

Oregon State Hospital  
*Due Diligence Investigation*  
*Salem, Oregon*

**Hammes Company**

The shortest distance between idea and reality.™

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## EXECUTIVE SUMMARY

The Due Diligence Investigation process is intended to provide information that will support the Client's decision as to whether (or not) the site of the existing Oregon State Hospital – Salem (on the south side of Center Street) is suitable for the Client's intended use. The Client's intended use is ... replacement of the existing hospital facilities on the site with new hospital facilities.

*In the opinion of the Hammes Company, the reports of the sub-consultants contain no facts that rise to the level of "show-stoppers" that would likely prevent the use of the site for the Client's intended use; however, conditions exist that might limit or prevent the use of parts of the site for the Client's intended use for an indeterminable period.*

### USE OF SITE – POSSIBLE PHYSICAL CONSTRAINTS

#### Extraction and Monitoring Wells

The June, 2007 *Phase One Environmental Site Assessment* (P1ESA) prepared by PBS Environmental identified five monitoring wells and one recovery well related to a Remedial Action Plan that are located on the subject property (see pages 16-17). The locations of these wells are illustrated in the P1ESA and are also shown on the survey maps prepared for this Due Diligence investigation by Westlake Consultants. The wells will be located on the property until the plume of contamination threatening ground water that was caused by an upstream release of trichloroethylene and perchloroethylene from the prison has been removed. The wells are located near the west site boundary and along the southernmost part of the project site. It is considered unlikely that the location of the wells will interfere with the location of buildings and other improvements that might be constructed on the property. It is important, however, to recognize the location of the wells is a design constraint. The possibility exists that the wells, or well heads, could be relocated if such relocation is essential to achieving the preferred design solution for a new hospital. The time and cost to realize such relocation would have to be reasonable measured against the benefit obtained.

#### Wetlands

The June, 2007 *Wetland Delineation Report* prepared by PBS Environmental identified 8 wetland areas on the project site. The locations of the wetlands are illustrated on four maps in the Wetland Delineation Report and are also shown on the survey maps prepared for this Due Diligence investigation by Westlake Consultants. The wetlands were labeled "A" through "H" and range in size from 129 to 63,665 square feet. The combined area of the eight wetlands is 2.22 acres (96,840 square feet). Wetlands "A", "B", "C", "D" and "F" lie along and just inside the south property line (as defined by a map line drawn to separate the 'prison property' from the 'hospital property' on what is actually one legal parcel owned by the State of Oregon). Wetland "E", the smallest wetland at only 129 square feet, is located north of wetlands "C" and "D". Wetland "G", the largest wetland at 63,665 square feet, is located on the southeast part of the property, near the south property line and east of Park Avenue NE. Wetland "H", 16,213 square feet, is located within the southwest quadrant of the project site, a considerable distance from both the west and south property lines. It is considered unlikely that wetland issues will interfere with the location of buildings that might be constructed on the property. It is important, however, to recognize that the existing location of the wetlands is a design constraint. Without wetland relocation or other wetland mitigation, the location of Wetlands "E", "G" and "H" could prevent the achievement of the preferred design solution for a new hospital.

#### Easements

There are few easements encumbering the property. The location of recorded easements identified in title report documents obtained by Westlake Consultants for preparation of the American Land Title Association (ALTA) survey maps prepared for this Due Diligence investigation are shown on the survey maps. Because it is likely that the existing site plan for the property will be modified substantially for development of a replacement hospital on the property, it will almost certainly be necessary to provide for the termination of some existing easements and the creation of new ones. It is considered unlikely that easement issues will interfere with the location of buildings that might be constructed on the property. It is important, however, to recognize that the location of the existing

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easements is a design constraint. Without realizing relocation, the location of one or more of the existing easements could be a severe constraint preventing the achievement of the preferred design solution for a new hospital.

### Significant Trees

Certain trees on the site are likely to be considered "Significant Trees" and City code requires a permit for their removal. Westlake Consultants reports the following: "A 'Significant Tree' is defined as a rare, threatened or endangered tree of any size as defined or designated under state or federal law and included in the tree and vegetation technical manual, and Oregon white oaks (*Quercus garryana*) with a dbh of 24" or greater.

"Trees and native vegetation protected under City code may be removed after issuance of a tree removal permit by the planning administrator, based on any of the following arguments:

- the tree is a hazardous tree,
- the removal is part of an approved restoration activity,
- the removal is necessary for the maintenance or replacement of structures existing on June 21, 2000, or
- the removal is necessary for a water-dependent activity.

"Note that application for tree removal based on the need to repair, alter or replace structures existing as of June 21, 2000, must demonstrate that the removal is necessary to effect the otherwise lawful repair, alteration or replacement of such structures; and that the structure footprint is not enlarged. Variances from the tree permit may be sought on the basis of undue hardship or loss of fair market value of the property."

In the *Tree Reconnaissance Report and Threatened and Endangered Species Survey* dated June 29, 2007, prepared by PBS Environmental, it is reported on page 24 that, "...the site contains several Oregon white oaks with diameters in excess of 24 inches". It is considered unlikely that tree permit issues will interfere with the location of buildings that might be constructed on the property. It is important, however, to recognize that the locations of the existing "Significant Trees" are a design constraint. Without obtaining a tree removal permit, the location of one or more of the existing "Significant Trees" could be a severe constraint preventing the achievement of the preferred design solution for a new hospital.

### Archeological Finds in High Probability Areas (HPAs)

About two-thirds of the property, primarily the south and west parts, were identified as HPAs by Archeological Investigations Northwest (AINW) in their *Cultural Resource Report* prepared for this Due Diligence investigation and dated July 3, 2007. AINW reports that the area could contain both prehistoric (Native American) and historic-period archaeological resources. Prehistoric archaeological sites are common on the floodplains of Mill Creek. AINW reports that Federal and state laws protect archaeological sites and cultural resources in Oregon. ORS 358.905-358.955 recognizes that significant archaeological sites over 75 years in age and their contents (including items of cultural patrimony or associated with human remains) that are located on public land are under the stewardship of the people of Oregon and are protected and managed in perpetuity by the state as a public trust. The Salem Revised Code, Chapter 120A.140 regulates the preservation of archaeological resources under ORS 358. ORS 97 protects all Native American cairns, graves, and associated cultural items. If a significant archeological site is found, data recovery in consultation with the State Historical Preservation Office (SHPO) and other involved parties would ensue ... and/or avoidance measures would be employed. The application of avoidance measures, if required, would be a design constraint that might prevent the achievement of the preferred design solution for a new hospital. While the possibility of relocating graves and other major cultural items exists, there is no certainty that relocation would be realized. If realizable, cost and considerable time delay might be associated with such relocation.

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### Historical Buildings

Both Westlake Consultants and AINW discuss the topic of historical buildings, or potentially historical buildings, in their reports. In general, such buildings are protected and are not candidates for demolition to make way for redevelopment. However, such a generalization is a vast oversimplification and does not begin to tell the whole story. For a variety of reasons, many such buildings are demolished. Pages 17-21 in Westlake's report and pages 11-17 in AINW's report are essential reading to gain understanding of the importance and consequence of these classifications. The reports identify some buildings located on the Oregon State Hospital site that are designated as historical or are considered to be potentially historical. The buildings in these classifications should be considered a design constraint that prevent or delay the entire site from being used for development of a new hospital. It is outside the scope of the Due Diligence investigation to suggest or identify strategies for the future of these buildings, or their possible future uses. The Client is likely to identify a range of futures for the buildings after reading the relevant sections of the Westlake and AINW reports. Depending upon what direction the Client chooses and the time associated with the Client's implementation of that strategy, the constraint might be temporary or permanent and the constraint might apply differently to different historical or potentially historical buildings on the site. The futures of the historic or potentially historic buildings, the reader will discover, will not be determined exclusively by the Client and the futures of some of the buildings are unlikely to be determined quickly. To gain some understanding of this, consider AINW's recommendations on pages 19-20 of its report.

