Oregon State Hospital

STATE OF OREGON DHS - OFFICE OF MENTAL HEALTH AND ADDICTION SERVICES

Framework Master Plan
Phase I Report

KMD Architects

May 16, 2005

EXECUTIVE SUMMARY

The purpose of this Phase I Framework Master Plan is to provide an overview of the Oregon State Hospital (OSH) and the effectiveness of Oregon's mental health system. The goal is to provide guidance to the Department of Human Services (DHS), the Governor and the Oregon Legislative Assembly in determining the future design, location and role of OSH in the Oregon State Mental Health System.

Phase II of the Master Plan will be a more detailed analysis of the conclusions and recommendations set forth in the Phase I Framework Master Plan. This work is contingent on the approval of funding in the 2005 Legislative Assembly.

PROCESS

The design team interviewed over 150 stakeholders consisting of key individuals and groups participating in or having specialized knowledge of the Oregon Mental Heath System. Information and data obtained provided the findings and established the framework for the Design Team's conclusions and recommendations. The Steering Committee participated throughout the process by reviewing and commenting on the findings and conclusions.

The assessment of the OSH Salem campus focuses on the physical condition of the buildings and the operational effectiveness for administering mental health treatment programs. Architectural and engineering professionals toured the campus and established findings based on visual observations of the conditions, hospital staff interviews, technical reports and original design documents. Priority was given to those buildings designated for patient treatment.

FINDINGS

The major buildings on the OSH Salem campus were constructed over a period from 1883 to 1955 and none are currently considered historically significant by National or State Registries of Historical Buildings. The buildings and systems are dated and have not been well maintained over the years. The findings regarding buildings used for long-term mental health programs are as follows:

- Buildings do not comply with current building and energy codes or contemporary design standards for secure psychiatric facilities.
- The buildings do not comply with seismic requirements and will experience significant damage or collapse during a seismic event at the level projected for the Salem area.
- Patient wards are inefficient in layout, lack appropriate program space and do not comply with Oregon's Psychiatric Patient Care Rules. The layout impacts the hospital staff's ability to administer quality treatment programs and creates a potentially unsafe environment for the patients and staff.

The role of the Oregon State Hospital in the overall mental health system of care is dependent on the availability of community resources necessary to provide the less intensive step-down mental health services for individuals with severe and persistent mental illness. Currently, the system does not have

the necessary community resources which significantly impacts the ability of these individuals to move efficiently and economically through the system. Under current treatment conditions, many individuals who are eligible and better served to receive treatment in smaller facilities within the community remain in the custody of the State Hospital. This results in a less appropriate or effective treatment program for the patients at significantly higher cost to the State.

The basic findings for the delivery of mental health services in the State of Oregon's publicly funded system are as follows:

- The current system is complex with multiple approaches to patient care.
- System configuration is not representative of patient needs and results in over-reliance on OSH to provide patient services that might be better administered in a less structured environment.
- Limited investment in the mental health system has resulted in insufficient community programs and limits patient movement through the continuum of care.
- Insufficient oversight of community settings managed by private organizations.
- Improvement is needed in integration among the State systems providing mental health services.

CONCLUSIONS

The current buildings designed for patient care are inadequate and their renovation to meet code requirements and standards will be cost prohibitive. It will be impossible to create the environments necessary to achieve modern treatment and recovery standards.

The State of Oregon's publicly funded mental health system is:

- Limited in resources and appropriate funding. This negatively effects patient care and results in greater use of OSH and higher treatment costs.
- Growing at an unsustainable rate. Without additional investment in community settings (beyond the current investments) the State Hospital will need more than 1,100 beds by the year 2020.
- Oregon should proceed concurrently with 1) replacement of the hospital, and 2) continue the reconfiguration of the statewide mental health system, consistent with the Governor's Mental Health Task Force recommendations.

RECOMMENDATIONS

Following are the core recommendations for the Oregon State Hospital and Oregon's mental health system.

- Replace patient treatment buildings on the OSH Campus with a new State Hospital as soon as is practical given the conditions of the existing facilities. The specific requirements will be determined in the Phase II Master Plan.

- Continue the reconfiguration of the public mental health system of care based on the Governor's Mental Health Task Force recommendations.

- Evaluate the roles of Mental Health Service agencies to improve coordination of care.

- Further develop the three system options:

Option 1

Build a new state hospital facility to house civil, geriatric, and forensic patients, supported by a stronger community-based system (e.g. housing, short term facilities, medication management programs, emergency services, case management, etc). Under this option, it is assumed the system redesign efforts will enable more efficient patient movement among treatment settings, lowering length of stay at OSH (and other settings).

Option 2

Build a new state security hospital for the forensic patients, while focusing civil commitments and geropsychiatry at the Portland Campus of Oregon State Hospital, Eastern Oregon Psychiatric Center in Pendleton, or other setting(s).

- Separating the civil and forensic populations could ease the concerns of many regarding safety, and the inmate vs. patient tension that currently exists at OSH.
- The potential exists to locate the mentally ill prison population and forensic population on one campus. Operating efficiencies and an enhanced treatment environment could be created in this approach.

Option 3

Build regional facilities of a smaller scale, some of which may be State operated, to allow for a moderately sized central facility or facilities.

2005 Oregon State Legislative Assembly

The Design Team recommends that the Governor and the Legislative Assembly approve the funding for the functions described in this document for the Phase II Master Plan, and provide a funding mechanism that will allow further steps to take place after Phase II is approved. This will provide the necessary resources to complete Phase II of the Master Plan, along with implementing the recommendations immediately after approval of the Master Plan. These actions will provide a higher level of project definition and costs that will need to be considered during the 2007 Legislative Assembly.

TABLE OF CONTENTS

Oregon State Hospital

State of Oregon Department of Human Services

Framework Master Plan Phase I Report

KMD

May 16, 2005

1. Acknowledgments

1. ACKNOWLEDGMENTS

KMD Architects and Planners, New Heights Group and RM Consulting would like to thank the many groups and individuals who have assisted us during this two month process to collect pertinent data, identify issues and articulate concerns.

Since March 7, the KMD Team has interviewed more than 150 Stakeholders. We appreciate those who made themselves available for interviews on such short notice.

Stakeholders

Community Mental Health Program Directors
Private Community Mental Health Providers
Consumer Advocates/Friends/Family/NAMI
OSH Staff, including members of three Unions
Steering Committee Members
State Legislators
OHSU Department of Psychiatry
Consumers, Forensic and Civil

We have sincerely appreciated the project's Steering Committee members who have volunteered their time and interest to help formulate this report.

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Finally, we recognize that without the growing interest in Oregon's Public Mental Health System, the system would continue to languish, out of the eye of the general public. We appreciate the efforts and recommendations of the Governor's Mental Health Task Force in their September 2004 Report. The Honorable Peter Courtney, Senate President, is recognized for his focus on the plight of those with mental illness in Oregon, as well as the staff and facilities at the Salem Campus of the Oregon State Hospital. The Honorable Billy Dalto, State Representative, is commended for his interest and support in improvement of the State Mental Health System. The news media in Oregon is also noted for their reporting on the condition of the abandoned buildings at the Salem Campus and for their interest in the cremated remains of former OSH patients. A special thanks goes to Norman Miller, Project Manager for the Department of Human Services, for working closely with the Design Team and providing guidance and review for each step of the process.

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2. Introduction

2. INTRODUCTION

The KMD Project Team was charged by the Oregon Department of Human Services (DHS) to develop the first phase of a Framework Master Plan to guide DHS, the Governor and the Oregon State Legislative Assembly in determining the future design, location and role of the Oregon State Hospital in the Oregon State Mental Health System.

The last two months have been spent in interviews with over 150 persons in groups and private settings. We gathered data, read reports, met with the Steering Committee, and learned as much as we could about Oregon's system of care and the facilities that are part of the treatment for those with mental illness. We have found that for too many years Oregon has continued to under-fund and overlook the conditions, policies and systems in place for the treatment and care of this significant portion of our population.

The Basics

- This report focuses on the systems and facilities associated with the treatment of those individuals who have severe and persistent mental illness, whose major diagnosis is acute, chronic and long-term.

- Many of those with major mental illnesses can and do recover and go on to lead normal, productive lives if given proper treatment and opportunity. Those current and former consumers of mental health services with whom we have met cover the range of professions, including teachers, lobbyists, physicians, artists, etc. Therefore, persons with mental illness should not be defined by their illness any more than those with cancer or a chronic back problem is defined by their illness.

- According to the 2003 report of the U.S. President's New Freedom Commission on Mental Health, major mental illness, including clinical depression, bipolar disorder, schizophrenia, and obsessive-compulsive disorder, when compared with all other diseases (such as cancer and heart disease), is the most common cause of disability in the United States.

- According to the National Alliance for the Mentally Ill (NAMI):

  – Twenty-three percent (23%) of North American adults will suffer from a clinically diagnosable mental illness in a given year, but less than half of them will suffer symptoms severe enough to disrupt their daily functioning.
  – Approximately nine to thirteen percent (9-13%) of children under the age of 18 experience a serious emotional disturbance with substantial functional impairment, and five to nine percent (5-9%) have a serious emotional disturbance with extreme functional impairment due to a mental illness. Many of these young people will recover from their illnesses before reaching adulthood and will lead normal lives uncomplicated by mental illness.

Oregon State Hospital (OSH)

As previously noted, this report is to have a focus on the Oregon State Hospital. OSH has two campuses, Salem and Portland, administered from Salem and sharing a superintendent. As of this report, the total patient population at OSH is about 750, including 68 at the Portland campus; but the total budgeted capacity is 681 patients for both campuses.

The Eastern Oregon Psychiatric Center (EOPC) in Pendleton has a patient population of 60, however, for this report it is not part of Oregon State Hospital. Neither the facilities nor the patient population at EOPC are considered within the statistical data of this report, except as noted.

OSH is overcrowded partly because it cannot place patients back into community settings as rapidly as desired. A result of this is that the acute care hospital psychiatric wards are backed up with individuals who need to come to OSH. This is compounded by a legal system that continues to commit patients to hospitals that are already overcrowded.

Oregon's System

The current system for the care of individuals with severe and persistent mental illness is complex and at times operates more as an aggregate of treatment settings than a true system of care.

That system begins with crisis stabilization. This sometimes occurs in the emergency department (ER) of local acute care hospitals. They are usually overcrowded, consequently the wait in the local ER may be from several hours to several days. Further treatment and evaluation may continue in an evaluation unit in one of the few acute care hospitals that still offer this service. The legal system may enter at this point as involuntary commitment laws require a judicial civil commitment order; however, eight out of nine adults who have civil commitment petitions filed are diverted to voluntary treatment by admission to intensified outpatient services in their community. This may also apply to persons who may have developed behavioral problems associated with aging or dementia and who cannot be effectively treated at the community level. The patient and family can experience a series of complex issues, diagnoses, and delay. Easily accessible educational materials are essential at this juncture.

A parallel yet sometimes intersecting system of treatment may begin with the legal system. A significant percentage of those with mental illness enter the system through the commission of a crime. Depending on circumstances, the patient may enter the forensic system and be subjected to the Psychiatric Security Review Board (PSRB) and/or court system; again a complex series of issues, diagnoses and delays.

The county in which a person resides is ultimately responsible for the public treatment and care of a resident with mental illness. While in the past few years the number and abilities of community-based treatment facilities have grown, a small portion of citizens with severe and persistent mental illnesses from all Oregon counties are committed to OSH for a significant part of their treatment.

The following section summarizes our findings of the physical conditions at the Salem Campus of OSH.

3. Site and Facilities
Findings Summary

3. SITE AND FACILITIES FINDINGS SUMMARY

The current facilities and utility infrastructure at the Salem Campus of OSH are inadequate and inappropriate for a modern psychiatric hospital. As further noted in this report, it would be cost-prohibitive to renovate and/or add to these buildings to achieve modern treatment and recovery standards in a cost-effective manner. Finally, in their current state, the site, buildings and utility infrastructure put the State of Oregon at considerable risk for patient and staff safety based on overcrowded conditions, physical layout and seismic issues, especially within portions of the "J" Complex.

SITE AND BUILDING ANALYSIS METHODOLOGY

KMD reviewed drawings, photographs and reports; then toured each building with knowledgable OSH personnel, and while touring consulted with treatment staff and patients. We prioritized our assessments by first reviewing those buildings that house patients, followed by administrative facilities, and finally program and facility support buildings. We conducted an overview of the hospital's freestanding houses. Structural, mechanical and electrical engineers have reviewed the informational materials, toured the facilities and reported their findings.

Each building's structural condition as well as its ability to withstand earthquake and, more importantly, its adaptability to modern mental healthcare design was considered. In addition to certain environmental issues, each of the major buildings was reviewed relative in the context of current mechanical and electrical codes. Specific information about each of these facilities, evaluations and joint conclusions is available in Appendix A of this report.

SUMMARY OF FINDINGS

Site and Utility Infrastructure

The Salem campus has the character of a college campus with tree lined lanes twisting through expansive lawns with charming old brick buildings. The adjoining neighborhoods consider this campus as a park and a buffer to the Oregon State Penitentiary. However, Center Street NE bisects the campus and is heavily trafficked during most of the day, intruding into the quiet campus image. Center Street may experience greater traffic demands, further complicating vehicle and pedestrian crossing between the two portions of the campus.

A system of tunnels, developed to safely transport patients and materials among the buildings, remains in use. The tunnels cross under Center Street at two locations. There are issues of patient and staff safety associated with these tunnels.

- Observed water infiltration will weaken the structure of the tunnels.
- Seismic resistance is inadequate within the unreinforced brick masonry portions of the tunnels.
- Utilities in these tunnels, including the electronic security system, are within reach of anyone gaining access to the tunnel system.

- In the event of a collapse of a portion of the tunnel system the security system to the south campus would fail.

There appears to be adequate land and sufficient utility infrastructure available to serve the current facilities and any expansion of the hospital. The domestic water system pressure, however, requires pumps for fire suppression systems above the second floor.

Portions of the campus utility infrastructure utilize pipes and conduits that are quite old (such as the sanitary and storm sewer systems, fire mains, etc.). Some have been replaced, others are buried and are replaced as they fail; these continue to be part of the ongoing maintenance costs. Utility efficiencies are compromised when pipes are rusty, wiring is brittle or drains are broken. OSH pays about $250,000 for utilities every month. With more energy efficient buildings and systems, such costs would be significantly reduced.

Facilities

All of the buildings are old and have exceeded their useful life as components of a modern psychiatric hospital. Part of this is because the specialized needs of this hospital type have evolved over time, whereas the Salem OSH facilities have largely remained static.

Highlighted building issues include:

- Single corridors resulting in long paths of travel for staff and severely restricted sightlines for patient observation.
- Exposed piping for fire suppression increases the risk of patient injury.
- Patient rooms and program spaces do not comply with modern standards for area, observability, shape, accessibility, finishes, etc.
- Overcrowded patient wards reduce treatment effectiveness and lengthen the patient stay. This may result in increased patient anxiety levels which increase risk of injury to patients and staff.
- Improper and insufficient space for staff support and visualization of patients increases the risk for staff and patient injury.
- Access to exterior recreation is restricted and compromises safety. Movement to outdoor spaces via crowded elevators and narrow stairs increases risk of injury for patients and staff.
- The buildings are expensive to operate because they have single-pane windows, no insulation, and antiquated and inefficient heating, electrical, and lighting systems. Maintenance costs are very high due to continual replacement of worn out equipment.
- Only one building housing patients has a forced air mechanical system with cooling capabilities. Other buildings rely on steam heating and occasional ineffective window-mounted air conditioners. In warmer months, temperatures in all patient wards significantly exceed the maximum of 78°F. permitted by the Oregon Administrative Rule (OAR).

- Current Americans with Disabilities Act (ADA) requirements are not met.

- The presence of lead and asbestos, as reported by the Physical Plant Director, raises significant issues of soil and building contamination.

- Roof leaks are common and occur in buildings occupied by patients.

- The oldest buildings of the "J" Complex are wood framed with exterior walls of unreinforced masonry. Some portions have no proper foundation. Should an earthquake occur of the magnitude for which we now design, these unreinforced masonry buildings are likely to collapse, thereby putting the State at considerable risk for patient and staff safety. One wing (Building 48) in the "J" Complex is of concrete and steel construction; however, it is recommended that, if OSH continues to house patients in this building, a seismic analysis be conducted.

The newest building housing patients (Building 50, Eola Hall) was constructed of reinforced concrete in the 1950's and remodeled in the 1970's. It might be considered the most likely candidate for reuse. However, if it is remodeled again, current regulations will require that the building be brought into compliance with all current structural, safety and psychiatric hospital codes. This includes structural upgrading to withstand code-determined seismic forces. The exterior glazing, interior walls and ceilings, and plumbing would need to be replaced and the heating, cooling and electrical systems would need to be upgraded. The patient wards that now house up to 44 persons in two-, three- and four-bed rooms would need to be converted into private and semi-private rooms with integral toilet and shower facilities as required by the OAR. This increases the area for patient rooms which will decrease the number of rooms. This suggests that the remodeled building would house about one-third fewer patients.

We estimate reconstruction costs for Building 50 would approach $25 million, similar to that for new construction. Even with such extensive renovation, the basic building configuration still limits the quantity and types of spaces and amenities that can be provided. This suggests that the building will never be appropriate for modern methods of treatment and care for those with mental illness.

Historical Impacts

The "J" Complex is the grouping of building and additions dating back to 1883. The original facility was patterned after treatment hospital prototypes of that era developed by Dr. Thomas S. Kirkbride of Pennsylvania in the 1840's. Over the years, additions, remodeling and poor maintenance have changed the appearance and historical viability of the facility. Some note, however, that this is the oldest continually operated psychiatric hospital on the west coast, and it was featured in the 1970's movie, *"One Flew Over the Cuckoo's Nest."*

No buildings on the Salem campus are included in either the National or State Registries of Historic Buildings. The "J" Complex and the "Dome" Building are, however, listed by City of Salem as "Local Landmarks." Approval by the City of Salem Landmarks Commission is required for any exterior repairs or modifications. The State Historic Preservation Office (SHiPO) of the Parks and Recreation Department recommend that a site reconnaissance be conducted prior to any redevelopment. KMD further recommends that a qualified architectural historian review the buildings and available documents to make certain of their appropriate place in history. It should be noted that just because a building is old, that doesn't make it historical or significant.

4. SYSTEM IMPLICATIONS

The future of the Oregon State Hospital cannot be determined adequately without considering the overall system of care for individuals with severe and persistent mental illness. A high level review of this system was completed through interviews with consumers, individuals working within the system, advocates for the mentally ill, and other stakeholders; a review of previous assessments and related documents pertaining to Oregon's mental health system; and a comparison to other mental health systems across the country. The findings of the system review have considerable implications for the future size and configuration of the Oregon State Hospital. Key findings include:

- The current system of care for individuals with severe and persistent mental illness is complex and at times operates more as an aggregate of treatment settings.
  - As in most large systems, there exist multiple approaches and philosophies to caring for the mentally ill.
- Some of the patterns of use among the different treatment settings are not consistent with today's "best practices", however, there is a clear movement toward evidence-based treatment practices.
- There has been insufficient financial investment in the mental health system, contributing to issues of integration between county and state agencies, and private providers. This is a significant contributor to gaps in patient care.
- Parallel state departments have developed their own independent systems of care, which overlap with that of the Office of Mental Health and Addiction Services (OMHAS), creating greater opportunities for inefficiencies and individuals to fall through the cracks.
- Inadequate community resources for the forensic population, combined with a conservative discharge approach among the Psychiatric Security Review Board, result in many forensic patients remaining in OSH longer than their treatment needs warrant. This extends length of stay and limits the number of new admissions who need the treatment services of the facility.

