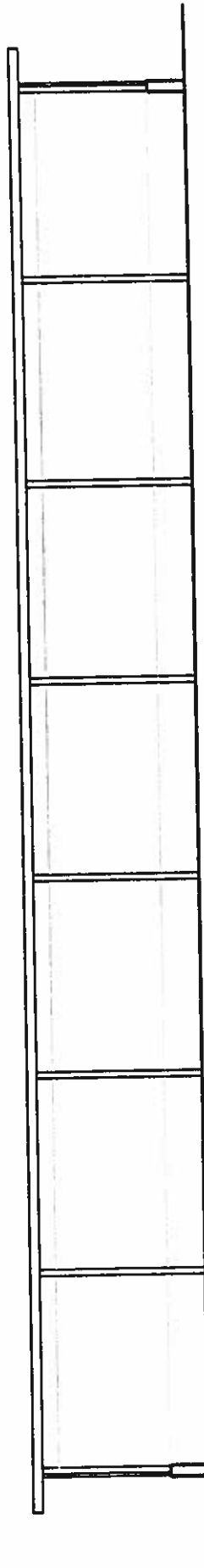




⊕ WEST ELEVATION



⊕ SOUTH ELEVATION



⊕ NORTH STORAGE ELEVATION

West Capitol Campus Maintenance Facility

Olympia, Washington

Date
04/25/08

Drawing Name

Elevations A

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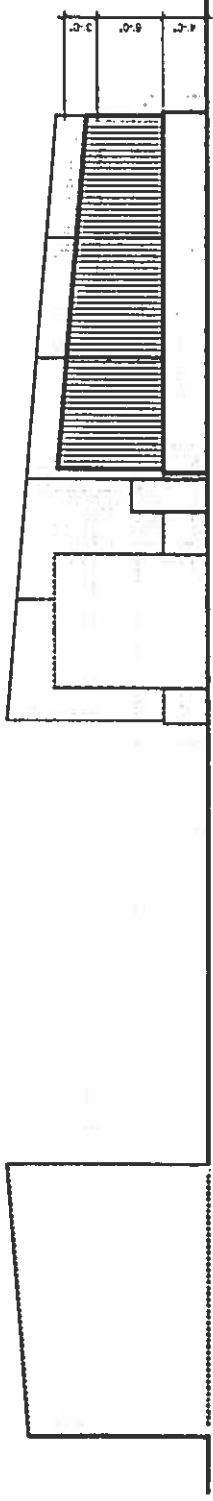
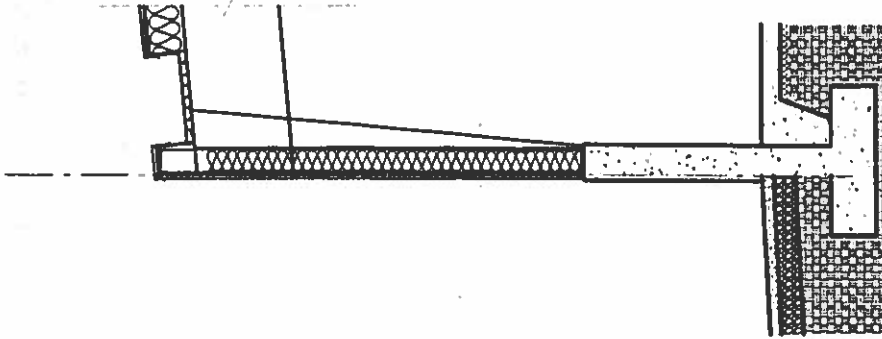
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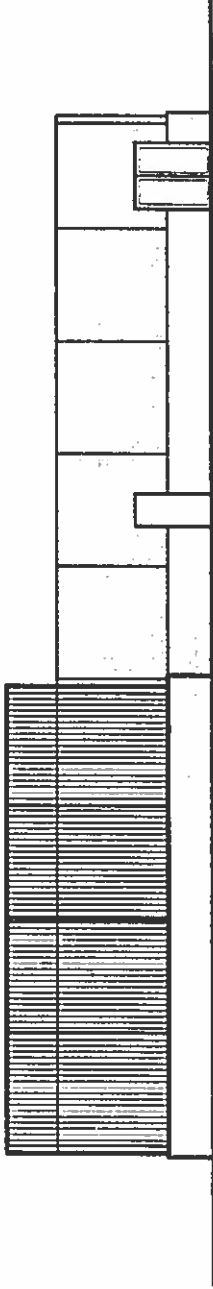


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1 EAST ELEVATION



1 SOUTH ELEVATION

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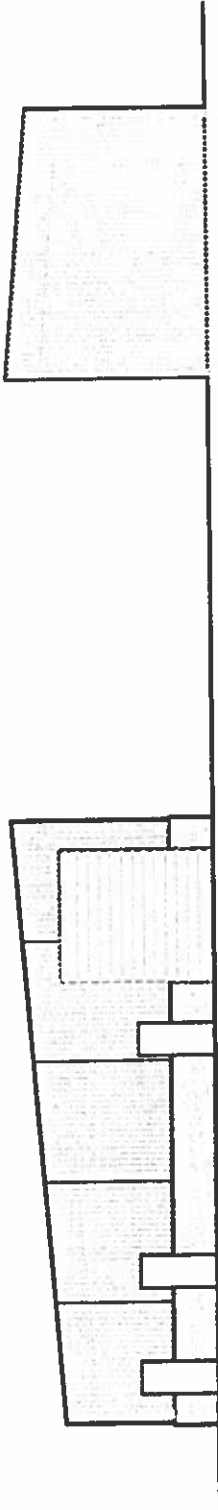
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West Capitol Campus Maintenance Facility
 Olympia, Washington

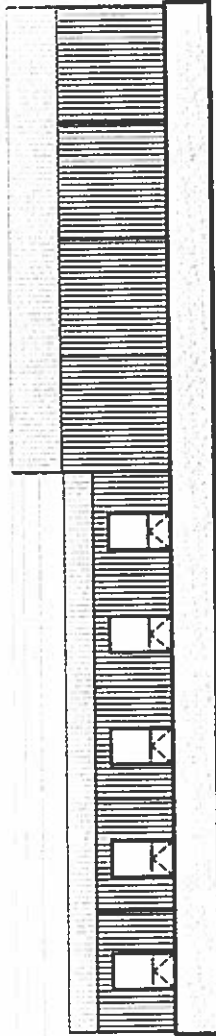
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Drawing Name

Elevations B



WEST ELEVATION



NORTH ELEVATION

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Olympia, Washington

Date
04/25/08

Drawing Name

Elevations B

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2. **ARCHITECTURAL NARRATIVE**