It is clear that the Client, project management and the design team must agree very early in the development process which buildings will be IN the project boundary/scope (buildings that are certain, or high probability, candidates for demolition in the near term) and which buildings will be OUT of the project boundary/scope (all the other buildings).

### WORKING WITH DESIGN CONSTRAINTS

The illustration at the end of this section is provided only to demonstrate the impact of design constraints upon building mass and spatial relationships utilizing a hypothetical site plan. The illustration is simply *an* illustration. It is not necessarily a good solution to the users' functional requirements and it is not a recommendation. The reader is reminded that work on a functional/design program has not yet been commissioned.

The illustration reflects the KMD program, Option 2, (provided to the Client in an earlier report) providing for 620 beds plus expansion for an additional 160 beds. Center Street is shown as 30 feet wider than its current width reflecting a preference expressed by City staff. The illustrated site plan utilizes the existing slope to attain two-story building solutions. The entry to most buildings might be located at mid-level or at two levels. The lower level might be utilized for staff/materials, etc. and the upper floor utilized as a patient area. The building near the "public entry" is three stories with Administrative and other functions housed within. The parking area is a structured ramp for 1,200+ vehicles.

The illustration utilizes much of the area occupied by existing buildings for redevelopment and assumes that substantial demolition of historical or potentially historical buildings will occur. Of the historical or potentially historical buildings, only the Boiler Building (Building 51) and the north part and the Cascade Hall (Building 30) part of Building "J" remain. These might be unrealistic assumptions.

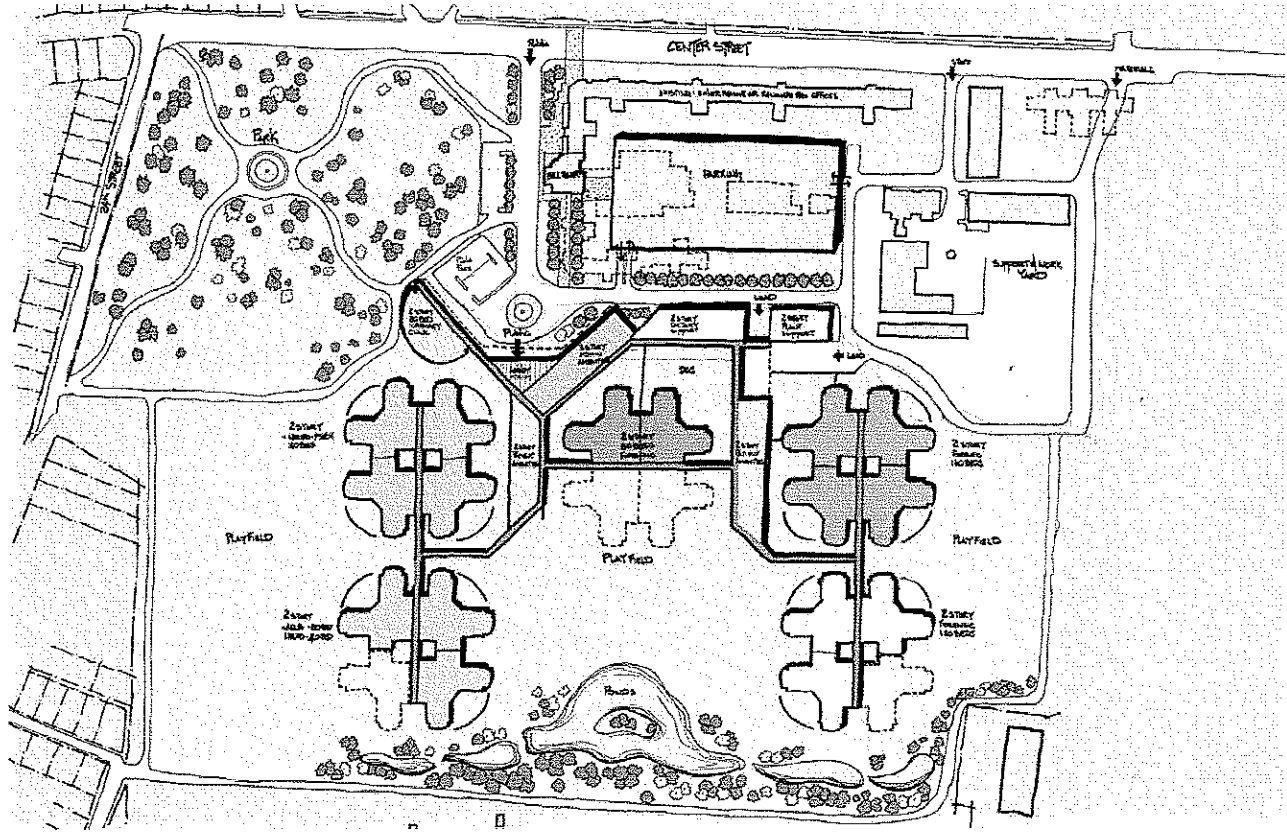
The illustration avoids the use of the part of the project site that is currently used as a park. This skirts some of the "Significant Tree" issues. However, the park area is particularly desirable for building construction because of the level grade and the size of the area. Many site plan solutions would maximize the use of this part of the project site, particularly if the area occupied by historical and potentially historical buildings was not available.

The illustration avoids many of the existing easements on the property, particularly those at the south and southwest.

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The illustration avoids dealing with wetland issues except those relating to Wetland "G" and the illustration contemplates that it is relocated to the south central part of the project site and incorporated into a water quality and storm water detention system.

The illustration avoids dealing with the extraction and monitoring wells on the site.



## SUB CONSULTANT REPORTS

The complete report of the Due Diligence Investigation consists of this report, as well as nine additional volumes reporting upon the work of six sub-consultants during the period from May 4, 2007 through July 17, 2007. At the request of the Client, the investigative part of the work was front-loaded to the extent reasonably possible and an interim/preliminary report dated May 17, 2007 was provided to the Client. This final report of Due Diligence supersedes that interim /preliminary report.

The reports of the sub-consultants cover the following topic areas:

**PBS Engineering & Environmental (4 volumes)**

- ◆ Phase I Environmental Assessment
- ◆ Geotechnical Review
- ◆ Wetland Delineation
- ◆ Tree Reconnaissance/Threatened & Endangered Species

**Westlake Consultants, Inc. (2 volumes)**

- ◆ Surveying
- ◆ Land Use Approval
- ◆ State and Local Planning and Permit Requirements & Process
- ◆ Issues relating to Historical Buildings
- ◆ Civil Engineering
- ◆ On-site and Off-site Considerations

**Archeological Investigations Northwest, Inc. (1 volume)**

- ◆ Archeological
- ◆ Historical Buildings

**KPFF Consulting Engineers (1 volume)**

- ◆ Seismic & Structural Assessment

**GLUMAC, Inc (1 volume)**

- ◆ Mechanical / Electrical / Plumbing Investigation – On-site

**Staton Companies (Letter, included in this Hammes Company volume)**

- ◆ Conceptual Demolition Cost Estimate - Preliminary

A few paragraphs describing some of the important findings or conclusions in each of the reports of the six sub-consultants are provided in the following pages. Those paragraphs are only intended as a map to guide the reader of this report. The paragraphs also include commentary of the Hammes Company about some of the sub-consultant's findings and/or the potential cost impacts. In some cases, the commentary is a summary of a sub-consultant's summary. Commentary and opinion of the Hammes Company is clearly identified. The commentary that deals with the reports of sub-consultants does not address, and is not intended to address, all of the matters in the reports of the sub-consultants. Reading the individual sub-consultant reports is strongly recommended.

