

6.0 Appendix

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Appendix

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SECTION C

APPENDICES

Appendix 1: Predesign checklist and outline

A predesign should include the content detailed here. OFM will approve limited scope predesigns on a case-by-case basis.

❖ Executive summary

❖ Problem statement, opportunity or program requirement

- Identify the problem, opportunity or program requirement that the project addresses and how it will be accomplished.
- Identify and explain the statutory or other requirements that drive the project's operational programs and how these affect the need for space, location or physical accommodations. Include anticipated caseload projections (growth or decline) and assumptions, if applicable.
- Explain the connection between the agency's mission, goals and objectives; statutory requirements; and the problem, opportunity or program requirements.
- Describe in general terms what is needed to solve the problem.
- Include any relevant history of the project, including previous predesigns or budget funding requests that did not go forward to design or construction.

❖ Analysis of alternatives (including the preferred alternative)

- Describe all alternatives that were considered, including the preferred alternative. Include:
 - A no action alternative.
 - Advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis that compares the alternatives, including the anticipated cost for each alternative.
 - Cost estimates for each alternative:
 - Provide enough information so decision makers have a general understanding of the costs.
 - Complete OFM's Life Cycle Cost [Model](#) (RCW [39.35B.050](#)).
 - Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.

❖ Detailed analysis of preferred alternative

- Nature of space – how much of the proposed space will be used for what purpose (i.e., office, lab, conference, classroom, etc.)
- Occupancy numbers.
- Basic configuration of the building, including square footage and the number of floors.
- Space needs assessment. Identify the guidelines used.
- Site analysis:
 - Identify site studies that are completed or under way.
 - Location.

- Building footprint and its relationship to adjacent facilities and site features. Provide aerial view, sketches of the building site and basic floorplans.
- Stormwater requirements.
- Ownership of the site and any acquisition issues.
- Easements and setback requirements.
- Potential issues with the surrounding neighborhood, during construction and ongoing.
- Utility extension or relocation issues.
- Potential environmental impacts.
- Parking and access issues, including improvements required by local ordinances, local road impacts and parking demand.
- Impact on surroundings and existing development with construction lay-down areas and construction phasing.
- Consistency with applicable long-term plans (such as the Thurston County and Capitol campus master plans and agency or area master plans) as required by RCW [43.88.110](#).
- Consistency with other laws and regulations:
 - High-performance public buildings (Chapter [39.35D](#) RCW).
 - State efficiency and environmental performance, if applicable (Executive Order [18-01](#)).
 - Greenhouse gas emissions reduction policy (RCW [70.235.070](#)).
 - Archeological and cultural resources (Executive Order [05-05](#) and [Section 106](#) of the National Historic Preservation Act of 1966).
 - Americans with Disabilities Act (ADA) implementation (Executive Order [96-04](#)).
 - Compliance with planning under Chapter [36.70A](#) RCW, as required by RCW [43.88.0301](#).
 - Information required by RCW [43.88.0301](#)(1).
 - Other codes or regulations.
- Identify problems that require further study. Evaluate identified problems to establish probable costs and risk.
- Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.
- Identify planned technology infrastructure and other related IT investments that affect the building plans.
- Describe planned commissioning to ensure systems function as designed.
- Describe any future phases or other facilities that will affect this project.
- Identify and justify the proposed project delivery method. For GC/CM, link to the requirements in RCW [39.10.340](#).
- Describe how the project will be managed within the agency.
- Schedule.
 - Provide a high-level milestone schedule for the project, including key dates for budget approval, design, bid, acquisition, construction, equipment installation, testing, occupancy and full operation.
 - Incorporate value-engineering analysis and constructability review into the project schedule, as required by RCW [43.88.110\(5\)\(c\)](#).

- Describe factors that may delay the project schedule.
- Describe the permitting or local government ordinances or neighborhood issues (such as location or parking compatibility) that could affect the schedule.
- Identify when the local jurisdiction will be contacted and whether community stakeholder meetings are a part of the process.

❖ **Project budget analysis for the preferred alternative**

- Cost estimate.
 - Major assumptions used in preparing the cost estimate.
 - Summary table of Uniformat Level II cost estimates.
 - The [C-100](#).
- Proposed funding.
 - Identify the fund sources and expected receipt of the funds.
 - If alternatively financed, such as through a COP, provide the projected debt service and fund source. Include the assumptions used for calculating finance terms and interest rates.
- Facility operations and maintenance requirements.
 - Define the anticipated impact of the proposed project on the operating budget for the agency or institution. Include maintenance and operating assumptions (including FTEs).
 - Show five biennia of capital and operating costs from the time of occupancy, including an estimate of building repair, replacement and maintenance.
- Clarify whether furniture, fixtures and equipment are included in the project budget. If not included, explain why.

❖ **Predesign appendices**

- Completed Life Cycle Cost [Model](#).
- A letter from DAHP.

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STATE OF WASHINGTON AGENCY / INSTITUTION PROJECT COST SUMMARY <i>Updated June 2020</i>		
Agency	Department of Social and Health Services	
Project Name	Western State Hospital: New Forensic Hospital	
OFM Project Number	40000427	

Contact Information		
Name	Robert J. Hubenthal	
Phone Number	360-902-8168	
Email	hubenbj@dshs.wa.gov	

Statistics			
Gross Square Feet	561,398	MACC per Square Foot	\$644
Usable Square Feet	292,005	Escalated MACC per Square Foot	\$720
Space Efficiency	52.0%	A/E Fee Class	A
Construction Type	Mental Institutions	A/E Fee Percentage	4.57%
Remodel	No	Projected Life of Asset (Years)	50

Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	2.38%	Higher Ed Institution	No
Sales Tax Rate %	9.90%	Location Used for Tax Rate	Lakewood
Contingency Rate	5%		
Base Month	May-20	OFM UFI# (from FPMT, if available)	
Project Administered By	Agency		

Schedule			
Predesign Start	September-19	Predesign End	June-20
Design Start	July-21	Design End	July-23
Construction Start	July-23	Construction End	January-27
Construction Duration	42 Months		

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Project Cost Estimate			
Total Project	\$542,368,319	Total Project Escalated	\$604,048,594
		Rounded Escalated Total	\$604,049,000

STATE OF WASHINGTON AGENCY / INSTITUTION PROJECT COST SUMMARY <i>Updated June 2020</i>		
Agency	Department of Social and Health Services	
Project Name	Western State Hospital: New Forensic Hospital	
OFM Project Number	40000427	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	\$2,000,000	Acquisition Subtotal Escalated	\$2,000,000

Consultant Services			
Predesign Services	\$1,073,000		
A/E Basic Design Services	\$12,972,251		
Extra Services	\$11,950,000		
Other Services	\$6,753,837		
Design Services Contingency	\$1,637,454		
Consultant Services Subtotal	\$34,386,542	Consultant Services Subtotal Escalated	\$36,749,420

Construction			
GC/CM Risk Contingency	\$9,093,000		
GC/CM or D/B Costs	\$38,047,000		
Construction Contingencies	\$18,079,700	Construction Contingencies Escalated	\$20,298,080
Maximum Allowable Construction Cost (MACC)	\$361,594,000	Maximum Allowable Construction Cost (MACC) Escalated	\$404,329,182
Sales Tax	\$42,254,556	Sales Tax Escalated	\$47,277,583
Construction Subtotal	\$469,068,256	Construction Subtotal Escalated	\$524,828,924

Equipment			
Equipment	\$14,050,000		
Sales Tax	\$1,390,950		
Non-Taxable Items	\$0		
Equipment Subtotal	\$15,440,950	Equipment Subtotal Escalated	\$17,335,555

Artwork			
Artwork Subtotal	\$3,005,217	Artwork Subtotal Escalated	\$3,005,217

Agency Project Administration			
Agency Project Administration Subtotal	\$2,447,353		
DES Additional Services Subtotal	\$0		
Other Project Admin Costs	\$0		
Project Administration Subtotal	\$5,167,353	Project Administration Subtotal Escalated	\$5,801,388

Other Costs			
Other Costs Subtotal	\$13,300,000	Other Costs Subtotal Escalated	\$14,328,090

Project Cost Estimate			
Total Project	\$542,368,319	Total Project Escalated	\$604,048,594
		Rounded Escalated Total	\$604,049,000

Western State Hospital / Appendix

Cost Estimate Details

Acquisition Costs				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Purchase/Lease				
Appraisal and Closing				
Right of Way				
Demolition				
Pre-Site Development				
Other				
Relocate Program	\$2,000,000			Current Bldgs to elsewhere
Insert Row Here				
ACQUISITION TOTAL	\$2,000,000	NA	\$2,000,000	

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Cost Estimate Details

Consultant Services				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
1) Pre-Schematic Design Services				
Programming/Site Analysis	\$100,000			
Environmental Analysis				
Predesign Study	\$973,000			
Other				
Insert Row Here				
Sub TOTAL	\$1,073,000	1.0278	\$1,102,830	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	\$11,972,251			69% of A/E Basic Services
Other				
CM/GC Coordination	\$500,000			
Multiple Bid Packages	\$500,000			
Insert Row Here				
Sub TOTAL	\$12,972,251	1.0523	\$13,650,700	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	\$125,000			
Geotechnical Investigation	\$150,000			
Commissioning	\$200,000			
Site Survey	\$150,000			
Testing	\$500,000			
LEED Services	\$200,000			
Voice/Data Consultant	\$300,000			
Value Engineering	\$250,000			
Constructability Review				
Environmental Mitigation (EIS)	\$750,000			
Landscape Consultant	\$750,000			
Other				
Extra Services	\$4,000,000			
Acoustics	\$150,000			
Envelope	\$150,000			
Elevator	\$250,000			
Materials Mgmt / Loading dock	\$200,000			
Door Hardware	\$200,000			
Furniture	\$500,000			
Wind	\$100,000			
Daylighting	\$100,000			
Environmental Graphics	\$250,000			
Wayfinding / Signage	\$250,000			
BIM	\$150,000			
Renderings / Models	\$75,000			
Interior Design	\$300,000			
Equipment Selection	\$150,000			
Art Coordination	\$50,000			
Specialty Lighting	\$100,000			
Enhanced Commissioning	\$100,000			
Energy LCCA Analysis	\$100,000			
Electronic / Audio Visual	\$100,000			

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Appendix A-2: C-100 Cost Summary

Security	\$275,000			
Medical Planning	\$550,000			
Design/Code Plan Check	\$100,000			
Public Relations	\$100,000			
Food Service	\$125,000			
Hydrologist	\$150,000			Geo-exchange System
Insert Row Here				
Sub TOTAL	\$11,950,000	1.0523	\$12,574,985	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	\$5,378,837			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Door Hardware Review	\$150,000			
Equipment Review	\$75,000			
Acoustic Review	\$75,000			
Envelope Review	\$150,000			
Art Installation	\$75,000			
Environmental Graphics Review	\$75,000			
Wayfinding / Signage Review	\$75,000			
Security Review	\$100,000			
Civil Review	\$100,000			
Medical Planning	\$100,000			
Public Relations	\$100,000			
Food Service	\$100,000			
Multiple Bid Packages	\$200,000			
Insert Row Here				
Sub TOTAL	\$6,753,837	1.1227	\$7,582,534	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	\$1,637,454			
Other				
Insert Row Here				
Sub TOTAL	\$1,637,454	1.1227	\$1,838,371	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	\$34,386,542		\$36,749,420	

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Western State Hospital / Appendix

Cost Estimate Details

Construction Contracts				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
1) Site Work				
G10 - Site Preparation	\$7,913,000			
G20 - Site Improvements	\$18,979,000			
G30 - Site Mechanical Utilities	\$2,944,000			
G40 - Site Electrical Utilities	\$5,070,000			
G60 - Other Site Construction				
Other				
Insert Row Here				
Sub TOTAL	\$34,906,000	1.0773	\$37,604,234	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
3-Way Signal at Chapel Gate Drive	\$1,050,000			
Insert Row Here				
Sub TOTAL	\$1,050,000	1.0773	\$1,131,165	
3) Facility Construction				
A10 - Foundations	\$8,402,000			
A20 - Basement Construction	\$7,045,000			
B10 - Superstructure	\$30,205,000			
B20 - Exterior Closure	\$46,502,000			
B30 - Roofing	\$9,958,000			
C10 - Interior Construction	\$32,966,000			
C20 - Stairs	\$1,035,000			
C30 - Interior Finishes	\$14,267,000			
D10 - Conveying	\$1,858,000			
D20 - Plumbing Systems	\$10,602,000			
D30 - HVAC Systems	\$34,057,000			
D40 - Fire Protection Systems	\$3,255,000			
D50 - Electrical Systems	\$59,043,000			
F10 - Special Construction				
F20 - Selective Demolition				
General Conditions				
Other	\$9,009,000			Fixed equipment and furnishings
NSS - negotiated support services	\$13,925,000			
Design & Estimating Contingency	\$30,311,000			
Escalation Contingency	\$13,198,000			
Insert Row Here				
Sub TOTAL	\$325,638,000	1.1227	\$365,593,783	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	\$361,594,000		\$404,329,182	

Western State Hospital / Appendix

5) GCCM Risk Contingency			
GCCM Risk Contingency	\$9,093,000		
Other			
Insert Row Here			
Sub TOTAL	\$9,093,000	1.1227	\$10,208,712
6) GCCM or Design Build Costs			
GCCM Fee	\$13,272,000		
Bid General Conditions	\$11,936,000		
GCCM Preconstruction Services	\$1,989,000		
Other			
P&P Bond	\$4,340,000		
GL Insurance	\$4,340,000		
Builders Risk Insurance	\$2,170,000		
Insert Row Here			
Sub TOTAL	\$38,047,000	1.1227	\$42,715,367
7) Construction Contingency			
Allowance for Change Orders	\$18,079,700		
Other			
Insert Row Here			
Sub TOTAL	\$18,079,700	1.1227	\$20,298,080
8) Non-Taxable Items			
Other			
Insert Row Here			
Sub TOTAL	\$0	1.1227	\$0
Sales Tax			
Sub TOTAL	\$42,254,556		\$47,277,583
CONSTRUCTION CONTRACTS TOTAL	\$469,068,256		\$524,828,924

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Cost Estimate Details

Equipment				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
E10 - Equipment				
E20 - Furnishings				
F10 - Special Construction				
Other				
Unfixed FF&E (\$25/sf)	\$14,050,000			Beds, chairs, desks, carts, food service, storage racks, AV
Insert Row Here				
Sub TOTAL	\$14,050,000	1.1227	\$15,773,935	
1) Non Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	\$0	1.1227	\$0	
Sales Tax				
Sub TOTAL	\$1,390,950		\$1,561,620	
EQUIPMENT TOTAL	\$15,440,950		\$17,335,555	

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Cost Estimate Details

Artwork				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Project Artwork	\$3,005,217			0.5% of total project cost for new construction
Higher Ed Artwork	\$0			0.5% of total project cost for new and renewal construction
Other				
Insert Row Here				
ARTWORK TOTAL	\$3,005,217	NA	\$3,005,217	

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Cost Estimate Details

Project Management				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Agency Project Management	\$2,447,353			
Additional Services				
Other				
Clerk of the Works	\$2,500,000			
DOH Review	\$215,000			\$31,235 plus 0.05% project cost (MACC+FFE)
DOH Technical Assistance	\$5,000			Allowance for 80 hrs
Insert Row Here				
PROJECT MANAGEMENT TOTAL	\$5,167,353	1.1227	\$5,801,388	

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Cost Estimate Details

Other Costs				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Mitigation Costs				
Hazardous Material Remediation/Removal	\$500,000			
Historic and Archeological Mitigation	\$250,000			
Other	\$10,000,000			Arsenic soil removal
Building Permits	\$1,200,000			City of Lakewood
WSDOT PWE Permit	\$500,000			Frontage along Steilacoom
City System Development Charges	\$600,000			City of Steilacoom Sewer
Water District Connection	\$250,000			Lakewood Water District
Insert Row Here				
OTHER COSTS TOTAL	\$13,300,000	1.0773	\$14,328,090	

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C-100(2020) Additional Notes

Tab A. Acquisition
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Tab B. Consultant Services
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Tab C. Construction Contracts
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Tab D. Equipment
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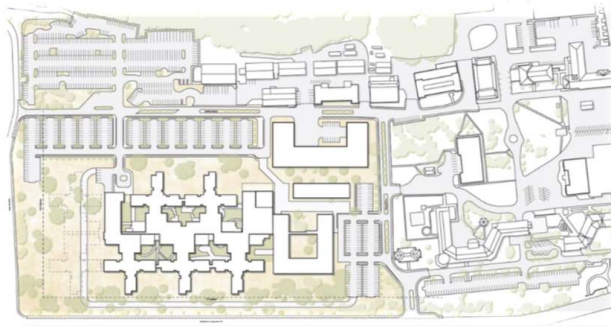
Tab E. Artwork
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Tab F. Project Management
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Tab G. Other Costs
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Washington State
**Department of Social
& Health Services**



**DSHS
WESTERN STATE HOSPITAL EXPANSION
Lakewood, Washington**

**PRE-DESIGN
COST ESTIMATE R3**
May 31, 2020

JMB CONSULTING GROUP

JMB CONSULTING GROUP

4320 29th Avenue W
Seattle, Washington 98199
Tel: 206.708.7280

May 31, 2020

Jon Mehlschau
SRG Partnership, Inc.
110 Columbia Street
Portland, Oregon 97201

Re: DSHS
Subject: Western State Hospital Expansion
Lakewood, Washington

Dear Jon:

In accordance with your instructions, we enclose our cost estimate for the project referenced above. This cost estimate is a statement of reasonable and probable construction cost. It is not a prediction of low bid.

We would be pleased to discuss this report with you further at your convenience.

Sincerely,

Jon Bayles

JMB Consulting Group LLC 19-055

Enclosures

DSHS
Western State Hospital Expansion
Lakewood, Washington

Pre-Design Cost Estimate R3
May 31, 2020
19-055.110

BASIS OF COST ESTIMATE R3

Conditions of Construction

The pricing is based on the following general conditions of construction

A start date of July 2023

A construction period of 42 months

The general contract procurement method will be GC/CM

Pricing assumes a minimum of (3) bidders in all trades

There will not be small business set aside requirements

The contractor will be required to pay prevailing wages

DSHS
Western State Hospital Expansion
Lakewood, Washington

Pre-Design Cost Estimate R3
May 31, 2020
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EXCLUSIONS

Phase 2 including demolition and restoration of site for Buildings 1, 9, 21, 32, 33 and 35

Wayfinding and Room ID Signage or Graphics

Main Kitchen Equipment

Owner supplied and installed furniture, fixtures and equipment

Hazardous material handling, disposal and abatement except as identified

Compression of schedule, premium or shift work, and restrictions on the contractor's working hours

Tap fees, street use fees, electrical consumption charges

Design, testing, inspection or construction management fees

Architectural and design fees

Third party commissioning

Assessments, taxes, finance, legal and development charges

Environmental impact mitigation

Builder's risk, project wrap-up and other owner provided insurance program except as identified

Land and easement acquisition

Also see detail of each estimate

DSHS
Western State Hospital Expansion
Lakewood, Washington

Pre-Design Cost Estimate R3
May 31, 2020
19-055.110

OVERALL SUMMARY

	Gross Square Footage	\$ / SF	\$x1,000
Phase 1: Building+Sitework	561,398 SF	797.73	447,845
<i>TOTAL Building & Sitework Construction</i>	<i>561,398 SF</i>	<i>797.73</i>	<i>447,845</i>

DSHS Western State Hospital Expansion
Phase 1: Building+Sitework
Lakewood, Washington

Pre-Design Cost Estimate R3
May 31, 2020
19-055.110

PHASE 1: BUILDING+SITWORK AREAS

Areas	SF
Enclosed Areas	
Basement	54,388
Level 1	234,206
Level 2	173,704
Level 3	99,099
Penthouse allowance	
 SUBTOTAL, Enclosed Area	<hr/> 561,398
 Covered area	
Soffits	9,900
Canopies	
Allow	7,026
SUBTOTAL, Covered Area @ 1/2 Value	<hr/> 8,463
 TOTAL GROSS FLOOR AREA	<hr/> 569,861

Western State Hospital / Appendix

DSHS Western State Hospital Expansion
 Phase 1: Building+Sitework
 Lakewood, Washington

Pre-Design Cost Estimate R3
 May 31, 2020
 19-055.110

PHASE 1: BUILDING+SITWORK Construction Systems and Assemblies Summary

Enclosed Area 561,398 SF

		Base Bid	
		\$/SF	\$x1,000
A	Substructure		
A10	Foundations	14.97	8,402
A20	Basement construction	12.55	7,045
A	SUBSTRUCTURE	27.52	15,447
B	Shell		
B10	Superstructure	53.80	30,205
B20	Exterior enclosure	82.83	46,502
B30	Roofing	17.74	9,958
B	SHELL	154.37	86,665
C	Interiors		
C10	Interior construction	58.72	32,966
C20	Stairs	1.84	1,035
C30	Interior finishes	25.41	14,267
C	INTERIORS	85.98	48,268
D	Services		
D10	Conveying systems	3.31	1,858
D20	Plumbing	18.88	10,602
D30	Heating, Ventilation and Air Conditioning (HVAC)	60.66	34,057
D40	Fire protection systems	5.80	3,255
D50	Electrical	105.17	59,043
D	SERVICES	193.83	108,815
E	Equipment and furnishings		
E10	Equipment	7.30	4,099
E20	Furnishings	8.75	4,911
E	EQUIPMENT AND FURNISHINGS	16.05	9,009
F	Special construction and demolition		
F10	Special construction	-	-
F20	Selective demolition	-	-
F	SPECIAL CONSTRUCTION AND DEMOLITION	-	-
G	Building sitework		
G10	Site preparation	14.10	7,913
G20	Site improvements	33.81	18,979
G30	Site civil/Mechanical utilities	5.24	2,944
G40	Site electrical utilities	9.03	5,070
G90	Other site construction	-	-
G	BUILDING SITEWORK	62.18	34,906
SUBTOTAL DIRECT COST		539.92	303,112

Western State Hospital / Appendix

DSHS Western State Hospital Expansion
Phase 1: Building+Sitework
Lakewood, Washington

Pre-Design Cost Estimate R3
May 31, 2020
19-055.110

PHASE 1: BUILDING+SITWORK Construction Systems and Assemblies Summary

Enclosed Area 561,398 SF

			Base Bid	
Contingencies				
Design & Estimating Contingency	10.00%	53.99	30,311	
Construction/Risk Contingency	3.00%	16.20	9,093	
Escalation Contingency	18.26%	98.58	55,345	
SUBTOTAL SUBCONTRACT COST			708.70	397,862
General				
NSS/Job Services/Site Logistics	3.50%	24.80	13,925	
SUBTOTAL			24.80	13,925
General				
General Conditions	3.00%	21.26	11,936	
Fee	2.50%	18.34	10,295	
Preconstruction Fees - EXCLUDED	0.00%	-	-	
SUBTOTAL			39.60	22,231
SUBTOTAL CONSTRUCTION COST			773.10	434,017
Permits, Insurances, Bonds & Taxes				
Bid Document Reproduction	0.00%	-	-	
GC/CM P&P Bond	1.00%	7.73	4,340	
GL Insurance	1.00%	7.73	4,340	
Builder's Risk Insurance	0.50%	3.87	2,170	
Plan Review - EXCLUDED	0.00%	-	-	
Permit fees - EXCLUDED	0.00%	-	-	
B&O Tax, WA	0.47%	3.64	2,044	
B&O Tax, COS	0.22%	1.66	933	
WSST EXCLUDED	EXCLUDED			
TOTAL PROBABLE CONSTRUCTION COST			797.73	447,845

DSHS Western State Hospital Expansion
 Phase 1: Building+Sitework
 Lakewood, Washington

Pre-Design Cost Estimate R3
 May 31, 2020
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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
<u>A - Substructure</u>					
A10 Foundations					
A1010 Standard foundations					
	Continuous footings + Stem walls				
	Annex	23,592	gsf	6.40	150,989
	Facilities	43,882	gsf	8.00	351,056
	Hospital	493,924	gsf	3.80	1,876,911
	Spread footings				
	Annex	23,592	gsf	0.80	18,874
	Facilities	43,882	gsf	2.60	114,000
	Hospital	493,924	gsf	1.00	493,924
	Foundation drain				
	Perforated drain pipe @ perimeter				
	Annex	586	lf	20.00	11,726
	Facilities	1,362	lf	20.00	27,236
	Hospital	10,060	lf	20.00	201,200
	Insulation				
	Insulation/damproofing @ foundations				
	Annex	586	lf	10.00	5,863
	Facilities	1,362	lf	10.00	13,618
	Hospital	10,060	lf	10.00	100,600
	Structural excavation				
	Annex	11,796	sf	3.75	44,235
	Facilities	43,882	sf	3.75	164,558
	Hospital	178,528	sf	3.75	669,481
A1020 Special other foundations		EXCLUDED			
A1030 Slabs on grade					
	Annex	11,796	sf	13.00	153,348
	Facilities	43,882	sf	14.25	625,319
	Hospital	180,128	sf	13.00	2,341,668
	Trenches, pits & bases				
	Elevator pits				
	Annex	2	ea	16,500.00	33,000
	Facilities	2	ea	16,500.00	33,000
	Hospital	16	ea	16,500.00	264,000
	Underslab drain & insulation				
	Insulation				
	Annex	11,796	sf	3.00	35,388

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Facilities	43,882	sf	3.00	131,646
	Hospital	180,128	sf	3.00	540,385
A20	Basement construction				
A2010	Basement excavation				
	Cut/load/haul				
	Annex	-	cy	45.00	
	Facilities	-	cy	45.00	
	Hospital	53,563	cy	45.00	2,410,335
	Backfill walls, import				
	Annex	-	cy	50.00	
	Facilities	-	cy	50.00	
	Hospital	17,304	cy	50.00	865,200
	Dewatering, job related				
	Annex	-	sf	-	
	Facilities	-	sf	-	
	Hospital	54,388	sf	2.50	135,971
A2020	Basement walls				
	CIP walls				
	Annex	-	sf	-	
	Facilities	-	sf	-	
	Hospital	51,912	sf	58.00	3,010,896
	Rigid insulation+waterproofing				
	Annex	-	sf	12.00	
	Facilities	-	sf	12.00	
	Hospital	51,912	sf	12.00	622,944
					15,447,369
<u>B - Shell</u>					
B10	Superstructure				
B1010	Floor construction				
	Columns/Bracing				
	Annex	23,592	sf	15.10	356,239
	Facilities	43,882	sf	13.00	570,466
	Hospital	493,924	sf	11.00	5,433,163
	Suspended floors				
	Annex	11,796	sf	64.00	754,944
	Facilities	-	sf	-	
	Hospital	313,796	sf	38.00	11,924,232

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Fireproofing/Intumescent paint, select areas				
	Annex	11,796	sf	-	
	Facilities	-	sf	-	
	Hospital	313,796	sf	1.50	470,693
	Misc metals				
	Annex	15,335	lb	3.30	50,605
	Facilities	28,523	lb	3.30	94,127
	Hospital	321,051	lb	3.30	1,059,467
	Pads/curbs/misc framing				
	Annex	23,592	sf	1.50	35,388
	Facilities	43,882	sf	1.50	65,823
	Hospital	493,924	sf	1.50	740,886
B1020	Roof construction				
	Roof framing				
	Roof construction, 40% Pitched/60% low slope				
	Annex	12,386	sf	52.50	650,255
	Facilities	46,076	sf	30.00	1,382,283
	Hospital	189,055	sf	35.00	6,616,915
B20	Exterior enclosure				
B2010	Exterior walls				
	Exterior wall construction				
	Gross ext wall above grade				
	Annex	17,589	vsf		
	Facilities	40,854	vsf		
	Hospital	267,120	vsf		
	Rainscreen back-up wall section				
	Annex	10,553	vsf	34.00	358,816
	Facilities	32,683	vsf	34.00	1,111,229
	Hospital	160,272	vsf	34.00	5,449,248
	Premium for security mesh	160,272	vsf	12.00	1,923,264
	Exterior finish				
	Annex	10,553	vsf	65.00	685,971
	Facilities	32,683	vsf	65.00	2,124,408
	Hospital	160,272	vsf	65.00	10,417,680
	Sealer+grafitti coatings				
	Annex	10,553	vsf	1.50	15,830

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Facilities	32,683	vsf	1.50	49,025
	Hospital	160,272	vsf	1.50	240,408
	Detailing/Trims				
	Annex	10,553	vsf	13.00	137,194
	Facilities	32,683	vsf	13.00	424,882
	Hospital	160,272	vsf	13.00	2,083,536
	Soffits				
	Soffit including framing+finish				
	Annex	-	sf		
	Facilities	-	sf		
	Hospital	9,900	sf	113.50	1,123,650
	Canopies				
	Allow for canopies including structure				
	Annex	354	sf	150.00	53,082
	Facilities	1,316	sf	150.00	197,469
	Hospital	5,356	sf	150.00	803,377
B2020	Exterior windows				
	Glass & glazing				
	Annex	7,036	sf	125.00	879,450
	Facilities	8,171	sf	125.00	1,021,350
	Hospital	106,848	sf	125.00	13,356,000
	Allow for operable				
	Annex	7,036	sf	10.00	70,356
	Facilities	8,171	sf	10.00	81,708
	Hospital	106,848	sf	10.00	1,068,480
	Allow for shading systems				
	Annex	7,036	sf	10.00	70,356
	Facilities	8,171	sf	10.00	81,708
	Hospital	106,848	sf	10.00	1,068,480
	Allow for security screens @ roof terraces				
	Annex	-	sf		
	Facilities	-	sf		
	Hospital	15,165	sf	100.00	1,516,500
B2030	Exterior doors				
	Solid exterior doors				
	HM Frame+Door+Hdwre, per leaf				
	Annex			Incl in Interior doors	
	Facilities				

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Hospital Glazed entrances				
	Annex		Incl in Ext glazing		
	Facilities				
	Hospital OHD				
	Annex	23,592	sf	0.50	11,796
	Facilities	43,882	sf	1.75	76,794
	Hospital	493,924	sf	-	
B30	Roofing				
B3010	Roof coverings				
	Roofing+Insulation				
	Annex	12,386	sf	25.00	309,645
	Facilities	46,076	sf	25.00	1,151,903
	Hospital	189,055	sf	25.00	4,726,368
	Sheetmetal flashings & trims				
	Annex	12,386	sf	3.00	37,157
	Facilities	46,076	sf	3.00	138,228
	Hospital	189,055	sf	3.00	567,164
	Expansion jts				
	Annex	-	sf		
	Facilities	-	sf		
	Hospital	493,924	sf	1.50	740,886
	Roof terrace roofing and finish				
	Annex	-	sf	75.00	
	Facilities	-	sf	75.00	
	Hospital	19,500	sf	75.00	1,462,500
	Roof anchors/tie-offs				
	Annex	12,386	sf	1.50	18,579
	Facilities	46,076	sf	1.50	69,114
	Hospital	189,055	sf	1.50	283,582
B3020	Roof openings				
	Skylights				
	Annex	23,592	sf	0.65	15,335
	Facilities	43,882	sf	2.65	116,287
	Hospital	493,924	sf	0.65	321,051
					86,665,329

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
C - Interiors					
C10	Interior construction				
C1010	Partitions				
	Fixed partitions				
	CMU				
	Annex	23,592	sf	-	
	Facilities	43,882	sf	7.50	329,115
	Hospital	493,924	sf	3.50	1,728,734
	MS framing + GWB				
	Annex	23,592	sf	24.00	566,208
	Facilities	43,882	sf	21.50	943,463
	Hospital	493,924	sf	40.00	19,756,955
	Backing and blocking/Rough carp				
	Annex	23,592	sf	1.00	23,592
	Facilities	43,882	sf	1.50	65,823
	Hospital	493,924	sf	2.00	987,848
	Windows/glazing systems				
	Annex	23,592	sf	2.00	47,184
	Facilities	43,882	sf	1.50	65,823
	Hospital	493,924	sf	2.00	987,848
C1020	Interior doors				
	Interior doors, frames & hardware				
	New HM/WD Frames+Doors+Hdwre, per leaf				
	Annex	23,592	sf	5.25	123,858
	Facilities	43,882	sf	6.00	263,292
	Hospital	493,924	sf	9.00	4,445,315
	Special doors				
	Annex	23,592	sf	0.50	11,796
	Facilities	43,882	sf	1.00	43,882
	Hospital	493,924	sf	0.25	123,481
C1030	Fittings specialties				
	Fabricated toilet partitions				
	Annex	23,592	sf	0.50	11,796
	Facilities	43,882	sf	0.35	15,359
	Hospital	493,924	sf	0.10	49,392
	Protective guards, barriers & bumpers				
	Wall and corner protection				

Appendix A-2: Cost Estimate

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Annex	23,592	sf	0.75	17,694
	Facilities	43,882	sf	2.00	87,764
	Hospital	493,924	sf	1.50	740,886
	Identifying devices				
	Signage, <u>code only</u>				
	Annex	23,592	sf	0.50	11,796
	Facilities	43,882	sf	0.25	10,971
	Hospital	493,924	sf	0.50	246,962
	Amenities and convenience items				
	Toilet & bath accessories				
	Annex	23,592	sf	0.75	17,694
	Facilities	43,882	sf	0.35	15,359
	Hospital	493,924	sf	1.25	617,405
	Misc Specialties				
	Annex	23,592	sf	2.50	58,980
	Facilities	43,882	sf	0.25	10,971
	Hospital	493,924	sf	0.75	370,443
C20	Stairs				
C2010	Stair construction				
	Stairs				
	Annex	23,592	sf	2.00	47,184
	Facilities	43,882	sf	-	
	Hospital	493,924	sf	2.00	987,848
C30	Interior finishes				
C3010	Wall finishes				
	Paint				
	Annex	23,592	sf	5.50	129,756
	Facilities	43,882	sf	4.25	186,499
	Hospital	493,924	sf	5.50	2,716,581
C3020	Floor finishes				
	Flooring				
	Annex	23,592	sf	11.00	259,512
	Facilities	43,882	sf	5.00	219,410
	Hospital	493,924	sf	11.00	5,433,163
C3020	Ceiling finishes				
	Ceiling finishes				

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Annex	23,592	sf	6.00	141,552
	Facilities	43,882	sf	5.50	241,351
	Hospital	493,924	sf	10.00	4,939,239
					48,268,199

D - Services

D10 Conveying systems

D1010 Elevators and lifts

Elevators

Annex	23,592	sf	5.50	129,756
Facilities	43,882	sf	-	
Hospital	493,924	sf	3.50	1,728,734

Pneumatic tubes

EXCLUDED

D20 Plumbing

Sanitary fixtures and connection piping

Annex	23,592	gsf	2.35	55,441
Facilities	43,882	gsf	2.50	109,705
Hospital	493,924	gsf	6.00	2,963,543

Sanitary waste, vent and service piping

Annex	23,592	gsf	4.45	104,984
Facilities	43,882	gsf	4.05	177,722
Hospital	493,924	gsf	10.00	4,939,239

Water treatment, storage and circulation

Annex	23,592	gsf	2.50	58,980
Facilities	43,882	gsf	1.35	59,241
Hospital	493,924	gsf	1.35	666,797

Surface water drainage

Annex	23,592	gsf	1.50	35,388
Facilities	43,882	gsf	1.75	76,794
Hospital	493,924	gsf	1.70	839,671

Medical gas, air, vacuum

Annex	23,592	gsf	-	
Facilities	43,882	gsf	-	
Hospital	493,924	gsf	0.15	74,089

Compressed air systems

Annex	23,592	gsf	-	
Facilities	43,882	gsf	2.15	94,346
Hospital	493,924	gsf		

Gas distribution

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<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Annex	23,592	gsf	0.50	11,796
	Facilities	43,882	gsf	0.50	21,941
	Hospital	493,924	gsf	0.25	123,481
	Testing				
	Annex	23,592	gsf	0.20	4,718
	Facilities	43,882	gsf	0.25	10,971
	Hospital	493,924	gsf	0.35	172,873
				-	
D30	Heating, Ventilation and Air Conditioning (HVAC)			-	
	Ground source well system				
	Annex	23,592	gsf	4.10	96,727
	Facilities	43,882	gsf	4.10	179,916
	Hospital	493,924	gsf	4.10	2,025,088
	Heat generation and chilling				
	Annex	23,592	gsf	8.20	193,454
	Facilities	43,882	gsf	8.15	357,638
	Hospital	493,924	gsf	7.45	3,679,733
	Thermal storage and circulation pumps				
	Annex	23,592	gsf	1.15	27,131
	Facilities	43,882	gsf	1.10	48,270
	Hospital	493,924	gsf	0.95	469,228
	Piping, fittings, valves and insulation				
	Annex	23,592	gsf	13.00	306,696
	Facilities	43,882	gsf	12.50	548,525
	Hospital	493,924	gsf	14.50	7,161,896
	Air handling equipment				
	Annex	23,592	gsf	4.15	97,907
	Facilities	43,882	gsf	4.95	217,216
	Hospital	493,924	gsf	8.20	4,050,176
	Air distribution				
	Annex	23,592	gsf	7.00	165,144
	Facilities	43,882	gsf	6.60	289,621
	Hospital	493,924	gsf	10.35	5,112,112
	Grilles, registers and diffusers				
	Annex	23,592	gsf	1.00	23,592
	Facilities	43,882	gsf	1.00	43,882
	Hospital	493,924	gsf	1.00	493,924
	Controls				
	Annex	23,592	gsf	7.00	165,144
	Facilities	43,882	gsf	6.00	263,292

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	Hospital	493,924	gsf	12.00	5,927,086
	Supplemental heating and cooling				
	Annex	23,592	gsf	9.75	230,022
	Facilities	43,882	gsf	1.90	83,376
	Hospital	493,924	gsf	1.70	839,671
	Independent exhaust ventilation				
	Annex	23,592	gsf	0.25	5,898
	Facilities	43,882	gsf	0.70	30,717
	Hospital	493,924	gsf	0.60	296,354
	Testing, adjusting and balancing				
	Annex	23,592	gsf	0.95	22,412
	Facilities	43,882	gsf	0.85	37,300
	Hospital	493,924	gsf	1.15	568,012
				-	
D40	Fire protection systems			-	
D4010	Fire protection sprinkler systems			-	
	Fire sprinkler systems			-	
	Annex	23,592	gsf	5.50	129,756
	Facilities	43,882	gsf	5.50	241,351
	Hospital	493,924	gsf	5.50	2,716,581
	Dry system to canopies/soffits	16,764	gsf	10.00	167,641
				-	
D50	Electrical			-	
D5010	Electrical service and distribution			-	
	Annex	23,592	gsf	7.55	178,120
	Facilities	43,882	gsf	7.55	331,309
	Hospital	493,924	gsf	10.05	4,963,935
	Emergency or uninterrupted power				
	Annex	23,592	gsf	9.75	230,022
	Facilities	43,882	gsf	9.75	427,850
	Hospital	493,924	gsf	11.75	5,803,605
	Photovoltaic System, 5,500kW				
	Annex	23,592	gsf	30.10	710,002
	Facilities	43,882	gsf	30.10	1,320,631
	Hospital	493,924	gsf	30.10	14,864,661
	Machine and equipment power				
	Annex	23,592	gsf	2.25	53,082
	Facilities	43,882	gsf	2.75	120,676
	Hospital	493,924	gsf	3.25	1,605,253
	User convenience power				

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	Annex	23,592	gsf	4.50	106,164
	Facilities	43,882	gsf	4.00	175,528
	Hospital	493,924	gsf	5.00	2,469,619
	Grounding				
	Annex	23,592	gsf	0.20	4,718
	Facilities	43,882	gsf	0.20	8,776
	Hospital	493,924	gsf	0.25	123,481
				-	
D5020	Lighting and branch wiring				
	Lighting fixtures including conduit and wire				
	Annex	23,592	gsf	11.00	259,512
	Facilities	43,882	gsf	10.00	438,820
	Hospital	493,924	gsf	12.00	5,927,086
	Courtyard lighting	71,400	gsf	2.00	142,800
	Lighting controls				
	Annex	23,592	gsf	2.50	58,980
	Facilities	43,882	gsf	2.00	87,764
	Hospital	493,924	gsf	3.00	1,481,772
				-	
D5030	Communications and security systems				
	Telephone and communications systems				
	Annex	23,592	gsf	8.70	205,250
	Facilities	43,882	gsf	6.70	294,009
	Hospital	493,924	gsf	8.70	4,297,138
	A/V systems, rough-in only				
	Annex	23,592	gsf	0.75	17,694
	Facilities	43,882	gsf	0.25	10,971
	Hospital	493,924	gsf	0.75	370,443
	Distributed Antenna system				
	Annex	23,592	gsf	1.50	35,388
	Facilities	43,882	gsf	1.50	65,823
	Hospital	493,924	gsf	3.00	1,481,772
	Fire alarm system				
	Annex	23,592	gsf	3.25	76,674
	Facilities	43,882	gsf	3.25	142,617
	Hospital	493,924	gsf	3.50	1,728,734
	Security systems				
	Annex	23,592	gsf	3.00	70,776
	Facilities	43,882	gsf	3.00	131,646
	Hospital	493,924	gsf	15.00	7,408,858

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	Testing				
	Annex	23,592	gsf	1.10	25,951
	Facilities	43,882	gsf	1.00	43,882
	Hospital	493,924	gsf	1.50	740,886
					108,815,377

E - Equipment and Furnishings

E10 Equipment

E1010 Commercial equipment

Laundry & drycleaning equipment

EXCLUDED

E1030 Vehicular equipment

Loading dock equipment

Annex

23,592 sf

-

Facilities

43,882 sf

2.00

87,764

Hospital

493,924 sf

-

E1090 Other equipment

Food service equipment

Annex

23,592 sf

-

Facilities

43,882 sf

-

Hospital, café only

493,924 sf

0.75

370,443

Residential appliances

Annex

23,592 sf

0.25

5,898

Facilities

43,882 sf

-

Hospital

493,924 sf

0.75

370,443

Allow for Safety deposit boxes, beauty eq,
waste management eq, protective padding,
athletic eq, hospital eq

Annex

23,592 sf

-

Facilities

43,882 sf

3.50

153,587

Hospital

493,924 sf

2.00

987,848

Allow for OFCI

Annex

23,592 sf

0.35

8,257

Facilities

43,882 sf

0.35

15,359

Hospital

493,924 sf

4.25

2,099,176

E20 Furnishings

E2010 Fixed furnishings

Casework

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 19-055.110

<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Annex	23,592	sf	5.00	117,960
	Facilities	43,882	sf	3.00	131,646
	Hospital	493,924	sf	8.50	4,198,353
	Window treatments				
	Annex	23,592	sf	1.00	23,592
	Facilities	43,882	sf	1.00	43,882
	Hospital	493,924	sf	0.80	395,139
					9,009,347

G - Building Sitework

G10 Site preparation

G1010 Site clearing

Demolition of building & structures: Buildings
 10, 11, 12, 15, 24, 25, 26, 27, 30 and 31

115,578 sf 12.65 1,462,062

Gross site area, Phase 1

1,378,000 sf

-

Site protective construction

TESC

Set-up+Maintenance

1,378,000 sf 0.75 1,033,500

Site clearing and grading

Site clearance

1,378,000 sf 0.75 1,033,500

Mass ex

1,378,000 sf 3.00 4,134,000

Demolish existing utilities

1 ls 250,000.00 250,000

G20 Site improvements

G2010 Roadways

New turn lane

1 ls 100,000.00 100,000

Patch/repair for utility tie-ins

1 ls 25,000.00 25,000

G2020 Parking lots

AC paving + curb

464,000 sf 5.25 2,436,000

Pavement markings & signage

464,000 sf 0.55 255,200

G2030 Pedestrian paving

Allow for pavers/site concrete

1,378,000 sf 0.75 1,033,500

G2040 Site development

Courtyards

70,350 sf 15.00 1,055,250

Fencing

1,378,000 sf 0.20 275,600

Fire lane

38,400 sf 12.00 460,800

Canopy for PV array

99,000 sf 125.00 12,375,000

DSHS Western State Hospital Expansion
Phase 1: Building+Sitework
Lakewood, Washington

Pre-Design Cost Estimate R3
May 31, 2020
19-055.110

<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
	Misc site furnishings	1	ls	150,000.00	150,000
G2050	Landscaping Allow for landscape+irrigation, assume 90% seed, limited irrigation	542,046	sf	1.50	813,069
G30	Site civil/Mechanical utilities				
G3010	Water supply Piping, fire hydrants, water meters, backflow prevention, connections, etc Water storage	1,378,000	sf	0.75	1,033,500
				EXCLUDED	
G3020	Sanitary sewer Sanitary sewer piping, fittings, grease interceptors, manholes, connections, etc	1,378,000	sf	0.50	689,000
G3030	Storm sewer Storm sewer piping, fittings, manholes, catchbasins, area drains, infiltration piping/trenches, bioretention, connections, etc	1,378,000	sf	0.85	1,171,300
G3060	Fuel distribution Incoming gas service	1	ls	50,000.00	50,000
G40	Site electrical utilities				
G4010	Electrical distribution Primary service conduit ductbank, concrete encased - allow Primary service feeders - by Utility	1,000	lf	250.00	250,000
				By Utility	
G4020	Site lighting Site lighting Lighting to existing parking lot	1,378,000	sf	1.00	1,378,000
		1	ls	175,000.00	175,000
G4030	Site communications and security Conduit ductbanks for telecom services, Telecom backbone cabling to buildings Site security	3,500	lf	300.00	1,050,000
		1	ls	150,000.00	150,000
		1,378,000	sf	1.50	2,067,000

Appendix A-2: Cost Estimate

DSHS Western State Hospital Expansion	Pre-Design Cost Estimate R3
Phase 1: Building+Sitework	May 31, 2020
Lakewood, Washington	19-055.110

<i>CSI</i>	<i>Description</i>	<i>Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Total</i>
					34,906,280

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Operating Costs for 350 Bed State Hospital

Costs below are based on high level estimates and will need to be revised if a 350 bed facility is approved and sited.

Total FTE Need	1,179.5
Total Cost	\$ 134,621,870

Number of Beds	350
Average FTE Need Per Bed	3.37
Average Cost Per Bed	\$ 365,413
Administration/Overhead Cost	\$ 6,727,172

Type of Cost	Annual Cost Per Bed	
	FTE's	Funds
① Ward Costs	2.38	\$ 239,616
② Food Cost	0.14	\$ 12,746
③ Pharmacy Costs	0.04	\$ 15,844
④ Other Ancillary Costs	0.81	\$ 97,208
Average Cost Per Bed Total	3.37	\$ 365,413

⑤ Flat Rate Cost for Running Hospital	\$ 6,727,172
---------------------------------------	--------------

- ① Ward costs include direct care, indirect care and ward supplies
- ② Food Cost include food service staffing, food, and kitchen supplies
- ③ Includes staffing, prescription, and supplies related to pharmacy costs
- ④ Other Ancillary Costs Other Ancillary Costs include Nursing Services Administration, Custodian Services, Recreation Therapy Administration, IT/IT Leases, Quality Improvement, Medical Records, Security, Communications, Laboratory, etc.
- ⑤ Costs include Equipment/Capital, Travel and Terminal Leave, Specific Administration Positions (CEO, CFO, COO, Medical Director, ETC). These expenses are critical for operations, but not necessarily tied to ward count/operations.

Estimates are based on Eastern State Hospital actuals for FY2019 with a 3% inflation factor

Staffing Model Differential Need

Bucket	Category	Future Model State	Current Actuals*	Variance	Average Salary Per Hospital Category
		FTE	FTE	FTE	Dollars
Direct Care	ESH Civil Admission Ward - 1N1	58.0	46.0	12.0	\$ 1,180,277
Direct Care	ESH Civil Ward - 2N1	49.0	33.5	15.5	\$ 1,520,912
Direct Care	ESH Civil Ward - 3N1	49.0	30.8	18.2	\$ 1,786,613
Direct Care	ESH Forensic Admission Ward - 1S1	47.0	48.3	(1.3)	\$ (124,343)
Direct Care	ESH Forensic NGRI - 2N3	50.0	33.9	16.1	\$ 1,582,756
Direct Care	ESH Forensic Ward - 3S1	50.0	41.5	8.5	\$ 832,771
Direct Care	ESH Geriatric Admission Ward - DPOD	44.0	31.5	12.5	\$ 1,228,378
Direct Care	ESH Geriatric Ward - BPOD	43.0	34.3	8.7	\$ 857,313
Direct Care	ESH Geriatric Ward - EPOD	43.0	27.2	15.8	\$ 1,550,689
Direct Care	ESH HMH Ward	39.0	28.7	10.3	\$ 1,011,760
Direct Care	ESH NGRI and Restoration - 2S1	51.0	40.4	10.6	\$ 1,036,628
Direct Care	Float Staff		38.7	(38.7)	\$ (3,802,934)
Direct Care Totals		523.0	434.8	88.2	\$ 8,660,820
Non-Direct Care	ESH Non-Direct Care	42.0	53.9	(11.9)	\$ (1,227,015)
Non-Direct Care	ESH Physical Medicine	42.0	35.8	6.2	\$ 780,854
Non-Direct Care	ESH Psychiatry	22.0	16.9	5.1	\$ 1,741,268
Non-Direct Care	ESH Psychology	36.0	8.4	27.6	\$ 3,380,454
Non-Direct Care	ESH Rehab Peer Recovery	56.0	44.6	11.4	\$ 975,434
Non-Direct Care	ESH Social Work	30.0	30.8	(0.8)	\$ (85,007)
Non-Direct Care	ESH Treatment Mall	32.0		32.0	\$ 2,716,220
Non-Direct Care	ESH Treatment Team Coord	11.0	14.4	(3.4)	\$ (290,579)
Non-Direct Care Totals		271.0	204.7	66.4	\$ 7,991,629
Administration	ESH Administration	22.0	12.4	9.6	\$ 1,539,662
Administration	ESH Business Office	6.0	8.1	(2.1)	\$ (186,695)
Administration	ESH Facilities	1.0	1.0	-	\$ -
Administration	ESH Food Services	49.0	51.8	(2.8)	\$ (191,905)
Administration	ESH Housekeeping	45.0	39.5	5.5	\$ 338,229
Administration	ESH Legal	9.0	7.0	2.0	\$ 139,167
Administration	ESH Quality Management	35.0	30.0	5.0	\$ 495,117
Administration	ESH Security	46.0	44.5	1.5	\$ 122,289
Administration	ESH Staff Development	16.0	5.0	11.0	\$ 1,392,963
Administration	ESH Warehouse and Laundry	2.0	6.2	(4.2)	\$ 66,316
Administration Totals		231.0	205.4	25.6	\$ 3,715,143
Grand Total		1,025.0	844.8	180.2	\$ 20,367,592

Western State Hospital / Appendix

Current Actuals are based on the Q1 HBPA

Appendix A-2: Operating Cost for 350 Bed State Hospital

ESH	Quality Management	112L	Forms & Records Analyst Supervisor	52	G	\$ 64,008	\$ 25,342	\$ 89,350
ESH	Quality Management	125B	Data Consultant 2	46	C	\$ 44,184	\$ 21,239	\$ 65,423
ESH	Quality Management	282F	Medical Transcriptionist 2	37	C	\$ 43,116	\$ 21,018	\$ 64,134
ESH	Quality Management	285F	Registered Nurse 2	64N	U	\$ 93,300	\$ 37,958	\$ 131,258
ESH	Quality Management	285G	Registered Nurse 3	68N	P	\$ 109,956	\$ 41,405	\$ 151,361
ESH	Quality Management	482CS	IT Customer Support - Entry	01IT	L	\$ 56,412	\$ 23,771	\$ 80,183
ESH	Quality Management	483AD	IT App Development - Journey	05IT	L	\$ 94,068	\$ 31,565	\$ 125,633
ESH	Quality Management	483DM	IT Data Management - Journey	06IT	G	\$ 87,300	\$ 30,164	\$ 117,464
ESH	Quality Management	483NT	IT Network & Telecoms - Journey	05IT	L	\$ 79,140	\$ 28,476	\$ 107,616
ESH	Quality Management	483SA	IT System Admin - Journey	06IT	J	\$ 79,092	\$ 28,466	\$ 107,558
ESH	Quality Management	484SA	IT System Admin - Sr/Spec	07IT	J	\$ 98,712	\$ 32,526	\$ 131,238
ESH	Quality Management	WMS01	Compliance Officer	BAND 1	01	\$ 93,516	\$ 27,122	\$ 120,638
ESH	Quality Management	WMS01	Dir Of Health Information Mgmt	BAND 1	01	\$ 66,408	\$ 27,122	\$ 93,530
ESH	Quality Management	WMS03	Director Of Quality Management	BAND 3	03	\$ 105,000	\$ 37,989	\$ 142,989
ESH	Rehabilitation	105G	Administrative Assistant 3	40	K	\$ 44,184	\$ 21,239	\$ 65,423
ESH	Rehabilitation	107J	Program Specialist 3	53	M	\$ 67,248	\$ 26,013	\$ 93,261
ESH	Rehabilitation	107N	Program Coordinator	38	K	\$ 47,376	\$ 21,899	\$ 69,275
ESH	Rehabilitation	306J	Recreation Therapist 2	47	F	\$ 49,932	\$ 28,981	\$ 78,913
ESH	Rehabilitation	306L	Recreation Therapist Supervisor	53	L	\$ 65,592	\$ 32,223	\$ 97,815
ESH	Rehabilitation	306N	Occupational Therapist 1	50	F	\$ 60,924	\$ 31,255	\$ 92,179
ESH	Rehabilitation	306O	Occupational Therapist 2	52	L	\$ 65,592	\$ 32,223	\$ 97,815
ESH	Rehabilitation	306P	Occupational Therapist 3	54	J	\$ 67,248	\$ 32,565	\$ 99,813
ESH	Rehabilitation	306R	Occupational Therapist Supervisor	59	M	\$ 77,952	\$ 34,781	\$ 112,733
ESH	Rehabilitation	308F	Speech Pathologist/Audiologist Spec 2	65	M	\$ 90,420	\$ 37,362	\$ 127,782
ESH	Rehabilitation	310H	Occupational Therapy Assistant 1	39	A	\$ 35,736	\$ 26,042	\$ 61,778
ESH	Rehabilitation	310I	Occupational Therapy Assistant 2	42	L	\$ 48,792	\$ 28,744	\$ 77,536
ESH	Rehabilitation	310P	Therapy Aide	38	M	\$ 46,452	\$ 28,261	\$ 74,713
ESH	Rehabilitation	348J	Institution Counselor 2	44	H	\$ 54,624	\$ 29,953	\$ 84,577
ESH	Rehabilitation	349M	Community Resource Program Manager	47	M	\$ 57,948	\$ 24,088	\$ 82,036
ESH	Rehabilitation	363I	Religious Coordinator	51	I	\$ 57,942	\$ 24,087	\$ 82,029
ESH	Rehabilitation	680C	Personal Services Specialist 3	36	L	\$ 43,117	\$ 23,180	\$ 66,297
ESH	Rehabilitation	701F	Recreation & Athletics Specialist 2	42	E	\$ 48,792	\$ 28,744	\$ 77,536
ESH	Security	100J	Office Assistant 3	34	K	\$ 37,464	\$ 19,848	\$ 57,312
ESH	Security	101G	PBX & Telephone Operator	34	H	\$ 37,464	\$ 19,848	\$ 57,312
ESH	Security	101H	PBX Chief Operator	36	K	\$ 44,239	\$ 21,251	\$ 65,490
ESH	Security	285F	Registered Nurse 2	64N	U	\$ 93,300	\$ 37,958	\$ 131,258
ESH	Security	347L	Mental Health Technician 1	39	K	\$ 43,272	\$ 27,602	\$ 70,874
ESH	Security	347N	Mental Health Technician 3	44	L	\$ 52,536	\$ 29,520	\$ 82,056
ESH	Security	348K	Institution Counselor 3	48	L	\$ 55,200	\$ 30,071	\$ 85,271
ESH	Security	385K	Security Guard 1	39	L	\$ 42,136	\$ 27,366	\$ 69,502
ESH	Security	385M	Security Guard 3	45	L	\$ 53,904	\$ 25,414	\$ 79,318
ESH	Security	399E	Safety Officer Assistant	44	L	\$ 52,536	\$ 22,968	\$ 75,504
ESH	Security	WMS01	Director Of Safety And Security	BAND 1	01	\$ 83,964	\$ 27,122	\$ 111,086
ESH	Social Work	125A	Data Consultant 1	43	M	\$ 49,932	\$ 22,429	\$ 72,361
ESH	Social Work	352K	Psychiatric Social Worker 3	68GS1	L	\$ 89,520	\$ 37,176	\$ 126,696
ESH	Social Work	352L	Psychiatric Social Worker 4	73GS1	L	\$ 79,116	\$ 35,022	\$ 114,138
ESH	Social Work	352P	Forensic Therapist	53	M	\$ 67,248	\$ 32,565	\$ 99,813
ESH	Social Work	WMS03	Director Of Social Work	BAND 3	03	\$ 115,716	\$ 37,989	\$ 153,705
ESH	Staff Training & Developn	100J	Office Assistant 3	34	K	\$ 37,464	\$ 19,848	\$ 57,312
ESH	Staff Training & Developn	109M	Management Analyst 5	64	E	\$ 76,128	\$ 27,851	\$ 103,979
ESH	Staff Training & Developn	285G	Registered Nurse 3	68N	P	\$ 109,956	\$ 41,405	\$ 151,361
ESH	Staff Training & Developn	285X	Clinical Nurse Specialist	76N	U	\$ 145,572	\$ 48,778	\$ 194,350
ESH	Staff Training & Developn	WMS02	Dir Of Staff Development And Learning	BAND 2	02	\$ 96,444	\$ 30,103	\$ 126,547
ESH	Treatment Malls	107M	Program Assistant	35	M	\$ 43,116	\$ 21,018	\$ 64,134
ESH	Treatment Malls	109K	Management Analyst 3	54	J	\$ 56,855	\$ 23,861	\$ 80,716
ESH	Treatment Malls	285G	Registered Nurse 3	68N	P	\$ 109,956	\$ 41,405	\$ 151,361
ESH	Treatment Malls	347J	Psychiatric Security Attendant	42	J	\$ 40,152	\$ 26,955	\$ 67,107
ESH	Treatment Malls	347L	Mental Health Technician 1	39	K	\$ 43,272	\$ 27,602	\$ 70,874
ESH	Treatment Malls	347N	Mental Health Technician 3	44	L	\$ 52,536	\$ 29,520	\$ 82,056
ESH	Treatment Malls	348K	Institution Counselor 3	48	L	\$ 55,200	\$ 30,071	\$ 85,271
ESH	Treatment Malls	701F	Recreation & Athletics Specialist 2	42	E	\$ 48,792	\$ 28,744	\$ 77,536
ESH	Warehouse & Laundry	116G	Stockroom Attendant 3	35	G	\$ 37,464	\$ 22,010	\$ 59,474
ESH	Warehouse & Laundry	117I	Warehouse Operator 1	32G	K	\$ 38,376	\$ 22,198	\$ 60,574
ESH	Warehouse & Laundry	117K	Warehouse Operator 3	38G	M	\$ 46,452	\$ 23,871	\$ 70,323
ESH	Warehouse & Laundry	313H	Hospital Central Services - Lead	42	M	\$ 51,240	\$ 24,862	\$ 76,102
ESH	Warehouse & Laundry	681F	Sewing & Alterations Specialist 2	35	L	\$ 42,132	\$ 22,976	\$ 65,108

Information comes from the Hospital Staffing Model By Job Class file

File is saved here:

[Hospital Staffing Mode](#)

Row Labels	Count of	Sum of Salary2	Sum of	Sum of Salary
Administration	12.0	\$		1,469,088
Business Office	8.0	\$		520,511
Direct Care	9.0	\$		592,948
Facilities	1.0	\$		91,092
Food Service	12.0	\$		547,341
Housekeeping	3.0	\$		116,496
Legal Services	6.0	\$		288,108
Non-Direct Care	9.0	\$		648,264
Physical Medicine	18.0	\$		1,630,046
Psychiatry	1.0	\$		265,404
Psychology	4.0	\$		354,780
Quality Management	19.0	\$		1,348,367
Rehabilitation	18.0	\$		1,029,871
Security	11.0	\$		596,015
Social Work	5.0	\$		401,532
Staff Training & Development	5.0	\$		465,564
Treatment Malls	8.0	\$		449,879
Warehouse & Laundry	5.0	\$		215,664
Grand Total	154.0	\$		11,030,970

Operating Costs for 350 Bed State Hospital

Costs below are based on high level estimates and will need to be revised if a 350 bed facility is approved and sited.

Total FTE Need	1,179.5
Total Cost	\$ 134,621,870

Number of Beds	350
Average FTE Need Per Bed	3.37
Average Cost Per Bed	\$ 365,413
Administration/Overhead Cost	\$ 6,727,172

Type of Cost	Annual Cost Per Bed	
	FTE's	Funds
① Ward Costs	2.38	\$ 239,616
② Food Cost	0.14	\$ 12,746
③ Pharmacy Costs	0.04	\$ 15,844
④ Other Ancillary Costs	0.81	\$ 97,208
Average Cost Per Bed Total	3.37	\$ 365,413

⑤ Flat Rate Cost for Running Hospital	\$ 6,727,172
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- ① Ward costs include direct care, indirect care and ward supplies
- ② Food Cost include food service staffing, food, and kitchen supplies
- ③ Includes staffing, prescription, and supplies related to pharmacy costs
- ④ Other Ancillary Costs Other Ancillary Costs include Nursing Services Administration, Custodian Services, Recreation Therapy Administration, IT/IT Leases, Quality Improvement, Medical Records, Security, Communications, Laboratory, etc.
- ⑤ Costs include Equipment/Capital, Travel and Terminal Leave, Specific Administration Positions (CEO, CFO, COO, Medical Director, ETC). These expenses are critical for operations, but not necessarily tied to ward count/operations.

Estimates are based on Eastern State Hospital actuals for FY2019 with a 3% inflation factor

Operating Costs HRD and Payroll Support Staff for 350 Bed State Hospital

Costs below are based on high level estimates and will need to be revised if a 350 bed facility is approved and sited.

Annual Fiscal Estimate:

❶ Program 110 HRD and Payroll Charge Back Rate:

Base Staffing for 350 Bed Hospital	1179.5
Extra HR Support Rate: HRC 3	\$ 1,785,916
Extra Payroll Support Rate: FA 4	\$ 1,697,304
Annual Estimated Charge Back Total	\$ 3,483,220

Western State Hospital / Appendix

Extra HR Support Rate: Human Resource Consultant 3

0.0133	Year	A	B	E	ED	G	J	P	T	TZ	Total
Charge Back for HRC 3	1	72,336	27,381	6,182	-	360	6,000	300		1,000	113,560
Charge Back for HRC 3	2	74,508	28,233	6,198	-	360	6,000	300		1,000	116,599
Charge Back for HRC 3	3	74,508	28,233	6,198	-	360	6,000	300		1,000	116,599
Charge Back for HRC 3	4	74,508	28,233	6,198	-	360	6,000	300		1,000	116,599

Extra Payroll Support Rate: Fiscal Analyst 4

0.0133	Year	A	B	E	ED	G	J	P	T	TZ	Total
Charge Back for FA4	1	65,592	28,538	6,135	-	360	6,000	300		1,000	107,925
Charge Back for FA4	2	67,560	29,346	6,149	-	360	6,000	300		1,000	110,715
Charge Back for FA4	3	67,560	29,346	6,149	-	360	6,000	300		1,000	110,715
Charge Back for FA4	4	67,560	29,346	6,149	-	360	6,000	300		1,000	110,715

❶ Charge Back Ratio: 1.0 HR and 1.0 Payroll Support staff required per 75 employed staff.

Estimated Forensic Hospital 350 pre-Design cost for MOD based on WSH 790 bed cost FY20

program	object	350 Bed Count
030	A	2,576,422.31
030	B	1,160,711.89
030	E	535,444.50
030	G	4,989.74
030	J	239,862.15
030	T	133,707.15
Grand Total		4,651,137.74

Appendix A-2: Operating Cost for MOD

Estimated Forensic Hospital 350 pre-Design cost for MOD based on WSH 790 bed cost

Fiscal Year	FTE	Object A	Object B	Object C	Object E	Object ED	Object G	Object J	Object N	Object P	Object T	Object TZ	Total
Total Fiscal Year 2022	25.0	2,576,422	1,160,712		536,000	0	5,000	240,000		11,000	109,000	25,000	4,663,134
Total Fiscal Year 2023	25.0	2,576,422	1,160,712		536,000	0	5,000	240,000		11,000	109,000	25,000	4,663,134
Biennial Total	25.0	5,152,845	2,321,424	0	1,072,000	0	10,000	480,000	0	22,000	218,000	50,000	9,326,268
Total Fiscal Year 2024	25.0	2,576,422	1,160,712		536,000	0	5,000	240,000		11,000	109,000	25,000	4,663,134
Total Fiscal Year 2025	25.0	2,576,422	1,160,712		536,000	0	5,000	240,000		11,000	109,000	25,000	4,663,134
Biennial Total	25.0	5,152,845	2,321,424	0	1,072,000	0	10,000	480,000	0	22,000	218,000	50,000	9,326,268

Source of Funds									
Fund	EA Type	Source	% of Total	Fiscal Year 1	Fiscal Year 2	Fiscal Year 3	Fiscal Year 4	Fiscal Year 5	
001	1	State	89.00%	4,150,000	4,150,000	4,150,000	4,150,000	4,150,000	
001	2	Federal	11.00%	513,000	513,000	513,000	513,000	117,000	
001	7	Local	0.00%	0	0	0	0	0	
Total each Fiscal Year				4,663,000	4,663,000	4,663,000	4,663,000	4,267,000	
Biennial Total				9,326,000		9,326,000		13,989,000	
Federal Detail									
Fund	Federal Type	Source	% of Total	Fiscal Year 1	Fiscal Year 2	Fiscal Year 3	Fiscal Year 4	Fiscal Year 5	
001	0	SSBG	0.00%	0	0	0	0	0	
001	A	Fam	0.00%	0	0	0	0	0	
001	C	Med	11.00%	513,000	513,000	513,000	513,000	117,000	
001	D	TANF	0.00%	0	0	0	0	0	
001	2	Other	0.00%	0	0	0	0	0	

Western State Hospital / Appendix

Program 030

Facility	WSH	Calculations			
program	Description	object	Sum of amount	/790=Per Bed cost, per month	x350 bed count
030	Actual Expenditures	A	5,815,353.22	7,361.21	2,576,422.31
030	Actual Expenditures	B	2,619,892.56	3,316.32	1,160,711.89
030	Actual Expenditures	E	1,208,574.73	1,529.84	535,444.50
030	Actual Expenditures	G	11,262.55	14.26	4,989.74
030	Actual Expenditures	J	541,403.13	685.32	239,862.15
030	Actual Expenditures	T	301,796.13	382.02	133,707.15
Grand Total			10,495,664.21	13,288.96	4,651,137.74



Allyson Brooks Ph.D., Director
State Historic Preservation Officer

June 30, 2020

Aarón Martínez
Capital Projects Manager
Department of Social and Health Services
Facilities, Financial, & Analytics Administration (FFAA) – Office of Capital Programs (OCP)
1115 Washington St. SE
PO Box 45848
Olympia, WA 98504 5848

In future correspondence please refer to:
Project Tracking Code: 2020-06-04316
Re: Western State Hospital New Forensic Hospital

Dear Aarón Martínez:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). The above referenced project has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Governor's Executive Order 05-05. Our review is based upon documentation contained in your communication.