Background

Existing Conditions

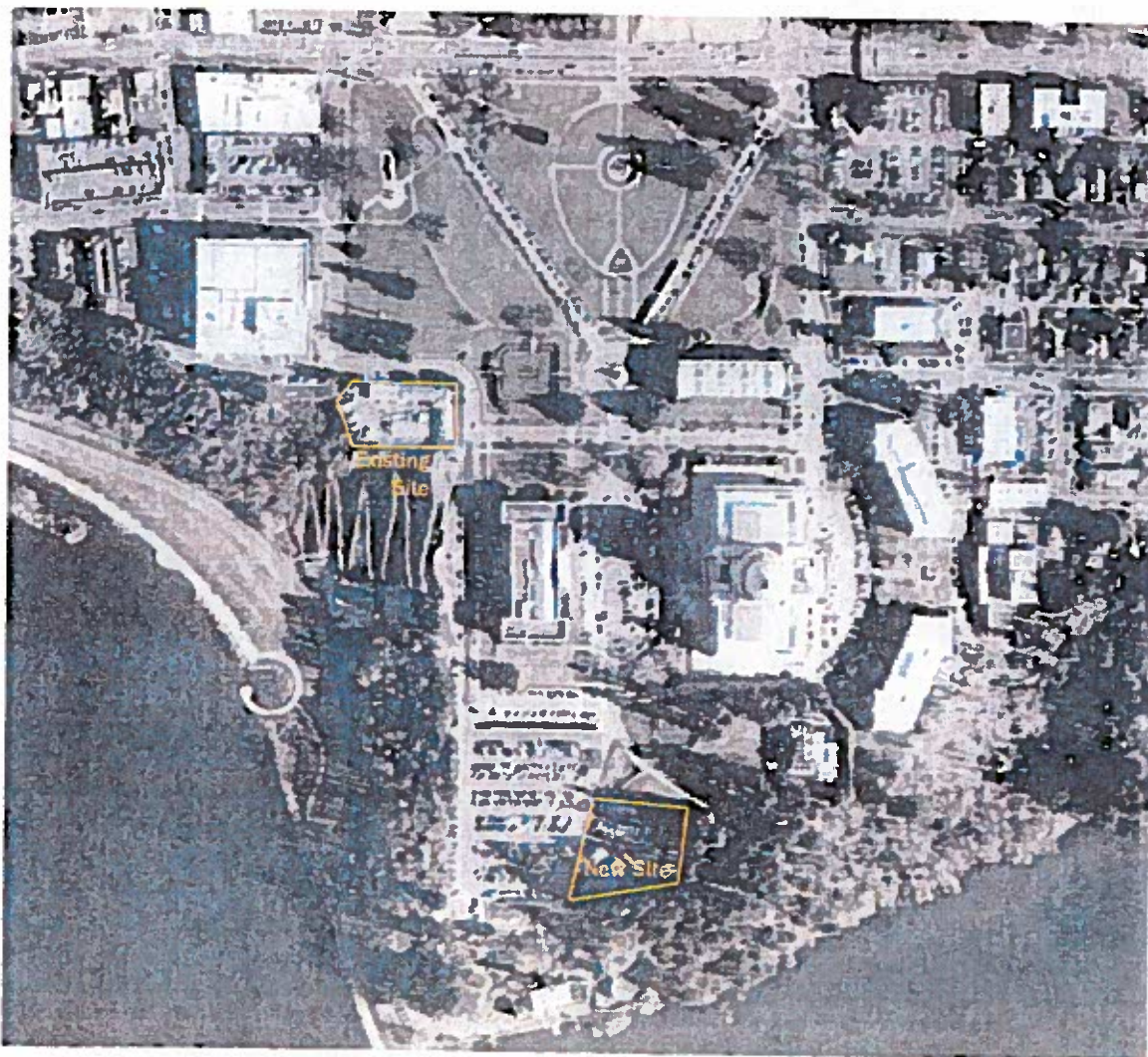
Design Goals

Site Design Layout Schemes

Building Design Strategies

Architectural Design Narrative

The West Capitol Campus Maintenance Facility is currently located in the basement of the conservatory on Water Street between 11th Ave and 12th Ave. As part of the Heritage Center & Executive Office Building Project the conservatory is to be removed and the current maintenance staff areas, workshop areas and equipment yard will be demolished. The proposed replacement facility will be located on the west campus and consists of an enclosed staff and work shop building, an exterior covered storage facility and an uncovered work yard that includes soils and equipment storage. The building and site layouts have evolved through discussion with General Administration, the Capitol Campus Design Advisory Board and representatives from the Maintenance group. This Schematic Design Report shows the beginning developments of site arrangement and architectural character that will provide the basis for a highly functioning efficient maintenance facility on the west campus.



Aerial photo of West capitol campus highlighting the existing conservatory and maintenance facility and the new maintenance facility site.

Background

Alternatives to replacing the maintenance facility were considered such as contracting for maintenance services or relocating the maintenance functions off site. It was concluded that locating the campus maintenance functions on or near campus was preferred due to the rapid response to grounds and maintenance needs of the West Campus.

An investigation of several sites was conducted to determine the appropriate place on campus for the maintenance facility. These sites included the Soils Shed site, the 721 Columbia St. site near Heritage Park, the Wheeler St. site which is now the DIS/WSP facilities project site, the construction and lay down site at 14th and Jefferson St. and the Cove site on the west side of Capitol Lake. (See appendix for 721 Columbia site study). It was concluded that the Soils Shed site, adjacent to the Mansion parking lot, was the best site for this replacement project due to its location on the west campus grounds since it does not require trucking equipment on city streets, that it is not in an environmentally sensitive zone and because it is currently used for some maintenance functions.

Existing Conditions



Aerial view looking south at site (highlighted in orange), the Governor's parking garage and the Governor's Mansion grounds (Mansion at upper left).

The site is a relatively flat gravel area located between a paved parking lot to the north, large trees and a steep slope down to Capitol Lake to the west, the governor's parking garage to the south and the Governor's Mansion grounds to the south and east. There is a metal security fence along the east and south edge of the site that encloses the governor's mansion grounds. Portions of the site are visible from the Legislative Building, the Governor's Mansion, the Governor's garage and the adjacent parking lot. Access to the site from the northern parking lot is via two curb cuts- one that leads to an un-striped gravel parking area and one that opens towards the soils shed and bins. The hillside to the west is covered in large trees and undergrowth. The structural stability of the hillside is unknown.

At approximately 28,000 square feet, the site currently serves three functions: as a storage and work yard for the maintenance crews, as storage for emergency supplies and as parking for the Washington State Patrol. The WSP vehicles will be relocated but the number of parking stalls on the site shall not be reduced. The parking area holds up to 30 cars and has two curb cuts that allow access through the existing landscape barrier. There are two built structures: a 2,030 square foot CMU and steel frame soil shed built in 1938 and three soils bins recently reconstructed with a concrete slab base and ecology block walls. The soils shed and surrounding work yard are used for short and long term storage of tools, an above ground fuel tank, maintenance equipment and organic matter that is used for landscape maintenance on the West Campus. There is an electrical and water connection to the shed but no gas, sewer, or other utility services. There are six Connex storage units on site, three of which contain the emergency supplies for the surrounding buildings while the other three are storage units associated with maintenance functions. The layout and use of this site is inefficient and it does not fit with the aesthetic character of the campus. The soil shed has outlived its useful life and requires upgrading, restoration or demolition. This site is will benefit from the building of the west campus maintenance facility.