While individuals interviewed noted that the quality of care is good within the system, the issues outlined above affect availability and access to the most appropriate services. Examples include:

- Civil commitment patients are unable to access the appropriate treatment at the appropriate time because of the extended stays at OSH and other settings. Insufficient community resources and integration between community and state providers sometimes cause patients to stay in OSH longer than clinically necessary. This makes beds at OSH unavailable for those patients in acute care hospitals who await placement at the State Hospital. Consequently, acute care beds are taken by chronic patients, thereby limiting the availability of these acute care services.
  - It was noted in interviews that on any given day an estimated 50-75 civilly committed patients at OSH could be treated in a lower intensity, community-based setting but remain at OSH due to limited community resources.
  - In addition, an estimated 25-40 patients in acute psychiatric beds at any given time are awaiting placement at OSH.

- The geropsychiatric population does not have sufficient services available through community-based long term care facilities. Interviewees suggested that, with sufficient resources, an estimated 75% of these patients could be better served in community-based settings.

- Child and adolescent services have been shifted to a private provider to offer a more age appropriate setting for this population.

- Forensic patients present a more complex challenge. During the Stakeholder interviews, numerous persons noted that patients also stay at OSH too long due to limited availability of community resources and a conservative release position taken by the PSRB. Communities are reluctant to accept these patients from OSH, and there is no formal "mandate" that requires communities to accept responsibility once the patient is released from OSH. All of these factors contribute to the significant growth in this population at OSH. Exacerbating the overcrowding problem is the role of the court system in determining which patients are placed in the PSRB system. Placement decisions appear to be based more on plea bargaining among courts than on matching patient needs with optimal treatment options.

  - Estimates at the time of this study suggested that up to 70 forensic patients could be better treated in community-based settings. Half of these patients have already been approved for conditional release and the others are awaiting approval.
  - Sex offender programs are not available, yet many patients at OSH would benefit from these services.
  - The Department of Corrections is experiencing an increasing prevalence of inmates with severe mental disorders. Many of these individuals cannot be housed in the general prison population, but there are not enough Special Management Unit (SMU) beds to accommodate the growing need. Many of these inmate/patients are known to the PSRB or mental health system, yet there is no formal mechanism for coordinating their care across the departments. Inmates may be released with limited medication, only to wait months to get back on the state/county department roles. This wait may result in delayed medication and/or treatment and can cause a relapse before the patient has a chance for community reentry.

Significant efforts are underway to improve the integration of services and provide more community-based settings, but more resources are essential to meet the growing needs of the population and facilitate better use of state hospital beds.

- Focus on increasing commitment to a recovery model and evidence-based practices.

- OMHAS is developing a co-management proposal with county agencies to facilitate better integration between the state and community-based providers. This will initially target the civilly committed population but may serve as a template for the forensic and other populations.

- Numerous community-based programs have been developed, and more are on line for opening through 2007, that will facilitate discharges from OSH. In total, it is anticipated that 150 patients from OSH will be discharged into community settings (civil commitments and PSRB) by mid 2005, and potentially another 278 by July 2007. This will not lower the OSH census by an equal amount, but rather serve as a diversion from acute/extended care settings as well as a placement for OSH discharges. This should, eventually, lower both admission rates and length of stay at OSH.

- New models of care are being developed to facilitate earlier treatment for patients, in the hopes of minimizing the need for OSH beds. Crisis resolution centers, extended care management units, and other models of care are being developed within communities to provide earlier intervention as well as placement options for patients. Some of these settings qualify for federal as well as state funding, thereby lowering the overall cost to the state.

These and other initiatives currently underway are positive steps toward developing a more community-oriented system of care for the severely mentally ill. However, more investment is needed in the system infrastructure as well as treatment and residential settings, to adequately care for this growing population.

Clearly, system issues affecting service integration and availability have a significant impact on OSH utilization. Addressing the facility needs of OSH without addressing the underlying needs of the system for better integration and more community-based programming would not be the best use of state resources, nor would it provide the optimum care for the state's mentally ill population. The system issues identified in this report must be evaluated further to fully understand the implications on service utilization and the corresponding effectiveness and cost of care.

5. OPTIONS AND RECOMMENDATIONS

OPTIONS

There are multiple options for serving the severe and persistent mentally ill population. While the focus of this study was on the OSH facility, the recommendations address the system of care that effects, and is effected by, OSH.

Oregon's commitment to a recovery model for the mentally ill, with an increasing focus on community-based alternatives to care is evident. Facility options for the state hospital were considered in this context. The options most likely to succeed in the long term involve a commitment to changing the system while preparing for a new state hospital that is used appropriately.

Oregon population growth alone will create a greater demand for OSH beds. Greater focus on, and support for, developing community-based services, will slow the growth in OSH bed need. Preliminary bed need projections suggest that a range of 800 to 1,100 state hospital beds will be needed in 2020 (all three sites included in bed need). Accounting for those populations currently in Portland Campus of Oregon State Hospital (POSH) and Eastern Oregon Psychiatric Center (EOPC), the bed need at a replacement for the Salem facility would be between 750 and 970. A breakdown by patient population shows:

Civil Commitment:	62 to 92 beds
Geropsychiatry:	84 to 136 beds
Forensic:	606 to 740 beds

Please see Appendix B for statistical data.

Facility options include:

- Option 1
  Build a new state hospital facility to house civil, geriatric, and forensic patients, supported by a stronger community-based system (e.g. housing, short term facilities, medication management programs, emergency services, case management, etc). Under this option, it is assumed the system redesign efforts will enable more efficient patient movement among treatment settings, lowering length of stay at OSH (and other settings).

- Option 2
  Build a new state security hospital for the forensic/PSRB patients, while focusing civil commitments and geropsychiatry at POSH, EOPC, or other setting(s).
  - Separating the civil and forensic populations could ease the concerns of many regarding safety, and the inmate vs. patient tension that currently exists at OSH.
  - The potential exists to locate the mentally ill prison population and PSRB population on one campus. Operating efficiencies and an enhanced treatment environment could be created in this approach.

- Option 3
  Build regional facilities of a smaller scale, some of which may be State operated, to allow for a moderately sized central facility or facilities.

The following options were considered but ruled out as they were cost prohibitive or did not address the overall system issues driving OSH over-utilization.

- Renovate existing facility and continue use. While this may be an option for some to consider, it is not a realistic alternative given the age of the current facility and deficiencies noted in the facility evaluation. The potential cost of renovating would be near the cost of a new facility, and the final design would remain less efficient and effective.

- Build a new facility without any corresponding changes in the system of care. Given historical trends, and Oregon's continued population growth, building a new facility without any change in utilization patterns would result in unsustainable growth, and projected bed need of 1,100 or more by 2020. With hospital beds the highest cost care setting in the state, this option would quickly become a greater financial strain on the system.

- Privatize the state hospital function. In privatizing, the state could shift the incentive for running an efficient operation and integrating with the system to a private agency. OMHAS currently has multiple agencies with which it contracts for a variety of services, including the recent contract with Trillium for inpatient adolescent services. The driving force behind privatization is typically financial and does not often result in significant changes to the system of care. While this approach lets the state leave the operation of the state hospital to another entity, there is less flexibility should this relationship not work out. There is also less recourse for cost escalation as volume increases. For these reasons, the interest among states in privatizing state hospital functions has slowed.

- Decentralize mental health funding to turn most/full control to county/local agencies. Some states have shifted the funding responsibility to the county agencies. State hospital beds are then "bought" by these agencies on an as-needed basis. This facilitates more local ownership of the full continuum of services, including state hospital stays, and can foster the development of more extensive community resources. However, states have also found that this approach carries the risk that local authorities will choose to do less for their mentally ill populations than is currently available, effectively shrinking the continuum of care.

RECOMMENDATIONS

- Proceed with the Phase II Master Planning for a new state hospital facility. Replacement is clearly the best option for the state and movement towards a new facility needs to progress quickly. Specific deliverables for Phase II include:

  - Projected state hospital bed need for 2020 that is agreed upon by a multi-agency work group.
    - > Projections will address the role of additional community-based settings and will factor these into the assumptions.
  - Review of EOPC and POSH facilities to determine potential and suitability for expansion.
  - Recommendations on the number of state hospital sites needed.
  - Recommendations on patient mix in a new state hospital facility – forensic, geropsych, civil.
    - > Recommendation on viability of co-locating the mentally ill prison population with the forensic population on a state security hospital campus.

  - Recommended site(s) for state hospital beds.
  - Master facility plan for new state hospital, based on functional and space program.
  - Cost estimates for new state hospital.

- Continue the reconfiguration of the system consistent with the recommendations of the Governor's Mental Health Task Force. A fully decentralized system is not warranted at this time, but greater support for initiatives now underway is needed to promote the development of community-based services.

- Charge OMHAS with developing a plan that articulates the number and type of community-based settings needed across the state to support the state hospital at the bed projection levels determined in Phase II.

- Re-evaluate the roles of the courts, Department of Corrections, PSRB, and OMHAS in the identification, placement and treatment of forensic and mentally ill patients to develop a more rational and consistent system that promotes recovery while supporting public safety.

- Finally, we recommend that a memorial be established to achieve the following:

  - Dignified, perpetual care of the unclaimed cremated patient remains ("Cremains") of those who died at Oregon State Hospital.
  - Collect and archive the historical data, photographs, etc., of this facility to assure that this important component of the State's history is preserved.

6. Next Steps

6. NEXT STEPS – PHASE II MASTER PLAN AND IMPLEMENTATION

The Phase I Framework Master Plan provides a high level review of the Oregon State Hospital (OSH) and the effectiveness of the existing mental health system in the State of Oregon. Included is an analysis of the Salem campus physical plant to determine the adequacy and ability to provide the quality of environment appropriate for the treatment of persons with mental illness in a safe and secure setting. Operational issues are identified when the physical conditions of buildings used for patient care impact hospital staff's ability to administer treatment programs or are considered unsafe for staff and/or patients. The summary findings concluded that:

- The physical conditions of the buildings used for long-term treatment programs do not comply with contemporary secure mental health building design standards for treatment and security.
- The overall mental health delivery system is complex and does not have the available resources to adequately address the needs of the patients moving through the system.
- Under current treatment philosophies, patients who could receive the appropriate level of treatment in a community setting remain at OSH due to a shortage of community-based facilities that provide step-down mental health services. This condition results in a less effective treatment program for the patient at a higher cost to the State.

This document represents the completion of Phase I of the master planning process. The next steps are to continue developing the findings and recommendations identified in the Phase I document into the more detailed Phase II Master Plan document, along with planning ahead for implementation once the Phase II plan is accepted.

The final scope of work for the Phase II Master Plan will be established based on the Phase I Framework Master Plan recommendations and include refinements that define all issues needing further analysis to achieve the end goal for Oregon's mental health system. These criteria will form the foundation for the detailed Master Plan and will be advanced by a series of in-depth stakeholder interviews and Steering Committee participation. The Phase II Master Plan will be a comprehensive document that is anticipated to take between six to eight months to accomplish the work. The final document will include:

- Projection of need for the Oregon Mental Health System that will establish the expected number of patients for OSH and those in community settings.
- Recommendation of the role that OSH will have in Oregon's mental health continuum.
- Site analysis and detailed recommendations for the location and number of OSH campuses.
- Architectural program and operational narratives for the Oregon State Hospital that define the number of buildings, size, operational/treatment philosophies, design parameters, staffing requirement and magnitude of cost.
- Conceptual level architectural design drawings showing the basic relationships of all building components.

- Analysis and recommendations on the viability of co-locating the mentally ill prison population with the forensic population on a state security hospital campus.

- Recommendations on the disposition of current hospital property, if necessary.

- Definition of interim steps necessary to achieve the recommendations for the future hospital.

The Architectural programming effort will establish the space requirements and design parameters for OSH. Conceptual level architectural drawings will be prepared and include the operational relationships responding to treatment philosophies specifically identified for OSH. The design parameters will also include engineering systems and other technology that will be necessary for a contemporary mental health hospital environment. The conceptual design will be the foundation document for the Implementation Phase.

Once the Phase II Master Plan is completed and accepted by the Department of Human Services (sometime in early 2006), it is critical that there be funds available to allow for a Request for Proposal to be issued by DHS for the Implementation Phase of this project. The advantages to the State of Oregon include:

- The recommendations for improvement of the current mental health system will start to be implemented immediately after the acceptance of the final Master Plan.

- The OSH design process would begin and the project would be developed to a level that would provide higher definition and more refined cost information for consideration during the 2007 Legislative Assembly.

- Special mental health program development support would be available from the Mental Health Consultants.

- Conditions that are considered high risk within the existing OSH can be addressed.

During the subsequent implementation phase, the following architectural and engineering tasks may include:

- Schematic Design Phase. This is the initial phase of the architectural design process and will consist of the translation of the architectural program document into conceptual building and site design.

- Design Development Phase. Upon approval of the Schematic Design Phase, the project will be advanced and developed in greater detail to establish the architectural character and construction quality of the project.

- Construction Documents Phase. Upon approval of the Design Development package, the Construction Documents needed for contractor bidding will be produced.

- Bidding and Construction Phases. Upon completion of Construction Documents, they will be released to contractors for competitive bidding. Upon acceptance of the most qualified bid, the project will be awarded, the contractual requirements finalized, and the Construction Phase will begin.

Appendix A

SITE AND FACILITIES ANALYSIS

INTRODUCTION

This report is a review of the site and facilities that make up the Salem Campus of the Oregon State Hospital (OSH); and it is an evaluation of their function within the context of the State's psychiatric hospital. The hospital facilities have been constructed over the last 120 years; standards for patient care have evolved and been refined over that period of time. The original 1883 building was modeled on the 1840 designs authored by Dr. Thomas S. Kirkbride of Pennsylvania. While the Dr. Kirkbride standards and designs were a marked improvement over the standards and designs typical of the early 19th Century, current rules and standards for contemporary psychiatric facilities have changed. The State of Oregon's own rules for psychiatric hospitals include the following:

- Patient sleeping rooms are to have a minimum of 120 square feet area with attached and private toilet and bathing facilities. Private rooms are encouraged, but if semi-private rooms are provided, the minimum size is 100 square feet per occupant.
- Each patient housing unit is to have multi-purpose areas available to the patients as follows: two social activity areas with a total minimum area of 40 square feet per patient; one multi-purpose group therapy area with a minimum of 15 square feet per patient; and private consultation rooms of 100 square feet minimum and a maximum ratio of one room per twelve patients.
- Handicapped accessibility as required by the ADA.
- Transparency of design is required to allow the staff to easily monitor patient sleeping rooms, activity areas and outdoor recreation spaces.
- Direct access to outdoor recreation areas is considered essential.

In addition, patient areas are to be designed and finished to minimize the opportunities for patients to cause injury to themselves or others. This includes:

- Hidden alcoves and nooks are prohibited.
- All interior and exterior windows are to be non-operable and glazed with break-resistant glass.
- T-bar ceilings with lay-in acoustical tiles are not allowed.
- Wall, ceiling, lighting and air distribution devices are to be tamper-resistant and secured with tamper-resistant fasteners.
- No exposed piping or electrical conduit is allowed.
- Electrical outlets must be ground fault interrupter type.
- Window curtains and blinds shall break away with a vertical force of greater than 40 pounds.

These design rules and standards and other operational requirements were considered during the review and assessment of the physical condition of the existing facilities. It is important to remember that buildings in use at the time a new code or regulation is initiated are allowed to remain in operation without being upgraded to the new regulations. This process, called "grandfathering," allows for the codes and standards to be updated without burdening owners of existing facilities with expensive repairs or upgrades. However, if a building owner chooses to remodel or refurbish a building that has been grandfathered, it must meet current code, and any portion of the building affected by the remodel must be upgraded to current code. In addition, the structural and life/safety qualities of the existing building cannot be diminished from their original level. A decision to repair, remodel or refurbish any of the existing OSH buildings must consider the impact of upgrading the building to current codes.

METHODOLOGY

The building assessment involved review and evaluation of documentation provided by the Hospital. This documentation included:

- "Building Inventory Reports" dated 16 March 2005
- Current "Building Information Reports" for selected buildings
- Federal Emergency Management Administration's "Hazardous Building Study (FEMA-154/HAZUS) Rapid Visual Screening Form"
- The building floor plans were reviewed to confirm the physical and operational use of the OSH campus buildings

The on-site reviews of the existing buildings and infrastructure systems were conducted by KMD architectural staff, and engineering staff from KPFF Consulting Engineers for structural evaluation, and Balzhiser & Hubbard Engineers for environmental systems evaluation. OSH facilities maintenance and housekeeping staff assisted in the review and supplemented the assessment team's visual observations with personal knowledge of the condition of the buildings and their infrastructure systems. The review also included a preliminary evaluation of potential building code deficiencies. These codes include:

- The State of Oregon Structural Specialty and Life Safety Code 2004 based on the International Building Code (IBC) 2003 edition for fire/life safety concerns, compliance with the Americans with Disabilities Act (ADA) and structural integrity and seismic design issues
- The Oregon Mechanical Specialty Code, 2004 edition for evaluation of HVAC systems
- The Oregon Plumbing Specialty Code, 2005 edition for building domestic water supply and plumbing fixtures
- National Electric Code (NEC), 2005 edition for electrical power and lighting issues
- The standards prescribed in the State of Oregon, Department of Energy, State Energy-Efficient Design (SEED) Program for energy efficiency in state-owner buildings

We also evaluated the buildings' compliance with the rules and standards pertaining to the design and operations of mental health treatment facilities and psychiatric hospitals, including:

- Oregon Administrative Rules 333-535-0061, Psychiatric Patient Care Rules
- Chapter 11 of the "Guidelines for the Design and Construction of Hospital and Health Care Facilities" 2001 edition, American Institute of Architects Academy of Architecture for Health.

The information developed was compiled into an Assessment Evaluation Form for each building. These forms are included at the end of this section and are intended to provide an overview of building size and use and the general condition of the architectural, structural, mechanical and electrical systems.

The staff interviews and evaluations of the buildings and infrastructure confirm the following conclusions:

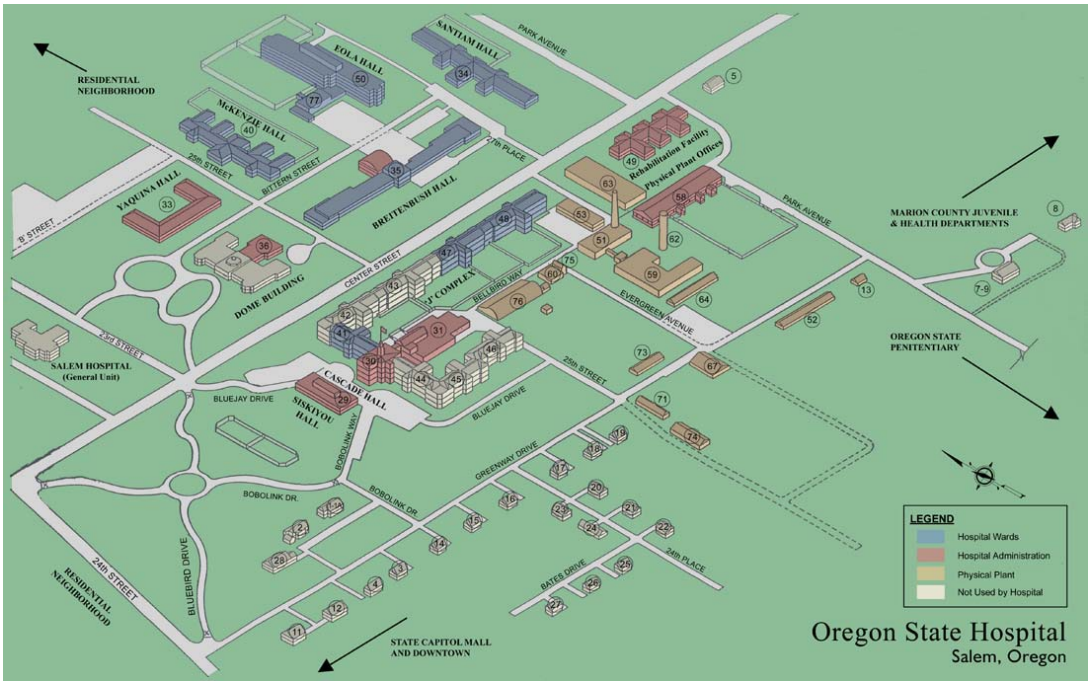
- The existing buildings are not compliant with the regulations and standards established for mental health facilities and psychiatric hospitals.
- The existing buildings, are not in compliance with current State and National building codes.
- Continued use of the existing "J" Complex buildings, poses a danger to the building's patients and staff due to fire/ life safety and seismic structural design deficiencies.