We understand this project to be in the pre-design phase, and it is therefore exempt from further review under Governor's Executive Order 05-05. However, due to the location at the Western State Hospital, a historic district listed in the National Register of Historic Places as the Fort Steilacoom Historic District, we thank you for recognizing the potential this project poses to impact historic properties and your initiating consultation in these early phases.

The Western State Hospital was the subject of an in-depth built environment survey conducted by Artifacts Inc. in 2006. This study, combined with the 1977 NRHP nomination, provide a sufficient level of information to inform the current NRHP status of each built environment resource at the Fort Steilacoom Historic District. However, as the NRHP nomination is 43 years old, and the study is 14 years old, we highly encourage your agency to pursue the potential to have the historic district nomination updated to reflect alterations and changes that have occurred at the Fort since 1977. This update would serve to provide DAHP and DSHS a better basis of information upon which to make our decisions regarding potential impacts to historic properties for the project as is currently being designed, as well as future projects planned at the Hospital.

It is our professional opinion is that the project area has the potential to contain archaeological resources. Further, the scale of the proposed ground disturbing actions would destroy any archaeological resources present. Identification during construction is not a recommended detection method because inadvertent discoveries often result in costly construction delays and damage to the resource. Therefore, we recommend a professional archaeological survey of the project area be conducted prior to ground disturbing activities. We also recommend consultation with the concerned Tribes' cultural committees and staff regarding cultural resource issues.

Thank you for the opportunity to review and comment. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. If you have any questions, please feel free to contact me.

Sincerely,

State of Washington • Department of Archaeology & Historic Preservation
P.O. Box 48343 • Olympia, Washington 98504-8343 • (360) 586-3065
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Holly Borth
Project Compliance Reviewer
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Western State Hospital Benchmarking Modelling

	Benchmark/ Model (DGSF)	2/24 Program (DGSF)	Space Provided in Commissary Building #22 (DGSF)	Total Long-Term Space Provided (DGSF)
Inpatient Units	248,500	265,637	0	265,637
Adjunctive Therapy	38,183	34,564	0	34,564
Administration	35,013	47,085	0	47,085
Clinical and Shared Support	32,985	20,255	11,582	31,837
Facility Support Services	55,473	46,018	24,550	70,568
	410,154	413,559	36,132	449,691
State-wide, Other MH or	0	18,286		18,286
	410,154	431,844		467,976
Planning Factor	1.30	1.30		1.31
Total BGSF	533,201	561,398	50,250	611,648

Western State Hospital, State of Washington
 New Forensic Hospital
 Friday, May 29, 2020

Pre Design
 Space Program Summary

FULL PROGRAM

350 BED HOSPITAL					
Program	NSF	Multiplier	Total DGSF	DGSF/Bed	Comments
Patient Units - Mentally Ill					
Adult Units (14 units)	160,022	1.66	265,637	759	
Subtotal	160,022		265,637	759	aggregated
Patient Therapy/Activity					
Leadership	304	1.30	395	1	
Occupational Therapy MH and Physical Rehab	384	1.30	499	1	
Substance Use Disorder Treatment	1,112	1.30	1,446	4	
Medical Equipment	128	1.30	166	0	
Community Notifications	512	1.30	666	2	
Staff Cafeteria/Café	2,610	1.30	3,393	10	
Leisure Activities	10,064	1.30	13,083	37	
Life Skills	3,228	1.30	4,196	12	
Speech Language Services	128	1.30	166	0	
Library/Resource Center	1,024	1.30	1,331	4	
Barber/Beauty	272	1.30	354	1	
Patient Store	380	1.30	494	1	
Shared Support	6,570	1.30	8,541	24	
Subtotal	26,716		34,731	99	
Clinical Ancillaries					
Reception/Registration	580	1.35	783	2	
Admissions	1,676	1.35	2,263	6	
Clinic/Physician Services	1,492	1.35	2,014	6	
Dental Clinic	608	1.35	821	2	
EKG	0	1.35	0	0	
Lab/Phlebotomy	1,956	1.35	2,641	8	
Physical Therapy	2,416	1.35	3,262	9	
Radiology	0	1.35	0	0	
Pharmacy	860	1.35	1,161	3	
Infection Control	628	1.35	848	2	
Shared Support	1,560	1.35	2,106	6	
Subtotal	11,776		15,898	45	
Dietary					
Kitchen/Support	256	1.30	333	1	
Subtotal	256		333	1	

Western State Hospital / Appendix

FULL PROGRAM

Program	350 BED HOSPITAL				Comments
	NSF	Multiplier	Total DGSF	DGSF/Bed	
Administrative Services					
Hospital Administration	2,944	1.30	3,827	11	
Clinical Administration	1,350	1.30	1,755	5	
Finance Department	484	1.30	629	2	
Contracts Management	228	1.30	296	1	
Patient Accounts	420	1.30	546	2	
Accounts Payable	292	1.30	380	1	
Nursing Administration	1,620	1.30	2,106	6	
Nursing Supervisors	0	1.30	0	0	
Community Program	0	1.30	0	0	
Public Relations	0	1.30	0	0	
Human Resources/Payroll	1,588	1.30	2,064	6	
Payroll-Time/Leave/Attendance	1,208	1.30	1,570	4	
Employee Engagement	194	1.30	252	1	
Patients' Rights	128	1.30	166	0	
Patient Advocate	192	1.30	250	1	
Court	1,768	1.30	2,298	7	
Volunteers	484	1.30	629	2	
Lobby Services	1,000	1.30	1,300	4	
Visiting Center	1,560	1.30	2,028	6	
Education & Conferencing	6,430	1.30	8,359	24	
Staff Development	712	1.30	926	3	
Forensic Evaluation/Navigation	4,662	1.30	6,061	17	
Office of Forensic Mental Health Services (OFMHS)	932	1.30	1,212	3	
Labor Relations	164	1.30	213	1	
Video Conference Services	200	1.30	260	1	
Developmental Disabilities Association	164	1.30	213	1	
Home and Community Services	548	1.30	712	2	
Attorney Generals Office	164	1.30	213	1	
BHA Ombudsman	100	1.30	130	0	
Office of Capital Programs	256	1.30	333	1	
Other Shared Resources	3,224	1.30	4,191	12	
Subtotal	33,016		42,921	123	
Information Technology & Integration					
Information Technology/MHIS	4,264	1.30	5,543	16	
Subtotal	4,264		5,543	16	
Quality					
Medical Records	3,098	1.30	4,027	12	
Release of Information	0	1.30	0	0	
Records Retention	0	1.30	0	0	
Research, Evaluation & Data Analysis	376	1.30	489	1	
Quality Administration	1,689	1.30	2,196	6	
Quality Coordinators & Survey Management/Compliance	1,064	1.30	1,383	4	
Lean & Process Improvement	376	1.30	489	1	
Project Management	0	1.30	0	0	
Clinical Risk Management Team	248	1.30	322	1	
Abuse and Neglect Call Line	0	1.30	0	0	
Investigations	496	1.30	645	2	
Utilization Management	248	1.30	322	1	
Enterprise Risk Management	248	1.30	322	1	
Shared Support	1,510	1.30	1,963	6	
Subtotal	9,353		12,159	35	

Western State Hospital / Appendix

Western State Hospital, State of Washington
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Pre Design
Space Program Summary

FULL PROGRAM

350 BED HOSPITAL					
Program	NSF	Multiplier	Total DGSF	DGSF/Bed	Comments
Space Leased to Others					
Department of Assigned Council	200	1.30	260	1	
Fort Steilacoom Historical Society	456	1.30	593	2	
Clover Park @ CSTC	292	1.30	380	1	
NorthWest Justice	784	1.30	1,019	3	
Pierce College Central TRC & Bldg 25	292	1.30	380	1	
Pierce County Court (C-17)	292	1.30	380	1	
RSN-Residential Service Network	292	1.30	380	1	
SILAS	648	1.30	842	2	
Washington State Library	100	1.30	130	0	
WSH Historical Society	456	1.30	593	2	
Department of Corrections	228	1.30	296	1	
Shared Lessee Resources	1,904	1.30	2,475	7	
Subtotal	5,944		7,727	22	
Facilities Management					
Environmental Services	2,492	1.15	2,866	8	
Laundry & Linen	1,478	1.15	1,700	5	
Maintenance Shops: Campus	7,336	1.15	8,436	24	
Maintenance Depot: Building	356	1.15	409		
Transportation & Grounds	4,714	1.15	5,421	15	
Central Medical Supply	0	1.15	0		
Switchboard/Communications	408	1.15	469	1	
Fire Alarm & Dispatch	0	1.15	0	0	
Emergency Command Center & Supplies/Services	724	1.15	833	2	
Security and Fire Safety	1,918	1.15	2,206	6	
Materials Management (Campus)	16,190	1.15	18,619	53	
Materials Management (Building)	1,840	1.15	2,116	6	
Shared Support and Locker Facilities	2,270	1.15	2,611	7	
Subtotal	39,726		45,685	131	
Total Net SF (NSF)			291,073		
Total Depart Gross SF (DGSF)			430,633		
Building Grossing Planning Factor at 1.30	(x1.30)		129,190		
Total Building Gross SF (BGSF)			559,823		
Number of Patient Beds			350		
DGSF/Bed			1,230		
BGSF/Bed			1,599		

Western State Hospital / Appendix

**Western State Hospital, State of Washington
New Forensic Hospital
Monday, January 27, 2020**

**Pre Design
Space Program Summary**

Mental Health - Adult Units (500 Beds, each unit has two 8-bed subclusters and one 9-bed subcluster)

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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**Typical Unit - 25 beds
Unit Space**

Cluster A (8 Beds)					
1	Patient Room, Private	6	130	780	includes wardrobe
2	Patient Room, Private HC	2	180	360	includes wardrobe
3	Toilet/Shower, Patient	6	40	240	
4	Toilet/Shower, Patient HC	2	65	130	
5	Activity/Recreation	1	256	256	
6	Quiet Activity	1	100	100	
7	Porch	0.5	160	80	
Subtotal				1,946	

Cluster B (8 Beds)					
8	Patient Room, Private	6	130	780	includes wardrobe
9	Patient Room, Private HC	2	180	360	includes wardrobe
10	Toilet/Shower, Patient	6	40	240	
11	Toilet/Shower, Patient HC	2	65	130	
12	Activity/Recreation	1	256	256	
13	Quiet Activity	1	100	100	
14	Porch	0.5	160	80	
Subtotal				1,946	

Cluster C (9 Beds)					
15	Patient Room, Private	8	130	1,040	includes wardrobe
16	Patient Room, Private HC	1	180	180	includes wardrobe, equip for bariatric
17	Toilet/Shower, Patient	8	40	320	
18	Toilet/Shower, Patient HC	1	65	65	
19	Activity/Recreation	1	288	288	
20	Quiet Activity	1	100	100	
21	Porch	0.5	160	80	
Subtotal				2,073	

Western State Hospital / Appendix

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Pre Design
Space Program Summary

Mental Health - Adult Units (500 Beds, each unit has two 8-bed subclusters and one 9-bed subcluster)

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Care Admin/Support Cluster

22	Exam Room	1	130	130	Crash cart
23	Seclusion Room	1	100	100	
24	- Ante Room	1	80	80	
25	- Toilet	1	60	60	
26	Phone Alcove	1	30	30	
27	Nursing Station	1	240	240	adj to Charting and Team Report Room, seats 8 staff
28	Charting	1	100	100	3 stns @ 30 sf, an extension of the Team Conference Room
29	Team Conference/Report Room	1	360	360	15-20 seats. Workstation for Treatment Team Coordinator and two touchdown spots. 2 workstations
30	Medication Room	1	140	140	Two AMDU's. Provide two meds pass window. Room may be sed by two nurses at a time. Occasional patients get passed at bedside or elsewhere
31	Tub Room	0.143	120	17	assist tub; resident/patient lift; Arjo-type tub in 2 of 14 units
32	Clean Utility	1	100	100	2 linen exchange carts
33	Soiled Utility	1	80	80	holding for soiled linen, waste
34	Patient Laundry	1	160	160	two washers, 2 driers, folding counter
35	Storage, Equipment	1	80	80	
36	Housekeeping	1	80	80	Add per comments
37	Staff Lockers/Break Room	1	240	240	locked room; incl coat/boot rack, 60 z-shaped lockers, seating for 8-10, kitchenette
38	- Toilet, Staff	2	60	120	
39	Toilet, Visitor	0	60	0	
Subtotal				2,117	

**Western State Hospital, State of Washington
New Forensic Hospital
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**Pre Design
Space Program Summary**

Mental Health - Adult Units (500 Beds, each unit has two 8-bed subclusters and one 9-bed subcluster)

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Neighborhood

Social/Therapy Cluster					
40	Dining Room	25	30	750	
41	Food Services Pantry	1	160	160	Includes re-therm unit for food carts. Has window for beverage service.
42	Toilet, Patient	2	60	120	directly adj to Dining Area
43	Activity/Recreation	1	300	300	Big Screen TV, incl storage cupboards for therapies
44	Group Therapy	1	225	225	seating for 12 - 15
45	Multi-Purpose Room	1	250	250	incl storage cupboards for therapies
46	Classroom/OT RT Activity	1	200	200	
47	Visitors Room/Consultation Room	1	160	160	See treatment mall for enhanced visiting facilities.
48	Comfort Room	1	100	100	
49	Interview/Consultation Rooms	1	120	120	
50	Entrance Vestibule	1	0	0	
Subtotal				2,385	

Western State Hospital / Appendix

**Western State Hospital, State of Washington
New Forensic Hospital
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**Pre Design
Space Program Summary**

Mental Health - Adult Units (500 Beds, each unit has two 8-bed subclusters and one 9-bed subcluster)

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Clinical Team Cluster

51	Office (Nurse Manager)	0.25	120	30	RN-4, Shared by 4 units
52	Office (Nurse Manager)	1	100	100	RN-3, Scheduling Supervisor
53	Workstation (Psychology Associate, Physician)	3.50	64	224	
54	Workstation, Secretarial/ Unit Clerk "Ward Administrator"	1	64	64	may be combined with office equipment below or nursing core TBD
52	Office (Pharmacist)	0.50	120	60	Shared by two units. Co-locate in one room on each floor.
55	- Unit Mailboxes	1	5	5	incl rear access from secretarial above; locked boxes accessible from corridor (staff & pts)
56	- Equipment/Files/Storage	1	100	100	incl filing allocation for itinerant clinical team members
57	Wrkstns, Social Workers, Institutional Counselors	5	64	320	
58	Conference Room	1			see Ref 35 above
59	Toilet, Staff	1	60	60	

Subtotal 963

Total 26-bed Unit 11,430

Department Total Net SF (NSF) 11,430

NSF to DGSF Multiplier 1.66

Departmental Gross SF (DGSF) 18,974

Number of Beds/Unit	25
Number of Units	14
Total Number of Beds	350

TOTAL Net Area 160,022

TOTAL Departmental Gross Area 265,637

Number of Beds	350
DGSF	265,637
DGSF/Beds	759

316,107 Floorplate BGSF

345,327 Real BGSF

3,348 NSF Neighborhood (single)	
1.66 DGSF Multiplier	
5,558 DGSF Neighborhood (single)	
14.00 Number of Units	
77,808 DGSF Neighborhood (Total)	
187,829 DGSF IPU's (Total)	
265,637 Total DGSF	

**Western State Hospital, State of Washington
New Forensic Hospital
Monday, January 27, 2020**

**Pre Design
Space Program Summary**

Patient Therapy/Activity

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Leadership

1	Director of Active Treatment Services	1	120	120	60
2	Therapy Supervisor (Day/Evening)	2	60	120	
3	Workstation, Secretary	1	64	64	
Subtotal				304	

Occupational Therapy

4	Workstations	6	64	384	Care provided in Neighborhood Mall.
Subtotal				384	

Substance Use Disorder Treatment

5	Workstations	8	64	512	
6	Classroom	2	300	600	Seats 8-10 Patients
Subtotal				1,112	

Medical Equipment

7	Workstations, RN	2	64	128	
Subtotal				128	

Community Notifications

8	Workstations	3	64	512	
Subtotal				512	

Staff and Patient Cafeteria

9	Servery	1	720	720	
10	Refrigeration, Storage, Holding	1	300	300	
11	Condiment/Tray Carts	1	80	80	
12	Seating	1	1,350	1,350	seating for 50-75
13	Vending	1	160	160	located outside the café; adj to Social Center
Subtotal				2,610	

Western State Hospital / Appendix

**Western State Hospital, State of Washington
New Forensic Hospital
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**Pre Design
Space Program Summary**

Patient Therapy/Activity

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Leisure Activities

14	Locker/Shower, Male	0	200	0	
15	Toilet, Male	3	60	180	
16	Locker/Shower, Female	0	200	0	
17	Toilet, Female	3	60	180	
18	Gymnasium/Multi-Purpose Room	1	3,600	3,600	
19	Storage, Gym Equipment	1	200	200	
20	Exercise/Fitness Room	1	800	800	6 stations (treadmills, bikes, ellipticals)
21	Movement Studio	2	800	1,600	for movement classes, yoga, etc.; outfitted with wall-mirrors (non-breakable), includes storage for musical instruments
22	Patient supplies	1	100	100	
23	Workstations, Music Therapy	1	36	36	
24	Music Therapy/Treatment Room	1	360	360	larger groups will have access to gym, auditorium
25	Sm. Music Ther. Treatment Rm	1	120	120	
26	Storage, Music Therapy	1	80	80	Secure
27	Comfort Room	2	120	240	
28	Social Center	1	1,600	1,600	games tables, etc.; adj to gym, café & music room; it is assumed this will be the assembly point for patients going to a community event outside the hospital, accommodate 15-20 persons
29	Multi-Purpose Room (Chapel)	1	800	800	Seating for 30; larger worship groups will use Auditorium (e.g. special occasions)
30	Storage, Chapel	1	40	40	
31	Workstation, Chaplain	2	64	128	
Subtotal				10,064	

Life Skills and Vocational Therapy

31	Multi-purpose Room (Art)	2	400	800	8-10 people normally, but accommodate 15, sink, counter, storage
32	Vocational Therapy Workrooms	3	600	1,800	
33	Greenhouse	1	500	500	
34	Workstation, OT	2	64	128	
Subtotal				3,228	

**Western State Hospital, State of Washington
New Forensic Hospital
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**Pre Design
Space Program Summary**

Patient Therapy/Activity

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Speech Language Services

35	Speech Therapy Room	0	160	0	Individual patient sessions will occur on-unit/treatment mall
36	Workstation	2	64	128	
Subtotal				128	

Library/Resource Center

adj to Voc'l Services, below

37	Workstation, Clerical	1	64	64	
38	Library Assessment Workroom	1	360	360	w/ 10 computers @ 30 sf; storage for materials and skills assessment tools
39	Resource Library	1	520	520	a portion of the Library will be for Staff resources not storage on units and/or unavailable on-line; collection will incl DVDs, CDs, VHS, Books, Music Tapes, Pt inform'n
40	Storage, library	1	80	80	
Subtotal				1,024	

Barber/Beauty

41	Waiting Seating	2	20	40	
42	Barber Station	1	64	64	HC accessible
43	Hair wash	1	64	64	
44	Workstation, Hair Stylist	1	64	64	
45	Storage	1	40	40	
Subtotal				272	

Patient Store

46	General Store	1	300	300	
47	- Storage	1	80	80	
Subtotal				380	

**Western State Hospital, State of Washington
New Forensic Hospital
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**Pre Design
Space Program Summary**

Patient Therapy/Activity

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Shared Support

48	Housekeeping	2	80	160	
49	Staff Toilets	4	60	240	
50	Patient/Visitor Toilets	6	60	360	
51	Conference Rooms	1	400	400	
52	Conference Rooms	1	260	260	
53	Wintergarden	1	5,000	5,000	
54	Copy Rooms, Supplies	1	150	150	
55	Team Room	0	300	0	

Subtotal **6,570**

Department Total Net SF (NSF) 26,716
NSF to DGSF Multiplier 1.30
Departmental Gross SF (DGSF) 34,731

Number of Key Rooms	91
DGSF	34,731
DGSF/Key Room	382

Number of Beds	350
DGSF	34,731
DGSF/Bed	99

**Western State Hospital, State of Washington
New Forensic Hospital
Monday, January 27, 2020**

**Pre Design
Space Program Summary**

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Reception/Registration

1	Waiting	1	150	150	10 seats; Shared w/ Clinics & Lab
2	Waiting, Stretcher Patient	0	30	0	alcove
3	Toilet, Patient	1	60	60	
4	Storage, Wheelchair	1	60	60	
5	Reception/Registration	1	140	140	incl work counter for charts; 2 wrkstns @ 64 sf
6	- Crash Cart	1	20	20	
7	Storage, Pt Records, Supplies	1	150	150	
Subtotal				580	

Admissions

8	Vehicle Sallyport	1	600	600	enclosed, secure area, floor drain, etc.
9	Sallyport/Admissions Lobby/Waiting	1	120	120	
10	Exam Room	1	130	130	
11	Admissions Staff Workstations	4	64	256	
12	Patient Intake/Inventory	1	150	150	
13	Interview/Consultation Room	2	150	300	
14	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
15	Soiled Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
16	Nourishment Station	1	40	40	
17	Toilet/Shower, Patient	1	80	80	with shower
Subtotal				1,676	

Clinic

18	Exam Rooms	4	130	520	complement allows 1 room to be allocated for Ophthalmology equipment; wrkstn with computer; configured to provide staff and patient safety. EKG can be rolled into room.
19	Storage room	1	100	100	Mobile diagnostic equipment
20	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
21	Soiled utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
22	Treatment Room	2	180	360	An exam room with overhead light, extra storage space for supplies
23	Clinical Workstation	8	64	512	physicians, nurse practitioner, visiting specialists, intern
Subtotal				1,492	

Western State Hospital / Appendix

**Western State Hospital, State of Washington
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**Pre Design
Space Program Summary**

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Dental Clinic

24	Operator/Exam	1	120	120	Also used for Hygiene
25	Operator/Exam, HC Access	1	140	140	Also used for Hygiene Training
26	Storage, Equipment/Files	1	80	80	
27	Dental Lab	1	80	80	fridge, sterilizer; may be combined with storage
28	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
29	Soiled utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
30	Panorex Alcove	1	60	60	
31	Workstation, Assistant	1	64	64	may be combined with lab above
32	Workstation, Dentist	1	64	64	
Subtotal				608	

EKG

33				0	See Clinic above.
Subtotal				0	

Laboratory

34	Phlebotomy	1	40	40	Blood-taking, reclining chair, use one of the clinic exam rooms, or draw on the unit. Included in Lab space.
35	Laboratory Bays	4	120	480	Hematology, Urology/Serology, General Chemistry, Special Chemistry. (Work counters)
36	Open Laboratory Area	1	400	400	Refrigerator, storage (specimen tubes, etc). Large open space. Need eyewash every 500sf. Locate proximate to medical clinic. Include decontamination shower.
37	Lab offices (workstations)	9	64	576	Located immediately off Lab.
38	Lab waiting	0	40	0	Shared with clinics
39	Storage	1	80	80	
40	Offices	2	120	240	Lab Director, Lab Manager
41	Toilet/Shower, Staff	1	60	60	Include emergency decontamination shower
42	Lab Receiving/Refrigerator	1	80	80	anteroom for lab courier access external to the lab for specimen transport containers, fridge
Subtotal				1,956	

**Western State Hospital, State of Washington
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**Pre Design
Space Program Summary**

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Physical Therapy

43	Office, Director	1	120	120	
44	Workstations, PT	3	64	192	Workstation suite. Surrounded by PT area to allow for observation
	Workstations, OT	1	64	64	Workstation suite. Surrounded by PT area to allow for observation
45	Toilet, Staff	1	60	60	
46	Toilet, Patients	1	60	60	
47	Storage	2	60	120	One for PT equipment and the second for assistive devices, wheelchairs, walkers
48	PT Exercise Area	1	1,800	1,800	Provide handwash station
Subtotal				2,416	

Radiology

49	Radiographic Room	0	360	0	Will not be included in new hospital
50	Alcove, Patient Dressing	0	40	0	
51	Digital Image Review Station	0	80	0	
52	Technician Work Area	0	80	0	
53	Digital Reconstruction	0	64	0	
54	Storage, Film	0	80	0	
Subtotal				0	

Pharmacy

Satellite Pharmacy					
55	Waiting	0	40	0	2 seats
56	Pick-up Counter	1	40	40	
57	Dispensing Area	1	80	80	
58	Cart Holding	1	120	120	carts for transporting meds to Care Units; assume 4 - 6 carts to be held
59	Picking Stations	1	200	200	Incl. Computers and Sink
60	Bulk Storage	1	100	100	
61	Vault, narcotics	0	40	0	may be a wrkstn w/ double-locked cabinet or a walk-in vault
62	Receiving/Breakout	1	120	120	Ordering Computer and Printer
Office Area					
64	Clinical Pharmacist Work area	1	100	100	multi-use area for clinical pharmacist (1 workstations @ 80 sf), reference material, computers
65	Office, Teaching Faculty				
66	Workstations, Pharmacists	0	64	0	
67	Workstation, Techs/Students	1	40	40	
68	Toilet, Staff	1	60	60	
Subtotal				860	

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**Pre Design
Space Program Summary**

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Infection Control and Employee Health Services

69	Office, Employee Health RN	1	130	130	Immunization Room
70	Infection preventionists	2	64	128	
71	Infection Control Manager	0	100	0	
72	Infection Control Director	1	120	120	
73	Industrial Hygienist	1	100	100	
74	Waiting Room	1	150	150	10 seats in waiting
75	Exam/Treatment/Phlebotomy	0	130	0	
Subtotal				628	

Shared Support

76	Clean Utility	1	120	120	supplies cart, linen cart, disposable trays, etc
77	Soiled Utility	1	100	100	incl hazardous waste containers, linen hampers, flushing rim sink, counter w sink, etc
78	Med/Surg Supplies	1	80	80	Secure, locked
79	Toilet, Patient	2	60	120	
80	On-Call Room	2	100	200	
81	On-Call Toilet	2	60	120	3-piece
82	Conference Room	1	180	180	
83	Team Room/Lockers, Staff	1	240	240	
84	Toilet, Staff	4	60	240	
85	Housekeeping	2	80	160	
Subtotal				1,560	

Department Total Net SF (NSF)	11,776
NSF to DGSF Multiplier	1.35
Departmental Gross SF (DGSF)	15,898

Number of Key Rooms	102
DGSF	15,898
DGSF/Key Room	156

Number of Beds	350
DGSF	15,898
DGSF/Bed	45

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**Pre Design
Space Program Summary**

Dietary Support

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Kitchen/Support

1	Receiving/Cart Staging/Holding	0	500	0	See Materials Management
2	Catering Kitchen	0	500	0	
3	Housekeeping Closet	0	60	0	

Office/Staff

4	Dietary Manager	0	100	0	Included below
5	Dieticians	4	64	256	In one office close to units
6	Head Cook/Cooks	0	64	0	

Subtotal **256**
DGSF Factor **1.30**
Total **333**

Department Total Net SF (NSF) 256
Departmental Gross SF (DGSF) 333

Number of Key Rooms	4
DGSF	333
DGSF/Key Room	83

Number of Beds	350
DGSF	333
DGSF/Bed	1

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Pre Design
Space Program Summary

Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Hospital Administration

1	Waiting	8	20	160	
2	Office, CEO	1	150	150	
3	Office, Deputy CEO Clinical	1	120	120	
4	Office, Deputy CEO Admin.	1	120	120	
5	Office, COO	1	150	150	
6	Office, Deputy COO	1	120	120	
7	Office, Deputy Chief Financial Officer	1	120	120	
8	Chief Public Affairs Officer	1	150	150	
9	Chief Quality Officer	1	150	150	
10	Deputy Chief Quality Officer	1	120	120	
11	Chief of Security/Safety	1	150	150	
12	Chief Clinical Officer	1	150	150	Move to Clinical? D. Cruver to follow up
13	Support Staff (Workstation)	11	64	704	
14	Center Director	3	120	360	
15	Workstation, Admin Assist	0	64	0	
16	Storage, Supplies/Files	1	100	100	
17	Wrkstn, Admin Ass't/Clerk	0	64	0	
18	Office, Contr't Admin	1	120	120	
19	Office, Human Rights	1			see Therapy/Activity section
Subtotal				2,944	

Clinical Administration

20	Chief Medical Officer	1	150	150	
21	Deputy Chief Medical Director	1	120	120	
22	Chief of Psychiatry	1	150	150	
23	Center Medical Director	3	120	360	
24	Chief Clinical Officer	1	150	150	
25	Support Staff	5	64	320	
26	- Storage, Supplies/Files	1	100	100	
27	Office, Revenue	0	100	0	
Subtotal				1,350	

Finance Department

28	Office, Staff	1	100	100	
29	Workstation, Staff	6	64	384	
Subtotal				484	

Contracts Management

30	Office, Staff	1	100	100	
31	Workstation, Staff	2	64	128	
Subtotal				228	

Patient Accounts

32	Office, Staff	1	100	100	
33	Workstation, Staff	5	64	320	
Subtotal				420	

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Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Accounts Payable

34	Office, Staff	1	100	100	
35	Workstation, Staff	3	64	192	
Subtotal				292	

Nursing Administration

36	Chief Nursing Officer	1	120	120	
37	Assistant Chief Nursing Officer	1	64	64	
38	Clinical Nurse Specialist	5	64	320	
39	Nurse Educators	7	64	448	
40	Nurse Manager for Education	1	120	120	
41	RN4	4	64	256	Shift Co-ordinators
42	RN3	1	64	64	Admissions
43	Support Staff	2	64	128	
44	Director of Infection Prevention	0	64	0	See Clinical Ancillaries
45	Employee Health/Infection control	0	64	0	See Clinical Ancillaries
46	- Storage, Supplies/Files	1	100	100	
Subtotal				1,620	

assume these are captured in the inpatient program

Nursing Supervisors

47	Shift Supervisors	0	130	0	2 workstations
48	Workstation, Clerk	0	64	0	
49	- Storage, Files/Supplies	0	80	0	
50	After-hours Medicat'n Dispen'g	0	100	0	
Subtotal				0	

Community Program

Locate in 28/29

51	Workstations, Ext Agencies	0	36	0	
52	Office, Housing Service Coord	0	100	0	
Subtotal				0	

Public Relations, Community Educator

all counted in IPU staffing

53	Office, Staff	0	100	0	
54	M Power/Peer Couns'r Wrkstns	0	64	0	
55	Peer Counsel'g Interview Room	0	100	0	
56	NAMI / M Power Office	0	128	0	2 workstations
Subtotal				0	

Human Resources Department

57	Waiting	0	100	0	Shared with other Admin Functions
58	Private Offices	3	100	300	Does not need to be in secure perimeter
59	Shared Office	2	60	120	Two staff share.
60	Payroll Workstation, Clerks	12	64	768	10-20 staff under another admin. Can be offsite.
61	Storage, Supplies/Files	1	160	160	incl 10 cabinets, supplies
62	Personnel Files	1	240	240	incl 15 cabinets, supplies
Subtotal				1,588	

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Space Program Summary

Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Payroll-Time/Leave/Attendance

63	Office	2	100	200	
64	Workstations	12	64	768	
65	Personnel Files	1	240	240	incl 15 cabinets, supplies
Subtotal				1,208	

Employee Engagement

66	Office	1	100	100	
67	Workstations	1	64	64	
68	Storage	1	30	30	
Subtotal				194	

Patients' Rights

69	Workstations	2	64	128	Relocate here from Therapy
Subtotal				128	

Patient Advocate

70	Workstations	3	64	192	Relocate here from Therapy
Subtotal				192	

Court

71	Office, Departmental or On-Site Public Defenders	0	100	0	
72	Judges Chamber	1	120	120	
73	Workstation, Clerk	2	64	128	
74	Office Equipment, Files, etc	1	240	240	incl allocation for 15 file cabinets; balance will be held either in secure files stores area in Materials Management or in Legal's office-site office(s)
75	Security Office	1	100	100	
76	Meeting Space/Phone Room	2	120	240	
77	Court Room	1	570	570	
78	Waiting Room	1	250	250	The pre-function area or a conference room will be used for this purpose, depending on the seating capacity needed.
79	Toilet, Visitors	2	60	120	
Subtotal				1,768	

Volunteer Services

80	Office, Director	1	120	120	Outside Secure Perimeter where accessible to the public.
81	Workstation, Staff	1	64	64	
82	Storage Room/Work Area	1	300	300	Outdoor drop-off box as well.
83	Volunteer's Lounge	0	120	0	Includes Lockers for Volunteers
Subtotal				484	

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Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Lobby Services

84	Lobby Waiting	1	400	400	
85	Visitors Lockers	20	6	120	
86	Visitor's Lounge	0	100	0	
87	Consultation Room	1	160	160	
88	Information Desk	1	80	80	
89	Switchboard	0	0	0	See Information Technology and Integration
90	Main Entrance Sallyport	1	180	0	
91	Staff Sallyport	1	120	0	
92	Visitor Toilets	2	120	240	multi-stall
Subtotal				1,000	

Visiting Center

93	Visiting Room	3	400	1,200	Each accommodates 20 people
94	Security Station	1	120	120	
95	Patient Toilets	2	60	120	
96	Visitor Toilets	2	60	120	
Subtotal				1,560	

Publications

97				0	
Subtotal				0	

Public Disclosure Requests

98				0	
Subtotal				0	

Policy and Forms

99				0	
Subtotal				0	

Quality Coordinators & Survey Management/Compliance

100				0	
Subtotal				0	

Lean & Process Improvement

101				0	
Subtotal				0	

Project Management

102				0	
Subtotal				0	

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 Space Program Summary

Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Clinical Risk Management

103				0	
Subtotal				0	

Abuse & Neglect Call Line

104				0	
Subtotal				0	

Community Support/Case Management

Does not exist at WSH

105				0	
Subtotal				0	

Research

Does not exist at WSH

106				0	
Subtotal				0	

Education & Conferencing

How does this change with NEO moving into leased space?

107	Pre-function Area	1	400	400	
108	Conference Room Anteroom	1	100	100	vestibules with coat racks
109	Conference/Training Room, Large	1	2,000	2,000	130-150 seats; for use for staff, community & DSHS local and reg'l meetings
110	Large Meeting Room/Classroom	2	750	1,500	seats 50 each
111	Catering Kitchenette	1	80	80	
112	AV Storage	1	150	150	secure; accessible from each of the 2 training rooms and 2 meeting rooms
113	Training Rooms	1	600	600	seats 20 at wrkstns
114	Computer Training Lab	1	640	640	20 computer training stations; room may be located decentrally in order to be more conveniently located to hospital staff
115	Storage, Supplies	2	120	240	extra chairs on dollies, portable dias, etc.
116	Toilets, Male	1	240	240	provide 8 wc(s)
117	Toilets, Female	1	480	480	provide 16 wc(s)
Subtotal				6,430	

Staff Development

How does this change with NEO moving into leased space?

118	Office, Manager	1	100	100	
119	Workstation, Admin Secty	2	64	128	
120	- Files, Supplies, Equipment	1	100	100	
121	Workstation, Nurse Instructor	2	64	128	
122	Workstation, Training Coord	4	64	256	Can be placed in groups of two
Subtotal				712	

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Space Program Summary**

Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Forensic Evaluation and Navigation

123	Workstations, Evaluators/Navigators	38	84	3,192	
124	Forensic Navigators	10	84	840	
125	Private Telephone Area	1	64	64	
126	Group Telephone/Meeting Area	1	110	110	Seats 4 (Huddle)
127	Medium Conference Room	1	256	256	Seats 12
128	- Equipment/Files/Storage	1	200	200	incl filing allocation for itinerant clinical team members
129	Toilet, Staff	0	60	0	
Subtotal				4,662	

Office of Forensic Mental Health Services (OFMHS)

supervises the navigators

130	Forensic Audit and Training	6	64	384	
131	Forensic records area	1	100	100	
132	Senior Secretary	1	64	64	
133	Forensic Word Processing	6	64	384	In addition to Forensic Evaluators
Subtotal				932	

Labor Relations

134	Office, Manager	1	100	100	
135	Workstation, Admin Secty	1	64	64	
Subtotal				164	

Video Conference Services

136	Office	2	100	200	
137	Workstations	0	64	0	
138		0	0	0	
Subtotal				200	

Developmental Disabilities Association

139	Office	1	100	100	
140	Workstations	1	64	64	
Subtotal				164	

Home and Community Services

141	Office	1	100	100	
142	Workstations	7	64	448	
Subtotal				548	

Attorney Generals Office

143	Office	1	100	100	
144	Workstations	1	64	64	
Subtotal				164	

BHA Ombudsman

145	Office	1	100	100	
Subtotal				100	

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Administrative Services

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Office of Capital Programs

146	Office	0	100	0	
147	Workstations	4	64	256	
Subtotal				256	

Shared Resources

148	Storage, Photocopy and Filing	2	150	300	
149	Hoteling Workstations	4	36	144	Visiting Staff of 'Integrated Functions' from off site
150	Conference Room (Small)	2	180	360	seats 8 - 10
151	Conference Room (Medium)	2	280	560	seats 14 - 16; see also Information Technology & Integration; incl integrated conferencing
152	Conference Room (Large)	1			see Information Technology & Integration
153	Toilet, Staff	20	60	1,200	
154	Kitchenette/Break Room	4	120	480	
155	Housekeeping	3	60	180	
Subtotal				3,224	

Department Total Net SF (NSF) 33,016
NSF to DGSF Multiplier 1.30
Departmental Gross SF (DGSF) 42,921

Number of Key Rooms	84
DGSF	42,921
DGSF/Key Room	511

Number of Beds	350
DGSF	42,921
DGSF/Bed	123

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Information Technology & Integration

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Information Technology/Telecom/MHIS

1	Server Room (MDF)	1	180	180	
2	Server Room (Security)	1	180	180	
3	Equipment Trialing/Testing	1	400	400	assume 10-20 computers arrive at a time and require preparation/testing
4	Peripheral/Parts Storage	1	180	180	
5	Data Closets			0	incl in Building Gross Area Allocation as an allowance
6	Office	3	120	360	
7	Hoteling Office	3	60	180	
8	Workstations, Network	3	104	312	bullpen work table in middle
9	Workstations, Telephone	5	104	520	bullpen work table in middle
10	Workstations, Development	14	64	896	In a bullpen arrangement with a shared workspace in the middle
11	Workstation, Technicians	9	64	576	In a bullpen arrangement with a shared workspace in the middle
12	Shared Workspace	2	240	480	Integrated with staff workstations
Subtotal				4,264	

Department Total Net SF (NSF)	4,264
NSF to DGSF Multiplier	1.30
Departmental Gross SF (DGSF)	5,543

Number of Key Rooms	43
DGSF	5,543
DGSF/Key Room	129

Number of Beds	350
DGSF	5,543
DGSF/Bed	16

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Pre Design
Space Program Summary

Quality

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Medical Records

Departments/Programs under HIMS Director: IT & Integration

1	Office, Medical Rec Director	1	120	120	
2	Office, Supervisor	2	100	200	
3	Workstation	14	64	896	
4	Hoteling Workstation	2	36	72	for clinical team members needing individual short term desk space, in a separate room
5	Equipment, Supplies	1	150	150	high speed copier & scanner, fax, paper, etc.; may be co-located with staff wrkstns
6	Scanning/Repro Room	1	220	220	
7	Microfilm Room	1	250	250	
8	Chart Completion Area	1	80	80	shelving, worktable, computers
9	Records Room	1	750	750	capacity for approximately 2,800 - 3,000 lin ft of records using high density shelving
10	Review Room	1	180	180	Release of Information, Transition Team records review, chart research, etc.
11	Study/External Agencies	1	180	180	dual access from external corridor and Dept
Subtotal				3,098	

Release of Information

Departments/Programs under HIMS Director: IT & Integration

Included within Medical Records

12		0	0	0	
Subtotal				0	

Records Retention

Departments/Programs under HIMS Director: IT & Integration

Included within Medical Records

13		0	0	0	
Subtotal				0	

Research, Evaluation & Data Analysis

Department under REDA Director: IT & Integration

14	REDA Director	1	120	120	
15	REDA Staff	4	64	256	
Subtotal				376	

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**Pre Design
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Quality

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Quality Administration

Departments under Policy and Operations Director:
Administration

16	Information/Public Disclosure Requests				
17	Workstations	1	64	64	This staff will not reduce in new facility
18	Policy and Forms	0	0	0	
19	Workstations	2	64	128	
20	Publications	0	0	0	Outside secure perimeter
21	Workstations	2	64	128	
22	Pre-Press Area	1	300	300	
23	Press/High Speed Copier	1	420	420	
24	Collation/Binding	1	225	225	
25	Packing/Shipping	1	160	160	Equipment and required space (outside secure perimeter)
26	Mail Room	1	264	264	2 Staff. Is this in addition to the mail room in Facilities?
Subtotal				1,689	

Quality Coordinators & Survey Management/Compliance

Department under Certification & Accreditation:
Administration

Confirm staffing and accommodations.
Does some of what is here belong to other quality categories?

27	QC Director	1	120	120	
28	QC Manager	0	100	0	
29	Quality Coordinators	2	64	128	
30	QLT Director	0	120	0	
31	Office, Program Coord/RN	0	100	0	
32	Office, Compliance Officer	0	100	0	
33	Office, Risk Mgmt	0	100	0	
34	Office, Compl'ts Review Coord	1	100	100	
35	Office, Utilization RN	1	100	100	
36	Workstation, Admin Asst/Clerk	3	64	192	
37	- Files, Supplies, Equipment	1	100	100	
38	Workstation, Nursing Instructor	1	64	64	
39	Conference Room	1	180	180	seats 8 - 10
40	Storage, Investigative Reports	1	80	80	sized for approximately 6 filing cabinets; may be combined with equip't room above
Subtotal				1,064	

Lean & Process Improvement

Departments/Programs under Quality & Lean Transformation Director: Administration

Confirm staffing and accommodations.

41	Offices, Quality and Lean Transformatio	1	120	120	
42	Workstations, Quality and Lean Transfor	4	64	256	
43				0	

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Space Program Summary

Quality					
Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
Subtotal				376	
Project Management					
<i>Departments/Programs under Quality & Lean Transformation Director: Administration</i>					Confirm staffing and accommodations.
44	Offices	0	120	0	
45	Workstations	0	64	0	
Subtotal				0	
Clinical Risk Management Team					
<i>Department/Programs under the Clinical Risk Management Director: Administration</i>					Confirm staffing and accommodations.
46	Offices, CRM Director	1	120	120	
47	Workstations, CRM Staff	2	64	128	
Subtotal				248	
Abuse and Neglect Call Line					
<i>Department/Programs under the Clinical Risk Management Director: Administration</i>					Confirm staffing and accommodations.
48	Offices	0	120	0	
49	Workstations	0	64	0	
Subtotal				0	
Investigations					
					Confirm staffing and accommodations.
50	Offices	2	120	240	
51	Workstations	4	64	256	
Subtotal				496	
Utilization Management					
					Confirm staffing and accommodations.
52	Offices	1	120	120	
53	Workstations	2	64	128	
Subtotal				248	
Enterprise Risk Management					
					Confirm staffing and accommodations.
54	Offices	1	120	120	
55	Workstations	2	64	128	
Subtotal				248	
Shared Support					
56	Audio/Video Control, Editing	0	180	0	educational video material, digital editing, audio-video teleconferencing control
57	Conference Rooms	2	180	360	
58	Huddles Small Meeting Rooms	2	80	160	
59	File Rooms/Office Equipment	3	150	450	
60	Housekeeping	1	60	60	
61	Toilets, Staff	5	60	240	
62	Staff Break Room	1	240	240	
Subtotal				1,510	

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Pre Design
Space Program Summary

Quality

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Department Total Net SF (NSF)	9,353
NSF to DGSF Multiplier	1.30
Departmental Gross SF (DGSF)	12,159

Number of Key Rooms	87
DGSF	12,159
DGSF/Key Room	140

Number of Beds	350
DGSF	12,159
DGSF/Bed	35

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Pre Design
Space Program Summary

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
	Environmental Services				
1	Director	1	120	120	
2	Supervisor/Planner	0	100	0	
3	Custodial supervisor workstation	2	64	128	in two rooms
4	Workstation, Admin	1	64	64	in one room
5	Storage, Files	1	40	40	
6	Storage, Bulk Supply	1	400	400	Cleaning Supplies
7	Storage, Equipment	5	320	1,600	One large equipment storage area per floor (min). Eye wash and venting required.
8	Equipment Cleaning	1	140	140	Floor drain, exhaust
9	Decentralized Housekeeping Closets	0	0	0	(See individual Departmental Space Programs for NSF) floor sink, utility sink, supplies, mops, cleaner's carts, etc.
	Subtotal			2,492	

Laundry/Linen

10	Specialty Laundering	1	150	150	Semi-commercial washer & dryer
11	Supervisor's Workstation	1	80	80	
12	Workstation, Clerical	1	64	64	
13	Clean Linen	1	392	392	
14	Soiled Linen	1	392	392	
15	Storage	1	400	400	
	Subtotal			1,478	

Physical Plant/Maintenance

16	Office, Director	1	100	100	
17	Office, Safety Manager for Maintenance Staff				
18	Workstations, Staff	9	64	576	
19	Storage/Equipment	1	60	60	
20	Key Room	1	60	60	
21	Hoteling Workstations	2	40	80	
22	Plan Room	1	225	225	
23	General Shop	1	2,800	2,800	
24	Carpentry	1	800	800	
25	Plumbing/Mechanical	1	650	650	
26	Electrical	1	450	450	
27	HVAC Shop			0	included in MEP Shop
28	Glass Shop			0	included in Carpentry
29	Life Safety Shop			0	distributed between MEP and Electrical
30	Locksmith	1	160	160	
31	Painting	1	375	375	
32	Bulk Storage, Maint. Supply	1	1,000	1,000	
	Subtotal			7,336	

Physical Plant/Maintenance Depot

33	Storage/Equipment	1	60	60	may be combined with clerical above
34	Key Room	1	60	60	
35	Hoteling Workstations	1	36	36	Contractors, staff, others
36	Decentral Maintenance Depots	1	200	200	workbench, supplies
	Subtotal			356	

**Western State Hospital, State of Washington
New Forensic Hospital
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**Pre Design
Space Program Summary**

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Transportation and Grounds					
37	Supervisor's Workstation	1	80	80	
38	Workstation, Clerical	1	64	64	
39	Storage	1	1,920	1,920	
40	Garage Service Bays	2	300	600	
41	Grounds Equipment Staging & Repair	1	1,900	1,900	
42	Gas/Diesel Pumps	0	0	0	
43	Dispatch/Drivers Wait Area	1	150	150	
Subtotal				4,714	

Central Medical Supply

44	Office, Supervisor	0	100	0	
45	Workstation	0	64	0	
46	Clean-up Room	0	120	0	
47	Shelved Storage	0	250	0	
48	Palette/Open Storage	0	700	0	
49	Cart Stocking/Storage	0	250	0	
Subtotal				0	

Switchboard/Telecom Center/Reception

50	Office, Supervisor	1	100	100	
51	Comm Dispatch Wrkstn	2	64	128	incl 1 wrkstn as back-up/future use
52	Wrkstns-Phone Communic'n/ Emergency Phone	1	100	100	incl annunciator panels, 1 wrkstn @ 64 sf
53	Storage/Files	1	80	80	
Subtotal				408	

Fire Alarm & Dispatch

54				0	
Subtotal				0	

Emergency Command Center & Supplies/Services

55	Office, Director	1	100	100	
56	Workstation	1	64	64	
57	Secure Telecomm Room and Supply	1	160	160	
58	Command Center	1	400	400	Can be used for day to day conferencing
59	Bulk Emergency Supplies			0	See Warehouse
Subtotal				724	

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Pre Design
Space Program Summary

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Security and Safety					
60	Office, Security Supervisor	1	100	100	
61	Office Security Scheduler	1	100	100	
62	Key Management	0	100	0	In control center
63	VRT PERT Administrator	1	100	100	
64	PERT Supervisor	2	100	200	
65	VRT Supervisor	1	100	100	
66	Director of Security	0		0	See Administration
67	Director of Emergency Management	0		0	Not in building
68	Safety Manager	1	100	100	
69	Community Notification Officer	1			
70	Control Center/General Office	1	370	370	4 wrkstn @ 64 sf plus control panels, monitoring screens
71	Security staff office	3	100	300	Space for security at each floor
72	Recording/Tape Review/Report	1	180	180	Include employee ID
73	Escort	2	64	128	
74	Toilet, Staff	2	60	120	
75	Lockers, Staff (Male & Female)	2	60	120	5 lockers in each room, storage of uniforms, supplies, etc.
76	Emergency Preparedness Supplies	0		0	see Materials Management above
Subtotal				1,918	

Materials Management (Campus Annex)

77	Office, Supervisor	0	100	0	
78	Loading Dock	1	1,500	750	Incl Dock Area, outdoor covered space
79	Breakdown/Unloading Area	1	1,000	1,000	
80	Palletized Storage	1	7,600	7,600	
81	Shelf Storage	1	3,200	3,200	
82	Maintenance Storage	1	1,900	1,900	
83	Patient Storage	1	1,000	1,000	Limit to five boxes per patient; approx 280 patients; stacking system for 4 - 5 boxes high
84	Emergency Preparedness Supplies	1	600	600	incl 300 cots, dehydrated food, water, etc (72 hours supply)
85	Oxygen Storage	1	80	80	3-4 H tanks, 30-40 e-tanks, enclosed room on external wall
86	Trash Compactor	0	100	0	outside the building at the dock area
87	Recycling Center	0	300	0	outside the building at the dock area
88	Biohazard Waste Holding	1	60	60	
Subtotal				16,190	

**Western State Hospital, State of Washington
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**Pre Design
Space Program Summary**

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Materials Management (in Building)					
89	Office, Supervisor	0	100	0	
90	Loading Dock	1	600	300	Incl 2 Dock Area, outdoor covered space
91	Breakdown/Unloading Area	1	400	400	
92	Patient Storage	1	1,000	1,000	Limit to five boxes per patient; approx 280 patients; stacking system for 4 - 5 boxes high
93	Emergency Preparedness Supplies	0	600	0	incl 300 cots, dehydrated food, water, etc (72 hours supply)
94	Oxygen Storage	1	80	80	3-4 H tanks, 30-40 e-tanks, enclosed room on external wall
95	Trash Compactor	0	100	0	outside the building at the dock area
96	Recycling Center	0	300	0	outside the building at the dock area
97	Biohazard Waste Holding	1	60	60	
98	Mail Room/Print Shop	0	240	0	See Quality
99	- Wrkstrn, Printing/Mail Staff	0	64	0	may be combined with the Mail Room/Print Shop above
Subtotal				1,840	

Shared Support and Employee Locker/Restroom

100	Breakroom, Staff	1	400	400	Share with Mat Mgmt, Dietary & Physical Plant; kitchenette, seating for 8 - 10
101	Conference Rooms	1	180	180	seating for 8-12
102	Copiers and Office Supplies	1	150	150	
103	Housekeeping	1	60	60	
104	Toilet, Staff	4	60	240	
105	Locker Rooms (Male, Female)	2	500	1,000	150 lockers total between 2 rooms
106	- Toilet/Shower, Staff	2	120	240	
Subtotal				2,270	

Department Total Net SF (NSF) 39,726
NSF to DGSF Multiplier 1.15
Departmental Gross SF (DGSF) 45,685

Number of Key Rooms	103
DGSF	45,685
DGSF/Key Room	444

Number of Beds	350
DGSF	45,685
DGSF/Bed	131

Western State Hospital / Appendix

Western State Hospital, State of Washington
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Pre Design
Space Program Summary

Space Leased to Others

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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Department of Assigned Council

1	Office, Staff	2	100	200	
2	Workstation, Staff	0	64	0	
Subtotal				200	

Fort Steilacoom Historical Society

3	Office, Staff	2	100	200	
4	Workstation, Staff	4	64	256	
Subtotal				456	

Clover Park @ CSTC

5	Office, Staff	1	100	100	
6	Workstation, Staff	3	64	192	
Subtotal				292	

NorthWest Justice

7	Office, Staff	4	100	400	
8	Workstation, Staff	6	64	384	
Subtotal				784	

Pierce College Central TRC & Bldg 25

9	Office, Staff	1	100	100	
10	Workstation, Staff	3	64	192	
Subtotal				292	

Pierce County Court (C-17)

Is this the same court as in Legal services in Administration?

11	Office, Staff	1	100	100	
12	Workstation, Staff	3	64	192	
Subtotal				292	

RSN-Residential Service Network

13	Office, Staff	1	100	100	
14	Workstation, Staff	3	64	192	
Subtotal				292	

SILAS

15	Office, Staff	2	100	200	
16	Workstation, Staff	7	64	448	
Subtotal				648	

Washington State Library

17	Office, Staff	1	100	100	
18	Workstation, Staff	0	64	0	
Subtotal				100	

Western State Hospital, State of Washington
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Pre Design
Space Program Summary

Space Leased to Others

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
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WSH Historical Society

19	Office, Staff	2	100	200	
20	Workstation, Staff	4	64	256	
Subtotal				456	

Department of Corrections

21	Office, Staff	1	100	100	
22	Workstation, Staff	2	64	128	
Subtotal				228	

Shared Resources

23	Storage, Photocopy and Filing	2	150	300	
24	Hoteling Workstations	4	36	144	Visiting Staff of 'Integrated Functions' from off-site
25	Conference Room (Small)	2	180	360	seats 8 - 10
26	Conference Room (Medium)	2	280	560	seats 14 - 16; see also Information Technology & Integration; incl integrated conferencing
27	Conference Room (Large)	1			see Information Technology & Integration
28	Toilet, Staff	4	60	240	
29	Kitchenette/Break Room	2	120	240	
30	Housekeeping	1	60	60	
Subtotal				1,904	

Department Total Net SF (NSF) 5,944
NSF to DGSF Multiplier 1.30
Departmental Gross SF (DGSF) 7,727

Number of Key Rooms	84
DGSF	7,727
DGSF/Key Room	92

Number of Beds	350
DGSF	7,727
DGSF/Bed	22

**Western State Hospital, State of Washington
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**Pre Design
Space Program Summary**

Mechanical, Electrical, Utilities and Connectors

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Mechanical/Electrical/Utility Spaces

1	Elevator Machine Rooms	4	150	600	
2	Water Service Entry	1	275	275	
3	Fire Service/Pump	1	500	500	
4	Main Plumbing Services	1	400	400	
5	Wet Mechanical Room	1	1,275	1,275	
6	Boiler Room	1	2,500	2,500	
7	Chiller Room	1	1,600	1,600	
8	Substation/Switchgear Room	1	1,800	1,800	
9	Emergency Generator	1	2,500	2,500	
10	Boiler/Chiller Control Room	1	400	400	
11	Emergency Electric Switchgear	1	600	600	
12	HVAC Penthouses	1s	1s	20,000	
13	Data/Communications Panel Rooms	12	140	1,680	
14	Electrical Panel Rooms	12	100	1,200	
Subtotal				35,330	

Department Total Net SF (NSF)	35,330
NSF to DGSF Multiplier	1.15
Departmental Gross SF (DGSF)	40,630
DGSF to BGSF Multiplier	1.10
Departmental Gross SF (DGSF)	44,692

Applicable Codes and Standards

The project is designed in accordance with the following building and material codes:

Building Code

- *City of Lakewood Municipal Code anticipated adoption of the 2018 International Building Code and state amendments.*
- Design Loads: American Society of Civil Engineers, *Minimum Design Loads for Buildings and Other Structures*, 2016 Edition (ASCE 7-16).

Material Codes

- Reinforced Concrete: American Concrete Institute, *Building Code Requirements for Structural Concrete and Commentary*, 2014 Edition (ACI 318-14).
- Structural Steel: American Institute of Steel Construction, *Specification for Structural Steel Buildings*, 2016 Edition, AISC 360.
- Structural Steel: American Institute of Steel Construction, *Seismic Provisions for Structural Steel Buildings*, 2016 Edition, AISC 341.

Existing Documentation

- *Subsurface Exploration, Geologic Hazard, Infiltration Study, and Geotechnical Engineering Report for Western State Hospital New Patient Support Center Project No. 040805E001 dated September 27, 2017.*
- *Preliminary Geotechnical Considerations Western State Hospital Campus Improvements Lakewood, Washington File No. 19476-002-00 dated April 28, 2020*

Existing Conditions

- The proposed site for the WSH is located north of Steilacoom Blvd SW, East of Sentinel Drive.



Figure 1. Site Overview courtesy of Google Earth

Loading Criteria

A summary of the project-specific loading criteria follows. This loading meets or exceeds the requirements of the IBC and incorporates loading requirements specific to this project.

Gravity Loading

The following loads are in addition to the self-weight of the structure. The minimum loading requirements have been taken from Table 1607.1 of the IBC. Live loads are reduced where permitted in accordance with Section 1607.11. Loads are given in pounds per square foot (psf).

Table 1. Gravity Loads

Use	Live Loading	Concentrated Loads (lbs)	Superimposed Dead Loading	Note
Corridors and Stairs	100 psf (not reduced)	1000	30 and 10 psf	1
Lobbies	100 psf (not reduced)	2000	40 psf	2
Typical Interior Patient Rooms and Support Space	<i>40 psf + 20 psf partitions</i>	2000	30 psf	
Typical Clinic and Support Space	<i>d60 psf + 20 psf partitions</i>	2000	30 psf	
Mechanical/Electrical	125 psf (not reduced)	4000	65 psf	3
Storage (light)	125 psf (not reduced)	2000	30 psf	
Heavy Landscape	100 psf	5000	475 psf	4
Loading Dock/Drop-Off Area	250 psf or Fire Truck	16000	100 psf	5
Roof	25 psf + Snow Drift	2000	25 psf	

Notes:

1. The SDL for corridors and stairs will be 30 psf and 10 psf, respectively.
2. The SDL for lobbies includes an allowance for heavy floor finishes.
3. The live load for mechanical is 125 PSF or actual equipment weight plus 50 psf for the surrounding space, whichever is greater. The SDL for mechanical rooms is 65 psf to account for housekeeping pads and MEP below the floor.
4. Landscape loading accounts for 4 feet of soil depth at a saturated density of 90 PCF.
5. Fire truck loading will account for HS-20 loading and outrigger loads from ladder trucks (45 kips).



In addition to these uniform slab loads, a perimeter dead load is applied to the structure to account for the weight of the cladding system.

Table 2. Cladding Loads

Load Type	Load (psf)
Exterior Cladding (curtain wall or metal panel)	15 psf (wall area)
Exterior Cladding (brick with CMU backing or Insulated precast)	130 psf (wall area)

Snow Design Criteria

Snow loading is in accordance with the IBC requirements using Chapter 7 of ASCE 7. Snow drifting, unbalanced loading, and partial loading are considered in the design of the roof framing.

Table 3. Snow Design Criteria

Parameter	Value
Ground Snow Load (P_g)	20 psf
Risk Category	IV
Terrain Category	B
Exposure	Partially Exposed
Snow Exposure Factor (C_e)	1.0
Thermal Factor (C_t)	1.0
Importance Factor (I_s)	1.2
Flat Roof Snow Load (P_f)	25 psf

Wind Design Criteria

Wind loading is in accordance with the IBC requirements.

Table 4. Wind Design Criteria

Parameter	Value
Basic Wind Speed, 3-second gust (Ultimate)	108 mph
Risk Category	IV

Appendix A-5: Structural Narrative

Parameter	Value
Exposure	B
Enclosure Classification	Enclosed

Seismic Design Criteria

Seismic loads are in accordance with the IBC requirements. The seismic forces for the region will generally be increasing in the 2018 IBC code due to recently discovered basin effects. We have attempted to include the future code information in the following tables. Seismic parameters are estimated from NERP <https://www.wbdg.org/additional-resources/tools/bssc2020nehrp>

Table 5. Seismic Design Criteria from NERP 2020

SEISMIC DATA (RISK CATEGORY IV – SITE CLASS D)									
PGA_{adj}	S_{MII}	S_{M1}	S_{DS}	S_{D1}	T_1	S_s	S_1	SDC	$V_{site}(m/s)$
0.6	1.62	0.96	1.08	0.64	6	1.5	0.46	D	260

Table 6. Seismic Design Criteria

Parameter	Value
Building Latitude	47.177778°N
Building Longitude	122.57167°W
Risk Category	IV
Importance Factor (I_e)	1.5
Mapped Spectral Acceleration	$S_s = 1.5$; $S_1 = 0.460$
Site Class	D (assumed based on geotechnical data available from adjacent sites)
Site Class Coefficients	$F_a = 1.00$; $F_v = 1.84$
Spectral Response Coefficients	$S_{DS} = 1.08$; $S_{D1} = 0.640$
Seismic Design Category	D

Serviceability Issues

Floor Vibration

Floor motion induced by building occupants is a critical serviceability issue for both human comfort and sensitive equipment common to hospitals. A vibration-based analysis that takes into account the framing members and layout as a system, not simply individual members, should be incorporated into the design of all floor-framing systems. The criteria used for analysis and design are based on the American Institute of Steel Construction recommendations outlined in "AISC Steel Design Guide 11 – Vibrations of Steel-Framed Structural Systems Due to Human Activity (Second Edition)." The floor systems will be designed considering the recommended maximum peak floor accelerations for human comfort, and investigated for vibration sensitivity associated with walking excitation (normal walking activities).

The vibration-based analysis and design approach will not eliminate floor vibrations. The recommended peak acceleration limits are based on human sensitivity and perception levels to floor motions in particular environments. The resulting vibration levels will be perceptible but within the comfort level of most occupants. The acceleration design criteria for the project will be 0.5%g consistent with human comfort.

Acoustics-Affecting Structure

Areas that may require increased structural mass to dampen acoustical transfer are areas below and above mechanical rooms. Often 8-inches of concrete is required in order to provide this acoustical mass. This can be accomplished with structural slabs or increased concrete thickness on metal deck. Concrete pads under air handlers and separation structure for chillers are also considerations. Generator rooms may also require thickened structural slabs along with isolation pads under the generator equipment.

Floor Deflections and Camber

Allowable floor deflections are based on generally recognized values. Maximum live load deflections are limited to the span length in inches divided by 360. Maximum total deflections (due to dead loads and live loads) are limited to the span length in inches divided by 240. Framing and slab edges that support curtain walls, elevator sills, and other deflection-sensitive elements will be stiffened to further reduce live load deflections such that variable live load is limited to 1/2 inch.

Cambering of the steel floor beams and concrete slabs will be incorporated into the design. The specified camber is not intended to provide a perfectly level floors; its purpose is to limit the amount of expected dead load deflections to within the maximum values outlined above.

Floor Finish Specifications

Floor flatness and levelness are specified using industry standard "F" numbers. F_f indicates the degree of floor flatness, a measure of a floor's local surface "bumpiness" that is controlled mainly by the type and degree of finishing used. F_l indicates the degree of floor levelness, a measure of a floor's tilt or pitch that is controlled mainly by the type of forming used.

For slabs on grade and for shored flat construction, both the F_f and F_l numbers can be specified. For elevated decks of unshored composite steel floor systems, American Concrete Institute specifications do not allow levelness numbers to be specified; only F_f numbers can be specified, since tolerances for erected steel frames are not consistent with those for formwork in cast-in-place frames.

An F_f number of 25 will be specified for all levels. This degree of flatness is consistent with industry practice.

Materials

The material properties used for the design include the following:

Table 7. Structural Steel Properties

Member	Standard, Strength
Wide Flange Shapes	ASTM A992, $F_y = 50$ ksi ASTM A913, $F_y = 50$ ksi
Tube Sections, Rectangular or Square	ASTM A500, Grade C, $F_y = 50$ ksi
Tube Sections, Round	ASTM A500, Grade C, $F_y = 46$ ksi
Pipe Sections	ASTM A53, Type E or S, Grade B, $F_y = 35$ ksi
Angle and Channel Sections	ASTM A36, $F_y = 36$ ksi
Miscellaneous Plates and Connection Material	ASTM A572, $F_y = 50$ ksi ASTM A588, $F_y = 50$ ksi
High-Strength Bolts	
7/8" diameter and smaller	ASTM A325
1" diameter and larger	ASTM A490

Table 8. Concrete Properties

Member	28-Day Strength
All	$f'_c =$ see quantities section

Table 9. Reinforcement Properties

Standard	Strength
ASTM A615, Grade 60	$f_y = 60$ ksi
ASTM A615, Grade 80	$f_y = 80$ ksi

Construction

Foundations

Site Geology

We reviewed the 2017 geotechnical report for the West State Hospital New Patient Support Center as well as the 2020 preliminary report by GeoEngineers. The report for Support Center indicated 15 ft of fill material was observed. Below the fill material, native medium dense sand with gravel was observed and interpreted as outwash sediments, commonly referred to as Steilacoom gravel.

Based on available geotechnical information and review of existing building foundation types, the foundation is anticipated to consist of reinforced concrete spread footings under the columns. Continuous strip footings at basement and frost walls are anticipated. Reinforced concrete mat foundations are anticipated under the lateral system elements. The allowable bearing capacity of the geotechnical report referenced was 3,000 to 3,500 psf on native soils. In our experience higher bearing pressures are feasible and anticipated to be 6,000 psf or higher. Conversations with GeoEngineers indicated that bearing pressures up to 12,000 psf may be viable with site specific geotechnical analysis. If bearing pressures of 6,000 psf are not attainable, footing sizes would increase proportionately.

Excavation to the native soil is recommended to achieve higher bearing pressures. Should the cost of excavation warrant using the fill for bearing of the footings, soil improvements like soil mixing may be recommended. This should be an item addressed by the geotechnical report.

Gravity Framing

Structural framing options for the WSH should be studied during schematic design. Factors such as cost, constructability, architectural impacts, and future flexibility should be considered. The final system will need to be coordinated as the design evolves and with incorporation of WSH's future flexibility needs.

Using an assumption of a 36-foot and a 26-foot orthogonal grid, a 10-inch cast in place concrete with post tensioned slab was determined to be the most effective structural system. This system will achieve a 2-hour fire rating. Spans exceeding 36 feet will require wide shallow beam framing or increased slab thickness proportional to the span. The predesign team reviewed several options and a matrix analysis follows in figure 2.