Soils Shed



Soils Bins



Connex Storage Units

Gravel Parking Lot

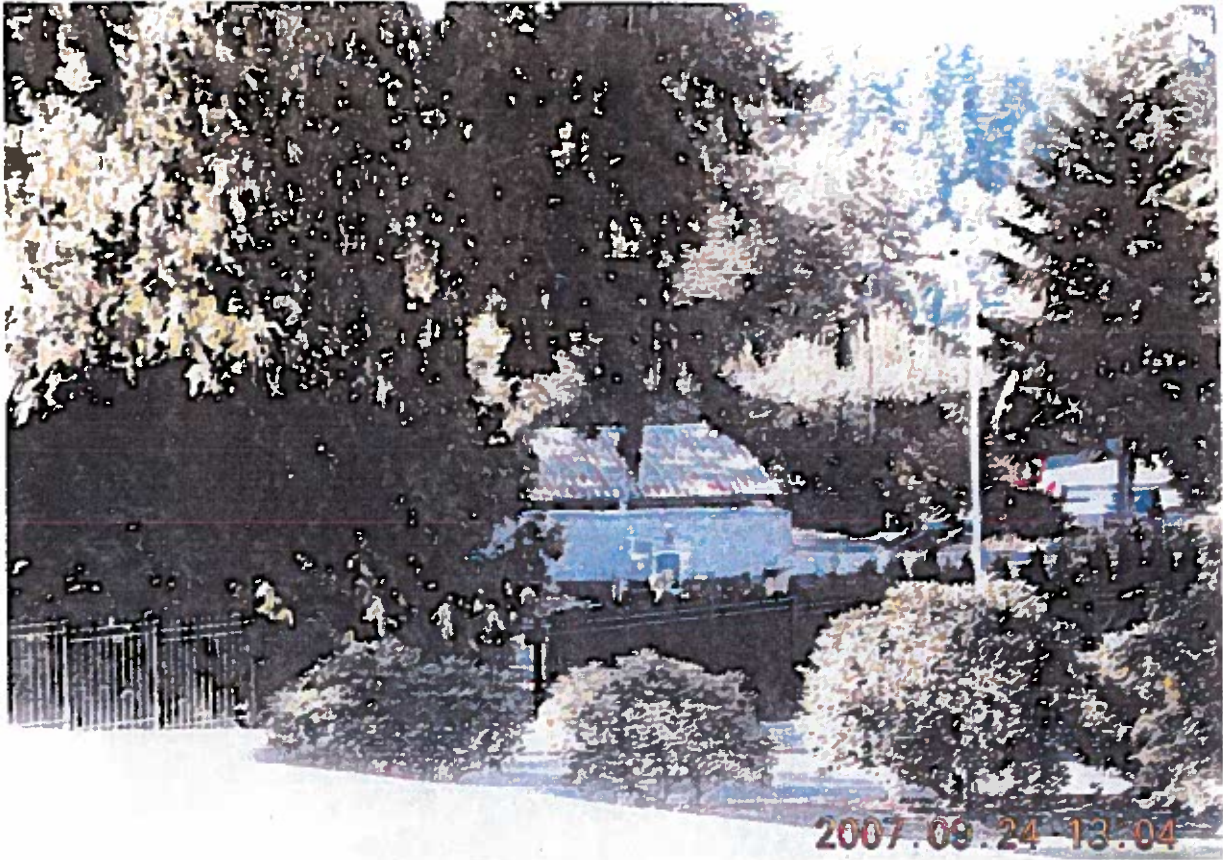
Design Goals

The project goal is to co-locate all West Campus maintenance functions and provide an efficient facility with the proper spaces to support the staff and managers, workshop functions and equipment storage. The site layout accommodates the maneuvering of large pieces of equipment and delivery trucks, provides parking for maintenance vehicles, drive thru access to the mechanic shop and a work yard for daily maintenance functions. The site requires a secured perimeter with gated access. Since the site is visible from the Governor's Mansion and the Legislative Building the site provides opportunities to utilize the existing landscaping and grade changes to screen unsightly views and to mitigate potential acoustical issues.

Three major components make up the program: a 3,000 square foot enclosed conditioned staff and work shop area, a 2,500 square foot open air covered storage area for equipment and a 7,000 square foot work yard and soils storage area. The staff area includes offices and workstations, a lunch room, restrooms, a kitchen, a locker room and office storage. The mechanic shop is a single bay drive-thru shop with a lift and overhead crane. The mechanic shop and metal/wood work shop share one large space to maximize the usable area for each function since many of their requirements overlap and they share tools, machinery and storage. The maintenance crew has a large assortment of lawn, gardening, road care and delivery equipment that requires shelter from the weather to maximize its useful life. This equipment is best kept adjacent to the work yard and close to major circulation paths in the yard. The remaining equipment can be kept outdoors in the work yard along with the maintenance vehicles, Connexs and soils bins.

Ultimately, the goal is to revitalize this site and provide a compact secured yard with efficient circulation that houses the staff and equipment for the maintenance functions of west campus. The yard will be used for soils bins, equipment storage and parking. The enclosed building will house staff and workshops. A covered storage area will protect the majority of the equipment from the elements.