- While the interior finishes of the patient ward facilities are being maintained, the buildings' exterior walls, windows, roofs and infrastructure has been neglected to the detriment of the buildings.
- The existing structures have suffered from a program of deferred maintenance. Repair and upgrade of some of the existing buildings, such as Buildings 33, 34, 35, and 40, could make alternative use of these buildings possible; however, reuse of any of the buildings as psychiatric treatment facilities would not be cost effective.
- By allowing the abandoned "J" Complex buildings (42, 43, 44, 45, 46) and the second floor of Building 49 to deteriorate, environmental hazards associated with lead paint, asbestos, mold and mildew have developed to the point that significant mitigation will be required prior to any restoration or demolition.

ARCHITECTURAL AND STRUCTURAL EVALUATION

The Oregon State Hospital Salem campus is a collection of 58 buildings constructed between 1883 and 1956. The campus design consists of 19 buildings housing patient wards and hospital administration offices, 15 buildings serving physical plant and warehouse needs, and 26 residential cottages.

- Five of the patient ward and administrative buildings (Buildings 42, 43, 44, 45, and 46) have been completely abandoned. A majority of the space in Buildings 33 and 36 has been leased to other state agencies.
- Of the physical plant and warehouse structures, only five are fully utilized with the remainder being used for incidental storage. At this time, the residential cottages are either rented to hospital staff or leased to other state and local service agencies, except for three of the houses, which have been abandoned.
- Of the 19 patient ward buildings and hospital administration buildings, 12 were constructed between 1883 and 1928, while the remaining were constructed between 1948 and 1956. All of the physical plant structures were constructed prior to 1940, excluding the new boiler room built in 1985. The period of construction of the cottages varies, but based on design and construction techniques it appears most were constructed prior to 1950. All of the facilities, except those that have been completely abandoned, have been remodeled or refurbished to some degree.



For the purposes of this analysis, the patient care and hospital administration buildings were divided into two groups: those south of Center Street, and those north of Center Street. Those buildings south of Center Street – Buildings 30, 32, 41, 42, 43, 44, 45, 46, 47, 48, and 49 – are the older group of patient care buildings (known as the "J" Complex buildings) and includes the hospital's main kitchen. Building 29, built in 1950, is used for OSH administration.

Patient Care Buildings South of Center Street

The ten building wings that make up "J" Complex and Building 49, the Salem Rehabilitation Facility, were all built prior to 1930. Of the "J" Complex segments, Buildings 42, 43, 44, 45 and 46 have been completely abandoned and allowed to deteriorate. The second floor of the Salem Rehabilitation Facility is unoccupied and has not been maintained for several years. These buildings are in an advanced state of disrepair and may be considered for condemnation. The deterioration and the environmental hazards of exposed lead paints and friable asbestos, as well as the presence of molds and mildew make refurbishing and reuse of these building questionable. The remaining structures are staff and patient occupied; they have been maintained with some functional upgrades and further observations note that:

- Elevators were added long ago to provide handicapped access to the upper floors; however, the elevators are not ADA compliant.
- Older plaster ceilings have been concealed behind lay-in acoustical panel ceilings, hiding stains, mold or mildew caused by water leaks. It is noted that lay-in ceiling systems are not allowed under OAR regulations for use in patient areas of psychiatric hospital facilities.
- Fire protection sprinkler and electronic detection systems have been installed. The sprinkler piping is exposed in some of the patient areas in violation of the OARs.
- The steam heat system includes antiquated cast iron radiators, some of which have been replaced with now-antiquated finned tube radiators. Cooling is provided by residential style window-mounted air-conditioning units. Ventilation is limited to toilet exhaust fans and operable windows. The current HVAC system does not comply with treatment facility rules, state energy-efficiency regulations or state and national building codes.
- Most of the incandescent lighting has been replaced with more energy efficient fluorescent fixtures, however, these fixtures use the older starters ballasts that do not meet the current State SEED program requirements.
- As noted later in this report, the patient-occupied areas are not adequately ventilated or cooled. The OAR mandates that the maximum temperature not exceed 78°F. It is normal, however, for indoor temperatures to exceed 90°F. This is not an acceptable environment for healing.

All of the buildings are basically as they were constructed with all of the inherent problems of older buildings and construction systems. This condition is brought home by the fact that Buildings 30 and 41 have been recently reroofed replacing the original sheet metal roofing installed when the buildings were constructed.

The structural condition of the buildings south of Center Street could be categorized as "fair." No significant signs of distress or settlement were observed in any of the occupied buildings, however, none meet current seismic codes for new construction. The buildings constructed prior to 1930, primarily the "J" Complex, have wood floors and roofs with exterior walls of unreinforced brick masonry. Because the wood and brick are not intertied, it is expected that these buildings would perform poorly in an

earthquake of the magnitude to which we now design. This suggests that patients and staff may not be able to evacuate before the buildings collapse.

Patient Care Buildings North of Center Street

The patient wards constructed between 1948 and 1956 – Buildings 34, 35, 40 and 50 – are located north of Center Street and reflect the normal construction techniques and quality of the period. All are currently in use as patient wards and care staff offices. All have been upgraded to some degree.

- Fire protection sprinkler and electronic detection systems have been installed. The sprinkler piping is exposed in the patient areas in violation of the OARs. While these systems are tested regularly, the situation in which an alarm from Building 50 was not relayed to the City of Salem Central Fire Station due to faulty equipment does raise the concern about the systems' reliability.
- Attempts have been made to provide for handicap accessibility requirements.
- The building interiors have been maintained and some areas have been extensively remodeled, such as Building 50 fifth floor wards and the not yet occupied Building 34 first floor ward.
- The building exteriors are in good condition except for the absence of energy conservation systems, such as wall insulation and insulating glazing systems.
- Roof conditions vary from "recently replaced" at Building 40 to "needing replacement" for Building 34.
- Building 50 is the only building on campus with an integrated heating and cooling system. The other patient ward buildings are cooled by a combination of residential style window-mounted air-conditioning units or package air conditioning units.

In general the structural condition of the buildings is good; there were no significant signs of distress or settlement observed in any of the occupied buildings. Typically, the exterior brick veneer is in good condition. The buildings built between 1940 and 1955 are concrete buildings with concrete walls and columns supporting concrete floors and wood roof structures. While the physical structural condition of the occupied buildings is good, none of the buildings meet current seismic code requirements. These buildings would perform moderately well in an earthquake, experiencing varying levels of cracking that will affect non-structural finishes such as windows and brick veneer. There would be some structural damage but no partial or major collapse of the buildings. This would allow the building occupants to evacuate safely but patients and staff would probably not be able to occupy the buildings until conditions were investigated and necessary repairs made.

Physical Plant Facilities

With the exception of the abandoned wards, the physical plant facilities located south of Center Street suffer the most from deferred maintenance. All of the buildings have been retrofitted with a fire protection sprinkler and electronic fire/smoke detection systems, but no other modernization has occurred. All show signs of deterioration and stopgap repair attempts.

As noted above in reference to the "J" Complex, the unreinforced brick masonry buildings would perform poorly in an earthquake. It is likely that portions of the buildings would collapse in a code level seismic event which could prevent staff evacuation.

SEISMIC DESIGN EVALUATION

Buildings designed to current seismic code requirements should be able to resist a major earthquake equal to the strongest earthquake either experienced or forecasted for the building site without collapse. It is expected that any damage to the structure would be limited to a repairable level. For existing buildings, another standard was developed by the Federal Emergency Management Agency (FEMA) to ensure a life safety performance level during an earthquake. This standard is now called the American Society of Civil Engineers – Seismic Evaluation of Existing Buildings (ASCE-31). During a major earthquake, existing buildings that have been upgraded to the life safety performance level of ASCE-31 would have significant structural and nonstructural damage; however, partial or total structural collapse is not likely to occur. The structure would not be safe for continued occupancy unless repairs are made. There may be some injuries, but the risk to life threatening injuries is low. At this time the City of Salem does not allow application of ASCE-31 for buildings required by code to be upgraded; they must be upgraded to the levels of the Oregon Structural Specialty Code when remodeled.

The Willamette Valley did experience a significant earthquake with a magnitude 5.6 in the Scott Mills area in 1993. This earthquake seriously damaged the State Capitol Building, requiring the Capitol Rotunda to be closed for an extended period of time while repairs were made. Major ground motion in the Salem area is expected from an earthquake with a magnitude 6.2 to 6.8. This anticipated code level earthquake will have approximately ten times the force of the Scott Mills earthquake.

The construction costs to upgrade the structure of the existing OSH buildings would range from $10 to $35 per square foot depending on the construction type. While it is possible to upgrade the structural quality of the buildings, in some cases it would not be cost effective to upgrade these buildings to the current structural, life safety standards.

ENVIRONMENTAL SYSTEMS EVALUATION

The hospital's mechanical, plumbing and electrical systems were built under earlier, less restrictive codes and regulations. For compliance with the current building codes, these systems would require extensive modifications. Additional modifications beyond current Building Code minimums would be needed to comply with the Oregon State Energy-Efficient Design (SEED) Program regulations for publicly owned buildings. Modernization of the buildings' environmental systems would also require extensive upgrades of the buildings' architectural designs for building insulation, windows and doors, roof assemblies and lighting design throughout the facility.

Mechanical/Plumbing

The following conditions were noted during the on-site evaluation of the facility:

- The existing central heating plant building has modern equipment which is functioning effectively. The size of the central heating equipment is appropriate to serve the current campus and does not need capacity enlargement. However, for SEED energy-efficiency compliance, upgrades would be necessary.
- The central plant does not include a central cooling system, but space is generally available for potential cooling piping through the existing utility tunnels. The buildings are currently cooled by

diverse methods, including numerous residential window-style air-conditioners, rooftop packaged air-conditioning units and, for Building 50, air cooled chillers serving the building's air handling units. However, none of these systems bring the buildings into compliance with the 78°F. maximum temperature allowed by the Oregon Administrative Rules or the other SEED Program for energy efficiency.

- The heating, ventilation, and air-conditioning (HVAC) equipment located in hospital buildings does not have adequate zoning controls for occupant comfort and energy conservation. The HVAC systems have exceeded their anticipated length of service and appear to be still functioning only because of ongoing and creative maintenance. With few exceptions, the existing systems do not provide the ventilation rates now required by code. Providing the code-required outside-air ventilation rates would increase energy consumption further, which emphasizes the need for building energy efficiency upgrades.
- The existing manual HVAC controls should be upgraded to a modern electronic control system.
- Site water piping for domestic consumption is acceptable, but the existing plumbing systems are antiquated. The galvanized piping for domestic hot and cold water is nearing the end of its useful life. The corroded pipes may have rust and mineral deposits that restrict flows and reduce water quality. Replacement of the buildings' piping systems will be required for any remodel or upgrade. The existing plumbing system fixtures do not conserve water as required by current code and SEED regulations, nor do the plumbing fixtures meet the requirements for accessible design mandated by the Americans with Disabilities Act.
- The site infrastructure piping is routed through the utility tunnels. The existing steam and heating water piping are acceptable for continued use, but condensate mains and the expansion joints on steam piping need repair or replacement. Wastewater piping is in acceptable condition for continued use. The tunnels are also used for staff movement between buildings, so tunnel ventilation should be added.
- Some wastewater piping, not located in the tunnel system, has been found to be completely deteriorated. As leaks are discovered, these pipes are replaced.
- Existing fire suppression equipment in buildings is adequate, however, marginally low pressure in the City water supply makes fire pumps necessary for all buildings over two stories in height. Currently, fire pumps exist only in the Central Plant and one other building. These existing fire pumps are old and unreliable with no backup systems. The existing standard fire sprinkler heads are subject to actuation through tampering and should be replaced with institutional-grade sprinkler heads. Patient wards have exposed fire sprinkler piping, accessible by the patients, which is not permitted by the State administrative rule for these institutions.

Electrical

The hospital buildings were built using electrical equipment and designs that were acceptable at the time of construction. Buildings that had partial electrical upgrades between 1977 and 1987 include Buildings 34, 35, 40, 50, and the "J" Building complex. Most of these upgrades were made to the fire alarm system. No major electrical renovations have been made to the main campus power distribution system. It is reported by facility administration that it is necessary for at least one below grade electrical vault to be protected during wet times by a sump pump to keep infiltrating water from damaging the equipment.

Future remodels and any new buildings will require the upgrade of electrical systems for compliance with the National Electrical Code and Oregon Energy Standards. These upgrades would include:

- Uniform power distribution systems throughout the facility
- Energy-efficient step-down transformers
- Adequate grounding of electrical systems and equipment
- Proper overload protection
- Development of emergency and life safety systems with proper backup power sources

The main electrical power distribution to the campus is served by PGE from a primary line through a series of step-down power transformers. All of the transformers are tied to the same PGE power distribution line, therefore, there is no redundancy of public power sources for the facility. This means that the step-down transformers are owned by OSH but are maintained by PGE. It is not known what condition the transformers are in and to what level they have been maintained. Secondary transformers are tapped to feed more than one building from the same transformer. Most of the transformers are located in the tunnel system with a power duct system in the tunnel used to connect the transformers to each building's main distribution board. Water has leaked into the tunnel and part of the power duct shows signs of rust and deterioration.

Most of the buildings built in the 1940s and 1950s have a main distribution board that feeds all the branch panels associated with that particular building. Most of the buildings that were built prior to 1930 are fed not from their own main distribution board, but from the branch panels in the building are fed from various disconnects connected to a common power source. This type of distribution makes it extremely difficult to troubleshoot any problems on the system. Record drawings showing power distribution within a particular building are not available for most of the hospital. Any building remodel would need to redesign the power distribution system for the entire building.

The normal life expectancy for commercial grade equipment is approximately 30 to 35 years, but much of the equipment has operated much longer. No preventive maintenance has been done on any of the electrical distribution equipment. Some of the equipment installed on the renovated buildings, such as building 50 and 35, is still in fair shape but it is recommended for all equipment to be tested by an electrical testing company to determine the condition and service life of the equipment. Also, most of the emergency power equipment seems to have been installed within the last 30 years and it is recommended that this gear be tested as well.

Most of the building interior lighting is fluorescent fixtures. These fixtures use magnetic ballasts that are less efficient than modern electronic ballasts, and older style less efficient lamps are still in use. There are still incandescent lighting fixtures in some areas of the hospital. Building lighting needs to be renovated and new automatic lighting controls added to meet existing Oregon energy regulations.

The buildings' fire alarm systems have been renovated in the last 30 years. All alarms in the buildings are connected to a centralized reporting station which has an auto-dialup to the Salem Fire Department Central Station. However, the recent failure with the auto-dialer device reinforces the need for continual testing and upgrading of systems.

A campus-wide data network system has been installed with each building containing its own IDF rack. The main distribution frame room is located in building 33. Power for this room is backed up by a UPS system. The design of the system is based on current technologies.

HISTORIC ASSESSMENT

The Oregon State Hospital, previously known as the Oregon State Insane Asylum, has occupied this site since 1883. Prior to this the land was used for agricultural purposes. The original site, developed in conjunction with the Oregon State Penitentiary, included over 5,000 acres, extending to the hills north of Turner. Apparently, only the Dome Building (Building 36) and Cascade Hall (Building 30, part of the "J" Complex and the original 1883 hospital) are considered by the City of Salem Historic Commission to be of historic quality. Salem's Planning and Zoning Code, Chapter 120A lists the Dome Building and Cascade Hall as "Local Historic Landmarks."

- The two buildings have been placed on the list of local historic buildings for their architectural, human and environmental significance, per Section 120A.040 of the Salem Revised Code (SRC).
- Any remodel to or change to the buildings' exterior facade must be approved by the Salem Historic Commission and by the Salem Department of Development (Planning Bureau).
- Demolition of the structures is possible only after complying with SRC Section 120A.050. This section requires verification that the building cannot be reasonably repaired or restored, that there is no viable beneficial use of the building, and that there is no serious interest by outside parties in relocating the building.

Dome Building (Building 36)

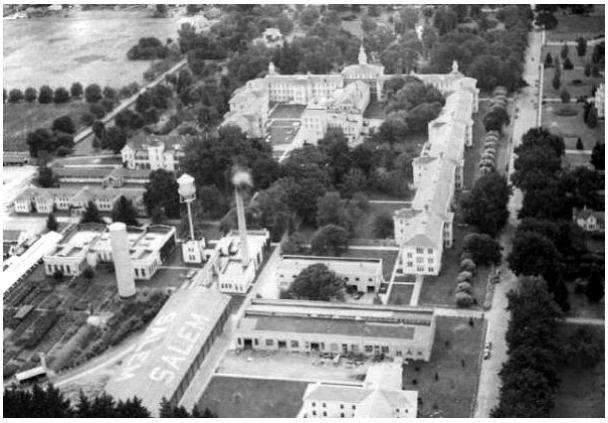
The Oregon State Historic Preservation Programs, Heritage Conservation Division, State Historic Preservation Office (SHiPO) notes that:

- None of the buildings on the site are on the State or National Registry of Historic Buildings. The area is not considered by the State as an Historic District.
- It is recommended that an "historic reconnaissance" of the site be made prior to any site use decisions to determine if any of the buildings qualify for consideration for the historic registries or if the site, or a portion of the site, qualifies to be considered as an historic district.
- Because the facility is owned by the State of Oregon, there is no financial incentive to the Owner to have the buildings or site officially declared as "historic."

Neither SHiPO nor the Salem Historical Commission mentioned that Building 35 (Breitenbush Hall), designed by Pietro Belluschi, should be considered as an historic building. It appears that this is not considered one of his significant works warranting historical status.

Any work done on the site must comply with state and national statutes if archaeological sites, features or historic materials were to be found during any excavation or construction. "Historic material" refers to any manmade materials 75 or more years old or, if Federal funds are use for the project, 50 years or more in age. The State is advised to be extremely aware of construction activities where old cemeteries were located as these have proven in the past to be poorly and inaccurately documented.

An aerial photograph of the south of center buildings taken in August 1940 shows several major structures located directly south of the "J" Complex buildings. These buildings are no longer present but there are existing signs of their previous existence. Any development in this area would require investigation of the site. As an historic reconnaissance of the facility is recommended to determine the historic issues pertaining to the buildings, an archaeological investigation of the site also is recommended prior to any redevelopment in the area.



1940 Photo of Oregon State Hospital
Ben Maxwell Collection
Salem (Oregon) Public Library

TREATMENT FACILITY SITING ISSUES

Community-Based Secure and Non-Secure 16-Bed Residential Treatment Facilities (RTF)

When evaluating a potential site for location of a residential treatment facility, the following should be considered as essential for any site:

- The parcel of land should be large enough to accommodate the physical needs and amenities of a 16-bed facility. This includes enough land for at least a 16,000 to 20,000 square foot single story building, parking and delivery access, patient outdoor recreation space, and a buffer from the adjoining uses in order to maintain a quiet environment. The minimum area required is approximately two acres, depending on location and land configuration. If expansion of the facility is anticipated, a larger site should be selected.
- The site can be located in either a rural, suburban or urban environment. However, the site should be within walking distance of public transportation. This is necessary for patient access to jobs, shopping, recreation and social activities. It is important that the access be safe and easy to negotiate.
- The site is not to be located in an industrial environment.