WSF Selection Matrix for Structural Systems

No.	Evaluation Criteria	Weighting Factor	Preferred																	
			Scheme 1		Scheme 2		Scheme 3		Scheme 4		Scheme 5		Scheme 6		Scheme 7		Scheme 8		Scheme 9	
			Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value
			14-inch Slab		10-inch Slab		7-inch Slabs / 14-inch Wide Slab Beams		8-inch Slabs / 8-inch Drop Ceil		10-inch Slabs / 20-inch Wide Slab Beams		9-inch Slabs / 18-inch Wide Slab Beams		7 1/2-inch Deck / 27-inch Beams		7 1/2-inch Deck / 21-inch Beams		7 1/2-inch Deck / 18-inch Beams	
A Constructability/Architectural																				
1	Flexibility in Fast Track Design	5	1.05	5.3	1.05	5.3	1.05	5.3	1.05	5.3	1.05	5.3	1.05	5.3	1	5.0	1	5.0	1	5.0
2	Floor Flatness & Levelness	4	1.05	4.2	1.1	4.4	1.05	4.2	1.05	4.2	1	4.0	1	4.0	1	4.0	1.1	4.6	1.03	4.1
3	Ability to express structure and eliminate additional finishes	6	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	0.9	5.4	0.9	5.4	0.9	5.4
4	Impact of floor openings on finishes due to thermal shrinkage	4	1	4.0	1.05	4.2	1	4.0	1	4.0	1	4.0	1	4.0	0.95	3.8	0.95	3.8	0.95	3.8
5	Acoustic separation (potential for added costs, value of exceeding minimum requirements)	4	1	4.0	1	4.0	1	4.0	1	4.0	1	4.0	1	4.0	0.95	3.8	0.95	3.8	0.95	3.8
6	System Accommodation of Exterior Cladding	3	1	3.0	0.9	2.7	1	3.0	1	3.0	1	3.0	1	3.0	0.95	2.9	0.95	2.9	0.95	2.9
7	Ease of accommodating slab penetrations in design & construction	9	1	9.0	0.95	2.9	1	9.0	1	9.0	1	9.0	1	9.0	1.1	3.3	1.1	3.3	1.1	3.3
8	Ease of installing horizontal systems during construction	5	1.05	5.3	1.05	5.3	1	5.0	1	5.0	0.98	4.9	0.98	4.9	0.95	4.8	0.95	4.8	0.95	4.8
9	Ease of making attachments to the ceiling	1	1	1.0	0.95	1.0	1	1.0	1	1.0	1	1.0	1	1.0	0.98	1.0	0.98	1.0	0.98	1.0
10	Schedule impacts based on availability and lead time	6	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	0.95	5.7	0.95	5.7	0.95	5.7
11	Schedule impacts based on speed of construction and tolerance for adverse weather	7	1	7.0	1.02	7.1	1	7.0	1	7.0	1	7.0	1	7.0	1.1	7.7	1.1	7.7	1.1	7.7
12	Shipping needs, impact on campus	1	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0
Subtotal			49.7		49.7		49.5		49.5		49.2		49.2		48.4		48.4		48.4	
Item A Normalized score to 50%			30.4		30.4		30.2		30.2		30.0		30.0		29.5		29.5		29.6	
B Cost																				
Estimate Structural Cost Per Square Foot			\$37.10		\$31.26		\$33.35		\$33.86		\$38.10		\$30.66		\$38.10		\$35.96		\$47.46	
13	Quantitative structural costs (including foundations, beam penetrations, & rebar) - Structural Depth (inches)	7	1.07	7.5	1.28	8.9	1.23	8.6	1.21	8.5	1.10	7.7	1.22	8.6	0.69	4.8	0.78	5.5	0.84	5.9
Subtotal			10.4		12.9		11.5		11.0		10.8		9.7		10.8		9.9		11.6	
Item B Normalized score to 50%			53.8		67.3		59.7		57.2		50.5		56.0		31.9		38.8		38.7	
C Future Flexibility																				
15	Flexibility for future space planning (e.g. accommodating increased loads)	2	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1.05	2.1	1.05	2.1	1.05	2.1
16	Ease of accommodating slab penetrations in future	6	0.95	5.7	0.9	5.4	0.95	5.7	0.95	5.7	0.95	5.7	0.95	5.7	1	6.0	1	6.0	1	6.0
17	Ease of rebar systems in future (horizontal)	4	1.05	4.2	1.05	4.2	1	4.0	1	4.0	1	4.0	0.9	3.6	0.95	3.8	0.95	3.8	0.95	3.8
18	Vibration Control	1	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0
Subtotal			12.9		12.6		12.7		12.7		12.7		12.7		12.9		12.9		12.9	
Item C Normalized score to 50%			26.4		26.8		26.9		26.9		26.9		26.9		26.2		26.2		26.2	
Total Score:			104.5		117.4		109.8		107.3		100.5		108.9		80.4		85.6		88.5	

Figure 2: Matrix Structural Analysis for Patient Room Framing

The administrative spaces are anticipated to be steel framed to achieve longer spans. Depressed deck and steel framing is anticipated to require fireproofing. The columns are expected to be W12 shapes, though the final size can be tuned to meet program space requirements. Camber of approximately 3/4 inch will be required at the longer spans. Sleeves at composite deck can accommodate future vertical slab penetrations.

The office space has been considered as cross laminated timber framing (CLT) on glulam beams and columns. A 2-inch topping slab would be provided for floor finishes. CLT could be 5 ply (~7.5-inches) with 8x24 glulam beams and columns. This system is relatively new and would require coordination with the available trades; however, the use of these systems is expanding and it is anticipated that at the time of the material procurement a more competitive market will exist.

Gravity framing quantities are provided in Table 10 Structural Quantities.

Lateral Force-Resisting System

The proposed WSH is a 3-story building with a variable floor-to-floor height. Lateral forces due to wind and seismic loads will be carried by the floor diaphragms to special reinforced coupled concrete shear walls which will deliver these forces to the foundation system. The seismic base of the building is expected to be near the grade level. The shear forces at the base will be resisted by a combination of passive soil resistance and sliding friction.

In order to maximize program space, it is anticipated that the special reinforced ductile shear walls will be situated around the building's perimeter in Figure 3. These walls resist wind and seismic forces in an east west orientation. Located at the perimeter they minimize torsion and are a parallel system which allows for some reduction in seismic loading. Shear walls may be anticipated as 112 lineal feet by 18 inch average thickness.

The floor diaphragms connecting the walls are expected to contain quantities of collector/chord reinforcement in order to deliver lateral forces to the walls.

For the administrative and office spaces buckling restrained braced frames (BRB) are proposed. Where architecturally feasible, CMU walls may be provided in lieu of the BRB's.

Reinforcing quantities are in accordance with Table 10 Structural Quantities.

Anticipation of future code and increased seismic forces are estimated from NERP and ASCE 7-16. The calculated seismic response spectrum is provided in Figure 4.

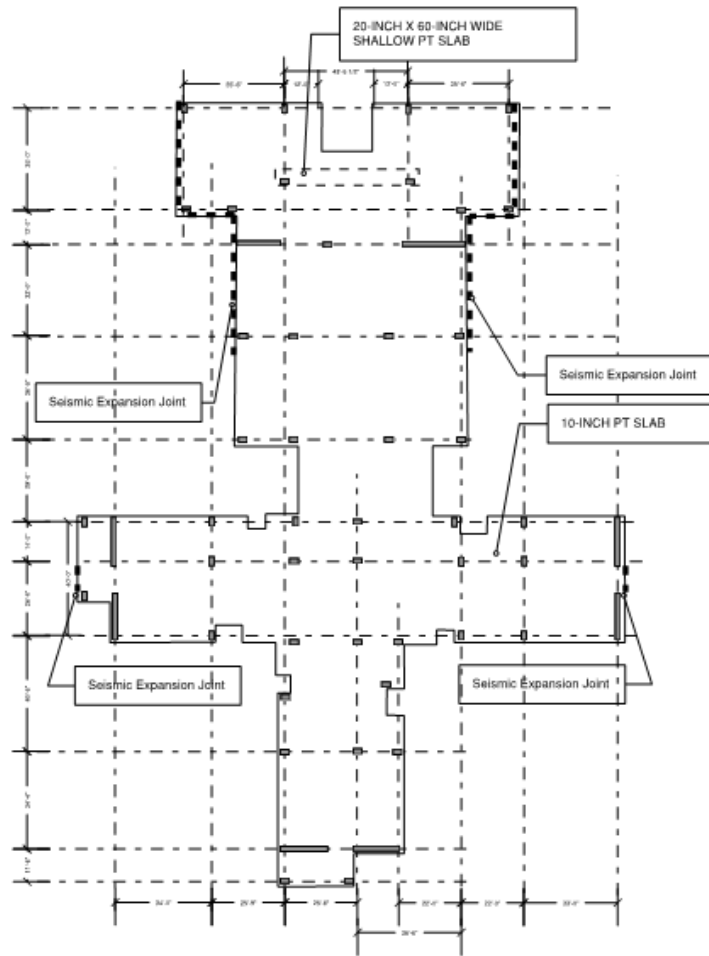


Figure 3. Lateral Force Resisting System Concept

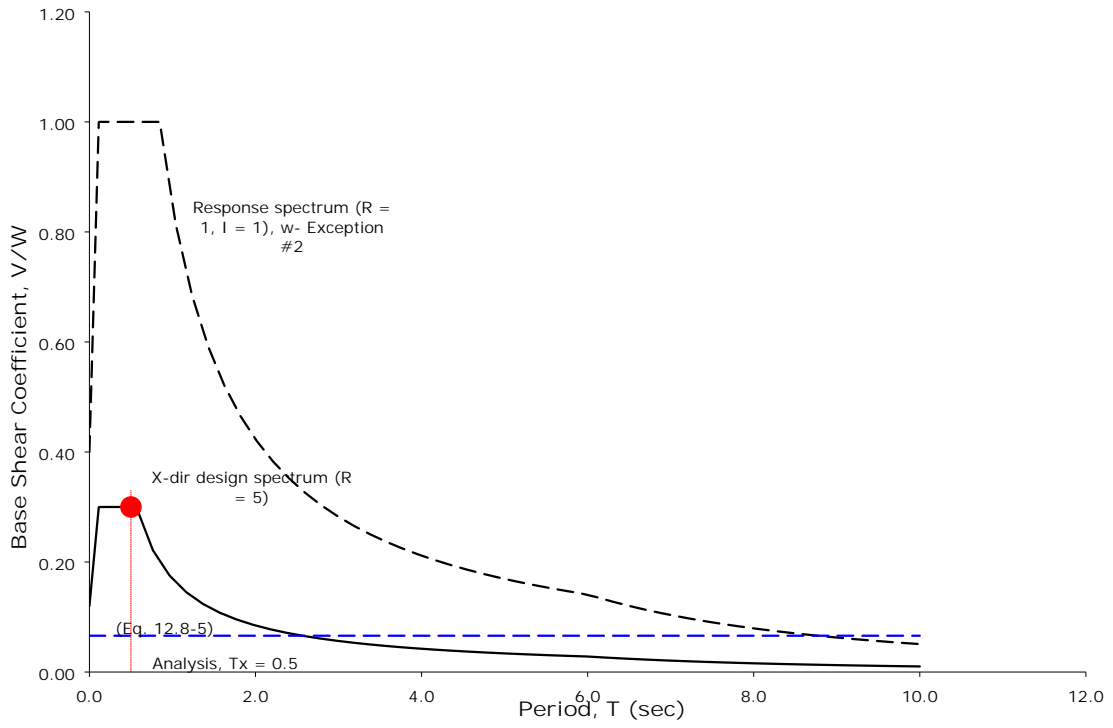


Figure 4. Preliminary Code Spectra ASCE 7-16

Western State Hospital / Appendix

Structural Quantity Summary

The following is a summary of anticipated structural quantities that may be used for establishing a target structural budget for the design. See the predesign plans for extents of elements depicted.

Table 10. Structural Quantities

Level	Concrete Strength (PSI)	Rebar Quantity	Steel Quantity (PSF)	Notes
Level P4				
Spread Footing	5,000	75 pcy		Excludes column dowels
Mat Foundation	5,000	275 pcy		
Concrete Columns	5,000	500 pcy		
Basement Walls	5,000	10 psf		
Shear Walls	8,000	500 pcy		
Slab on Grade	4,000	1.5 psf		
Level 2, 3, and Roof				
Suspended Slab	6,000	1.1 psf PT 3.0 psf rebar		Unbonded encapsulated tendons Includes diaphragm reinforcing
Administration Buildings				
Composite Steel framing	4,000	2.0 psf rebar	12 psf 4 psf	Gravity Framing BRB's (Eliminate with 8-inch grouted CMU at perimeter and interior walls)
Office Buildings				
Office Buildings	4,000	1.0 psf rebar	4 psf	CLT framing as described in the narrative. Steel includes BRB's.

Vertical Expansion

No vertical expansion capacity has been included in the proposed system due to the limitation on heights for the campus.

Western State Hospital / Appendix



Risk and Mitigation

Foundation design and seismic hazard assumptions are based on existing available geotechnical data. A project-specific report will be needed to confirm these assumptions and provide recommendations for design. Of particular interest will be the following:

- Extent of soil test pits and boring locations
- Excavation and removal of existing structures and foundations
- Influence of the water table
- Hydraulic water flow on the foundation system
- Slab on grade requirements
- Basement walls and need for dewatering
- Utility Tunnels
- Recommendations for bearing capacity on fill materials vs. native soils
- Shearwave testing to establish seismic site classification

Sequencing the work to accommodate continuous operation will be a challenge from both a design and construction standpoint. The following aspects are risks and potential mitigation measures:

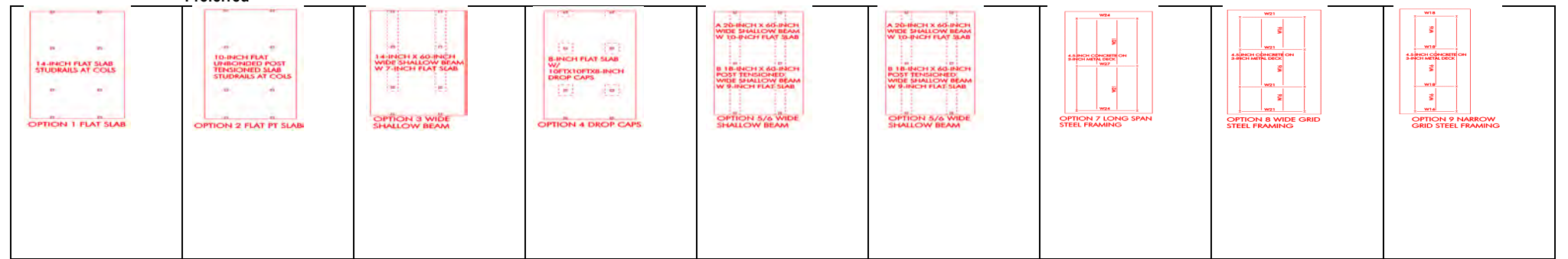
- Continuous access to the existing entrances.
- Interface at the existing hospital buildings. This construction may result in noise and access impacts on operations at WSH.
- Continuous operation of the existing utilities and construction phasing related to the mechanical connections during construction. Construction phasing will need to address these requirements.
- Movement of the shoring system near existing structures poses a risk to adjacent structures and utilities.
- Movement of the building causing degradation in the structure of building is a risk. The configuration of the building should be such that movement from thermal, wind, and seismic forces does not compromise the integrity of the structure. Configuring seismic joints is a method for mitigating these issues.

Structural recommendations are based on available construction documents supplied to us by WSH. A more detailed field investigation will be necessary during the design phase of the project.

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WSF
Selection Matrix for Structural Systems

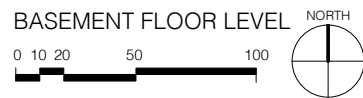
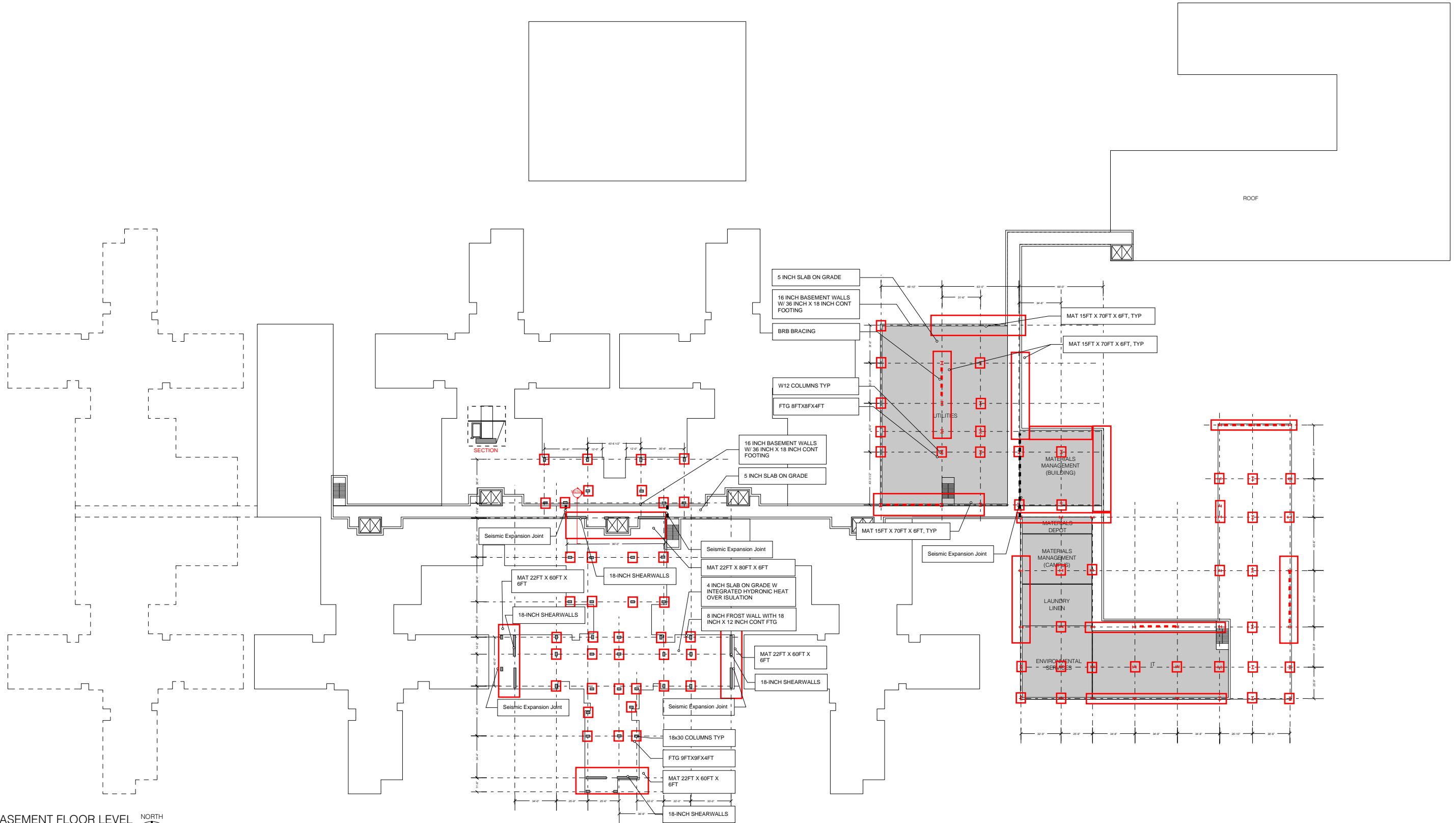
Preferred

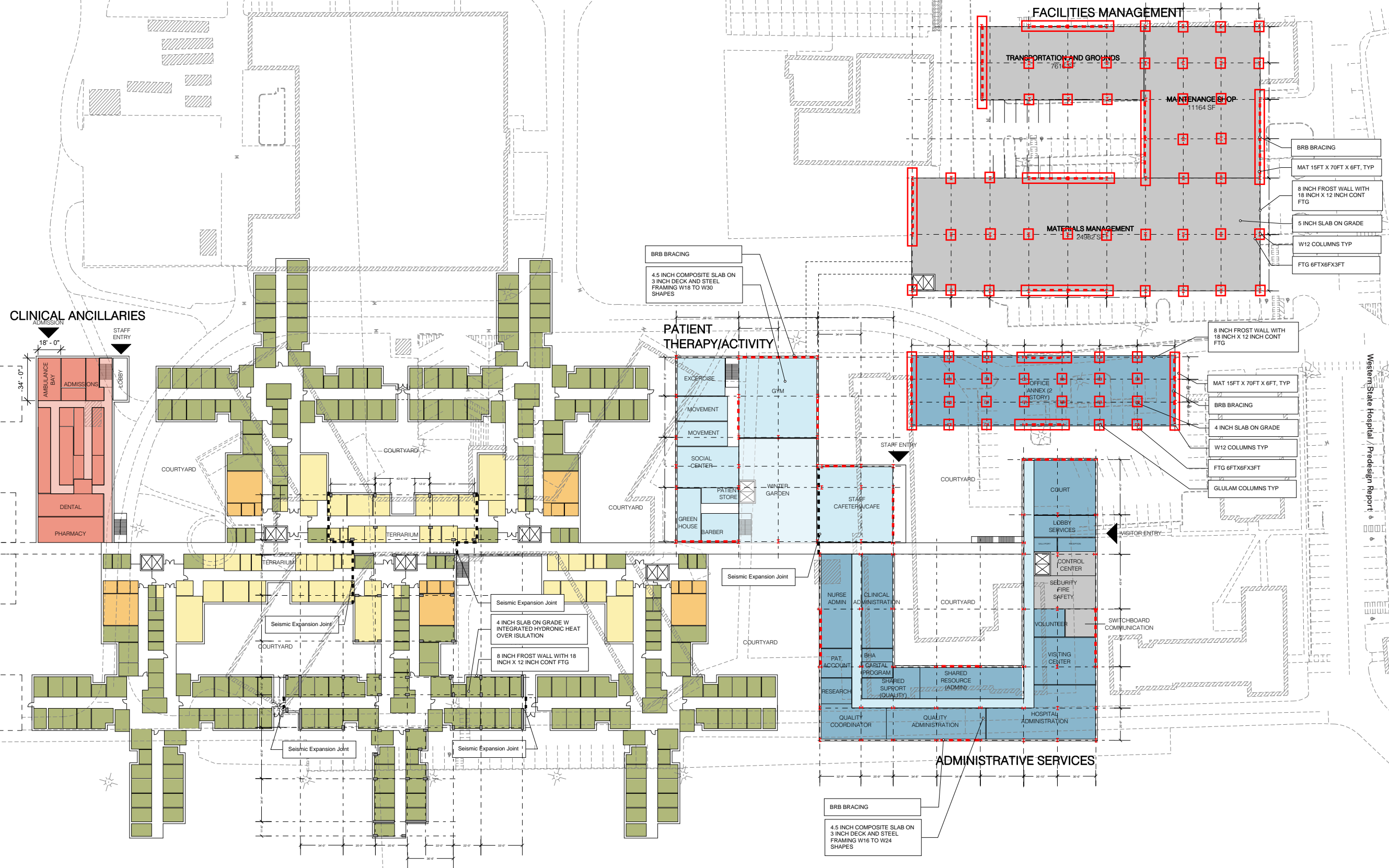


Weighting Factor
"7" = Most Important
"1" = Least Important

Rating Value
Range as a measure of variance from a base line of 1.0 (eg 0.95-1.05)

No.	Evaluation Criteria	Weighting Factor	Option 1		Option 2		Option 3		Option 4		Option 5		Option 6		Option 7		Option 8		Option 9	
			Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value	Rating	Weighted Value
A Constructability/Architectural																				
1	Flexibility in Fast Track Design	5	1.05	5.3	1.05	5.3	1.05	5.3	1.05	5.3	1.05	5.3	1.05	5.3	1	5.0	1	5.0	1	5.0
2	Floor flatness & levelness	4	1.05	4.2	1.1	4.4	1.05	4.2	1.05	4.2	1	4.0	1	4.0	1	4.0	1.02	4.1	1.03	4.1
3	Ability to express structure and eliminate additional finishes	6	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	0.9	5.4	0.9	5.4	0.9	5.4
4	Impact of floor cracking on finishes due to thermal shrinkage	4	1	4.0	1.05	4.2	1	4.0	1	4.0	1	4.0	1	4.0	0.95	3.8	0.95	3.8	0.95	3.8
5	Acoustic separation (potential for added costs, value of exceeding minimum requirements)	4	1	4.0	1	4.0	1	4.0	1	4.0	1	4.0	1	4.0	0.95	3.8	0.95	3.8	0.95	3.8
6	System Accomodation of Exterior Cladding	3	1	3.0	0.9	2.7	1	3.0	1	3.0	1	3.0	1	3.0	0.95	2.9	0.95	2.9	0.95	2.9
7	Ease of accommodating slab penetrations in design & construction	3	1	3.0	0.95	2.9	1	3.0	1	3.0	1	3.0	1	3.0	1.1	3.3	1.1	3.3	1.1	3.3
8	Ease of installing horizontal systems during construction	5	1.05	5.3	1.05	5.3	1	5.0	1	5.0	0.98	4.9	0.98	4.9	0.95	4.8	0.95	4.8	0.95	4.8
9	Ease of making attachments to the ceiling	1	1	1.0	0.95	1.0	1	1.0	1	1.0	1	1.0	1	1.0	0.98	1.0	0.98	1.0	0.98	1.0
10	Schedule impacts based on availability and lead time	6	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	1	6.0	0.95	5.7	0.95	5.7	0.95	5.7
11	Schedule impacts based on speed of construction and tolerance for adverse weather	7	1	7.0	1.02	7.1	1	7.0	1	7.0	1	7.0	1	7.0	1.1	7.7	1.1	7.7	1.1	7.7
12	Staging needs, impact on campus	1	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0
Subtotal				49.7		49.7		49.5		49.5		49.2		49.2		48.3		48.4		48.4
Item A Normalized score to 30%				30.4		30.4		30.2		30.2		30.0		30.0		29.5		29.6		29.6
B Cost																				
Estimated Structural Cost Per Square Foot				\$37.10		\$31.20		\$32.35		\$32.80		\$36.10		\$32.60		\$58.10		\$50.90		\$47.40
13	Quantitative structural costs (including foundations, beam penetrations, & fireproofing)	7	1.07	7.5	1.28	8.9	1.23	8.6	1.21	8.5	1.10	7.7	1.22	8.6	0.69	4.8	0.78	5.5	0.84	5.9
Structural Depth (Inches)				14.0		10.0		14.0		16.0		20.0		18.0		34.5		28.5		25.5
14	Qualitative impact on cost as a result of structural depth Rating = (Avg Depth / Option Depth)	2	1.43	2.9	2.01	4.0	1.43	2.9	1.25	2.5	1.00	2.0	1.11	2.2	0.58	1.2	0.70	1.4	0.79	1.6
Subtotal				10.4		12.9		11.5		11.0		9.7		10.8		6.0		6.9		7.5
Item B Normalized score to 50%				53.9		67.3		59.7		57.2		50.5		56.0		31.0		35.8		38.7
C Future Flexibility																				
15	Flexibility for future space planning (e.g. accommodating increased loads)	2	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	1.05	2.1	1.05	2.1	1.05	2.1
16	Ease of accommodating slab penetrations in future	6	0.95	5.7	0.9	5.4	0.95	5.7	0.95	5.7	0.95	5.7	0.95	5.7	1	6.0	1	6.0	1	6.0
17	Ease of rerouting systems in future (horizontal)	4	1.05	4.2	1.05	4.2	1	4.0	1	4.0	1	4.0	1	4.0	0.9	3.6	0.95	3.8	0.95	3.8
18	Vibration Control	1	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0	1	1.0
Subtotal				12.9		12.6		12.7		12.7		12.7		12.7		12.7		12.9		12.9
Item C Normalized score to 20%				20.2		19.8		19.9		19.9		19.9		19.9		19.9		20.2		20.2
Total Score:				104.5		117.4		109.8		107.3		100.5		106.0		80.4		85.6		88.5

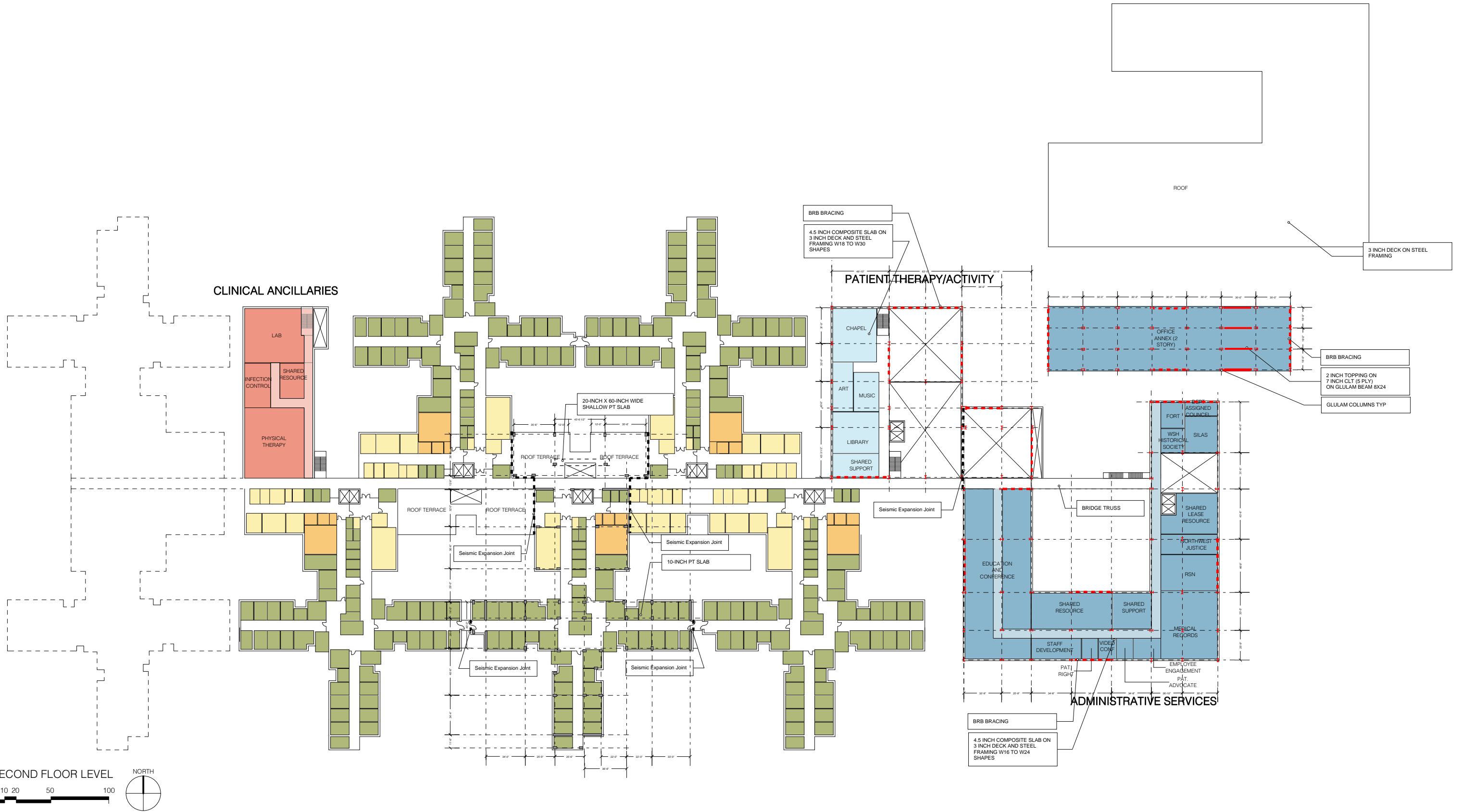


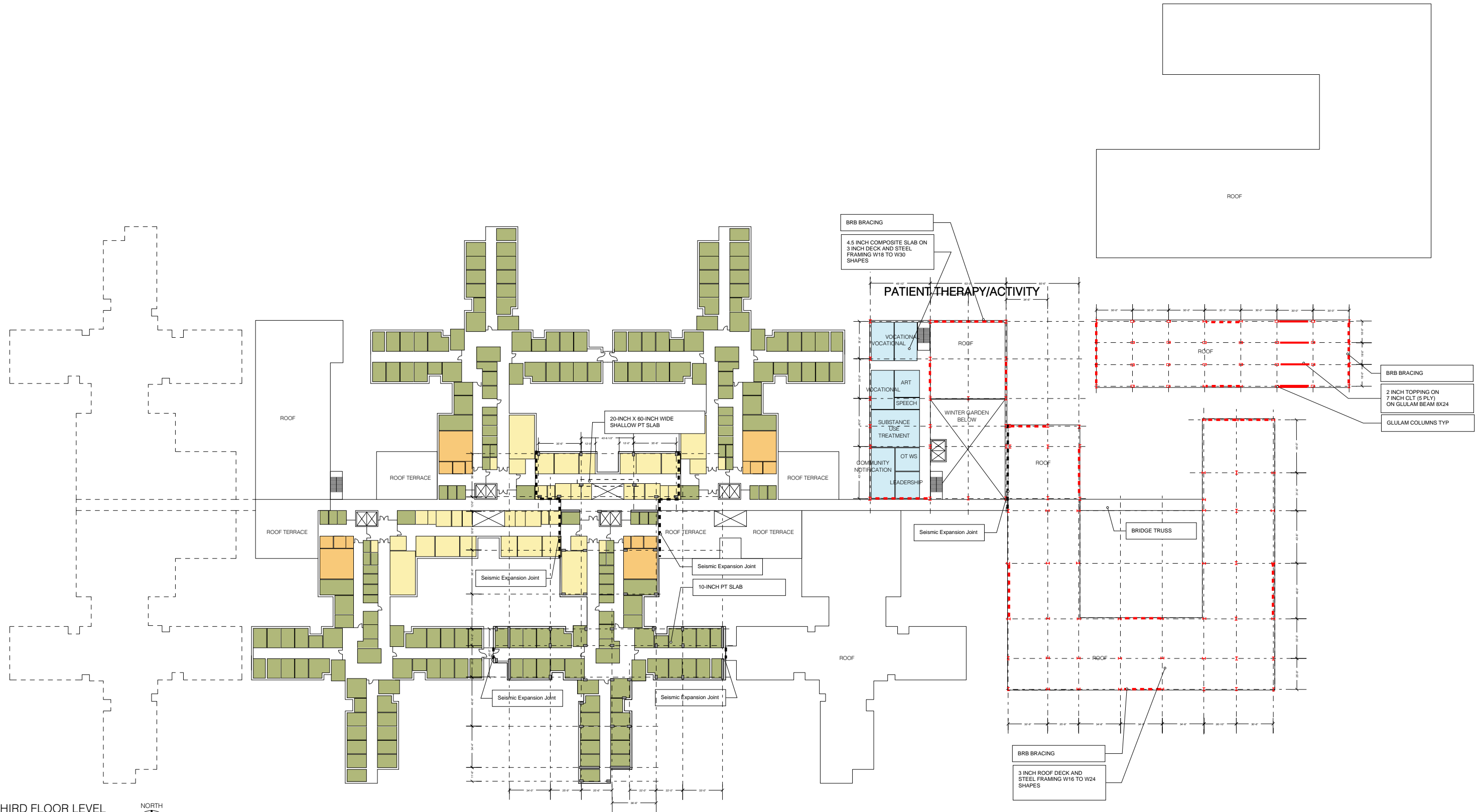


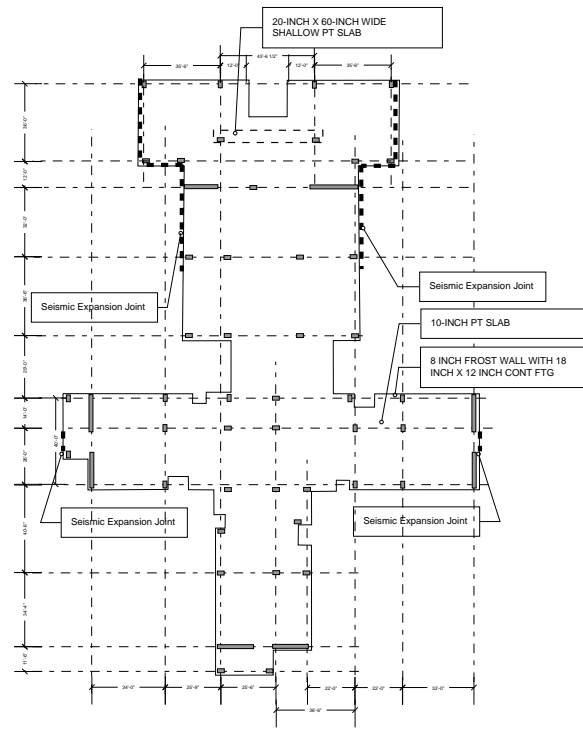
FIRST FLOOR LEVEL

0 10 20 50 100





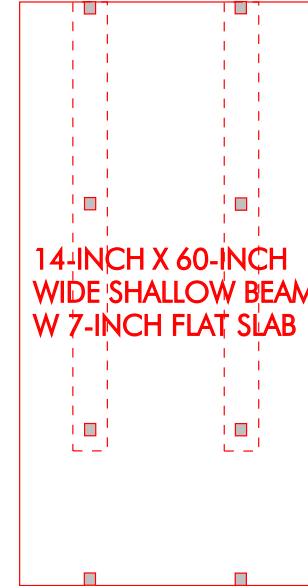




OPTION 1 FLAT SLAB



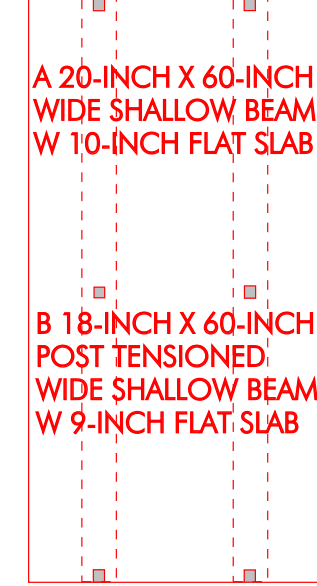
OPTION 2 FLAT PT SLAB



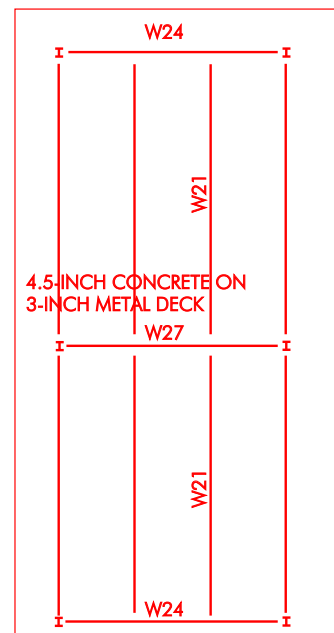
OPTION 3 WIDE
SHALLOW BEAM



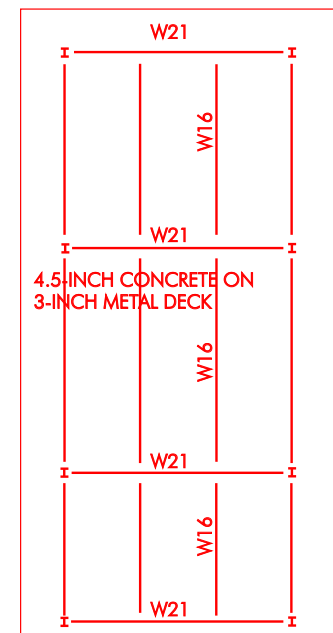
OPTION 4 DROP CAPS



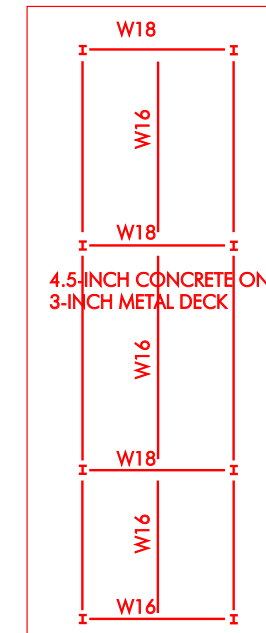
OPTION 5/6 WIDE
SHALLOW BEAM



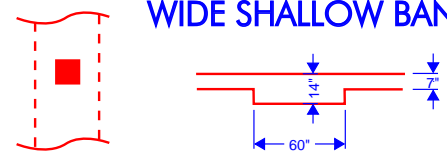
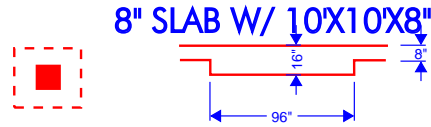
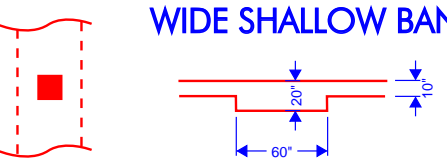
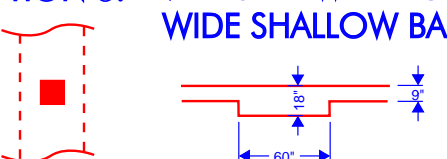
OPTION 7 LONG SPAN
STEEL FRAMING



OPTION 8 WIDE GRID
STEEL FRAMING



OPTION 9 NARROW
GRID STEEL FRAMING

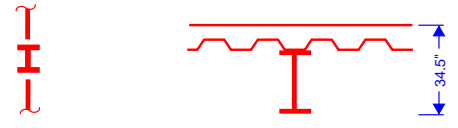
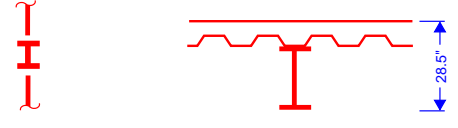

GEOMETRY	CONCRETE VOLUME	
OPTION 1: 14" FLAT SLAB	1.16 CF/SF	6.0 psf
OPTION 2: 10" PT FLAT SLAB	0.83 CF/SF	2.2 psf 1.0 psf PT
OPTION 3: 7" SLAB WITH 14"x60" WIDE SHALLOW BANDS 	0.66 CF/SF	5.5 psf
OPTION 4: 8" SLAB W/ 10'X10'X8" DROP CAPS 	0.74 CF/SF	5.5 psf
OPTION 5: 10" SLAB WITH 20"x60" WIDE SHALLOW BANDS 	0.95 CF/SF	6.2 psf
OPTION 6: 9" PTSLAB WITH 18"x60" WIDE SHALLOW BANDS 	0.85 CF/SF	2.3 psf 1.1 psf PT

FLOOR FRAMING OPTIONS

1. POST TENSIONED SLABS HAVE MORE STRINGENT CRITERIA FOR FUTURE PENETRATION AND POST INSTALLED ATTACHMENTS (SLEEVES, FUTURE CORES, DRIVEN OR DRILLED ANCHORS, ETC). STRESSED UNBONDED TENDONS REQUIRE IDENTIFICATION PRIOR TO CORING VERTICAL PENETRATIONS. SHOT PINS ARE LIMITED TO 5/8" ANYWHERE. SLEEVES AND DEEPER ANCHOR ZONES WOULD NEED TO BE COORDINATED.

2. FLAT SLAB OPTIONS HAVE STUDRAILS AT ALL COLUMNS



GEOMETRY	CONCRETE VOLUME	REINFORCING
<p>OPTION 7: LONG SPAN STEEL FRAMING</p> 	<p>15 psf</p>	<p>See Inset Rebar 2.0 psf</p>
<p>OPTION 8: WIDE GRID STEEL FRAMING</p> 	<p>12 psf</p>	<p>See Inset Rebar 2.0 psf</p>
<p>OPTION 9: NARROW GRID STEEL FRAMING</p> 	<p>10 psf</p>	<p>See Inset Rebar 2.0 psf</p>

FLOOR FRAMING OPTIONS

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WESTERN STATE HOSPITAL MASTER PLAN



Figure 11: Existing Facilities, West Campus

* Facilities listed as historic assets are as determined in the listing of the Fort Steilacoom Historic District for National Register of Historic Places and/or the **Western State Hospital Cultural Landscape Assessment**. See "Documentation of Listed Structures" on page 27

03 FEBRUARY 2020

Table 3: Existing Buildings

Bldg.	Building Use	Built	GSF	Bldg.	Building Use	Built	GSF
1	MOD Maintenance Office	1937	7,623	24	Employee Health, Infection Prevention & Patient Financial Services	1937	11,149
2	MOD Storage	1958	3,936	25	North West Justice, Legal Services, & Department of Assigned Council	1938	22,001
3	MOD Plumbing, Garage, Glass, Sign, Paint & Machine Shops	1917	9,382	26	Vacant - Not in Use	1945	75,644
4	MOD Boiler House	1917	26,376	27	WSH: Patient HMH Wards W1N & W1S and Fort Steilacoom Residential Treatment Facility	1960	41,144
5	MOD Laundry & Grounds Shop	1917	19,892	28	Center for Forensic Services Patient Wards F1 - F8 & Treatment Mall	2000	202,160
6	Art Center, Infinity Center, Beauty/Barber Shop, etc.	1933	31,797				
8	Library, Key Shop & Staff Offices	1948	25,448				
9	Staff Offices	1948	114,327				
10	Staff Development Training Center & HMH Carpentry	1960	41,227	29	Patient Wards F9 & F10	2020	40,742
11	Commissary	1934	22,620	30	CFS Patient Wards E1 - E8, Treatment Mall & Clinic	1982	158,111
12	MOD Storage	1986	1,560	31	Connex Container: Emergency Management Supplies	2016	160
13	Pharmacy & Central Services	1975	15,235	32	Connex Container: Emergency Management Supplies	2016	160
14A	Vacant - Historic Bakery	1904	880	33	Inventory Control Warehouse	1985	6,161
14B	Vacant - Historic Morgue	1888	1,516	34	MOD Life, Health & Safety Shop	1979	5,600
15	Green House & Industrial Hygienist	2000	1,826	35	MOD Carpentry Shop	1972	5,641
16A	Main Kitchen & HMH Java Site	1908	33,275	36	Maintenance Materials Warehouse & HMH Program Space	1982	12,000
16B	Staff Offices, Fashion Center & Laundry Folding	1930	18,180	37	MOD Main Chiller Plant	1994	2,079
17	Patient Wards & Treatment Mall	1934	44,091	38	Prime Mover Enclosure: Generator No. 1	1994	476
18	Communications Center & Administration Offices	1938	36,662	39	Prime Mover Enclosure: Generator No. 2	1994	476
19	Patient Wards C1 - C3	1938	46,633	40	Historical Society Cottage No. 1	1855	2,602
20	Patient Wards C4 - C6	1934	44,328	41	Historical Society Cottage No. 2	1855	3,400
21	Patient Wards S1 - S10	1948	149,865	42	Historical Society Cottage No. 3	1855	2,600
22	Patient Support Center	2019	48,190	43	Historical Society Cottage No. 4	1855	3,450
23	Chapel	1925	7,492				

WESTERN STATE HOSPITAL MASTER PLAN

LEGEND

- Fort / Historic
- Early WSH
- WPA Era
- Post WWII
- Post 1980
- In Development
- Historic Asset (Primary)*
- Listed as Historic Asset (Secondary)*



* Facilities listed as historic assets are as determined in the listing of the Fort Steilacoom Historic District for National Register of Historic Places and/or the **Western State Hospital Cultural Landscape Assessment**. See "Documentation of Listed Structures" on page 27

Figure 12: Existing Facilities, East Campus

03 FEBRUARY 2020

Table 3, continued

Bldg.	Building Use	Built	GSF	Bldg.	Building Use	Built	GSF
44	Vacant: Cottage No. 5	1934	1,350	52	Residential Unit (Camano)	1987	11,209
45	Vacant: Cottage No. 6	1934	1,730	53	Residential Unit (Orcas)	1987	11,984
46	Vacant: Cottage No. 7	1934	1,802	54	Residential Unit (Ketrone)	1987	10,484
48	Vacant: Cottage No. 9	1934	1,650		New Cottage, CSTC	2020	19,360
49	Vacant: Cottage No. 10	1934	1,926	56	Maintenance	1961	9,394
FP	Fuel Pump Station	1993	32	Facilities owned/operated by others			
50	Administration & Elementary School	1995	36,105	ORCF	Oakridge Community Facility		
51	High School	1992	19,816	WPFS	West Pierce Fire & Rescue, Station #24		

Table 4: Patient Bed Count, by Ward & Building as of Fall 2019

Bldg	Center	Physical Ward	Logical Ward	Service Type	Beds	Bldg	Center	Physical Ward	Logical Ward	Service Type	Beds
17	PTRC*	C7	WS56	Rehabilitation	30	28	CFS	F1	WS48	Admission	29
17	PTRC	C8	WS77	Acute	30	28	CFS	F2	WS14	Admission	29
19	PTRC	C2	WS63	Rehabilitation	30	28	CFS	F3	WS85	Admission/Acute	31
19	PTRC	C3	WS31	Acute	30	28	CFS	F4	WS61	Acute	29
20	PTRC	C5	WS41	Acute	30	28	CFS	F5	WS50	Admission	29
20	PTRC	C6	WS25	Acute	30	28	CFS	F6	WS18	Rehabilitation	31
21	CFS†	S4	WS83	Transitional/Extended	15	28	CFS	F7	WS62	Rehabilitation	31
21	CFS	S10	WS82	Rehabilitation	30	28	CFS	F8	WS16	Rehabilitation	31
21	PTRC	S3	WS76	Rehabilitation	30	29	CFS	E1	WS51	Rehabilitation	30
21	PTRC	S7	WS73	Rehabilitation	32	29	PTRC	E2	WS81	Rehabilitation	27
21	PTRC	S8	WS72	Rehabilitation	30	29	CFS	E3	WS09	Admission	20
21	PTRC	S9	WS74	Rehabilitation	30	29	CFS	E4	WS78	Admission	20
27	HMH†	W1N	WS47	Rehabilitation	15	29	PTRC	E5	WS05	Admission	30
27	HMH	W1S	WS45	Rehabilitation	15	29	PTRC	E6	WS08	Rehabilitation	26
						29	PTRC	E7	WS70	Rehabilitation	28
						29	PTRC	E8	WS59	Rehabilitation	27
Total Bed Count											825

* Psychiatric Treatment and Recovery Center
 † Center for Forensic Services
 ‡ Habitative Mental Health

WESTERN STATE HOSPITAL MASTER PLAN

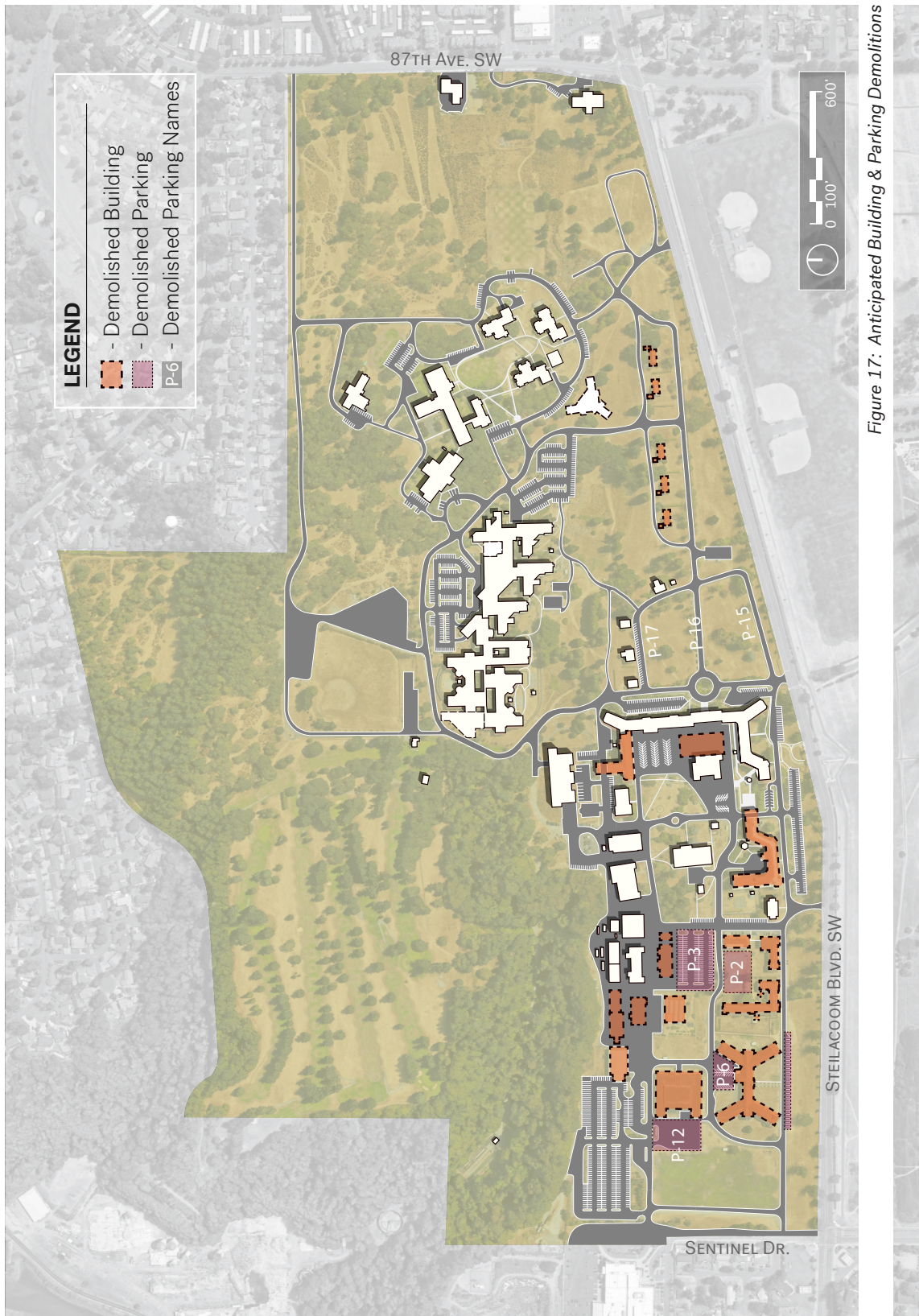


Figure 17: Anticipated Building & Parking Demolitions

03 FEBRUARY 2020

Table 6: Facility Status under Master Plan

#	Facility Name/Function	Area (estimated)*
New Construction		
-	Forensic Hospital	571,000
-	FCS (Bldg 28) Addition	40,740
	Community Hospital (48-bed)	60,000
-	Cottage # (CSTC)	17,000
-	Cottage # (CSTC)	17,000
-	CSTC Treatment/Recreation	15,000
-	Historic Fort Visitor Center	3,000 [†]
	Total New Construction	≈ 723,740
Demolition		
1	CMO Maintenance office	7,623
9	Staff Offices	114,327
10	Training Center/Carpentry	36,200
11	Commissary	7,540
12	CMO Storage	1,560
15	Green House	1,826
21	Patient Wards	149,865
24	Health/Financial Services	4,752
25	Legal Services	6,446
26	not in use	22,300
27	Wards W1-N&S, W2-N&S	34,634
30 & 31	Connex Containers	2 x 160
32	Warehouse	6,161
33	CMO LHS Shop	4,000
35	Material Warehouse	12,000
44-49	Cottages	8,500
	Total Demolitions	≈ 418,054

* New Construction areas are based on preliminary facility planning.
 † Visitor Center is a non-hospital facility, to be operated by others.

facilities of marginal useful value. These are indicated in Figure 17 and summarized in Table 7.

DOCUMENTATION OF LISTED STRUCTURES

The Cultural Resources Assessment considers four generally distinct eras as part of the historic assessment:

- Aboriginal pre-historic to ongoing
- Exploration and settlement 1830s to 1849
- Fort Steilacoom 1849 to 1868
- Western State Hospital 1871 to 1961

The National Register of Historic Places (NRHP) listing for the Fort Steilacoom Historic District identifies as “primary resources” the extant structures from the fort era - the four cottages on the parade ground- and two buildings from the 19th Century associated with the early hospital era - the Morgue and Bakery.

These primary resources are maintained under this master plan, as is the Settlers’ Cemetery and the parade grounds landscape.

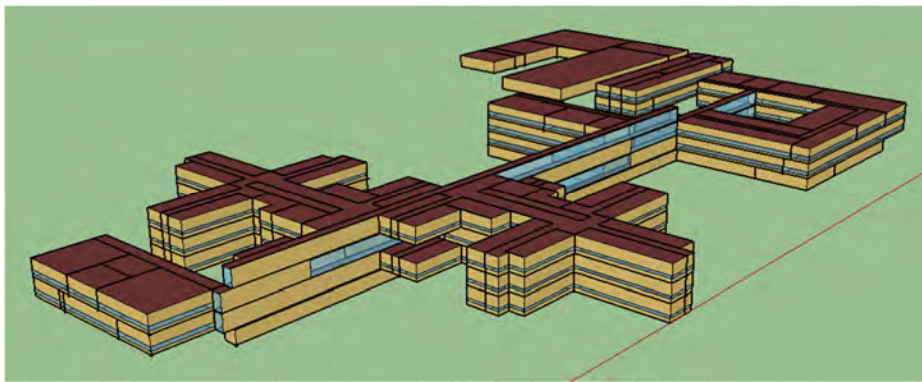
Several structures that are proposed for demolition in this master plan are listed in the NRHP listing as secondary resources, and are identified as “Contributing” to the Hospital era in the Cultural Landscape Assessment. These secondary resources include (see Figure 11 and Figure 12):

- The five 1930s-era cottages to the east of Officer’s Row
 - “Powerhouse, Heating Plant and Utility Structure” (Building 4)
 - “South Hall and Wards D, E, F, G, and W-1” (1940’s)
 - “Nurses’ Dormitory and Geriatrics Building” (1945)
- Mindful of the Secretary of the Interior’s Standards for the Treatment of Historic Properties, DSHS will take appropriate action prior to demolition of any of these structures.

Western State Hospital – Forensic Hospital

Predesign Energy Performance Report

5/21/2020



Western State Hospital / Appendix

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This report represents Affiliated Engineers, Inc. professional opinion and is not a warranty, either expressed or implied, of this project’s energy use and associated cost.



EXECUTIVE SUMMARY

This report summarizes the energy performance analysis efforts for the Predesign phase of the new Forensic Hospital located at Western State Hospital in Lakewood, Washington. This includes a summary of the energy performance goals for the project, such as LEED Silver per Executive Order 05-01, and zero energy or zero energy capable per Executive Order 08-01.

Detailed whole building energy simulations were performed on a variety of design elements, and a summary of the estimated energy performance is provided. The energy efficient design strategies incorporated in the preferred design and represented in the Predesign energy model are also discussed.

The project is in a good position to achieve the Zero Energy design goals, however additional energy efficiency strategies should be evaluated along with their economic impact. A summary of the potential additional design strategies along with steps for the next phase of design are provided in this report.

Appendices include detailed energy model input assumptions and performance design criteria.

ENERGY PERFORMANCE

Goals and Objectives

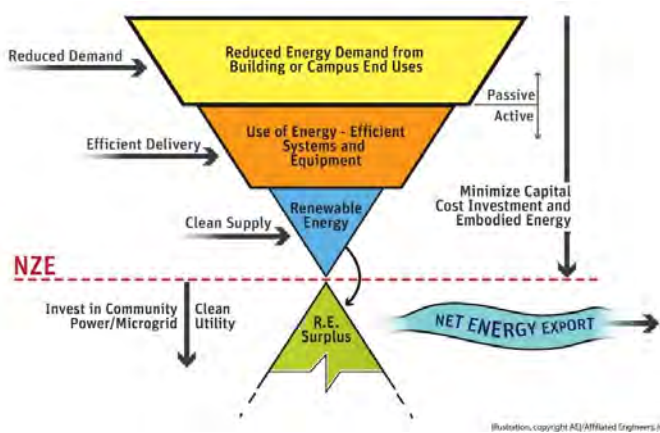
As a publicly owned property, the new Forensic Hospital located on the Western State Hospital campus in Lakewood, Washington is required to achieve LEED Silver performance under V4 for New Construction, reduce embodied and operational carbon, and be zero energy-capable. The National Renewable Energy Laboratory definition for a Zero Energy Campus is as follows:

'On a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy'

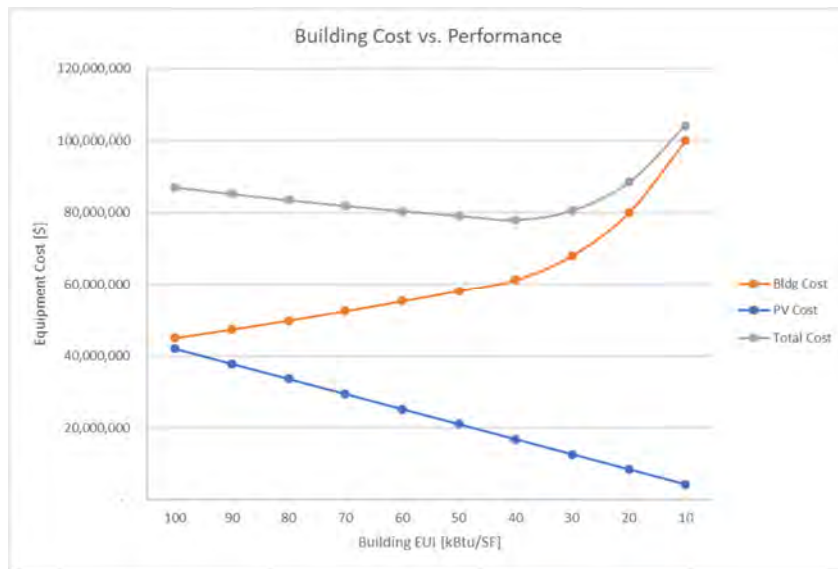
This means that the facility shall include a renewable energy system that is able to produce as much energy annually as the new buildings consume through the year. This project is also intended to operate independently from the existing campus and not be reliant on systems serving the rest of the campus. Additionally, this project must demonstrate compliance with the 2018 Washington State Energy Code.

Renewable energy is anticipated to be provided by solar hot water systems located on the roof of each building, plus solar photovoltaic (PV) arrays located on-site. This project does not currently have any physical constraints on where solar PV can be installed on-site to offset the facility's annual energy usage to achieve the zero-energy target, however, it does not serve the intent of the directive to reduce carbon by using more energy and thus install more solar PV than is actually necessary. Also, solar PV has a large amount of embodied carbon, so reducing the building energy usage also supports the project objective to reduce greenhouse gas emissions (per RCW 70.235.070). Therefore, the project should aim to use as little energy as feasibly possible.

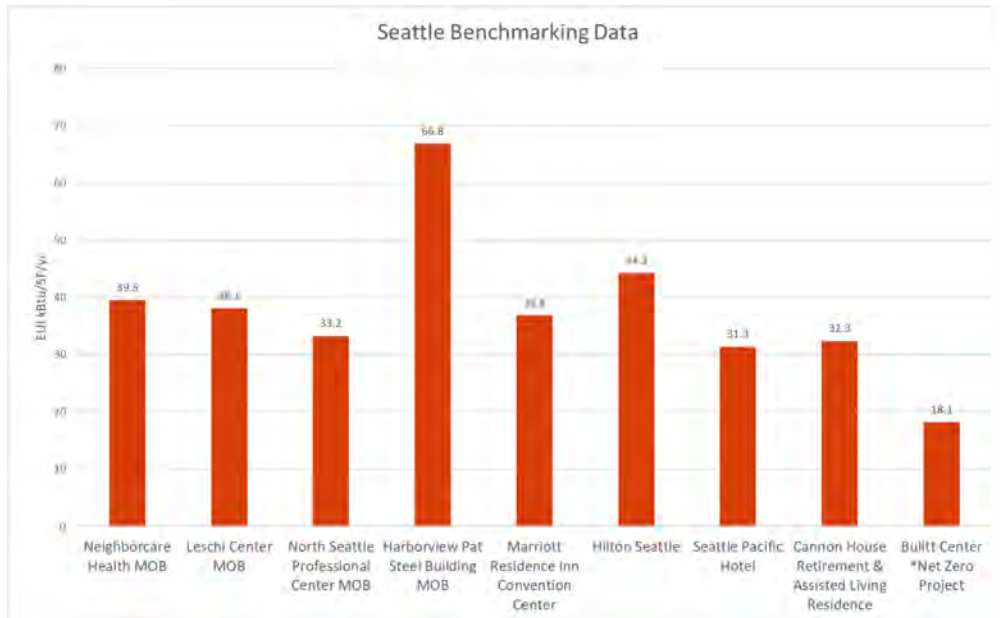
A good approach to net-zero design, as illustrated by the figure below, incorporates demand reduction and passive design strategies foremost to reduce the need for energy as much as possible. Next, high efficiency active systems and equipment are utilized to further reduce energy consumption and minimize the capital investment in solar PV required to achieve zero energy.



Additionally, there's also a point of diminishing return when considering the investment in building efficiency versus solar PV. The graph below (for example purposes only) compares the cost of building efficiency, solar PV, and the combined cost to demonstrate the inflection point (~40 EUI as an example) where it becomes more cost effective to install more PV to cover the building energy usage than invest in higher efficiency building equipment and features. The project team will work to identify this sweet spot in future design phases when more detailed design, cost, and energy performance data becomes available.



As illustrated above, the goal of this project is a zero-energy design that minimizes first cost with the right balance of building efficiency and solar PV. Energy performance data was benchmarked for some local, high-performance projects to help identify a target range of building Energy Use Intensity (EUI) for this project. As common in healthcare design, there is no facility with the exact same program as the Western State Hospital program, so energy performance data for medical office buildings, hotels, and assisted living facilities was considered. The data ranges from 31 - 67 EUI as shown in the graph below. The most notable net-zero project that has been completed in Seattle is the Bullitt Center, which is achieving an EUI of 18 kBtu/SF. This project represents the "best in class" performance that is achievable for an office building. The Western State project has some program areas and ventilation requirements that are inherently more energy intensive than a typical office building, but this project represents the low-end of what is achievable for a net-zero design for target setting.



The AIA 2030 Challenge Zero Tool was also used to help identify an appropriate building EUI range for a zero energy capable design. A custom facility with a mix of program types was created in the Zero Tool. This tool tells you the average performance for an existing building with the same space type and region in order to determine a percent improvement target with the goal of being zero energy by 2030. At the onset of the program, AIA identified an immediate reduction of 70% in energy consumption below the regional average was required in order to hit the carbon-neutral by 2030 goal. Using this metric, the project would have to achieve a performance of EUI of 26 kBtu/SF. This would require ~3,700 kW of installed PV, the equivalent of ~200,000 SF of PV or ~80% coverage of the roof of the entire facility. This target will require further study to be evaluated for where it occurs on the cost/performance curve to determine if it is economically viable.

Based on this benchmarking data, an original performance target of 40 EUI was determined for this project (excluding the impact of renewable energy generation). The preferred design strategy is currently beating this target at 37.5 EUI [kBtu/SF]. This is consistent with “high-performance” medical office buildings and lodging facilities per the Seattle Benchmarking tool. This preferred design building requires ~5,300 kW of installed PV, or ~300,000 SF of PV. This capacity of PV will not fit on the roof of the facility (~250,000 SF), so a portion will have to be installed on canopies over the parking lots. There are opportunities within the current design to reduce the building energy usage, and thus the required PV further.