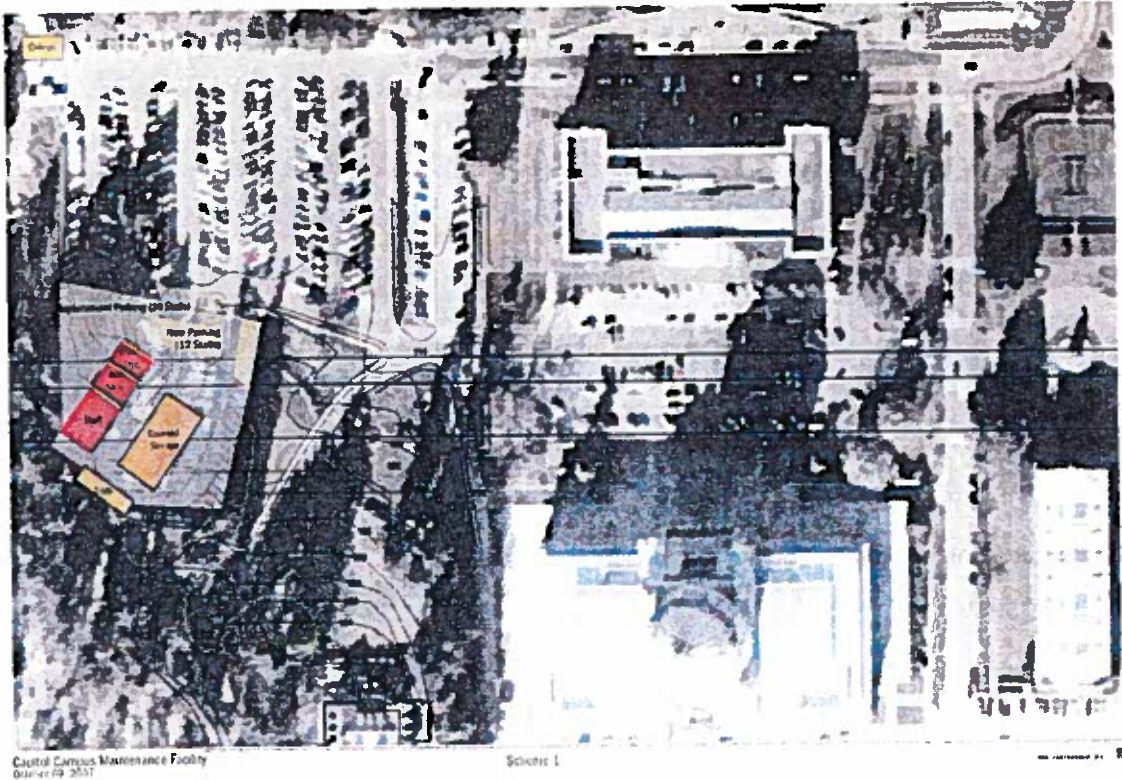


View of the site from the second floor of the Governor's Mansion

Site Design Strategies

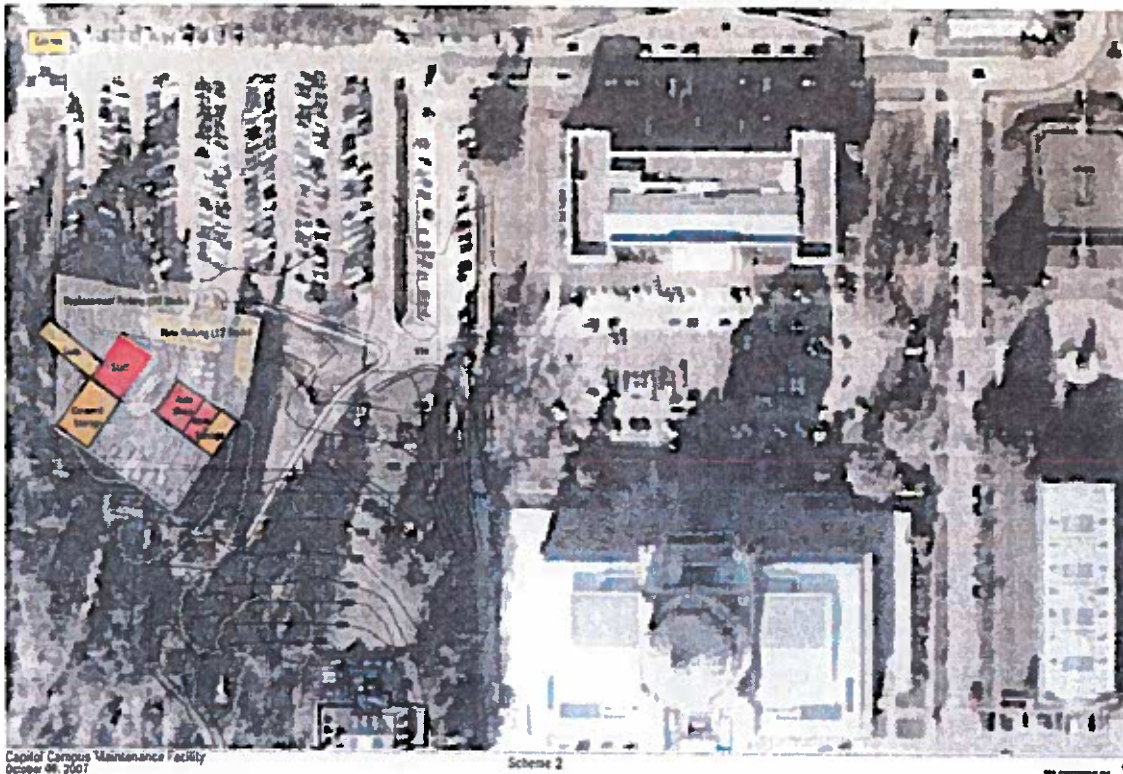
Four layouts were studied at the Mansion parking lot site. The first two retain the soils shed and incorporate it into the design. The last two demolish the existing structures and place buildings based on traffic patterns, work yard configurations, axial relationships and views. Scheme 3 is the preferred option and is the basis for the building and site design development.

Site Layout Scheme 1:



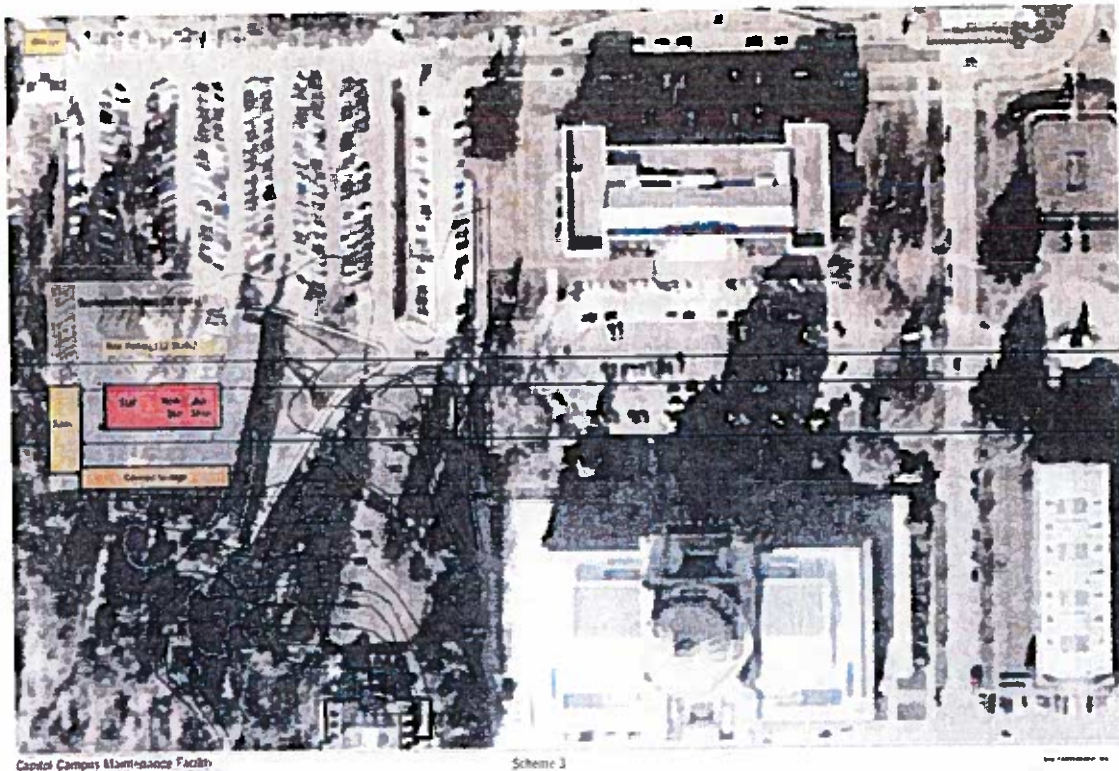
Scheme 1 retains the soil shed and uses a "drive through" circulation path that circumnavigates a new storage structure so vehicles are not required to turn around in order to exit the site. Entry and exiting on the site uses the existing curb cut on the northeast site edge. A security fence can be placed here if desired. The existing soil shed is updated to become the mechanic shop and workshop. An enclosed conditioned addition extends to the south to accommodate the staff areas. A separate open air roof structure for equipment storage is located so it can be accessed from both sides. The soils bins flank the two buildings at the south end of the site. Equipment and vehicle parking is located at the east edge of the site. Views into the site are mitigated by using the trees to block views of the work yard from the Mansion and Legislative Building. Views from the parking lot to the north are not buffered.