As well as essential needs, there are criteria which are advantageous and should be considered:

- Some of the patients may be employed by local businesses. Access to public transportation would allow patient travel to and from work, but close proximity to local employment would minimize patient commuting times and make the work experience more meaningful.
- Similarly, it is anticipated that a community-based program will expect the patient to interact with local neighbors. Neighborhood commercial, consisting of personal shops, cafes and other activities that would encourage patient socialization, would be a benefit to the treatment program. Pedestrian-friendly access and facilities should be near the residence and provide a range of positive reinforcement activities during evenings and weekends.

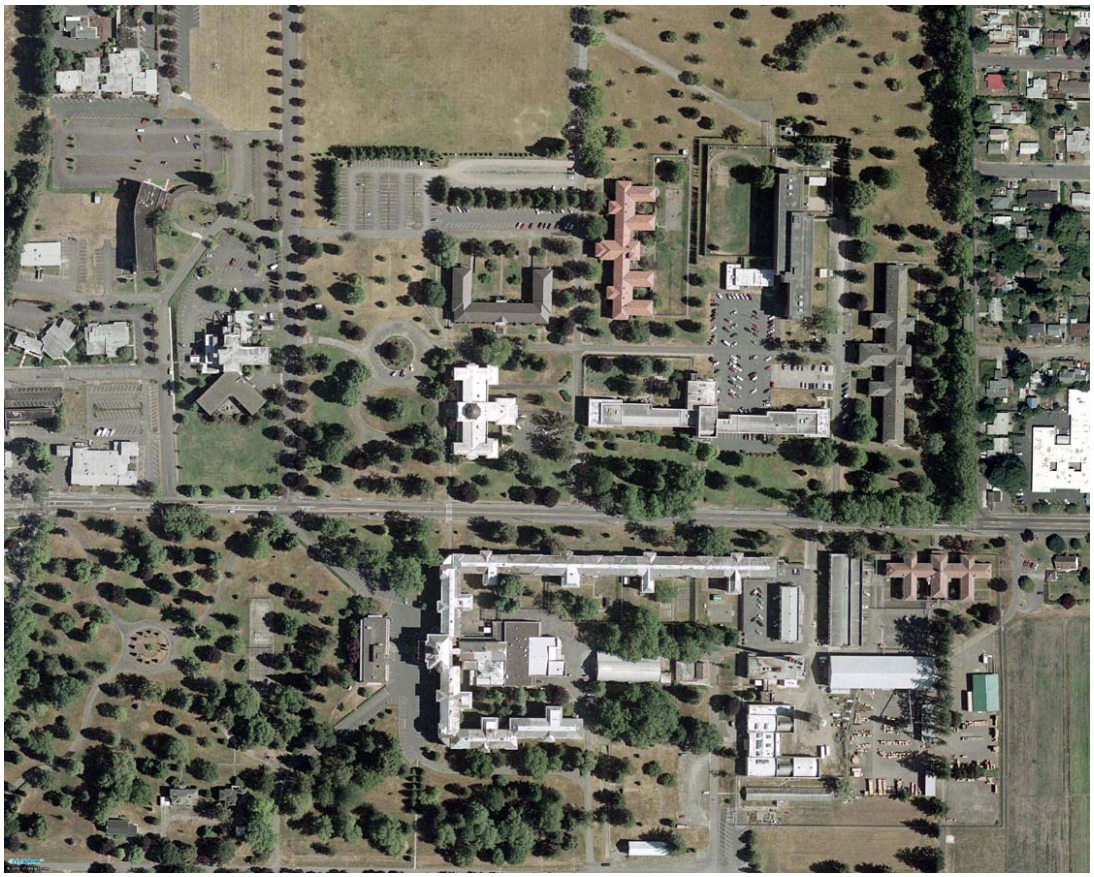
Secure State Facility

When evaluating a potential site to be the location of a regional or statewide secure treatment facility the following should be considered:

- The parcel of land should be large enough to accommodate the physical needs of a large patient population. This includes enough land for a treatment facility that, including treatment and support services, would be sized to approximately 1,000 square feet per patient. Parking and delivery access, patient outdoor recreation space and a buffer from the adjoining uses are also required. It should maintain a quiet environment. The minimum area required for a secured facility is approximately 50 acres, depending on patient population, location, and land configuration. Potential expansion of the facility should be considered. Given the need for a larger parcel of land, the site would be most generally located in a rural area.
- Because the facility will be secured and patients will not have access to areas beyond the facility, access to public transportation is not essential, except for the use of staff and visitors.
- The facility will need a well developed access system of streets and roads to accommodate staff, deliveries and emergency equipment.
- The facility will be of such a scale that utility infrastructure systems such as water, sanitary and storm sewer systems, electrical power and natural gas must be available and sized as appropriate for the facility. Electrical power and natural gas services are relatively easy and inexpensive to provide. If the site has no adjacent sewer utility, it may be necessary to develop an on-site treatment facility. Water supply needs are dependent on patient population and building size. If there is no immediate source of domestic and fire prevention water of adequate capacity, on-site wells and reservoirs would be included in the infrastructure development.
- The site may be located in either agricultural or commercial areas, but should not be located in an industrial or residential environment.
- Location of the site in a commercial or agricultural environment will require that the local planning jurisdiction approve the use of the site for an institutional use. This usually involves a zoning Conditional Use Permit. The Conditional Use Permit process is a long and involved procedure and will surely bring out the local “not in my back yard” (NIMBY) factor.
- As noted above, good access to the facility is required by the staff employed at the facility. The site should be located where qualified staff will want to live and work. It would be best to locate the facility where there is an established pool of trained potential personnel, and where there are cultural and physical amenities.

FACILITIES ASSESSMENT

The following Facilities Assessment Forms were developed for specific occupied buildings on campus.



Oregon State Hospital (U.S. Geological Survey, 2000)

Oregon State Hospital

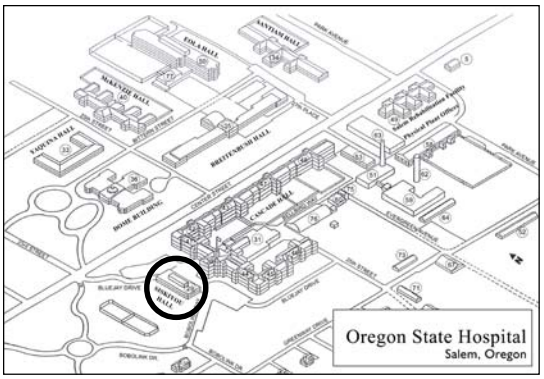
State of Oregon Department of Human Services

Framework Master Plan Phase I Report

KMD

May 16, 2005

APPENDIX A - 12



SISKIYOU HALL, BUILDING 29

Current Use: ADMINISTRATIVE OFFICES
History of Uses: ADMINISTRATIVE OFFICES
Historical Significance: ☐ Yes ■ No
Year Built: 1950

GENERAL CONSTRUCTION DATA

Area:

Footprint: 8,525 square feet
Total: 25,575 square feet (including basement)
Height (# Stories): ☐ 1 ■ 2 ☐ 3 ☐ 4 ■ Basement ■ Mech. Penthouse

Structural System:

Concrete framed floors and roof systems supported on concrete columns and walls.

Exterior:

Walls	■ Brick	☐ CMU	☐ Stucco	☐ Other_____	
Windows/Doors	☐ Wood	■ Steel	■ Aluminum	■ Fixed	☐ Operable
	■ Single Pane	☐ Insulated			
Roof	■ Built-Up	☐ Membrane	☐ Composition Shingle	☐ Other _____	

Interior:

Walls	☐ CMU	☐ Wood Stud	☐ Metal Stud	☐ Fire/Smoke Rated
	■ Plaster Finish	☐ Drywall Finish		
Floors	☐ Wood	☐ Concrete	☐ Vinyl Composition Tile	■ Vinyl Asbestos Tile
	■ Carpet	■ Ceramic Tile	☐ Sheet Vinyl	
Ceilings	☐ Plaster	☐ Drywall	■ Glue-Up Acoustical Tile	
	■ Lay-In Acoustical Panels		☐ Exposed Structure	

Mechanical Systems:

Building 29 has central HVAC provided by a penthouse air handling unit. Air dampers use pneumatic controls and heating coils have electric actuators. The air handling units have no cooling coils. Temperature control consists of tempering of the outside air to maintain a minimum supply air temperature. Exhaust systems are adequate. Fire protection is provided by a wet-pipe system. Plumbing fixtures are generally serviceable but do not meet modern requirements for water conservation and accessibility. The building appears to have some wall and roof insulation but the insulation and the building's windows are not adequate to meet current Energy Code requirements.

Heating	☐ Supply Air	■ Convection (Steam & Heating Water)		
Cooling	☐ Supply Air	☐ Rooftop AC Units	■ Window AC Units	☐ Openable Windows
	☐ None			
Ventilation	☐ Supply Air	☐ Limited Exhaust	■ None	
Water Heating	☐ Local Heating	■ Piped from Central Plant		

Electrical Systems:
Building 29 is fed from switchboard located in building 31. Power is distributed in the building through branch panels located at each floor. Branch panels are fed from various disconnects all tapped to a common bus. Most of the main disconnects are old. There is no dedicated generator for this building. Emergency power circuits are connected to another building's generator. The building does contain a fire alarm system with detection and verification devices and connection to a central reporting facility. Most of the lighting in the building comes from older fluorescent lights. There are no automatic lighting controls for this building.

Main Distribution	☐ Campus System	■ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	☐ Generator	☐ UPS	■ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	■ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	☐ Fair	■ Acceptable
Openings	☐ Poor	☐ Fair	■ Acceptable
Roof	☐ Poor	■ Fair	☐ Acceptable

Interior:	☐ Poor	☐ Fair	■ Acceptable

Structural:
Building 29 appears to be in good structural condition. The structural system consists of concrete framed floors supported on concrete columns and walls. There were no signs of significant distress or settlement. The exterior brick veneer was in very good condition with no visible cracks. The lateral system for the building most likely consists of concrete shear walls. Because of the age of the building it most likely would not meet current seismic code requirements. However, because of its height and construction type it would probably perform reasonably well in a seismic event. The estimated structural cost to upgrade the building to current seismic code requirements would be $10 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	☐ Fair	■ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	☐ Fair	■ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

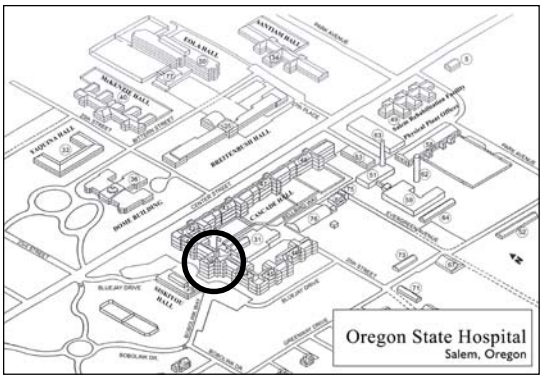
Electrical:

Equipment Age	☐ < 10 yrs.	■ < 25 yrs.	☐ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:
Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



CASCADE HALL, BUILDING 30

ARCHIVE PHOTO, 1940
(Salem Public Library, 4400)

Current Use: OFFICES/GYMNASIUM
History of Uses: HOSPITAL ADMINISTRATION
Historical Significance: ■ Yes (City of Salem Local Landmark) ☐ No
Year Built: 1883, Modified 1926

GENERAL CONSTRUCTION DATA

Area:

Footprint: 10,908 square feet
Total: 28,924 square feet (not including basement)
Height (# Stories): ☐ 1 ☐ 2 ☐ 3 ■ 4 ☐ 5 ■ Basement

Structural System:
Unreinforced brick masonry bearing walls supporting wood framed floors and roof.

Exterior:

Walls	■ Brick	☐ CMU	☐ Stucco	☐ Other_____	
Windows/Doors	■ Wood	☐ Steel	☐ Aluminum	☐ Fixed	■ Operable
	■ Single Pane	☐ Insulated			
Roof	☐ Built-Up	☐ Membrane	■ Composition Shingle	☐ Other _____	

Interior:

Walls	☐ CMU	■ Wood Stud	☐ Metal Stud	☐ Fire/Smoke Rated
	☐ Plaster Finish	■ Drywall Finish		
Floors	■ Wood	☐ Concrete	☐ Vinyl Composition Tile	■ Vinyl Asbestos Tile
	■ Carpet	☐ Ceramic Tile	☐ Sheet Vinyl	
Ceilings	■ Plaster	☐ Drywall	☐ Glue-Up Acoustical Tile	
	■ Lay-In Acoustical Panels		☐ Exposed Structure	

Mechanical Systems:
Building 30 has radiant heating and no centralized cooling or air distribution. Controls zoning is limited to radiant heating controls. Exhaust systems do not meet code as some toilet rooms have limited or no exhaust. Fire protection is provided by a wet-pipe system and an outdoor dry standpipe. Plumbing fixtures are serviceable but do not meet modern requirements for water conservation and accessibility. The building has little or no insulation. Windows do not meet the current Energy Code.

Heating	☐ Supply Air	■ Convection (Steam & Heating Water)		
Cooling	☐ Supply Air	☐ Rooftop AC Units	☐ Window AC Units	■ Openable Windows
	■ None			
Ventilation	☐ Supply Air	☐ Limited Exhaust	■ None	
Water Heating	☐ Local Heating	■ Piped from Central Plant		

Electrical Systems
Building 30 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is dedicated generator for this building feeding emergency as well as standby loads. The building has a fire alarm system including detection and verification devices reporting to a central station. Most of the lighting is older fluorescent fixtures but there is still some incandescent lighting. No

automatic lighting controls. A security system with controlled access and egress and closed circuit TV monitoring has been installed.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems	■ CCTV	■ Secured Exiting	
	■ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:			
Walls	☐ Poor	■ Fair	☐ Acceptable
Openings	☐ Poor	■ Fair	☐ Acceptable
Roof	☐ Poor	☐ Fair	■ Acceptable
Interior:	☐ Poor	☐ Fair	■ Acceptable

Structural:

Building 30 appears to be in fair structural condition. The structural system consists of exterior unreinforced brick masonry walls supporting wood floors and a wood roof. The basement walls are a combination of stone and brick. Interior wood columns are located in the basement, which support the wood floors. There were no signs of significant distress or settlement. Per a previous report the cupola was reinforced with steel and wood after the 1962 Columbus Day storm. The lateral system of the building consists of brick shear walls. The building would not meet current seismic code requirements and would perform poorly in a seismic event. In order to seismically upgrade the building, new steel braced frames or concrete shear walls would have to be added. The concrete walls could be cast against the inside face of the brick walls. The floors and roof would have to be anchored to the exterior walls. Plywood would have to be added to the floor and roof diaphragms, and some new foundation work would be required. The estimated structural cost to upgrade the building to current seismic code requirements would be $25 to $35 per square foot.

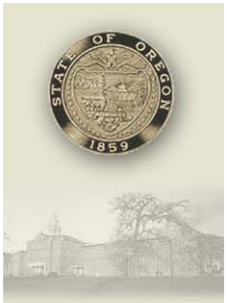
Mechanical:			
Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:			
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:			
Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



Oregon State Hospital

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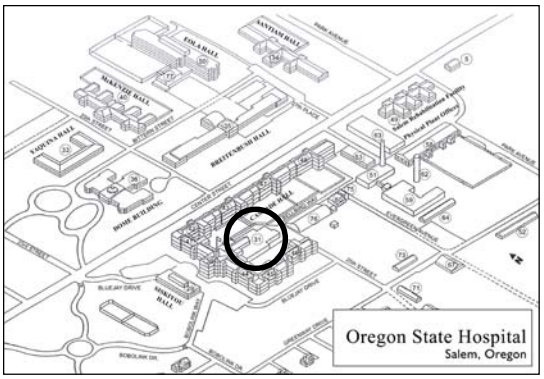
Framework Master Plan Phase I Report

KMD

May 16, 2005

CASCADE HALL Building 30



KITCHEN, BUILDING 31

Current Use: KITCHEN/FOOD SERVICE ADMINISTRATION
History of Uses: KITCHEN
Historical Significance: ☐ Yes ■ No
Year Built: 1926

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 19,476 square feet
- Total: 24,376 square feet (including basement)
- Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Unreinforced brick masonry bearing walls with a wood framed roof for the original building. Concrete framed roof with concrete walls at the addition.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable ■ Single Pane ☐ Insulated
- Roof: ■ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ☐ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ☐ Vinyl Asbestos Tile ☐ Carpet ■ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ■ Glue-Up Acoustical Tile ☐ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
The main campus kitchen has mostly modern aluminum exhaust fans serving kitchen hoods. Makeup air is from a penthouse air handling unit with a heating cool and no mechanical cooling. The unit appears to be at least 40 years old. The kitchen has operable windows for ventilation. HVAC controls are generally pneumatic with no zoning. Overall fire protection is provided by a wet-pipe system. Some hoods at cooking lines have current wet-chemical surface fire suppression systems. Plumbing fixtures are serviceable but do not meet modern requirements for water conservation and accessibility. There is no grease retention equipment such as grease traps or interceptors. The building has no insulation. Windows do not meet the current Energy Code.
- Heating: ■ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ■ Openable Windows ■ None
- Ventilation: ☐ Supply Air ■ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
The building's main distribution is fed from a PGE transformer located in the tunnel. Branch panels located throughout the building are fed from the main distribution board. There is a dedicated generator for this building feeding emergency as well as standby

loads. The building does contain a fire alarm system including detection and verification devices reporting to a central station. Most of the lighting in the building comes from fluorescent lights but there are still some areas with incandescent lighting. No automatic lighting controls for this building. A security system with controlled access and egress and closed circuit TV monitoring has been installed.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	☐ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:			
Walls	■ Poor	☐ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	■ Poor	☐ Fair	☐ Acceptable
Interior:	■ Poor	☐ Fair	☐ Acceptable

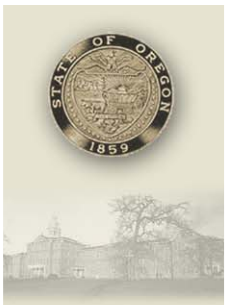
Structural:
Building 31 appears to be in fair structural condition. The building had a significant addition added to the original building in 1954. The structural system of the original building consists of exterior unreinforced brick masonry walls supporting either a concrete or wood roof. The addition consists of concrete walls and columns supporting a concrete framed roof. There were no signs of significant distress or settlement. The lateral system for the building consists of concrete and brick shear walls. The building would not meet current seismic code requirements and would perform poorly in a seismic event. In order to seismically upgrade the building, new concrete shear walls would have to be added in the original building. The roof diaphragm would have to be strengthened and the addition and original building would most likely have to be tied together adequately. Some new foundation work would also be required. The estimated structural cost to upgrade the building to current seismic code requirements would be $10 to $20 per square foot.