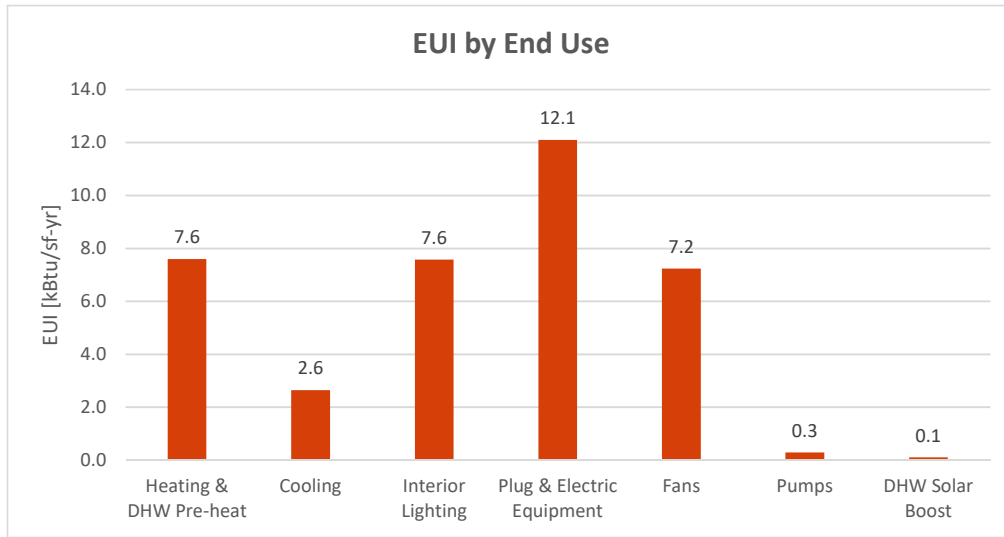
Source/Design	EUI	Equivalent PV	Description
Seattle Benchmark	31-67	4,500 kW – 9,500 kW	High Performance Medical Office Buildings, Hotel, and Assisted Living
2030 Challenge	26	3,700 kW	Based on 70% Reduction from Existing Building Stock
Preferred Design	37.5	5,300 kW	Best Practice Mechanical Design
All ECM Design	35	5,000 kW	Advanced Controls & High Efficiency Envelope

Predesign Energy Model Results

Energy simulations were performed on the predesign building concepts using EnergyPlus whole building energy simulation software. The project is currently achieving an **EUI of 37.5** based on the preferred design architecture, mechanical systems, code minimum lighting, anticipated equipment loads, and building program, and best practice facility operation.

A discussion of design strategies and energy efficiency concepts is provided later in this report and a detailed summary of energy model input assumptions and design criteria is provided in the Appendix.

The EUI by end-use results are shown below.



The largest remaining energy end-use is plug and equipment loads, followed by heating, lighting, and fan energy. This is common in a “net-zero” building design where the loads are reduced as much as possible, leaving the highest end-use in “unregulated loads”, i.e. appliances and equipment controlled by individuals. However, there is room for improvement in the lighting and plug loads through higher efficiency equipment and advanced controls.

The high heating and fan energy usage align with the heating dominant climate of Lakewood, Washington, along with high air change requirements and low internal loads in the patient areas, thus

requiring a lot of fan usage and zone reheat. In fact, the annual heating to cooling load is 3 to 1 to cooling, however, the mechanical system has been optimized to minimize the heating load and produce heat as efficiently as possible. This is discussed further below.

Opportunities

The mechanical strategies incorporated in the preferred design set the project up to achieve the zero-energy target, however there are additional opportunities within the current design to improve the building performance and reduce the mechanical equipment. These strategies should be vetted with design team for approval before additional energy efficiency systems or financial investments are explored.

- High Efficiency Lighting:
Reducing space lighting levels below the code prescribed lighting power densities with expanded use of LED lighting has the potential to reduce the lighting end-use .
Potential EUI savings: ± 0.75
- Advanced Controls:
Expanding occupancy HVAC, lighting, and equipment controls beyond the code requirements has the potential to reduce heating, cooling, fan energy, lighting, and plug load equipment even further.
Potential EUI savings: ± 1.5
- Improved Envelope:
Using high performance glazing, and the strategic use of shading has the potential to reduce heating and cooling energy usage and reduce the peak cooling load.
Potential EUI savings: ± 0.5
Potential Cooling Load savings: ± 10 Geo Wells

The combined, interactive energy savings potential from the strategies described above would yield an additional 2.3 EUI savings for a whole building **EUI of 35.2**.

Next Steps

The Western State Forensic Hospital project is in a good position to achieve the zero-energy goals as the project design progresses into Schematic Design.

Many of the most impactful and cost-effective design strategies are included in the preferred design already. This means the project team will need to be strategic about additional energy efficiency measures pursued to improve building performance further in a cost-effective manner. The next phase will focus on evaluating the cost/benefit of investing in higher efficiency building performance systems and equipment versus the cost of PV. The assumptions and scope of these additional energy conservation strategies will be coordinated with the project team so parallel cost estimating and energy modeling can be performed.

DESIGN STRATEGIES

The following energy efficient design strategies are baked into the Predesign model that are contributing to the low energy usage, high performance design. These strategies not only eliminate on-site carbon emissions, but have additional benefits such as improved occupant environment, resiliency, and community benefit.

A description of the project's energy efficient design concepts is provided below along with detailed energy model input and operational assumptions located in the Appendix.



Site Renewables

The renewable systems being considered for the project are solar panels for domestic hot water and solar PV. The solar hot-water system can satisfy ~30% of the DHW demand, equivalent to the 140°F "boost" heat required after the 115°F pre-heat provided from the campus heating hot water loop. A PV system on just the roof of the buildings could produce the equivalent of 16-24 EUI. The array is assumed to be a ballasted system, covering 50%-75% of the facility roof area. Additional PV will be installed on a canopy over the parking area for any energy production required beyond the roof PV capacity.



Building Envelope

High performance envelope using 2018 WSEC prescriptive assembly performance targets.

Minimal glazing area on each building, which in turn reduces the amount of heat loss through the envelope and prevents unnecessary solar gain on the facades with solar exposure. The window to wall ratio varies by building, but the overall campus ratio is currently ~24%.

Passive design features include operable windows for natural ventilation + ceiling fans to provide cooling in non-patient or clinical spaces.

Glazing performance and horizontal exterior shading devices have been evaluated for the impact on occupant comfort, peak cooling loads and overall energy usage. The window size, locations, and performance as well as shading devices will continue to be tuned and optimized for energy performance, occupant comfort, and cost in the next phase of design.



Lighting

Lighting systems designed to 2018 WSEC lighting power density (LPD) levels, occupancy, and photo-cell controls. This will be accomplished using high efficiency LED lighting and careful fixture placement and layout. The campus average LPD is 0.66 W/ft² and all offices, conference rooms, corridors, etc. will have occupancy sensor controls to automatically turn off electric lighting when the space is unoccupied.

Building lighting levels below code and occupancy sensors in the patient rooms (not required by code) have been evaluated for additional energy savings potential

Exterior building lighting will need to be minimal and utilize high efficiency lighting to help achieve the zero-energy target.



Plug and Process Equipment

Currently, plug and process equipment is the largest energy end-use at 12.1 kBtu/ft² EUI. As previously mentioned, this is not uncommon for Net Zero energy buildings as the energy associated with the other end uses, such as envelope, lighting, and HVAC systems is drastically reduced.

Opportunities to reduce plug equipment energy consumption have been evaluated, such as controlled receptacles in the offices, workstations, and patient rooms. This allows a portion of the electrical outlets to be connected to a switch or BAS system that would turn the receptacle off, and thus any "phantom load" from equipment plugged into them when not in use.

Heat gain from zone equipment can provide 'free reheat' in zones with higher ventilation rates and lower internal loads. The energy savings associated with reduced equipment power can sometimes be offset by increased reheat energy, so it will be important to identify zones where this behavior might occur and find an alternative strategy or identify ways to mitigate the penalty.



Mechanical Thermal Generation

The thermal generation system uses six pipe water-to-water heat pumps to efficiently generate chilled water, heating hot water, and domestic hot water pre-heat for the building. The system has multiple stages of heating and cooling in order to optimize the overall system efficiency and eliminate natural gas usage on-site. The control sequence is as follows:

Stage 1 Heat Recovery Chiller - Simultaneous Heating & Cooling: water-to-water heat recovery when simultaneous heating and cooling demands exist in the building, the heat pump will produce hot water and chilled water at the same time for maximum efficiency (~7 COP).

Stage 2 Geo Cooling: heat rejection to the geo-field when the cooling demand exceeds the heating demand (~3.0 COP).

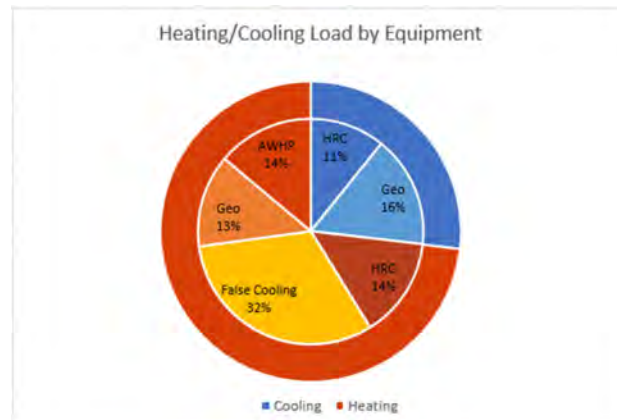
Stage 3 Air to Water Heat Pump Cooling: heat rejection to ambient air through a heat pump when the cooling demand exceeds the heating demand and the geo-field reaches capacity (~4 COP).

Stage 4 Heat Recovery Chiller - Exhaust Heat Recovery (aka False Cooling): heat rejected from the building exhaust/relief air to the chilled water coil, then water to water heat recovery through heat recovery chiller (~4 COP) when the heating demand exceeds the cooling demand. This configuration allows energy recovered from the exhaust air to be used for DOAS preheat, zone level reheat, and domestic water heating.

State 5 Geo Heating: heat absorbed from the geo-field when the heating demand exceeds the cooling demand, there is insufficient exhaust air for false cooling, and the ambient temperature is below 30°F, aka, the air to water heat pump cannot operate (2.5 COP).

Stage 6: Air to Water Heat Pump Heating: heat absorbed from the ambient air through a heat pump when heating demand exceeds the cooling demand, there is insufficient exhaust air for false cooling, and the ambient temperature is above 30°F (2.5 COP).

The above strategy will preheat incoming domestic hot water up to 115°F which allows this base load to be produced during the simultaneous heating and cooling operation of the heat pumps. Solar hot water panels on the roof of each building to heat water will be used to boost the domestic hot water up to 140°F and will be stored in tanks until needed. The chart below shows the distribution of heating and cooling load that is satisfied by each stage/piece of equipment in the thermal generation system.



Mechanical Thermal Delivery

Ventilation and space conditioning will be provided by a decoupled DOAS (dedicated outdoor air system) with zone level hydronic heating and cooling devices. The hydronic zone system will vary by space type in order to provide the air change requirements for the zones governed by standard ASHRAE 170 and minimize fan power energy usage. The zone systems are as follows:

- Active Chilled Beams – located in patient rooms and patient lounges to provide the 6 and 4 respective air changes required in these spaces. This system provides the high air change requirements and conditioning necessary in these spaces without adding a lot of extra fan power.
- Sensible Fan Power Boxes – located in Clinical Ancillaries building, patient tower corridors, conference rooms, patient treatment and classrooms, and electrical/mechanical rooms that require cooling. This strategy provides the conditioning necessary in spaces with high-occupancy or equipment loads, and ventilation only when conditioning is not necessary. The sensible fan powered boxes utilize high efficiency, variable speed fans with EC motors.
- DOAS + Radiant and/or Natural Ventilation + Ceiling fans + Radiant – located in offices, workspaces, recreation spaces. This strategy allows the project to take advantage of the mild climate in this region a large portion of the, and provide more of a natural environment, and save conditioning and fan energy in the non-clinical spaces.

Decoupling the ventilation system (DOAS) from the space conditioning system (active chilled beams, sensible fan powered boxes, and radiant) saves fan energy and reduces the amount of zone level reheat that typically occurs when some zones need cooling and other zones need heating.

The Predesign energy model assumes an air-to-air energy recovery device at the DOAS air handling unit with 50% total energy (enthalpy) recovery effectiveness. The 'false-cooling' heat recovery coil in the exhaust air handling unit will be placed after the ERV heat recovery unit. The optimal energy recovery approach and control sequence will still need to be being evaluated and by the project team.



Intelligent Operations

Automated and intelligent building controls allow the building to operate as efficiently as possible and maximize the performance of primary building systems.

Active, CO₂ based demand-controlled ventilation in each zone is an important energy efficiency strategy for this project. This helps to significantly reduce fan energy and heating energy during times of intermittent occupancy and is particularly important for a building program like this with many zones that have a high peak occupant count under design conditions. Reducing the ventilation rates as much as possible allows the DOAS system to operate at a significantly reduced load, which reduces fan power, heating, and cooling.

The spaces with using radiant systems and ceiling fans incorporate an expanded temperature setpoint of 68°F/77°F to account for the increased thermal comfort range provided by a radiant system and increased air circulation in a space.

Intelligent lighting controls such as automatic photocell and occupancy sensors are described in the previous lighting section. Additional lighting and electrical equipment load controls shall be studied further to determine any other potential energy savings opportunities, as well as temperature set-backs during unoccupied hours for non 24-hour spaces to reduce the heating and cooling load when not in use.

APPENDICES

[A-1] Energy Model Input Assumptions

GENERAL:

Western State Hospital – Forensic Building	
Client	Western State Hospital
Project Name	Forensic Hospital
Address	9601 Steilacoom Blvd SW Lakewood, WA 98498
Program Area	550,000+ Gross Square Feet
Number of Floors	2/3 floors above grade 1 floor below grad
Project Elevation	3,664 ft
ASHRAE Climate Zone	4C
Weather File	Tacoma JBLM TMY3
Reference Energy Code	2018 Washington State Energy Code (WSEC)
Simulation Software	OpenStudio v2.9.1 (EnergyPlus v9.2.0)

Western State Hospital / Appendix

SPACE CRITERIA:

Internal Load Assumptions				
Space Type	Code Lighting Power Density ⁽¹⁾	Target Lighting Power Density	Equipment Power Density	Occupant Density ^{(2) (3)}
	[W/ft ²]	[W/ft ²]	[W/ft ²]	[ft ² /person]
Patient Rooms	0.50	0.50	1.5/ECM	185
Offices	0.89	0.89	1.5/ECM	125
Workstation	0.78	0.78	3.0/ECM	64
Conference/Treatment/Classrooms	0.98	0.98	1.0	25
Recreation/Lounge	0.74	0.74	1.5	80
Corridor/Circulation	0.63	0.63	0.5	1000
BOH/ storage	0.50	0.50	0.5	1000
Electrical/IDF	0.76	0.76	5.0	1000
Mechanical	0.76	0.76	2.0	1000
Clinic Lab	0.89	0.89	5.5	125

- (1) LPD's based on 2018 WSEC space-by-space method, Table C405.4.2(2) performance targets
- (2) Sensible load of 250 Btuh/person and latent load of 200 Btuh/person assumed unless noted otherwise.
- (3) Occupant density in each space will be based on code adopted ASHRAE Standard 62.1-2010 or the actual occupant density listed in the facility program.

Temperature and Ventilation Assumptions							
Space Type	Comfort Range	Temperature (°F)		Ventilation Rate (ASHRAE 62.1)		Ventilation Rate (ACH)	
		Min.	Max.	CFM/ft ²	CFM/persons	OSA	Total
Patient Rooms	sensitive	70	74	-	-	2	6
Patient Tower Corridor	relaxed	65	78	-	-	2	2
Patient Tower Lounge	sensitive	70	74			4	4
Storage (medication, soiled laundry, etc.)	Relaxed	65	78			2	2
Offices	relaxed	68	75	0.06	5	-	-
Workstation	relaxed	68	75	0.06	5	-	-
Conference/Treatment/Classrooms	sensitive	70	75	0.06	5	-	-
Gym/Recreation	relaxed	65	78	0.12	10	-	-
Corridor/Circulation	relaxed	65	78	0.06	5	-	-
BOH/ storage	relaxed	65	78	0.06	-		
Electrical/IDF	Sensitive	65	78	0.06	5	-	-
Mechanical	relaxed	65	80	0.06	5		
Clinic Lab	sensitive	70	75	0.06	5	-	-

Western State Hospital / Appendix

BUILDING ENVELOPE:

Vertical Fenestration		
Parameter	Proposed Design	Baseline ⁽²⁾
Vertical Glazing Area	10,850 ft ²	<i>(same as proposed)</i>
Gross Above Grade Window-to-Wall Ratio (WWR) ⁽¹⁾	24%	<i>(same as proposed)</i>
WWR by Orientation ⁽¹⁾	29% (North) 18% (East) 29% (South) 29% (West)	<i>(same as proposed)</i>
Glazing U-Value	<i>(same as baseline)</i>	U-0.38 assembly (metal frame)
Glazing SHGC	<i>(same as baseline)</i>	SHGC-0.38

(1) Glazing area per Prelim Design

(2) Baseline values per 2018 WSEC

Opaque Construction		
Parameter	Proposed Design	Baseline ⁽¹⁾
Above-Grade Wall U-Value	<i>(same as baseline)</i>	U-0.055 [R-13 + R-10ci] (metal framed)
Below-Grade Wall C-Value	<i>(same as baseline)</i>	U-0.104 [R-9.5ci]
Roof U-Value	<i>(same as baseline)</i>	U-0.027 [R-38ci] (insulation entirely above deck)
Slab-on-Grade Floors F-Value	<i>(same as baseline)</i>	F-0.540 [R-10 2' vertical] (unheated)
Exposed Floors U-Value	<i>(same as baseline)</i>	U-0.029 [R-30] (joist framing steel/wood)

(1) Baseline values per 2018 WSEC

HVAC SYSTEMS:

Airside and Zone Level Systems	
Primary System Type	Decoupled DOAS with zone level hydronic heating and cooling.
DOAS	100% outdoor air unit providing ventilation to all spaces. Hot water preheat coil. Chilled water cooling coil.
DOAS Energy Recovery	Air-to-air energy recovery device at the DOAS AHU. 50% total energy (enthalpy) recovery efficiency. Airside bypass when not in operation.
DOAS Fan System	1 AHU/building, variable flow, 7" static pressure 1 Exhaust/relief fan/building, variable flow, 4.0 static pressure
DOAS Supply Air Temperature	Neutral Air (55°F – 60°F) supply air temperature based on zone demand.
Demand Control Ventilation	Active CO2 based demand control ventilation in each zone. (excludes ACH driven zones – patient rooms and lounges)
Zone Level Devices	Active Chilled Beams – Patient Rooms, patient lounges for total air change requirements Sensible Fan Power Boxes – treatment rooms, conference rooms, clinic, etc. 4-pipe sensible only cooling coils and heating coils. Variable speed fans at .08/.12 W/CFM. Fans/Radiant system – offices, workstations, recreation spaces. 0.55 W fan power.

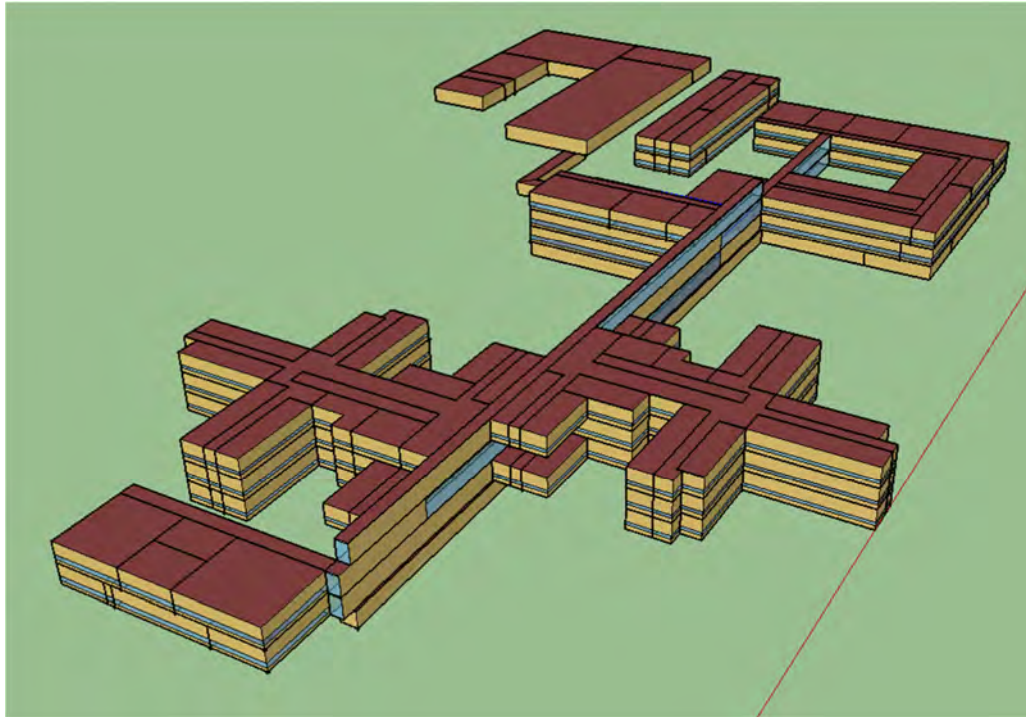
Hydronic Plant Systems	
Primary System Type ⁽¹⁾	6-pipe heat pumps (hot/cold/source) connected to open-loop geo-exchange source and air to water heat pump system: Simultaneous heating/cooling COP: 7.0 Geo Cooling COP: 3.0 Geo Heating COP: 2.5 Heating only/False Cooling COP: 4.0 Air to Water cooling COP: 3.0 Air to Water heating COP: 2.5
Heating Hot Water	120F supply temperature. Serving DOAS AHU preheat coils and zone level systems. Pumping power at 60' of head.
Chilled Water	57F supply temperature. Serving DOAS AHU cooling coils, zone level systems. Pumping power at 60' of head.
Domestic Hot Water	140°F supply temperature. Primary 6-pipe heat pumps preheat DHW up to 115°F and then solar hot water heater will boost up to 140°F. 25 gal/patient/day, 135 Btu/FTE/hour

(1) Primary system will stage based on heating/cooling demand and ambient conditions to optimize plant performance

BUILDING SCHEDULE:

SPACE UTILIZATION	
Office Buildings	45 hours / week + some evening and weekends
Patient Tower	24/7 Operation
Patient Therapy Building	10 hours / day

MODEL IMAGE:



*Building multiplier was applied to patient tower buildings to simplify model and reduce model processing time.

[A-2] Governors Executive Order – Zero Energy[Washington State Executive Order 18-01](#)**I. EMISSIONS REDUCTION INITIATIVES**

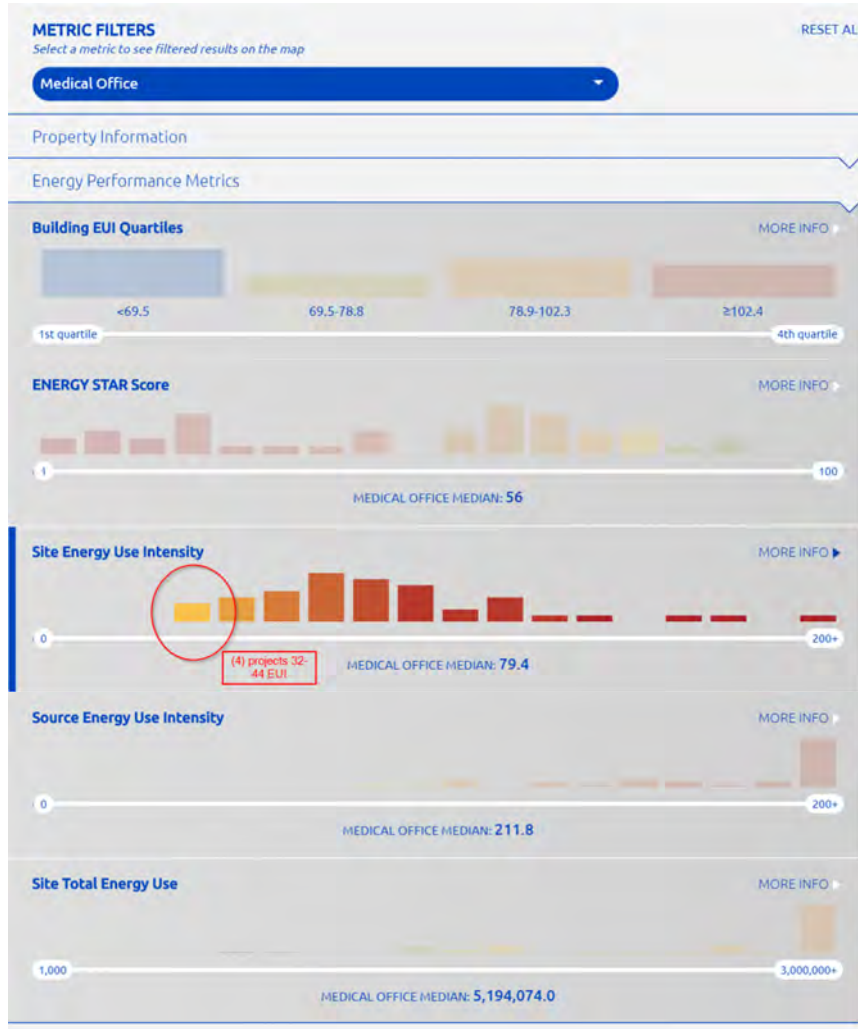
When making purchasing, construction, leasing, and other decisions that affect state government's emissions of GHGs or other toxic substances, agencies shall explicitly consider the benefits and costs (including the social cost of carbon) of available options to avoid those emissions. Where cost-effective and workable solutions are available that will reduce or eliminate emissions, decision makers shall select the lower-emissions options.

A cross-agency Governing Council shall adopt and implement clear and workable standards, measures, targets, and tools necessary to support agencies in making emissions-reducing choices. Directors of the state agencies covered by this order, operating in compliance with the parameters established by the Governing Council, shall be responsible for the following:

- a. **Zero-Emission Vehicles.** For many uses, battery-electric vehicles (BEVs) are now more cost-effective for the state to own and operate than conventionally-powered or hybrid vehicles, considering full life-cycle costs. Therefore, Directors shall ensure that each lease or purchase of new vehicles shall prioritize BEVs (or better emerging technology), and that all trips which could be feasibly made by BEVs shall employ them. For vehicle classes in which BEVs are not available, agencies shall prioritize the most cost-effective low-emission options available.
- b. **New Facility Construction.** For a growing number of facilities, the cost of constructing a zero energy or zero energy-capable building is now comparable to that of a conventional building, promising decades of reduced energy costs. Therefore, Directors shall ensure that all newly-constructed state-owned (including lease-purchase) buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net-embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible.
- c. **Energy Efficiency in Owned and Leased Facilities.** Since most state facilities are currently operating at well below their maximum feasible energy efficiency, Directors shall ensure that their agencies adopt and implement plans to dramatically reduce energy use in state-owned facilities, with an initial target of reducing energy consumption by at least 10% during the first year, to be adjusted annually by the Governing Council, based on emerging opportunities and results. In most cases, agencies will choose to adopt tools to improve energy efficiency, operations, process management, and occupant behavior in the short term, while accelerating planning for deep facility retrofits and new construction in the out-years. For leased facilities, where a working group identifies cost-effective opportunities for savings, Directors shall ensure the pursuit of these opportunities.
- d. **State Ferries.** The Secretary of the Department of Transportation (WSDOT) shall ensure that the Washington State Ferry system begins the transition to a zero-carbon-emission ferry fleet, including the accelerated adoption of both ferry electrification and operational improvements that will conserve energy and cut fuel use.
- e. **100% Clean Electricity.** As the price of renewable energy technologies continue to fall, supporting state operations with zero-emissions electricity sources is becoming more feasible and cost-effective. Directors shall ensure that agencies are evaluating available options from

[A-3] Seattle Benchmark Data

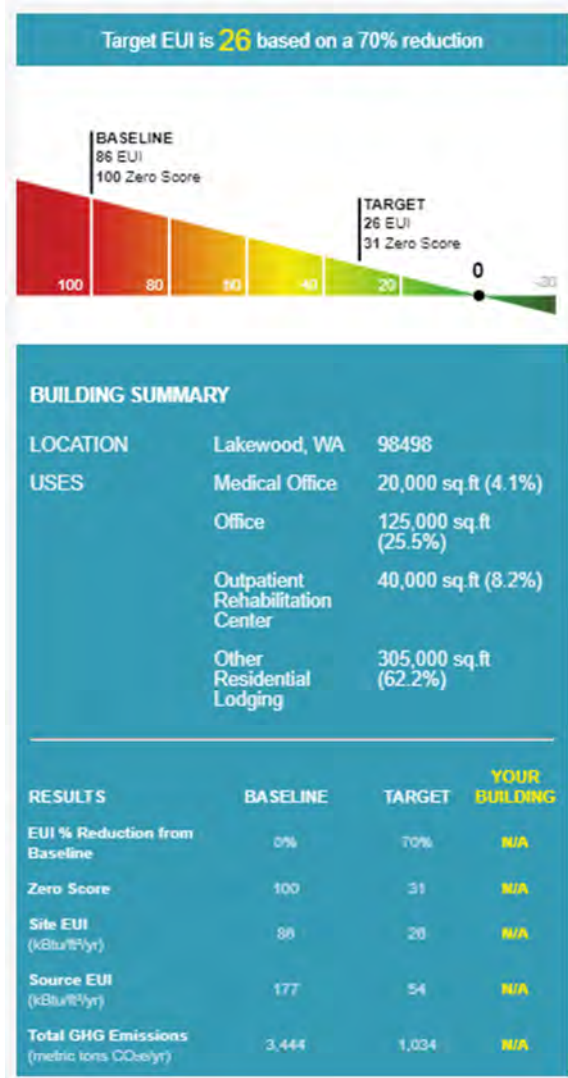
[Seattle Benchmark Data](#)



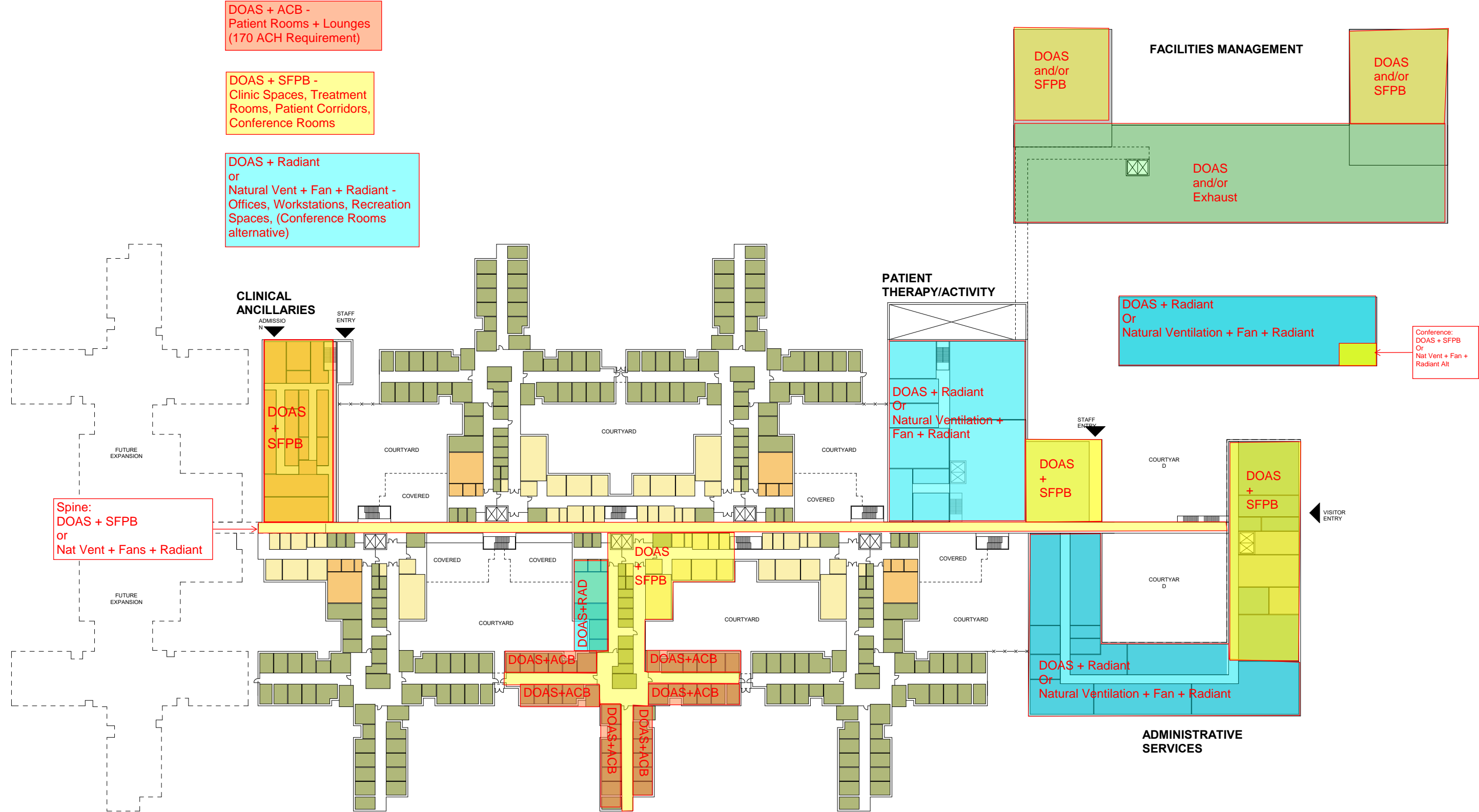
Western State Hospital / Appendix



[A-4] AIA 2030 Challenge – 70% reduction



Western State Hospital / Appendix



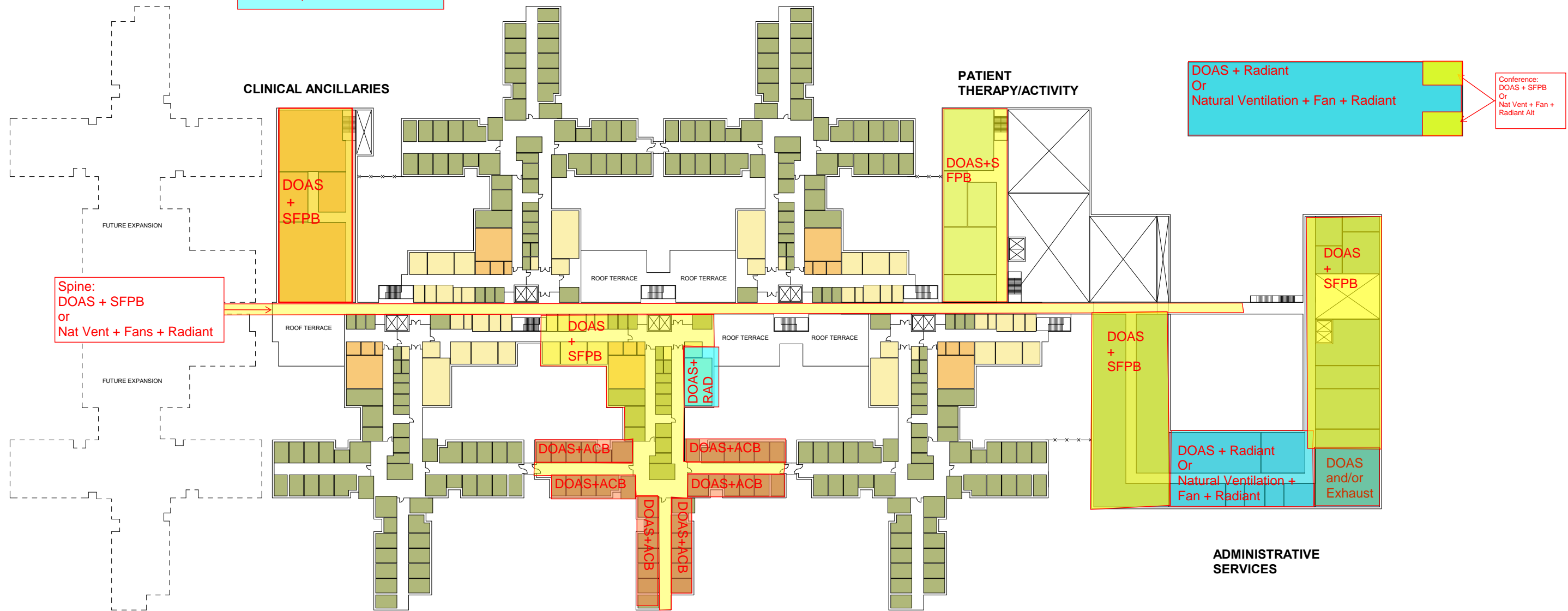
DOAS + ACB -
Patient Rooms + Lounges
(170 ACH Requirement)

DOAS + SFPB -
Clinic Spaces, Treatment
Rooms, Patient Corridors,
Conference Rooms

DOAS + Radiant
or
Natural Vent + Fan + Radiant -
Offices, Workstations, Recreation
Spaces, (Conference Rooms
alternative)



Western State Hospital / Pre-design Report

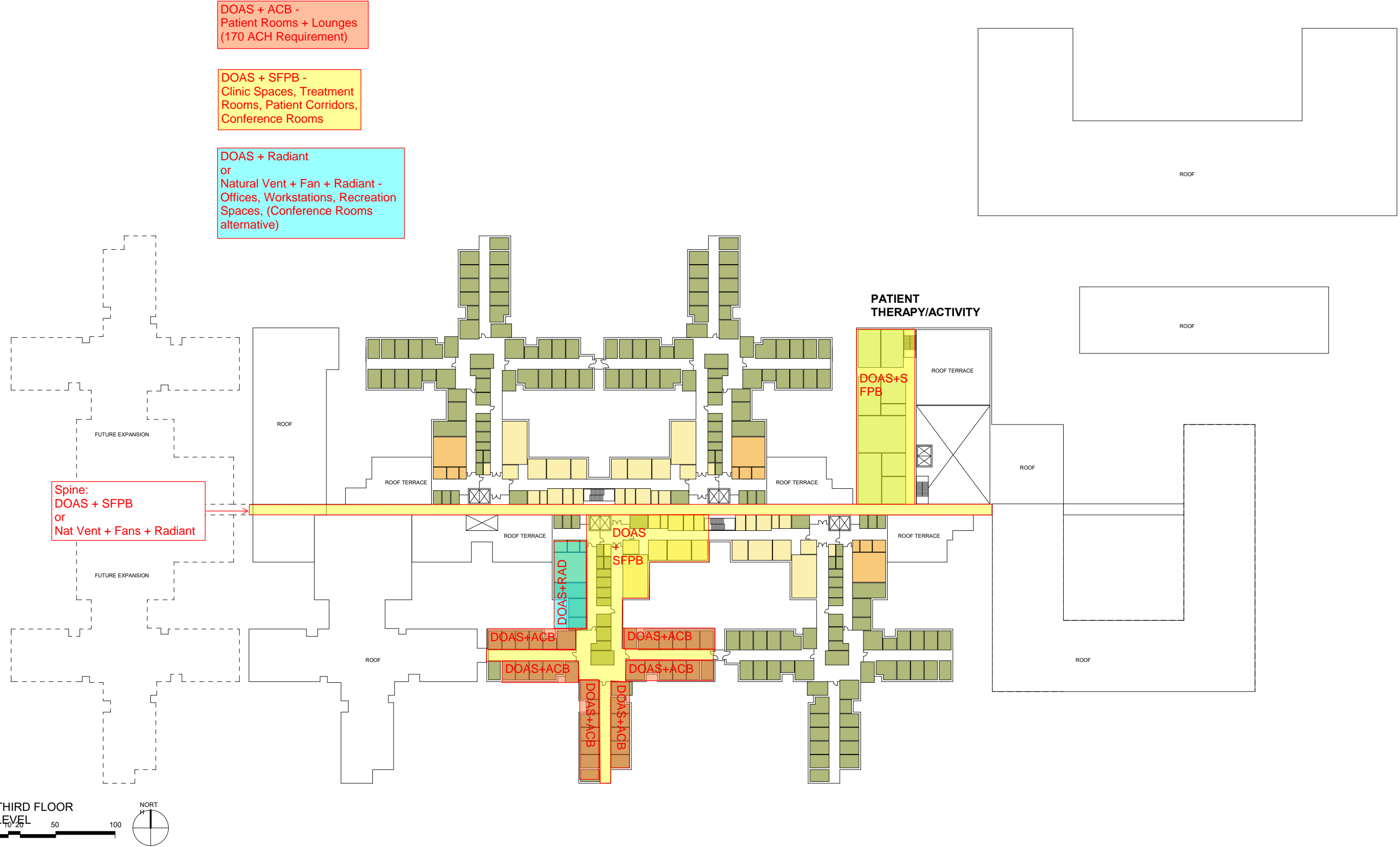


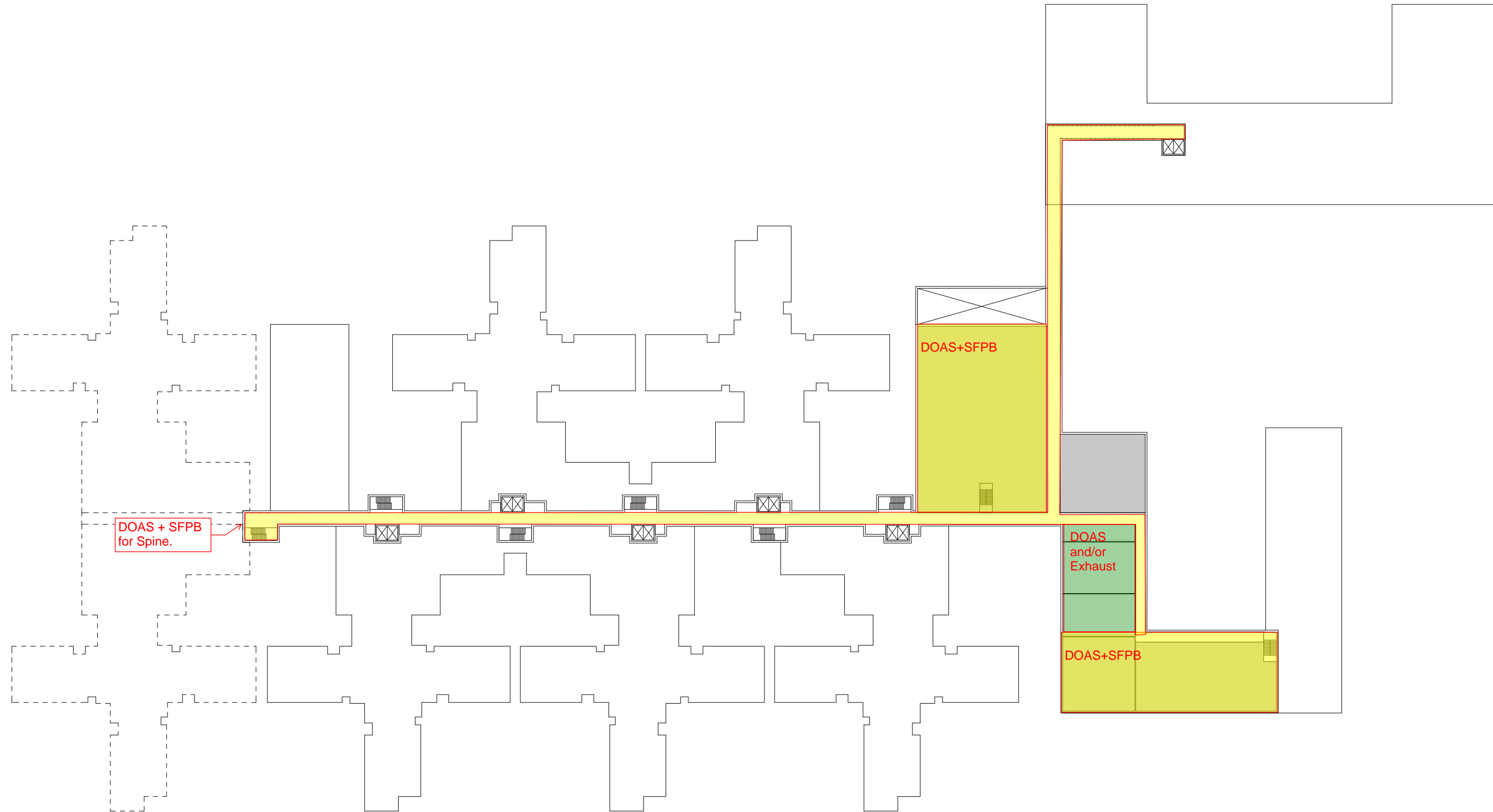
Spine:
DOAS + SFPB
or
Nat Vent + Fans + Radiant

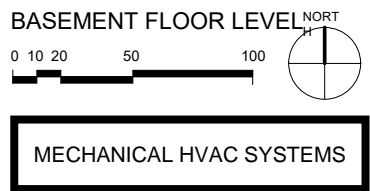
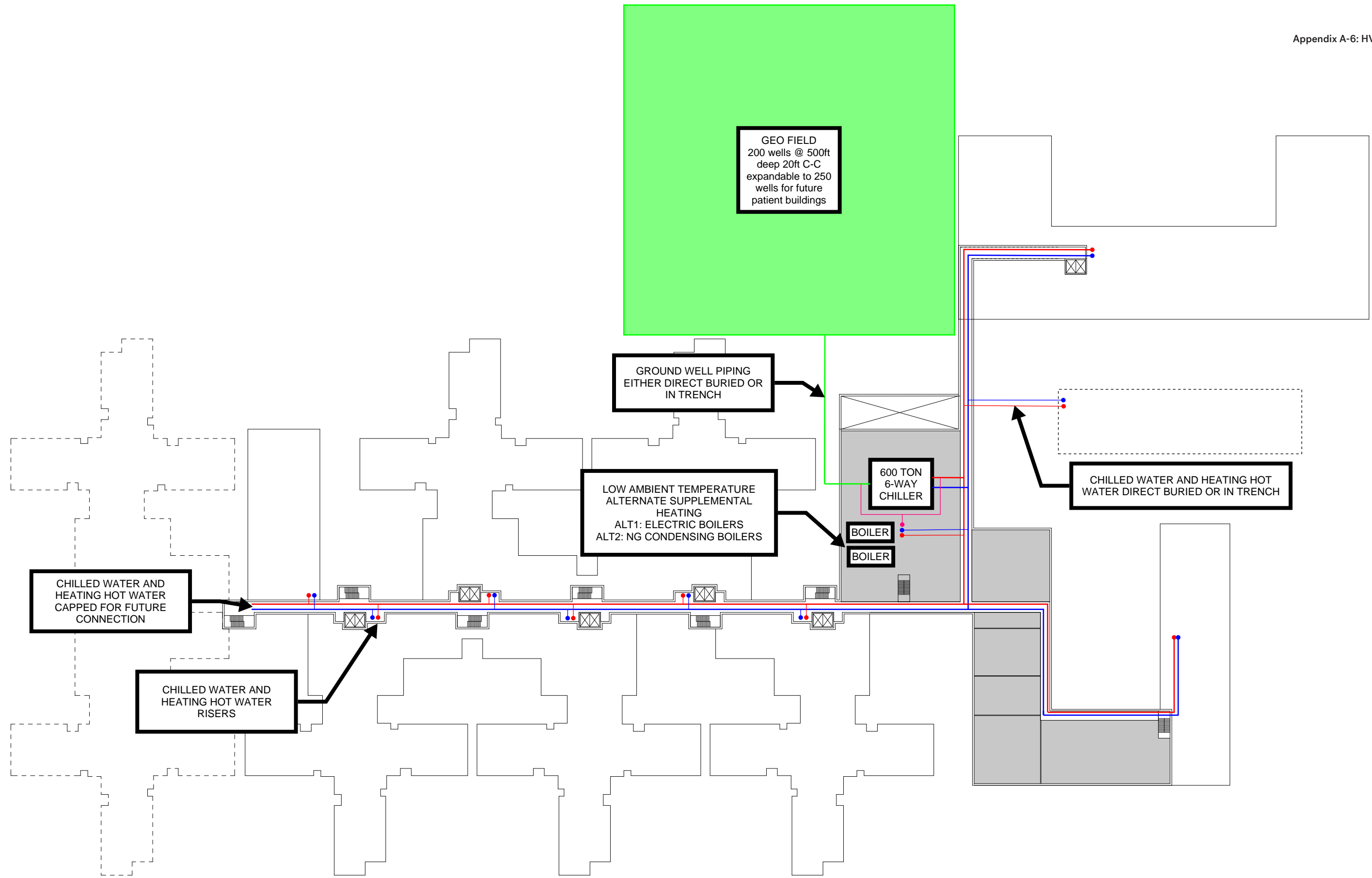
DOAS + Radiant
Or
Natural Ventilation + Fan + Radiant

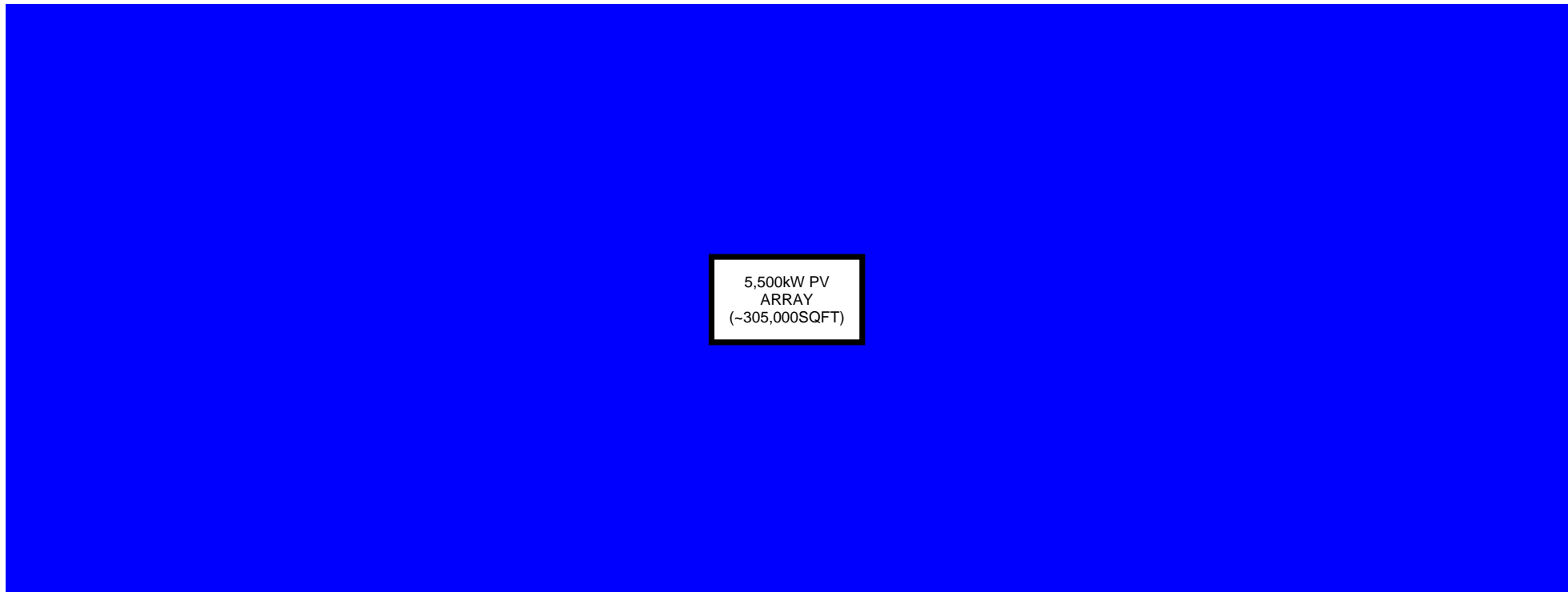
Conference:
DOAS + SFPB
Or
Nat Vent + Fan +
Radiant Alt



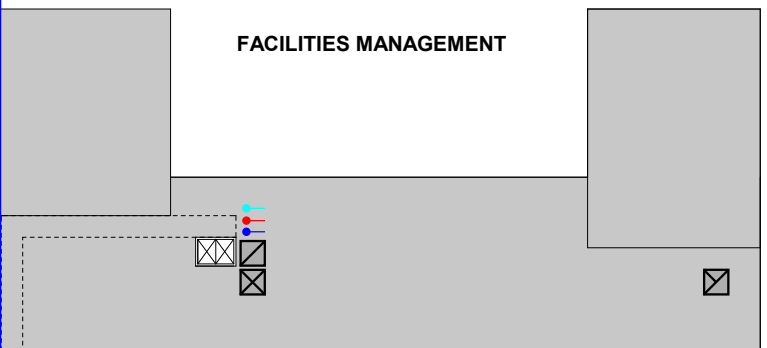




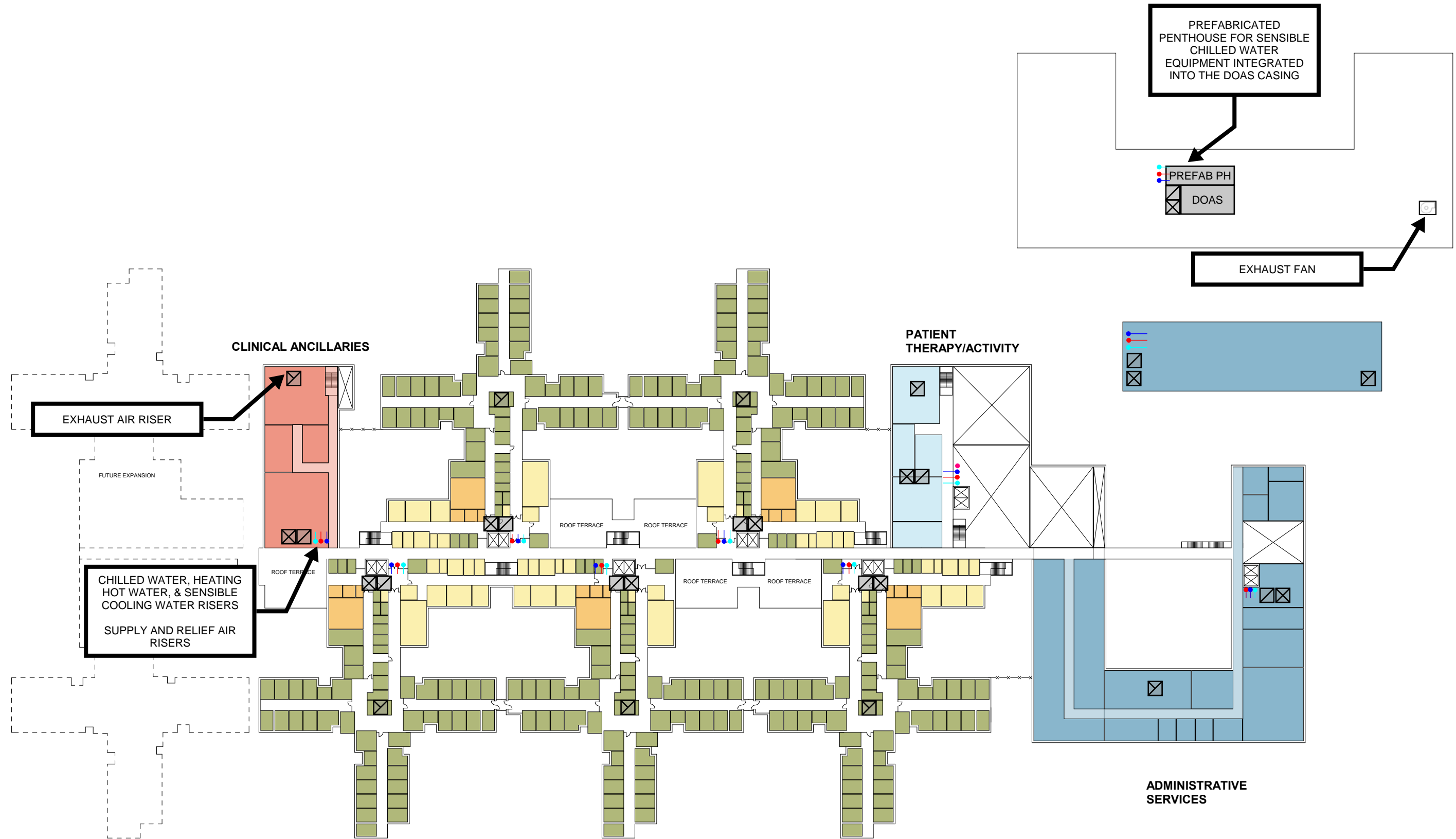


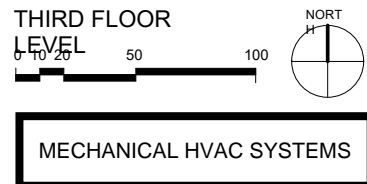
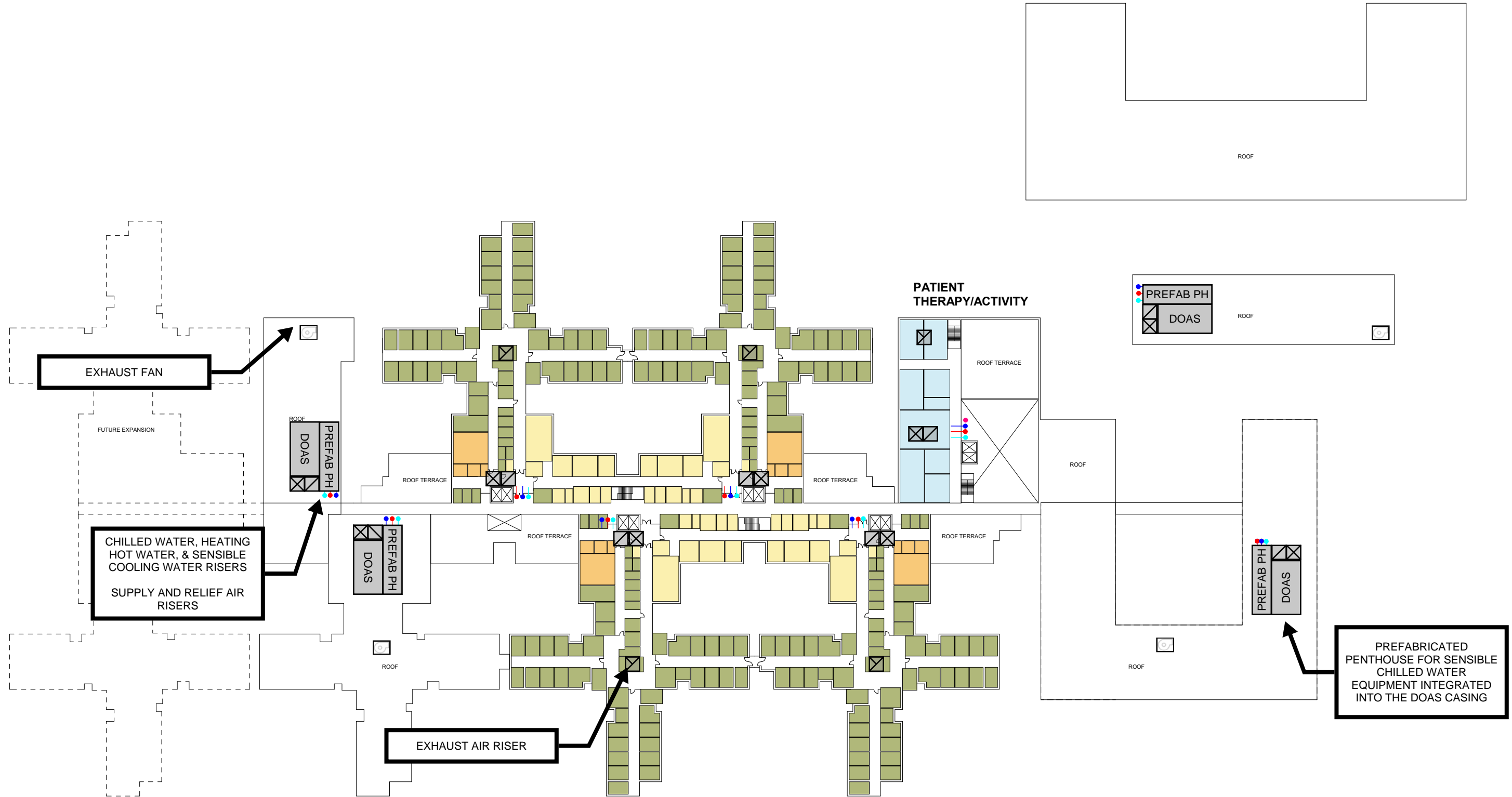


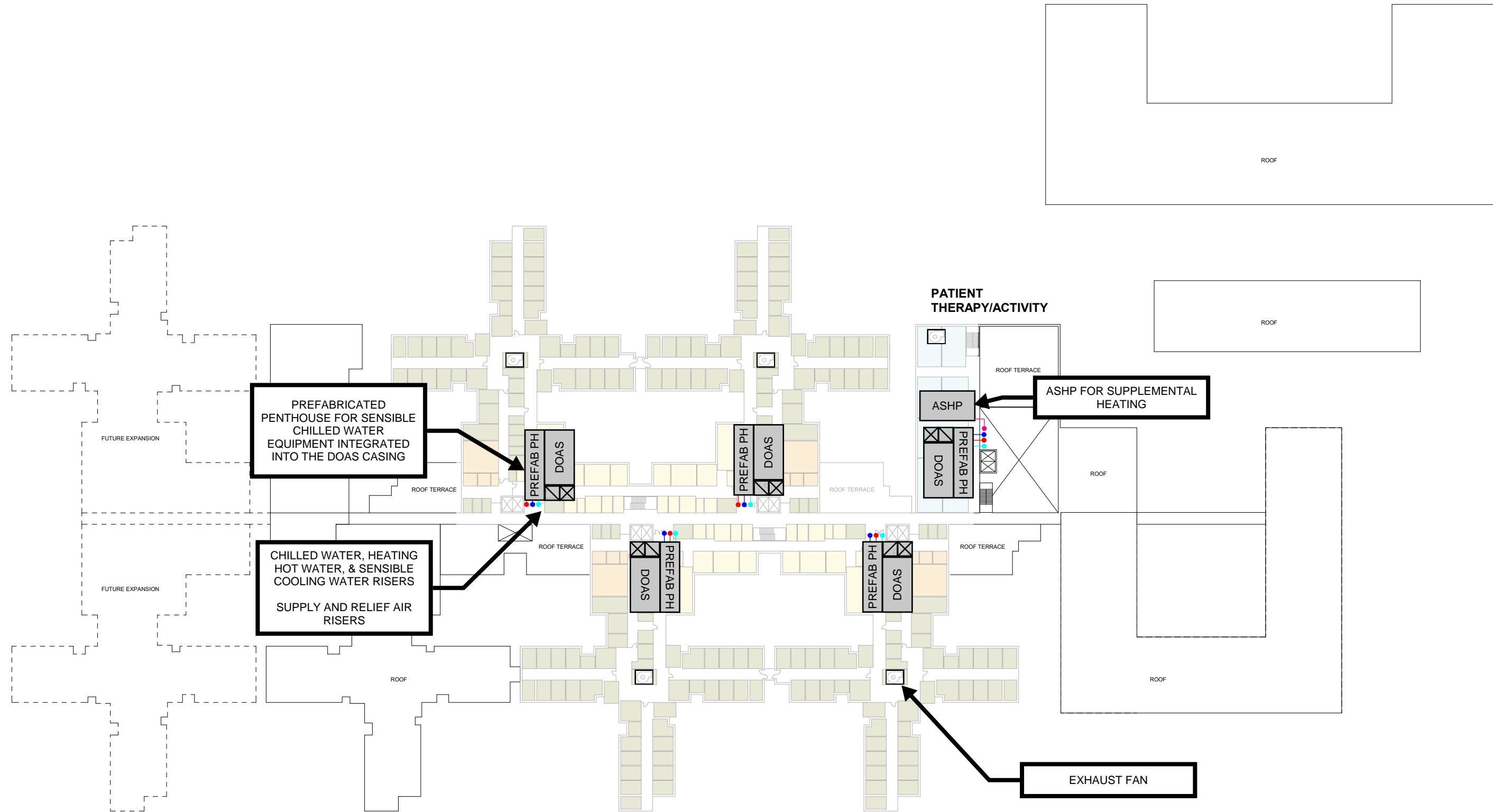
5,500kW PV
ARRAY
(~305,000SQFT)