Site Layout Scheme 2:



This scheme renovates the soil shed into the staff areas and adds a double-sided covered storage area to the south. The buildings are laid out to form a courtyard. The mechanic shop and workshop are set perpendicular to the soils shed as a freestanding building. An area for storage of smaller equipment, such as lawn mowers, weed eaters and hand tools are also stored in this building. A driveway between the two buildings secures the entry points so it can be easily monitored. The placement of the buildings takes advantage of the existing trees to visually protect the work yard from the Legislative Building and the Mansion. This alignment also shields views from the parking lot into the work yard. Circulation into the site is from the existing northeast curb cut and is directed into the courtyard created by the staff and shop buildings. A separate new entrance provides access to the soils bins. The bins can be used as is or enlarged if needed.

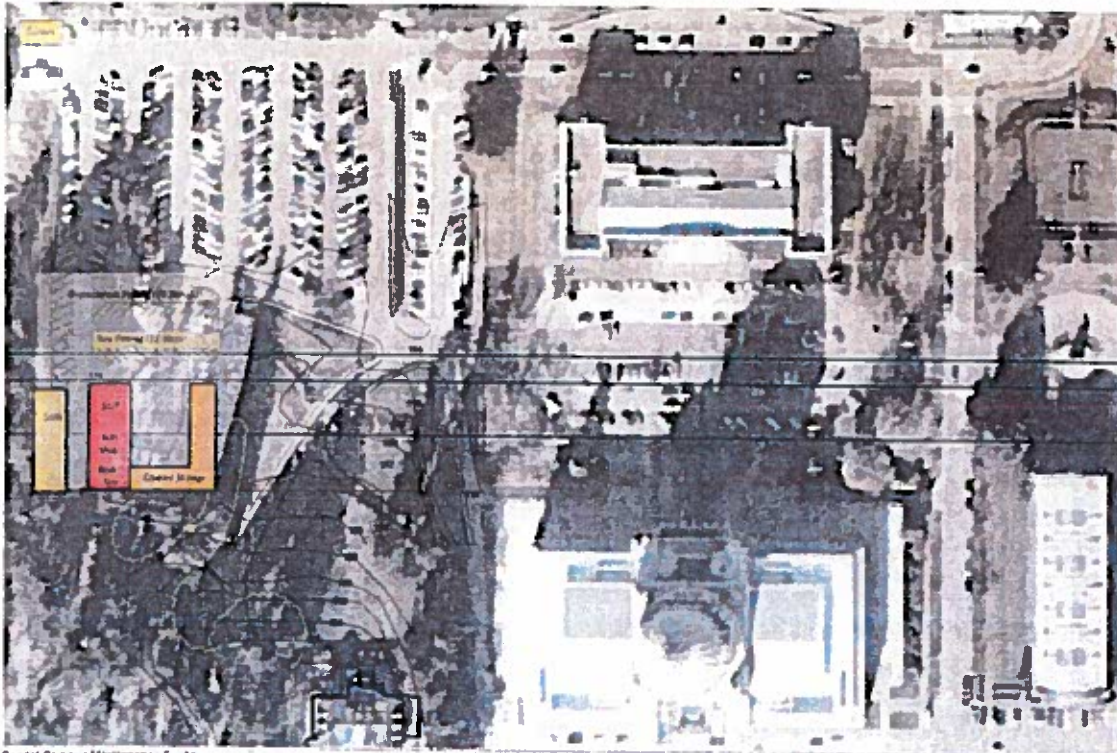
Site Layout Scheme 3:



This is the preferred scheme and is the basis for the site and building design development. This scheme assumes the existing soils shed and bins will be demolished and new buildings are aligned along the campus grid. There are two entry points: one at the existing northeast curb cut, and a new curb cut aligned with the adjacent parking lot driveways. Circulation is provided through the site in a "one-way" pattern so delivery trucks and large equipment is not required to turn around in the work yard. The staff and mechanic/work shops are set as a simple bar aligned on the east/west campus axis. This orientation is ideal for sustainable passive mechanical strategies as well as shielding views into the work yard from the parking lot. Additionally, the program layout allows for staff to be near each of the entries for security. The covered storage area is a thin bar accessed from one side. This structure uses the existing grade change at the Governor's parking garage and existing landscape features on the east and west to mitigate views into the site. Equipment storage and vehicle parking is provided along the east edge and is buffered from sight by existing landscape features.



Site Layout Scheme 4:



Capital Campus Maintenance Facility
Revision 03/2007

Scheme 4

10

This scheme demolishes the existing structures and forms a courtyard with the new buildings. There is the opportunity to park outside the courtyard area to interact with staff or you can intentionally enter the courtyard. The access to the soils bins is also used to enter or exit the mechanic shop. The new structures are aligned with the campus grid. The staff functions and mechanic/work shop is combined into a simple bar on the north/south axis. A covered storage structure is in an L-shape so the roof of the structure obstructs the view from the Mansion and Legislative Building. The soils bins are placed west of the staff building to shield them from view.

Building and Site Design Strategies

The following strategies are developed from Site Layout Scheme 3 in the previous section. The options range from an integrated site specific design to a cost effective "off the shelf" metal building system. The first two schemes assume a traditional design-bid-build schedule and methodology. The third scheme proposes alternatives to these methods.

Building Design Option A:

The concept for this option is to integrate the buildings into the surrounding landscape in order to "hide" the structures from view of the Governor's Mansion, parking lot and the Legislative Building. The buildings are carefully sited to minimize the views into the work areas and have green roofs to make them blend into the surrounding landscape when seen from above.

The gravel site will need some minor grading and will utilize retaining walls along the south edge and portions of the east and west to make grade changes. Site drains will be added and will require sand trap filters due to potential chemicals and oil contaminants. Utilities will be run to the site; gas, water, sewer, steam and potentially new electrical lines will be added. There is a gas line that runs under the existing soils shed and the steam power plant is just to the west near Capitol Lake. A new curb cut and paved striped parking replace a length of shrubbery at the northwest edge of the site. The existing paved parking lot to the north will need minor re-striping. The work yard will be paved and require striping to delineate the parking layout. The concrete retaining wall along the southern boundary of the site becomes CMU compound walls as they extend north. They will provide security and act as a visual and acoustic buffer. Motorized sliding security gates will be added at each entry point along with security lighting. These gates and compound walls will align with the north elevation of the freestanding building.

The covered storage structure is built into the hillside to take advantage of the grade change on site to "bury" the structure on three sides while providing reinforcement for the Governor's parking lot (see section diagram below). The covered storage structure is a simple shed steel roof structure with a concrete retaining wall at the south face that will require minor backfill to make it level across the length of the retaining wall. The east and west walls are constructed of CMU and become the compound site walls. The north elevation is simply the steel columns needed to support the green roof. The bottom of structure is at 12'-0" clear to allow for large equipment and to align with the adjacent grade at governor's parking lot.

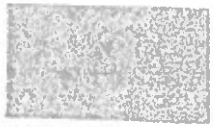
The freestanding insulated and conditioned staff and mechanic/work shop building is a steel structure with concrete block infill. It has a green roof with 4' overhang on all sides except at the southeast corner where it extends to a freestanding column outside the perimeter wall of the building. This hides any visual connection from the mechanic shop to the surrounding buildings and allows for a covered outdoor area for the maintenance

crew to use as a work area or outdoor break area. The building is 12'-0" clear to the bottom of structure at the staff area and 16'-0" clear at the mechanic and shop area.