Mechanical:			
Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	■ Poor	☐ Fair	☐ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:			
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	x > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:			
Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	■ Poor	☐ Fair	☐ Acceptable

Definitions:
Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



Oregon State Hospital

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Framework Master Plan Phase I Report

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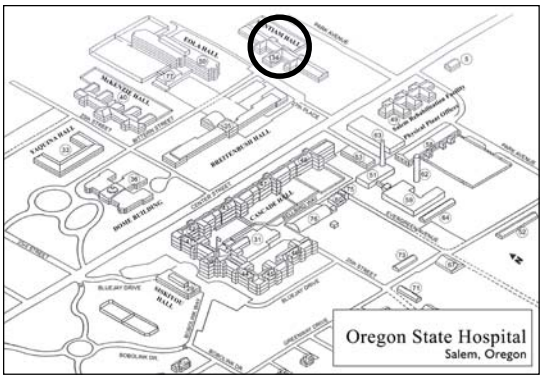
May 16, 2005

KITCHEN

Building 31



SANTIAM HALL, BUILDING 34

Current Use: PATIENT WARDS / X-RAY DEPARTMENT
History of Uses: PATIENT WARDS
Historical Significance: ☐ Yes ■ No
Year Built: 1951

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 19,116 square feet
- Total: 38,232 square feet (not including basement)
- Height (# Stories): ☐ 1 ■ 2 ☐ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Concrete framed floors, beams and joists supported on concrete columns and walls; wood framed roof.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable; ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ☐ Composition Shingle ■ Other: Tile

Interior:
- Walls: ☐ CMU ☐ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated; ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ■ Vinyl Composition Tile ☐ Vinyl Asbestos Tile; ■ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile; ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Building 34 has built-up air handling systems with large centrifugal fans with steam coils. Fans and heating coils appear to be original equipment, Some spaces have air conditioning in the form of through-wall, residential-style air conditioners. Building 34 has DDC controls but zoning is limited. Toilet rooms have exhaust systems. Fire protection is provided by a wet-pipe system. Plumbing fixtures are serviceable but do not meet modern requirements for water conservation and accessibility. The building appears to have little insulation. Windows do not meet the current Energy Code.
- Heating: ■ Supply Air ☐ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ■ Window AC Units ■ Openable Windows; ☐ None
- Ventilation: ■ Supply Air ☐ Limited Exhaust ■ Openable Windows ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
The building's main distribution is fed from on of the utility's transformers located in the tunnel. Branch panels located throughout the building are then fed from the main distribution board. There is a dedicated generator for this building feeding emergency loads such as egress lighting and fire alarm panel. The building does contain a fire alarm system including detection and verification devices reporting to a central station. Most of the lighting in the building comes from fluorescent lights but there are still areas with

incandescent lighting. No automatic lighting controls for this building. A security system with controlled access and egress and closed circuit TV monitoring has been installed.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	■ Yes	☐ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	■ CCTV	☐ Secured Exiting	
	■ Security Doors	☐ Security Windows	■ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	☐ Fair	■ Acceptable
Openings	☐ Poor	■ Fair	☐ Acceptable
Roof	■ Poor	☐ Fair	☐ Acceptable

Interior:	☐ Poor	■ Fair	☐ Acceptable

Structural:

Building 34 appears to be in good structural condition. The structural system consists of concrete framed floors with beams and joists supported on interior concrete columns and exterior concrete walls. The roof is wood framed. There were no signs of significant distress or settlement. The exterior brick veneer was in very good condition with no visible cracks. The lateral system for the building consists of concrete shear walls around the entire exterior with some interior stair walls. Because of its age, the building would most likely not meet current seismic code requirements, and would perform fair in a seismic event. The building would likely perform better, however, the wood roof is probably not anchored adequately to the concrete walls and the wood diaphragm probably does not have adequate strength. In order to seismically upgrade the building, additional steel anchors and straps would have to be added to the roof, as would a plywood diaphragm. Additional shear walls may need to be added in the transverse direction of the long north and south wings above the second floor to reduce the span of the roof diaphragm. The estimated structural cost to upgrade the building to current seismic code requirements would be $8 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	■ Poor	☐ Fair	☐ Acceptable
Outside Air Ventilation	☐ Poor	■ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

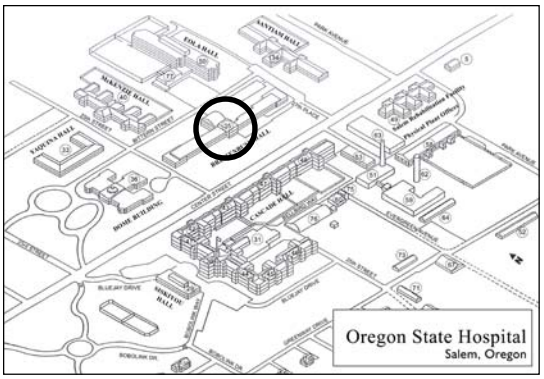
Equipment Age	☐ < 10 yrs.	■ < 25 yrs.	■ > 25 yrs.
Equip. Condition	☐ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



BREITENBUSH HALL, BUILDING 35

Current Use: PATIENT WARDS, PHARMACY, MEDICAL LABORATORY
History of Uses: PATIENT WARDS
Historical Significance: ■ Yes (Architect Pietro Belluschi design) ☐ No
Year Built: 1948

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 36,767 square feet
- Total: 80,750 square feet (not including basement)
- Height (# Stories): ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Concrete framed floors and roof; concrete exterior walls.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other_____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable ■ Single Pane ☐ Insulated
- Roof: ■ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ☐ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated ☐ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ■ Vinyl Asbestos Tile ■ Carpet ■ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ■ Drywall ☐ Glue-Up Acoustical Tile ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Building 35 has rooftop packaged units with gas heat and air conditioning for some spaces. Other spaces have through-wall, residential-style air conditioners. This building also has a smoke control system including fans controlled with electronic variable-speed drives. HVAC controls are generally pneumatic and zoning is limited. Toilet rooms have exhaust systems. Fire protection is provided by a wet-pipe system. Plumbing fixtures are serviceable but do not meet current requirements for water conservation and accessibility. The large therapy pool in Building 35 appears to be well maintained. The building insulation and windows do not meet the current Energy Code.
- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ■ Window AC Units ■ Openable Windows ☐ None
- Ventilation: ☐ Supply Air ■ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
The building's main distribution is fed from on of the utility's transformers located in the tunnel. Branch panels located throughout the building are then fed from the main distribution board. Most of the main switchgear appears to be outside the equipment's life

expectancy. There is a dedicated generator for this building feeding emergency loads such as egress lighting and fire alarm panel. The building does contain a fire alarm system including detection and verification devices reporting to a central station. The lighting in the building comes from fluorescent lights but there are still some areas with incandescent lighting. No automatic lighting controls for this building. A security system with controlled access and egress and closed circuit TV monitoring has been installed. Building 35 houses the main head in gear for this security system.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	■ CCTV	■ Secured Exiting	
	■ Security Doors	☐ Security Windows	■ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	☐ Fair	■ Acceptable
Openings	☐ Poor	☐ Fair	■ Acceptable
Roof	☐ Poor	☐ Fair	■ Acceptable

Interior:	☐ Poor	☐ Fair	■ Acceptable

Structural:

Building 35 appears to be in good structural condition. The structural system consists of concrete framed floors and roof with beams and joists supported on interior concrete columns and exterior concrete walls. Isolation joints are located in the east and west wings. There were no signs of significant distress or settlement and the exterior brick veneer was in good condition. The lateral system for the building consists of concrete shear walls. The building would not meet current seismic code requirements, and would perform fair in a seismic event. In order to seismically upgrade the building, additional concrete shear walls would need to be added in the transverse direction of the long east and west wings. The floors and roof would have to be tied to these walls and some new foundation work would be required. The estimated structural cost to upgrade the building to current seismic code requirements would be $10 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	☐ Poor	■ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	■ Fair	☐ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	☐ Poor	■ Fair	☐ Acceptable
HVAC Controls	☐ Poor	■ Fair	☐ Acceptable
HVAC Energy Efficiency	☐ Poor	■ Fair	☐ Acceptable
Smoke Control	☐ Poor	☐ Fair	■ Acceptable

Electrical

Equipment Age	☐ < 10 yrs.	■ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	■ Fair	☐ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is

Oregon State Hospital

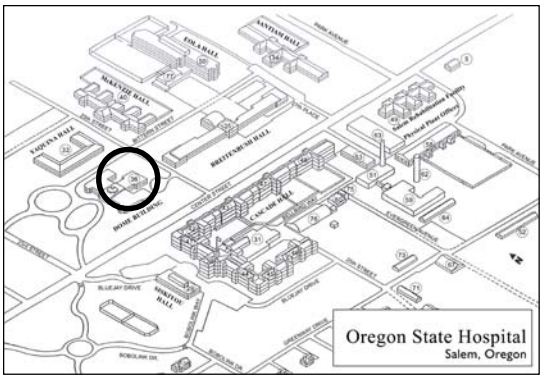
State of Oregon Department of Human Services

Framework Master Plan Phase I Report

KMD

May 16, 2005

BREITENBUSH HALL Building 35



DOME BUILDING, BUILDING 36

Current Use: DENTAL SERVICES / LEASED TO OREGON DEPARTMENT OF CORRECTIONS
History of Uses: HOSPITAL ADMINISTRATION
Historical Significance: ■ Yes (City of Salem "Local Landmark") ☐ No
Year Built: 1912

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 17,513 square feet
- Total: 37,586 square feet (not including basement)
- Height (# Stories): ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Unreinforced masonry bearing walls; concrete framed floor and roof.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other_____
- Windows/Doors: ■ Wood ☐ Steel ☐ Aluminum ☐ Fixed ■ Operable; ☐ Single Pane ☐ Insulated
- Roof: ■ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated; ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ☐ Concrete ■ Vinyl Composition Tile ■ Vinyl Asbestos Tile; ■ Carpet ☐ Ceramic Tile ■ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile; ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Building 36 has air conditioning for some spaces, in the form of cooling coils and fans with both roof-mounted and mounted-at-grade condensing units. HVAC controls are pneumatic with only two zones for the entire building. Toilet rooms have exhaust systems. Fire protection is provided by a wet-pipe system. Plumbing fixtures are but do not meet modern requirements for water conservation and accessibility. The building insulation and windows do not meet the current Energy Code.
- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ■ Rooftop AC Units ☐ Window AC Units ■ Openable Windows; ☐ None
- Ventilation: ☐ Supply Air ■ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 36 is fed from a separate utility feeder than the rest of the campus. The main distribution board is located in the basement and appears to be in good condition. Only part of the building is occupied by OSH and a different tenant occupies the rest of the building. There is a dedicated generator for the building feeding emergency loads as well as standby loads. The building has a fire

alarm system but it is not tied to the main system in campus. There is a security system in the building that is not owned by OSH. Except for the dental area, this building is operated by the Oregon Dept. of Corrections.

Main Distribution	☐ Campus System	☐ Fed from Adjacent Bldg.	■ Separate System
Meter on Main Board	■ Yes	☐ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	■ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	■ Fair	☐ Acceptable
Openings	☐ Poor	■ Fair	☐ Acceptable
Roof	☐ Poor	■ Fair	☐ Acceptable

Interior:	☐ Poor	☐ Fair	■ Acceptable

Structural:

Building 36 appears to be in fair structural condition. Building 36 is actually a small portion of a larger building. The structural system consists of exterior unreinforced brick masonry walls supporting a concrete floor and roof. The concrete floor framing consists of beams and joists supported on concrete columns and the brick wall clay tiles used for forming the joists are still in place between the concrete joists in the basement. These could be a falling hazard in a seismic event. There were no signs of significant distress or settlement with only minor cracking typical in a building of this age. The lateral system for the building consists of brick shear walls. The building would not meet current seismic code requirements and would perform poorly in a seismic event. In order to seismically upgrade the building, new concrete shear walls would have to be added. These walls would most likely be added against the inside face of the brick walls. The roof and floors would have to be anchored to the exterior walls and some new foundation work would be required. The estimated structural cost to upgrade the building to current code would be $20 to $30 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	■ Poor	☐ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

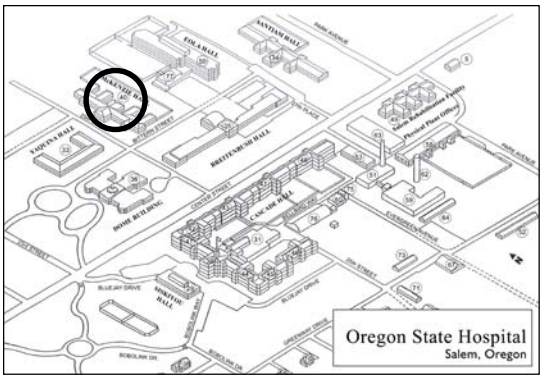
Equipment Age	☐ < 10 yrs.	■ < 25 yrs.	☐ > 25 yrs.
Equip. Condition	☐ Poor	☐ Fair	■ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



McKENZIE HALL, BUILDING 40

Current Use: PATIENT WARDS/OFFICES
History of Uses: PATIENT WARDS
Historical Significance: ☐ Yes ■ No
Year Built: 1948

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 23,975 square feet
- Total: 47,950 square feet (not including basement)
- Height (# Stories): ☐ 1 ■ 2 ☐ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Concrete framed floors with beams and joists with concrete columns and walls; wood roof structure.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable; ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ■ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ☐ Wood Stud ■ Metal Stud ☐ Fire/Smoke Rated; ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ☐ Concrete ■ Vinyl Composition Tile ■ Vinyl Asbestos Tile; ■ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ■ Glue-Up Acoustical Tile; ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Building 40 has two penthouse dual-deck “multizone” air handling units, which provide central HVAC. Zoning Is limited to three zones per unit. The Building 40 attic spaces contain the HVAC equipment and ductwork. HVAC controls are pneumatic. Toilet rooms have exhaust systems. Fire protection is provided by a wet-pipe system. Plumbing fixtures are serviceable but do not meet requirements for water conservation and accessibility. The building appears to have no insulation. Windows do not meet the current Energy Code.
- Heating: ■ Supply Air ☐ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ■ Window AC Units ■ Openable Windows; ☐ None
- Ventilation: ■ Supply Air ☐ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 40 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is dedicated generator for this building feeding emergency circuits, egress lighting and fire alarm panel. The building does contain a fire alarm system including detection

and verification devices reporting to a central station. The lighting in the building comes from fluorescent lights but there is still some incandescent lighting. No automatic lighting controls.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	■ CCTV	☐ Secured Exiting	
	■ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	☐ Fair	■ Acceptable
Openings	☐ Poor	☐ Fair	■ Acceptable
Roof	☐ Poor	☐ Fair	■ Acceptable

Interiors	☐ Poor	☐ Fair	■ Acceptable

Structural:

Building 40 appears to be in good structural condition. The structural system consists of concrete framed floors with beams and joists supported on interior concrete columns and exterior concrete walls. The roof is wood framed. There were no signs of significant distress or settlement. The exterior brick veneer was in very good condition with no visible cracks. The lateral system for the building consists of concrete shear walls around the entire exterior with some interior stair walls. An isolation joint is located through the building in both the north and south wings. The joint continues through the brick veneer. Because of its age, the building would most likely not meet current seismic code requirements, and would perform fair in a seismic event. The building would likely perform better, however, the wood roof is probably not anchored adequately to the concrete walls and the wood diaphragm probably does not have adequate strength. In order to seismically upgrade the building, additional steel anchors and straps would have to be added to the roof, as would a plywood diaphragm. Additional shear walls may need to be added in the transverse direction of the long north and south wings above the second floor to reduce the span of the roof diaphragm. The estimated structural cost to upgrade the building to current seismic code requirements would be $8 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	☐ Fair	■ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	☐ Poor	■ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

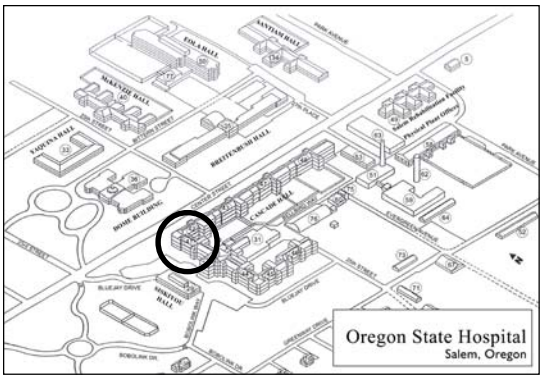
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	☐ Poor	☐ Fair	■ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



'J' COMPLEX, BUILDING 41

Current Use: PATIENT WARD
History of Uses: PATIENT WARD
Historical Significance: ☐ Yes ■ No
Year Built: 1883

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 8,532 square feet
- Total: 25,596 square feet (not including basement)
- Height (# Stories): ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Unreinforced brick masonry walls supporting wood framed floors and roof.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ■ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ■ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated ■ Plaster Finish ☐ Drywall Finish
- Floors: ■ Wood ☐ Concrete ■ Vinyl Composition Tile ■ Vinyl Asbestos Tile ■ Carpet ☐ Ceramic Tile ■ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Building 41 has radiant heating and no centralized cooling or air distribution. Minimal cooling is provided by through wall, residential style air-conditioning units. Controls zoning is very limited, consisting only of radiant heating controls. Exhaust systems do not meet modern codes as toilet rooms have limited or no exhaust systems. Fire protection is provided by a wet-pipe system and an outdoor dry standpipe. Plumbing fixtures are serviceable but do not meet requirements for water conservation and accessibility. The building does not have insulation, and windows do not meet the current Energy Code.

- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ■ Openable Windows ■ None
- Ventilation: ☐ Supply Air ■ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 41 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is dedicated generator for this building feeding emergency circuits, egress lighting and fire alarm panel. The building does contain a fire alarm system including detection

and verification devices reporting to a central station. The lighting in the building comes from fluorescent lights but there is still some incandescent lighting. No automatic lighting controls for main areas were found for this building. A security system with controlled access and egress and closed circuit TV monitoring has been installed.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems	■ CCTV	☐ Secured Exiting	
	■ Security Doors	☐ Security Windows	■ Security Grilles

GENERAL BUILDING CONDITION

Exterior:			
Walls	☐ Poor	■ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	☐ Poor	☐ Fair	■ Acceptable
Interior:	☐ Poor	☐ Fair	■ Acceptable

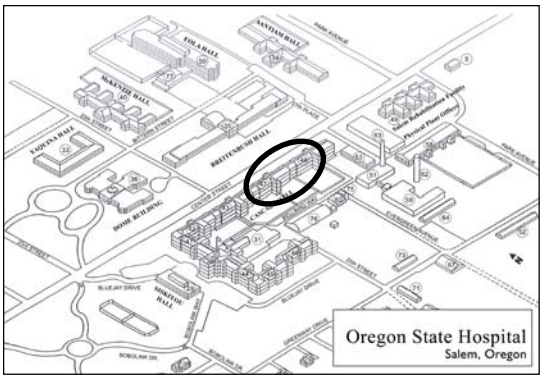
Structural:
Building 41 appears to be in fair structural condition. The structural system consists of exterior unreinforced brick masonry walls supporting wood floors and a wood roof. The basement walls are a combination of stone and brick. Interior wood columns are located in the basement, which support the wood floors. There were no signs of significant distress or settlement. The lateral system of the building consists of brick shear walls. The building would not meet current seismic code requirements and would perform poorly in a seismic event. In order to seismically upgrade the building, new steel braced frames or concrete shear walls would have to be added. The concrete walls could be cast against the inside face of the brick walls. The floors and roof would have to be anchored to the exterior walls. Plywood would have to be anchored to the exterior walls. Plywood would have to be added to the floor and roof diaphragms, and some new foundation work would be required. The estimated structural cost to upgrade the building to current seismic code requirements would be $25 to $35 per square foot.