MECHANICAL HVAC SYSTEMS







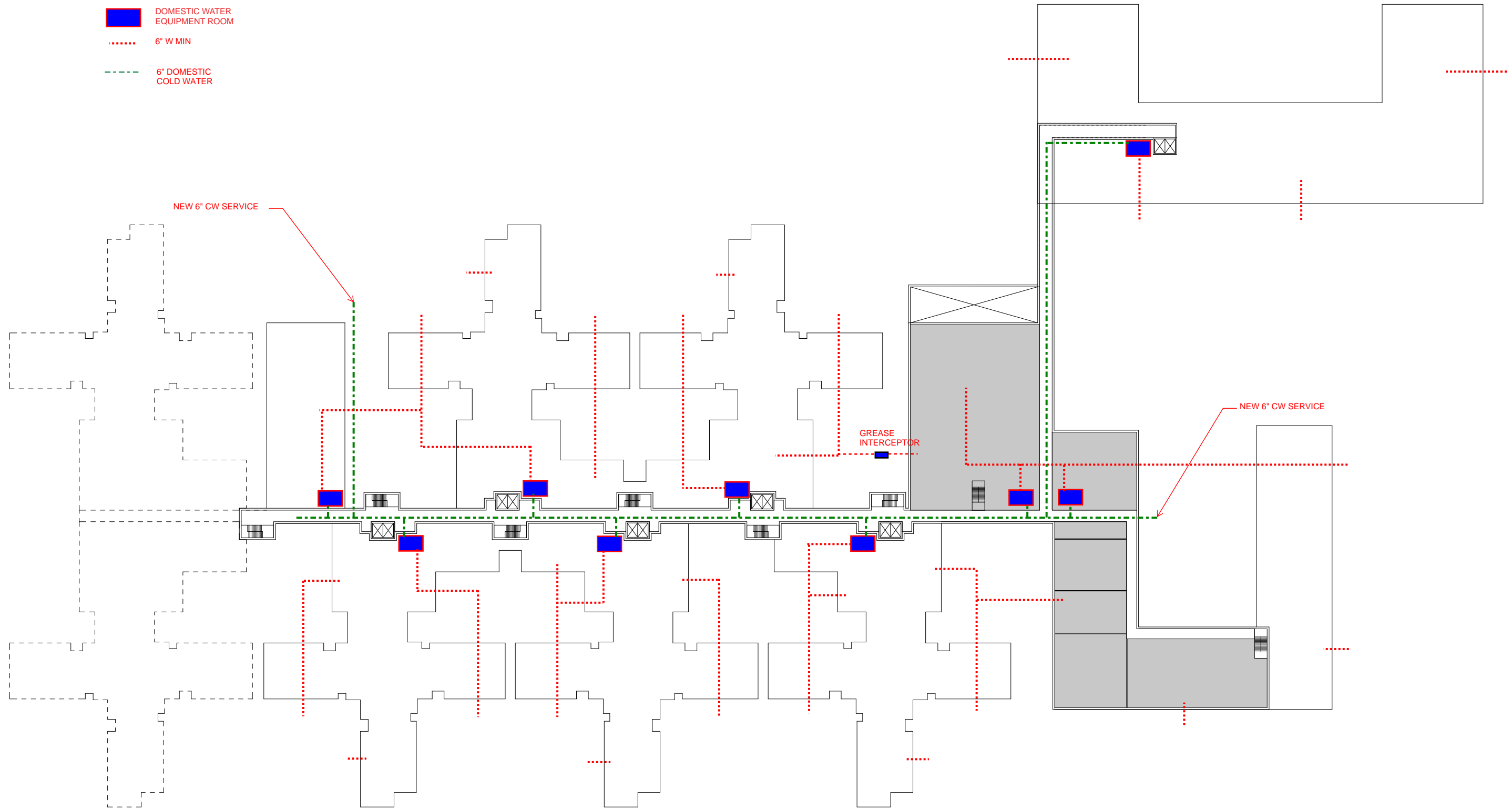
ROOF LEVEL

0 50 100

NORTH

MECHANICAL HVAC SYSTEMS

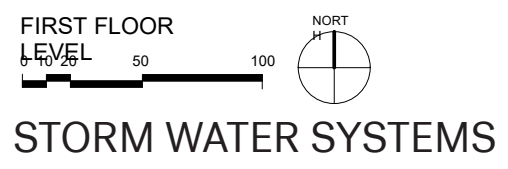
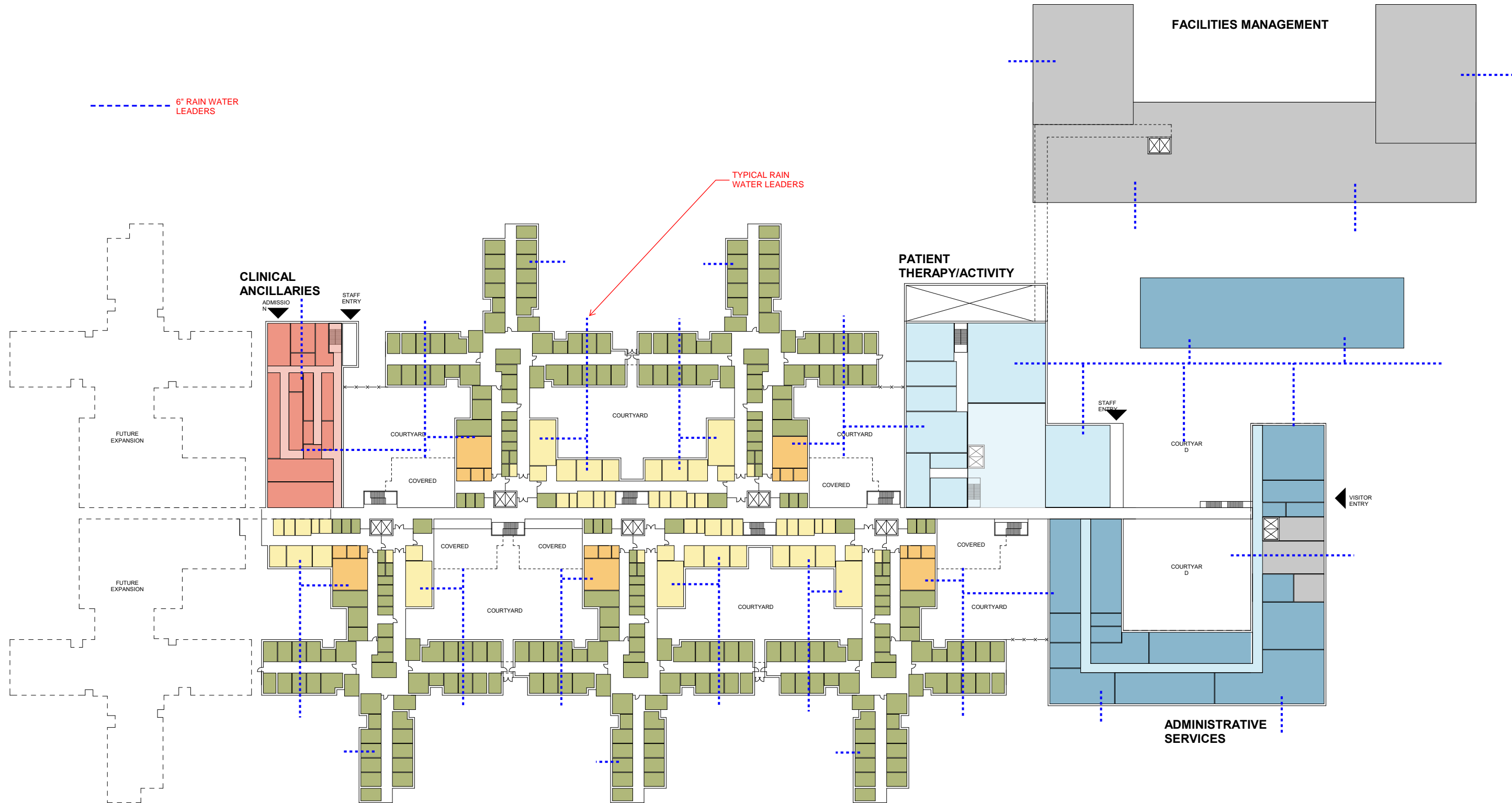
- DOMESTIC WATER EQUIPMENT ROOM
- 6" W MIN
- 6" DOMESTIC COLD WATER



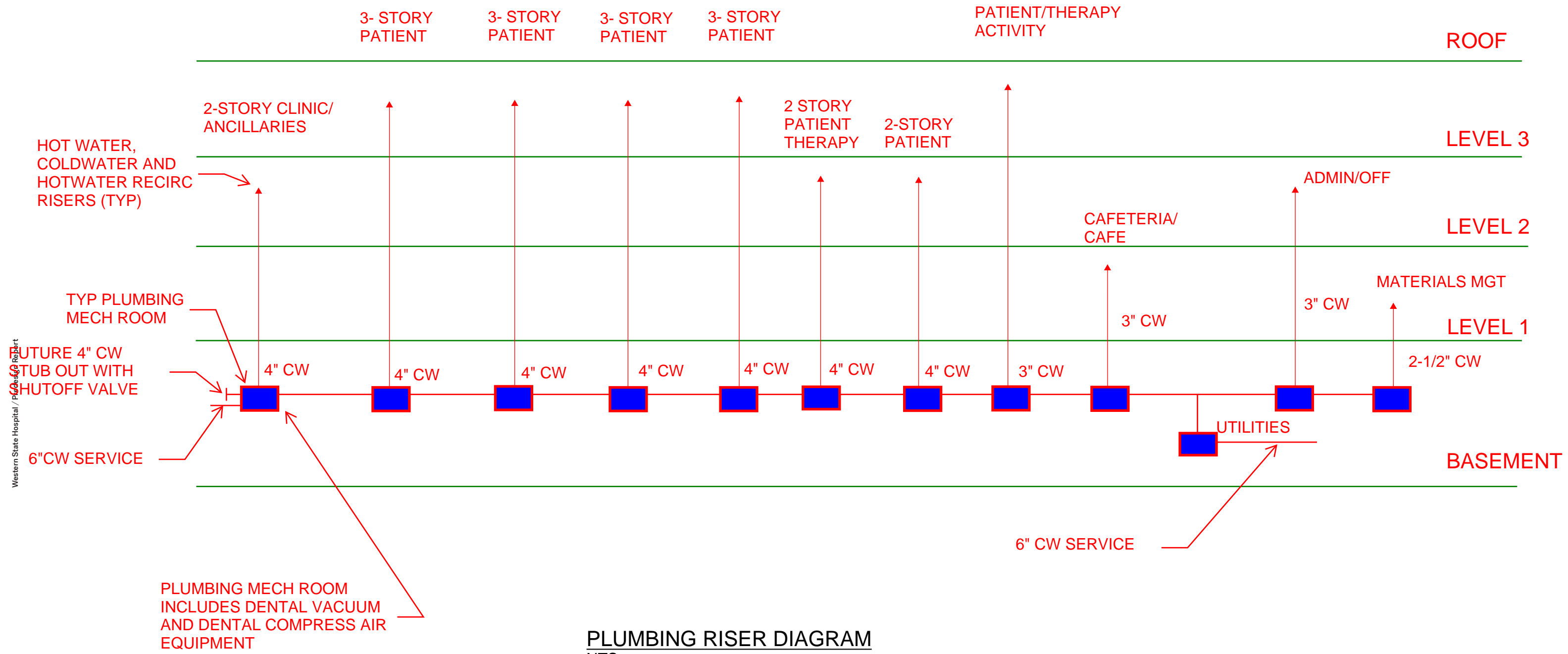
DOMESTIC WATER SYSTEMS

WSH FORENSIC HOSPITAL
BERONA ENGINEERS, INC.
MAY 21, 2020

SKP-1



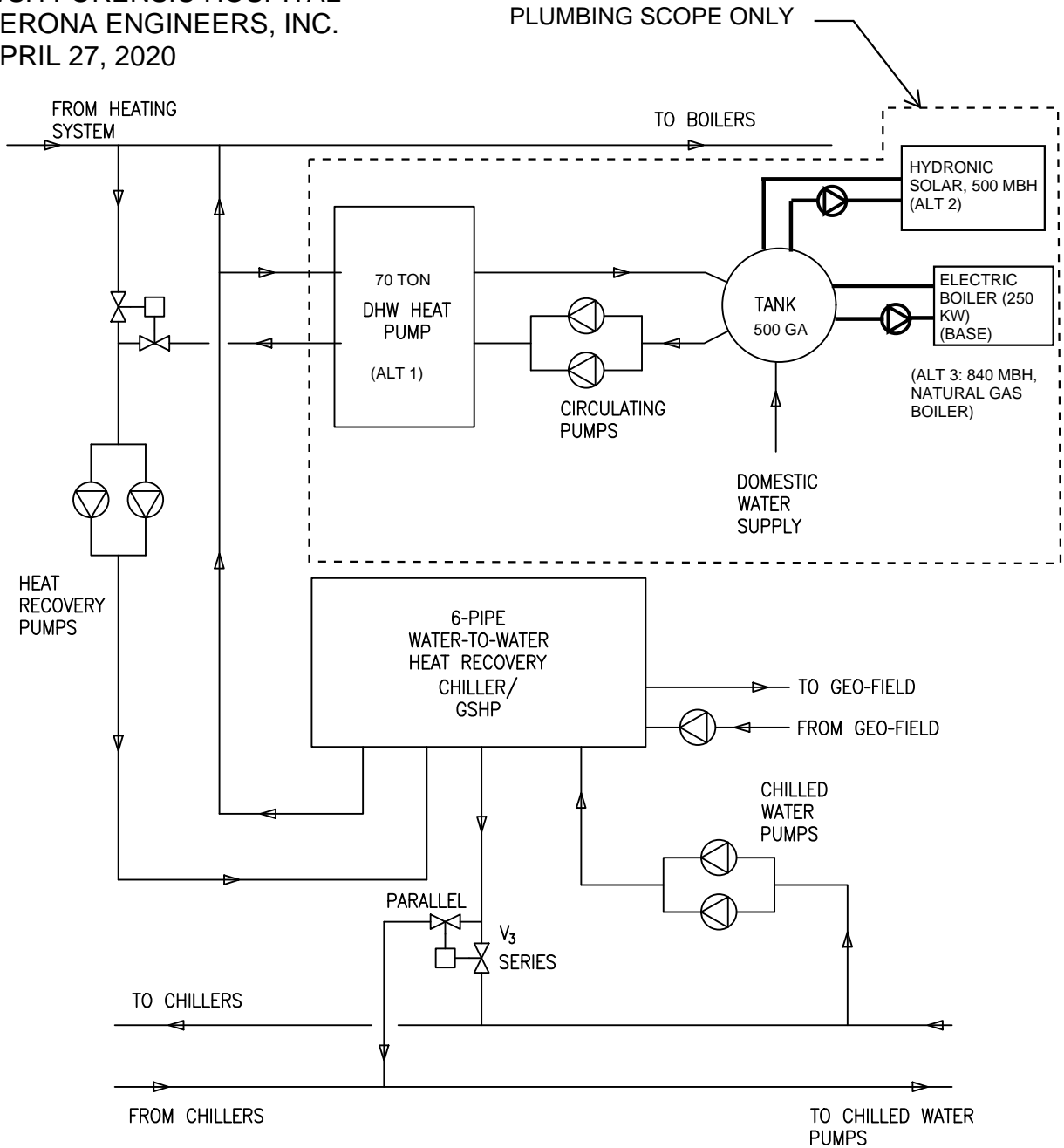
Western State Hospital / Pre-design Report



WSH FORENSIC HOSPITAL
BERONA ENGINEERS, INC.
MAY 21, 2020

SKP-3

WSH FORENSIC HOSPITAL
 BERONA ENGINEERS, INC.
 APRIL 27, 2020



Western State Hospital / Appendix

HW PLUMBING DIAGRAM TYP PLUMBING ROOM

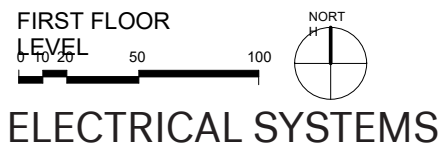
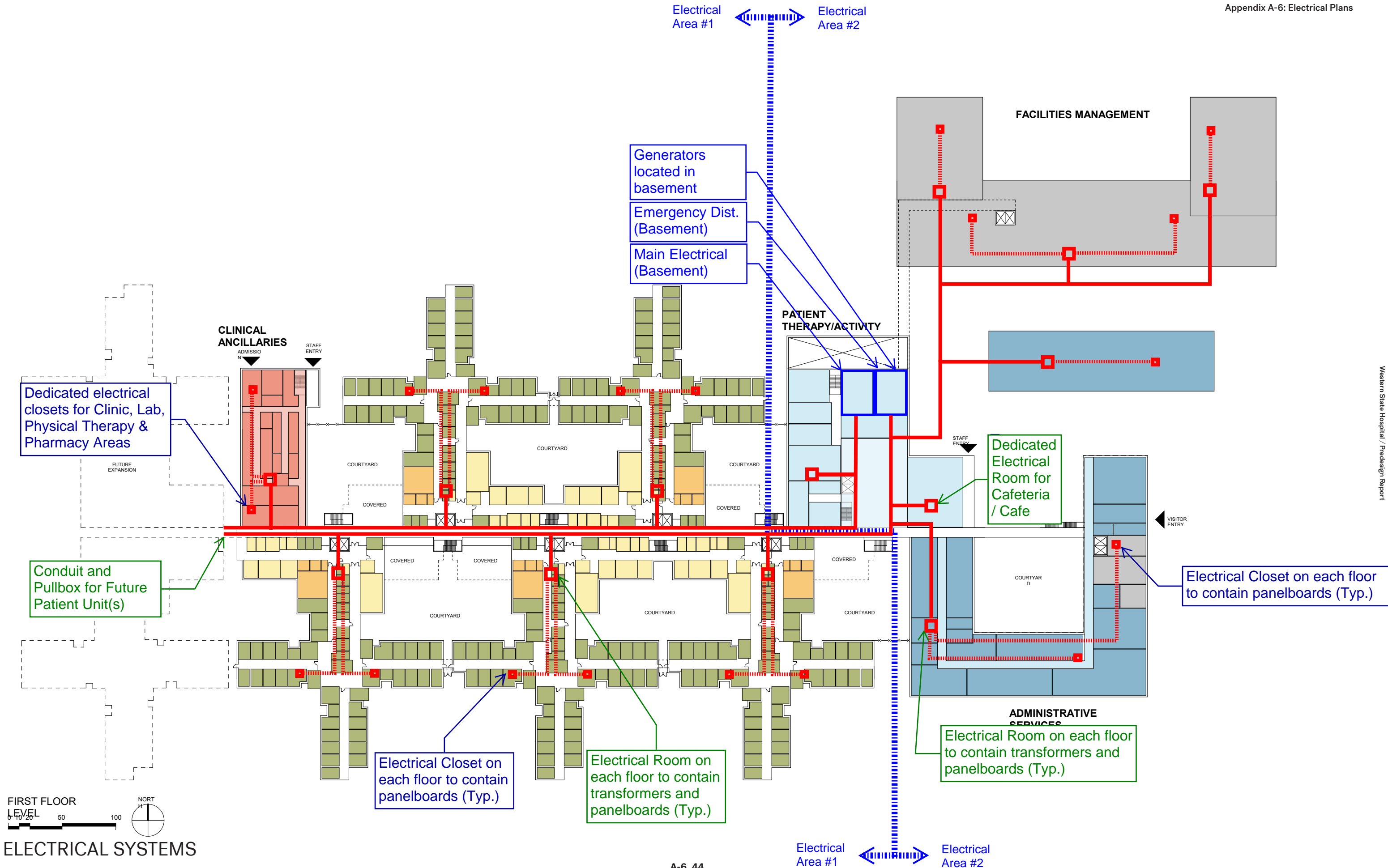
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WSH FORENSIC HOSPITAL
 BERONA ENGINEERS, INC.

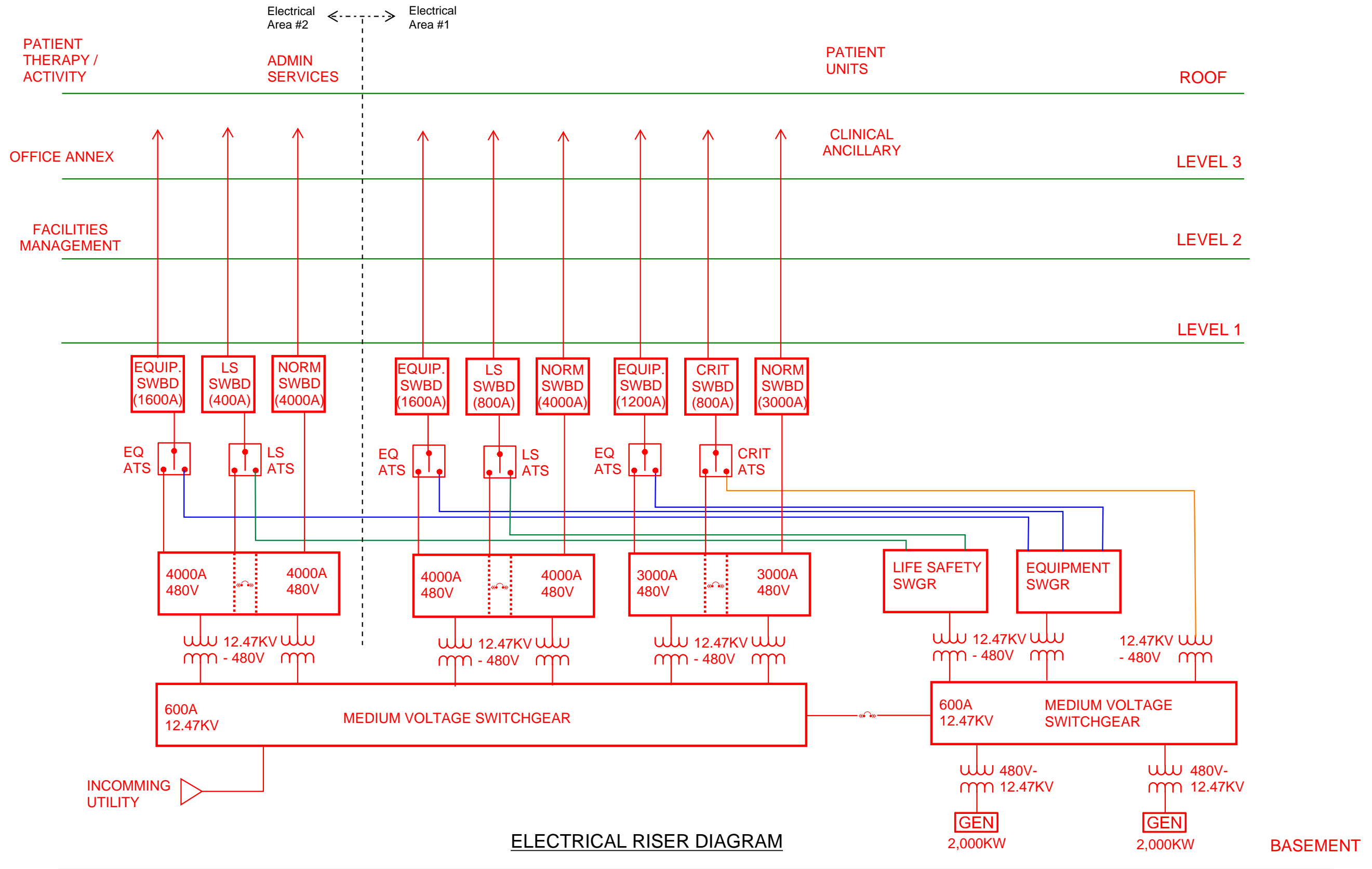
MAY 21, 2020

SKP-4

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ELECTRICAL SYSTEMS



ELECTRICAL RISER DIAGRAM

LEGEND

CABLE

- ARM COOPER CABLE
- HYBRID SM OS2/MM 0M4 INDOOR/OUTDOOR FIBER OPTIC CABLE

CABLE IN CONCRETE ENCASE DUCTBANK

- PE 89 ARM COOPER CABLE IN CONCRETE ENCASE DUCTBANK
- HYBRID SM OS2/MM 0M4 INDOOR/OUTDOOR FIBER OPTIC CABLE
- SERVICE PROVIDER

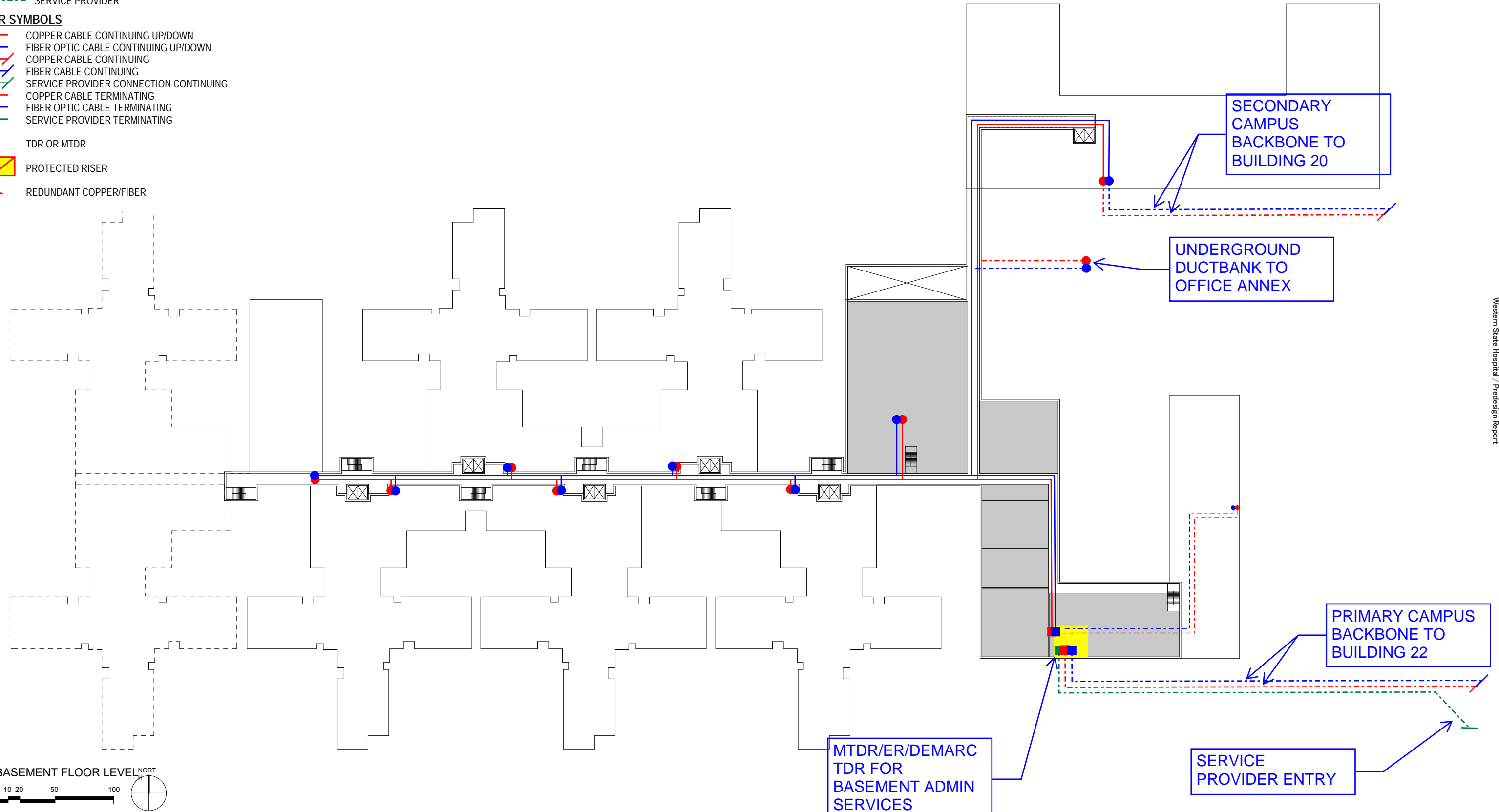
OTHER SYMBOLS

- COPPER CABLE CONTINUING UP/DOWN
- FIBER OPTIC CABLE CONTINUING UP/DOWN
- COPPER CABLE CONTINUING
- FIBER CABLE CONTINUING
- SERVICE PROVIDER CONNECTION CONTINUING
- COPPER CABLE TERMINATING
- FIBER OPTIC CABLE TERMINATING
- SERVICE PROVIDER TERMINATING

TDR OR MTDR

PROTECTED RISER

REDUNDANT COPPER/FIBER



Western State Hospital / Pre-design Report

TECHNOLOGY SERVICES DISTRIBUTION CONCEPTS

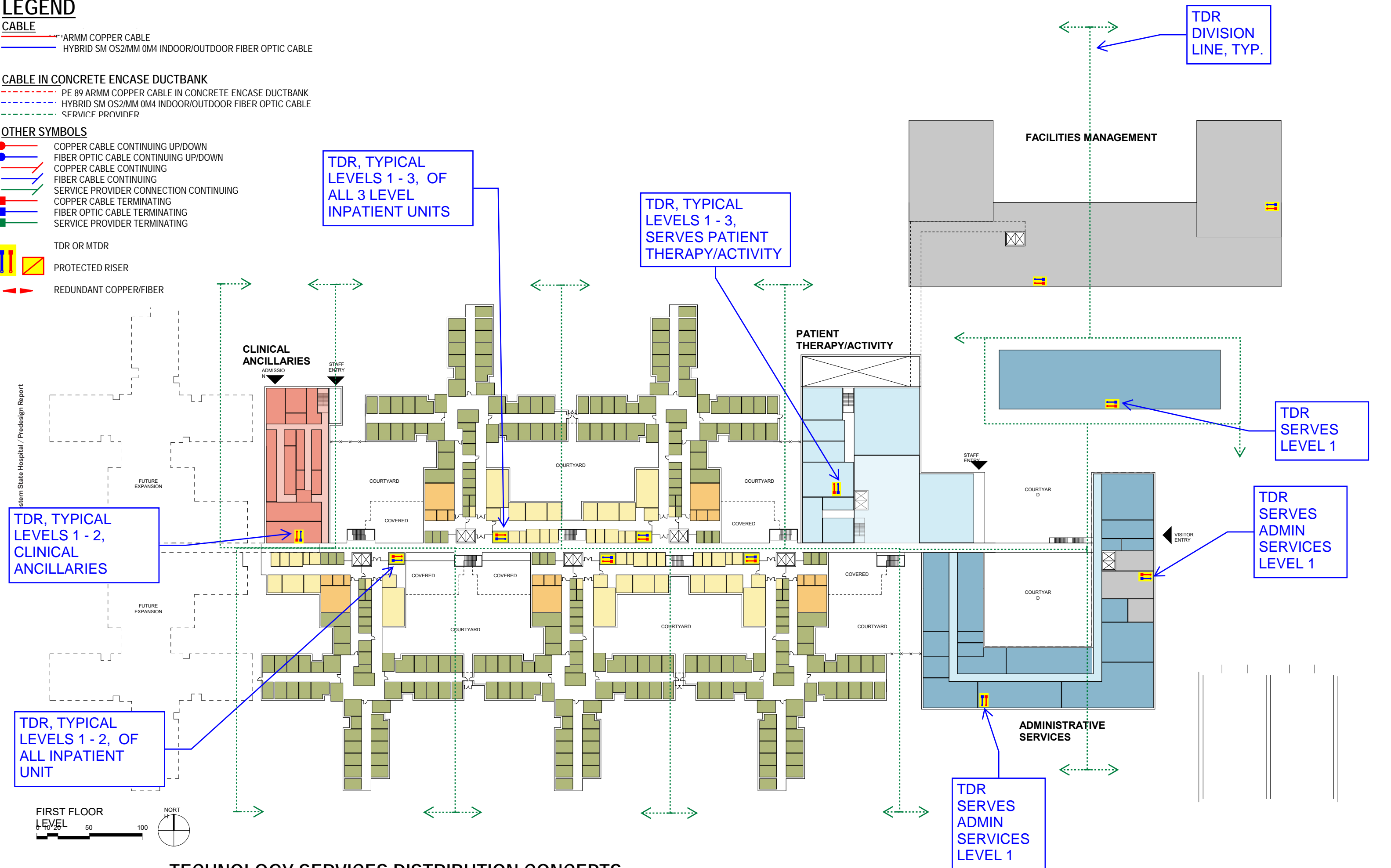
LEGEND

CABLE
 - PE 89 ARMM COPPER CABLE
 - HYBRID SM OS2/MM 0M4 INDOOR/OUTDOOR FIBER OPTIC CABLE

CABLE IN CONCRETE ENCASE DUCTBANK
 - PE 89 ARMM COPPER CABLE IN CONCRETE ENCASE DUCTBANK
 - HYBRID SM OS2/MM 0M4 INDOOR/OUTDOOR FIBER OPTIC CABLE
 - SERVICE PROVIDER

OTHER SYMBOLS
 - COPPER CABLE CONTINUING UP/DOWN
 - FIBER OPTIC CABLE CONTINUING UP/DOWN
 - COPPER CABLE CONTINUING
 - FIBER CABLE CONTINUING
 - SERVICE PROVIDER CONNECTION CONTINUING
 - COPPER CABLE TERMINATING
 - FIBER OPTIC CABLE TERMINATING
 - SERVICE PROVIDER TERMINATING

- TDR OR MTRD
 - PROTECTED RISER
 - REDUNDANT COPPER/FIBER



TDR, TYPICAL LEVELS 1 - 3, OF ALL 3 LEVEL INPATIENT UNITS

TDR, TYPICAL LEVELS 1 - 3, SERVES PATIENT THERAPY/ACTIVITY

TDR DIVISION LINE, TYP.

TDR, TYPICAL LEVELS 1 - 2, CLINICAL ANCILLARIES

TDR SERVES LEVEL 1

TDR SERVES ADMIN SERVICES LEVEL 1

TDR, TYPICAL LEVELS 1 - 2, OF ALL INPATIENT UNIT

TDR SERVES ADMIN SERVICES LEVEL 1



TECHNOLOGY SERVICES DISTRIBUTION CONCEPTS

LEGEND

CABLE
 — ARMM COPPER CABLE
 — HYBRID SM OS2/MM OM4 INDOOR/OUTDOOR FIBER OPTIC CABLE

CABLE IN CONCRETE ENCASE DUCTBANK
 - - PE 89 ARMM COPPER CABLE IN CONCRETE ENCASE DUCTBANK
 - - HYBRID SM OS2/MM OM4 INDOOR/OUTDOOR FIBER OPTIC CABLE
 - - SERVICE PROVIDER

OTHER SYMBOLS
 ● COPPER CABLE CONTINUING UP/DOWN
 ● FIBER OPTIC CABLE CONTINUING UP/DOWN
 ✓ COPPER CABLE CONTINUING
 ✓ FIBER CABLE CONTINUING
 ✓ SERVICE PROVIDER CONNECTION CONTINUING
 ■ COPPER CABLE TERMINATING
 ■ FIBER OPTIC CABLE TERMINATING
 ■ SERVICE PROVIDER TERMINATING
 TDR OR MTDR
 PROTECTED RISER
 REDUNDANT COPPER/FIBER

Appendix A-6: Electrical Plans
TDR DIVISION LINE, TYP.

VERTICAL CHASE FOR REQUIRED ROOF DEVICES, TYP ABOVE ALL TDRS

TDR, TYPICAL LEVELS 1 - 3, OF ALL 3 LEVEL INPATIENT UNITS

TDR, TYPICAL LEVELS 1 - 3, SERVES PATIENT THERAPY/ACTIVITY

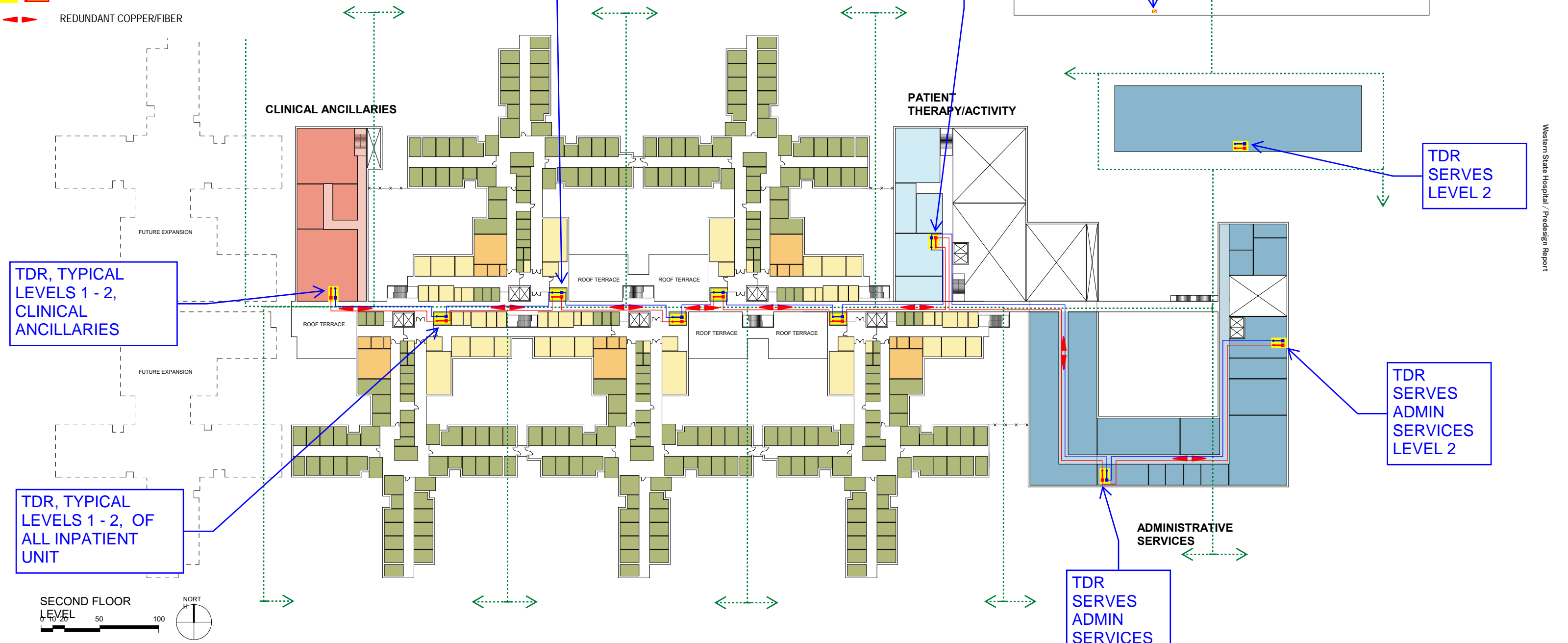
TDR SERVES LEVEL 2

TDR, TYPICAL LEVELS 1 - 2, CLINICAL ANCILLARIES

TDR SERVES ADMIN SERVICES LEVEL 2

TDR, TYPICAL LEVELS 1 - 2, OF ALL INPATIENT UNIT

TDR SERVES ADMIN SERVICES LEVEL 2



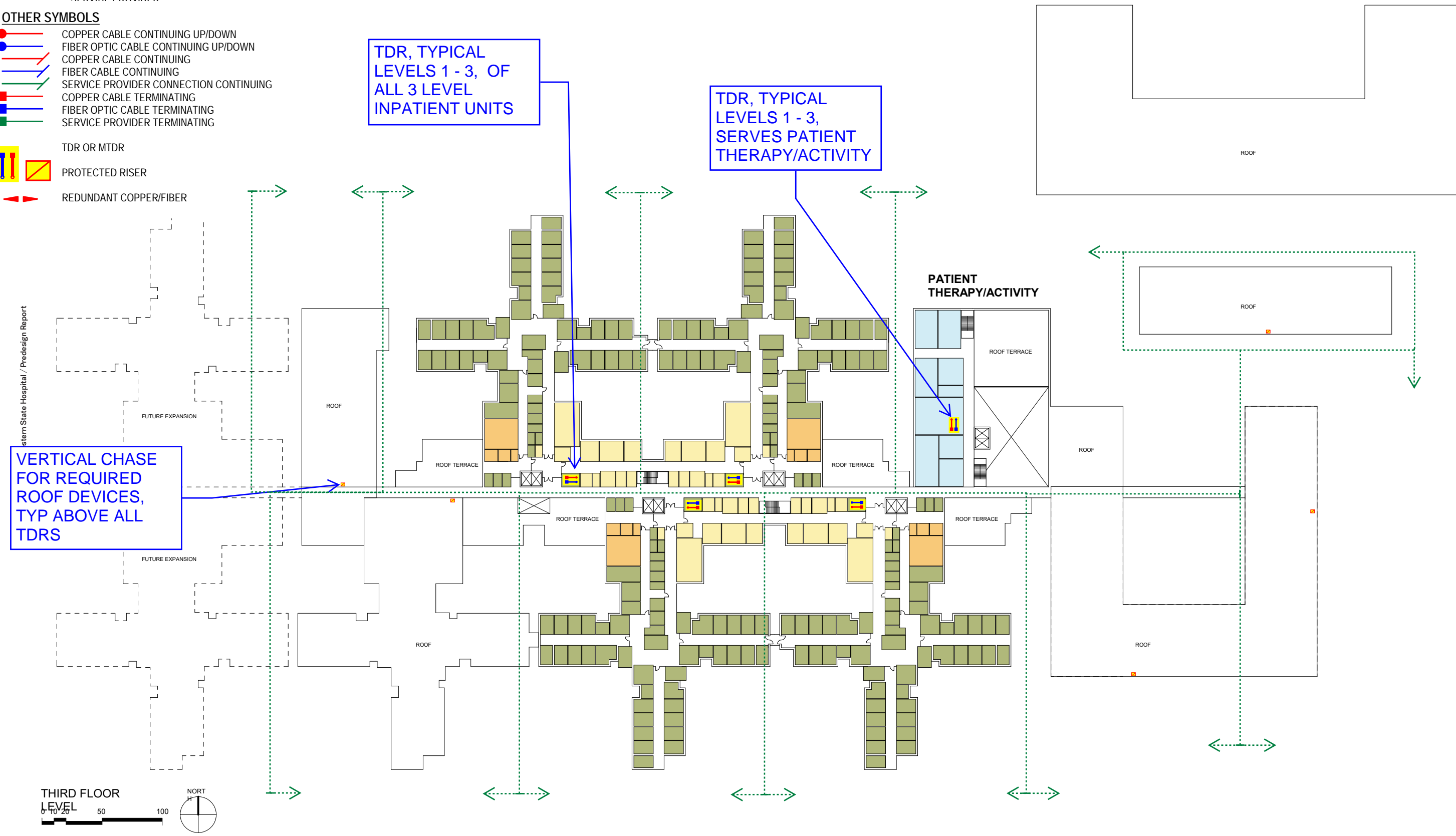
TECHNOLOGY SERVICES DISTRIBUTION CONCEPTS

LEGEND

- CABLE**
- ARMED COPPER CABLE
 - HYBRID SM OS2/MM OM4 INDOOR/OUTDOOR FIBER OPTIC CABLE

- CABLE IN CONCRETE ENCASE DUCTBANK**
- PE 89 ARMED COPPER CABLE IN CONCRETE ENCASE DUCTBANK
 - HYBRID SM OS2/MM OM4 INDOOR/OUTDOOR FIBER OPTIC CABLE
 - SERVICE PROVIDER

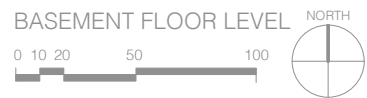
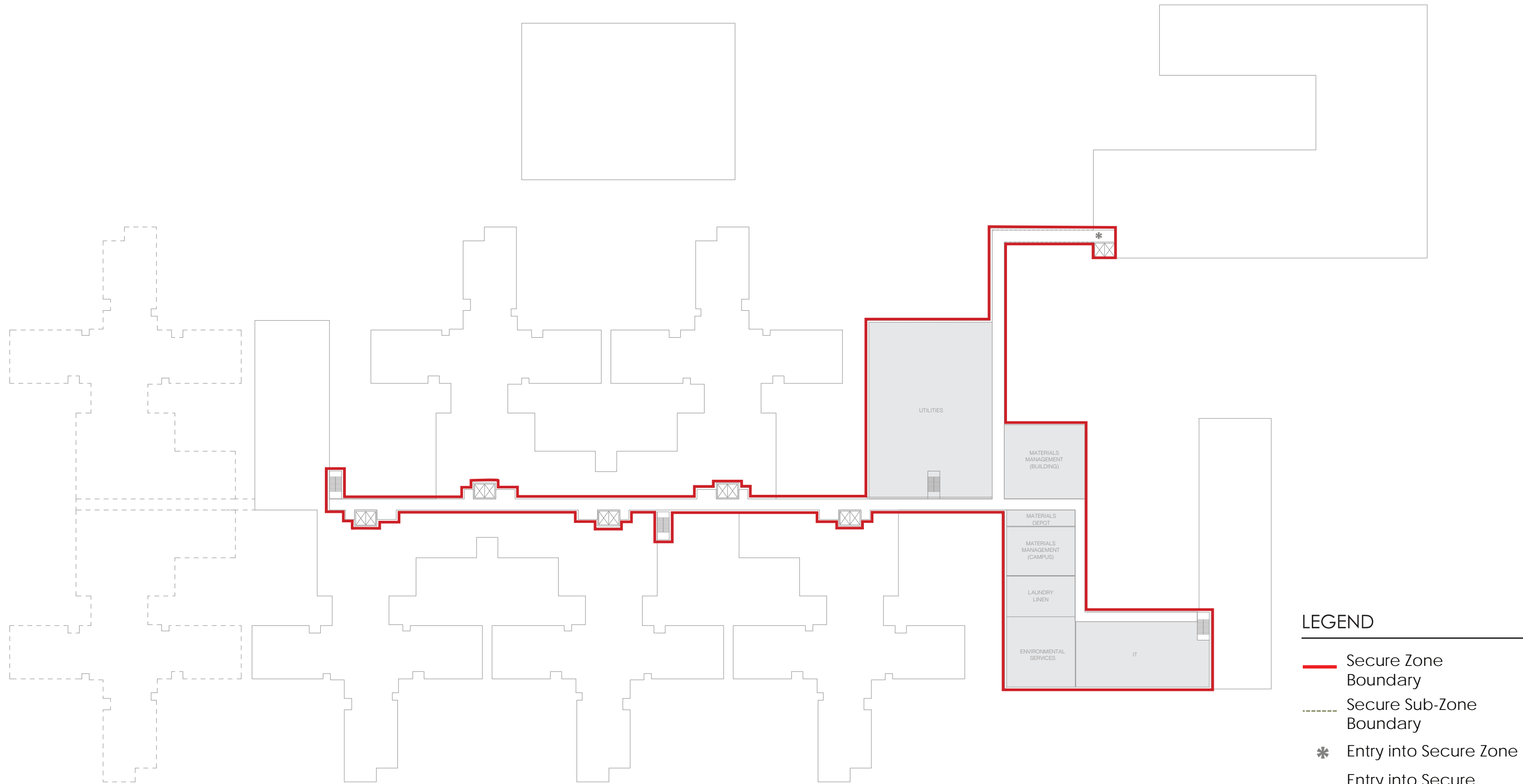
- OTHER SYMBOLS**
- COPPER CABLE CONTINUING UP/DOWN
 - FIBER OPTIC CABLE CONTINUING UP/DOWN
 - COPPER CABLE CONTINUING
 - FIBER CABLE CONTINUING
 - SERVICE PROVIDER CONNECTION CONTINUING
 - COPPER CABLE TERMINATING
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 - SERVICE PROVIDER TERMINATING
 - TDR OR MTRD
 - PROTECTED RISER
 - REDUNDANT COPPER/FIBER



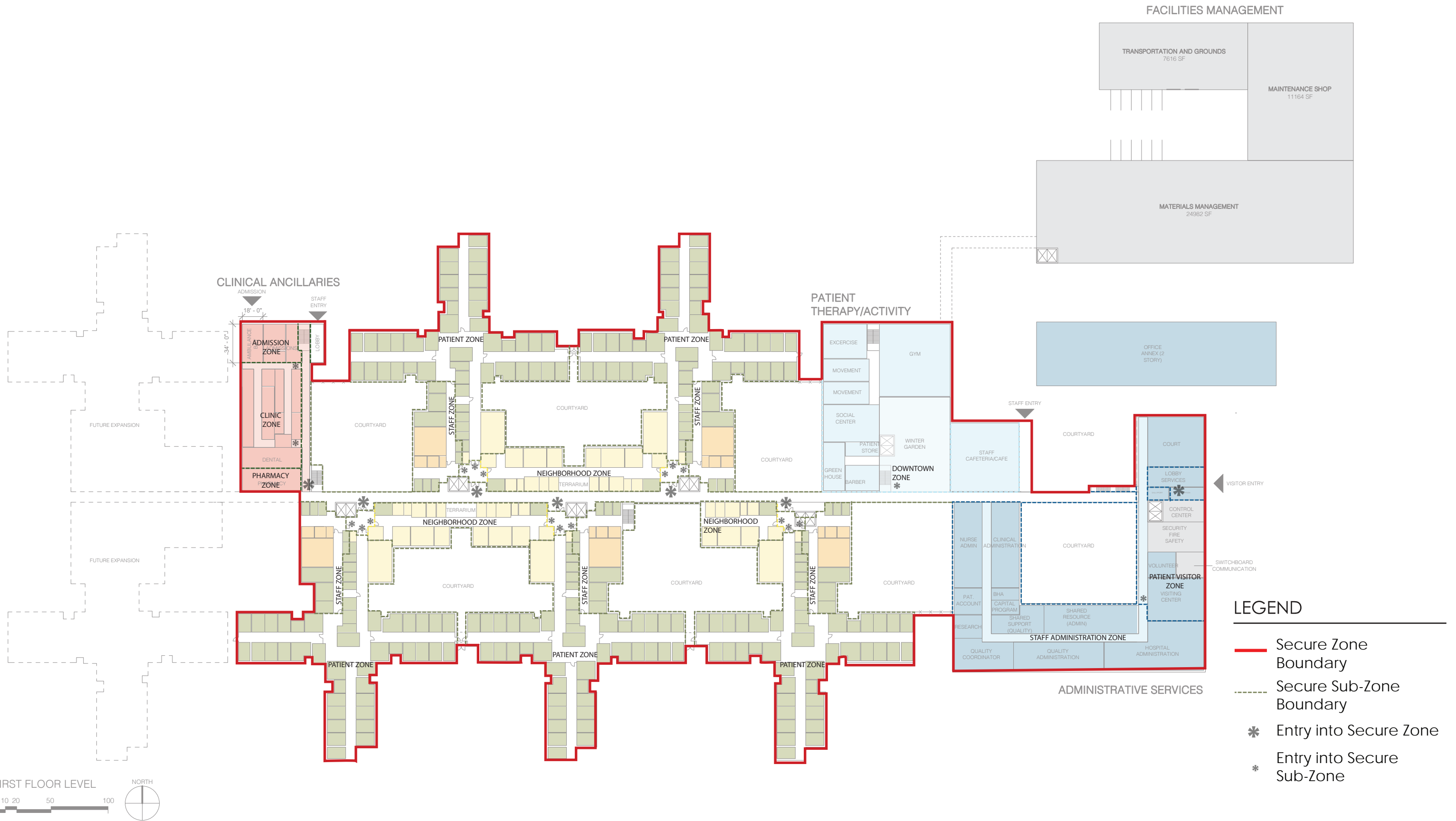
Western State Hospital / Pre-design Report

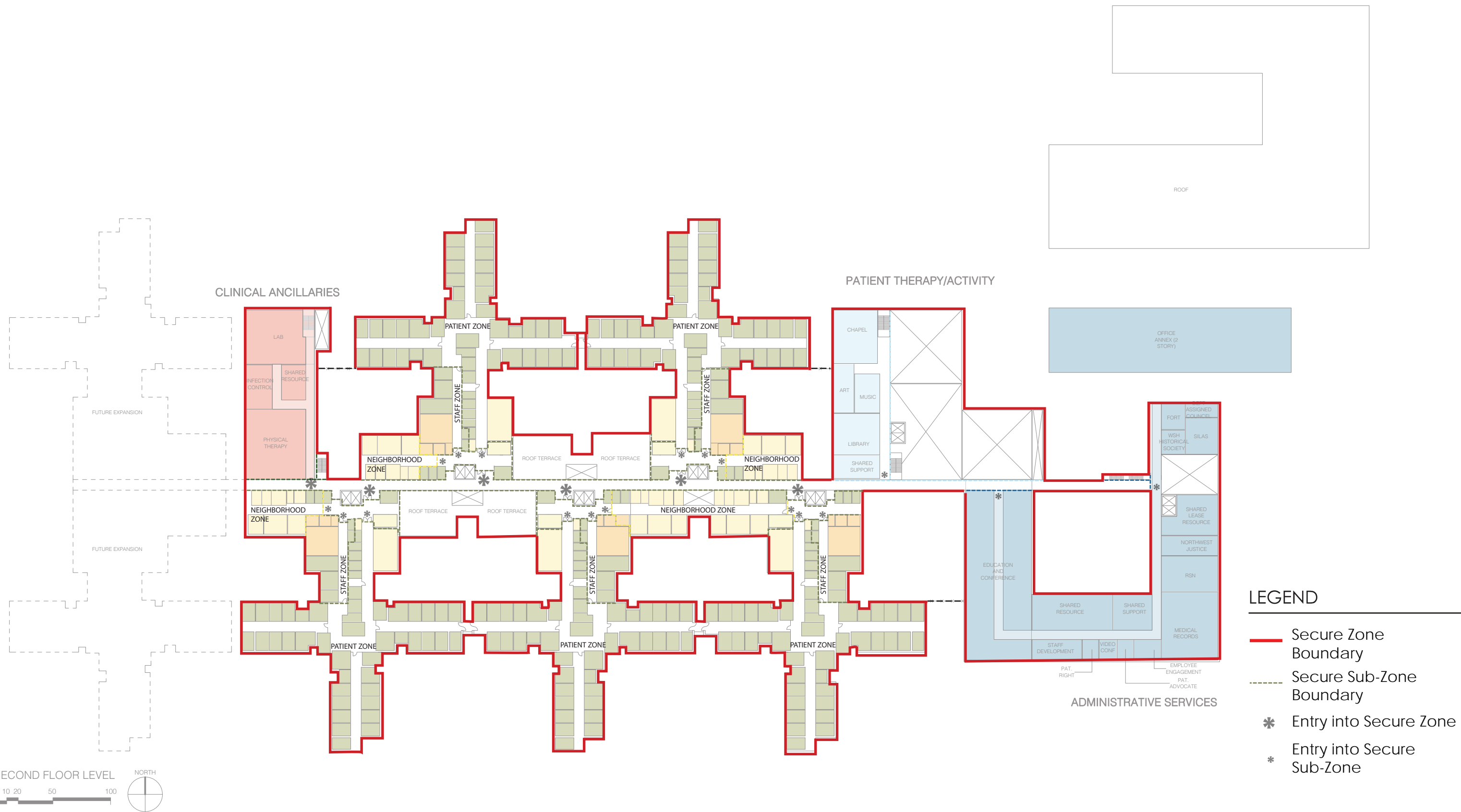
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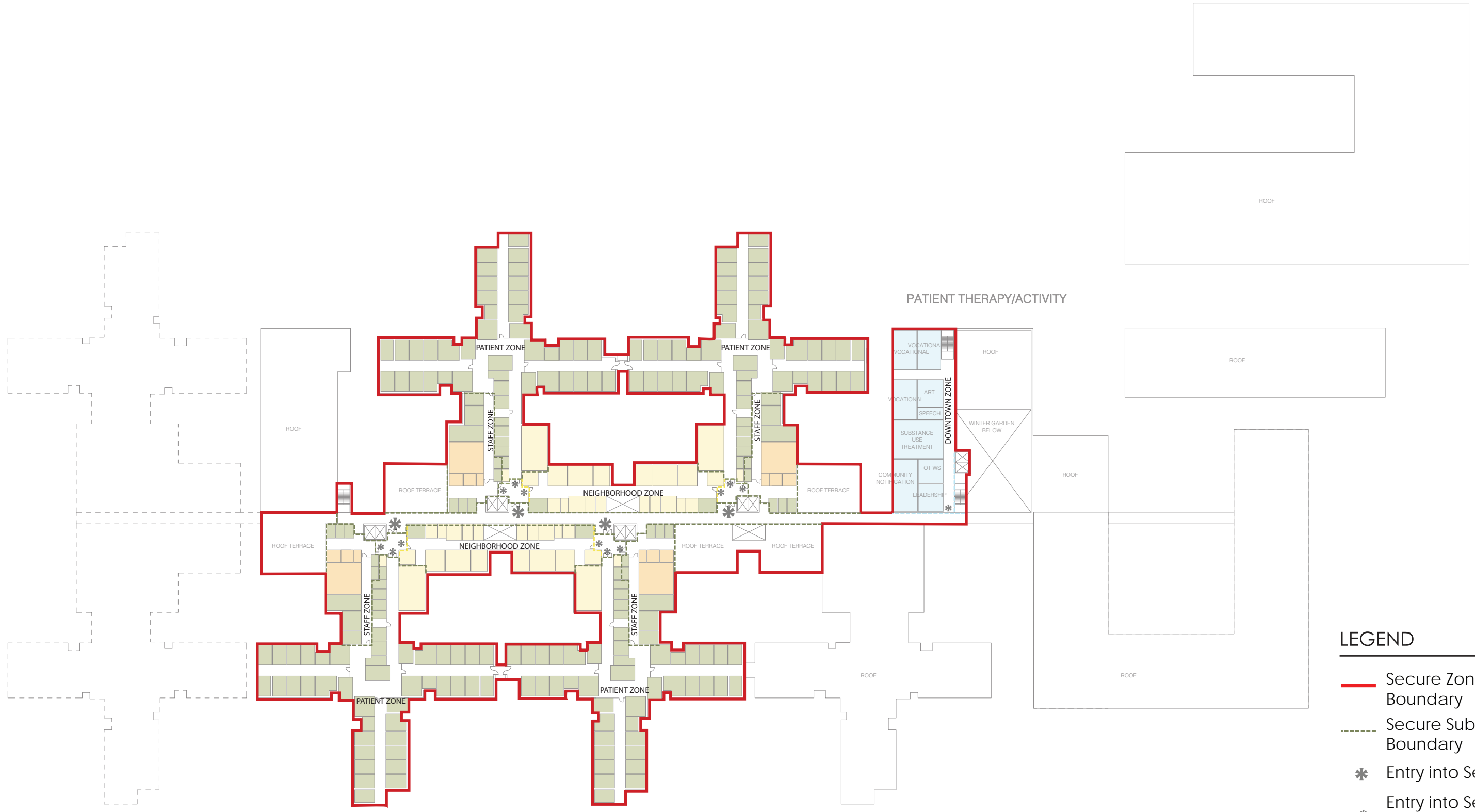


- LEGEND**
- Secure Zone Boundary
 - - - Secure Sub-Zone Boundary
 - * Entry into Secure Zone
 - * Entry into Secure Sub-Zone





Western State Hospital / Redesign Report



LEGEND

- Secure Zone Boundary
- - - Secure Sub-Zone Boundary
- * Entry into Secure Zone
- * Entry into Secure Sub-Zone



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WESTERN STATE HOSPITAL MASTER PLAN

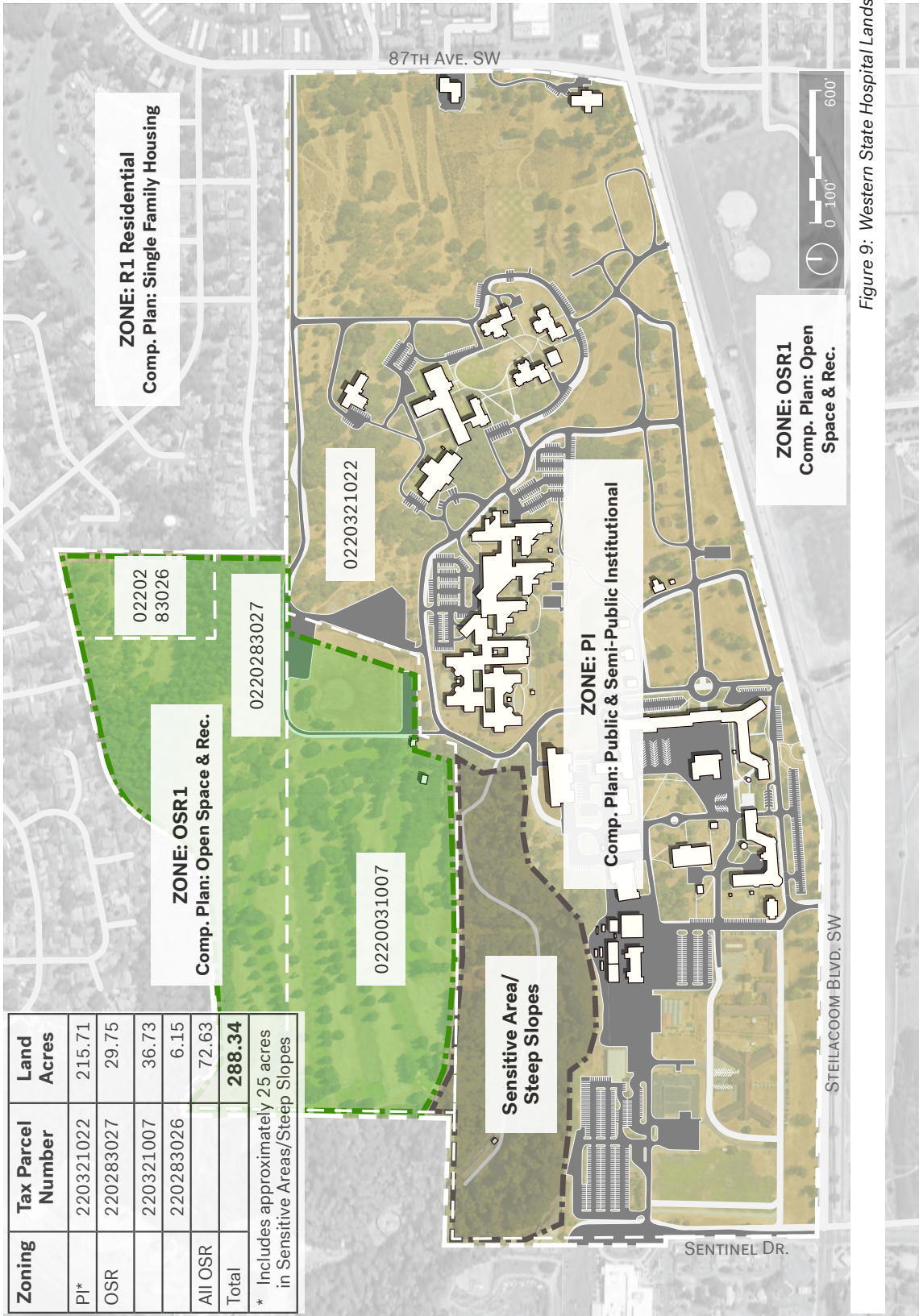


Figure 9: Western State Hospital Lands

Table 2: WSH Parcels & Land Area

Zoning	Tax Parcel Number	Land Acres
PI*	220321022	215.71
OSR	220283027	29.75
	220321007	36.73
	220283026	6.15
All OSR		72.63
Total		288.34

* Includes approximately 25 acres in Sensitive Areas/Steep Slopes



Figure 14: Functional Zones

MEMORANDUM

MEMO DATE: December 13, 2019

PROJECT NAME: WSH Forensic Hospital Predesign

SRG PROJECT #: 219029

TO: Aaron Martinez
Capital Projects Manager, DSHS
1115 Washington St SE
PO BOX 45848
Olympia, WA 98504

FROM: :Craig Tompkins, AIA &
Francis Pitts, FAIA

SUBJECT: WSH Forensic Hospital Bed Capacity
Recommendation

DISTRIBUTION: DSHS, File



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206 973 1700

SRGPARTNERSHIP.COM

ATTACHMENTS: Meeting Summary – Statewide Forensic Bed Need Analysis 10-31-19; Report to the Legislature – State Psychiatric Forensic and Civil Bed Need Models, October 2019

This purpose of this memo is to document the coordination efforts of the Predesign Team with DSHS and BHA to determine the forensic bed capacity of the new hospital at WSH.

The October 2019 Report prepared by the Facilities, Finance, and Analytics Administration, Division of Research and Data Analysis was reviewed by the Predesign Team and was the subject of the first meeting with the WSH Forensic Hospital Leadership Group, conducted on October 31, 2019. The report includes historic data from the last 6 years to assist in projecting bed needs for the next 8 years, to 2027. The Predesign Team considers the report to represent a reasonable bed-need projection methodology and concludes a total forensic bed need of 582 at WSH by the year 2027. The report also estimates the number of NGRI beds by 2027 to be 183 beds. The resulting bed need for competency restoration patients is 399 by 2027.

For these reasons, the Predesign Team recommends the new Forensic Hospital at WSH be designed for the maximum amount of 350 beds under Project 2020-403. We also recommend the Hospital be designed for potential expansion, to cover the 49-bed shortfall, should the year 2027 projections prove to be accurate.

Please confirm if DSHS agrees with our conclusions and recommendations or let me know if you have any comments or questions.

END OF MEMORANDUM

Washington State Department of Social and Health Services

Transforming
Lives

REPORT TO THE LEGISLATURE

State Psychiatric Hospital Forensic and Civil Bed Need Models

Engrossed Substitute House Bill 1109 (Chapter 415, Laws of 2019)

October 1, 2019

DRAFT • DRAFT • DRAFT • DRAFT • DRAFT

Facilities, Finance, and Analytics Administration
Research and Data Analysis Division
PO Box 45204
Olympia, WA 98504-5204
(360) 902-0707
<http://www.dshs.wa.gov/rda>



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DRAFT 2019

Executive Summary

Engrossed Substitute House Bill 1109 (Chapter 415, Laws of 2019) directed the Department of Social and Health Services (the Department) to develop, in consultation with staff from the Office of Financial Management and the appropriate committees of the State Legislature, a model to estimate demand for forensic and civil state hospital beds. This report provides models of forensic and civil bed need for Eastern State Hospital (ESH) and Western State Hospital (WSH), with forecasts through June 2027.

The state hospitals provide forensic inpatient competency evaluation services when a court believes a mental disability may prevent a criminal defendant from assisting in their defense. Inpatient treatment for competency restoration is provided when the evaluation finds the defendant is not competent. A civil commitment is a second avenue for admission to a state psychiatric hospital. The civil commitment process begins with an evaluation by a designated crisis responder who can commit a patient to a state hospital or community inpatient setting for a 72-hour evaluation if he or she is a danger to themselves or others due to a mental disorder. At the state hospitals, evaluations occur in the hospitals' Center for Adult Services or, for older patients, in the Center for Geriatric Services at WSH or the Geropsychiatric Unit at ESH. If needed, subsequent court hearings can result in additional commitments of 14, 90, or 180 days.

Table 1 below reports the distribution of beds across civil and forensic patient populations at Eastern and Western State Hospitals, including 54 competency restoration beds associated with WSH in Residential Treatment Facilities (RTFs) at Yakima and Maple Lane. NGRI beds are included in the forensic counts. Note the WSH civil bed count reflects the conversion of 60 beds to forensic RTF capacity in August 2019.

TABLE 1.
Summary of Current Bed Capacity and Forecast Need in June 2027

Hospital	Type	Current Beds Capacity August 2019	Forecast Bed Need June 2027
Eastern State Hospital	Forensic	125	281
Eastern State Hospital	Civil	192	206
Western State Hospital	Forensic	414 ¹	582
Western State Hospital	Civil	467 ²	796

Including beds allocated for NGRI patients, we forecast that 582 total forensic beds are needed by June 2027 for forensic patients attributable to WSH, including the capacity reflected in the 54 beds currently operating at Yakima and Maple Lane. We forecast that 281 total ESH forensic beds will be needed by June 2027 (including NGRI beds).

The forensic bed need models are based on:

¹ Includes the 54 RTF beds currently operating at Yakima and Maple Lane and 30 recently established RTF beds at the Fort Steilacoom Competency Restoration Program on the grounds of WSH, scheduled to be fully operational in the fall of 2019.

² Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.

DRAFT 2019

- Current bed capacity as of August 2019;
- Forecasts of monthly inpatient evaluation and restoration referrals based on time series models applied to referral data through July 2019;
- Estimates of length of stay (LOS) by hospital by legal authority group (LAG), based on CY 2017 patient experience;
- Estimates of 90 percent capacity utilization (proportion of beds occupied); and
- Current wait lists for forensic beds as of August 1, 2019.

The forensic models calculate the number of beds needed to avoid adding to a waiting list for admissions of persons referred for inpatient competency evaluation or restoration services. The models apply an average LOS to forecast referrals by legal authority group and identify the number of beds needed to avoid wait times for admission. Altering the models to make patients wait for admission up to the allowable standards for Trueblood class members³ would slightly reduce estimated bed need, while modeling the need for surge capacity to account for variability in future referral trends would increase estimated bed need.

The forensic bed need model is sensitive to changes in inpatient competency evaluation and restoration referral trends. Given the risk of still-untapped growth in demand for inpatient evaluation and restoration services, potentially moderated by current and future efforts to divert persons with behavioral health needs from the forensic mental health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin.

Civil bed need forecasts are based on the following parameters and assumptions:

- Baseline utilization data reflects average daily census in SFY 2019, after accounting for single-bed certification (SBC) utilization and wait lists;
- The geropsychiatric share of bed utilization is estimated based on September 2018 utilization experience for ESH, and the August 31st, 2018 census for WSH;
- Daily census growth factors are derived from OFM's 2017 Growth Management Population Projections for counties in each hospital's catchment area;
- Translation of daily census levels (utilization) to bed need assumes a 90 percent capacity utilization rate at WSH and an 85 percent utilization rate at ESH; and
- Estimates assume no change to currently observed average lengths of stay.

The civil bed need models forecast that, by SFY 2027, 796 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 206 beds will be needed to meet the demand for civil inpatient services associated with ESH. As noted above, these forecasts include bed need associated with use of SBCs, in addition to use of civil beds at the state hospitals.⁴ We also note that these forecasts include the capacity necessary to care for patients currently in a state hospital who may be ready for discharge to a lower level of care.

³ As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within 14 days and competency restoration services within 7 days.

⁴ Single-bed certification utilization was restricted to admissions associated with 90- or 180-day civil commitments.

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Scope and Purpose

The state hospitals provide forensic inpatient competency evaluation services when a court believes a mental disability may prevent a criminal defendant from assisting in their defense. Inpatient treatment for competency restoration is provided when the evaluation finds the defendant is not competent. A civil commitment is a second avenue for admission to a state psychiatric hospital. The civil commitment process begins with an evaluation by a designated crisis responder who can commit a patient to a state hospital or community inpatient setting for a 72-hour evaluation if he or she is a danger to themselves or others due to a mental disorder. At the state hospitals, evaluations occur in the hospitals' Center for Adult Services or, for older patients, in the Center for Geriatric Services at WSH or the Geropsychiatric Unit at ESH. If needed, subsequent court hearings can result in additional commitments of 14, 90, or 180 days.