The north façade of the building integrates with the site walls and security gates. To break up the length of the CMU walls either a 'living wall' system, an 'educational display' planting of native species trees or a trellis and vine system will be installed. At the east end - the break room and mail area - the perimeter wall angles to follow the site boundary and is wrapped in glass storefront providing daylighting to the interior and a refined skin system in view of the Mansion and Legislative Building. The offices and workstations align along the north wall and look out at the adjacent parking lot. The interior of the staff areas will be outfitted with concrete floors, drywall partitions and plywood cabinetry. The communal and work crew spaces are placed along the south and are the main entry points to the staff area.

The mechanic shop and wood/metal shops are at the west end of the building. These spaces are collected into one large area with no dividing walls in order to maximize the flexibility and usable area of the space. The mechanic shop has a 12'x14' roll-up door on each end of the car bay to allow for 'drive-thru' service. This portion of the building is 16'-0" clear to the underside of structure to allow for clearance of the overhead crane and storage.

This scheme responds to the available natural buffers on site. The goal is to make the buildings "disappear" from view by the Governor's Mansion and Legislative Building while providing high and efficient durable sustainable maintenance facility.

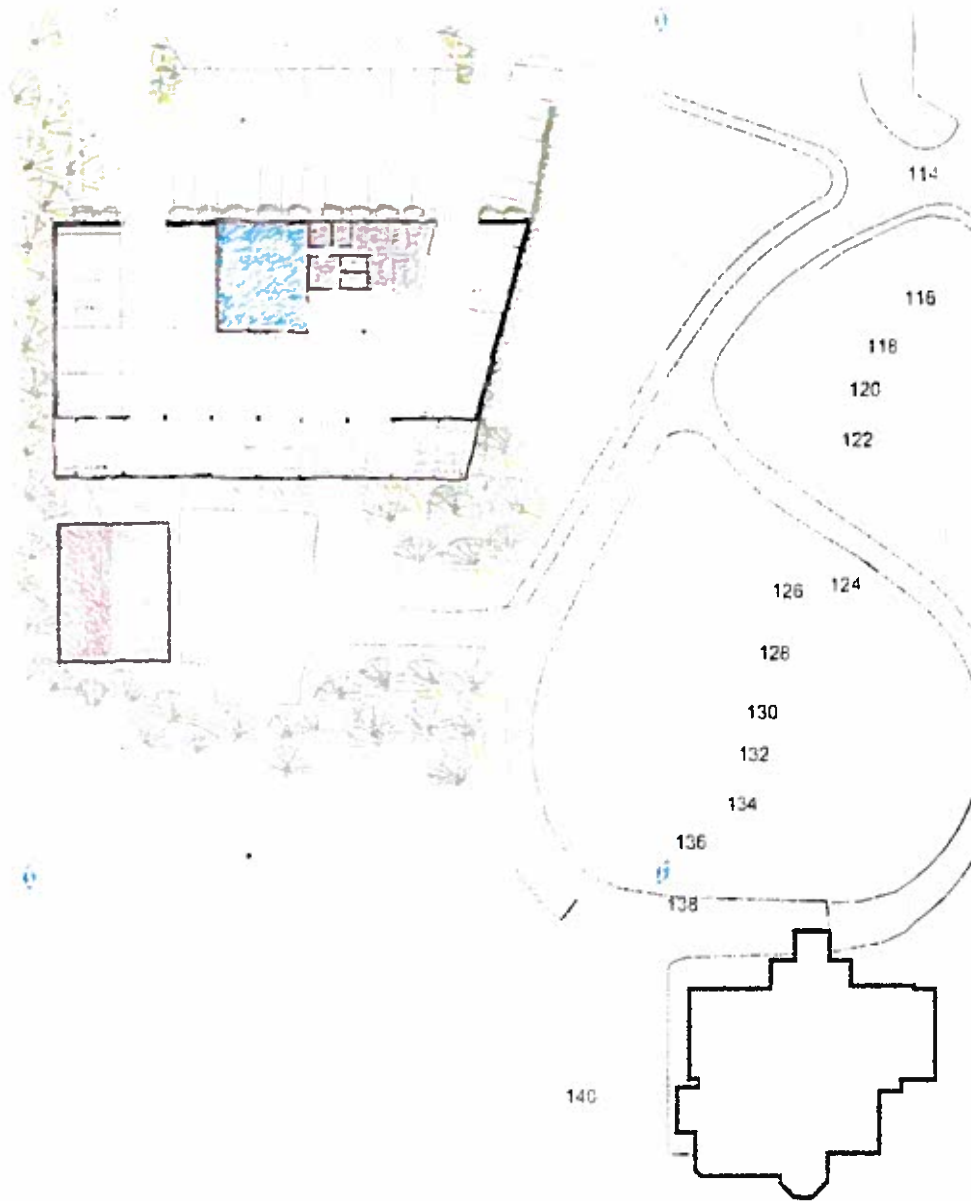


*doors
labor??*



West Campus Maintenance Facility
 Olympia, Washington

Option A Site Plan showing the extent of green roofs. The Governor's parking garage is shown in brown to the south of the covered storage building. Soils bins are shown in brown along the west edge of the site.



West Campus Maintenance Facility
Olympia, Washington

Option 1 preliminary floor plan with equipment layout



Option 1 Site section showing the south wall of the covered storage building as a retaining wall to the Governor's parking lot. The outline of the Governor's Mansion is at the far right.

Building Design Option B:

The concept for option B is to minimize the changes to the existing site and to construct the buildings out of typical metal building systems. See the appendix for examples of the quality and level of customization described below. The buildings are arranged on the areas which need the least amount of grading and the parking area to the north remains as is. Changes to the site layout from Option A are a result of meetings with the client and maintenance crew and they can be integrated into Option A.

The existing soil shed is demolished but the soils bins remain. The site will be leveled which requires minor grading at the southern and western edges and site drains are added. These drains, with sand trap filtration, will link into the new site utilities - gas, steam, sewer, water and upgraded electrical if needed. A gas line runs under the existing soil shed and the steam power plant is to the west at the base of the hill. A metal security fence is added onto the existing fence around the Governor's Mansion grounds to encompass the maintenance grounds for security. An automatic sliding gate at the northeast curb cut will provide keycard access after hours.

The existing hedge that defines the northern site edge remains in place and the northeast curb cut remains. The centrally located curb cut is demolished and the paved parking area to the north is re-striped. New parking on the south side of the hedge, within the site boundary, mimics the layout to the north. The existing soils bins remain in place and are reused as they were recently reconstructed and the circulation for dump trucks to drop off soils at the bins is functional currently.