Mechanical:			
Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	■ Poor	☐ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:			
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:			
Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:
Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



'J' COMPLEX, BUILDINGS 47/48

Current Use: PATIENT WARDS/OFFICES
History of Uses: PATIENT WARDS
Historical Significance: ☐ Yes ■ No
Year Built: Pre-1940

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 20,150 square feet
- Total: 60,450 (not including basement)
- Height (# Stories): ☐ 1 ☐ 2 ■ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Building 47, unreinforced brick masonry supporting wood framed floors and roofs. Building 48, steel beams supporting concrete floor slabs with interior steel columns and exterior concrete walls. Roof is wood framed.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ■ Composition Shingle ■ Other: Sheet Metal

Interior:
- Walls: ■ CMU ■ Wood Stud ■ Metal Stud ☐ Fire/Smoke Rated ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ■ Vinyl Composition Tile ☐ Vinyl Asbestos Tile ■ Carpet ☐ Ceramic Tile ■ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Buildings 47 and 48 have radiant heating and no centralized cooling or air distribution. Minimal cooling is provided by through wall, residential style air-conditioning units. Controls zoning is very limited, consisting only of radiant heating controls. Exhaust systems do not meet modern codes as toilet rooms have limited or no exhaust systems. Fire protection is provided by a wet-pipe system and an outdoor dry standpipe. Plumbing fixtures are serviceable but do not meet requirements for water conservation and accessibility. The building does not have insulation, and windows do not meet the current Energy Code.
- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ■ Window AC Units ■ Openable Windows
- Ventilation: ☐ Supply Air ■ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Buildings 47 and 48 are fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is dedicated generator for this building feeding emergency circuits, egress lighting and fire alarm panel. The building does contain a fire alarm system including detection and verification devices reporting to a central station. The lighting in the building comes from fluorescent lights but there are still some areas with incandescent lighting. No automatic lighting controls. A security system with controlled access and egress and closed circuit TV monitoring has been installed

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	■ CCTV	■ Secured Exiting	
	■ Security Doors	☐ Security Windows	■ Security Grilles

GENERAL BUILDING CONDITION

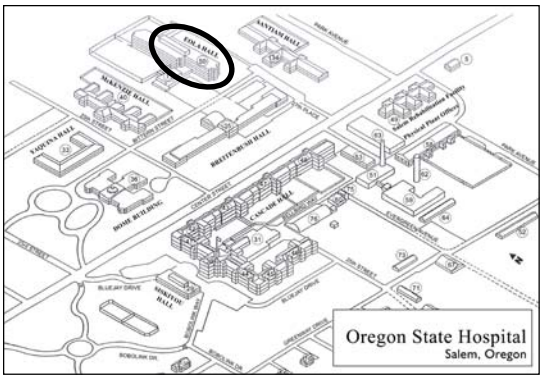
Exterior:			
Walls	■ Poor	☐ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	■ Poor	☐ Fair	☐ Acceptable
Interior:	☐ Poor	■ Fair	☐ Acceptable

Structural:
Building 47 appears to be in fair structural condition. The structural system consists of exterior unreinforced brick masonry walls supporting wood floors and a wood roof. The basement walls are a combination of stone and brick. Interior wood columns are located in the basement, which support the wood floors. There were no signs of significant distress or settlement. The lateral system of the building consists of brick shear walls. The building would not meet current seismic code requirements and would perform poorly in a seismic event. In order to seismically upgrade the building, new steel braced frames or concrete shear walls would have to be added. The concrete walls could be cast against the inside face of the brick walls. The floors and roof would have to be anchored to the exterior walls. Plywood would have to be anchored to the exterior walls. Plywood would have to be added to the floor and roof diaphragms, and some new foundation work would be required. The estimated structural cost to upgrade the building to current seismic code requirements would be $25 to $35 per square foot.

Building 48 appears to be in good condition. The structural system consists of concrete floor slabs supported by concrete encased steel beams. The beams and slabs are supported by interior steel columns and exterior concrete walls. The exterior walls are clad in brick veneer. The roof appears to be wood framed. There were no signs of significant distress or settlement. The lateral system of the building consists of concrete shear walls. Because of its age, the building would most likely not meet current seismic code requirements and would perform fair in a seismic event. In order to seismically upgrade the building, a plywood diaphragm would need to be added to the roof and steel anchors and straps would need to be added to tie the roof to the concrete walls. Additional concrete shear walls may need to be added in the transverse direction of the building especially at the intersection with Building 47. Some new foundation work would also be required. The estimated structural cost to upgrade the building to current seismic code requirements would be $10 to $20 per square foot.

Mechanical:			
Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	■ Fair	☐ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	■ Poor	☐ Fair	☐ Acceptable
Cooling	■ Poor	☐ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable
Electrical:			
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable
Civil:			
Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	■ Fair	☐ Acceptable

Definitions:
Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



EOLA HALL, BUILDING 50

Current Use: PATIENT WARDS
History of Uses: PATIENT WARDS
Historical Significance: ☐ Yes ■ No
Year Built: 1955

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 23,908 square feet
- Total: 119,540 square feet (not including basement)
- Height (# Stories): ☐ 1 ☐ 2 ☐ 3 ☐ 4 ■ 5 ☐ Basement

Structural System:
Concrete flat slab at floors and roof supported by columns and walls.

Exterior:
- Walls: ☐ Brick ☐ CMU ☐ Stucco ■ Other: Curtain wall system
- Windows/Doors: ☐ Wood ☐ Steel ■ Aluminum ■ Fixed ☐ Operable ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ■ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ☐ Wood Stud ■ Metal Stud ☐ Fire/Smoke Rated ☐ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ☐ Concrete ■ Vinyl Composition Tile ☐ Vinyl Asbestos Tile ■ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ■ Drywall ☐ Glue-Up Acoustical Tile ■ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
Building 50 has central HVAC system. Two air cooled chillers at grade provide chilled water for air conditioning, and the central air handling units have heating and cooling coils with “economizer” dampers for outside air when appropriate for cooling use. Repair is needed on the controls and air balancing systems. Also, some systems provide fixed-temperature “tempered” ventilation and rely on the use of perimeter radiation and windows and for heating and cooling. HVAC systems have some heat recovery systems. Controls zoning is limited, with the air handling units providing fixed-temperature air. Exhaust is provided by a central fan. Fire protection is provided by a wet-pipe system. Plumbing fixtures are lacking current features for water conservation and accessibility. The building HVAC system design is marginally adequate to meet current Energy Code. Insulation and window upgrades are necessary to meet SEED requirements.
- Heating: ■ Supply Air ☐ Convection (Steam & Heating Water)
- Cooling: ■ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ☐ Openable Windows ☐ None
- Ventilation: ■ Supply Air ☐ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
The building’s main distribution is fed from a PGE transformer located in the tunnel. Branch panels located throughout the building are then fed from the main distribution board. Some of the switchgear seems to have been replaced when the building

was renovated. There is a dedicated generator for this building feeding emergency loads, egress lighting and fire alarm panel as well as some standby loads. The building does contain a fire alarm system including detection and verification devices reporting to a central station. Most of the lighting in the building comes from fluorescent lights with no automatic lighting controls. A security system with controlled access and egress and closed circuit TV monitoring has been installed.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems	■ CCTV	■ Secured Exiting	
	■ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	☐ Fair	■ Acceptable
Openings	☐ Poor	☐ Fair	■ Acceptable
Roof	☐ Poor	☐ Fair	■ Acceptable

Interior:	☐ Poor	☐ Fair	☐ Acceptable

Structural:

Building 50 appears to be in good structural condition. The structural system consists of concrete flat slabs at the floors and roof supported by interior and exterior concrete columns and walls. The original exterior cladding system has been replaced. There were no signs of significant distress or settlement. Some exterior exposed concrete walls had minor “spider web” type cracking, which is typical of shrinkage type cracks. The lateral system of the building consists of concrete shear walls and possibly frame action between the slabs and columns. Because of its age and height, the building most likely would not meet current seismic code requirements and would perform fair to well depending on the amount of concrete shear walls. In order to seismically upgrade the building, additional concrete shear walls or possibly steel braced frames would need to be added. New foundations would need to be added at these elements. The estimated structural cost to upgrade the building to current seismic code requirements would be $5 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	☐ Fair	■ Acceptable
Cooling	☐ Poor	☐ Fair	■ Acceptable
Outside Air Ventilation	☐ Poor	☐ Fair	■ Acceptable
HVAC Controls	☐ Poor	■ Fair	☐ Acceptable
HVAC Energy Efficiency	☐ Poor	■ Fair	☐ Acceptable
Smoke Control	☐ Poor	☐ Fair	■ Acceptable

Electrical:

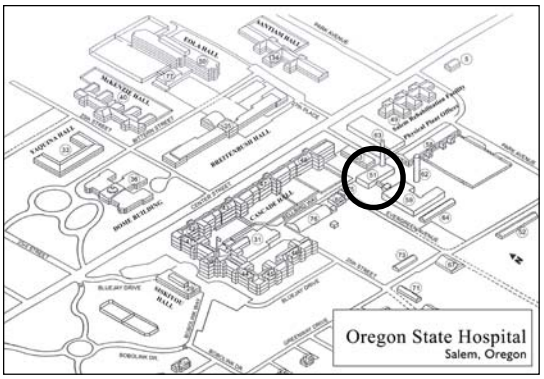
Equipment Age	o < 10 yrs.	■ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



BOILER BUILDING, BUILDING 51

Current Use: BOILER BUILDING
History of Uses: BOILER BUILDING
Historical Significance: ☐ Yes ■ No
Year Built: 1951

GENERAL CONSTRUCTION DATA

Area:
Footprint: 8,584 square feet
Total: 8,584 square feet
Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Original Building: Concrete encased steel beams with concrete roof slab supported on unreinforced masonry walls.
Addition: Concrete framed roof slab supported on concrete columns and walls.

Exterior:
Walls ☐ Brick ☐ CMU ■ Stucco ☐ Other _____
Windows/Doors ■ Wood o Steel ☐ Aluminum ☐ Fixed ■ Operable
■ Single Pane ☐ Insulated
Roof ☐ Built-Up ■ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
Walls ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated
☐ Plaster Finish ☐ Drywall Finish
Floors ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ☐ Vinyl Asbestos Tile
☐ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
Ceilings ☐ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile
☐ Lay-In Acoustical Panels ■ Exposed Structure

Mechanical Systems:
Building 51, the central plant, has radiant heating for the few areas which require heating and no centralized cooling or air distribution. Controls zoning is very limited, consisting only of radiant heating controls. Air conditioning for an office area consists of a through-wall, residential-style air conditioner. Exhaust systems appear to be generally original equipment. Fire protection is provided by a wet-pipe system. Plumbing fixtures are generally serviceable but do not meet modern requirements for water conservation and accessibility. The building appears to have no insulation, and windows are single-pane glass, which cannot meet Energy Code requirements.

Heating ☐ Supply Air ■ Convection (Steam & Heating Water)
Cooling ☐ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ■ Openable Windows
■ None
Ventilation ☐ Supply Air ■ Limited Exhaust ☐ None
Water Heating ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 51 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch circuits throughout the building. The distribution disconnects should be replaced. There is dedicated generator for this

building feeding emergency circuits as well as standby circuits. The building does contain a fire alarm system including detection and verification devices reporting to a central station. Most of the lighting in the building comes from fluorescent lights but there are still some areas with incandescent lighting.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator (Standby)	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	☐ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	■ Poor	☐ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	☐ Poor	■ Fair	☐ Acceptable

Interior:	■ Poor	☐ Fair	☐ Acceptable

Structural:

Building 51 appears to be in poor to fair condition. The front half of the building is the original building, which is in poor condition while the back half, which was an addition in 1951, is in fair condition. The structural system of the original building consists of unreinforced brick masonry bearing walls supporting a concrete roof with concrete encased steel beams. The 1951 addition consists of a concrete framed roof supported on concrete columns and walls. There were no signs of significant distress or settlement. The lateral system consists of brick and concrete shear walls. The building would not meet current seismic code requirements, and would perform poorly in a seismic event. The tall brick masonry wall piers are especially vulnerable. In order to seismically upgrade the building, additional concrete shear walls would be required along with steel strong backs at the brick wall piers. The roofs of the buildings would also need to be adequately tied together. The estimated structural costs to upgrade the building to current seismic code requirements would be $15 to $25 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	■ Poor	☐ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	■ Poor (none)	☐ Fair	☐ Acceptable
Outside Air Ventilation	☐ Poor	☐ Fair	■ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

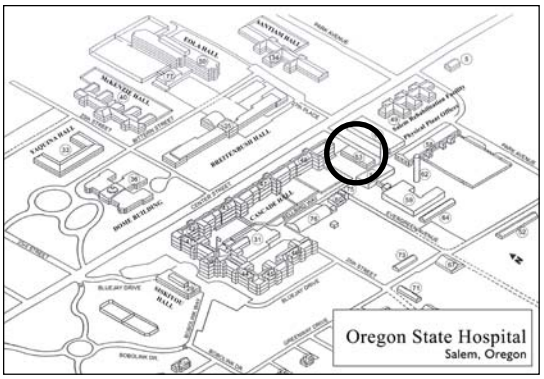
Equipment Age	☐ < 10 yrs.	■ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



VEHICLE GARAGE, BUILDING 53

Current Use: VEHICLE GARAGE & MAINTENANCE/OFFICES
History of Uses: FIRE STATION
Historical Significance: ☐ Yes ■ No
Year Built: pre-1940

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 5,546 square feet
- Total: 11,092 square feet
- Height (# Stories): ☐ 1 ■ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Concrete walls supporting wood floor and roof.

Exterior:
- Walls: ☐ Brick ☐ CMU ■ Stucco ☐ Other _____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated ☐ Plaster Finish ■ Drywall Finish
- Floors: ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ■ Vinyl Asbestos Tile ■ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ☐ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile ■ Lay-In Acoustical Panels ■ Exposed Structure

Mechanical Systems:
Building 53 has radiant heating and no centralized cooling or air distribution. Controls zoning is very limited, consisting only of radiant heating controls. Some offices have air conditioning in the form of through-wall, residential-style air conditioners. Toilet rooms generally have exhaust. Fire protection is provided by a dry pipe system with a non-functioning dry pipe valve (essentially a wet-pipe system). Plumbing fixtures are generally serviceable but do not meet modern requirements for water conservation and accessibility. The building does not appear to have insulation, its and windows do not appear to be adequate to meet the current Energy Code.

- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ■ Window AC Units ■ Openable Windows ☐ None
- Ventilation: ☐ Supply Air ■ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 53 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is dedicated generator for this building

feeding emergency circuits such as egress lighting and fire alarm panel. The building does contain a fire alarm system including detection and verification devices reporting to a central station.

Main Distribution	☐ Campus System	☐ Fed from Adjacent Bldg.	■ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	☐ Yes	■ No	

Security Systems:	☐ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	■ Fair	☐ Acceptable
Openings	☐ Poor	■ Fair	☐ Acceptable
Roof	☐ Poor	■ Fair	☐ Acceptable

Interior:	■ Poor	☐ Fair	☐ Acceptable

Structural:

Building 53 appears to be in fair condition. The structural system consists of a wood framed floor and roof with concrete exterior walls. There were no signs of significant distress or settlement although there were several cracks visible on the inside face of the concrete walls on the first floor. The lateral system for the building consists of concrete shear walls. The building would not meet current seismic code requirements, however, because of its height and construction type, it would perform fair in a seismic event. In order to seismically upgrade the building, the wood roof and floor would have to be adequately anchored to the concrete walls and plywood may have to be added to the floor and roof diaphragms. Some concrete walls may need to be strengthened with the addition of new concrete to the inside face of the walls. The estimated structural costs to upgrade the building to current seismic code requirements would be $10 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	☐ Fair	■ Acceptable
Plumbing Fixtures - Water Use	☐ Poor	■ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

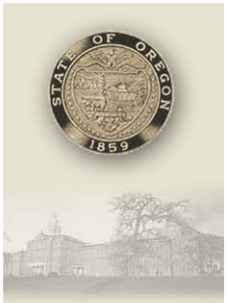
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



Oregon State Hospital

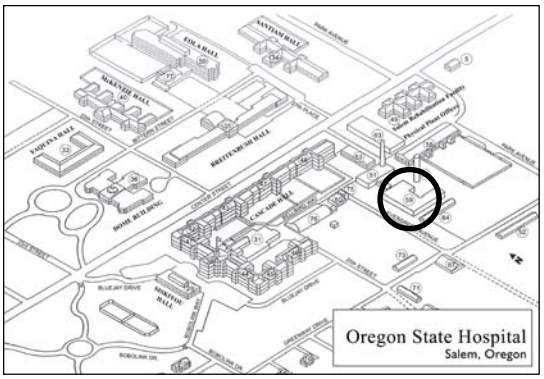
State of Oregon Department of Human Services

Framework Master Plan Phase I Report

KMD

May 16, 2005

VEHICLE GARAGE Building 53



CENTRAL STORAGE, BUILDING 59

Current Use: CENTRAL STORAGE
History of Uses: CENTRAL STORAGE
Historical Significance: ☐ Yes ■ No
Year Built: 1909

GENERAL CONSTRUCTION DATA

Area:

Footprint: 20,399 square feet
Total: 20,399 square feet
Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Unreinforced masonry walls and concrete wall supporting wood roof structure.

Exterior:

Walls	☐ Brick	☐ CMU	■ Stucco	☐ Other _____	
Windows/Doors	☐ Wood	☐ Steel	☐ Aluminum	☐ Fixed	☐ Operable
	☐ Single Pane	☐ Insulated			
Roof	☐ Built-Up	☐ Membrane	☐ Composition Shingle	☐ Other _____	

Interior:

Walls	■ CMU	☐ Wood Stud	☐ Metal Stud	☐ Fire/Smoke Rated
	■ Plaster Finish	☐ Drywall Finish		
Floors	☐ Wood	■ Concrete	☐ Vinyl Composition Tile	☐ Vinyl Asbestos Tile
	☐ Carpet	☐ Ceramic Tile	☐ Sheet Vinyl	
Ceilings	■ Plaster	☐ Drywall	☐ Glue-Up Acoustical Tile	
	☐ Lay-In Acoustical Panels		■ Exposed Structure	

Mechanical Systems:
Building 59 has radiant heating including forced convection (steam unit heaters) with no centralized cooling or air distribution. Heat is provided by the original Modine brand steam unit heaters. The heaters' steam control valves, fans, steam traps are original, while much of the condensate branch piping has been replaced. Controls zoning is limited, consisting only of radiant heating controls. Toilet rooms have exhaust systems. Fire protection is provided by a wet-pipe system. Plumbing fixtures are serviceable but do not meet modern requirements for water conservation and accessibility. The building does not have any insulation, and windows do meet the current Energy Code.

Heating	☐ Supply Air	■ Convection (Steam & Heating Water)		
Cooling	☐ Supply Air	☐ Rooftop AC Units	☐ Window AC Units	■ Openable Windows
	■ None			
Ventilation	☐ Supply Air	☐ Limited Exhaust	■ None	
Water Heating	☐ Local Heating	■ Piped from Central Plant		

Electrical Systems:
Building 59 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is no emergency power available at

this building. The building does contain a fire alarm system including detection and verification devices reporting to a central station.