## SUB CONSULTANT REPORTS

### PBS ENGINEERING & ENVIRONMENTAL REPORTS

On pages 41-44 of the *Phase One Environmental Site Assessment* dated June, 2007 PBS Engineering & Environmental discusses Leaking Underground Storage Tanks (LUSTs), Department of Environmental Quality (DEQ) actions and other topics and stated its conclusions as follows:

“The following *recognized environmental conditions* were identified in connection with the subject property:

1. Known groundwater contamination (*West/South Section*): Groundwater contamination with halogenated volatile organic compounds (HVOCs) has been documented in monitoring wells located on the south-central and southwest portions of the subject property. The source of HVOC contamination is a former dry-cleaning facility on the south adjacent Oregon State Penitentiary site, and monitoring of the plume continues. This poses a risk for re-development in the southwest portion of the subject property if excavation exposes contaminated soil and/or groundwater. There is also a risk for vapor intrusion into buildings.
2. Automobile repair activities (*Northeast Section*): An on-site automobile repair shop, in use since at least the 1940s, includes an in-ground hoist with an approximately 80-gallon hydraulic fluid reservoir. A second hoist and hydraulic fluid tank may be present in the vicinity of the Garage, but could not be located. Current management practices with regard to solvents and lubricants appear to minimize current risks; however, historical practices are not well known. Therefore, there is a risk associated with potential improper storage and disposal of solvents and lubricants in the vicinity of the garage.
3. An active 1,000-gallon underground gasoline tank is present on the subject property (*Northeast Section*). It was installed in approximately 1999 and has been tested within the last year. The pump is located nearby to the east of the tank. Based on ongoing tank monitoring, this poses a low concern.

The following *historical recognized environmental conditions* were identified in connection with the subject property:

1. Conditionally Closed LUST Files (*Northeast Section*): Conditional DEQ closure letters were issued for fuel and heating oil tanks removed from near the heating plant and physical plant buildings, where pockets of contamination were allowed to remain adjacent to these structures. Based on regulatory status, this poses a low concern unless the buildings are removed and impacted soils are exposed.
2. Other Closed LUST Files (*West/South Section*): DEQ file closures were identified for residential heating oil and gasoline underground storage tanks removed from near residential cottages. Based on regulatory file status and residential use, this poses a low concern for the subject property.

The following *other issues of concern* were identified during this study:

1. Previously unidentified USTs in the Northeast Section of the subject property: A possible capped vent or fill pipe was observed in the pavement located between the garage and the physical plant and may be associated with a previously unidentified UST. In addition, a white-gas dispenser is present in the north end of the garage and may be associated with an underground storage tank. These issues pose a high concern for redevelopment in this area, associated with the cost for removal and management of potentially contaminated soil and groundwater if leakage occurred in the past.
2. Multiple small underground gasoline tanks were decommissioned in place in about 1999. These tanks are located under or near garages and driveways associated with residential cottages. There is the potential that historical leakage has occurred from these tanks, although single-sample-point testing performed at



## SUB CONSULTANT REPORTS

the time of decommissioning did not show evidence of leakage. Based on the small size of the tanks, on residential usage and soil testing, this poses a low concern for the subject property.

3. Possible petroleum impacted soils were identified near the northeast corner of the subject property, discovered during the placement of geotechnical boreholes. Based on the depth of the impacted soils (20-25 feet bgs), it is considered likely that this represents migration of petroleum from an off site source, possibly a north-adjacent gas station that is associated with an open LUST file and known soil and groundwater contamination that has not been well characterized. Groundwater in this area is expected to flow to the southwest. Based on the probable off-site source and the depth of the impacted soils, this issue poses a low concern for site redevelopment.
4. Chemicals (primarily for landscaping uses), paints and petroleum products stored on the site were observed in several areas, including a chemical storage shed, tunnels, barns and a small paint-storage shed near the barns. These materials should be disposed of properly if they are not to be used. In some cases, old or unlabeled containers may require testing to determine proper disposal.
5. Historic Waste Disposal: No documentation was identified regarding on-site landfilling of incinerator wastes, solid wastes or medical wastes, particularly in low-lying areas south of the building cluster (an area that was maintained for agricultural use). This material may have been managed off site (see No. 7a, below); however, there is a risk that site redevelopment may expose areas of buried incinerator and medical wastes.
6. Other historical uses/buildings: Other areas of concern on the site include:
  - a. Former vehicle/truck barn (south of Building 59), is associated with a risk of shallow soil impacts from leaking engines;
  - b. The Physical Plant building (Building 63) contains a "tin shop," a former cannery and various small maintenance shops for the hospital campus. The building is constructed over a tunnel. Small quantities of paints and solvents are used in the building, but no floor drains were observed in those areas.
  - c. A historical refuse burner, located in the pallet-repair area, poses a risk of heavy metal contamination in shallow soils;
  - d. Former hospital structures, including a tuberculosis ward and infirmary, which may have been associated with underground storage tanks for backup generators.

These uses pose a low concern for site redevelopment because of the localized nature of such impacts, if present.

7. Adjacent property uses: The following adjacent property uses of concern were identified:
  - a. Historical air photos show an area of possible landfilling activities on the south adjacent property (State Penitentiary), possibly associated with an historical incinerator located near the southeast corner of the subject property. These activities do not appear to extend onto the subject property. This area is topographically downgradient to the subject property; however, groundwater on the penitentiary site and south portion of the subject property has been documented to flow to the northwest. This area is considered to be upgradient to the subject property.

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- b. Historical maps show that a foundry was in operation on the south adjacent State Penitentiary property in the past. Known groundwater contamination from an historical dry-cleaning operation here has been documented (see No. 1 under *Recognized Environmental Conditions*, above).
- c. An automobile repair shop is present adjacent to the northeast corner of the subject property (see No. 3, above). This site is located across Center Avenue NE.

These issues pose a risk to subject property redevelopment in that impacted soils and groundwater from these adjacent property activities may be encountered during site redevelopment.

8. Historical on-site septic systems: Site plans provided for review indicate the presence of historical septic systems associated with some of the residential buildings. In addition, it is considered likely that prior to the availability of municipal sewer services the facility would have been served by on-site septic system. This poses a low concern except in areas near the garage and physical plant where disposal of lubricants, solvent and paints pose a risk for subsurface impacts if they occurred via on-site septic systems.
9. Past agricultural use: This use appears to have been most intensive in greenhouses and gardens located on the center portion of the site, south of the building cluster. This use poses a risk for pesticide residues to be present in soils in these areas. The use of regulated agricultural chemicals (e.g. organochlorine pesticides and/or arsenical herbicides) is considered an acceptable practice. However, spillage, mixing, or handling of these chemicals in bulk quantities or intense usage can result in hazardous soil conditions requiring remedial action in accordance with state or federal agencies. Pesticides and herbicides are stored in a small building adjacent to the Quonset Hut (Building 76), which appeared to be orderly and clean, although some containers appeared to be very old. These chemicals may also have been stored in barns on the site. Based on the relatively small scale of the agricultural enterprises on the subject property, this use poses a low concern for site redevelopment.”

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On page 3 of the *Geotechnical Investigation Report* dated June, 2007 PBS Engineering & Environmental wrote about **subsurface conditions** stating that, “The native alluvium consists of two stratigraphic units that include dominantly silt underlain by gravel. The thickness to the gravel unit is less than about 10 feet in the southwestern portion of the site whereas it is up to approximately 40 feet deep at locations on the northeastern portion of the site. The subsurface stratigraphy is summarized as follows:

- ◆ TOPSOIL: Medium stiff to very stiff silt TOPSOIL with trace clay from 1.0 to 1.5 feet.
- ◆ SILT UNIT: Very soft to hard SILT with trace to some clay and scattered gravel from 1.5 to 41.5 feet. Included trace fine sand with depth at most locations. Thicker in the northeastern portion of the site.
- ◆ GRAVEL UNIT: Medium dense to very dense, fine to coarse sandy GRAVEL with trace cobbles from 14.0 to 51.5 feet. The upper portion included sand at some locations. Found at greater depth in the northeastern portion of the site.