Engrossed Substitute House Bill (ESHB) 1109 (Chapter 415, Laws of 2019) directed the Department of Social and Health Services to develop, in consultation with staff from the Office of Financial Management and the appropriate fiscal committees of the State Legislature, a model to estimate demand for forensic and civil state hospital beds. ESHB 1109 directed that the bed need models incorporate factors such as:

- The capacity in state hospitals as well as contracted facilities which provide similar levels of care,
- Referral patterns,
- Lengths of stay,
- Wait lists, and
- Other factors (e.g., capacity utilization rates) identified as appropriate for predicting the number of beds needed to meet the demand for civil and forensic state hospital services.

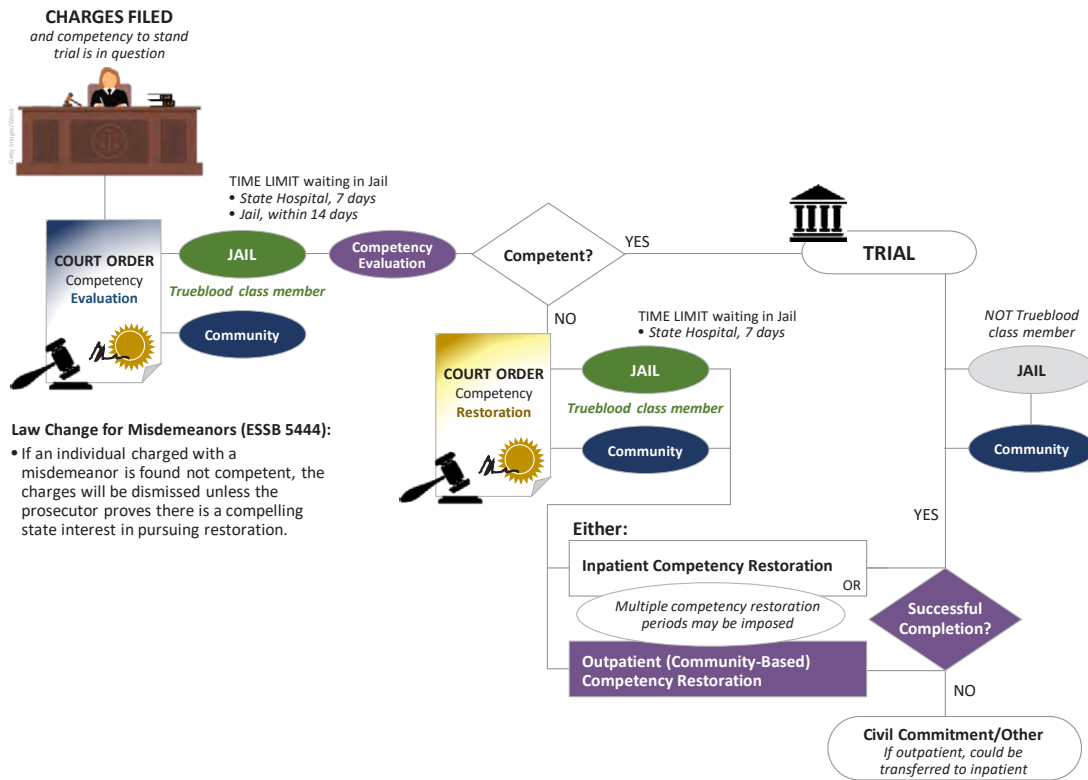
ESHB 1109 also directed that the model forecast bed need through the end of State Fiscal Year 2027 (June 2027), and that the Department must continue to update the model on a quarterly basis and provide regular updates to the Office of Financial Management and the appropriate committees of the Legislature.

As required, this report provides models of forensic and civil bed need for Eastern and Western State Hospitals, with forecasts of bed need through June 2027. The next section of this report describes forensic models forecasting need for inpatient competency evaluation and restoration services, and need for beds for NGRI patients. The following section describes the civil bed need models. The closing section provides a summary of findings. The underlying models and supporting data are available in companion Excel workbooks.

Models of Forensic Bed Need

The forensic mental health system operates at the intersection of the legal and behavioral health care systems, providing competency evaluation services when a court believes a mental disability may prevent a criminal defendant from assisting in their own defense, and treatment for restoration when the evaluation finds the defendant is not competent. The court will then order the defendant to receive mental health treatment to restore competency. Figure 1 provides a high-level overview of the operation of the forensic mental health system.

FIGURE 1.
Competency Evaluation/Restoration Pathway
Trueblood Settlement Implementation Competency Process



In April 2015, a federal court found in the case of Trueblood v DSHS (Trueblood) that the Department was taking too long to provide competency evaluation and restoration services, in part due to a shortage of beds for the provision of inpatient restoration services. As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days.

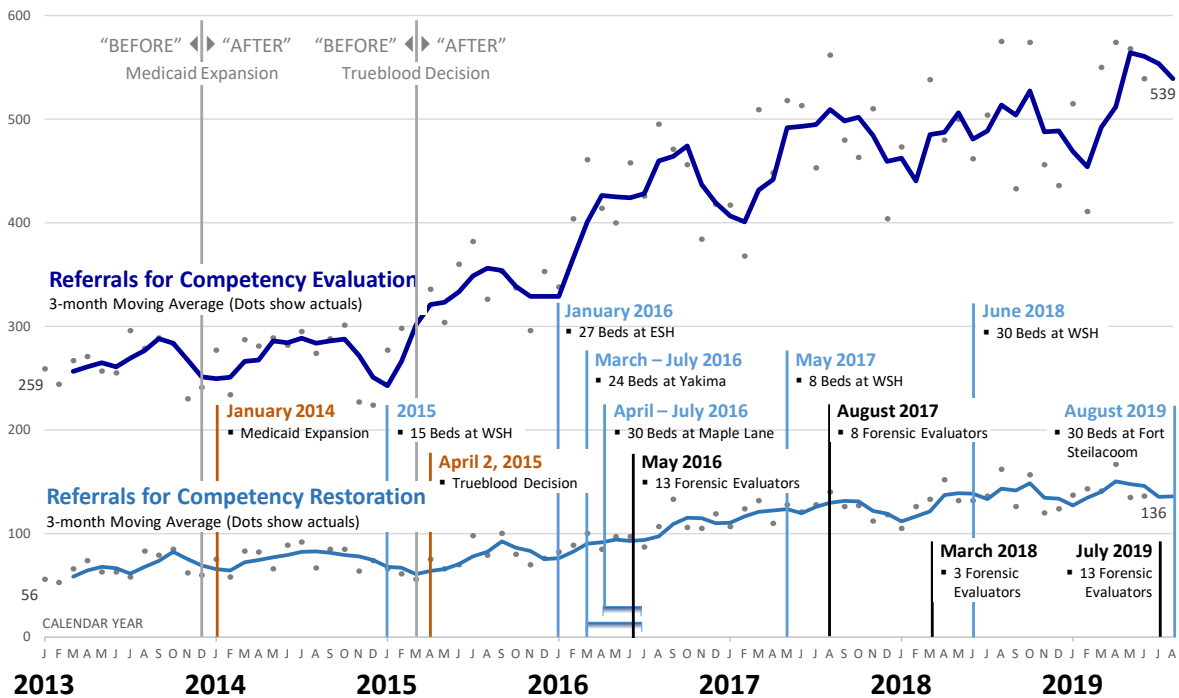
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The Trueblood class includes individuals who are detained in city and county jails awaiting a competency evaluation or restoration services, and individuals who have previously received competency evaluation and restoration services who are released and at-risk for re-arrest or re-institutionalization.

Figures 2 and 3 put recent trends in competency evaluation and restoration referrals into the context of larger trends in arrests and the timing of two changes in the criminal justice and behavioral health care systems affecting the forensic system:

- Announcement of the Trueblood decision in April 2015, and
- Expansion of Medicaid eligibility under the Affordable Care Act in January 2014.

FIGURE 2.
Competency Evaluation/Restoration Referrals in a Policy Context
 Washington State



NOTES: 1. Total Competency evaluation referrals includes jail, inpatients, and personal recognition (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2019. 2. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities.

DATA SOURCE: Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities, September 2019.

Following the Trueblood decision, referrals for competency evaluation and restoration surged. Through mid-2019, year-over-year increases in forensic referrals were still significant. The timing of the increase in forensic evaluation referrals following the Trueblood decision suggests the decision spurred changes in forensic system behavior that have resulted in rapidly rising referral trends.

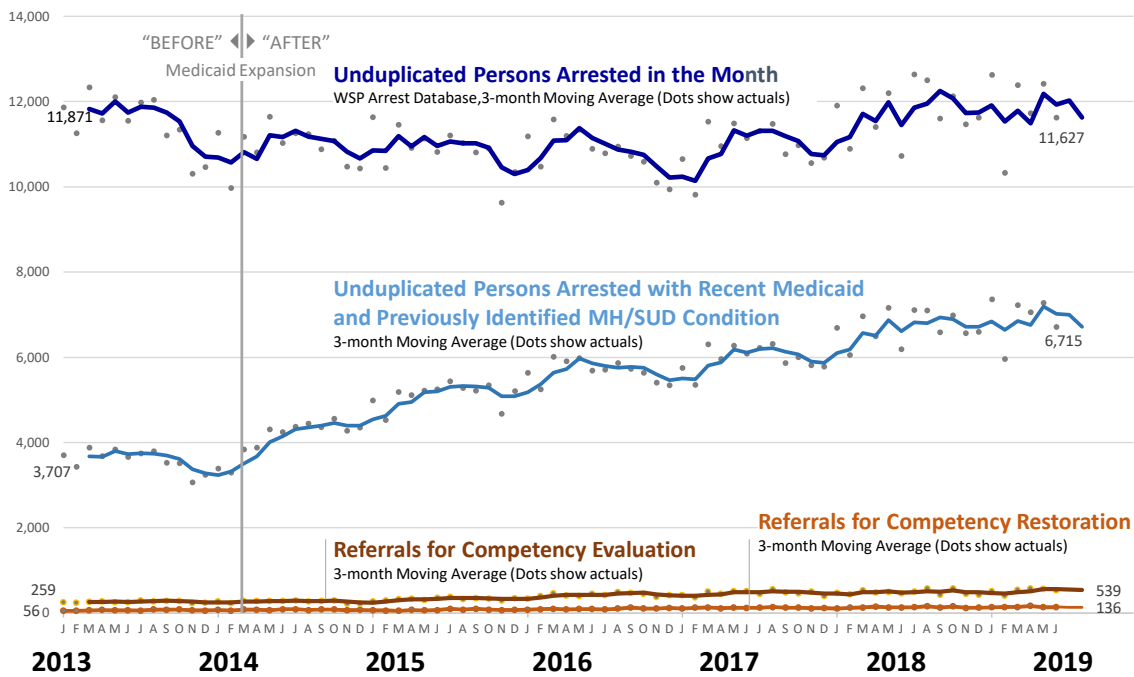
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Meanwhile, Medicaid Expansion has led to a significant increase in the number of persons arrested who both:

- Are currently enrolled or have recently been enrolled in Medicaid; and
- Have a mental illness or substance use disorder identified in their recent Medicaid health service experience.

This phenomenon is illustrated in Figure 3 below. Most persons arrested in Washington State are currently (or were very recently) enrolled in Medicaid and have a mental illness and/or substance use disorder identified in their recent Medicaid service experience (58 percent as of July 2019).

FIGURE 3.
Trend in Arrests and Competency Evaluation/Restoration Referrals
Washington State



NOTES: 1. Total Competency evaluation referrals includes jail, inpatients, and personal recognizance (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2019. 2. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities. 3. Behavioral health need identified within the past 24 months.

DATA SOURCES: DSHS Research and Data Analysis Division, Client Outcomes Database and Washington State Patrol Arrest Database. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities, September 2019.

In the context of forecasting forensic bed need, we draw two main inferences from Figure 3. First, Medicaid Expansion may have increased identification of behavioral health needs in the jail-involved population, reinforcing the likely direct impact of the Trueblood decision on competency evaluation and restoration referrals.

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Second, despite the recent rapid growth in referrals for inpatient competency evaluation and restoration services, there may still be significant untapped demand for forensic inpatient beds. On a monthly basis there are many times the number of persons arrested with evident behavioral health needs (based only on Medicaid data) than there are persons referred for competency evaluation or restoration services.

This latter consideration is one reason why our forensic bed need models do not assume any dampening of inpatient referral trends, beyond what might be directly observed in recent referral data. Absent intervention (e.g., scaling up of effective diversion strategies), it is reasonable to expect competency evaluation and restoration referral volume will continue to grow at rates well above underlying general population growth.

Current Forensic Bed Capacity

As of August 2019, 330 forensic beds were available at WSH and 125 beds were available at ESH, including beds for competency evaluation, competency restoration, and NGRI patients. An additional 54 competency restoration beds associated with WSH were available at Residential Treatment Facilities (RTFs) at Yakima and Maple Lane, and an additional 30 RTF beds have been established on the campus of WSH.

Over the past three years, use of WSH forensic beds for NGRI patients has been relatively stable in the 160 to 170 daily bed census range. As of August 1st, 2019 the WSH NGRI bed census was 168 patients, up slightly from 165 patients per day in September 2018 noted in our 2018 report. We maintain our long-term forecast of NGRI-related bed need for WSH through June 2027 at 183 beds. This is equivalent to assuming the WSH NGRI daily census would increase by about two patients per year. This leaves 147 beds of the current capacity available to provide inpatient competency evaluation and restoration services. Combined with the 84 competency restoration beds at WSH and the Yakima and Maple Lane RTFs, this puts the “baseline” competency evaluation/restoration capacity associated with WSH at 231 beds.

As of August 1st, 2019 the ESH NGRI bed census was 68 patients. We assume an NGRI-related need of 72 beds for ESH through June 2027.

Inpatient Competency Evaluation and Restoration Referral Trends

We apply exponential smoothing time series models to the last three years of monthly inpatient competency evaluation and restoration referral data. Applying this approach in future forecast cycles would tend to pick up any dampening of referral growth rates, should such a pattern begin to be observed in future monthly referral data.

For WSH we were able to obtain time series data for referrals by legal authority group (LAG) over the full historical time period used for forecasting. For ESH, referral data by LAG was available from August 2018 forward, and the ESH model applies the distribution of referrals by LAG observed from August 2018 to July 2019 to the forecast of total referral volume derived from data spanning the 36-month period from August 2016 to July 2019. Figures 4 through 9 illustrate forecast inpatient competency evaluation and restoration referral trends that feed into the forensic bed need model.

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FIGURE 4.
Monthly Inpatient Referrals: WSH Forensic Group A

GROUP A: Felony Competency Restorations for 1st 90 days, 2nd 90 days, and 180 days⁵

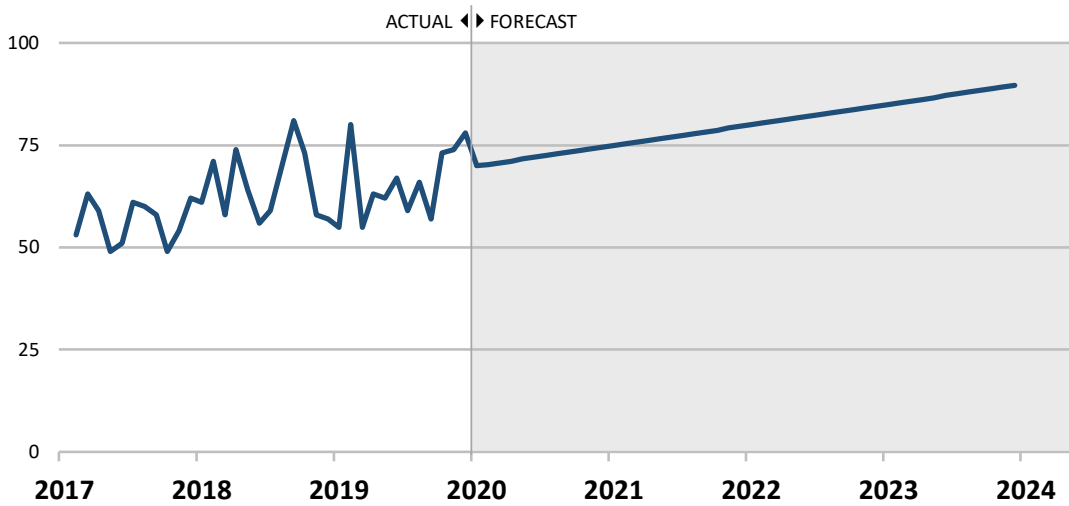
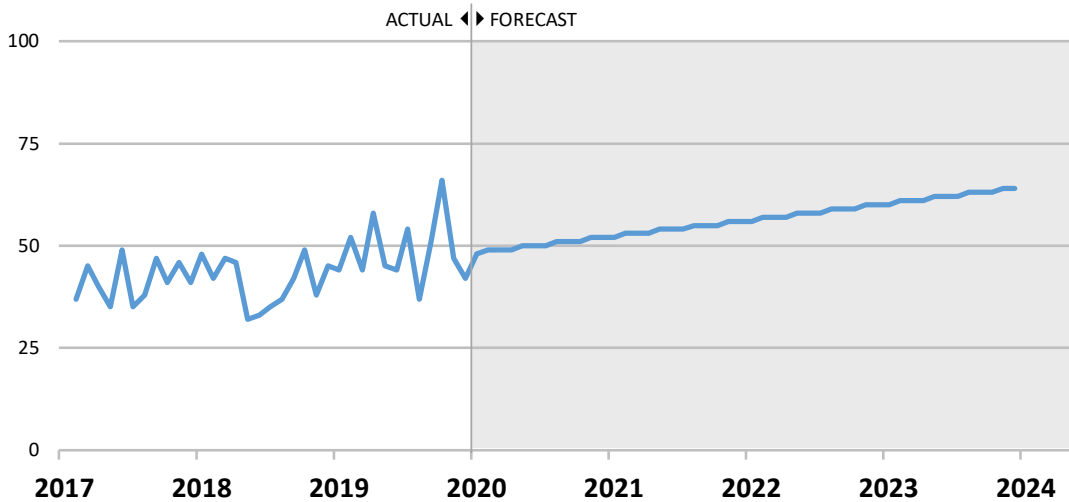


FIGURE 5.
Monthly Inpatient Referrals: WSH Forensic Group B

GROUP B: Felony Restorations (45 days)



⁵ Includes a small number of patients in other legal authority groups with similar expected lengths of stay.

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FIGURE 6.
Monthly Inpatient Referrals: WSH Forensic Group C

GROUP C: Misdemeanor Competency Evaluation.

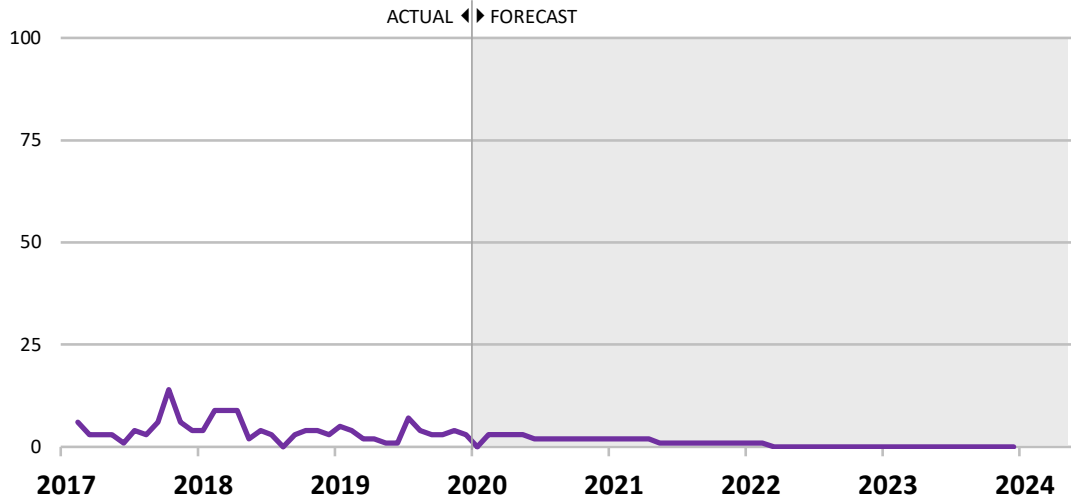
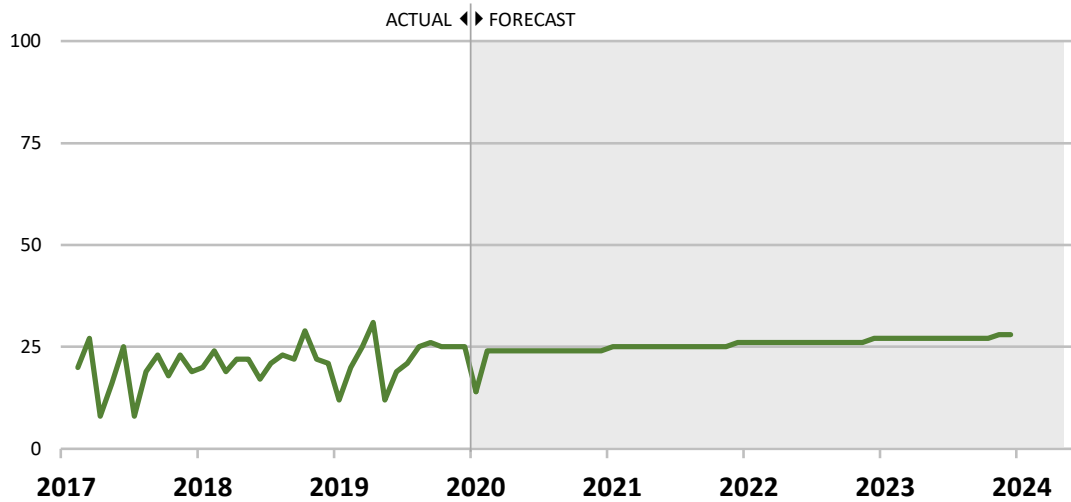


FIGURE 7.
Monthly Inpatient Referrals: WSH Forensic Group D

GROUP D: Misdemeanor Restorations.



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FIGURE 8.
Monthly Inpatient Referrals: WSH Forensic Group E

GROUP E: Felony Competency Evaluations.

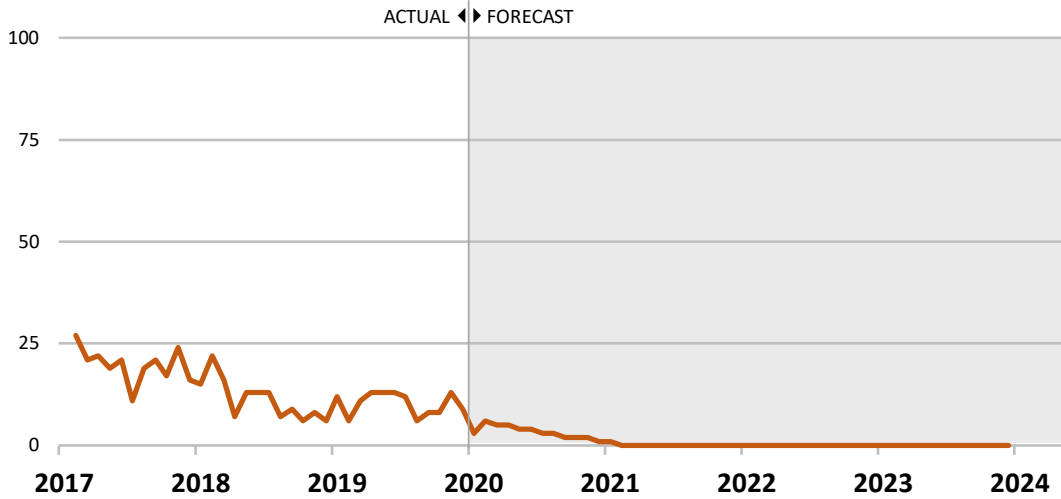
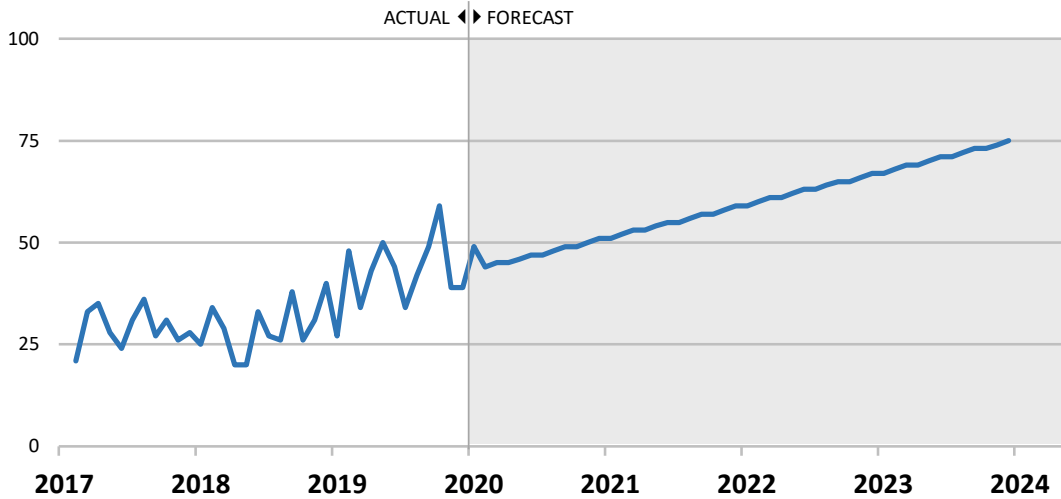


FIGURE 9.
Monthly Inpatient Referrals: ESH Forensic Inpatient Restoration and Evaluation (combined)



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DRAFT 2019**Forensic Length of Stay**

We estimated average length of stay by legal authority group, by hospital, and by time period (Tables 2 and 3). Annual estimates are based on the admissions occurring in the reported year, applying Kaplan-Meier duration models to account for censoring of discharge dates for admissions not yet resulting in a discharge by the end of the measurement period. Our bed need model uses estimates for CY 2017.

TABLE 2.
Average and Median Length of Stay (Days)
By Legal Authority Group, Excludes Not Guilty by Reason of Insanity

WESTERN STATE HOSPITAL

	2015		2016		2017	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
GROUP A	57	60	60	62	65	71
GROUP B	38	42	39	42	39	42
GROUP C	12	14	13	14	13	14
GROUP D	21	24	20	18	21	22
GROUP E	8	6	13	14	13	14

WESTERN STATE HOSPITAL LEGAL AUTHORITY GROUP REFERENCE

GROUP A: Felony Competency Restorations for 1st 90 days, 2nd 90 days, and 180 days

GROUP B: Felony Competency Restorations for 45 days

GROUP C: Misdemeanor Competency Evaluation

GROUP D: Misdemeanor Competency Restorations

GROUP E: Felony Competency Evaluations

TABLE 3.
Average and Median Length of Stay (Days)
By Legal Authority Group

EASTERN STATE HOSPITAL

	2015		2016		2017	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
GROUP 6	46	25	104	53	63	28
GROUP I	104	55	77	21	84	21
GROUP G	451	399	612	693	422	437
GROUP Q	121	78	136	78	108	69

EASTERN STATE HOSPITAL LEGAL AUTHORITY GROUP REFERENCE

GROUP 6: Misdemeanor Competency Restorations

GROUP I: Competency Evaluation

GROUP G: Not Guilty by Reason of Insanity

GROUP Q: Felony Competency Restorations

Forensic Capacity Utilization

Analysis published in last year’s report continue to inform our capacity utilization assumptions. We calculated daily capacity utilization rates by hospital by ward type over the six most current months of actuals available at the time of publication. Utilization rates reflect the ratio of the daily patient census to the number of available beds. Over the two-year period analyzed for our 2018 report, utilization rates for WSH forensic admission wards averaged 86.7 percent and utilization rates for WSH forensic treatment wards (restoration and NGR1) averaged 98.3 percent. At ESH, utilization rates ranged from 89.7 percent for forensic admission wards to 91.5 percent in forensic treatment wards (restoration and NGR1). For both hospitals, the forensic bed need model assumes the optimal evaluation and restoration bed utilization rate would be 90 percent.

Forensic Wait Lists

As of August 1st, 2019, wait lists at the two hospitals were as reported in Table 4 below. We applied observed LOS data for CY 2017 by legal authority group to estimate the number of bed days required to clear the current waiting list.

TABLE 4.
Inpatient Forensic Wait Lists as of 8/1/2019

WESTERN STATE HOSPITAL	
GROUP A: Felony Competency Restorations for 1 st 90 days, 2 nd 90 days, and 180 days	71
GROUP B: Felony Competency Restorations for 45 days	142
GROUP C: Misdemeanor Competency Evaluation	8
GROUP D: Misdemeanor Competency Restorations	74
GROUP E: Felony Competency Evaluations	13
WSH Total	308
EASTERN STATE HOSPITAL	
GROUP 6: Misdemeanor Competency Restorations	2
GROUP I: Competency Evaluation	18
GROUP G: Not Guilty by Reason of Insanity	0
GROUP Q: Felony Competency Restorations	45
ESH Total	65

Forensic Model Forecasts

We forecast two related but different concepts: (1) the bed capacity needed to meet monthly forecast referral volume without adding to a wait list (Table 5 and detail Tables 5A and 5B), and (2) the time-limited capacity needed to eliminate current wait lists (Table 6). The models apply the observed CY 2017 LOS (by legal authority group) to forecast referrals (Tables 5A and 5B) or current wait list volume (Table 6), assuming a 90 percent capacity utilization rate. The forecast bed need for a given month in Tables 5A and 5B reflects the number of beds required to ensure no wait time at admission, assuming the level of future referrals continued at the value observed in the given month. Altering the model to make patients wait for admission up to the allowable standards for Trueblood

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class members⁶ would slightly reduce calculated bed need. Modeling the need for surge capacity to account for likely month-to-month variation in future referral trends would increase estimated bed need.

Table 5 shows that in June 2027, 582 beds are forecast to be needed to serve the expected volume of WSH referrals without adding to a wait list, including NGRI beds and the 54 RTF beds at Yakima and Maple Lane. Additional time-limited capacity is needed to clear the existing wait list, and we forecast 36 time-limited beds would be needed to clear the current WSH wait list in 12 months, in addition to the beds needed to handle ongoing referral volume (Table 6). The ESH model forecasts that 281 forensic beds will be needed by the end of SFY 2027 to meet demand from ongoing referrals for inpatient evaluation and restoration services at ESH (Table 5). The additional bed capacity necessary to clear the current ESH waiting within 12 months is 11 beds (Table 6).

As directed by budget proviso, DSHS has implemented a quarterly update cycle for state hospital bed need models in collaboration with OFM, the Legislature, and subject matter experts in DSHS and the State Hospitals. Figure 10 illustrates forecasts through the first four quarterly forecast cycles. We note that the WSH forensic forecast has tended to be quite stable through the first year of operation, and is now slightly higher than originally forecast in our 2018 report. In contrast, the bed need forecast for ESH has risen significantly, reflecting the surge in referrals since our original report as illustrated in Figure 9 on page 10.

Given the potential for still-untapped growth in demand for evaluation and restoration services, potentially moderated by current and future efforts to divert persons with behavioral health needs from the forensic mental health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin. We also note that this modeling approach provides a framework for creating baseline projections against which to infer the potential impact of efforts to divert persons with behavioral health needs from the forensic system.

TABLE 5.
Forensic Bed Need: Summary by Fiscal Year

Excludes time-limited capacity needed to clear current wait lists

SFY	Western State Hospital		Eastern State Hospital	
	Year End	SFY Average	Year End	SFY Average
2020	454	446	171	165
2021	471	463	187	180
2022	490	481	203	196
2023	508	500	218	211
2024	527	518	234	227
2025	545	537	250	243
2026	564	555	266	258
2027	582	574	281	274

⁶ As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days.

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TABLE 5A
Western State Hospital Forensic Bed Need Model

		Forecast Referrals					Bed Need Associated with Forecast Referrals						TOTAL AUG 2019 Forecast	
		LEGAL AUTHORITY GROUP					LEGAL AUTHORITY GROUP					NGRI		
		A	B	C	D	E	A	B	C	D	E	Subtotal		Bed Need
2019	AUG	70	49	3	24	6	167	69	1	18	3	258	183	441
	SEP	71	49	3	24	5	168	70	1	18	2	259	183	442
	OCT	71	49	3	24	5	169	70	1	18	2	261	183	444
	NOV	72	50	3	24	4	170	71	1	18	2	262	183	445
	DEC	72	50	2	24	4	171	71	1	18	2	263	183	446
2020	JAN	72	50	2	24	3	172	72	1	18	2	264	183	447
	FEB	73	51	2	24	3	173	72	1	19	1	266	183	449
	MAR	73	51	2	24	2	174	72	1	19	1	267	183	450
	APR	74	51	2	24	2	175	73	1	19	1	268	183	451
	MAY	74	52	2	24	2	176	73	1	19	1	270	183	453
	JUN	75	52	2	24	1	177	74	1	19	1	271	183	454
	JUL	75	52	2	25	1	178	74	1	19	0	272	183	455
	AUG	75	53	2	25	0	179	75	1	19	0	274	183	457
	SEP	76	53	2	25	0	180	75	1	19	0	275	183	458
	OCT	76	53	2	25	0	181	76	1	19	0	276	183	459
	NOV	77	54	1	25	0	182	76	1	19	0	278	183	461
	DEC	77	54	1	25	0	183	77	1	19	0	279	183	462
2021	JAN	77	54	1	25	0	184	77	1	19	0	281	183	464
	FEB	78	55	1	25	0	185	78	1	19	0	282	183	465
	MAR	78	55	1	25	0	186	78	0	19	0	284	183	467
	APR	79	55	1	25	0	187	79	0	19	0	285	183	468
	MAY	79	56	1	25	0	188	79	0	20	0	287	183	470
	JUN	80	56	1	26	0	189	80	0	20	0	288	183	471
	JUL	80	56	1	26	0	190	80	0	20	0	290	183	473
	AUG	80	57	1	26	0	191	81	0	20	0	291	183	474
	SEP	81	57	0	26	0	192	81	0	20	0	293	183	476
	OCT	81	57	0	26	0	193	82	0	20	0	294	183	477
	NOV	82	58	0	26	0	194	82	0	20	0	296	183	479
	DEC	82	58	0	26	0	195	83	0	20	0	297	183	480
2022	JAN	82	58	0	26	0	196	83	0	20	0	299	183	482
	FEB	83	59	0	26	0	197	84	0	20	0	300	183	483
	MAR	83	59	0	26	0	198	84	0	20	0	302	183	485
	APR	84	59	0	26	0	199	85	0	20	0	303	183	486
	MAY	84	60	0	26	0	200	85	0	20	0	305	183	488
	JUN	85	60	0	27	0	201	86	0	20	0	307	183	490
	JUL	85	60	0	27	0	202	86	0	20	0	308	183	491
	AUG	85	61	0	27	0	203	86	0	21	0	310	183	493
	SEP	86	61	0	27	0	204	87	0	21	0	311	183	494
	OCT	86	61	0	27	0	205	87	0	21	0	313	183	496
	NOV	87	62	0	27	0	206	88	0	21	0	314	183	497
	DEC	87	62	0	27	0	207	88	0	21	0	316	183	499
2023	JAN	88	62	0	27	0	208	89	0	21	0	317	183	500
	FEB	88	63	0	27	0	209	89	0	21	0	319	183	502
	MAR	88	63	0	27	0	210	90	0	21	0	320	183	503
	APR	89	63	0	27	0	211	90	0	21	0	322	183	505
	MAY	89	64	0	28	0	212	91	0	21	0	324	183	507
	JUN	90	64	0	28	0	213	91	0	21	0	325	183	508

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TABLE 5B
Eastern State Hospital Forensic Bed Need Model

		Forecast Referrals				Bed Need Associated with Forecast Referrals					TOTAL AUG 2019 Forecast	
		LEGAL AUTHORITY GROUP				LEGAL AUTHORITY GROUP				NGRI		
		Group 6	Group I	Group G	Group Q	Group 6	Group I	Group G	Group Q	Subtotal		Bed Need
2019	AUG	3.7	10.5	0.0	29.9	3.7	8.0	0.0	74.9	86.6	71.6	158
	SEP	3.7	10.6	0.0	30.4	3.8	8.2	0.0	76.0	87.9	71.6	160
	OCT	3.8	10.8	0.0	30.8	3.9	8.3	0.0	77.1	89.2	71.6	161
	NOV	3.8	11.0	0.0	31.3	3.9	8.4	0.0	78.2	90.6	71.6	162
	DEC	3.9	11.1	0.0	31.7	4.0	8.5	0.0	79.4	91.9	71.6	163
2020	JAN	3.9	11.3	0.0	32.2	4.0	8.6	0.0	80.5	93.2	71.6	165
	FEB	4.0	11.4	0.0	32.6	4.1	8.8	0.0	81.6	94.5	71.6	166
	MAR	4.0	11.6	0.0	33.1	4.1	8.9	0.0	82.8	95.8	71.6	167
	APR	4.1	11.7	0.0	33.6	4.2	9.0	0.0	83.9	97.1	71.6	169
	MAY	4.2	11.9	0.0	34.0	4.2	9.1	0.0	85.0	98.4	71.6	170
	JUN	4.2	12.1	0.0	34.5	4.3	9.2	0.0	86.2	99.7	71.6	171
	JUL	4.3	12.2	0.0	34.9	4.4	9.4	0.0	87.3	101.0	71.6	173
	AUG	4.3	12.4	0.0	35.4	4.4	9.5	0.0	88.4	102.3	71.6	174
	SEP	4.4	12.5	0.0	35.8	4.5	9.6	0.0	89.6	103.6	71.6	175
	OCT	4.4	12.7	0.0	36.3	4.5	9.7	0.0	90.7	105.0	71.6	177
2021	NOV	4.5	12.9	0.0	36.7	4.6	9.9	0.0	91.8	106.3	71.6	178
	DEC	4.5	13.0	0.0	37.2	4.6	10.0	0.0	93.0	107.6	71.6	179
	JAN	4.6	13.2	0.0	37.6	4.7	10.1	0.0	94.1	108.9	71.6	180
	FEB	4.7	13.3	0.0	38.1	4.8	10.2	0.0	95.2	110.2	71.6	182
	MAR	4.7	13.5	0.0	38.5	4.8	10.3	0.0	96.3	111.5	71.6	183
	APR	4.8	13.6	0.0	39.0	4.9	10.5	0.0	97.5	112.8	71.6	184
	MAY	4.8	13.8	0.0	39.4	4.9	10.6	0.0	98.6	114.1	71.6	186
	JUN	4.9	14.0	0.0	39.9	5.0	10.7	0.0	99.7	115.4	71.6	187
	JUL	4.9	14.1	0.0	40.3	5.0	10.8	0.0	100.9	116.7	71.6	188
	AUG	5.0	14.3	0.0	40.8	5.1	10.9	0.0	102.0	118.0	71.6	190
2022	SEP	5.0	14.4	0.0	41.2	5.2	11.1	0.0	103.1	119.4	71.6	191
	OCT	5.1	14.6	0.0	41.7	5.2	11.2	0.0	104.3	120.7	71.6	192
	NOV	5.2	14.8	0.0	42.1	5.3	11.3	0.0	105.4	122.0	71.6	194
	DEC	5.2	14.9	0.0	42.6	5.3	11.4	0.0	106.5	123.3	71.6	195
	JAN	5.3	15.1	0.0	43.1	5.4	11.6	0.0	107.7	124.6	71.6	196
	FEB	5.3	15.2	0.0	43.5	5.4	11.7	0.0	108.8	125.9	71.6	197
	MAR	5.4	15.4	0.0	44.0	5.5	11.8	0.0	109.9	127.2	71.6	199
	APR	5.4	15.5	0.0	44.4	5.5	11.9	0.0	111.1	128.5	71.6	200
	MAY	5.5	15.7	0.0	44.9	5.6	12.0	0.0	112.2	129.8	71.6	201
	JUN	5.5	15.9	0.0	45.3	5.7	12.2	0.0	113.3	131.1	71.6	203
2023	JUL	5.6	16.0	0.0	45.8	5.7	12.3	0.0	114.4	132.4	71.6	204
	AUG	5.6	16.2	0.0	46.2	5.8	12.4	0.0	115.6	133.8	71.6	205
	SEP	5.7	16.3	0.0	46.7	5.8	12.5	0.0	116.7	135.1	71.6	207
	OCT	5.8	16.5	0.0	47.1	5.9	12.6	0.0	117.8	136.4	71.6	208
	NOV	5.8	16.7	0.0	47.6	5.9	12.8	0.0	119.0	137.7	71.6	209
	DEC	5.9	16.8	0.0	48.0	6.0	12.9	0.0	120.1	139.0	71.6	211
	JAN	5.9	17.0	0.0	48.5	6.1	13.0	0.0	121.2	140.3	71.6	212
	FEB	6.0	17.1	0.0	48.9	6.1	13.1	0.0	122.4	141.6	71.6	213
	MAR	6.0	17.3	0.0	49.4	6.2	13.3	0.0	123.5	142.9	71.6	214
	APR	6.1	17.4	0.0	49.8	6.2	13.4	0.0	124.6	144.2	71.6	216
MAY	6.1	17.6	0.0	50.3	6.3	13.5	0.0	125.8	145.5	71.6	217	
JUN	6.2	17.8	0.0	50.7	6.3	13.6	0.0	126.9	146.8	71.6	218	

Western State Hospital / Appendix

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FIGURE 10.
Forensic Bed Need Forecast Comparisons
 November 2018 through August 2019 (Monthly Data)

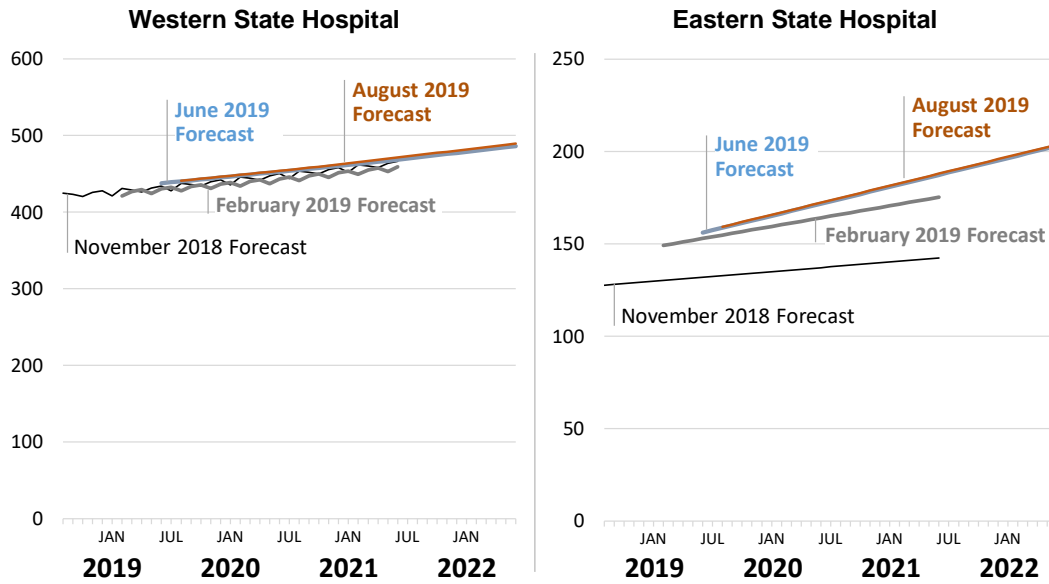


TABLE 6.
Additional Forensic Bed Capacity Needed To Clear Wait List

WESTERN STATE HOSPITAL							EASTERN
	Legal Authority Group					TOTAL	TOTAL
	A	B	C	D	E		
Wait List	71	142	8	74	13	260	65
Length of Stay (CY 2017)	65	39	13	21	13		54.1
Utilization Rate	90%	90%	90%	90%	90%		90%
Bed Days	5,128	6,153	116	1,727	188	13,311	3,907
<i>Additional beds needed to clear wait list in 12 months:</i>						36.4	10.7

Western State Hospital / Appendix

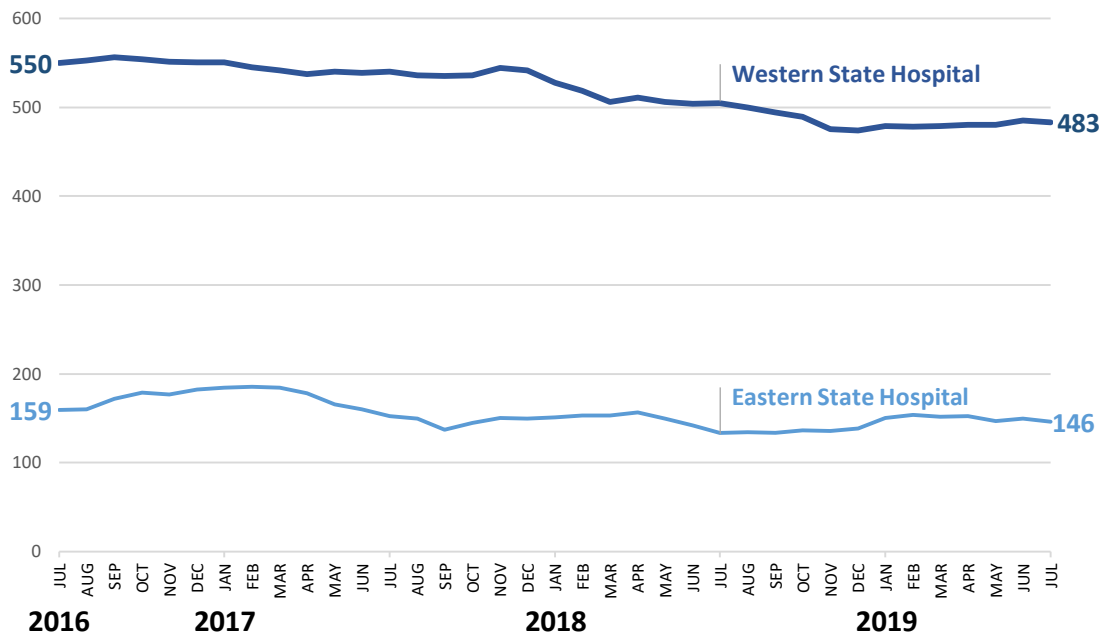
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Civil Bed Need Models

The civil commitment process begins with an evaluation by a designated crisis responder who can commit a patient for a 72-hour evaluation if he or she is a danger to themselves or others due to a mental disorder. At the state hospitals, evaluations occur in the hospitals' Center for Adult Services or, for older patients, in the Center for Geriatric Services at WSH or the Geropsychiatric Unit at ESH. If needed, subsequent court hearings can result in additional commitments of 14, 90 or 180 days.

The civil bed need context is quite different from the forensic context. On the forensic side, rapidly increasing competency evaluation and restoration referral volume has driven rapidly increasing bed need, with growing wait lists as capacity growth has lagged behind demand. On the civil side, bed utilization recently has declined at both hospitals (Figure 11). Further, at WSH civil wait list length and use of single-bed certifications (SBCs) have been declining recently (Figures 12 and 13).⁷ At ESH, the civil wait list has recently increased (Figure 13).

FIGURE 11.
Civil Daily Census, by Hospital



Western State Hospital / Appendix

⁷ A Single Bed Certification allows a person to be detained under the Involuntary Treatment Act for a 90/180-day commitment when there are no available state hospital beds.

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FIGURE 12.
Single-Bed Certification Daily Census, by Hospital

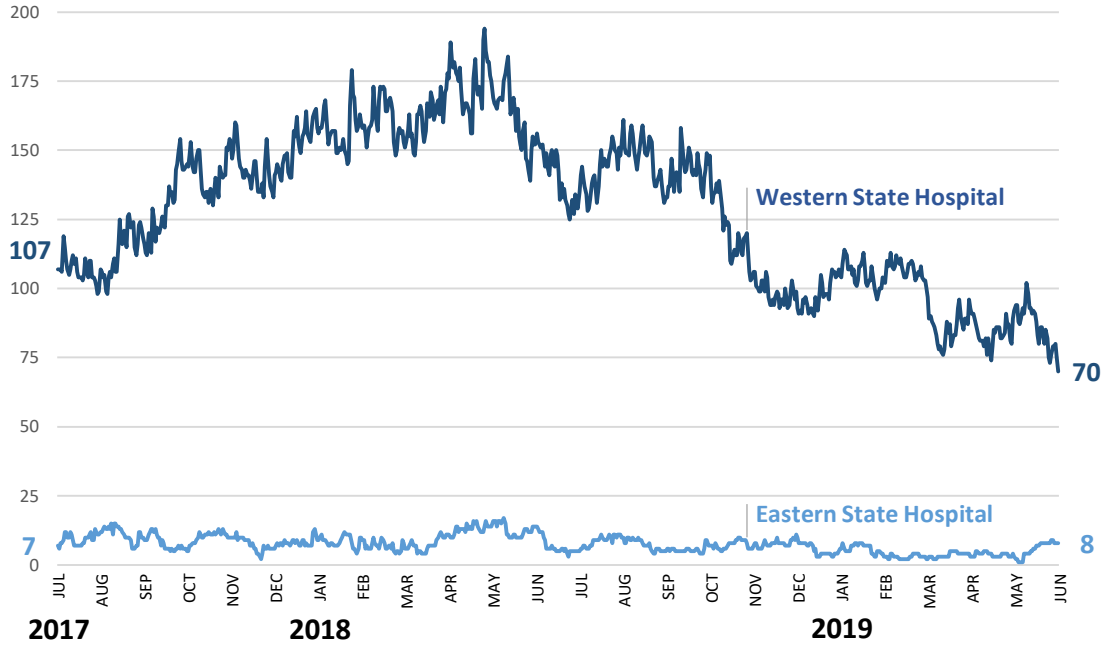
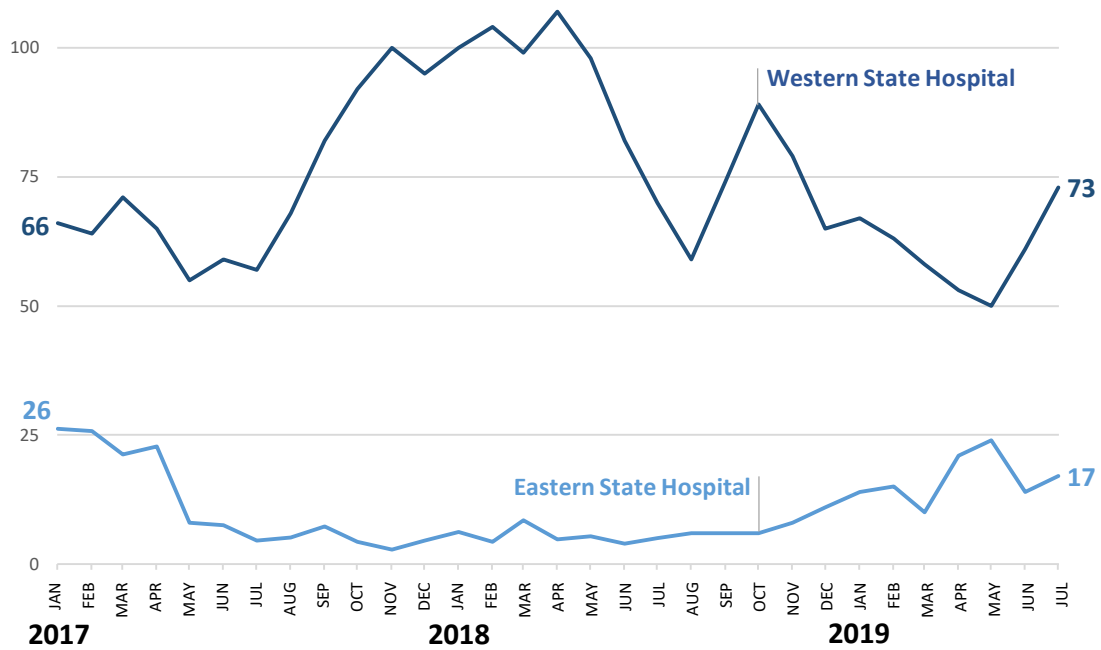


FIGURE 13.
Wait List, by Hospital



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Based on these observations, our civil bed need model is driven by underlying population growth. We incorporate separate forecasts by hospital catchment area for adult populations under 55 and age 55+, applied to the adult psychiatric and geropsychiatric populations, respectively. The age distinction is important, given the higher forecast growth rate in the population age 55 and above (related to the demographic phenomenon sometimes referred to as the “Age Wave”).

More specifically, annual (SFY) civil bed need forecasts reported in Tables 7 and 8 are based on the following parameters and assumptions:

- Baseline utilization data reflects the average daily civil census in SFY 2019, after accounting for SBC utilization and expected utilization associated with persons on the wait list;
- The geropsychiatric share of bed utilization is estimated based on September 2018 utilization experience for ESH, and the August 31st 2018 census for WSH;
- Daily census growth factors are derived from OFM’s 2017 Growth Management Population Projections for counties in each hospital’s catchment area;⁸
- The translation of daily census levels (utilization) to bed need assumes 90 percent capacity utilization at WSH and 85 percent utilization at ESH;⁹ and
- Estimates assume no change to currently observed average lengths of stay.¹⁰

The civil bed need models forecast that, by SFY 2027, 796 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 206 beds will be needed to meet the demand for civil inpatient services associated with ESH. As noted above, these forecasts include bed need associated with use of SBCs, in addition to use of civil beds at the state hospitals.¹¹ We also note that these forecasts include the capacity necessary to care for patients currently in a state hospital who may be ready for discharge to a lower level of care.

⁸ Individual years (2021, 2022, 2023, etc.) are interpolated assuming flat growth rates within the associated 5-year Growth Management population forecast period.

⁹ Over the July 2018 to September 2018 period, the average daily bed utilization rate in non-admission civil wards was 96 percent at WSH and 84 percent at WSH.

¹⁰ Alternative assumptions about future changes in average length of stay, expressed in proportion to the historical average, would have a proportional impact on estimated bed need. For example, an assumption of a 10 percent across-the-board reduction in average length of stay for patients associated with WSH hospital would reduce forecast bed need by 10 percent.

¹¹ Single-bed certification utilization was restricted to admissions associated with 90- or 180-day civil commitments.

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TABLE 7.
WSH Civil Bed Need Model

SFY	POPULATION ANNUAL CHANGE		UTILIZATION			BED NEED		
	20-54	55+	APU + HMM	Geropsych	Total Census	APU + HMM	Geropsych	Total Bed Need
2019	1.01%	3.02%	399	249	647	443	276	719
2020	1.01%	3.03%	403	256	659	447	284	732
2021	0.71%	2.05%	406	261	667	451	290	741
2022	0.71%	2.05%	408	267	675	454	296	750
2023	0.71%	2.05%	411	272	683	457	302	759
2024	0.71%	2.06%	414	278	692	460	309	769
2025	0.71%	2.06%	417	283	701	464	315	778
2026	0.86%	1.54%	421	288	709	467	320	787
2027	0.86%	1.54%	424	292	717	471	325	796
2028	0.86%	1.54%	428	297	725	476	330	805
2029	0.86%	1.55%	432	301	733	480	335	814
2030	0.86%	1.55%	435	306	741	484	340	824
2031	0.83%	1.26%	439	310	749	488	344	832
2032	0.83%	1.26%	443	314	756	492	349	840
2033	0.83%	1.26%	446	318	764	496	353	849
2034	0.83%	1.26%	450	322	772	500	357	858
2035	0.83%	1.27%	454	326	780	504	362	866
2036	0.55%	1.29%	456	330	786	507	367	874
2037	0.55%	1.29%	459	334	793	510	371	881
2038	0.55%	1.30%	461	339	800	513	376	889
2039	0.55%	1.30%	464	343	807	515	381	896
2040	0.55%	1.30%	466	347	814	518	386	904

NOTES: 1. SFY 2019 utilization data reflects average SFY 2019 daily census, including wait list and SBC utilization. 2. Geropsychiatric share of bed utilization is estimated based on 8/31/2018 experience. 3. Daily census growth factors are derived from OFM population projections for counties in hospital catchment area. 4. Translation of daily census (utilization) to bed need assumes 90 percent capacity utilization rate. 5. Estimates assume no change to currently observed average length of stay.

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TABLE 8.
ESH Civil Bed Need Model

SFY	POPULATION ANNUAL CHANGE		UTILIZATION			BED NEED		
	20-54	55+	APU + HMM	Geropsych	Total Census	APU + HMM	Geropsych	Total Bed Need
2019	0.83%	2.25%	82	77	159	97	91	188
2020	0.84%	2.26%	83	79	162	97	93	190
2021	0.81%	1.47%	83	80	164	98	94	193
2022	0.81%	1.48%	84	81	166	99	96	195
2023	0.82%	1.48%	85	83	167	100	97	197
2024	0.82%	1.48%	85	84	169	101	99	199
2025	0.83%	1.49%	86	85	171	101	100	202
2026	1.04%	1.13%	87	86	173	102	101	204
2027	1.04%	1.14%	88	87	175	104	102	206
2028	1.04%	1.14%	89	88	177	105	104	208
2029	1.04%	1.15%	90	89	179	106	105	211
2030	1.05%	1.15%	91	90	181	107	106	213
2031	0.86%	0.96%	92	91	183	108	107	215
2032	0.86%	0.97%	92	92	184	109	108	217
2033	0.86%	0.98%	93	93	186	110	109	219
2034	0.86%	0.98%	94	94	188	111	110	221
2035	0.87%	0.99%	95	95	189	111	111	223
2036	0.63%	1.02%	95	96	191	112	112	225
2037	0.64%	1.03%	96	97	193	113	114	227
2038	0.64%	1.03%	97	98	194	114	115	228
2039	0.64%	1.04%	97	99	196	114	116	230
2040	0.64%	1.05%	98	100	197	115	117	232

NOTES: 1. SFY 2019 utilization data reflects average SFY 2019 daily census, including wait list and SBC utilization. 2. Geropsychiatric share of bed utilization is estimated based on September 2018 experience. 3. Daily census growth factors are derived from OFM population projections for counties in hospital catchment area. 4. Translation of daily census (utilization) to bed need assumes 85 percent capacity utilization rate. 5. Estimates assume no change to currently observed average length of stay.

DRAFT 2019**Civil Commitment Capacity Investments**

Significant investments were made in the 2019-2021 Operating Budget related to 90/180-day civil commitment capacity. Table 9 summarizes key investments relative to forecast civil bed need, including investments requiring legislative action in future biennia. Analysis of the effect of new community investments in behavioral health services on 90/180-day civil commitment needs requires additional time to pass for new capacity to be implemented and for impacts to be assessed.

TABLE 9.
90/180-Day Civil Commitment Budgeted Capacity

SFY	2019-21 Biennium			2021-23 Biennium		2023-25 Biennium		2025-27 Biennium	
	2019	2020	2021	2022	2023	2024	2025	2026	2027
Western State Hospital Civil Beds	527	467 ¹²	467	467	467	467	467	467	467
Eastern State Hospital Civil Beds	192	192	192	192	192	192	192	192	192
Baseline 90/180-Day SBC Bed Need, SFY 19	131	131	131	131	131	131	131	131	131
DSHS 90/180-Day Civil Community Facilities	0	0	0	0	32	64	64	64	64
HCA 90/180-Day Civil Community Beds	0	71	119	119	119	119	119	119	119
Total Beds	850	861	909	909	941	973	973	973	973
Forecast Bed Need	907	922	934	945	956	968	980	991	1,002
Related Capacity Investments									
ALTSA Facilities (ESF, CR, NH, Specialized Dementia)	118	258	398	398	398	398	398	398	398
DDA Facilities (SOLA/Group Training Homes)	17	28	41	47	47	47	47	47	47
HCA Intensive BH Treatment Facilities	0	16	48	48	48	48	48	48	48
Other 90/180-Day Civil (Multicare / UW Teaching)	0	0	0	0	0	110	110	110	110

¹² Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.

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Conclusion

Table 10 below summarizes civil and forensic bed need forecasts for June 2027. Accounting for beds allocated for WSH NGRI patients, the model projects that 582 total forensic beds are needed by June 2027 for forensic patients attributable to WSH, including the capacity reflected in the 54 beds currently operating at Yakima and Maple Lane. We forecast that 281 total ESH forensic beds will be needed by June 2027 (including NGRI beds).

The forensic bed need model is sensitive to changes in inpatient competency evaluation and restoration referral trends. Given the risk of still-untapped growth in demand for inpatient evaluation and restoration services, potentially moderated by increasing investment in strategies to divert persons with behavioral health needs from the forensic mental health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin. If effective diversion and community-based intervention strategies are identified, implemented, and successfully scaled up, we would expect forensic referral growth to moderate back toward the level of general population growth.

TABLE 10.
Summary of Current Bed Capacity and Forecast Need in June 2027

Hospital	Type	Current Beds Capacity August 2019	Forecast Bed Need June 2027
Eastern State Hospital	Forensic	125	281
Eastern State Hospital	Civil	192	206
Western State Hospital	Forensic	414 ¹³	582
Western State Hospital	Civil	467 ¹⁴	796

The civil bed need models forecast that, by SFY 2027, 796 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 206 beds will be needed to meet the demand for civil inpatient services associated with ESH. These forecasts include bed need associated with use of SBCs for 90/180-day civil commitments, in addition to use of civil beds at the state hospitals. This also includes the capacity necessary for patients currently served who may be ready for discharge to a lower level of care.

Finally, we note that an increasing proportion of civil bed need will be among persons aged 55 or above who under current practice would be admitted to a state hospital geropsychiatric ward. Increasing access for older adults to more intensive community-based mental health services is likely to be an important mechanism for meeting future demand for civil bed capacity forecast in this report.

¹³ Includes the 54 RTF beds currently operating at Yakima and Maple Lane and 30 recently established RTF beds at the Fort Steilacoom Competency Restoration Program on the grounds of WSH, scheduled to be fully operational in the fall of 2019.

¹⁴ Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.

Washington State Department of Social and Health Services

Transforming
Lives

Forecasts of Forensic and Civil Bed Need for Eastern and Western State Hospitals



March 2020

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Facilities, Finance, and Analytics Administration



In response to Engrossed Substitute House Bill 1109 (Chapter 415, Laws of 2019)

Background

Engrossed Substitute House Bill 1109 (Chapter 415, Laws of 2019) directs DSHS to maintain a model to forecast demand for forensic and civil state hospital beds. ESHB 1109 directed that the bed need models incorporate factors such as:

- The capacity in state hospitals as well as contracted facilities which provide similar levels of care,
- Referral patterns,
- Lengths of stay,
- Wait lists, and
- Other factors (e.g., capacity utilization rates) identified as appropriate for predicting the number of beds needed to meet the demand for civil and forensic state hospital services.

Factors should include identification of need for the services and analysis of the effect of community investments in behavioral health services and other types of beds that may reduce the need for long-term civil commitment needs.

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Forensic Model Context

- **The state hospitals provide forensic inpatient competency evaluation services when a court believes a mental disability may prevent a criminal defendant from assisting in their defense. (Most competency evaluation services are provided in jail or community settings.)**
- **Inpatient treatment for competency restoration is provided when the evaluation finds the defendant is not competent.**
- **In April 2015, a federal court found in the case of Trueblood v DSHS (Trueblood) that the Department was taking too long to provide competency evaluation and restoration services, in part due to a shortage of beds for the provision of inpatient restoration services.**
- **As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days.**

Forensic Model Context

- **Relative to social and health service program areas for which the Caseload Forecast Council (CFC) provides official budget forecasts, forensic bed need forecasts:**
 - Are based on small numbers with less stable “entry” trends and “lengths of stay”, and therefore will be inherently less stable across forecast cycles
 - Are currently subject to a more rapidly evolving policy environment
 - Are significantly impacted by factors outside of the direct control of the agency responsible for providing the service. In particular, the role of law enforcement, prosecutorial, and judicial discretion has no analog in the forecasting of medical, food, or cash assistance or LTSS/DD caseloads.
 - Are needed to inform a longer-term facility planning horizon than is generally applicable to use of community-based facilities or other forms of public assistance
- **These factors result in a need for long-term forecasts of forensic bed need with far greater intrinsic uncertainty relative to CFC forecasted programs**

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Forensic Model Overview

Forensic bed need models are based on:

- Current bed capacity
- Forecasts of monthly inpatient evaluation and restoration referrals based on time series models applied to referral data through January 2020
- Estimates of length of stay (LOS) by hospital by legal authority group (LAG), based on discharges observed from 2/1/2019 through 1/31/2020
- Capacity utilization targets (targeted proportion of beds occupied)
- Current wait lists for forensic beds as of 2/21/2020

We forecast two related but different concepts:

- Capacity needed to meet forecast referral volume without adding to a wait list
- Time-limited capacity needed to eliminate current wait lists

Civil Model Overview

Civil bed need forecasts are based on the following parameters and assumptions:

- Baseline utilization data reflects average daily census in SFY 2019, after accounting for single-bed certification (SBC) utilization and wait lists
- The geropsychiatric share of bed utilization is estimated based daily census information as of March 6, 2020
- Daily census growth factors are derived from OFM's 2017 Growth Management Population Projections for counties in each hospital's catchment area
- Translation of daily census levels (utilization) to bed need assumes a 90 percent capacity utilization rate at WSH and an 85 percent utilization rate at ESH
- Estimates assume no change to currently observed average lengths of stay

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Forensic Forecast Summary

- If current WSH inpatient referral trends continue to hold, forecast WSH forensic bed need would rise to 598 total forensic beds by the end of SFY 2027. This includes beds allocated for NGRI patients and the capacity reflected in the 54 RTF beds operating at Yakima and Maple Lane and 30 recently established RTF beds at the Fort Steilacoom Competency Restoration Program on the grounds of WSH.
- If current ESH inpatient referral trends continue to hold, forecast ESH forensic bed need would rise to 241 total ESH forensic beds by the end of SFY 2027, including beds allocated for NGRI patients.
- Due to small numbers, long-term forecasts for ESH have a particularly wide confidence margin.
- Forecasts do not account for the potential impact of Trueblood-related investments on future inpatient referral trends.

Civil Forecast Summary



- **By SFY 2027, 808 beds will be needed to meet the demand for civil inpatient services associated with WSH.**
- **By SFY 2027, 214 beds will be needed to meet the demand for civil inpatient services associated with ESH.**

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Summary of Existing Bed Capacity and Forecast Bed Need

Hospital	Type	Budgeted Beds (March 2020)	Forecast Bed Need (June 2027)
Eastern State Hospital	Forensic	125	241
Eastern State Hospital	Civil	192	214
Western State Hospital	Forensic	330 + 84 RTF beds*	598
Western State Hospital	Civil	467**	808

* Includes the 54 RTF beds currently operating at Yakima and Maple Lane and 30 RTF beds at the Fort Steilacoom Competency Restoration Program on the grounds of WSH opened in the fall of 2019.

** Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.

Forensic Bed Need Summary

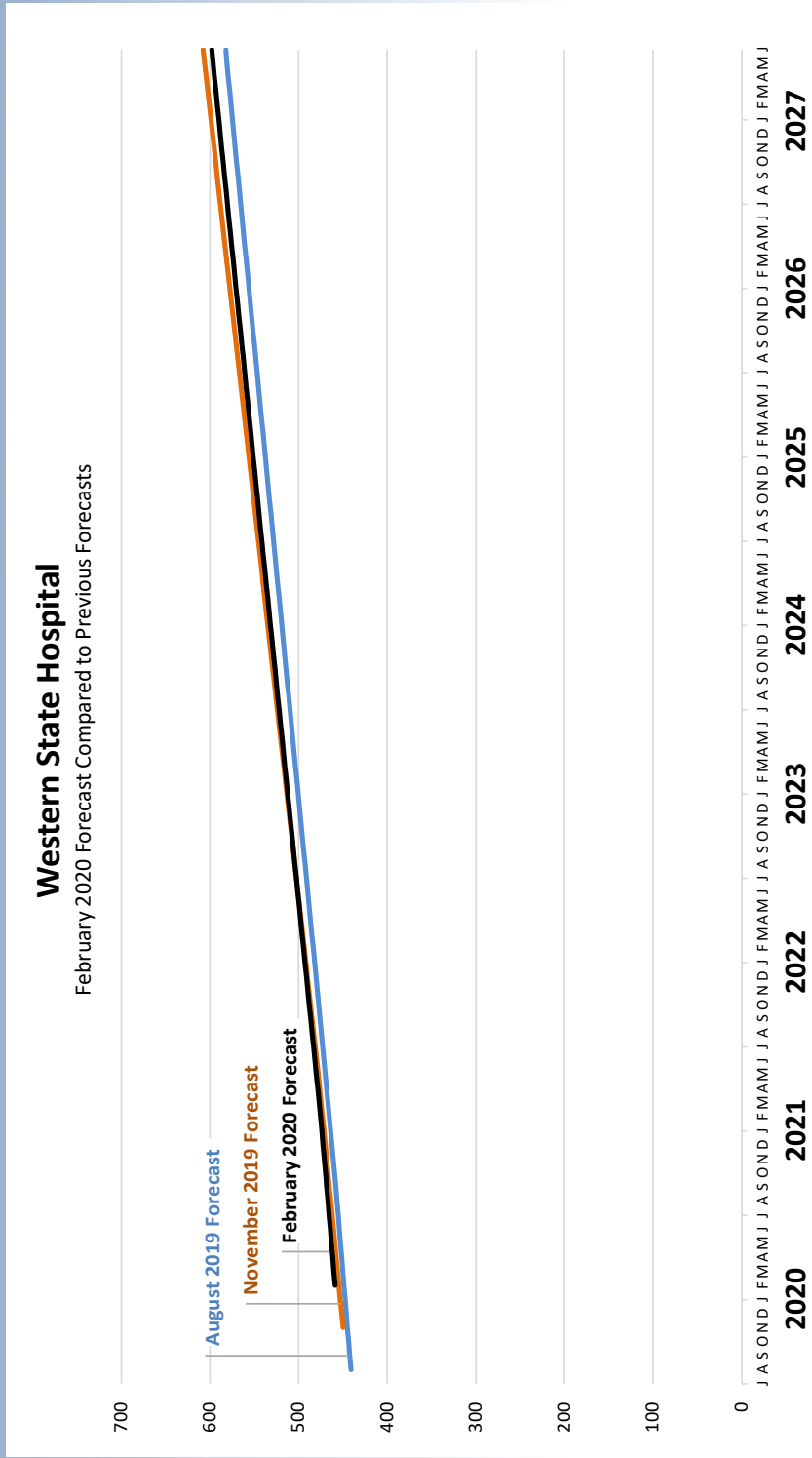
Current Forecast by Fiscal Year

SFY	Western State			Eastern State		
	Forecast Need Year End	Forecast Need SFY Average	Budgeted Beds Year End ¹	Forecast Need Year End	Forecast Need SFY Average	Budgeted Beds Year End
2020	464		454	150		175
2021	481	473	454	163	157	175
2022	501	492	460	176	170	175
2023	520	511	460	189	183	175
2024	540	531	460	202	196	175
2025	559	550	460	215	209	175

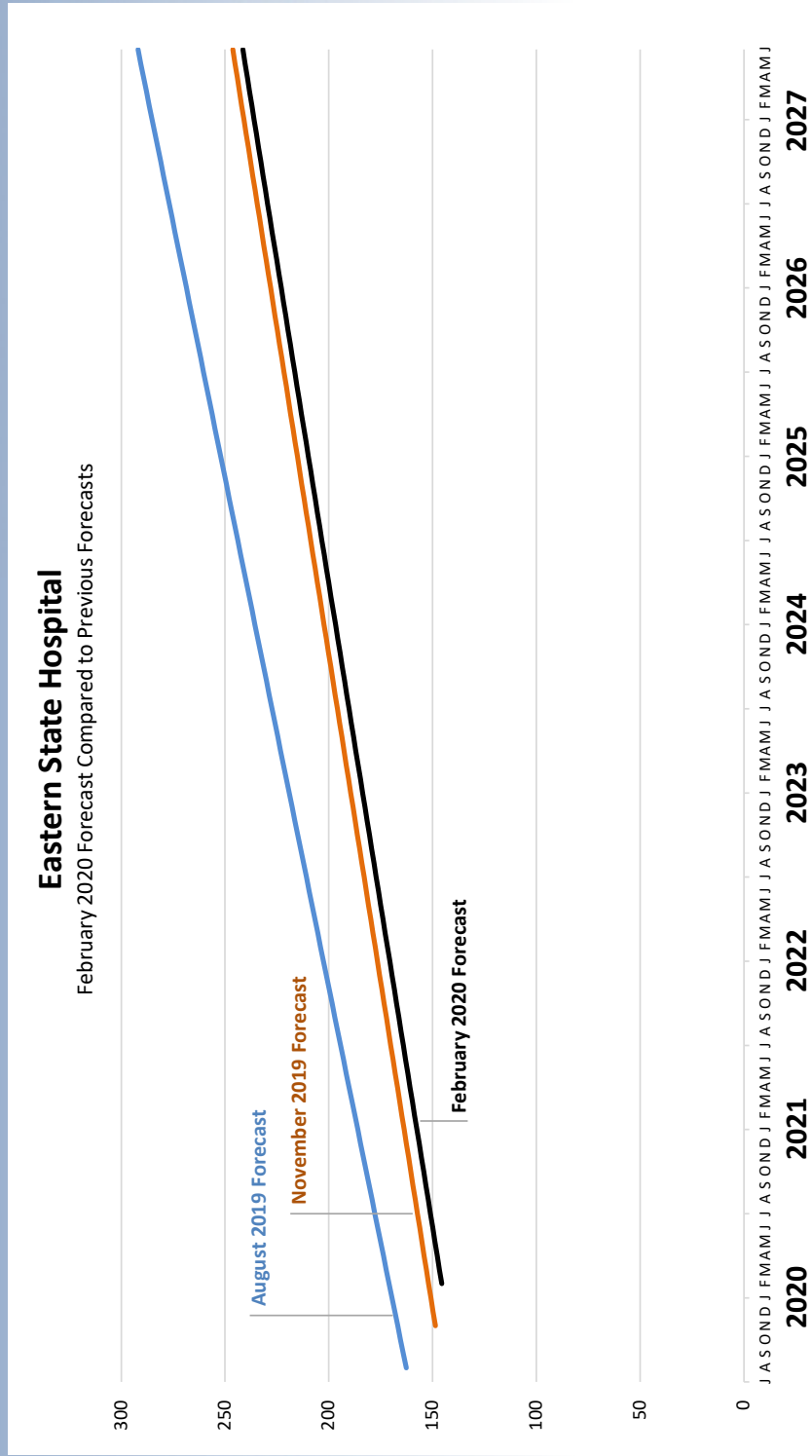
¹ Forensic ward conversion at WSH does not include two seclusion beds in capacity total.

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Forensic Bed Need Forecast Comparisons



Forensic Bed Need Forecast Comparisons



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Civil Bed Need Models

Based on State Hospital utilization, single-bed certification utilization for 90- and 180-day civil commitments, and the capacity needed to serve State Hospital wait-list patients

Western State Hospital

Eastern State Hospital

SFY	POPULATION ANNUAL CHANGE			UTILIZATION			BED NEED		
	20-54	55+	APU + HMH	63% APU + HMH	Geropsych	Total Census	APU + HMH	Geropsych	Total Bed Need
2019	1.01%	3.02%	385	59.7%	260	645	427	289	716
2020	1.01%	3.03%	389	40.3%	268	657	432	298	729
2021	0.71%	2.05%	391		274	665	435	304	739
2022	0.71%	2.05%	394		279	673	438	310	748
2023	0.71%	2.05%	397		285	682	441	317	757
2024	0.71%	2.06%	400		291	690	444	323	767
2025	0.71%	2.06%	402		297	699	447	330	777
2026	0.86%	1.54%	406		301	707	451	335	786
2027	0.86%	1.54%	409		306	715	455	340	795
2028	0.86%	1.54%	413		311	724	459	345	804
2029	0.86%	1.55%	416		315	732	463	350	813
2030	0.86%	1.55%	420		320	740	467	356	823
2031	0.83%	1.26%	424		324	748	471	360	831
2032	0.83%	1.26%	427		328	755	474	365	839
2033	0.83%	1.26%	431		333	763	478	370	848
2034	0.83%	1.26%	434		337	771	482	374	857
2035	0.83%	1.27%	438		341	779	486	379	865
2036	0.55%	1.29%	440		345	786	489	384	873
2037	0.55%	1.29%	443		350	793	492	389	881
2038	0.55%	1.30%	445		354	799	494	394	888
2039	0.55%	1.30%	447		359	807	497	399	896
2040	0.55%	1.30%	450		364	814	500	404	904

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90/180 Day Civil Commitment Budgeted Capacity

	SFY	2019-21 Biennium		2021-23 Biennium		2023-25 Biennium		2025-27 Biennium		
		2019	2020	2021	2022	2023	2024	2025	2026	2027
Western State Hospital Civil Beds		527	467 ¹	467 ¹	467 ¹	467 ¹	467 ¹	467 ¹	467 ¹	467 ¹
Eastern State Hospital Civil Beds		192	192	192	192	192	192	192	192	192
DSHS 90/180-Day Civil Community Facilities		0	0	0	0	48 ²	80	80	80	80
HCA 90/180-Day Civil Community Beds		48 ³	119 ⁴	167 ⁴	221 ⁵	275 ⁵	275	275	275	275
Total Beds		767	778	826	880	966	998	998	998	998
Forecast Bed Need		909	925	936	948	959	971	983	994	1,009

¹ Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity

² As provided by Substitute House Bill 1102 enacted in the 2019 Regular Session.

³ As of the end of SFY 2019, there were 32 beds contracted to provide 90/180-day HCA Civil Community inpatient services. As of March 19, 2020, there are 33 beds contracted to provide this capacity.

⁴ As of March 20, 2020, total contracted and upcoming beds for SFY 2020 and SFY 2021 were expected to be 86 and 89 beds, respectively.

⁵ Legislative intent did not specify bed count detail for SFY 2022 and SFY 2023. Yearly counts of new beds are assumed for the purposes of this report. The total HCA 90/180 civil community budgeted capacity is assumed to increase by 227 total beds over the period from SFY 2020 to SFY 2023.

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Related Capacity Investments

	SFY	2019-21 Biennium		2021-23 Biennium		2023-25 Biennium		2025-27 Biennium		
		2019	2020	2021	2022	2023	2024	2025	2026	2027
AL TSA Facilities (ESF, CR, NH, Specialized Dementia)	118	258	398	398	398	398	398	398	398	398
DDA Facilities – SOLA and Stabilization, Assessment, and Intervention Facility (SAIF) beds	17	28	41	47	47	47	47	47	47	47
HCA Intensive BH Treatment Facilities	0	0	64	64	64	64	64	64	64	64
Other 90/180-Day Civil (Multicare / UW Teaching)	0	0	0	0	0	110	110	110	110	110

Washington State Department of Social and Health Services

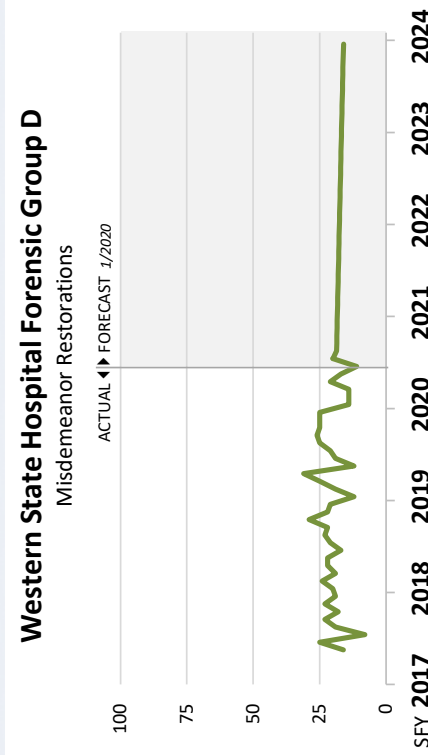
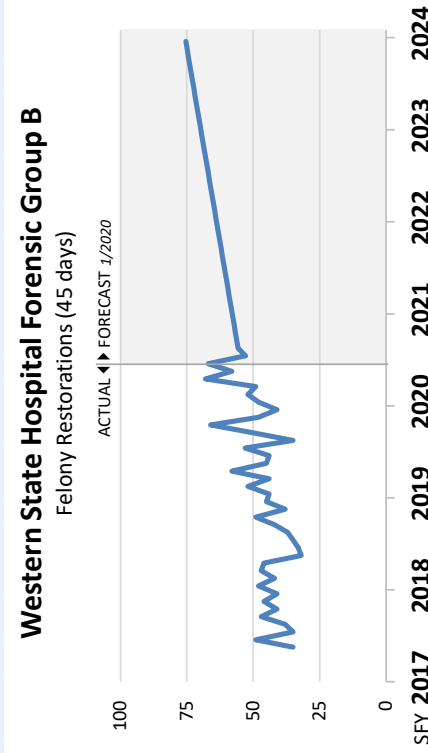
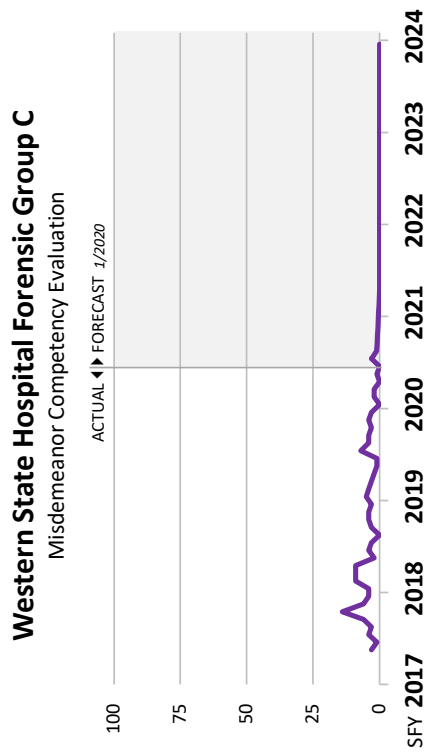
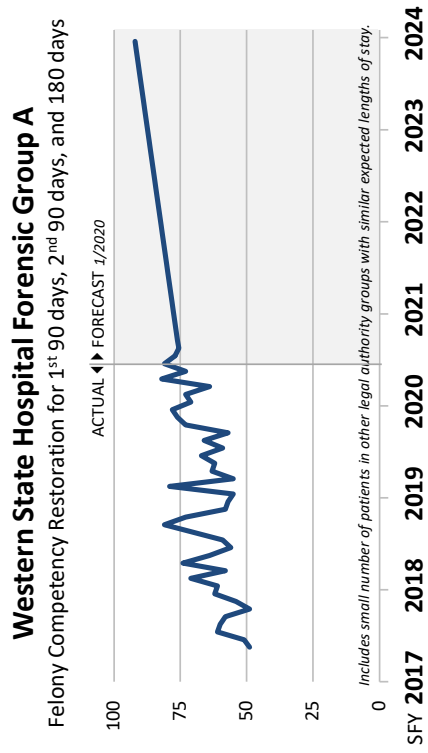
Transforming
Lives

DATA APPENDIX

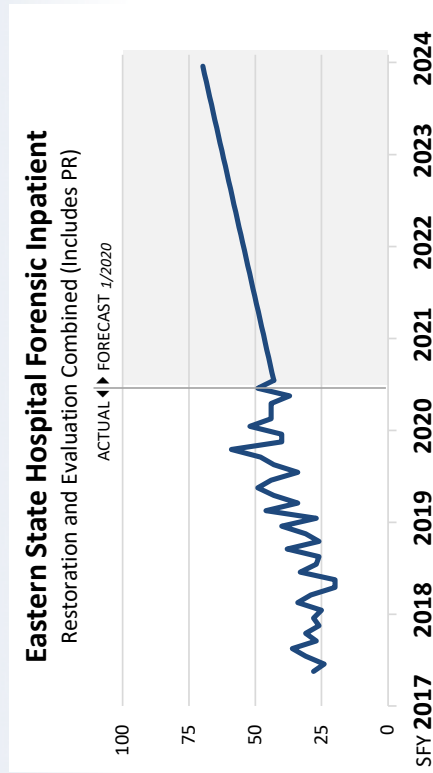


Washington State Department of Social and Health Services

Monthly Inpatient Referrals



Monthly Inpatient Referrals



Washington State Department of Social and Health Services

Additional Forensic Bed Capacity Needed to Clear Wait List

WESTERN STATE HOSPITAL							EASTERN		
Legal Authority Group									
	A	B	C	D	E	TOTAL			
Wait List	91	137	8	52	8	296	TOTAL	80	
Avg Length of Stay, Days	63.3	40.5	15.3	23.0	15.8			36.7	
Utilization Rate	90%	90%	90%	90%	90%			90%	
Bed Days	6,398	6,162	136	1,327	140	14,162		3,267	
<i>Additional beds needed to clear wait list in 6 months:</i>							78		18

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**WESTERN STATE HOSPITAL
FORENSIC HOSPITAL PREDESIGN**

Workshop #1 - 11-07-2019

SRG
architecture+

Meeting Purpose

This two-day workshop on November 7 & 8, 2019 included visioning sessions with DSHS and WSH Staff to establish project goals and define the nature of the problem to be address by the PreDesign effort and the next steps of the planning process.

The following pages are meeting notes for Workshop #1:

- 1** Agenda
- 2** Meeting Attendees
- 3** Summary of Day 1
- 4** Breakout Discussion #1
- 5** Breakout Discussion #2
- 6** Breakout Discussion #3
- 7** Breakout Discussion #4
- 8** Breakout Discussion #5
- 9** Group Discussion
- 10** Summary of Day 2

2 / Workshop 1

1. Agenda

Thursday November 7th

- 1** Introductions, Overview, Icebreaker
- 2** Breakout Discussion #1 - Issue Definition
- 3** Breakout Discussion #2 - Hopes and Fears
- 4** Breakout Discussion #3 - Flows and Processes
- 5** Breakout Discussion #4 - Opportunities and Pitfalls
- 6** Breakout Discussion #5 - Goals and Obstacles
- 7** Group Discussion - Project Vision

Friday November 8th

- 1** Mental Health Trends
 - Innovations in Mental Health
 - Designing for Reduced Violence and Aggression
 - Evidence Based Design Principles
 - Nurse Station Design
 - Case Studies
- 2** PreDesign Process and Schedule
- 3** Next Steps

Western State Hospital Forensic Hospital PreDesign

2. Meeting Attendees

Day 1 November 7, 2019

DSHS Capital Programs:

Aaron Martinez
Bob Hubenthal

DSHS/BHA/OFMHS

Melissa Green
Megan Celedonia
Bryan Zolnikov
Jenise Gogan
Jason Howell
Melena Thompson
Charles Anderson

WSH

David Holt
Joyce Stockwell
Katherine Raymer
Jennifer Brown
Brian Waiblinger
Karen Pitman

SRG Partnership

Craig Tompkins
Pierce McVey
Kenny Grist
Jon Mehlschau

architecture +

Francis Pitts
Sara Wengert
Stephen Kervin

Day 2 November 8, 2019

DSHS Capital Programs:

Aaron Martinez
Bob Hubenthal

DSHS/BHA/OFMHS

Melissa Green
Megan Celedonia
Bryan Zolnikov
Jenise Gogan
Jason Howell
Melena Thompson
Charles Anderson

WSH

Katherine Raymer
Brian Waiblinger
Karen Pitman

SRG Partnership

Craig Tompkins
Pierce McVey
Kenny Grist
Jon Mehlschau

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Francis Pitts
Sara Wengert
Stephen Kervin

3. Day 1

DAY 1 Intro

Introductions were made and a brief icebreaker question was discussed by attendees, followed by an overview of the agenda.

Purpose

The purpose of the visioning sessions is to implement programming and planning to a level of detail that poises us to proceed seamlessly into design. Vision and needs will be well established.

Schedule

The schedule for the planning portion of the project was discussed. Anticipated dates are indicated below:

- June 2020: Design consultants submit redesign package to DSHS.
- July 2020: Legislature performs Capital Review.
- September 2020: DSHS will submit the redesign package for design funding.
- June 2021: Funding becomes available.
- January 2021: Supplemental design funding is possible, but not guaranteed.
- September 2022: DSHS will submit the design package for construction funding.

Bed Need Analysis

Attendees noted that there is a parallel study being completed to determine bed needs for the hospital. Preliminary estimates suggest a need of 350 beds.

- The project team will need to understand how much space is needed and how that space will be implemented in the building?
- It is important to understand what the building needs to do.

Workshop Goal

The goal for workshop #1 was discussed. This meeting will be used to determine the nature of the problem and to understand the next steps to proceed with the planning process.

PreDesign Alternates

Three different options will be developed as part of the planning effort. Each of these options will need to develop a plan for what will be done with buildings 27, 28, and 29.

Breakout Discussions

Attendees split into two groups and were tasked with answering a series of questions via post-it-notes. Each group presented their responses.

4. Breakout Discussion #1

- Breakout Discussion #1**
- What are the problems to be solved?
 - What are the issues to be re-solved?
- Group 1 - Problems to be solved**
1. Safety
 2. Innovation
 3. Integration of care with community health
 4. Treat forensic patients effectively
 5. Reduce waitlist
 - Increase through-put
 6. Aging facilities/systems
- Group 2 - Problems to be solved**
1. Get people out of jails
 2. Staff recruitment/retention
 3. Redirection resources to patient care
 4. Provide appropriate level of care
 5. Violence reduction
 6. Center of Excellence
- Group 1 - Issues to be resolved**
1. Staff Focused Features:
 - Training center for staff
 - Collaboration for staff training
 - Office space
 - Breakroom space for staff
 - Parking for staff
 - Ratio 8 (pt.) : 2 (staff) room – Tx room available
 - Staff café
 - Staff daycare
 - Staff wellness space
 - Space for teams on unit
 - “Hotel” space for staff coming in
 2. High Level Goals:
 - Statewide hospital
 - Professional internships
 - Solve waitlist – zero or manageable
 - NGRl transitional housing
- Group 3 - Problems to be solved**
- Robust medical clinic (dental, medical, lab, PT, OT)
 - Certified green building
 - Ancillary services in the building
 - Trueblood issues
 - Revenue generating services (substance abuse, ECT)
 - Reduce re-hospitalization
 - University hospital (affiliated)
 - Center of excellence awards
 - Accreditation CMS and TIC
 - Carry on Ross settlement
 - Magnum nursing – nursing excellence
 - Will we have civil patients
 - Alt. pt. center
 - Bed space
 - Antiquated systems/old buildings
 - Safety patient staff
 - Lack of innovation comm. integration
 - Ability to do research
 - Navigators
- Group 4 - Problems to be solved**
- Tech:
 - Telehealth
 - Telecourt
 - Technology – modern
 - Sell hearing capacity
 - Proxy keys
 - EMR
 - Modern equipment
 - Programmatic and Physical Attributes:
 - Staff design for response time
 - Treatment space – classrooms, large room, voc. training, recreation
 - Do we do Treatment mall?
 - Private run café
 - Living space like home – therapeutic
 - Preserve an old building to connect new building
- Group 5 - Problems to be solved**
- Unit or wing for medical services
 - Space for pt. to meet with team
 - No blind corners
 - Treatment mall – reduce lines
 - 2 med rooms on ward
 - Adequate amount of time-out space
 - No fence
 - Courtyard

4. Breakout Discussion #1 cont'd

- Group 2 - Issues to be resolved**
- 1. Conserve maintenance resources:
 - Durable and maintainable
 - State of the art fire safety
 - Energy efficiency
 - 2. EMR:
 - CMS certification
 - State of the art IT infrastructure (EMR) – workplace of choice
 - 3. Efficient spacing – light:
 - Clinic is physically connected equidistant
 - Safety through better physical layout
 - Aesthetic containment
 - 4. Space appropriate to clinical (ADA and single rooms):
 - Conducive to mental health – calming and community
 - Indoor Tx and recreational /physical health (outdoor too)
 - 5. Staff amenities – showers, cafeteria:
 - Staff offices/space
 - Staff training and continuing education center (centralized)
 - Morale/culture
 - Efficient staffing ratio
 - Staff recruit and retention
 - Administration ratio
 - Voc. rehab – onsite jobs
 - Ratio of NGRI vs. comp. restor. vs. civil
 - Total beds/square feet/facility (best practice)
 - Continuum of care – stay duration: short, medium, long
 - Dedicated intake – ingress, egress
 - Discharge placement
- Additional complex problems subsequent to the conclusion of the exercise:
- Clinical staff that are fresh out of universities are not trained in the use of paper charting. An electronic charting system is essential for efficiency.
 - Outpatient/Partial Hospitalization: What is the role of the Residential Treatment Facility (RTF)/Transitional in the system.
- Goals:
- Develop affiliations: Wellfound and Western hospitals have begun partnership conversations regarding University and community affiliation.
 - Obtain accreditations: Joint Commission and CMS accreditation is one of the overarching goals of the hospital.
 - Licensure: Interest in Magnet, Baldrige, DoH, and Substance abuse licenses was discussed.

5. Breakout Discussion #2

- Breakout Discussion #2**
- What are your hopes for the project?
 - What characterizes a Forensic Center of Excellence? What are the qualities/features/benchmarks?
 - What does it take to be a magnet hospital or to be Baldrige "certified"?
 - What are your fears about the project?

- transition people to Turnover planning successful Magnet – draw top nurses: UW Mason Magnet and all criteria
- Baldrige: Best hospitals in US Baldrige compare against the best
- Benchmarks: OSH benchmark – Fulton State Hospital Current standard for psych hospital – keep growing ORYX data – high performs WPSHA data TJC CMS Program license – substance abuse

- Fears:**
1. Funding/Leadership Support:
 - Change of Governor with different vision
 - LEG doesn't fund
 - Won't have enough time to plan for redesign
 - Design will have cuts and modifications
 2. Change in Regulatory Req.:
 - Require DOH license.

A. Group 1

Hopes:

1. Forensic Center of Excellence:
 - All disciplines
 - Interns
 - Recruitment tools
 - Education
 - Resume
 - Demonstrate patient outcomes
 - Pt. care improves
 - Attract the best and brightest staff (recruit/retain)
 - LEG see us as a hospital of excellence – efficient/credible
 - Reputation of excellence outside of state
 - WSH becomes the benchmark
2. Other:
 - Single beds for safety
 - Engage city of Lakewood so they are supportive
 - Improve partnership of care with all entities
 - Physical design support the ability to provide excellent care
 - Diversion options expand
 - Community develop bed for us to

3. Labor:
 - Change management for FCOE very hard
 - Staff to run hospital – will it be approved by LEG
 - Too big to manage – what can we manage

5. Breakout Discussion #2 cont'd

B. Group 2 Hopes:

- Find/(+) champion in the legislature
 - Quality care – qualified staff – better life for every patient
 - Attract and retain qualified staff
 - Culture and morale dramatically improve
 - Environment that will motivate treatment and staff wellness and morale
 - Continuous education opportunities for staff
 - Right patient mix
 - Heal the stigma about WSH in the community
 - Higher education and research – magnet hospital
 - UW psych training is conducted at WSH
 - Set standard for forensic excellence for country
 - Highest level of evidence based care
 - Voc. rehab
 - Great visiting areas
 - Therapeutic design
 - Risk based approach based on level of violence
 - Project focus is comprehensive meets all needs
 - Great lighting
 - Welcoming
 - Easy to clean
 - Right size of hospitals (# of patients)
 - Pretty cool and innovative building
 - Intake ward that is capable of handling violent patients
- Fears:**
- Concept of center of excellence is beyond budget

- Funding will be pulled – not get what we dreamed of
- Community unable to provide services – impacts capacity
- Capacity projections are way off
- Lack of LEG guidance on our capacity
- Fear master plan not approved yet
- Lakewood manages to block build
- Project compromised by existing foot print
- Don't design what we need
- Nothing changes other than a new building
- Wrong patient mix

C. Summary of Hopes:

- Become a Forensic Center of Excellence.
- Become Magnet certified: The project team will evaluate the criteria on the website regarding nursing and patient outcomes.
- Become Baldrige certified: How do you compete with the best?
- Visit other hospitals.
- It was stated that no license is required for the State to operate a psychiatric hospital, but is for outpatient and substance abuse services.
- WSH strives to facilitate recovery, not just stabilization.
- STAR award.

D. Summary of Fears:

- Turnover and culture change are concerns: A cadre of Project Managers in all disciplines (Clinical and other) is required to implement change in operational and administrative culture.

E. Notes WSH Retreat

A meeting will be held on December 8th for WHS to determine what a Forensic Center of Excellence is.

Standards

FGI hasn't yet been adopted by the State of Washington.
 16 and 48 bed Residential Treatment Facilities allow for licensing services, but not licensing for the facilities themselves.

Approvals

The project team is not clear regarding who makes the big decisions/issues the major directives.

- What is the decision making process?
- There appears to be a great need to find an executive sponsor.

6. Breakout Discussion #3

- What are the most critical work-flows or processes and clinical flows and processes in the facility?
- Where is there waste in these flows and processes?

The 7 Flows of Medicine:

1. Patients
2. Family
3. Providers
4. Medications
5. Supplies
6. Information
7. Equipment

A. Group 1

- Communication – how info gets to the people that need it
- How pts. are cared for
- Transporting
- Evaluation/assessments patients
- Evaluation – Quality
- Legal requirements are unknown to staff – training, templates
- Admission process, discharge process – paper record
- Family involvement
- High staff turn over
- Supplies – Ft. Knox
- Can't have more than 1 nurse to administer meds
- Medication flow:
 - Pharmacy location
 - Ward to pharmacy/pharmacy to ward
- Tx delay due to legal status/process
- Transport of meals, medical equipment
- Lack of food on ward – no snack
- Risk review flow
- Waitlist management
- Data flow
- IT:
 - Application updates
 - Delays
- The way forensic court orders come in (*success)
- P.R. waitlist
- MCO bed flow – 1114 flips
- Court flow
- Information:
 - Admission referral list sent to wrong place
- Active Tx
- Tx Planning

6. Breakout Discussion #3 cont'd

- B. Group 2**
 - Medical records
 - Information flow (24/7) facility
 - Float staff
 - Provider flow
 - Patient flow
 - L&I claims
 - Sick time – FMLA
 - LPD and WSP take months to get back to us after an assault
 - Reassignments that last months
 - Transportation to and from recreation
 - Patients have to ask permission for everything they need
 - Patient log jam (in-out)
 - Family:
 - Contraband
 - Visits on ward
 - Inclusion in treatment
 - Pendant signaling to wrong location
 - Lack of EMRs
 - Limited treatment due to physical plant constraints
 - Physical layout currently wastes time – not efficient
 - Having to sign and fax documents
 - Lack of space for med passing, other activities
 - Manner in which medications are administered
 - Lines - documentation errors
 - Lack of conference rooms
 - So many keys and double locks – security
 - Campus is large – some meetings 10 minute walk to the next
 - Changes in standards
 - Lack of common standards
 - Conflicting external expectations for the hospital
-
- Finances needing legislative approval
 - Reactive vs. proactive with equipment issues – tied to finances
 - 1:1
 - 2:1
 - Inconsistent space usage (storage and staff)
 - R/Ns not allowed to be nurses (pushing paper)
 - Supervisory turnover and overall staff turnover
 - Ineffective communications to staff at 24/7 facility
 - (21) psychiatrist vacancies – use of contract staff – doctor turnover
 - Misuse of staff – underutilized staff
 - Leadership change – vision change
-
- C. Critical Workflows:**
 - 2 Pyxis Med stations are needed per unit. Need a bigger meds room.
-
- D. Waste:**
 - Log jams: Lines/waiting leads to waste and to violence and aggression
 - Lack of treatment consistency across hospital
 - RN's: Workload isn't broad enough
-
- E. Additional Flows/Processes:**
 - Psych only:
 - Managed care – How admissions take place
 - Court orders
 - Personal recognition
 - Treatment Planning/Active waste
 - Delivery of goods.
 - House Bill 1114 – Difficult to place civil patients.

7. Breakout Discussion #4

- Breakout Discussion #4**
- What are the possible unanticipated opportunities that might arise from this project?
 - Where are the potential pitfalls?

A. Group 1

- Unanticipated Opportunities:
- Vacant buildings – lease out
 - Out pt. services available to public also
 - Professional staff
 - Growth pool
 - Voc. center of excellence
 - Topic for discussion with community
 - Community recreation center
 - Community retail
 - Community garden
 - Online store to sell pt. creations
 - Standardize Tx through facilities
 - Step down clinic
 - Patient residences
 - Use buildings for events
 - Low income house
 - OCRP housing
 - Telehealth psychiatric hub for rural WA

B. Group 2

- Unanticipated Opportunities:
- Reduce stigma and improve image – resulting in community siting/future community facilities
 - Become a magnet hospital and others want to pay for our services
 - Could work yourself out of a job because you are so damn good!
 - Training site for other states in the future
 - May assist ESH in the future
 - Discover new ways to provide quality care
 - Become a partner with UW – help with each other
 - May have such good cafeteria – public would use – reduce stigma
 - Make products sold through voc. program
 - May have excess bed space to utilize for other uses
 - Outpatient Competency Restoration Program (OCRPP)
 - Reduce the stigma.

C. Group Discussion

- What characteristics (descriptive words) would you use to capture the essential nature of the new hospital?

Qualities/Values: Western State Hospital, Washington:

- Place of Healing
- Welcoming
- Learning
- Safe
- Research
- Innovative
- Inspiring
- World-Class
- Patient-Focused
- Warm
- Collaborative
- Familiar/Homelike
- In and with Nature
- Clean
- Bright
- Community Resource
- Therapeutic
- Respectful
- Atraumatic
- Transparent
- Consequential
- Employer of Choice
- Efficient
- Effective
- Sustainable
- Professional
- Expert
- Community Oriented
- Engenders Trust
- Cozy/Hygge

8. Breakout Discussion #5

- What are your five most important goals for the new hospital?
- How will you measure whether you've achieved these goals?
- What are the obstacles to achieving these goals?
- What can the team do to overcome these obstacles?

<p>Goal</p> <ul style="list-style-type: none"> • Become a Center of Forensic (Psychiatry) Excellence. <p>Measure</p> <ul style="list-style-type: none"> • Reduce rehospitalization by 50%. Meet CMS CoP and become JC-Accredited. <p>Obstacle</p> <ul style="list-style-type: none"> • The standard/definition of a Center does not exist. • Existing culture. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Strategic planning. • Start culture transformation now with a specific plan for doing so. <p>Goal</p> <ul style="list-style-type: none"> • Violence and aggression reduction. <p>Measure</p> <ul style="list-style-type: none"> • Reduce by 30% reported assaults, benefit, and workmen's comp claims. <p>Obstacle</p> <ul style="list-style-type: none"> • Don't get the money to build the building. Failure to transform the hospital's culture. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Staff training and education. 	<p>Goal</p> <ul style="list-style-type: none"> • Workplace of choice. <p>Measure</p> <ul style="list-style-type: none"> • Increase retention within the hospital based upon # of times a specific position is filled. • Decreased time to fill positions. <p>Obstacle</p> <ul style="list-style-type: none"> • Current culture. • Competitive employment environment. • Appropriate staffing model for rewarding work. • Reputation. • Measurement methodology and definition of terms. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Form work group to meaningfully redefine the definition of retention. • Transform culture and reputation. • State licensing reciprocity. • Find a legislative partner to advocate. • Consumer and family advocacy. 	<p>Goal</p> <ul style="list-style-type: none"> • Safety -Decrease violence -Decrease ligature -Measured through L&I claims -Assaults <p>Measure</p> <ul style="list-style-type: none"> • L&I claims • Assault data • ORYX data • WSPHA <p>Obstacle</p> <ul style="list-style-type: none"> • Insufficient staff training • Poor performance and culture • Lack of competency assessment • Hire any staff/need the "right" staff • Staff unaware of their own behavior - culture • Labor <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Move to team • Recruitment
--	---	--

8. Breakout Discussion #5 cont'd

<p>Goal</p> <ul style="list-style-type: none"> Quality of Care <p>Measure</p> <ul style="list-style-type: none"> Medication error Pt. falls Certification UR Standardize testing ORYX Length of stay S/R <p>Obstacle</p> <ul style="list-style-type: none"> Lack of standard testing No formal Tx protocol No EHR Not enough oversight of education Not enough forensic psychiatrists <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> Forensic training program Increase UR Increase peer review Affiliation with university Peer review 	<p>Goal</p> <ul style="list-style-type: none"> Modernize Infrastructure <p>Measure</p> <ul style="list-style-type: none"> EHR # work orders Preventative methods vs. crisis work <p>Obstacle</p> <ul style="list-style-type: none"> Insufficient: <ul style="list-style-type: none"> -Wifi -EHR/EMR -New build -Electricity infrastructure <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> New building – durable, easy to maintain 	<p>Goal</p> <ul style="list-style-type: none"> Become a Center of Forensic (Psychiatry) Excellence. <p>Measure</p> <ul style="list-style-type: none"> Reduce rehospitalization by 50%. Meet CMS CoP and become JC-Accredited. The standard/definition of a Center does not exist. <p>Obstacle</p> <ul style="list-style-type: none"> Existing culture. Strategic planning. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> Start culture transformation now with a specific plan for doing so.
<p>Goal</p> <ul style="list-style-type: none"> Center Forensic Excellence <p>Measure</p> <ul style="list-style-type: none"> Accreditation University affiliation Pool of expert Improved quality of care Magnet Baldrige <p>Obstacle</p> <ul style="list-style-type: none"> Lack of accreditation No contract with university Attract university to meet our needs not their mission <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> Work from big picture approach System approach to all partners Identify benefits for university 	<p>Goal</p> <ul style="list-style-type: none"> Integration of Care with Community <p>Measure</p> <ul style="list-style-type: none"> Decrease discharge readiness to discharge <ul style="list-style-type: none"> -Rehospitalization Increase community support Decrease negative press <p>Obstacle</p> <ul style="list-style-type: none"> HCA – lack of infrastructure NO EHR <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> Increase collaboration with HCA Become Center of Forensic Excellence Cohort patients so that some units can be less restrictive and more cozy. 	<p>Goal</p> <ul style="list-style-type: none"> Reduce violence and aggression. <p>Measure</p> <ul style="list-style-type: none"> Reduce by 30% reported assaults, benefit, and workmen's comp claims. <p>Obstacle</p> <ul style="list-style-type: none"> Don't get the money to build the building. Failure to transform the hospital's culture. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> Staff training and education.

8. Breakout Discussion #5 cont'd

- | | | |
|--|--|--|
| <p>Goal</p> <ul style="list-style-type: none"> • Reduce the time patients wait in jail. <p>Measure</p> <ul style="list-style-type: none"> • Exceed constitutional timeframe. <p>Obstacle</p> <ul style="list-style-type: none"> • Volume lies beyond our control and the projections are complicated. • Three competency restoration programs are slated to close. Six units are slated to open. The start date of reform policy implementation, and construction of the new hospitals may create timing misalignments. • Volumes grow to exceed beds and/or community resources don't emerge to meet need (Diversion, Housing, and Treatment). <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Legislative support and involvement in State hospital processes. | <p>Goal</p> <ul style="list-style-type: none"> • Become the workplace of choice. <p>Measure</p> <ul style="list-style-type: none"> • Increase retention within the hospital based upon # of times a specific position is filled. • Decreased time to fill positions. <p>Obstacle</p> <ul style="list-style-type: none"> • Current culture. • Competitive employment environment. • Appropriate staffing model for rewarding work. • Reputation. • Measurement methodology and definition of terms. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Form work group to meaningfully redefine the definition of retention. • Transform culture and reputation. • State licensing reciprocity. • Find a legislative partner to advocate. • Consumer and family advocacy. | <p>Goal</p> <ul style="list-style-type: none"> • Be a good financial steward. <p>Measure</p> <ul style="list-style-type: none"> • Be fully funded and come in under annual budget. <p>Obstacle</p> <ul style="list-style-type: none"> • Appropriation may not meet actual needs. <p>Overcoming Obstacle</p> <ul style="list-style-type: none"> • Tell our story and rebuild our reputation. • Legislative partnership and advocacy. |
|--|--|--|

9. Group Discussion

Group Discussion

- What is your vision for the project?

Both Groups

1. Innovative design assisting innovative treatment
2. The Windows 20 Hospital or the iHospital
3. Human and humane; palpably imbued with hope and home
4. Flexible tool for helpful effective treatment for recovery
5. Safe + Space + Versatility = Awesome

Distilled

- Designed and Resourced
- Versatile/Flexible
- Recovery/Help/Healing
- Hope/Dignity
- Space
- Innovation/Tech/Clinical
- Community Interaction/Collaboration
- Treatment Is Supported

Summary

In conclusion, the following statements were expressed by participants:

It will be critical that the right person is consistently present with Users to reinforce the mission and goals for the project.

The PreDesign Phase will explore 3 options for the Capital Project – Size, character, and cost will be presented for each, supported by Pros and Cons. This exploration will result in the selection of the preferred option.

Values and qualities for the Forensic Center of Excellence should be shared with the 16 and 48 bed facilities.

- Enough space to do the work we do/designed to encourage interaction between staff and patients
- Hospital is right sized and manageable
- A place where staff and patients want to be; can be proud
- Dignity in recovery
- Built to foster future growth/change
- Quality Care, qualified staff in a healing, non-threatening environment
- (Salem + WRCH / 2) + UW + comm. housing
- WSH is a part of the continuity of care
- Pillar of community wellness
- Mission: Our patients improve and reach their goals
- ESH Mission: To transform lives by supporting sustainable recovery

10. Day 2

DAY 2

Trends

The Design Team presented a series of slides discussing the following:

- Innovations in Mental Health
- Designing for Reduced Violence and Aggression
- Evidence Based Design Principles
- Nurse Station Design
- Case Studies for Organizing Psychiatric Inpatient Facilities

Nurse Stations

architecture+ will share the study of Nurse Stations and their varying degrees of openness. Clinical staff discussed the merits of the open station but acknowledged the risks thereof. The partially enclosed station with vertical polycarbonate panels appears to balance safety and approachability.

Operations

Shared governance is critical among the State's BH projects.

Spacial Quality

The living environment for the NGR patients shall be less correctional. There is greater tolerance for a correctional environment for the patients undergoing competency restoration.

EHR

Regarding electronic medical records, there is an understanding that although the quality of the record is higher and its access is more efficient, the charting process is more time-consuming.

Vision Statement

The design team will generate a vision statement based on the concepts expressed by the Leadership Team in the DAY 1 "Vision" Group Discussion

Guiding Principles from Master Plan

- Transform the Model of Care
- Improve Campus Inefficiencies

Overview of PreDesign Process and Schedule

Workshop #1 is the kick-off for the Programming phase which is expected to last through February 2020.

Then planning options for the arrangement of spaces and adjacencies will be conducted during a Planning phase concluding in April 2020.

The PreDesign report is due to the Legislature in June 2020.

Preparation for Workshop #2

User Groups shall be developed to take advantage of staff expertise but manage/mitigate their biases

Tours

Touring of peer institutions that exemplify evidence based practices will expose WSH staff to state of the art programs and environments to release their biases and foster buy-in to the new vision for WSH. Including the de facto leader of the nursing staff on tours will be valuable. Identifying similar informal leaders of key disciplines will serve to establish disciples of the new WSH vision.

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WESTERN STATE HOSPITAL FORENSIC HOSPITAL PREDESIGN

Workshop #2 - 12-10-2019

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Meeting Purpose

This two-day workshop involved the Planning Team meeting with User Groups to preliminarily review questionnaires and the gathering of information to support the development of the Space Program for the new hospital building.

The following pages are meeting notes for Workshop #2:

- 1 Agenda
- 2 Meeting Attendees
- 3 User Group Meeting Notes
- 4 Leadership DeBrief Notes

1 Agenda

- 1 Tuesday December 10, 2019 – WSH Lakewood Campus
 - 10:00 Noon WSH Residential & Inpatient Services
 - Noon 1:00 Clinical Ancillaries
 - 1:00 2:00 Break
 - 2:00 3:30 WSH Therapy Activity / Adjunctive Therapies
 - 3:30 5:00 Administration
- 2 Wednesday December 11, 2019 – WSH Lakewood Campus
 - 8:30 9:30 IT & Staff Education
 - 9:30 11:00 Facilities Management & Dietary
- 3 Wednesday December 11, 2019– Olympia
 - 4:00 5:00 Leadership Debrief
 - Debrief on User Group Meetings
 - Unusual Requests/Challenges
 - Confirm Place and Dates for Other Hospital Visits
 - Confirm Dates/Agendas for on-site meetings and workshops
 - Assignments/Follow-up

2. Meeting Attendees

Residential and Inpatient Services:

Jennifer Brown
 Melissa Hanson
 Cheri Lolland
 Katherine Raymer
 Mark Thompson
 Candice Yi
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

Therapy Activity:

Shirley Corbett
 Katherin Christensen
 Karen Pitman
 Katherine Raymer
 Barbara Sherman
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

Administration:

Danielle Cruver
 Linda Silva
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

Clinical Ancillaries:

Teddy Garcia
 Bill H.
 Robert Kahns
 Christine Kinch
 Larry Ostry
 Katy Tomisser
 Mark Underwood
 Rosana Ward
 Sook Yang
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

IT and Staff Education:

Chris Campbell
 Mike Davis
 Karen Green
 Angela Hosking
 Heather Knous Westfall
 Lea McCormick
 Linda Silva
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

Facilities Management and Dietary:

Tammy Adams-Norman
 Carolyn Bengre
 Chris Campbell
 Daniel Davis
 Michelle Gessner
 Jocelyn Hofe
 Lee Owens
 Undra Simpson
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

Leadership Debrief:

Megan Celedonia
 Danielle Cruver
 Judy Fitzgerald
 Aaron Martinez
 Sean Murphy
 David Holt (via phone)
 Brian Waiblinger
 Craig Tompkins
 Jon Mehlschau
 Francis Pitts
 Sara Wengert
 Stephen Kervin

3. Day 1 - Intro and Inpatient Services

<p>The following was presented at each User Group Meeting:</p>	<p>Completed Questionnaires are due to DSHS on January 2nd. This allows for follow up questions prior to Department Interviews.</p>	<p>Treatment Recovery Center – goal of 100% participation. This will require improved tech and a wider variety of programs and classrooms</p>
<p>There are 3 objectives to the PreDesign Phase:</p>	<ul style="list-style-type: none"> • What is the state's commitment to going to cost? • Determine the size and configuration and best site • Identify the best available solution (coming out of 3 options) 	<p>Social work/group therapy is conducted on-unit (leadership may want it pushed to Treatment Mall)</p>
<p>Total bed need upper 500's – need to continue to operate 28 & 29 as NGRI</p>	<p>INPATIENT SERVICES</p> <p>Who is the "Leader/Secretary" of the group? Dr. Raymer – can she be on the Senate?</p>	<p>Target of 20 hours of active treatment per week, but WSH found it to be more repetitious and regimented which doesn't respond to individuals' needs and pace. Looking for a more enjoyable and engaging treatment program that may require a different complement of spaces.</p>
<p>New 350 bed hospital will be competency assessment</p>	<p>Target of 25 bed units, maximize private</p>	<p>Managing violent behavior is very challenging for WSH – Dr. Raymer is looking for the physical space to help change behaviors.</p>
<p>CSTC remains on campus as a separate facility</p>	<p>Duplicate services: Pharmacy</p>	<p>Brief discussion of research around reduction of V&A – what measures we can take as designers.</p>
<p>Three Planning Options:</p>	<p>Basic program assumption – we will meet FGI guidelines</p>	<p>Dr. Raymer – goal is to prepare people to control their behaviors once outside of the hospital.</p>
<ul style="list-style-type: none"> • Build on Golf Course • Build at existing site of 27 • Build to allow 27 to remain open throughout the duration of the court order 	<p>Differences in facility needs - what's different between NGRI and competency restoration</p>	<p>ICRA and isolation – WSH manages infectious disease by masking OR send patients to acute care hospital</p>
<p>The sooner that users are engaged, the better, and we can get a high value program that will allow for designer to hit the ground running when the project is funded. Doing a little more than usual will poise WSH to jump into real design</p> <p>Funding may happen faster/earlier than usual due to state priorities</p>	<p>Need satellite pharmacy</p>	<p>Break Room location will be critical</p>
<p>Funding may happen faster/earlier than usual due to state priorities</p>	<p>Higher security and safeguards for CR (more fragile, unknowns, in psychiatric crisis, shorter stay (NGRI is longer stay) – increased risks) More evaluations, more consult rooms for concurrent consults.</p>	<p>A complete evaluation order is about 90 days</p>
<p>"OFMS" work is the consultation as part of the CR evaluation process. This could be about 30 individuals who collect off unit for officing. May warrant an extra consult room on unit.</p>	<p>A complete evaluation order is about 90 days</p>	<p>Break Room location will be critical</p>

3. Day 1 cont'd - Inpatient Services Clinical Ancillaries

<p>Direct Admits to this building will take place in this building – what happens prior to unit and on-unit</p> <ul style="list-style-type: none"> • Need vehicle Sallyport • Most of the admission happens “at the door” • RNs participate and do medical clearance • Ward staff and security come to admissions and escort patient to unit • It would be good to have a consult room at the neck of the inpatient unit so that staff are still on unit and not decanting to the admissions suite • Preference for 3 seclusion rooms, but does that send a message to staff and patients that seclusion is anticipated • No significant component of geriatric CR patients • Visiting: Centralized, Regionalized, On-Unit – in TRC near unit 	<p>Dental – need is huge due to neglect, triage care will be provided, but will preventative care be provided? That depends on the length of stay – assume it’s a 2 chair operation with one dentist, one hygienist, and one dental assistant. Panorex and lab included.</p> <p>Infection Control/Employee Health need office space</p> <p>Pharmacy</p> <ul style="list-style-type: none"> • Main operation is in the Community • Need medication rooms • Rx staff “need to get over the idea that we need satellites” in their words. A Satellite pharmacy would be staffed with 2 pharmacists & 2 techs. Pharmacy is staffed until 10 pm. Not sure if they need a night cupboard. • Clinical Pharmacists shall be located in the new building – 2 per unit <p>Laboratory – centralized in Building 29 – 90 % of labs are conducted in house today, 10% goes out.</p> <p>Lab serves 5 programs campus wide</p> <p>The current lab is very small but functions well. Assume that new lab will be built in new building.</p> <p>Medical Clinics – more efficient to have one clinic where the majority of patients are located</p> <p>Specialty providers come in 2x/month</p>	<p>No preference for NGRI vs. CR in terms of volumes</p> <p>Not necessary to co-locate the Clinic with Admissions</p> <p>5 Specialty Exam Rooms today</p> <ul style="list-style-type: none"> • Optometry, Podiatry, OB/Gyn, Neurology, Procedure <p>Waiting is outside of Clinic, could be shared with Dental</p> <p>3 Registrars Check in/keep records as patients arrive (through window to Waiting) at Staff Desk</p> <p>One Healthcare Coordinator manages the transport/escort...for Dental</p> <p>Escort Coordinators are currently in the 17/18...buildings – where shall they be in the future?</p> <p>Staffing numbers shall be identified specifically for the new building</p> <p>Nursing has said that they need 2 med rooms per unit for a primary care model</p> <p>Radiology will not be duplicated. New equipment exists in 28/29. Worst comes to worst, in 20 years, they’ll use a mobile X-ray.</p>
<p>PT with CR – 40% is CR</p> <ul style="list-style-type: none"> • Having it accessible is good, patients don’t want to walk far in shackles. Creating a satellite service in new building would be ideal. Assume that the existing service in 29 remains. WSH needs to think about how to staff this efficiently. • Mostly pain management, short wave therapy. No hydrotherapy now. • Some large gross motor but not for CR patients 	<p>Pharmacy</p> <ul style="list-style-type: none"> • Main operation is in the Community • Need medication rooms • Rx staff “need to get over the idea that we need satellites” in their words. A Satellite pharmacy would be staffed with 2 pharmacists & 2 techs. Pharmacy is staffed until 10 pm. Not sure if they need a night cupboard. • Clinical Pharmacists shall be located in the new building – 2 per unit <p>Laboratory – centralized in Building 29 – 90 % of labs are conducted in house today, 10% goes out.</p> <p>Lab serves 5 programs campus wide</p> <p>The current lab is very small but functions well. Assume that new lab will be built in new building.</p> <p>Medical Clinics – more efficient to have one clinic where the majority of patients are located</p> <p>Specialty providers come in 2x/month</p>	<p>No preference for NGRI vs. CR in terms of volumes</p> <p>Not necessary to co-locate the Clinic with Admissions</p> <p>5 Specialty Exam Rooms today</p> <ul style="list-style-type: none"> • Optometry, Podiatry, OB/Gyn, Neurology, Procedure <p>Waiting is outside of Clinic, could be shared with Dental</p> <p>3 Registrars Check in/keep records as patients arrive (through window to Waiting) at Staff Desk</p> <p>One Healthcare Coordinator manages the transport/escort...for Dental</p> <p>Escort Coordinators are currently in the 17/18...buildings – where shall they be in the future?</p> <p>Staffing numbers shall be identified specifically for the new building</p> <p>Nursing has said that they need 2 med rooms per unit for a primary care model</p> <p>Radiology will not be duplicated. New equipment exists in 28/29. Worst comes to worst, in 20 years, they’ll use a mobile X-ray.</p>

3. Day 1 cont'd - Adjunctive Therapies Administration IT & Integration

ADJUNCTIVE THERAPIES

Occupational Rehab - Mental Health Therapists function out of Treatment Mall

Occupational Therapists - aligned with PT but under the licensing of OT

Don't double count the OT space

All Staff Respite Space is critical

Limit Group size to 10

Staffing about 45 on mall

Staff huddle at 7:45 each day

CR start groups at 8:30/9:00, with 50-minute hours. Back to unit for lunch/meds

Very difficult to transition patients from unit to Treatment Mall, so positioning Dining strategically is very valuable; could there be a dining room next to the Gym?

Need to have a nurse on the Treatment Mall

Floor staff is called: IC3 institutional counselor/PSA

Hall monitors come from Units

Gym - celebrations, volleyball, pickleball, quarterly certificates of honor, walking/pacing, performance, community room

- Currently in 28 has wood floor which damaged from leaking room

De-stimulation room to keep patients on Treatment Mall instead of having to go back to unit

Full service library should be generous, OT can operate it with patient assistance

Vocational Programs - practical training - cleaning, food prep - No additional space

(Infinity Center - Drop in Recreation and Arts Center - serve 50 patients/night - will need to be relocated from building 8 to the 28/29 buildings)

ADMINISTRATION

Clinical Risk Management is different from Nursing Administration is different from Medical Admin

No Case Management, but maybe in the future, and yes Discharge Planning

Expand Quality tomorrow

No Community Transition - patients are discharged back to jails

Where does 28/29 administration go? Are there 2 independent administrations?

Research - most typically this is associated with outpatient programs

Still need courtroom for intermittent hearings - to be verified

Who leads the "Teaching Hospital" charge? This may require a separate User Group that doesn't exist?

Is Staff Dining a key program element on campus?

New Commissary Building is referred to as #22

IT & INTEGRATION

Medical Records retention upon discharge: 2 years here at WSH campus and the rest goes to Olympia

Will there really be an EHR?

WSH manages their own IT (in building 9 and 18). Shall the IT function be centralized on campus to serve many buildings in the short term, and 3 key buildings in the long term?

Currently, the main demarcation point for fiber us at Building 18. It would be prudent to identify the new building as the head end for all vendor infrastructure, and to backfeed the remaining buildings on campus.

The Commissary may be able to accommodate the equipment hub, but not the staff. 10-12 server racks are required. Security data is independent of the main IT system/state network.

Communications is run by Emergency Management (Security)

John Wallace needs to get IT questionnaires - make sure he is copied on it.

3. Day 1 cont'd - IT & Integration Facilities

<p>Staff Development</p> <p>How many people does it take to get the work done? Target hours for continuing ed.? What's a schedule like, with # of participants?</p> <p>Onboarding would love a simulation ward!</p> <p>Continuing and Onboarding will work together to respond to the Q</p> <p>Make sure Malinda provides the list of Quality programs - do they belong under Admin or Integration</p>	<p>traband (cig/vape). There will still be a need for coat/lunch storage deeper in the hospital</p> <p>Current plan is to get new lockers that will be located just outside the staff sallyport at 28/29</p> <p>Semi-automatic sallyport system</p> <p>Transportation (associated with Ad-min): 3 pieces</p> <ul style="list-style-type: none"> • Transportation of goods • Escort • Security transportation <p>MOD does Grounds maintenance out of building #5 Laundry</p> <p>WSH maintains their own vehicles</p> <p>There is a MP placeholder for an industrial building to be near new Commissary</p> <p>Mail sorting is currently in building 20 - will need new space, preferably outside the secure perimeter of new building. FTE's are shared with Print Shop</p> <p>Chris will provide a list of all of the external agencies/tenants that require space/presence on campus</p> <p>Security/Fire/Safety: parallel sites, no home base - new needs shall be described in the questionnaire</p>	<p>Security - perimeter control, zoning control, incident response, not posting on units</p> <p>There will be a vehicle sallyport, to be operated from admissions suite or security desk - no dedicated post at admissions - they can dispatch from main security</p> <p>Control Room needs to be in a secure location</p> <p>Responders will need to be relatively proximate to units - may need satellite bases for responders</p> <p>Will need a muster/report room - it could become the home base for roaming/responders</p> <p>Admissions will need nursing staff area, will need a decon shower</p> <p>Emergency Command Center is currently in building 11 - will be in new building OR new support building</p>
<p>FACILITIES</p> <p>Thomas Mark Facilities - make sure he is invited</p> <p>New Building will be home base to Maintenance (which actually falls under a larger organization)</p> <p>Linen - all in-house operation at Laundry Building</p> <p>Warehouse - Central Supply maintains medical instrumentation and supplies everything except medical equipment - all of this is in new Commissary. Medical Equipment - new building becomes new home</p> <p>Employee lockers - lockers shall be identified as shared - need quantities for each sub-department</p> <p>Shall they be located centrally? They'll be designated for cell phones and con-</p>		

4. Day 2 - Leadership Debrief

LEADERSHIP DEBRIEF

The Design Team presented the Leadership Group with a series of questions stemming from the User Group Meetings over the previous days. Unusual Requests/Challenges were also presented with the following responses:

- Shall medical clinics be provided in both buildings?
 - Yes. Investments may be made in 28/29.
- Shall Admissions take place at both sites?
 - Yes.
- Shall X Ray remain at 28/29?
 - Yes there are low volumes for CR population.
- Shall there be a Satellite Pharmacy in the new hospital?
 - Yes, provide pharmacy for STAT and special orders in new building.
- Should labs move to the new building?
 - Likely, yes.
- Should we be adding case management to the mix?
 - Probably not in the traditional ICM model. There will be forensic evaluators and forensic navigators, though. Consider providing some hot desk/hoteling and additional consultation rooms.
- Will there be two administrations, one in each building?
 - Yes, 2 clinical administrations, but maybe not 2 completely independent systems, just those pieces that provide supervision over clinical activities. Include a full complement for all to be in new building.
- What should we be planning for with respect to GME volumes?
 - TBD. DSHS will identify who we should talk to about what is needed for a rotation site...rather than a training site. Dedicated to Forensic Fellowships. Need On-Call suites.
- Shall staff dining be provided?
 - Yes, the Commission for the Blind will be the vendor.
- Shall we proceed with firm belief that there will be an EHR?
 - Yes.
- How shall we plan for paper records after EMR conversion?
 - Paper files will be stored in Olympia or in other campus buildings.
- Does IT campus backbone become a part of this project?
 - Yes.
- Should we be enforcing the 2017 State Facilities Workplace Strategies and Space Use Guidelines?
 - Yes.
- Shall there be a Courtroom in the new building for intermittent hearings?
 - Yes.
- Shall a new support building be included in this Pre-design effort? Will it be bundled with the hospital building funding request?
 - TBD
- Shall External Agency functions not directly supporting WSH, such as DoC, HCS, be located in new building?
 - WSH Leadership will create a list.
- Will the Maintenance Dept. maintain vacated buildings on campus?
 - Leadership will make a list of what to anticipate as warm closed/cold closed buildings in the future. There is an assumption that Maint., Linen and Grounds stay in existing campus buildings.

4. Day 2 cont'd - Leadership Debrief

- Will Linen will remain an in-house operation.
 TBD
- How shall the Research component be programmed – there is no existing user group.
 Forensic Psychology, but probably the same suite as residents (1-2) and fellows (2-4).

TOURS

The Planning Team presented a series of options for Hospital Site Visits. All options operate forensic-only inpatient programs. WSH/DSHS will determine who will participate on the tours of those hospitals in bold below.

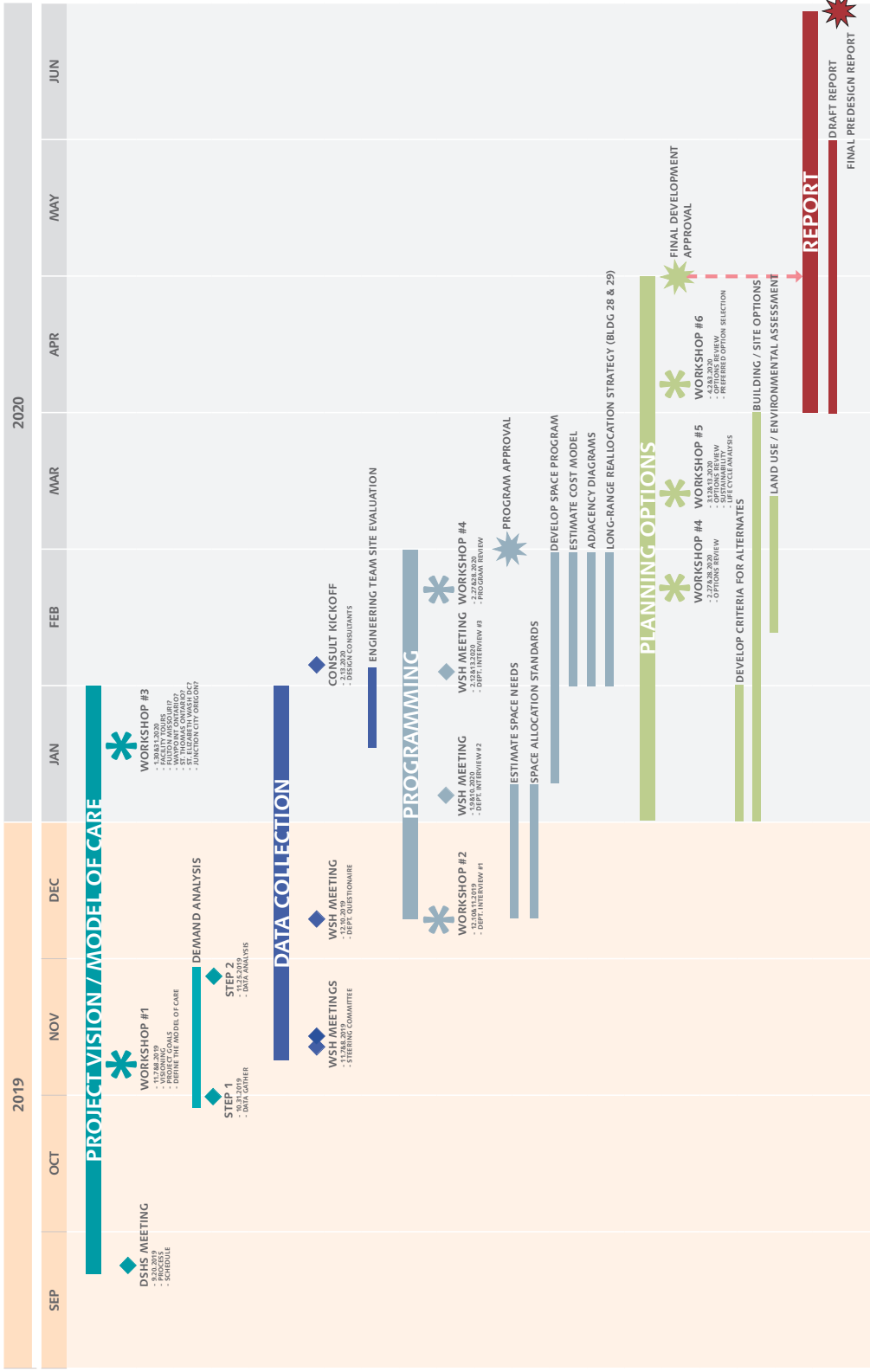
- o Fulton, Missouri
- o Waypoint/Penetanguishene
- o Junction City
- o St Elizabeth's
- o St. Thomas

SCHEDULE

The planning Team reviewed the Pre-Design Project Schedule and highlighted upcoming meeting dates. The Schedule is attached.

5. Schedule

PROJECT SCHEDULE



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Acorns of an Oregon White Oak ripen in the Fall and germinate in Spring, with a viability greater than 75%.

WESTERN STATE HOSPITAL FORENSIC HOSPITAL PREDESIGN

Workshop #3 - 02-12-2020

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Meeting Purpose

This workshop involved the Planning Team meeting with User Groups to review the draft Space Program for the new hospital building.