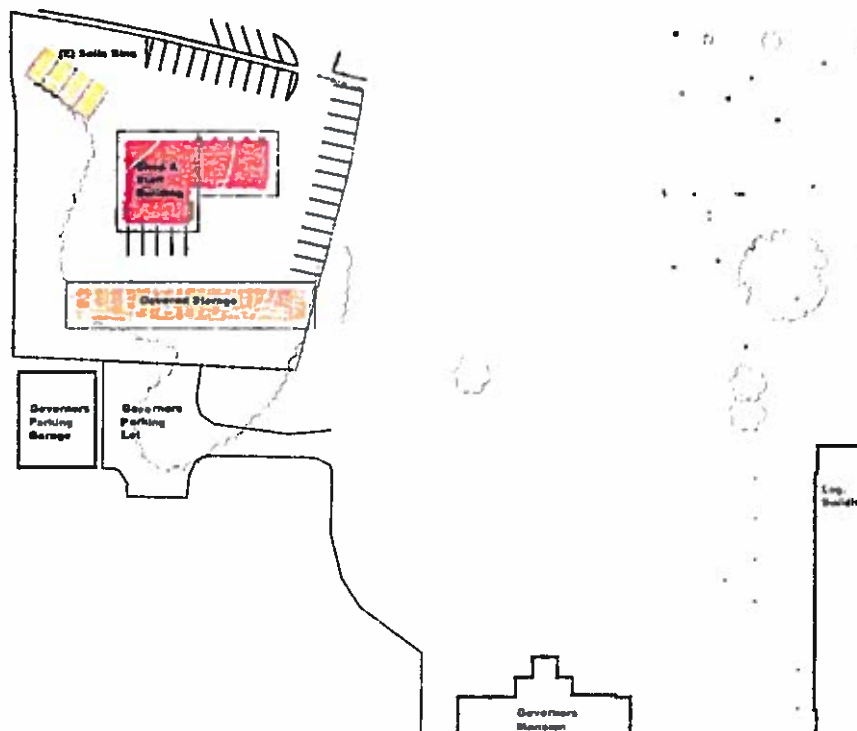
The Staff and Shop building is a simple bar along the east/west. The exterior wall is a 4'-0" concrete block wall with structural steel bents springing from this point to become the wall and roof structure. The metal siding will be on the interior of these bents

allowing for the architectural expression of the structural system to the exterior. The roof will have 4' over hangs around the perimeter of the building.

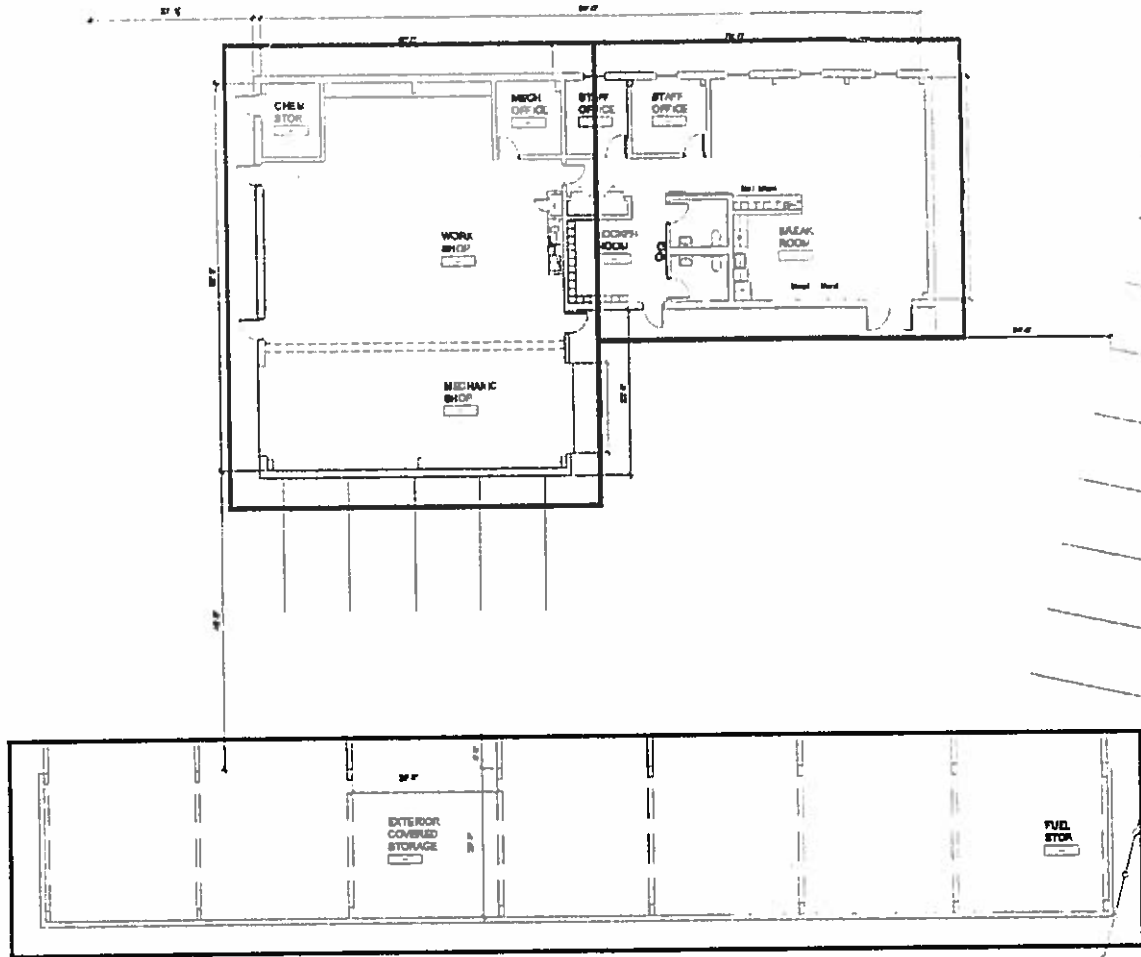
The staff area structure will be a series of (5) 30'-0" long structural bents at 10'-0" on center. The roof will start at 10'-0" above finished floor at a 1:12 single pitch slope. Insulated metal stud and drywall walls will finish the interior. Concrete floors, an acoustic ceiling, plywood cabinetry and metal lockers will finish the other interior surfaces. Glass entry doors on the south and operable windows along the north face will allow natural light into the spaces.

The shop area will be constructed of (3) 52'-0" structural bents at 20'-0" on center. The roof will spring from 13'-0" above finished floor to allow for 16'-0" clear to the bottom of structure over the mechanics auto bay. The southern face of the shop will have a transparent acrylic "polygal" clerestory above 14'-0" to the underside of roof. The interior will have concrete floors and water proof insulation.

The Covered Storage building is a freestanding metal building structure similar to the shop space. It will have a concrete block base with structural bents at 20'-0" on center. The height and slope of this structure will mirror the shop portion of the Staff/Shop building. The bents will be clad in metal siding on the east, south and west walls. The north elevation will be left open for maximum flexibility for storage. A small chemical mixing station and fenced off fuel storage area will be built into this building.