On page 4 of the report, PBS Engineering & Environmental wrote about **groundwater conditions** stating that, “Groundwater was found to vary between depths of 8 feet bgs on the southern areas of the site to 14 feet bgs on the north-northeastern areas of the site. In general, groundwater elevations follow the surface becoming shallower from northeast to southwest.

“To monitor groundwater levels throughout the year, a standpipe piezometer was installed in boring B-8 located in the central portion of the site. During drilling operations, borings B-4 (northeast area of site) and B-1 (northwest area) were flushed, bailed and left open following drilling to facilitate measurement of groundwater.”

## SUB CONSULTANT REPORTS

Hammes Company recommends that groundwater depth be measured by the Client at least monthly at boring B-8 so that the effects of storms and the cumulative effects of both dry and rainy months can be considered by the design team and contractors. PBS Engineering & Environmental indicated that, "It is likely that static water levels are significantly shallower throughout the year, especially during rainy months or significant storm events."

Regarding its **liquefaction analysis** for the project site, PBS Engineering & Environmental wrote that, "... based on the information obtained from our borings and using the procedure suggested by NCEER<sup>1</sup> (1998). The design earthquake is a moment magnitude 6.5 with a PGA of 0.25g. Our analyses indicate a relatively low liquefaction potential in the native silts and clays. This is primarily due to the high fines content and relatively plastic nature of the soils. However, some strength loss might occur during the design seismic event. Liquefaction-induced settlements were calculated using procedures suggested by Ishihara and Yoshimine<sup>2</sup> (1992) and are on the order of 1 to 2 inches."

The report continued, "The layout and type of building are not known at this time. Based on preliminary discussions with the project team, we understand that the building will be a maximum of two stories. Basements deeper than 10 to 15 feet are not planned. We have assumed that the minimum column and perimeter footing loads are on the order of 250 kips and 6 kips per linear foot, respectively.

"Based on our investigation and experience with similar soils, it is our opinion that the proposed structures can be supported on conventional spread footings if the column and perimeter footing loads are less than 250 kips and 6 kips per linear foot, respectively. All footings should be supported on firm, undisturbed, native soils or structural fill. Building foundations can be designed for an allowable bearing pressure of 2,000 *pounds per square foot* (psf) for building column and perimeter foundation loads on the order 250 kips and 6 kips per linear foot.

"In the event that the loads are higher than 250 kips, additional analysis will be required. It is likely that the use of deep foundations or ground stabilization may be needed. Once the building location, configuration and loads are further defined, we should review these to evaluate the most economical foundation system."

Later, PBS Engineering & Environmental wrote on page 7, "Shallow groundwater was encountered in several of the exploration locations especially in the lower areas. The groundwater is present in close proximity to the gravel layer. In excavations, especially those that extend into the underlying gravels, groundwater will be encountered and could be a significant construction issue. This should be evaluated as the project moves forward."

Hammes Company believes that particular attention should be paid to moisture and groundwater conditions during both the design (footing-foundation-slab structural, drainage issues, and site drainage considerations) and construction (pumping soil, dewatering, and shoring considerations) phases.

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In its *Wetland Delineation Report* dated June, 2007, PBS Engineering & Environmental wrote on page 7 regarding **wetlands and waters** that: "The entire 100-acre property, Tax Parcel 700, was investigated for the presence of waters and wetlands. Eight wetlands were delineated on the site and have a total area of 2.22 acres. No other waters are present on the subject property. The wetland boundary is based on the presence of wetland

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<sup>1</sup> National Center for Earthquake Engineering Research (NCEER), 1998. "Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils." Journal of Geotechnical and Geoenvironmental Engineering. October 2001.

<sup>2</sup> Ishihara, K. and Yoshimine, M. 1992. *Evaluation of settlements in sand deposits following liquefaction during earthquakes*, Soil and Foundations, Vol. 32, No. 1, pp. 173-188.

## SUB CONSULTANT REPORTS

plant communities, wetland soils, and hydrologic indicators within the wetland, and conditions in adjacent areas lacking indicators of one or more of the wetland criteria.”

Hammes Company suggests that if moderate to high resource value scores are confirmed at Wetlands A, B, C and D (as preliminary indications suggest), and if low scores to moderate scores are confirmed at the remainder (as preliminary indications suggest), then it would be appropriate to budget \$475,000 (May, 2007 dollars) for the process, design and implementation of a mitigation solution for the 2.22 acres. The actual cost incurred could be less if a single, consolidated onsite solution (including buffers) can be achieved without compromising the desired layout of buildings and other key improvements on the site. The actual cost would be less if only *some*, instead of *all*, of the wetlands needed to be mitigated.

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The *Tree Reconnaissance Report and Threatened and Endangered Species Survey* dated June 29, 2007, and prepared by PBS Engineering & Environmental contains a detailed discussion of tree-related topics and the trees located on the site. Regarding **significant trees**, PBS Engineering & Environmental wrote on page 24 that, “...the site contains several Oregon white oaks with diameters in excess of 24 inches”. These and other trees are the subject of Chapter 68 of the City of Salem Community Development Standards that establishes the process by which trees are to be removed in the City of Salem.

The location, identification and diameter of trees (more than 1,000 trees) are shown on the ALTA and Topographical Survey dated June 28, 2007 prepared as part of the Due Diligence investigation by Westlake Consultants, Inc.

PBS Engineering & Environmental states that, “Further investigation would provide more detailed information to aid in the selection of trees to be retained during site development.”

At the end of the PBS Engineering & Environmental report is a letter to the Hammes Company dated July 3, 2007 regarding **rare plants and animals** that states, “PBS Engineering and Environmental conducted surveys for rare plant and animal species on the 100-acre Oregon State Hospital Site at 2600 Center Street in Salem, Oregon. Caroline Stimson conducted fieldwork on June 7, 11-15, and 18, 2007. Jason Clark assisted with the investigation on the first and last day of fieldwork. Doug Swanson, PWS, verified the work to date on June 15. Many rare plant species have been reported in the vicinity of the hospital site, but most of these are from the early 20<sup>th</sup> century. Rare plants species known from the area include Bradshaw’s lomatium (*Lomatium bradshawii*), Willamette Valley daisy (*Erigeron decumbens* var. *decumbens*), white-topped aster (*Sericocarpus rigidus*), Howellia (*Howellia aquatilis*), Kincaid’s lupine (*Lupinus sulphureus* var. *kincaidii*), toothcup (*Rotala ramosoia*), Nelson’s checker-mallow (*Sidalcea nelsoniana*), and peacock larkspur (*Delphinium pavonaceum*). Reports of rare animal species in the vicinity of the hospital are limited to salmon and steelhead runs and one report of the Oregon giant earthworm. None of these nor any other rare species were found.”

PBS Engineering & Environmental concluded their June 29, 2007 letter writing, “No rare, threatened, or endangered plants or animals were found during this survey.”

## SUB CONSULTANT REPORTS

### WESTLAKE CONSULTANTS, INC.

The report of Westlake Consultants, Inc. titled *Due Diligence Report – Surveying, Land Use Approval, Civil Engineering* is dated July 9, 2007 and contains a high level Executive Summary on page 3 that is repeated below.

#### Survey

The topographic survey with utility data has been completed. The ALTA survey with boundary and easements is scheduled for delivery in early July. Preliminary review of the survey data indicates a variety of easements on the site; those impacting the site interior appear to be related to service lines for franchise utilities.

As these utility lines are being removed and reconstructed in new locations to support new facilities, we anticipate that old easements will be released and new easements prepared. Research, location, and mapping of underground utility lines was a focus of our work on this site. The network of underground utilities reflects many years of site use, construction, and reconstruction.