Main Distribution	■ Campus System	☐ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	☐ Generator	☐ UPS	■ None
Fire Alarm	☐ Yes	☐ No	

Security Systems:	☐ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	■ Poor	☐ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	■ Poor	☐ Fair	☐ Acceptable

Interior:	■ Poor	☐ Fair	☐ Acceptable

Structural:

Building 59 appears to be in fair condition. The building appears to consist of several additions to the original building. The structural system of the original building consists of unreinforced brick masonry walls supporting a wood framed roof. The exterior masonry walls are covered in plaster, which is in poor condition. The newer additions consist of concrete walls supporting a wood roof. There were no signs of significant distress or settlement although there were big cracks in the plaster where the additions abutted the original building. The original parapet appeared to be in poor condition. The lateral system for the building consists of brick and concrete shear walls. The building would not meet current seismic code requirements and would perform poor to fair in a seismic event. The original portion of the building would perform poorly. In order to seismically upgrade the building new concrete walls would have to be added, the roof would have to be adequately anchored to the walls, and plywood would have to be added to the roof. The estimated structural costs to upgrade the building would be $10 to $20 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	■ Poor	☐ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

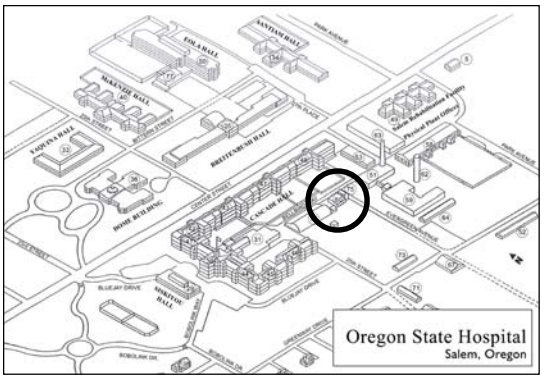
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



OUTDOOR PROGRAM, BUILDING 60

Current Use: OUTDOOR PROGRAM OFFICE
History of Uses: PAINT SHOP
Historical Significance: ☐ Yes ■ No
Year Built: 1896

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 865 square feet
- Total: 865 square feet
- Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Concrete walls with wood roof structure.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ■ Wood ☐ Steel ☐ Aluminum ☐ Fixed ■ Operable; ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ■ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ☐ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated; ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ☐ Vinyl Asbestos Tile; ☐ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile; ☐ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ☐ Openable Windows; ■ None
- Ventilation: ☐ Supply Air ☐ Limited Exhaust ■ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
- Main Distribution: ☐ Campus System ■ Fed from Adjacent Bldg. ☐ Separate System
- Meter on Main Board: ☐ Yes ■ No
- Lighting Control: ■ Manual ☐ Automatic
- Emergency System: ☐ Generator ☐ UPS ■ None
- Fire Alarm: ☐ Yes ■ No

Security Systems: ☐ CCTV ☐ Secured Exiting; ☐ Security Doors ☐ Security Windows ☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:			
Walls	☐ Poor	■ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	☐ Poor	■ Fair	☐ Acceptable
Interior:	■ Poor	☐ Fair	☐ Acceptable

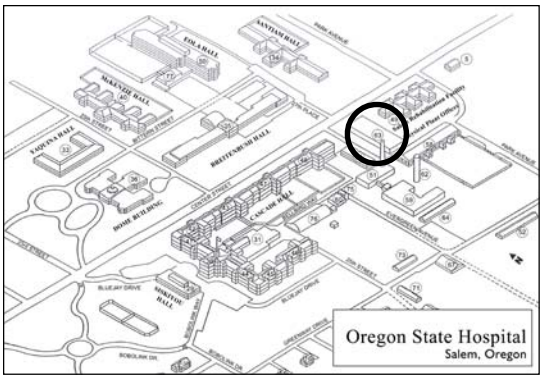
Structural:

Building 60 appears to be in fair structural condition. The structural system consists of unreinforced brick masonry exterior walls, which support a wood roof. There were no signs of significant distress or settlement. The lateral system consists of brick shear walls. The building would not meet current seismic code requirements, and would perform poorly in a seismic event. In order to seismically upgrade the building, new concrete shear walls would need to be added to the inside of the brick walls, new plywood would need to be added to the roof, and the roof would have to be anchored to the new concrete walls. New foundations would be required under the concrete walls. The estimated structural cost to upgrade the building to current seismic code requirements would be $20 to $30 per square foot.

Mechanical:			
Potable Water Systems	■ Poor	☐ Fair	☐ Acceptable
Plumbing Fixtures	■ Poor	☐ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	■ Fair	☐ Acceptable
Fire Protection System	☐ Poor	☐ Fair	☐ Acceptable
Heating	■ Poor	☐ Fair	☐ Acceptable
Cooling	■ Poor	☐ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable
Electrical:			
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable
Civil:			
Stormwater Drainage	☐ Poor	■ Fair	☐ Acceptable
Wastewater Drainage	☐ Poor	■ Fair	☐ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



PHYSICAL PLANT, BUILDING 63

Current Use: PHYSICAL PLANT/STORAGE
History of Uses: PHYSICAL PLANT/STORAGE
Historical Significance: ☐ Yes ■ No
Year Built: 1929

GENERAL CONSTRUCTION DATA

Area:
Footprint: 16,796 square feet
Total: 33,592 square feet (includes basement)
Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ■ Basement

Structural System:
Concrete walls supporting wood roof. Floor framing is steel beams with wood joists and concrete encased steel beams and concrete joists.

Exterior:
Walls ☐ Brick ☐ CMU ■ Stucco ☐ Other _____
Windows/Doors ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable
■ Single Pane ☐ Insulated
Roof ☐ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
Walls ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated
■ Plaster Finish ☐ Drywall Finish
Floors ■ Wood ■ Concrete ☐ Vinyl Composition Tile ☐ Vinyl Asbestos Tile
☐ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
Ceilings ☐ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile
■ Lay-In Acoustical Panels ■ Exposed Structure

Mechanical Systems:
Building 63 has radiant heating including forced convection (steam unit heaters) with no centralized cooling or air distribution. Controls zoning is very limited, consisting only of radiant heating controls. Toilet rooms have exhaust. Fire protection is provided by a wet-pipe system. Plumbing fixtures are serviceable but do not meet modern requirements for water conservation and accessibility. The building does not have insulation, and windows do not meet the current Energy Code.

Heating ☐ Supply Air ■ Convection (Steam & Heating Water)
Cooling ☐ Supply Air ☐ Rooftop AC Units ■ Window AC Units ■ Openable Windows
☐ None
Ventilation ☐ Supply Air ■ Limited Exhaust ☐ None
Water Heating ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 63 is fed from the campus distribution into a common bus. Various disconnects are connected to this common bus to feed branch panels located at each floor. The distribution disconnects should be replaced. There is no emergency power

available at this building. The building does contain a fire alarm system including detection and verification devices reporting to a central station.

Main Distribution	■ Campus System	■ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	☐ Generator	☐ UPS	■ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	☐ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	■ Poor	☐ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	☐ Poor	☐ Fair	☐ Acceptable

Interior:	☐ Poor	■ Fair	☐ Acceptable

Structural:

Building 63 appears to be in fair condition. The structural system consists of concrete walls supporting a wood framed roof. The first floor structure varies in different bays. In some bays the floor consists of wood joists supported by steel beams while the other bays are concrete joists supported by concrete encased beams. There are also several interior transverse concrete walls that separate the various bays. There were no signs of significant distress or settlement although there were a few vertical cracks above the windows in the exterior walls. These appear to be shrinkage cracks due to the long length of wall. The lateral system for the building consists of concrete shear walls. The building would not meet current seismic code requirements and would perform fair to poor in a seismic event. In order to seismically upgrade the building plywood would have to be added to the roof and the roof diaphragm would have to be adequately anchored to the walls. Because of the age of the building, the reinforcing in the concrete walls will have to be verified. Some new reinforced concrete may need to be added to the existing walls if the existing walls have no reinforcing bars. The estimated structural costs to upgrade the building to current seismic code requirements would be $10 to $20 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:

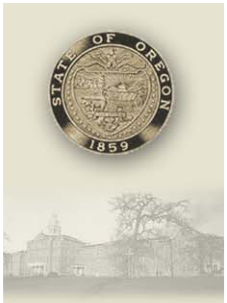
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



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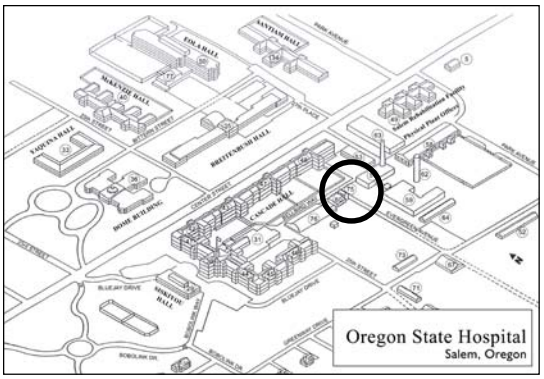
May 16, 2005

PHYSICAL PLANT Building 63



PHYSICAL PLANT STORAGE, BUILDING 75

Current Use: STORAGE
History of Uses: CREMATORIUM
Historical Significance: ☐ Yes ■ No
Year Built: Unknown

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 2,250 square feet
- Total: 2,250 square feet
- Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Concrete walls with wood roof structure.

Exterior:
- Walls: ☐ Brick ☐ CMU ■ Stucco ☐ Other _____
- Windows/Doors: ■ Wood ☐ Steel ☐ Aluminum ☐ Fixed ☐ Operable
  ■ Single Pane ☐ Insulated
- Roof: ■ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated
  ■ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ■ Vinyl Asbestos Tile
  ☐ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ■ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile
  ☐ Lay-In Acoustical Panels ☐ Exposed Structure

Mechanical Systems:
- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ☐ Openable Windows
  ■ None
- Ventilation: ☐ Supply Air ☐ Limited Exhaust ■ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
- Main Distribution: ☐ Campus System ■ Fed from Adjacent Bldg. ☐ Separate System
- Meter on Main Board: ☐ Yes ■ No
- Lighting Control: ■ Manual ☐ Automatic
- Emergency System: ☐ Generator ☐ UPS ■ None
- Fire Alarm: ☐ Yes ■ No

Security Systems: ☐ CCTV ☐ Secured Exiting
☐ Security Doors ☐ Security Windows ☐ Security Grilles

GENERAL BUILDING CONDITION

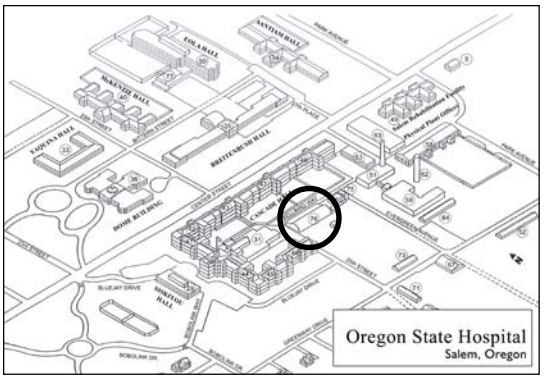
Exterior:			
Walls	■ Poor	☐ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	■ Poor	☐ Fair	☐ Acceptable
Interior:	■ Poor	☐ Fair	☐ Acceptable

Structural:

Building 75 appears to be in fair structural condition. The structural system appears to be concrete walls with wood roof. The exterior walls are covered in plaster, and the building abuts Building 60. There were no signs of significant distress or settlement. The lateral system for the building consists of concrete shear walls. The building most likely would not meet current seismic code requirements, however, because of its height and construction type it would probably perform fair to well in a seismic event. If the roof is wood, some upgrades would be likely, such as adding plywood and adequately anchoring it to the walls. The estimated structural costs to upgrade the building to current seismic cost requirements would be $5 to $10 per square foot.

Mechanical:			
Potable Water Systems	■ Poor	☐ Fair	☐ Acceptable
Plumbing Fixtures	■ Poor	☐ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	■ Fair	☐ Acceptable
Fire Protection System	☐ Poor	☐ Fair	☐ Acceptable
Heating	■ Poor	☐ Fair	☐ Acceptable
Cooling	■ Poor	☐ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable
Electrical:			
Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable
Civil:			
Stormwater Drainage	☐ Poor	■ Fair	☐ Acceptable
Wastewater Drainage	☐ Poor	■ Fair	☐ Acceptable

Definitions:
Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



PHYSICAL PLANT STORAGE, BUILDING 76

Current Use: LARGE EQUIPMENT STORAGE
History of Uses: PATIENT WARD/RECREATION FACILITY
Historical Significance: ☐ Yes ■ No
Year Built: Unknown

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 12,000 square feet
- Total: 12,000 square feet
- Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Wood framed roof and walls.

Exterior:
- Walls: ☐ Brick ☐ CMU ☐ Stucco ■ Other: Metal Siding
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ■ Operable ■ Single Pane ☐ Insulated
- Roof: ☐ Built-Up ☐ Membrane ☐ Composition Shingle ■ Other: Metal Roof

Interior:
- Walls: ☐ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated ☐ Plaster Finish ☐ Drywall Finish
- Floors: ☐ Wood ■ Concrete ☐ Vinyl Composition Tile ☐ Vinyl Asbestos Tile ☐ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ☐ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile ☐ Lay-In Acoustical Panels ■ Exposed Structure ☐ Wood

Mechanical Systems:
Building 76, a quonset hut used for storage and maintenance, has limited convection heating and no centralized cooling or air distribution. Controls zoning is very limited, consisting only of radiant heating controls. The building does not have insulation, and windows meet the current Energy Code.

- Heating: ☐ Supply Air ■ Convection (Steam & Heating Water)
- Cooling: ☐ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ☐ Openable Windows ■ None
- Ventilation: ☐ Supply Air ☐ Limited Exhaust ■ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 76 main distribution board is fed from switchboard located in a different building. Power is distributed in the building through branch panels located at each floor. Branch panels are fed from the building's main distribution board. There is dedicated generator for this building feeding emergency as well as standby loads. The building does contain a fire alarm system including detection and verification devices. Most of the lighting in the building comes from incandescent lighting with no automatic lighting controls.

Main Distribution	☐ Campus System	■ Fed from Adjacent Bldg.	☐ Separate System
Meter on Main Board	☐ Yes	■ No	
Lighting Control	■ Manual	☐ Automatic	
Emergency System	■ Generator	☐ UPS	☐ None
Fire Alarm	■ Yes	☐ No	

Security Systems:	☐ CCTV	☐ Secured Exiting	
	☐ Security Doors	☐ Security Windows	☐ Security Grilles

GENERAL BUILDING CONDITION

Exterior:			
Walls	☐ Poor	■ Fair	☐ Acceptable
Openings	■ Poor	☐ Fair	☐ Acceptable
Roof	■ Poor	☐ Fair	☐ Acceptable
Interior:	■ Poor	☐ Fair	☐ Acceptable

Structural:

Building 76 appears to be in good structural condition. The structural system appears to be an arched wood system that forms the roof and sloping walls. On the north side, a one-story wood framed portion with a flat roof abuts the sloping walls. All of the structural elements were covered by interior wood siding. There were no signs of significant distress or settlement in the building, however, there was significant settlement in the slab on grade in the middle of the building. The lateral system consists of wood shear walls. The building would not meet current seismic code requirements, because it is most likely lacking plywood sheathing, although the building design may be controlled by wind design because it is a light structure. In order to upgrade the building to resist current code seismic or wind loads, plywood sheathing would need to be added to the walls and roof. The estimated structural cost to upgrade the building to current code requirements would be $5 to $10 per square foot.

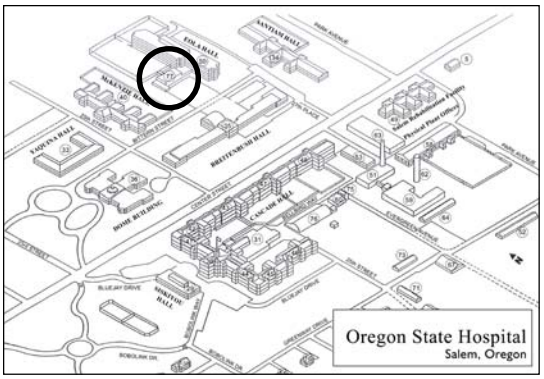
Mechanical:			
Potable Water Systems	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	☐ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	■ Poor	☐ Fair	☐ Acceptable
HVAC Controls	■ Poor	☐ Fair	☐ Acceptable
HVAC Energy Efficiency	■ Poor	☐ Fair	☐ Acceptable
Smoke Control	■ Poor	☐ Fair	☐ Acceptable

Electrical:			
Equipment Age	☐ < 10 yrs.	■ < 25 yrs.	☐ > 25 yrs.
Equip. Condition	☐ Poor	■ Fair	☐ Acceptable

Civil:			
Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:

Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is



RECREATION CENTER, BUILDING 77

Current Use: RECREATIONAL ACTIVITIES
History of Uses: RECREATIONAL ACTIVITIES
Historical Significance: ☐ Yes ■ No
Year Built: 1956

GENERAL CONSTRUCTION DATA

Area:
- Footprint: 5,600 square feet
- Total: 5,600 square feet
- Height (# Stories): ■ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Basement

Structural System:
Concrete columns and beams supporting precast concrete roof planks.

Exterior:
- Walls: ■ Brick ☐ CMU ☐ Stucco ☐ Other _____
- Windows/Doors: ☐ Wood ■ Steel ☐ Aluminum ☐ Fixed ☐ Operable
- ■ Single Pane ☐ Insulated
- Roof: ■ Built-Up ☐ Membrane ☐ Composition Shingle ☐ Other _____

Interior:
- Walls: ■ CMU ■ Wood Stud ☐ Metal Stud ☐ Fire/Smoke Rated
- ■ Plaster Finish ☐ Drywall Finish
- Floors: ■ Wood ☐ Concrete ☐ Vinyl Composition Tile ☐ Vinyl Asbestos Tile
- ■ Carpet ☐ Ceramic Tile ☐ Sheet Vinyl
- Ceilings: ☐ Plaster ☐ Drywall ☐ Glue-Up Acoustical Tile
- ■ Lay-In Acoustical Panels ■ Exposed Structure

Mechanical Systems:
Building 77 is served by the Building 50 mechanical systems.

- Heating: ■ Supply Air ☐ Convection (Steam & Heating Water)
- Cooling: ■ Supply Air ☐ Rooftop AC Units ☐ Window AC Units ■ Openable Windows
- ☐ None
- Ventilation: ■ Supply Air ☐ Limited Exhaust ☐ None
- Water Heating: ☐ Local Heating ■ Piped from Central Plant

Electrical Systems:
Building 77 is served from same systems as building 50.

- Main Distribution: ☐ Campus System ■ Fed from Adjacent Bldg. ☐ Separate System
- Meter on Main Board: ☐ Yes ■ No
- Lighting Control: ■ Manual ☐ Automatic
- Emergency System: ☐ Generator ☐ UPS ■ None
- Fire Alarm: ■ Yes ☐ No

Security Systems: ■ CCTV ■ Secured Exiting
■ Security Doors ☐ Security Windows ■ Security Grilles

GENERAL BUILDING CONDITION

Exterior:

Walls	☐ Poor	☐ Fair	■ Acceptable
Openings	☐ Poor	☐ Fair	■ Acceptable
Roof	☐ Poor	☐ Fair	■ Acceptable

Interior:	☐ Poor	☐ Fair	■ Acceptable

Structural:
Building 77 appears to be in good structural condition. The structural system consists of concrete beams and columns supporting a precast concrete roof. The precast roof consists of precast beams supporting precast planks. There were no signs of significant distress or settlement. The lateral system consists of CMU shear walls infilled between the concrete beams and columns. The building would most likely not meet current seismic code requirements, however, because of its height and construction type, it probably would perform reasonably well in a seismic event. The buildings performance would also depend on well the precast roof elements are tied together and how well they are anchored to the surrounding structure. The estimated structural cost to upgrade the building to current seismic code requirements would be $10 to $15 per square foot.