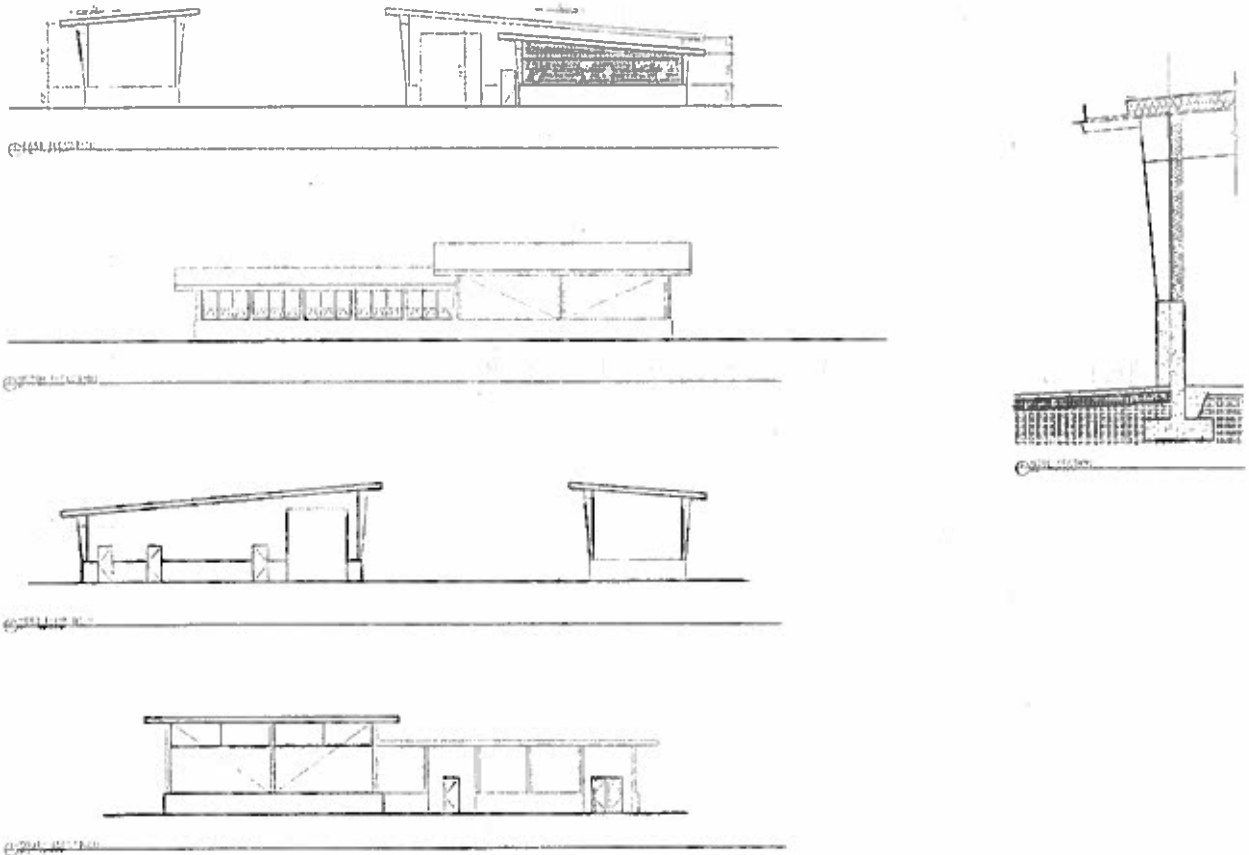


Option B site plan



Option B floor plan





Option B Elevations and Wall section

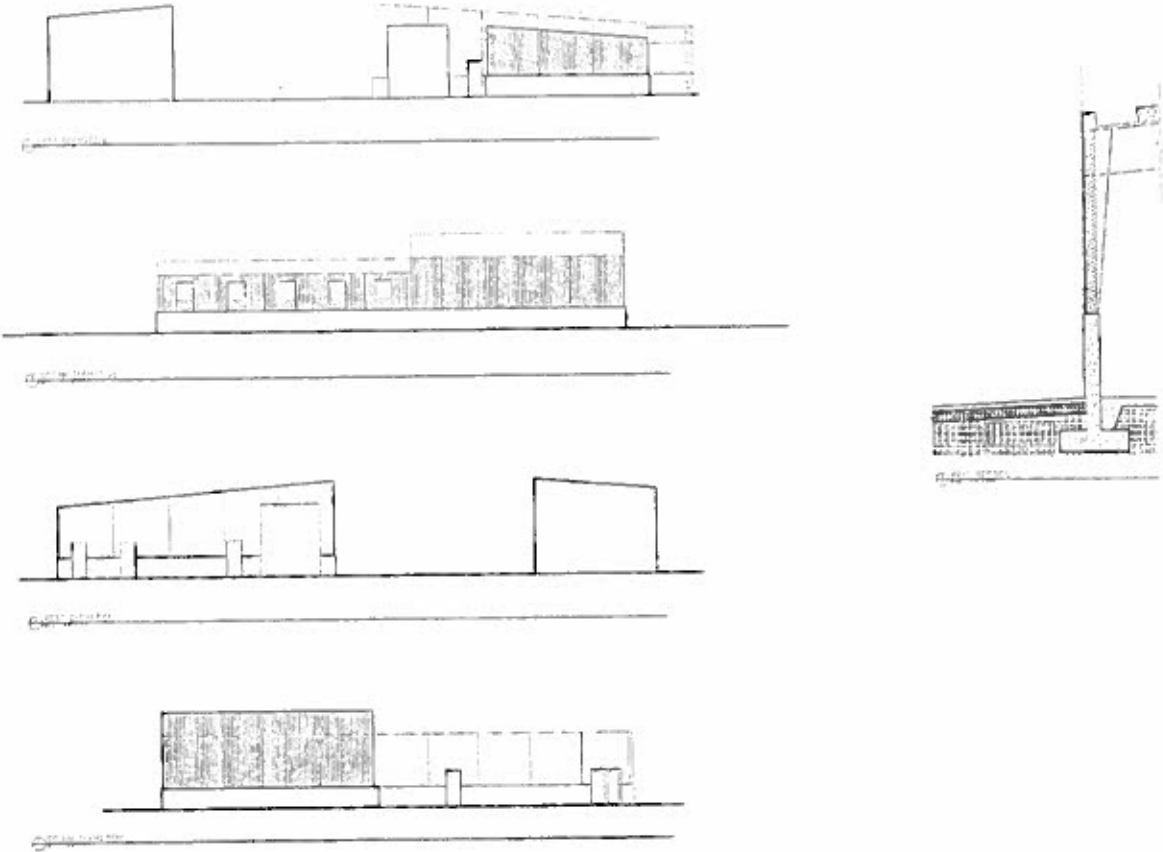
Building Design Option C:

The concept for this scheme is similar to Option B, with minimal site change and using a metal building system, however the detailing and construction schedules and methods differ. Examples of the assumed quality of the metal building system are in the appendix.

The construction schedule is broken into smaller packages. First, a site, foundations and utilities package will be bid. Second, a bid package would be submitted by metal building fabricators to provide the shell of the building based on guidelines from the state. Flexibility would be built into the drawings to allow building fabricators to adjust the scheme to fit their standards. Lastly, the tenant improvements at the staff and shop areas would be completed by the maintenance crew themselves.

The elevations and wall sections shown below are an example of what the building could look like using standard building components. The structural steel bents sit atop a 48" tall concrete or CMU stem wall. The metal siding is on the exterior face of the steel

bents- insulation and drywall finishes on the interior are optional. There are no overhangs or parapets and the gutter system is optional to the building manufacturer.



Option C Elevations and Wall Section

During the Design Development phase one option will be chosen for further study and development. Budget constraints and input from GA and the Maintenance Group will determine which option best suits their needs and should be pursued.