#### Civil Engineering Due Diligence – Utilities

The site is currently served by City of Salem utilities. Based on our estimates of future demand and comparison with utility capacities, we have not identified any deficiencies. To reduce infiltration and inflow of the sanitary sewer system on site, the City has requested complete replacement of sanitary sewer lines on the south campus and replacement of lines within a specific corridor on the north campus. The City would prefer public versus private sewer trunklines. Similarly, the City will likely request a looped water system. For storm service, the City of Salem has identified a single capital improvement program to be paid for by the State Hospital, a storm sewer line upgrade at the southerly limits of the site.

#### Civil Engineering Due Diligence – Roadways

Limited roadway improvements including signal upgrades, widening improvements, and new access roads have been identified on a preliminary basis pending traffic study and analysis. On-site roadways are in poor condition and present challenges for site circulation. Therefore, complete on-site reconstruction with realignment is expected consistent with the site plan that will be developed.

#### Planning

Permitting of the project will be subject to both City and State review. State review promises to be the most complex. DAS will review facilities and construction plans. DAS will conduct land use review against the OSH and State Penitentiary Area Plan. In addition, DAS and DHS may have separate land use responsibilities under State Agency Coordination program. Wetlands impact and archaeological permitting may also be required.

City of Salem review may involve issues related to the historic landmark designation. Urban Growth Area permitting is anticipated for facilities. In addition, tree and vegetation protection/removal permitting can be expected. The City will conduct a building permit review.

Federal law may require consultation with the State Historic Preservation Officer for potential effects on historic properties and may provide tax incentives for potential rehabilitation.

#### Design Process

Our research to date suggests that site design will be a collaborative process with the City of Salem. At the pre-application conference, the City will assign staff who will provide information, reviews, and support through-out the design process, from inception through completion. This informal and iterative approach may help to reduce changes required at building permit review of completed construction plans.”

## SUB CONSULTANT REPORTS

The first part of the Westlake Consultant's report, pages 5-21, deals with **land use approvals and process**. Hammes Company concludes from review of the report that the requirements and rules (and their interaction) of the various agencies having jurisdiction over hospital development hold the potential for causing considerable delay to the start of construction and might compromise preferred design solutions. Hammes Company suggests that both the Client and the project team involved with the preconstruction planning and approval process for hospital development should carefully consider this entire section of Westlake's report. Westlake Consultants makes numerous recommendations in their report that, if followed, are likely to resolve some of the issues/problems identified or implied.

Of particular interest to the Client and project team might be the discussion of Preservation of Historical Properties [ORS 358.653(1)] on page 14 as it relates to the City of Salem Historical Landmark Designation and the City of Salem Zoning Ordinance discussed on pages 17 through 19 as well as to The National Historic Preservation Act [16 USC 479] discussed on page 20.

The second part of Westlake Consultant's report, pages 22-28, deals with **civil site evaluation**.

The third part of Westlake Consultant's report, pages 29-32, deals with **off-Site civil infrastructure**. The Westlake comments and analysis of the sanitary sewer element included \$200,000 for sewer replacement *north* of Center Street. This is, technically, neither an offsite nor onsite cost related to replacement of hospital facilities on the *south* side of Center Street. However, it is included in the Westlake range of offsite cost estimates (mid-2007 dollars) for sanitary sewer. Other offsite sewer cost items (see limiting/qualifying assumptions) were estimated by Westlake at \$395,000 for budget purposes. The Client won't know for some time whether the potential contribution requirement for a new interceptor and/or New River Pump Station will be covered by System Development Credits/Charges (SDCs) and no budget item for these items was included.

The Westlake comments and analysis of the water system requirements shows a cost estimate of \$433,000 for offsite water system costs. Hammes Company suggests using a 10" meter assumption and the \$433,000 for budget purposes due to the fact that a design program is not yet in place and so Hammes' confidence in the use-projection ("Demand is estimated to increase by 20%") is not high. Confidence levels in use estimates (as revised) are likely to increase as the planning process moves forward.

The Westlake comments and analysis of the storm drainage system results in their cost estimate range of \$1,250,000 to \$1,350,000 for offsite storm drainage costs. For budgeting purposes, an appropriate adjustment should be made to provide for development cost escalation.

The Westlake report section relating to transportation provides a (mid-2007) cost estimate range of \$3,620,000 to \$5,500,000 for offsite costs. There is considerable uncertainty connected with the offsite transportation item, particularly as it relates to Center Street and 24<sup>th</sup> Street improvements. Hammes Company suggests that the full \$5,500,000 of mid-2007 dollars (escalation adjusted) be utilized for budget purposes, particularly in light of the potential for alternate upgrades to these two streets. The 96' arterial ROW upgrade option will require frontage acquisition along Center Street and this is very commonly an underestimated project cost.

The final part of the report of Westlake Consultants, Inc. consists of the **ALTA/ACSM and Topographical Survey** dated June 28, 2007. Their work product includes maps of tree locations, a slope evaluation and narrative, a site suitability analysis, a storm drainage schematic and a suggestion for proposed utility trunk corridors. Westlake provided a CD of the survey for the use of the Client's design team.

## SUB CONSULTANT REPORTS

### ARCHEOLOGICAL INVESTIGATIONS NORTHWEST, INC.

The report submitted by Archeological Investigations Northwest, Inc. (AINW), dated July 3, 2007, the Cultural Resource Report., reports upon their historic building and archaeological assessment to address State of Oregon laws protecting significant archaeological sites and publicly-owned buildings and structures. AINW writes, "On the advice of the State Historic Preservation Office (SHPO), the standards of Section 106 of the National Historic Preservation Act (NHPA), as amended, with its implementing regulations (36 CFR 800) were followed, which will satisfy the requirements of the parallel state regulations set forth in ORS 358. Section 106 of the NHPA requires that effects to historic properties - resources eligible for listing in the National Register of Historic Places (NRHP) - are taken into account during the review process."

The AINW report noted on page 11 that, "...two-thirds of the project area is considered to be an HPA for both prehistoric and historic-period archaeological resources {emphasis added} (Figure 4). As noted in the Previous Archaeological Investigations section of this report, prehistoric archaeological sites are common on the floodplains of Mill Creek, which is located about 400 m (1,312 ft) south of the current APE. The western and southern portions of the APE, which occupy a relatively flat floodplain above Mill Creek, and the eastern portion of the project area, which occupies a primary terrace above the creek, are therefore considered HPAs for prehistoric archaeological resources (Photos 3-5).

"During the reconnaissance survey, Messrs. Smits and Allen observed historic-period artifacts, including bottle glass, ceramic sherds, and Prosser buttons, on the ground surface in several areas, indicating that historic-period archaeological sites are present within the project APE. GLO maps and Sanborn Fire Insurance Maps also indicate that historic-period archaeological resources are likely, as activities associated with operation of the hospital complex were widespread throughout the current project area."

The AINW report identifies two-thirds of the project area to be an HPA (High Probability Area) for both prehistoric and historic-period archeological resources. The Hammes Company suggests that the prehistoric considerations might carry great risk of delaying or blocking the Client's hospital replacement objective. If a Native American cemetery or the remains of a village are found on the property, the schedule delay and economic consequences might be great (but are currently unpredictable). If only a few and scattered artifacts are found, the consequences are likely to be far less severe. AINW's recommendations regarding archeological resources, on page 18 of their report, include investigation of the HPA early in the development planning process.

On page 2 of its report, AINW wrote, in part, regarding its assignment that, "... the present phase of the project is restricted to an archaeological examination of the entire APE and a preliminary recommendation of NRHP-eligibility for buildings that will be affected by the project (emphasis added). The buildings are the "J" Building [1883 -1920s], Building 31, the Kitchen/Food Service Administration Building [1883, later modified], and Building 51, the Boiler Building [1909, later modified].