Mechanical:

Potable Water Systems	☐ Poor	☐ Fair	☐ Acceptable
Plumbing Fixtures	☐ Poor	■ Fair	☐ Acceptable
Plumbing Fixtures - Water Use	■ Poor	☐ Fair	☐ Acceptable
Waste & Vent Piping	☐ Poor	☐ Fair	■ Acceptable
Fire Protection System	☐ Poor	■ Fair	☐ Acceptable
Heating	☐ Poor	■ Fair	☐ Acceptable
Cooling	☐ Poor	■ Fair	☐ Acceptable
Outside Air Ventilation	☐ Poor	■ Fair	☐ Acceptable
HVAC Controls	☐ Poor	■ Fair	☐ Acceptable
HVAC Energy Efficiency	☐ Poor	■ Fair	☐ Acceptable
Smoke Control	☐ Poor	■ Fair	☐ Acceptable

Electrical:

Equipment Age	☐ < 10 yrs.	☐ < 25 yrs.	■ > 25 yrs.
Equip. Condition	■ Poor	☐ Fair	☐ Acceptable

Civil:

Stormwater Drainage	☐ Poor	☐ Fair	■ Acceptable
Wastewater Drainage	☐ Poor	☐ Fair	■ Acceptable

Definitions:
Poor = Needs Replacement, Fair = Needs Repair, Acceptable = Adequate as is

Oregon State Hospital

State of Oregon Department of Human Services

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May 16, 2005

RECREATION CENTER Building 77

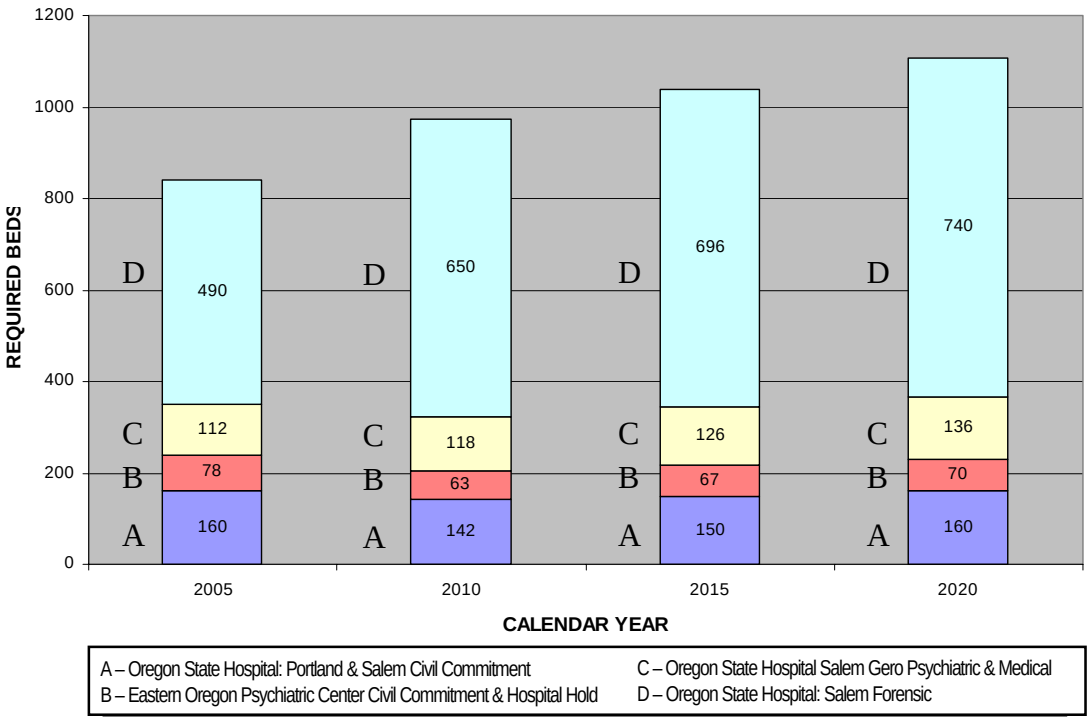
Appendix B

STATISTICAL DATA

Scenario One
Key Variables

Key Drivers	Actual	Projection			
	2004	2005	2010	2015	2020
Population Ages 18 and Older					
Population Ages 18 and Older	2,698,632	2,756,408	2,962,297	3,176,817	3,387,933
Civil Commitment Population at Oregon State Hospital (Portland and Salem Campuses)					
Admission Rate per 1,000 Persons	0.053	0.053	0.053	0.053	0.053
Average Length of Stay	358	352	288	288	288
Average Daily Population	139	140	123	132	141
Required Bed Availability	158	160	142	150	160
Civil Commitment & Hold Population at Eastern Oregon Psychiatric Center					
Admission Rate per 1,000 Persons	0.129	0.128	0.122	0.122	0.122
Average Length of Stay	67	66	52	52	52
Average Daily Population	64	64	51	55	59
Required Bed Availability	78	78	63	67	70
GeroPsychiatric & Medical Population at Oregon State Hospital (Salem Campus)					
Admission Rate per 1,000 Persons	0.025	0.027	0.027	0.027	0.027
Average Length of Stay	507	467	467	467	467
Average Daily Population	93	95	102	110	117
Required Bed Availability	110	112	118	126	136
Forensic Population at Oregon State Hospital (Salem Campus)					
Admission Rate per 1,000 Persons	0.165	0.176	0.220	0.220	0.220
Average Length of Stay	403	342	342	342	342
Average Daily Population	490	454	610	654	697
Required Bed Availability	526	490	650	696	740

Scenario One
Required Beds by Program with Beds Available 95% of the Time
Based on No Change in Community-Based Resources Past 2007



Oregon State Hospital

State of Oregon Department of Human Services

Framework Master Plan Phase I Report

KMD

May 16, 2005

APPENDIX B-1

Scenario One – Technical Notes
Required Beds by Program with Beds Available 95% of the Time
No Additional Community-Based Resources Past 2007 or Other System Changes

- The projection is for beds not daily census. This results in bed occupancy by program ranging from 81% for EOPC to 94% for the OSH Forensic Unit.

- Oregon State Hospital: Portland & Salem Civil Commitment: Admissions and patient days were calculated based on DAS population forecasts of the age 18 and older Oregon population based on a review of five year trends for the admission rate and average length of stay (ALOS) from 2000 through 2004. The admission rate was held constant at .51 admits per 1,000 persons, the rate for 2004 a period when there were significant capacity problems within the system. Length of stay is projected to 2005. For 2010 through 2020, the 5-year average length of stay for the 2000 to 2004 period is used. These rates reflect the expected impact of system changes occurring in the 2003 – 2005 and 2005 – 2007 biennium.

- Eastern Oregon Psychiatric Center: Civil Commitment & Hospital Hold: Admissions and patient days were calculated based on DAS population forecasts of the age 18 and older Oregon population based on a 5-year trend of the admission rate for 2005 and then the rate was reduced by 5% in 2010 and held constant. Average length of stay was projected to fall through 2007 and then held constant through 2020 based on the length of stay trend from 2000 through 2004. These rates reflect the expected impact of system changes occurring in the 2003 – 2005 and 2005 – 2007 biennium. No modification has been made to reflect census changes resulting from change in reimbursement for hold patients in this facility due to the limited impact on overall patient census.

- Oregon State Hospital: Salem Gero-Psychiatric & Medical: Admissions and patient days were calculated based on DAS population forecasts of the age 18 and older Oregon population. The admission rates and average length of stay (ALOS) were estimated based on interviews, review of utilization trends and OMHAS plans for community placements. No significant short term enhancement in community resources is anticipated.

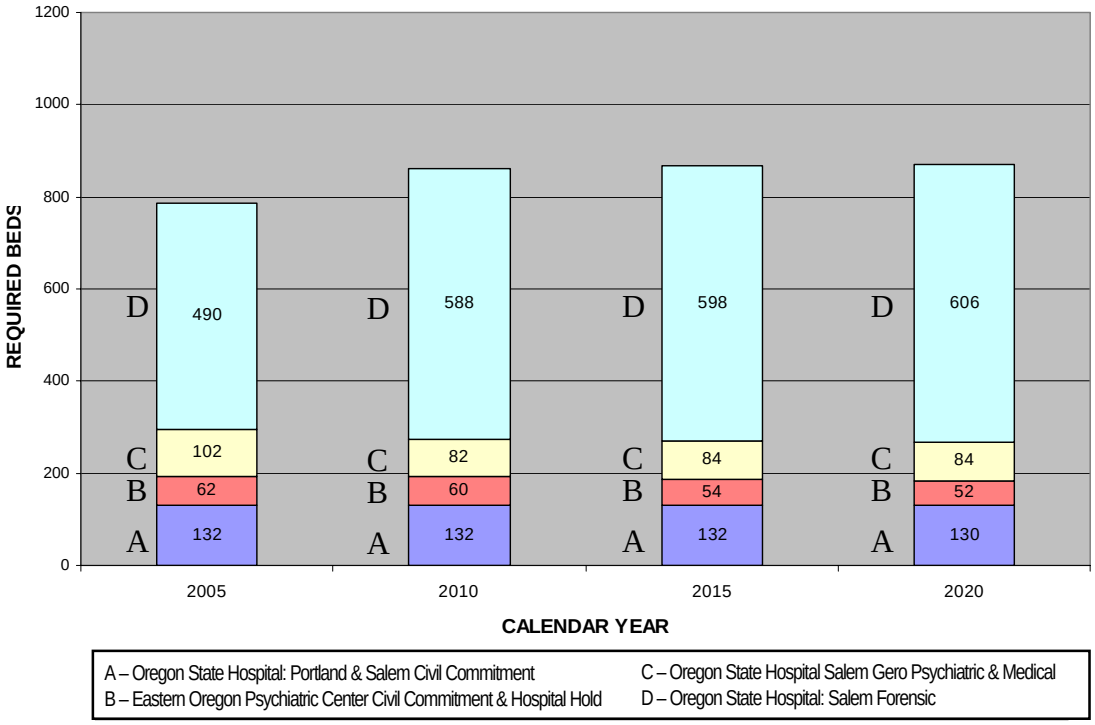
- Oregon State Hospital: Salem Forensic: Average daily population for 2005 (calendar year) uses the OMHAS-developed monthly actual and projected patient days resulting from added community resources and length of stay (ALOS) is then calculated for the forensic population for 2005. Length of stay is then held constant through 2020. The admission rate is projected to increase through 2010 and is then held constant.

Scenario Two
Key Variables

Key Drivers	Actual	Projection			
	2004	2005	2010	2015	2020
Population Ages 18 and Older					
Population Ages 18 and Older	2,698,632	2,756,408	2,962,297	3,176,817	3,387,933
Civil Commitment Population at Oregon State Hospital (Portland and Salem Campuses)					
Admission Rate per 1,000 Persons	0.053	0.053	0.052	0.051	0.050
Average Length of Stay	358	287	273	259	246
Average Daily Population	158	132	132	132	130
Required Bed Availability	158	132	132	132	130
Civil Commitment & Hold Population at Eastern Oregon Psychiatric Center					
Admission Rate per 1,000 Persons	0.129	0.102	0.097	0.092	0.087
Average Length of Stay	67	66	60	55	52
Average Daily Population	64	51	47	44	42
Required Bed Availability	78	62	60	54	52
GeroPsychiatric & Medical Population at Oregon State Hospital (Salem Campus)					
Admission Rate per 1,000 Persons	0.025	0.025	0.022	0.021	0.020
Average Length of Stay	507	467	373	373	373
Average Daily Population	93	87	68	69	70
Required Bed Availability	110	102	82	84	84
Forensic Population at Oregon State Hospital (Salem Campus)					
Admission Rate per 1,000 Persons	0.165	0.176	0.220	0.220	0.220
Average Length of Stay	403	342	308	292	278
Average Daily Population	490	454	549	559	566
Required Bed Availability	526	490	588	598	606

Requires community based services to have the full array of service levels including secure residential services.

Scenario Two
Required Beds by Program with Beds Available 95% of the Time
Based on Reduced Demand



Scenario Two – Technical Notes
Required Beds by Program with Beds Available 95% of the Time Based on Reduced Demand Due to Additional Community-Based Resources

- The projection is for beds not daily census for the calendar year. This results in bed occupancy by program ranging from 81% for EOPC to 94% for the OSH Forensic Unit.

- Oregon State Hospital: Portland & Salem Civil Commitment: Admissions and patient days were calculated based on DAS population forecasts of the age 18 and older Oregon population. The admission rates and average length of stay (ALOS) were estimated based on interviews, review of utilization trends and OMHAS plans. The admission rate is expected to slightly decline from 2004 levels while length of stay is expected to drop more significantly based on a comprehensive array of community resources and other system changes.

- Eastern Oregon Psychiatric Center: Civil Commitment & Hospital Hold: Admissions and patient days were calculated based on DAS population forecasts of the age 18 and older Oregon population. The admission rates and average length of stay (ALOS) were estimated based on interviews, review of utilization trends and OMHAS plans. No modification has been made to reflect census changes resulting from change in reimbursement for hold patients in this facility due to the limited impact on overall patient census.

- Oregon State Hospital: Salem Gero-Psychiatric & Medical: Admissions and patient days were calculated based on DAS population forecasts of the age 18 and older Oregon population. The admission rates remains constant while average length of stay (ALOS) is estimated to decline with the addition of more community resources based on interviews, review of utilization trends and OMHAS plans.

- Oregon State Hospital: Salem Forensic: Average daily population for 2005 (calendar year) uses the OMHAS monthly actual and projected patient days resulting from added community resources and length of stay (ALOS) is then calculated for the forensic population for 2005. The admission rate is projected to increase through 2010. Average length of stay (ALOS) is projected to decrease by 5% in each 5-year period beyond 2005 through 2020. This is based on interviews, review of utilization trends and OMHAS plans.

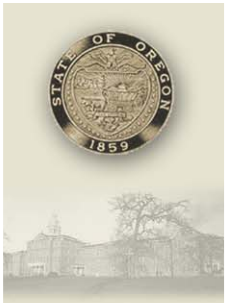
SCENARIO HISTORICAL DATA

	2000	2001	2002	2003	2004
Population Ages 18 and Older	2,574,873	2,615,068	2,670,114	2,665,710	2,698,632
Civil Admits at Oregon State Hospital (OSH Portland & OSH Salem)	180	180	177	161	142
Eeastern Oregon Psychiatric Center (EOPC) Admits	242	243	218	296	349
OSH GeroPsychiatric & Medical Admits (Salem)	74	81	60	75	67
OSH Forensic Admits	257	260	293	386	444
OSH Civil Patient Days	48,213	46,752	45,656	47,483	50,770
Eeastern Oregon Psychiatric Center Patient Days	21,550	21,185	20,819	22,280	23,376
OSH GeroPsych Patient Days	30,681	33,968	33,238	32,873	33,968
OSH Forensic Patient Days	143,543	163,267	157,058	161,806	178,973
Civil Average Daily Population (OSH (Portland & Salem)	132	128	125	130	139
EOPC Average Daily Population	59	58	57	61	64
OSH GeroPsych Average Daily Population	84	93	91	90	93
OSH Forensic Average Daily Population	393	447	430	443	490
Civil Admit Rate Per 1,000 Persons (OSH-Salem and OSH-Portland)	0.070	0.069	0.066	0.060	0.053
EOPC Admit Rate Per 1,000 Persons	0.094	0.093	0.082	0.111	0.129
GeroPsychiatric & Medical Admit Rate Per 1,000 Persons	0.029	0.031	0.022	0.028	0.025
OSH Forensic Admit Rate Per 1,000 Persons	0.100	0.099	0.110	0.145	0.165
Civil Commitment (OSH-Salem and OSH-Portland) Avg. Length of Stay	267.9	259.7	257.9	294.9	357.5
EOPC Avg. Length of Stay	89.0	87.2	95.5	75.3	67.0
OSH GeroPsych & Medical Avg. Length of Stay	414.6	419.4	554.0	438.3	507.0
OSH Forensic Avg. Length of Stay	558.5	627.9	536.0	419.2	403.1

GLOSSARY OF ABBREVIATIONS AND TERMINOLOGY

ADA	Americans with Disabilities Act
AFSCME	American Federation of State, County and Municipal Employees
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
Consumers	Users of Mental Health Services (Patients)
DAS	Oregon Department of Administrative Services
DHS	Oregon Department of Human Services
DOC	Oregon Department of Corrections
EOPC	Eastern Oregon Psychiatric Center, located in Pendleton, Oregon
FEMA	Federal Emergency Management Agency
GERO	Geriatric
GERO-PSYCH	Geropsychiatric
HVAC	Heating Ventilating Air-Conditioning
IBC	International Building Code (base for Oregon's Structural Specialty Code)
IMC	International Mechanical Code
IPC	International Plumbing Code
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
KMD	KMD Architects and Planners, PC
NAMI	National Alliance for the Mentally Ill
NARA	Native American Rehabilitation Association
NEC	National Electric Code
NFPA	National Fire Protection Association
NHG	New Heights Group
NIMBY	Not In My Back Yard
OAR	Oregon Administrative Rules
OMHAS	Office of Mental Health and Addiction Services (a division of DHS)
OSH	Oregon State Hospital (Salem and/or Portland campuses)
OYA	Oregon Youth Authority
POSH	Portland Campus of Oregon State Hospital
PSRB	Psychiatric Security Review Board

RMC	Robert McGuirk Consulting
SEED	Oregon State Energy Efficient Design (a program standard for publicly-owned buildings)
SEIU	Service Employees International Union
SPD	Seniors and People with Disabilities (a division of DHS)
Stakeholders	Those interested in the services for those with mental illness
WARD	Hospital-based Group Living/Treatment Nursing Unit



Oregon State Hospital

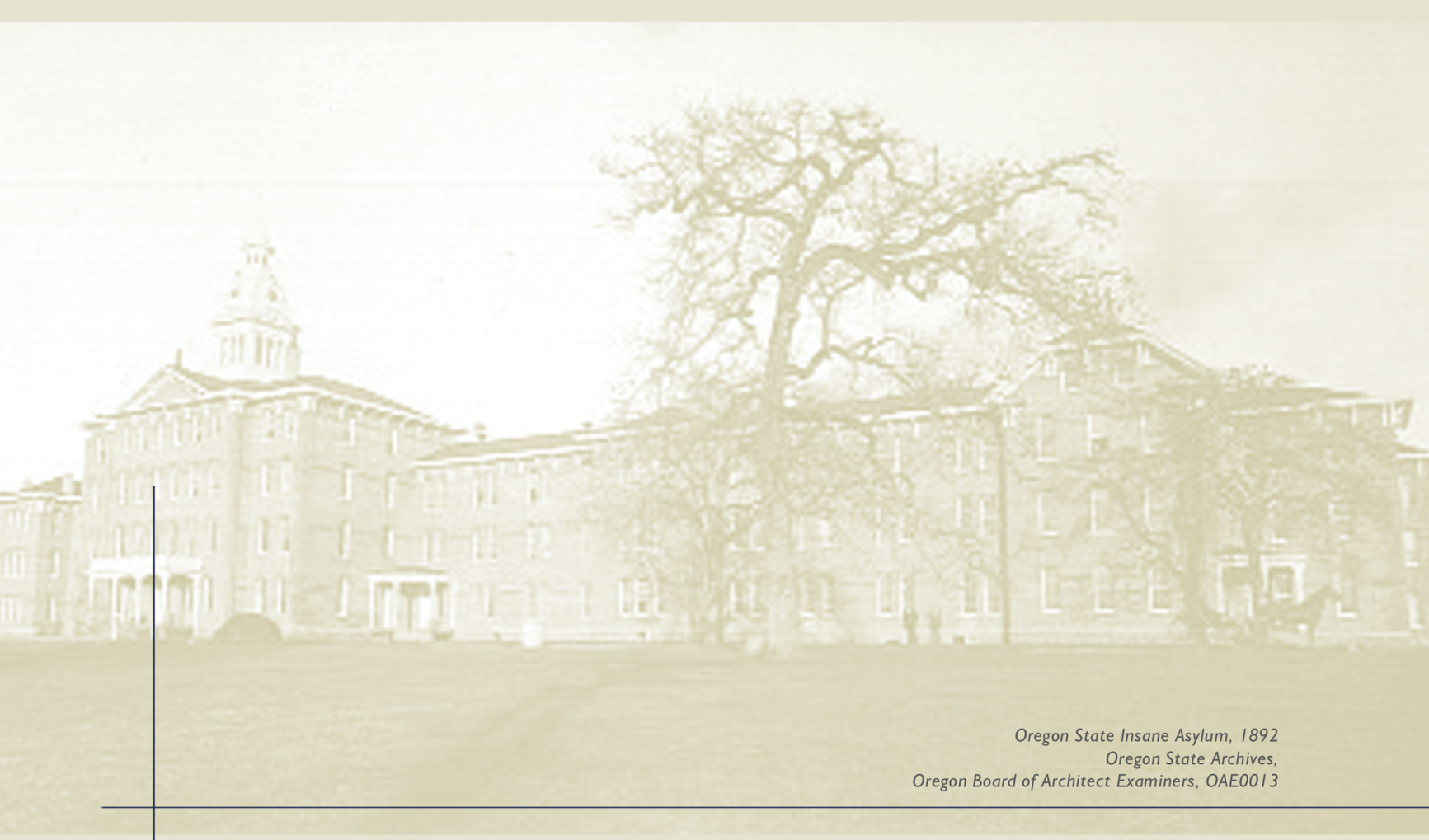
State of Oregon Department of Human Services

Framework Master Plan Phase I Report

KMD

May 16, 2005

APPENDIX C-2



Oregon State Insane Asylum, 1892
Oregon State Archives,
Oregon Board of Architect Examiners, OAE013

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