"The OSH complex within the project area consists of multiple buildings, including the "J" Building (so-called based on its backward-J configuration), an administration building (Siskiyou Hall), several warehouses and storage buildings, former morgue, a garage, physical plant, heating plant and boiler building, residential buildings, and barns (Figure 3)."

AINW wrote about the "J" Building, "The main OSH facility is the "J" Building, built in 1883 with subsequent additions, which originally housed the administrative and service functions of the hospital. Cascade Hall (Building 30) is the dominant façade on the "J" Building (Photos 6 to 8). As originally constructed, the "J" Building housed reception rooms, the library, parlor, and superintendent's office suite on the first floor, senior staff private rooms on the second floor, and several rooms of unspecified use on the third and fourth floors (Boothby 1882). Even though the entryway at the façade had been altered in the early 1900s, the building retains

## SUB CONSULTANT REPORTS

a high degree of historical and architectural integrity. The “J” Building is in fair structural condition and would not meet current seismic code requirements.

“Although the “J” building would be eligible for listing in the NRHP individually, it is important to note that mental hospitals conforming to the Kirkbride Model, as the Oregon State Hospital does, always consisted of a dominant central administration building with attached wings on either side. A central administration building such as Cascade Hall, individually with no attachments, would not properly convey the historical configuration of the building and the removal of the attached wings would diminish the integrity of the building.

“The “J” Building was designated a City of Salem Historic Landmark in 1990 by the Historic Landmarks Commission (now known as the Historic Landmarks & Design Review Commission after subsuming the duties of the Design Review Board). Salem’s Planning and Zoning Code, Chapter 12A Historic Preservation, lists both the “J” Building— Cascade Hall and its oldest wings—and the Dome Building (1912), located to the north of Center Street NE and outside of the project area, as local historic landmarks. The buildings were 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).”

AINW wrote about Building 31 (Kitchen-Food Service Administration), “The Kitchen-Food Service Building 31 (Photos 9 to 11) is the result of several phases of construction, the first in 1883 and the latest in 1954. As originally designed, Building 31 included the kitchen, bakery, and storerooms in the basement, officers dining and steward’s office on the first floor, and a chapel and recreation hall on the second floor (Boothby 1882).

“The original portion of Building 31, although still extant, is almost entirely within the walls of later additions. By 1895, the building had expanded to join the original laundry, machine shop, and pumphouse and eventually included a large cistern to the east. The largest expansion of Building 31 was in 1926, when the building nearly doubled in size. This expansion came as a result of a dramatic increase in patient population during the early twentieth century, a period that saw the overcrowding of nearly all of the mental health facilities in the country. Finally, in 1954, the building appears to have been expanded again, adopting the present configuration.

“Building 31 is recommended to be eligible for listing in the NRHP as a structure contributing to a historic district that would include most of the Oregon State Hospital facility. Although it has been altered several times since its original construction, the vast majority of the building retains integrity of the historic period. Overall, the building continues to reflect its functional use. The “J” Building is in fair structural condition and would not meet current seismic code requirements.”

AINW wrote about Building 51 (Boiler Building), “Building 51 (Photos 12 and 13), also known as the Boiler Building, was built in 1909 as the Power House. The original portion of the Boiler Building includes the main body of the building and a small, two-story attachment on the south side that houses an old well and pump. In 1951, an addition was made to the east end of the main building. Although the 1951 addition is about two-thirds larger than the 1909 structure, the appearance of the addition is compatible with the original structure. The overall integrity of the Boiler Building is good, as the addition is at the rear of the building and is easily identifiable as a later addition. The building’s original 1909 west facade is intact.

“The Boiler Building is recommended to be eligible for listing in the NRHP as a structure contributing to a historic district that would include most of the Oregon State Hospital facility. Current plans are to retain but modify the newer portion of the Boiler Building since it is the central heating plant for the hospital complex, though it would require some structural reinforcing. The 1909 structure is considered to be in poor structural condition and would not meet current seismic codes.”



## SUB CONSULTANT REPORTS

AINW provided considerable background information on the National Register of Historic Places (NRHP) and related activities and processes. Extensive information was also provided about Section 106 of the National Historic Preservation Act (NHPA) and related processes. State and local preservation regulations and process were also discussed including Oregon Revised Statute 358, State Land Use Planning Goal 5, and Salem Revised Code Chapter 120A.040. This material is essential reading for the Client and project team as the topic of the future of historical or potentially historical buildings on the project site is addressed. Hammes Company notes that creation of a historic district that would include most of the existing Oregon State Hospital facility is likely to be inconsistent with the Client's defined overall objective (to replace the existing Oregon State Hospital for good and sufficient reasons with a new hospital ... in this case, on the south side of Center Street).

AINW makes numerous recommendations regarding historical and potentially historical buildings at the end of their report. Hammes Company recommends that the Client consider each of these recommendations at the onset of the project planning and development process. Hammes Company suggests that the Client deal proactively with the Oregon State Historic Preservation Office and initiate a collaborative effort with that office in the near future. This will allow SHPO perform all of the functions of that office in a timely manner including documenting the historical use of the site for its own records.

## SUB CONSULTANT REPORTS

### KPFF CONSULTING ENGINEERS

The KPFF report is titled *Due Diligence and Feasibility Study* and is dated July 12, 2007. The report provides a structural assessment of four buildings on the Oregon State hospital campus and the campus tunnel system.

The report states that Building 30 (Cascade Hall) is in good condition for its age (built in 1883) but would perform poorly in a seismic event. On pages 2 and 3 of the report, the very extensive structural and foundation work is described that would be necessary to seismically upgrade the building and bring it into compliance with current structural code. On page 10 of the report, KPFF estimates that the bare construction cost of the seismic upgrade alone might range from \$35 to \$45 per square foot. The topics of the building's functional and economic obsolescence and the cost of upgrading other building systems to current code requirements were outside the scope of the KPFF work. Costs of architectural and engineering design as well as the actual restoration or remodeling of the building are dependent upon the Client's plan for the building's future, which is currently undetermined.

KPFF reports that Building 31 (Food Service) could be seismically upgraded at a current bare construction cost of \$20-40 per square foot. Conceptual solutions are discussed. KPFF writes, "While the building is in relatively fair condition for its age, it 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 throughout the building, especially in the original portion of the building. At the original building, the concrete shear walls could be added to the inside face of the exterior brick walls. Areas of the framed roof would have to be strengthened with the addition of plywood sheathing and be anchored to the exterior walls. The original building and the 1954 addition would most likely have to be tied together. Some new foundation work would be required at the shear walls. This may be difficult because of the various basement and unexcavated areas. The building also has a large amount of clay tile walls which are unbraced and extend above the suspended ceilings. These walls would have to be braced or removed." The report states, on page 10, that, "The estimated structural cost to upgrade the building to current code requirements would be \$20 to \$40 per square foot. However, due to the function of the building, it may not be practical to upgrade the structure to current code." As with the other three buildings that were considered, the topics of functional and economic obsolescence and the cost of upgrading other systems to current code requirements were outside the scope of the KPFF work. Costs of architectural and engineering design as well as the actual restoration or remodeling of the building are dependent upon the Client's plan for the building's future, which is currently undetermined.

KPFF reports that Building 51 (Boiler Plant) will also require significant seismic upgrades. KPFF writes, "The estimated structural costs to upgrade the building to current seismic code requirements would be \$30 to \$40 per square foot. However, due to costs related to non-structural components, such as relocation of essential functioning mechanical equipment and piping during the structural upgrade, it may not be practical to upgrade the structure. This is especially true at the original portion of the building. It may be more cost effective to tear down the original portion of the building and construct a new structural shell in its place. This could be accomplished by building a new steel frame to envelop or clear span the existing structure. Then selectively demolish the existing walls and roof structure while simultaneously detaching and reconnecting the various wall and roof mounted mechanical, electrical and plumbing components to the new structure. The 1951 addition would then be strengthened and tied to the new structure."

KPFF reports that Building 49 (Vocational Services Building), "... is in relatively fair condition for its age." [Note that this building was constructed seventy years ago, in 1937] KPFF continues, "...it would not meet current seismic code requirements and would perform poorly in a seismic event." KPFF estimates that the bare cost of structural construction to upgrade the building to current seismic code requirements would be \$30 to \$40 per square foot.

## SUB CONSULTANT REPORTS

KPFF reports that the tunnel system from Building 51 to the buildings north of Center Street appears to be in good condition. The remaining tunnels serving the south side of Center Street are in very poor condition. KPFF writes, "The older portions of the utility tunnels have areas of significant cracking and deterioration and should be replaced. Several of these portions run under campus roads and the roof structure is most likely not designed for current vehicle axle loads."

Hammes Company reminds the reader that much or most of the utility infrastructure on the Oregon State Hospital Campus is located within the tunnel system. Those tunnels that are in very poor condition are the same tunnels that provide the pathway for the utility infrastructure supporting Building 30 (Cascade Hall) and all of "J" Building and Building 31 (Food Service). Much of that utility infrastructure originates in Building 51 (Boiler Plant). Buildings 31 and 30 and all of the "J" Building are not "independent" like modern buildings that most readers are familiar with. They do not, for example, have their own independent water or heating services. For these and other utility infrastructure items, the buildings are dependent upon Building 51 and the connecting tunnel.

## SUB CONSULTANT REPORTS

### GLUMAC

GLUMAC's report, *MEP Due Diligence Investigation*, is dated June 10, 2007. On page 4 the report discusses the condition of the central plant which it describes as apparently good and it describes the central plant as well maintained. The report questions the apparent lack of seismic bracing of piping and questions the seismic integrity of the building itself. Seismic issues were discussed earlier in the KPFF section of this summary.

The tunnel system is discussed next and it is described as in poor to very poor condition on the south side of Center Street. The piping in the tunnels is reported to be in apparently good condition but GLUMAC suggests that samples be taken of the metal pipe, or that non-destructive ultrasonic testing of the pipes be performed, and that samples/results be sent to a metallurgical engineer for analysis of estimated remaining life expectancy.

GLUMAC describes the high efficiency of the steam heat exchangers that provide heating water and domestic hot water for distribution through the tunnel.

With respect to domestic cold water, GLUMAC states, "It appears that all of the domestic water piping on the south side of the site needs to be replaced."

With respect to domestic hot water piping, GLUMAC suggests that the piping should be investigated (metal sampling or ultrasonic testing) and that test results be sent to a metallurgical engineer for analysis of estimated remaining life expectancy.

GLUMAC commented that evaluation of the fire protection system is a priority item. Their report states, "There is concern that there is inadequate fire protection flow. Reportedly, opening up a 2" drain line drops the system pressure dramatically. This needs to be evaluated for both the north campus and the south campus and is a priority."

With respect to the irrigation system, GLUMAC states, "The irrigation system has been connected to the campus cold water system and is not currently metered and probably should be replaced along with the domestic water system." Hammes Company notes that all or nearly all of the irrigation system must be replaced as part of the hospital replacement project. The replacement irrigation system should probably be separately metered or sub-metered to monitor domestic use separately from irrigation use and to possibly reduce utility charges.

GLUMAC reports possible problems with the existing onsite storm water drainage system. Hammes Company notes that all or nearly all of the storm drainage system must be replaced as part of the hospital replacement project.

GLUMAC reports that onsite sanitary sewer mains were recently replaced (1999). They are expected to be in good shape and could be retained. Hammes Company notes that the *location* of existing mains is more likely than not unsuitable to serve the replacement buildings. Therefore, it is likely that all or nearly all of the existing onsite sanitary sewer system will be replaced as part of the hospital replacement project.

GLUMAC reports that, "The existing low voltage distribution system (480V/120/208) located within a majority of the buildings and tunnels is antiquated and not suitable for reuse. This includes both the DHS owned low voltage distribution paths and the PGE owned main transformers."

GLUMAC reports that, "The existing below-grade high-voltage transformer vaults located on the south side of Center Street are known to have problems with water entry. Within these vaults are transformers owned by PGE."

GLUMAC reports that, "Data/Telecom systems originate north of Center Street and connect to the buildings south of Center Street through the tunnel system. While the networks south of Center Street will not be suitable for

## SUB CONSULTANT REPORTS

reuse, connection paths to the point of systems origination must be provided.” Hammes Company observes that the point of systems origination will be relocated to the south of Center Street with development of a replacement hospital.

GLUMAC states that, “There are numerous unidentified electrical feeders running through the tunnel. Most of these are serving equipment that will probably be demolished. Others are serving equipment such as lights and fans utilized by the tunnel system. There may, however, be utilities serving site lighting or out buildings that are connected through the tunnel. This will take further and more detailed investigation.”

Hammes Company believes that none of the GLUMAC preliminary comments suggest a development “show-stopper”. Instead, they tend to confirm that most existing onsite MEP utility infrastructure on the south side of Center Street (i) has little or nothing of value to contribute to a replacement hospital, and (ii) most of the onsite MEP infrastructure must be replaced.

GLUMAC also addressed the MEP services in Building 31 (Food Service) and Building 49 (Vocational Service Building) on pages 11 and 12 of the report. The comments regarding the condition of MEP services generally range from neutral to discouraging. The reader is directed to pages 11 and 12 for details about MEP services in these buildings.

## SUB CONSULTANT REPORTS

### STATON COMPANIES

At the request of Hammes Company, Staton Companies visited the Oregon State Hospital to consider the existing buildings and provided an order-of-magnitude (conceptual) estimate of the cost of demolition and removal of existing buildings on the project site. The order-of-magnitude estimate includes a significant number of caveats, exclusions and qualifying statements consistent with the incomplete information and sparse detail available to the estimator at the time of the estimate. As is common with order-of-magnitude estimates, ranges of cost were provided in several categories. The order-of-magnitude cost estimate was provided in the form of a proposal letter by Staton Companies. That letter is attached as the final page of this narrative.

The order-of-magnitude cost estimate and the estimate of time to complete the work, nine months, include demolition and removal of all the buildings on the site except Building 30 (The Cascade Hall portion of Building "J"), Building 31 (Kitchen/Food Service) and Building 51 (Boiler Building). Removing all the buildings except those named might be an unrealistic assumption. All, some, or none of the named buildings and other buildings on the site might be demolished and removed. An asbestos/lead survey of the actual buildings to be demolished and removed will be a necessary to prepare bid documents so that competitive proposals can be obtained.

**STATON**

COMPANIES

DEMOLITION  
ENVIRONMENTAL  
SITEWORK  
CONTRACTORS

# Proposal

**The Art Of Demolition**

85386 HIGHWAY 99 S. ♦ PO BOX 7515 ♦ EUGENE, OR 97401 ♦ PH: 541-726-9422  
CCB NO. 03371 [www.statonco.com](http://www.statonco.com) FAX: 541-726-9837

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# STATON

## COMPANIES

DEMOLITION  
ENVIRONMENTAL  
SITWORK  
CONTRACTORS

**DATE:** May 03, 2007  
**TO:** Bill Witting ([wwitting@hammesco.com](mailto:wwitting@hammesco.com))  
Hammes Company  
**FROM:** Ron Richey ([ron@statonco.com](mailto:ron@statonco.com))  
**SUBJECT:** Oregon State Hospital; Salem, OR

Dear Mr. Witting:

Please accept our budget proposal to perform specific demolition services at the above referenced project as follows:

### SCOPE OF SERVICES

Provide all labor, equipment, transportation and disposal fees to remove and dispose of the approximately 500,000 SF **South Campus** portion of the Oregon State Hospital. Pricing does not include demolition of buildings 30, 31, and 51 but does include isolation from attached structures to be demolished. An up to date Asbestos Survey may be required before demolition by state law. The existing survey may be adequate for this but should be reviewed. All concrete slabs, footings, tunnels and pipe chases to be removed and subsequent voids backfilled. All buildings, tunnels, wood and metal components that are part of this project assumed as project salvage. Estimated schedule to complete abatement, demolition and backfilling is 9 months. Utility disconnects, relocates, isolations and temporary services to north campus not included in this proposal. Underground utility removals outside of tunnels and chases not included in proposal. The design team will need to interview hospital maintenance staff to fully understand the complexity and costs of preserving utility service to the north campus while disconnecting it from the south campus.

### COST OF SERVICES (Proposal valid for 180 days)

Building Demolition	\$1,305,000.00 (+/-10%)
Asbestos Abatement	\$2,200,000.00 - \$3,000,000.00 (range of estimated costs)
Basement Backfill	\$1,200,000.00 - \$1,500,000.00 (65,000 tons)
Tunnel Removal	\$350,000.00 (7,000 LF @ 10' x 10')
Pipe Chase Removal	\$35,000.00 (8,000 SF @ 3' x 3')
Tunnel & Pipe Chase Backfill	\$350,000.00 - \$430,000.00 (19,000 tons)
Isolate and separate Bldg 30 & 31	\$76,240.00

### EXCLUSIONS

Permits (city demolition permits should be app. \$500 per address), bond (Performance bond add 1.75% to contract price). Demolition outside of building or tunnel footprint. Salvage items to client. Tree or shrub removal except to accomplish demolition. Removal repair or replacement of unknown or unmarked underground utilities to remain. Well or septic removal, if present.

Please do not hesitate to call if you have questions or I may be of any further assistance with this proposal.

Yours Very Truly,  
Staton Companies

*Ron Richey*

G.M

Hammes.State.Hospital.050307

The Art Of Demolition

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## NEXT STEPS

Anticipating that development planning might follow shortly on the heels of the Due Diligence investigation, Hammes Company initiated activity that could lead to the performance of transitional tasks to bridge the gap between the Due Diligence investigation work and the preconstruction development work.

*If the Client intends to commence the planning for development of replacement facilities on the site in the near future, Hammes Company suggests that immediate attention should be directed to resolving possible issues within the state/local planning process. In addition, addressing the topic of historic buildings or potential historic buildings that might affect, or be affected by, the development project is a high priority. Further, determining the location, extent, depth, and nature of archaeological resources within the High Probability Areas is a high priority. Finally, the traffic study, asbestos/lead survey, tree study and pipe testing should be considered soon so that timely results can be obtained to support the planning process.*

Following screening of apparently qualified firms by Hammes Company, DKS Associates of Portland, Oregon responded to the Hammes Company request for a proposal and, after interviews and scope and fee negotiations, provided a contract proposal on June 7, 2007, to complete a *Preliminary Transportation Study for the Oregon State Hospital Replacement*. Scott Mansur, P.E., a consultant with DKS, accompanied by Len Schelsky, a principal of Westlake Consultants, met with representatives of the City of Salem for a scoping session so that DKS Associates' **traffic study** contract proposal would be consistent with the traffic report expectations of the City of Salem. The "preliminary" nature of the study was occasioned by the fact that a project site plan does not yet exist to estimate the impact of locations of site ingress/egress. It was anticipated that the preliminary study would flow seamlessly into a final study once ingress/egress locations were defined. Subsequent to Hammes Company obtaining the DKS contract proposal, the Client indicated that the entire traffic study would be incorporated into the development phase of the work rather than completed during the Due Diligence investigation.

PBS Engineering & Environmental responded to the Hammes Company request for a proposal to extend the scope of services under its existing contract and, after scope and fee negotiations, provided a contract proposal on June 19, 2007, to complete a *Hazardous Materials Consulting (Asbestos/Lead Survey)*. The proposal was prepared after PBS on-site review of the buildings to be surveyed and lengthy desk review of the extensive relevant existing documentation maintained by Oregon State Hospital staff. Subsequent to Hammes Company obtaining the PBS contract proposal, the Client indicated that the **asbestos/lead survey** (which would likely support future hazardous material removal activities and/or demolition activities) would not be completed during the Due Diligence investigation.

PBS Engineering & Environmental responded to the Hammes Company request for a proposal to extend the scope of services under its existing contract and, after scope and fee negotiations, provided a contract proposal on June 5, 2007, to complete a *Tree Inventory & Conditions Report*. The proposal was prepared after PBS review of the tree identification and survey location work already completed by PBS and Westlake Consultants under their existing scopes of work. Chapter 68 of the City of Salem Community Development Standards is entitled *Preservation of Trees and Development* and establishes the process by which trees are removed in the City of Salem. A complete **tree study** is needed before any tree removal decision is made. An individual tree inventory will guide decision-making, allowing the site to be redeveloped in a way that will work to retain healthy, sustainable trees, while justifying (with the City of Salem) the removal of trees in poor or otherwise hazardous condition. Subsequent to Hammes Company obtaining the PBS contract proposal, the Client indicated that the tree inventory (which will support site planning and application activities) would be incorporated into the development phase of the work rather than completed during the Due Diligence investigation.

GLUMAC responded to the Hammes Company request for a proposal to extend the scope of services under its existing contract and, after scope and fee negotiations, provided a contract proposal on June 12, 2007, to complete *Non-Destructive Pipe Testing*. The proposal was prepared after Hammes and GLUMAC review of GLUMAC's work already completed under their existing scopes of work and consideration of the condition of existing pipes.

## NEXT STEPS

The proposed ultrasonic testing would occur at three places, one in the boiler plant and another two at accessible tunnel locations. The analysis report, including an estimate of remaining useful life, would be prepared by a metallurgical engineer. One June 17, 2007, following the Hammes Company's receipt of the GLUMAC contract proposal, the Client indicated that the **pipe testing**, if any, would be incorporated into the development phase of the work rather completed during the Due Diligence investigation.

### THE DUE DILIGENCE INVESTIGATION

The Due Diligence investigation process is intended to provide information that will support the Client's decision as to whether (or not) a specific property is suitable for the Client's intended use. Whether the property is suitable (or not) is a decision of the Client and, presented with the same set of facts, different Clients might make different decisions regarding the same property for the same intended use.

The facts arising from Due Diligence investigation are never *all-there-is-to-know* about the topics considered, nor does the investigation cover *every topic* that might conceivably support the Client's suitability decision. This relates to both the breadth and the depth of the Due Diligence investigation. For example, regarding breadth (*every topic*), it is unlikely that analysis or discussion of soils/geotechnical issues would be part of a Due Diligence investigation for siting a used car lot, but it certainly would be part of the Due Diligence investigation for siting a nuclear power plant. Regarding depth (*all-there-is-to-know*) of the Due Diligence investigation, eight borings on a property might fail to discover lava tubes that are clearly a geotechnical issue impacting the construction budget. And sixteen borings might fail to discover the lava tubes. And thirty-two borings might discover the presence of a lava tube, but do not identify the number of tubes on the property nor the area impacted by the tube(s). And, a hundred borings might provide lots more information about the number of tubes and the area effected, but a hundred borings still do not tell *all-there-is-to-know* about the topic. The Client assumes a risk when stopping short of obtaining complete and perfect knowledge, but the cost (time/money) to obtain perfect knowledge may outweigh the comfort that comes with certainty.

The Due Diligence investigation involves a collaborative effort of the consultants-investigators and the Client where the tapestry of possible topics to be considered is examined and certain threads, topics to be considered, are selected for attention. Usually the threads selected for attention are those that experience and preliminary investigation suggest are most likely to support the Client's suitability/unsuitability decision.