The following pages are meeting notes for Workshop #3 which included Department Interviews #3:

- 1 Agenda
- 2 Meeting Attendees
- 3 User Group Meeting Notes
- 4 Leadership DeBrief Notes

1 Agenda

- 1 Wednesday February 12, 2020 – WSH Lakewood Campus
 - 9:00 10:30 Administration & Staff Education
 - 10:30 11:30 IT & Integration
 - 11:30 12:30 Dietary & Facilities Management
 - 12:30 1:00 Break
 - 1:00 2:00 Clinical Ancillaries
 - 2:00 3:00 Therapy / Adjunctive Therapies
 - 3:00 4:30 Inpatient Services
- 2 Thursday February 13, 2020 – Olympia
 - 9:00 10:00 Leadership Debrief
 - Debrief on User Group Meetings
 - Confirm Program Placements
 - Assignments/Follow-up

2. Meeting Attendees

Inpatient Services:

Melissa Bullock
 Nora Hennecken
 Candice Yi
 Michael Miller
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

Therapy Activity:

Kimberly Beirman
 Nora Hennecken
 Sven Sluyter
 Michael Miller
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

IT and Integration:

Sharon Bourne
 Chris Campbell
 Paul Davis
 Michele Williams
 Michael Miller
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

Leadership Debrief:

Megan Celedonia
 Danielle Cruver
 Judy Fitzgerald
 Bob Hubenthal
 Aaron Martinez
 Sean Murphy
 Karen Pitman
 Brian Waiblinger
 Pierce McVey
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

Clinical Ancillaries:

Robert Kahns
 James Morgan
 Larry Ostry
 Karen Pitman
 Sook Hee Yang
 Michael Miller
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

Administration and

Staff Education:

Casey-Anne Gilling Allen
 Chris Campbell
 Christine Cullen
 Angela Hosking
 Karen Pitman
 Michelle Williams
 Bryan Zolnikov
 Michael Miller
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

Dietary & Facilities Management:

Carolyn Benepe
 Michelle Gessner
 Tammy Adams-Nroman
 Chris Campbell
 Lee Owens
 Karen Pitman
 Joey Roberts
 Undra Simpson
 Michelle Williams
 Tony Whetstone
 Michael Miller
 Jon Mehlschau
 Francis Pitts
 Stephen Kervin

3. User Mtgs - Overall Program

Western State Hospital, State of Washington
New Forensic Hospital
Tuesday, February 11, 2020

Pre-Design
Space Program Summary

FULL PROGRAM

Program	NSF	Multiplier	Total DGSF	DGSF/Bed	Comments
350 BED HOSPITAL					
Patient Units - Mentally Ill	156,522	1.64	259,827	742	
Adult Units (14 units)	156,522			742	aggregated
Patient Therapy/Activity					
Leadership	0	1.30	0	0	
Occupational Therapy Mkt and Physical Rehab	0	1.30	0	0	
Substance Use Disorder Treatment	0	1.30	0	0	
Life Skills	2,490	1.30	3,339	10	
Arts Activities	6,188	1.30	10,644	30	
Music Therapy (see Leisure Activities)	0	1.30	0	0	
Life Skills	1,178	1.30	1,531	4	
Art Therapy (see Life Skills)	0	1.30	0	0	
Outdoor Functions (see Life Skills)	0	1.30	0	0	
Speech, Language Services	1,278	1.30	1,666	0	
Library/Resource Center	1,088	1.30	1,414	4	
Patient Clothing	0	1.30	0	0	
Salon/Spa	272	1.30	354	1	
Chapel (see Leisure Activities)	0	1.30	0	0	
Commissary	900	1.30	1,170	3	
Shared Support	6,986	1.30	9,082	26	
Subtotal	21,350		27,795	79	
Clinical Ancillaries					
Reception/Respiration	610	1.35	824	2	
Chief/Physician Services	1,492	1.35	2,014	6	
Admissions	1,678	1.35	3,928	11	
Radiol Clinic	80	1.35	108	0	
EMC	0	1.35	0	0	
Laboratory	1,816	1.35	2,452	7	
Physical Therapy	2,220	1.35	2,997	9	
Radiology	0	1.35	0	0	
Pharmacy	860	1.35	1,161	3	
Infection Control	756	1.35	1,021	3	
Shared Support	1,160	1.35	1,566	4	
Subtotal	11,138		16,712	48	
Dietary					
Kitchen/Support	256	1.30	333	1	
Subtotal	256		333	1	
Administrative Services					
Hospital Administration	2,892	1.30	3,110	9	
Clinical Administration	1,320	1.30	1,716	5	
Escal/Accounting/Business Office	0	1.30	0	0	
Nursing Administration	1,620	1.30	2,106	6	
Construction	316	1.30	411	1	
Public Relations	654	1.30	853	2	
Human Resources/Payroll	2,380	1.30	3,094	9	
Patients' Booths	0	1.30	0	0	
Patient Advocate	0	1.30	0	0	
Legal Affairs	1,648	1.30	2,142	6	
Volunteers	240	1.30	312	1	
Lobby Services	940	1.30	1,222	3	
Publications	0	1.30	0	0	
Public Disclosure Requests	0	1.30	0	0	
Policy and Forms	0	1.30	0	0	
Quality Coordinators & Survey Management/Compliance	0	1.30	0	0	
Lean & Process Improvement	0	1.30	0	0	
Project Management	0	1.30	0	0	

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3. User Mtgs - cont'd
 Overall Program

Program	350 BED HOSPITAL			Comments
	NSF	Multiplier	Total DGSF	
Clinical Risk Management	0	1.30	0	0
Abuse & Neglect Call Line	0	1.30	0	0
Community Support/Class Management	0	1.30	0	0
Research	0	1.30	0	0
Court	0	1.30	0	0
Education & Conferencing	9,330	1.30	12,129	35
Staff Development	1,516	1.30	1,971	6
Genetic Evaluation/Navigation	2,834	1.30	3,684	11
Other Shared Resources	27,196	1.30	35,355	103
Subtotal				
Information Technology & Integration	2,904	1.30	3,775	11
Medical Records	1,788	1.30	2,324	7
Release of Information	0	1.30	0	0
Records Retention	0	1.30	0	0
Research, Evaluation & Data Analysis	0	1.30	0	0
Quality Assurance/DIM/Incident Reporting	4,716	1.30	6,209	18
Electronic/Data/Systems Integration	669	1.30	858	2
Shared Support	10,128	1.30	13,166	38
Subtotal				
Facilities Management	7,620	1.15	3,013	9
Environmental Services	150	1.15	173	0
Laundry & Linen	356	1.15	409	1
Maintenance Shops	0	1.15	0	0
Central Supply/Central Stores/Warehousing	0	1.15	0	0
Medical Supplies/Equipment/Instrumentation	1,650	1.15	1,898	5
Shared Support and Locker Facilities	408	1.15	469	1
Switchboard/Communications	0	1.15	0	0
Fire Alarm & Dispatch	0	1.15	0	0
Emergency Command Center & Supplies/Services	0	1.15	0	0
Transportation (Building & Grounds)	1,978	1.15	2,206	6
Security and Fire Safety	2,340	1.15	2,691	8
Materials Management	9,442	1.15	10,858	31
Subtotal				
Total Net SF (NSF)			236,032	
Total Depart Gross SF (DGSF)			364,006	
Building Grossing Planning Factor at 1.30	(x1.30)		109,202	
Total Building Gross SF (BGGSF)			473,208	
Number of Patient Beds			350	
DGSF/Bed			1,040	
BGSF/Bed			1,352	

3. User Mtgs - cont'd Overall Program

Western State Hospital, State of Washington
New Forensic Hospital
Tuesday, February 11, 2020

Pre-Design
Space Program Summary

Unit Type	Beds per Unit	Number of Units	Total Beds
Adult Inpatient Unit	25	14	350
			350

3. User Mtgs Administration Staff Education

ADMINISTRATION AND STAFF EDUCATION

- WSH will determine whether or not IT/Quality should be co-located with administration.
- It is important that Medical Records are located near the inpatient units.
- Forensic Evaluation and Navigation should be located near the Office of Forensic Mental Health Services (OFMHS).
 - OFMHS supervises the Forensic Navigators
 - No outside patients will be meeting these staff members.
 - Evaluators will travel to the units as opposed to patients travelling to the evaluator offices.
- Forensic Evaluation and Navigation requested their own separate conference room as they have a frequent need for the space.
- WSH currently employs 38 Forensic Evaluators.
- WSH will send titles and quantities of Center of Forensic Services (CFS) administration.
- WSH currently employs 11 Treatment Care specialists and 7 Nurse Educators.
- There is no need for “local funds” as patients do not use money while at the hospital.
- Follow up conference calls will be planned to discuss the following items:
 - Release of Information and Records Retention. Schedule with Linda Silva (WSH).
 - New Employee Onboarding

3. User Mtgs - cont'd Administration Staff Education

Western State Hospital, State of Washington
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Pre Design
Space Program Summary

How would current stating be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
Administrative Services					
Hospital Administration					
1	Waiting	8	20	160	
2	Office, CEO	1	150	150	
3	Office, Deputy CEO Clinical	1	120	120	
4	Office, Deputy CEO Admin.	1	120	120	
5	Office, COO	1	150	150	
6	Office, Deputy COO	1	120	120	
7	Office, Deputy Chief Financial	1	120	120	
8	Chief Public Affairs Officer	1	150	150	
9	Chief Quality Officer	1	150	150	
10	Deputy Chief Quality Officer	1	120	120	
11	Chief of Security/Safety	1	150	150	
12	Chief Clinical Officer	1	150	150	Move to Clinical? D. Criver to follow up
13	Support Staff (Workstation)	8	64	512	
14	Workstation, Admin Assist	0	64	0	
15	Storage, Supplies/Files	1	100	100	
16	Wkstn. Admin Ass't/Clerk	0	64	0	
17	Office, Cont'l Admin	1	120	120	see Therapy/Activity section
18	Office, Human Rights	1	120	120	
Subtotal					2,392

Clinical Administration					
19	Chief Medical Officer	1	120	120	
20	Deputy Chief Medical Director	1	120	120	
21	Chief of Psychiatry	1	150	150	
22	Center Medical Director	3	120	360	
23	Chief Clinical Officer	1	150	150	
24	Support Staff	5	64	320	
25	Storage, Supplies/Files	1	100	100	
26	Office, Revenue	0	100	0	
Subtotal					1,320

Fiscal/Accounting/Business Office					
29	Workstation, Staff	0	64	0	Located in the Bank.
30	Bank	0	0	0	Located within Mall/Downtown
Subtotal					0

Nursing Administration					
31	Chief Nursing Officer	1	120	120	
32	Assistant Chief Nursing Officer	1	64	64	
33	Clinical Nurse Specialist	12	64	768	Are these already accounted for job units? In Ed and training?
34	Nurse Manager for Education	1	120	120	
35	RN4	4	64	256	
36	RN3	1	64	64	
37	Director of Infection Prevention	0	64	0	See Clinical Ancillaries
38	Support Staff	2	64	128	
39	Employee Health/Infection control	0	64	0	See Clinical Ancillaries
40	Storage, Supplies/Files	1	100	100	
Subtotal					1,620

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3. User Mtgs - cont'd Administration Staff Education

Western State Hospital, State of Washington
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Pre Design
Space Program Summary

How would current stating be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
Administrative Services					
Nursing Supervisors					
41	Shift Supervisors	0	130	0	2 workstations
42	Workstation, Clerk	0	64	0	
43	Storage, Files/Supplies	0	80	0	
44	After-hours Medication Dispensing	0	100	0	
Subtotal				0	
Community Transition Services					
45	Workstations, Ext Agencies	6	36	216	Workstations for use by outside agency staff, case managers, etc.
46	Office, Housing Service Coord	1	100	100	
Subtotal				316	
Public Relations, Community Educator					
47	Office, Staff	3	100	300	
48	IM Power/Peer Counsl Workstps	2	64	128	
49	Peer Counselng Interview Room	1	100	100	
50	IM/MT/IM Power Office	1	128	128	2 workstations
Subtotal				656	
Human Resources/Payroll					
51	Waiting	0	100	0	Shared with other Admin Functions
52	HR Office	3	100	300	Does not need to be in secure perimeter
53	Payroll Workstation, Clerks	20	64	1,280	10-20 staff under another admin. Can be
54	Storage, Supplies/Files	1	160	160	Incl 10 cabinets, supplies
55	Personnel Files	1	240	240	Incl 15 cabinets, supplies
Subtotal				2,380	
Patients' Rights					
56				0	
Subtotal				0	
Patient Advocate					
57				0	
Subtotal				0	
Legal Affairs					
58	Office, Departmental or On-Site Public Defenders	0	100	0	
59	Workstation, Clerk	2	64	128	
60	Office Equipment, Files, etc	1	240	240	Incl allocation for 15 file cabinets. balance will be held either in secure files stores area in Materials Management or in Legal's office/site office(s)
61	Security Office	1	100	100	

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3. User Mtgs - cont'd Administration Staff Education

Western State Hospital, State of Washington
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Pre Design
Space Program Summary

How would current stating be right-sized for the new, smaller, hospital.

Administrative Services					
Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
62	Meeting Space/Phone Room	2	120	240	
63	Court Room	1	570	570	
64	Waiting Room	1	250	250	The pre-function area or a conference room will be used for this purpose, depending on the seating capacity needed.
65	Toilet, Visitors	2	60	120	
Subtotal				1,648	
Volunteer Services					
66	Office, Director	1	120	120	
67	Volunteer's Lounge	1	120	120	Includes Lockers for Volunteers
Subtotal				240	
Lobby Services					
68	Lobby Waiting	1	400	400	
69	Visitors Lockers	20	6	120	
70	Visitor's Lounge	1	100	100	
71	Information Desk	1	80	80	
72	Switchboard	0	0	0	See Information Technology and Integration
73	Main Entrance Sallyport	1	180	0	
74	Staff Sallyport	1	120	0	
75	Visitor Toilets	2	120	240	multi-stall
Subtotal				940	
Publications					
76				0	
Subtotal				0	
Public Disclosure Requests					
77				0	
Subtotal				0	
Policy and Forms					
78				0	
Subtotal				0	
Quality Coordinators & Survey Management/Compliance					
79				0	
Subtotal				0	
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3. User Mtgs - cont'd Administration Staff Education

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Pre Design
 Space Program Summary

How would current siting be right-sized for the new, smaller, hospital.

Administrative Services		No. of Spaces	NSF / Space	Total NSF	Comments
Subtotal					0
Lean & Process Improvement					0
80				0	
Subtotal					0
Project Management					0
81				0	
Subtotal					0
Clinical Risk Management					0
82				0	
Subtotal					0
Abuse & Neglect Call Line					0
83				0	
Subtotal					0
Community Support/Case Management					0
84				0	
Subtotal					0
Research					0
85				0	
Subtotal					0
Court					0
86				0	
Subtotal					0
Education & Conferencing					
87	Pre-Function Area	1	600	600	
88	Conference Room Anteroom	1	100	100	100 vestibules with coat racks
89	Conference/Training Room, Large	1	2,000	2,000	150-150 seats; for use for staff, community & DHS local and regl meetings
90	Large Meeting Room/Classroom	4	750	3,000	seats 50 each
91	Catering Kitchenette	1	80	80	
92	AV Storage	1	150	150	secure; accessible from each of the 2 training rooms and 2 meeting rooms
93	Training Rooms	3	600	1,800	seats 20 at wkstns
94	Computer Training Lab	1	640	640	20 computer training stations; room may be located decentrally in order to be more conveniently located to hospital staff
95	Storage, Supplies	2	120	240	extra chairs on dollies, portable dias, etc.
96	Toilets, Male	1	240	240	provide 8 wc(s)
97	Toilets, Female	1	480	480	provide 16 wc(s)
Subtotal					9,330
Staff Development					
98	Office, Manager	2	100	200	
99	Workstation, Admin Secy	3	64	192	
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3. User Mtgs - cont'd Administration Staff Education

Western State Hospital, State of Washington
New Forensic Hospital
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Pre Design
Space Program Summary

How would current siting be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
100	Files, Supplies, Equipment	1	100	100	
101	Workstation, Nurse Instructor	4	64	256	Is this a double-count? See Nursing.
102	Workstation, Training Coord	12	64	768	Can be placed in groups of two
Subtotal					1,516

Forensic Evaluation and Navigation					
103	Workstations, Evaluators/Navigators	26	84	2,184	
104	Private Telephone Area	1	64	64	
105	Group Telephone/Meeting Area	1	110	110	Seats 4 (Huddle)
106	Medium Conference Room	1	256	256	Seats 12
107	Equipment/Files/Storage	1	200	200	Incl filing allocation for itinerant clinical team members
108	Toilet, Staff	2	60	120	
Subtotal					2,934

Shared Resources					
109	Storage, Photocopy and Filing	2	150	300	
110	Healing Workstations	4	36	144	Visiting Staff of Integrated Functions from off-site
111	Conference Room (Small)	2	180	360	seats 8 - 10
112	Conference Room (Medium)	2	280	560	seats 14 - 16; see also Information Technology & Integration; Incl Integrated conferencing
113	Conference Room (Large)	1			see Information Technology & Integration
114	Toilet, Staff	4	60	240	
115	Kitchenette/Break Room	2	120	240	
116	Housekeeping	1	60	60	
Subtotal					1,904

Department Total Net Sfr (NSF)
NSF to DGSF Multiplier
Departmental Gross Sfr (DGSF)

27,196
1.30
35,355

Number of Key Rooms	84
DGSF	35,355
DGSF/Key Room	421
Number of Beds	350
DGSF	35,355
DGSF/Bed	101

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IT and Integration

- IT will be moved into its own worksheet within the program.
- A new server room that complies with TIA 1179 standards is required in the new hospital.

Western State Hospital, State of Washington
 New Forensic Hospital
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Pre Design
 Space Program Summary

How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No of Spaces	NSF Space	Total NSF	Comments
Information Technology/MHIS					
1	Server Room	1	180	180	Off site?
2	Work Room	1	160	160	Integrated with staff workstations
3	Equipment Trailing/Testing	1	400	400	assume 10-20 computers arrive at a time and require preparation/testing
4	Peripheral/Parts Storage	1	180	180	
5	Data Closets				Incl in Building Gross Area Allocation as an allowance
6	Workstations, Network	3	64	192	Does this need to be in the building?
7	Workstations, Telephone	5	64	320	Does this need to be in the building?
8	Workstations, Development	14	64	896	Does this need to be in the building?
9	Workstation, Technicians	9	64	576	Does this need to be in the building?
Subtotal					2,904

Medical Records					
10	Office, Medical Rec Director	1	120	120	
11	Workstation, MR Clerks	2	64	128	Incl Transcription Function
12	Workstation, Rec Specialists	2	64	128	
13	Hoteling Workstation	2	36	72	for clinical team members needing individual short term desk space
14	Equipment, Supplies	1	150	150	high speed copier & scanner, fax, paper, etc., may be co-located with staff workstations
15	Chart Completion Area	1	80	80	shelving, worktable, computers
16	Records Room	1	750	750	capacity for approximately 2,800 - 3,000 lin ft of records using high density shelving
17	Review Room	1	180	180	Release of Information, Transition Team records review, chart research, etc.
18	Study/External Agencies	1	180	180	dual access from external corridor and Dept
Subtotal					1,788

Release of Information					
19				0	
Subtotal					0

Records Retention					
20				0	
Subtotal					0

Research, Evaluation & Data Analysis					
21				0	
Subtotal					0

Quality Assurance/Utiliz'n Review/Incident Reporting					
22	Information requests	3	64	192	This staff will not reduce in new facility
23	Policy and Forms	3	64	192	
24	Publications	2	64	128	Outside secure perimeter

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3. User Mtgs - cont'd IT and Integration

Western State Hospital, State of Washington
New Forensic Hospital
Tuesday, February 11, 2020

Pre Design
Space Program Summary

How would current staining be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
25	Publications equipment room	1	200	200	Equipment and required space (outside secure perimeter)
26	Mail Room	1			2 Staff. Is this in addition to the mail room in facilities?
27	REDA Director	1	120	120	
28	REDA Staff	8	572	572	
29	OC Director	1	100	100	
30	OC Manager	1	100	100	
31	OC Coordinators	6	384	384	
32	OC Staff	1	120	120	
33	Quality and Lean Transformation	6	44	384	
34	Clinical Risk Management Director	1	120	120	
35	Clinical Risk Management	4	64	256	
36	Forensic Audit and Training	6	64	384	
37	Forensic records area	1	100	100	
38	Senior Secretary	1	64	64	
39	Forensic Word Processing	6	64	384	In addition to Forensic Evaluators
40	Office, Program Coord/RN	1	100	100	
41	Office, Compliance Officer	1	100	100	
42	Office, Risk Mgmt	0	100	0	
43	Office, Complis Review Coord	1	100	100	
44	Office, Utilization RN	1	100	100	
45	Workstation, Admin Asst/Clerk	3	64	192	
46	- Files, Supplies, Equipment	1	100	100	
47	Workstation, Nursing Instructor	1	64	64	
48	Conference Room	1	180	180	seats 8 - 10
49	Storage, Investigative Reports	1	80	80	sized for approximately 6 filing cabinets; may be combined with equip room above
Subtotal					4,776

Electronic/Data/Systems Integration			0		
Subtotal					0

Shared Support					
71	Audio/Video Control, Editing	0	180	0	educational video material, digital editing, audio-video teleconferencing control
72	Housekeeping	2	60	120	
73	Toilets, Staff	4	60	240	
74	Staff Break Room	2	150	300	
Subtotal					660

Department Total Net SF (NSF) 10,128
NSF to DGSF Multiplier 1.30
Departmental Gross SF (DGSF) 13,166

Number of Key Rooms	119
DGSF	13,166
DGSF/Key Room	111

Number of Beds	350
DGSF	13,166

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Western State Hospital, State of Washington
 New Forensic Hospital
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Pre Design
 Space Program Summary

How would current staining be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF Space	Total NSF	Comments
DGSF/Bed					38



3. User Mtgs - cont'd - Dietary and Facilities

Western State Hospital, State of Washington
 New Forensic Hospital
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Pre Design
 Space Program Summary

Dietary Support					
Ref	Program Spaces	No. of Spaces	NSF / Space		
		Total NSF	Comments		
Kitchen/Support					
1	Receiving/Cart Staging/Holding	0	500	0	See Materials Management
2	Catering Kitchen	0	500	0	
3	Housekeeping Closet	0	60	0	
Office/Staff					
4	Dietary Manager	0	100	0	Included below
5	Dieticians	4	64	256	In one office close to units
6	Head Cook/Cooks	0	64	0	all wkstrns in 1 office
Subtotal				266	
DGSF Factor				1.30	
Total				333	
Department Total Net SF (NSF)				256	
Departmental Gross SF (DGSF)				333	
Number of Key Rooms					
DGSF				4	
DGSF/Key Room				333	
DGSF/Bed				83	
Number of Beds					
DGSF				350	
DGSF/Bed				333	
DGSF/Bed				1	

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Western State Hospital, State of Washington
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3. User Mtgs - cont'd - Dietary and Facilities

Pre Design
 Space Program Summary

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
1	Environmental Services	1	120	120	
2	Supervisor/Planner	0	100	0	
3	Custodial supervisor workstation	3	64	192	
4	Workstation, Admin	2	64	128	
5	Storage, Files	1	40	40	
6	Storage, Bulk Supply	1	400	400	Cleaning Supplies
7	Storage, Equipment	5	320	1,600	One large equipment storage area per floor (min). Eye wash and venting required.
8	Equipment Cleaning	1	140	140	Floor drain, exhaust
9	Decentralized Housekeeping Closets	0	0	0	(See individual Departmental Space Programs for NSF) floor sink, utility sink, supplies, mops, cleaner's carts, etc.
Subtotal					2,620

10	Laundry/Linen	1	150	150	Semi-commercial washer & dryer
Subtotal					150

Physical Plant/Maintenance					
11	Storage/Equipment	1	60	60	May be combined with clerical above
12	Key Room	1	60	60	
13	Hoisting Workstations	1	36	36	Contractors, staff, others
14	Decentral Maintenance Depots	1	200	200	workbench, supplies
Subtotal					356

15	Central Supply/Central Stores/Warehousing		0	0	
Subtotal					0

16	Medical Supplies/Equipment/Instrumentation		0	0	
Subtotal					0

Shared Support and Employee Locker/Restroom					
17	Breakroom, Staff	1	400	400	Share with Mat Mgmt, Dietary & Physical Plant. Kitchenette, seating for 8 - 10
18	Conference Rooms	1	180	180	seating for 8-12
19	Copiers and Office Supplies	1	150	150	
20	Housekeeping	1	60	60	
21	Toilet, Staff	2	60	120	
22	Locker Rooms (Male, Female)	1	500	500	150 lockers total between 2 rooms
23	Toilet/Shower, Staff	2	120	240	
Subtotal					1,650

Switchboard/Telecom Center/Reception					
24	Office, Supervisor	1	100	100	
25	Communications Workstn	2	64	128	Incl 1 wrkstn as back up/future use
26	Master Phone Communicator	1	100	100	Incl annunciator panels, 1 wrkstn @ 64 sf
27	Storage/Files	1	80	80	
Subtotal					408

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3. User Mtgs - cont'd - Dietary and Facilities

Western State Hospital, State of Washington
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Pre Design
 Space Program Summary

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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28	Fire Alarm & Dispatch		0	0	
		Subtotal		0	

29	Emergency Command Center & Supplies/Services		0	0	
		Subtotal		0	

30	Transportation (Building & Grounds)		0	0	
		Subtotal		0	

Security and Safety					
Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
33	Office, Security Supervisor	1	100	100	
34	Office Security Scheduler	1	100	100	
35	Key Management	0	100	0	In control center
36	VRI PERT Administrator	1	100	100	
37	PERT Supervisor	2	100	200	
38	VRI Supervisor	1	100	100	
39	Director of Security	0		0	See Administration
40	Director of Emergency Management	0		0	Not in building
41	Safety Manager	1	100	100	
42	Community Notification Officer	1			
43	Control Center/General Office	1	370	370	4 w/kit @ 64 sf plus control panels, monitoring screens
44	Security staff office	3	100	300	Space for security at each floor
45	Recording/ tape Review/Report	1	180	180	Include employees ID
46	Escort	2	64	128	
47	Toilet Staff	2	60	120	
48	Lockers, Staff (Male & Female)	2	60	120	5 lockers in each room, storage of uniforms, supplies, etc.
49	Emergency Preparedness Supplies	0		0	see Materials Management above
		Subtotal		1,978	

Materials Management					
Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
50	Office, Supervisor	0	100	0	
51	Loading Dock	1	1,200	1,200	Incl 3 Dock Area
52	Breakdown/Unloading Area	0	300	0	Included above
53	Patient Storage	1	1,000	1,000	Limit to five boxes per patient, approx 280 patients; stacking system for 4 - 5 boxes high
54	Emergency Preparedness Supplies	0	600	0	Incl 300 cots, dehydrated food, water, etc (72 hours supply)
55	Oxygen Storage	1	80	80	3-4 H tanks, 30-40 e-tanks, enclosed room on external wall
56	Trash Compactor	0	100	0	Outside the building at the dock area
57	Recycling Center	0	300	0	Outside the building at the dock area
58	Biohazard Waste Holding	1	60	60	

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Pre Design
 Space Program Summary

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
59	Mall Room/Print Shop	0	240	0	collating/high speed print operation with mall room. Outside Secure Postmeter.
60	- Wikstr. Priming/Mail Staff	0	64	0	may be combined with the Mail Room/Print Shop above
Subtotal				2,340	

Department Total Net SF (NSF) 9,442
 NSF to DGSF Multiplier 1.15
 Departmental Gross SF (DGSF) 10,858

Number of Key Rooms	27
DGSF	10,858
DGSF/Key Room	402

Number of Beds	350
DGSF	10,858
DGSF/Bed	31

3. User Mtgs - cont'd - Dietary and Facilities

3. User Mtgs - cont'd - Dietary and Facilities

Western State Hospital, State of Washington
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Pre Design
 Space Program Summary

Mechanical, Electrical, Utilities and Connectors

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Mechanical/Electrical/Utility Spaces					
1	Elevator Machine Rooms	4	150	600	
2	Water Service Entry	1	275	275	
3	Fire Service/Pump	1	500	500	
4	Main Plumbing Services	1	400	400	
5	West Mechanical Room	1	1,275	1,275	
6	Boiler Room	1	2,500	2,500	
7	Chiller Room	1	1,600	1,600	
8	Substation/Switchgear Room	1	1,800	1,800	
9	Emergency Generator	1	2,500	2,500	
10	Boiler/Chiller Control Room	1	400	400	
11	Emergency Electric Switchgear	1	600	600	
12	HVAC Penhouses	18	18	20,000	
13	Data/Communications Panel Rooms	12	140	1,680	
14	Electrical Panel Rooms	12	100	1,200	
Subtotal				35,330	

Department Total Net SF (NSF) 35,330
 NSF to DGSF Multiplier 1.15
 Departmental Gross SF (DGSF) 40,630
 DGSF to BGSF Multiplier 1.10
 Departmental Gross SF (DGSF) 44,692

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Pre-Design
 Space Program Summary

3. User Mtgs - cont'd - Clinical Ancillaries

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
Reception/Registration					
1	Waiting	1	150	150	10 seats; Shared w/ Clinics & Lab
2	Waiting, Stretcher Patient	1	30	30	alcove
3	Toilet, Patient	1	60	60	
4	Storage, Stretcher/Wheelchair	1	60	60	
5	Reception/Registration	1	140	140	Incl work counter for charts; 2 workstations @ 64 sf
6	- Crash Cart	1	20	20	
7	Storage, PT Records, Supplies	1	150	150	
Subtotal					610

Admissions

8	Vehicle Sallyport	1	600	600	enclosed, secure area, floor drain, etc.
9	Sallyport/Admissions Lobby/Waiting	1	120	120	
10	Exam Room	1	130	130	
11	Admissions Staff Workstations	4	64	256	
12	Patient Intake/Inventory	1	150	150	
13	Interview/Consultation Room	2	150	300	
14	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
15	Soiled utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
16	Nourishment station	1	40	40	
17	Toilet/Shower, Patient	1	80	80	with shower
Subtotal					1,676

Clinic

18	Exam Rooms	4	130	520	Complement allows 1 room to be allocated for Ophthalmology equipment; workstation with computer, configured to provide staff and patient safety
19	Storage room	1	100	100	Mobile diagnostic equipment
20	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
21	Soiled utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
22	Treatment Room	2	180	360	An exam room with overhead light, extra storage space for supplies
23	Clinical Workstation	8	64	512	physicians, nurse practitioner, visiting specialists, intern
Subtotal					1,492

Dental Clinic

24	Operator/Exam	1	120	120	Also used for Hygiene
25	Operator/Exam, IIC Access	1	140	140	Also used for Hygiene Training
26	Storage, Equipment/Files	1	80	80	
27	Dental Lab	1	80	80	fridge, sterilizer, may be combined with storage
28	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
29	Soiled utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
30	Exam Alcove	1	64	64	may be combined with lab above
31	Reception/Registration, Assistant	1	64	64	
Subtotal					1,492

3. User Mtgs - cont'd - Clinical Ancillaries

Western State Hospital, State of Washington
New Forensic Hospital
Tuesday, February 11, 2020

Pre-Design
Space Program Summary

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
32	Workstation, Dentist	1	64	64	
Subtotal				548	

EKG			0	0	
Subtotal				0	

Laboratory					
34	Phlebotomy	1	40	40	Blood-taking, reclining chair, use one of the clinic exam rooms, or draw on the unit. Included in Lab space.
35	Laboratory Bays	4	120	480	Hematology, Urology/Serology, General Chemistry, Special Chemistry, Work Reagentator, storage (specimen tubes, etc);
36	Open Laboratory area	1	400	400	Large open space. Need eyewash every 500sf. Locate proximate to medical clinic. Includes decontamination shower.
37	Lab offices (workstations)	0	64	576	Located immediately off Lab.
38	Lab waiting	0	40	80	Shared with clinics
39	Storage	1	80	100	
40	Lab supervisor	1	100	100	
41	Toilet/ Shower, Staff	1	60	60	Include emergency decontamination
42	Lab Receiving/Refrigerator	1	80	80	anteroom for lab courier access external to the lab for specimen transport containers, fridge
Subtotal				1,816	

Physical Therapy					
43	Office, Director	1	120	120	
44	Workstations	3	40	120	Workstation suite. Surrounded by PT area to allow for observation
45	Toilet, Staff	1	60	60	
46	Toilet, Patients	1	60	60	
47	Storage	1	60	60	
48	PT Exercise area	1	1,800	1,800	
Subtotal				2,220	

Radiology					
49	Radiographic Room	0	360	0	Includes control; assume digital unit
50	Alcove, Patient Dressing	0	40	0	Bench/Cubicle curtain
51	Digital Image Review Station	0	80	0	
52	Technician Work Area	0	80	0	Incl workstn @ 64 sf
53	Digital Reconstruction	0	64	0	
54	Storage, Film	0	80	0	limited storage for resident/patient films received from other sources
Subtotal				0	

Pharmacy					
55	Satellite Pharmacy	0	40	0	2 seats
56	Pick-up Counter	1	40	40	
57	Dispensing Area	1	80	80	
58	Cart Holding	1	120	120	carts for transporting meds to Care Units; assume 4-6 carts to be held
59	Printing Stations	1	200	200	Incl. Computers and Sink
Subtotal				200	

Western State Hospital, State of Washington
 New Forensic Hospital
 Tuesday, February 11, 2020

Pre-Design
 Space Program Summary

3. User Mtgs - cont'd - Clinical Ancillaries

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
60	Bulk Storage	1	100	100	
61	Vault, narcotics	0	40	0	maybe a wrktn w/ double-locked cabinet or a walk-in vault
62	Receiving/Breakout	1	120	120	Ordering Computer and Printer
63	Office Area				
64	Clinical Pharmacist Work area	1	100	100	multi-use area for clinical pharmacist (1 workstations @ 80 sf), reference material, computers
65	Office, Teaching Faculty				
66	Workstations, Pharmacists	0	64	0	
67	Workstation, Techs/Students	1	40	40	
68	Toilet, Staff	1	60	60	
Subtotal					860

Infection Control and Employee Health Services

69	Office, Employee Health RN	1	130	130	Immunization Room
70	Infection preventionists	4	64	256	
71	Infection Control Manager	1	100	100	
72	Infection Control Director	1	120	120	
73	Waiting Room	1	150	150	10 seats in waiting
74	Exam/Treatment/Phlebotomy	0	130	0	
Subtotal					756

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3. User Mtgs - cont'd - Clinical Ancillaries

Western State Hospital, State of Washington
New Forensic Hospital
Tuesday, February 11, 2020

Pre-Design
Space Program Summary

Ancillaries - Clinical

Ref	Program Spaces	No. of Spaces	NSF/ Space	Total NSF	Comments
Shared Support					
75	Clean Utility	1	120	120	supplies cart, linen cart, disposable trays, etc
76	Soiled Utility	1	100	100	Incl hazardous waste containers, linen hampers, flushing rim sink, counter w sink, etc
77	Med/Surg Supplies	1	80	80	Secure, locked
78	Toilet, Patient	2	60	120	
79	On-Call Room	2	100	200	
80	On-Call Toilet	2	60	120	3-piece
81	Team Room/Lockers, Staff	1	240	240	
82	Toilet, Staff	2	60	120	
83	Housekeeping	1	60	60	
Subtotal				1,160	

Department Total Net SF (NSF) 11,138
NSF to DGSF Multiplier 1.35
Departmental Gross SF (DGSF) 15,036

Number of Key Rooms 98
DGSF 15,036
DGSF/Key Room 153

Number of Beds 350
DGSF 15,036
DGSF/Bed 43

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Western State Hospital, State of Washington
 New Forensic Hospital
 Tuesday, February 11, 2020

**3. User Mtgs cont'd -
 Adjunctive Therapies**

Pie Design
 Space Program Summary

Ref	Patient Therapy/Activity	NO. OF Spaces	NSF / Space	Total NSF	Comments
Leadership					
1	Director, Rehab	1			See Administration
2	Workstation, Secretary	1			See Administration
3	Director, Social Work	1			See Administration
4	Workstation, Secretary	1			See Administration
				0	
				0	
Occupational Therapy MH and Physical Rehab					
5				0	
				0	
Substance Use Disorder Treatment					
6				0	
				0	
Café					
7	Servicy	1	720	720	
8	Refrigeration, Storage, Holding	1	300	300	
9	Condiment/Tray Carts	1	80	80	
10	Seating	1	1,350	1,350	seating for 50-75 located outside the café; adj to Social Center
11	Vending	1	160	160	
				2,610	
Leisure Activities					
12	Locker/Shower, Male	0	200	0	Incl 15 lockers, 4 shower heads; accessible from Gym, Exercise Room
13	Toilet, Male	0	180	0	multi-stall, 1 stall & sink are W/C accessible
14	Locker/Shower, Female	0	200	0	Incl 15 lockers, 4 shower heads; accessible from Gym, Exercise Room
15	Toilet, Female	0	180	0	multi-stall, 1 stall & sink are W/C accessible
16	Gymnasium/Multi-Purpose Room	1	3,600	3,600	
17	Storage, Gym Equipment	1	200	200	
18	Exercise/Fitness Room	1	800	800	6 stations (treadmills, bikes, weights, etc) for movement classes, yoga, etc.; outfitted with wall-mirrors (non-breakable), includes storage for musical instruments
19	Movement Studio	1	800	800	
20	Patient supplies	1	100	100	
21	Workstations, Music Therapy	0	36	0	
22	Music Therapy/Treatment Room	0	360	0	larger groups will have access to gym, auditorium
23	Sm, Music Ther Treatment Rm	0	120	0	
24	Storage, Music Therapy	0	80	0	Secure
25	Comfiton Room	1	120	120	
26	Social Center	1	1,600	1,600	pool tables, games tables, etc.; adj to gym, café & music room. It is assumed this will be the assembly point for patients going to a community event outside the hospital
27	Chapel Multi-purpose Room	1	800	800	Seating for 30; larger worship groups will use Auditorium (e.g. special occasions)

3. User Mtgs cont'd - Adjunctive Therapies

28	Storage, Chapel	1	40	40	
29	Workstation, Chaplain	2	64	128	
Subtotal					8,188
Music Therapy (Leisure Activities)					
30			0	0	
Subtotal					0
Life Skills					
31	Art Room	2	400	800	10 people
32	Greenhouse	1	250	250	
33	Workstation, OT	2	64	128	
Subtotal					1,178
Art Therapy (Life Skills)					
34			0	0	
Subtotal					0
Outdoor Functions (Gardening, Exercise, Meditation Paths/Labyrinths, Water) - (Life Skills)					
35			0	0	
Subtotal					0
Speech Language Services					
36	Speech Therapy Room	0	160	0	Individual patient sessions will occur on-unit/treatment mall
37	Workstation	2	64	128	
Subtotal					128
Library/Resource Center adj to Vac1 Services, below					
38	Workstation, Clerical	1	64	64	
39	Workstation, Librarian	1	64	64	
40	Library Assessment Workroom	1	360	360	w/ 10 computers @ 30 sf; storage for materials and skills assessment tools
41	Resource Library	1	520	520	a portion of the library will be for Staff resources not storage on units and/or unavailable on-line; collection will incl DVDs, CDs, VHS, Books, Music Tapes, PT Inform'n
42	Storage, library	1	80	80	
Subtotal					1,088
Patient Clothing					
43			0	0	
Subtotal					0
Salon/Spa					
44	Waiting Seating	2	20	40	
45	Barber Station	1	64	64	HC accessible
46	Hair wash	1	64	64	
47	Workstation, Hair Stylist	1	64	64	
48	Storage	1	40	40	
Subtotal					272
Chapel (see Leisure Activities)					
49			0	0	
Subtotal					0
Commissary					
50	General Store	1	800	800	
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3. User Mtgs cont'd - Adjunctive Therapies

51	- Storage	1	100	100	900
Subtotal					
Shared Support					
52	Workstation, Intems/Students	0	64	0	for short term use when not with programs/departments
53	Union Member Workstations	3	64	192	3 workstations at 64sf each with file cabinet; access to confidential meeting area (e.g. Ref 71)
54	Patient Rights	2	64	128	
55	Patient Advocacy (grievances)	4	64	256	
56	Pet Therapy Holding	0	100	0	cages/kennels for short term holding of pets; incl supplies storage
57	Housekeeping	1	60	60	
58	Housekeeping Storage	1	80	80	
59	Staff Toilets	2	180	360	multi-stall
60	Patient/Visitor Toilets	2	180	360	multi-stall
61	Conference Rooms	1	400	400	
62	Wintergarden	1	5,000	5,000	
63	Copy Rooms, Supplies	1	150	150	
64	Team Room	0	300	0	
Subtotal					
6,986					

Department Total Net SF (NSF)
 NSF to DGSF Multiplier
 Departmental Gross SF (DGSF)

21,350
 1.30
 27,755

Number of Key Rooms	58
DGSF	27,755
DGSF/Key Room	479

Number of Beds	350
DGSF	27,755
DGSF/Bed	79

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3. User Mtgs cont'd - Inpatient Services

Inpatient Services

The Design Team presented a case study of prototypical inpatient unit floor plans.

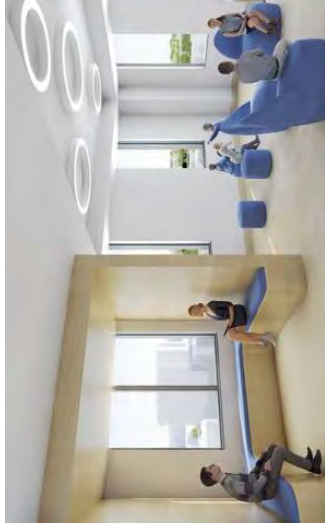
Units of comparable size where illustrated in 8-9 bed clusters in relationship to the nurse station and an on-unit dining room.

Case Study 1: Austin State Hospital



**Case Study 2: Nationwide
Children's Hospital**

**3. User Mtgs cont'd
- Inpatient Services**



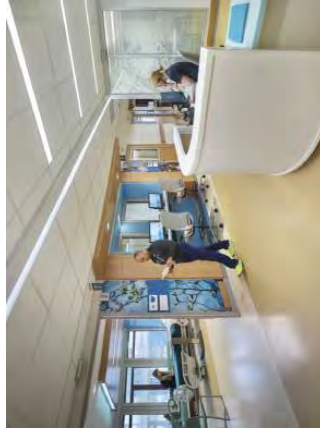
Case Study 3: Dayton Children's Hospital

3. User Mtgs cont'd - Inpatient Services



Case Study 4: Carilion Hospital

3. User Mtgs cont'd
- Inpatient Services



Case Study 5: King County Hospital

3. User Mtgs cont'd
- Inpatient Services



Western State Hospital Forensic Hospital PreDesign

Western State Hospital / Appendix

**Case Study 6: Bronx
Psychiatric Center**

**3. User Mtgs cont'd
- Inpatient Services**



3. User Mtgs cont'd - Inpatient Services

Western State Hospital, State of Washington
New Forensic Hospital
Tuesday, February 11, 2020

Pre Design
Space Program Summary

Ref	Program/Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Mental Health - Adult Units (500 Beds, each unit has two 8-bed subclusters and one 9-bed subcluster)

Typical Unit - 25 beds

Unit Space					
Cluster A (8 Beds)					
1	Patient Room, Private	6	130	780	Includes wardrobe
2	Patient Room, Private HC	2	180	360	Includes wardrobe
3	Toilet/Shower, Patient	8	40	240	
4	Toilet/Shower, Patient HC	2	65	130	
5	Activity/Recreation	1	256	256	
6	Quiet Activity	1	100	100	
7	Porch	0.5	160	80	Outdoors (showing 4 because ground floor units have patios, not porches)
				1,946	
Subtotal					

Cluster B (8 Beds)

8	Patient Room, Private	6	130	780	Includes wardrobe
9	Patient Room, Private HC	2	180	360	Includes wardrobe
10	Toilet/Shower, Patient	6	40	240	
11	Toilet/Shower, Patient HC	2	65	130	
12	Activity/Recreation	1	256	256	
13	Quiet Activity	1	100	100	
14	Porch	0.5	160	80	Outdoors (showing 4 because ground floor units have patios, not porches)
				1,946	
Subtotal					

Cluster C (9 Beds)

15	Patient Room, Private	8	130	1,040	Includes wardrobe
16	Patient Room, Private HC	1	180	180	Includes wardrobe, equip for ballistic
17	Toilet/Shower, Patient	8	40	320	
18	Toilet/Shower, Patient HC	1	65	65	
19	Activity/Recreation	1	288	288	
20	Quiet Activity	1	100	100	
21	Porch	0.5	160	80	Outdoors (showing 4 because ground floor units have patios, not porches)
				2,073	
Subtotal					

Care Admin/Support Cluster

22	Exam Room	1	130	130	
23	Seclusion Room	1	100	100	
24	Ante Room	1	80	80	
25	Toilet	1	60	60	
26	Phone Booth	1	30	30	
27	Nursing Station	1	240	240	adj to Charting and Team Report Room, seats 5 staff (2 RN, 2 PSA/MHI, Office)
28	Charting	1	100	100	3 sng @ 30 sf, an extension of the Team Conference Room (3 PSA/MHI or Others)
29	Team Conference/Report Room	1	360	360	15-20 seats, Workstation for Treatment Team Coordinator and two touchdown spots

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3. User Mtgs cont'd - Inpatient Services

30	Medication Room	1	140	140	Incl storage, space for med cart, conversion to future automated dispensing unit), adj to Nursing Care Area
31	Tub Room	0.143	120	17	assist tub; resident/patient lift; Ajo-type tub in 2 of 14 units
32	Clean Utility	1	100	100	crash cart, 2 linen exchange carts
33	Soiled Utility	1	80	80	holding for soiled linen, waste
34	Patient Laundry	1	160	160	Incl 2 washers, 2 dryers, sink, folding, dual access
35	Storage/Equipment	1	80	80	
36	Housekeeping	1	60	60	Add per comments
37	Custodial Closet	1	80	80	12 x 12 room for consumables, equipment
38	Staff Lockers/Team Room	1	240	240	locked room, incl coat/boot rack, seating for 6, kitchenette
39	- Toilet, Staff	2	60	120	
40	Toilet, Visitor	0	60	0	
Subtotal					2,177

Neighborhood					
Social/Therapy Cluster					
41	Dining Room	25	20	500	
42	Food Services Pantry	1	160	160	Includes re-therm unit for food carts, has window for beverage service.
43	Toilet, Patient	2	60	120	directly adj to Dining Area
44	Activity/Recreation	1	300	300	Big Screen TV, Pool Tables, incl storage cupboards for theraballs
45	Group Therapy	1	225	225	seating for 12 - 15
46	Multi-Purpose Room	1	250	250	Incl storage cupboards for theraballs
47	Classroom/OT RT Activity	1	200	200	
48	Visitors Room/Quiet Lounge	1	160	160	See treatment mall for enhanced visiting facilities.
49	Comfort Room	1	100	100	
50	Interview/Consultation Rooms	1	120	120	
51	Entrance Vestibule	1	0	0	
Subtotal					2,135

Clinical Team Cluster					
52	Office (Nurse Manager)	0.25	120	30	RN-4, Shared by 4 units
53	Office (Nurse Manager)	1	100	100	RN-3, Scheduling Supervisor
54	Workstation (Psychology Associate, Psychiatrist)	3.50	64	224	
55	Workstation, Secretarial/ Unit Clerk "Ward Administrator"	1	64	64	may be combined with office equipment below or nursing core IBD
56	- Unit Mailboxes	1	5	5	Incl rear access from secretarial above; locked boxes accessible from corridor (staff & pts)
57	- Equipment/Files/Storage	1	100	100	Incl filing allocation for itinerant clinical team members
58	Wkmsns, Social Workers, Institutional Counselors	5	64	320	
59	Conference Room	1			see Ref 35 above

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3. User Mtgs cont'd - Inpatient Services

60	Toilet Staff	1	60	903
	Subtotal		60	11,180
	Total 25-bed Unit			
	Department Total Net SF (NSF)			11,180
	NSF to DGSF Multiplier			1.66
	Departmental Gross SF (DGSF)			18,559
	Number of Beds/Unit	25		
	Number of Units	14		
	Total Number of Beds		350	
	TOTAL Net Area			156,522
	TOTAL Departmental Gross Area			259,827
	Number of Beds		350	
	DGSF		259,827	
	DGSF/Beds		742	
	309,194	Floorplate BGSF		
	337,774	Real BGSF		
	3,038	NSF Neighborhood (single)		
	1.66	DGSF Multiplier		
	5,043	DGSF Neighborhood (single)		
	14.00	Number of Units		
	70,603	DGSF Neighborhood (Total)		
	189,223	DGSF IPUs (Total)		
	259,827	Total DGSF		

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4. Day 2 - Leadership Debrief

LEADERSHIP DEBRIEF

General

- The project team will develop a slide or two describing our basic planning assumptions as a bullet list and how they've evolved (including recommendations for the interim stage where the census exceeds 500 beds).
- A table will be prepared that shows the total space added to the project by location (new 350-bed hospital, adjacent office building, adjacent support services building). This table will be an extension of the spreadsheet distributed by the WSH (Judy/Megan/Danielle) team.
- A table will be prepared that compares the 350/500 bed composite benchmark modeling tools, departmental outcomes vs what is currently programmed.
- The project team will develop a decision matrix to track decisions that must be made reflecting differences between the model/ benchmark and the facility request for added space.

Questions for Leadership

- Given the projected occupancy of the new building in late 2025, should we be planning new construction to support 350 beds (the building alone), 500 beds (the long term over ten year census) or 817 beds (the 6-10 year mid-term census)? Use the 350/500 model with 1,500-1,800 FTE's.
 - o The project team will utilize the 350/500 bed model with 1,500-1,800 Full time Employees.

- Will the proposed Administrative staff cohort become smaller in a 500 to 817-bed hospital? If so, in what way?

HOSPITAL ADMINISTRATIVE EXECUTIVE STAFF 24

- Chief Executive Officer 1
- Deputy CEO Clinical 1
- Deputy CEO Administrative 1
- Chief Operating Officer 1
- Deputy COO 1
- Deputy Chief Financial Officer 1
- Chief Public Affairs Officer 1
- Chief Quality Officer 1
- Deputy Chief Quality Officer 1
- Chief of Security/Safety 1
- Support Staff 11
- Center Director 3

4. Day 2 cont'd - Leadership Debrief

- Will the proposed Medical Administrative staff cohort become smaller in a 500 to 817-bed hospital? If so, in what way?

MEDICAL ADMINISTRATIVE STAFF	12		
Chief Medical Officer	1	Should emergency management staff and the Emergency Management Center be located in the new 350 bed building as shown in the matrix or in a separate building as requested by the emergency management staff?	
Deputy Chief Medical Director	1	<ul style="list-style-type: none"> ○ The Emergency Management Center will be located in the Annex building. 	
Chief of Psychiatry	1		
Center Medical Director	3		
Chief Clinical Officer	1	• Radiology will be located in building 28/29 rather than in the new 350-bed hospital building as shown in the matrix below	
Support Staff	5		
- Should the number of exam rooms and procedure rooms provided in the new 350-bed building be as shown above or does this also reflect retaining rooms already in 28/29 that don't need to be duplicated in the new hospital building? (Facility staff had requested 4 exam rooms and 2 multi-purpose treatment rooms.)
 - The program will be revised to reflect what would typically be needed in a 500 bed hospital.

- Will the proposed Safety and Security staff cohort become smaller in a 500 to 817-bed hospital? If so, in what way?

SAFETY AND SECURITY	160	
PERT/Violence Reduction Team	24	
Security Department	108	
Safety Department	3	
Campus Patrol	20	
Key Control	3	
Emergency Management Department	2	
Center Medical Director	3	
Chief Clinical Officer	1	
Support Staff	5	

MEDICAL CLINIC	40
Medical Clinic	12
Exam rooms	6
EKG Room	1
Podiatry room	1
Dressing rooms	2
Physical Therapy	5
Laboratory	10
Radiology	2
Suture Room	1

4. Day 2 cont'd - Leadership Debrief

- Will the proposed Hospital Operations staff cohort become smaller in a 500 to 817-bed hospital? If so, in what way?

HOSPITAL OPERATIONS	452		PATIENT SERVICES	84
Mail room	4	Accounts Payable	Occupational Therapy	6
Publications	2	Enterprise Risk Management Office	Speech and Pathology Services	2
Public Disclosure	2	Developmental Disabilities Association	Rehab Services	60
Human Resources Department	17	Home and Community Services	Substance Use Disorder Program	8
Quality Department	50	Attorney Generals Office	Medical Equipment	2
LEAN Department	10	BHA Ombudsman	Patient Grievances	3
Clinical Risk Management Team	6	BHA Recruitment Team	Community Notifications	3
Medical Records	45	BHA- Organizational Development/NEO		
Environmental Services	120	BHA-Information Technology/Telecom		
Investigations	6	OFMHS		
Labor Relations	2			
Payroll-Time/Leave/Attendance	12			
Employee Health/Infection Control	6			
Video Conference Services	2			
Volunteer Services	2			
Chapel Services 2				
Employee Engagement	2			
Finance Department	7			
Contracts Management	2			
Utilization Management	9			
Patient Accounts/Local Funds	6			

4. Day 2 cont'd - Leadership Debrief

- Should we be building new space to support these leased services? Can any be omitted?

LEASED SERVICES 69

Hospital Annex:

Department of Assigned Council 2

Fort Steilacoom Historical Society 6

clover park @ CSTC 4

NorthWest Justice 12

RSN-Residential Service Network 18

SILAS 9

WSH Historical Society 6

Department of Corrections 3

Hospital:

Pierce College Central TRC & Bldg 25

Pierce County Court (C-17) 4

Washington State Library 1

- Should we be building a new Laundry or will the State contract for linens services?
 - We will assume that it is outsourced.

- DDA will be eliminated from the program for the new building.

- The facility wants to eliminate Home and Community Services in the new building.
 - Leadership disagrees and stated that Home and Community Services must be located in the new building.

- Will microfilm/microfiche be scanned digitally?
 - It will either be exported out to a new location or being converted digitally. Leadership requested that a reader be incorporated into the program.

- The cafeteria will be developed to serve both staff and patients.
 - Should the mall be sized for Competency Restoration? If so, it will be too small if the building's use changes.
 - The mall will be programmed to allow it to support NGRI.

- WSH staff requested one or two negative pressure rooms in the building. The following were identified as potential problems that would necessitate this room: TB, Chicken Pox, Head Lice Isolation, Noro-virus,
 - Leadership disagrees and directed the project team to proceed without the seclusion room as they were built in Oregon and are never used.

- A file space will be added within HR.

- Currently every room on one or two units can be turned into a seclusion/restraint room. The least provisioned unit has 4 seclusion rooms. Staff requested two seclusion/restraint rooms as generally two people will escalate together in a conflict with each other.
 - Leadership disagrees and directed the project team to proceed with a single seclusion room.

- WSH staff requested one or two negative pressure rooms in the building. The following were identified as potential problems that would necessitate this room: TB, Chicken Pox, Head Lice Isolation, Noro-virus,
 - Leadership disagrees and directed the project team to proceed without the seclusion room as they were built in Oregon and are never used.

- A file space will be added within HR.

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Oak wood is exceedingly strong, heavy and durable. Oak bark is rich in tannin, which helps it resist insect and fungal attack.

WESTERN STATE HOSPITAL FORENSIC HOSPITAL PREDESIGN

Workshop #4 - 03-06-2020

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Meeting Purpose

This workshop involved the Planning Team meeting with the Leadership Group to review the draft Space Program for the new hospital building.

The following pages are meeting notes for Workshop #4 which was rescheduled from in person on February 27th to a video meeting:

- 1 Agenda
- 2 Meeting Attendees
- 3 Meeting Notes
- 4 Next Steps Notes

1 Agenda

- 1 Friday March 6, 2020 – Olympia / Online
 - 2:00 2:20 Space Program Presentation
 - 2:20 2:40 Overall Hospital Organization Work Session
 - 2:40 2:55 Building Diagrams - Form Factors
 - 2:55 3:00 Next Week's Workshop

2. Meeting Attendees

Leadership Group:

Danielle Cruver
Brian Waiblinger
Bryan Zolnikov

Charles Anderson
Judy Fitzgerald
Bob Hubenthal
Aaron Martinez
Michael Miller

Francis Pitts
Stephen Kervin
Sara Wengert

Pierce McVey
Jon Mehlschau
Craig Tompkins
Brian Washko

3. Meeting Notes Space Program

Space Program Presentation

- The Space Program was distributed beforehand and Arch+ provided an overview.
 - Attachment: WSH PD Space Program v.2 2020 03 05.pdf
 - Based on 350 bed hospital supporting a 500 bed campus
 - Containing three new buildings; hospital, office annex, support building.
- The Space Program was compared to the model benchmark.
 - Attachment: WA WSH Model vs Program Summary.pdf
 - Included Building 22 to account for campus functions not provided in the Space Program.
 - Building 22 creates a larger campus program because it's capacity is a 900 bed campus, while the model campus would be based on a 500 bed campus.
- The Space Program was summarized in a head sheet.
 - Attachment: WA WSH Program vs Model.pdf
- The Space Program supports a 500 bed campus. DSHS foresees a 50 bed growth by 2025, so there should be flexibility to add a 50 bed addition in the future. It was noted by the Design Team that the 350 bed building is expected to have a longer life span than Buildings 28 and 29, so perhaps the future addition should be 150 beds to absorb those patients because it already has the administrative capacity for that size.

3. Mtg Notes - cont'd Space Program

Western State Hospital, State of Washington
New Forensic Hospital
Monday, January 27, 2020

Pre Design
Space Program Summary

How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Administrative Services					
Hospital Administration					
1	Waiting	8	20	160	
2	Office, CEO	1	150	150	
3	Office, Deputy CEO Clinical	1	120	120	
4	Office, Deputy CEO Admin	1	120	120	
5	Office, COO	1	150	150	
6	Office, Deputy COO	1	120	120	
7	Office, Deputy Chief Financial Officer	1	120	120	
8	Chief Public Affairs Officer	1	150	150	
9	Chief Quality Officer	1	150	150	
10	Deputy Chief Quality Officer	1	120	120	
11	Chief of Security/Safety	1	150	150	
12	Chief Clinical Officer	1	150	150	
13	Support Staff (Workstation)	11	64	704	Move to Clinical? D. Cruver to follow up
	Center Director	3	120	360	
14	Workstation, Admin Assst	0	64	0	
15	Storage, Supplies/Files	1	100	100	
16	Wkstn, Admin Asst/Cleak	0	64	0	
17	Office, Contrt Admin	1	120	120	
18	Office, Human Rights	1	120	120	see Therapy/Activity section
Subtotal				2,944	
Clinical Administration					
19	Chief Medical Officer	1	150	150	
20	Deputy Chief Medical Director	1	120	120	
21	Chief of Psychiatry	1	150	150	
22	Center Medical Director	3	120	360	
23	Chief Clinical Officer	1	150	150	
24	Support Staff	5	64	320	
25	Storage, Supplies/Files	1	100	100	
26	Office, Revenue	0	100	0	
Subtotal				1,350	
Finance Department					
29	Office, Staff	1	100	100	
30	Workstation, Staff	6	64	384	
Subtotal				484	
Contracts Management					
29	Office, Staff	1	100	100	
30	Workstation, Staff	2	64	128	
Subtotal				228	
Patient Accounts					
29	Office, Staff	1	100	100	
30	Workstation, Staff	5	64	320	
Subtotal				420	
IT/ISRG					

3. Mtg Notes - cont'd Space Program

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 Pre Design
 Space Program Summary

How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Administrative Services					
Subtotal					
420					
Accounts Payable					
29	Office Staff	1	100	100	
	Workstation, Staff	3	64	192	
30		0	0	0	
Subtotal					
292					

Nursing Administration					
Subtotal					
1,620					
31	Chief Nursing Officer	1	120	120	
32	Assistant Chief Nursing Officer	1	64	64	
33	Clinical Nurse Specialist	5	64	320	
	Nurse Educators	7	64	448	
34	Nurse Manager for Education	1	120	120	
35	RN4	4	64	256	Shift Co-ordinators
36	RN3	1	64	64	Admissions
38	Support Staff	2	64	128	
37	Director of Infection Prevention	0	64	0	See Clinical Ancillaries
39	Employee Health/Infection control	0	64	0	See Clinical Ancillaries
40	Storage, Supplies/files	1	100	100	
Subtotal					
1,620					

Nursing Supervisors					
Subtotal					
0					
41	Shift Supervisors	0	130	0	assume these are captured in the inpatient program
42	Workstation, Clerk	0	64	0	02 workstations
43	Storage, Files/Supplies	0	80	0	
44	After-hours Medication Dispensing	0	100	0	
Subtotal					
0					

Community Program					
Subtotal					
0					
45	Workstations, Ext Agencies	0	36	0	Locate in 28/29
46	Office, Housing Service Coord	0	100	0	
Subtotal					
0					

Public Relations, Community Educator					
Subtotal					
0					
47	Office, Staff	0	100	0	all counted in PU staffing
48	IM Power/Peer Counslr Wktns	0	64	0	
49	Peer Counselng Interview Room	0	100	0	
50	NAMI / IM Power Office	0	128	0	02 workstations
Subtotal					
0					

Human Resources Department					
Subtotal					
0					
51	Waiting	0	100	0	Shared with other Admin Functions
52	Private Offices	3	100	300	Does not need to be in secure perimeter
	Shared Office	2	64	120	two staff share.
53	Payroll Workstation, Clerks	12	64	768	10-20 staff under another admth. Can be offsite
54	Storage, Supplies/files	1	160	160	Incl 10 cabinets, supplies
Subtotal					
1,620					

3. Mtg Notes - cont'd Space Program

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Space Program Summary

How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Administrative Services					
55	Personnel Files	1	240	240	Incl 15 cabinets, supplies
Subtotal				1,588	
Payroll Time/Leave/Attendance					
51	Office	2	100	200	
52	Workstations	12	64	768	
55	Personnel Files	1	240	240	Incl 15 cabinets, supplies
Subtotal				1,208	
Employee Engagement					
51	Office	1	100	100	
52	Workstations	1	64	64	
55	Storage	1	30	30	
Subtotal				194	
Patients Rights					
56	Workstations	2	64	128	Relocate here from Therapy
Subtotal				128	
Patient Advocate					
57	Workstations	3	64	192	Relocate here from Therapy
Subtotal				192	
Court					
58	Office, Departmental or On-Site	0	100	0	
	Public Defenders	1	120	120	
	Judges Chamber	2	64	128	
59	Workstation, Clerk	2	64	128	
60	Office Equipment, Files, etc	1	240	240	Incl allocation for 15 file cabinets; balance will be held either in secure files stores area in Materials Management or in Legal's office-site office(s)
61	Security Office	1	100	100	
62	Meeting Space/Phone Room	2	120	240	
63	Court Room	1	570	570	
64	Waiting Room	1	250	250	The pre-function area or a conference room will be used for this purpose, depending on the seating capacity needed.
65	Toilet, Visitors	2	60	120	
Subtotal				1,768	
Volunteer Services					
66	Office, Director	1	120	120	Outside Secure Perimeter where accessible to the public.
	Workstation, Staff	1	64	64	
	Storage Room/Work Area	1	300	300	Outdoor drop-off box as well.
67	Volunteer's Lounge	0	120	0	Includes Lockers for Volunteers
Subtotal				484	
Lobby Services					

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3. Mtg Notes - cont'd Space Program

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Pre Design
 Space Program Summary

How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Administrative Services					
68	Lobby Waiting	1	400	400	
69	Visitors Lockers	20	6	120	
70	Visitor's Lounge	0	100	0	
	Consultation Room	1	160	160	
71	Information Desk	1	80	80	
72	Switchboard	0	0	0	See Information Technology and Integration
73	Main Entrance Sallyport	1	180	0	
74	Staff Sallyport	1	120	0	
75	Visitor Toilets	2	120	240	Multi-stall
	Subtotal			1,000	

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Visiting Center					
76	Visiting Room	3	400	1,200	Each accommodates 20 people
76	Security Station	1	120	120	
76	Patient Toilets	2	60	120	
76	Visitor Toilets	2	60	120	
	Subtotal			1,560	

76	Publications			0	
	Subtotal			0	

77	Public Disclosure Requests			0	
	Subtotal			0	

78	Policy and Forms			0	
	Subtotal			0	

79	Quality Coordinators & Survey Management/Compliance			0	
	Subtotal			0	

80	Lean & Process Improvement			0	
	Subtotal			0	

81	Project Management			0	
	Subtotal			0	

82	Clinical Risk Management			0	
	Subtotal			0	

3. Mtg Notes - cont'd Space Program

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How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Administrative Services					
Subtotal					
83	Abuse & Neglect Call Line			0	
Subtotal					

Community Support/Case Management					
84				0	Does this exist? No.
Subtotal					

Research					
85				0	Does this exist? No.
Subtotal					

Education & Conferencing					
					How does this change with NEO moving into leased space?
87	Pre-Function Area	1	400	400	
88	Conference Room Anteroom	1	100	100	vestibules with coat racks
89	Conference/Training Room, Large	1	2,000	2,000	130-150 seats for use for staff, community & DHS local and reg'l meetings
90	Large Meeting Room/Classroom	2	750	1,500	seats 50 each
91	Catering Kitchenette	1	80	80	
92	AV Storage	1	150	150	secure; accessible from each of the 2 training rooms and 2 meeting rooms
93	Training Rooms	1	600	600	seats 20 at wikstns
94	Computer Training Lab	1	640	640	20 computer training stations; room may be located decentrally in order to be more conveniently located to hospital staff
95	Storage, Supplies	2	120	240	extra chairs on dollies, portable dias, etc.
96	Toilets, Male	1	240	240	provide 8 w/c(s)
97	Toilets, Female	1	480	480	provide 16 w/c(s)
Subtotal					
				6,430	

Staff Development					
					How does this change with NEO moving into leased space?
98	Office Manager	1	100	100	
99	Workstation, Admin Sec'y	2	64	128	
100	Files, Supplies, Equipment	1	100	100	
101	Workstation, Nurse Instructor	2	64	128	
102	Workstation, Training Coord	4	64	256	Can be placed in groups of two
Subtotal					
				712	

Forensic Evaluation and Navigation					
103	Workstations, Evaluators/Navigators	38	84	3,192	
	Forensic Navigators	10	84	840	
104	Private Telephone Area	1	64	64	
105	Group Telephone/Meeting Area	1	110	110	Seats 4 (huddle)
106	Medium Conference Room	1	256	256	Seats 12
107	Equipment/Files/Storage	1	200	200	Incl filling allocation for itinerant clinical team members
Subtotal					
				4,460	

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3. Mtg Notes - cont'd Space Program

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How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
108	Tolier, Staff	0	60	0	
Subtotal					4,662

Office of Forensic Mental Health Services (OFMHS)					
36	Forensic Audit and Training	4	64	384	supervises the navigators
37	Forensic records area	1	100	100	
38	Senior Secretary	1	64	64	
39	Forensic Word Processing	6	64	384	In addition to Forensic Evaluators
19				0	
Subtotal					922

Labor Relations					
98	Office Manager	1	100	100	
99	Workstation, Admin Secy	1	64	64	
102		0	0	0	
Subtotal					164

Video Conference Services					
51	Office	2	100	200	
52	Workstations	0	64	0	
55		0	0	0	
Subtotal					200

Developmental Disabilities Association					
51	Office	1	100	100	
52	Workstations	1	64	64	
55		0	0	0	
Subtotal					164

Home and Community Services					
51	Office	1	100	100	
52	Workstations	7	64	448	
55		0	0	0	
Subtotal					548

Attorney Generals Office					
51	Office	1	100	100	
52	Workstations	1	64	64	
55		0	0	0	
Subtotal					164

BHA Ombudsman					
51	Office	1	100	100	
55		0	0	0	
Subtotal					100

Office of Capital Programs					
51	Office	0	100	0	
52	Workstations	4	64	256	
55		0	0	0	
Subtotal					256

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3. Mtg Notes - cont'd Space Program

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Space Program Summary

How would current staffing be right-sized for the new, smaller, hospital.

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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256

Subtotal

Shared Resources					
109	Storage, Photocopy and Filing	2	150	300	
110	Healing Workstations	4	36	144	Visiting Staff of "Integrated Functions" from off-site
111	Conference Room (Small)	2	180	360	seats 8 - 10
112	Conference Room (Medium)	2	280	560	seats 14 - 16; see also information Technology & Integration; incl integrated conferencing
113	Conference Room (Large)	1	60	1,200	see information Technology & Integration
114	Toilet, Staff	20			
115	Kitchenette/Break Room	4	120	480	
116	Housekeeping	3	60	180	
Subtotal				3,274	

Department Total Net SF (NSF) 33,016
NSF to DGSF Multiplier 1.30
Departmental Gross SF (DGSF) 42,921

Number of Key Rooms	84
DGSF	42,921
DGSF/Key Room	511

Number of Beds	384
DGSF	42,921
DGSF/Bed	123

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3. Mtg Notes - cont'd Space Program

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Pre Design
 Space Program Summary

Administrative Services		No. of Spaces	NSF / Space	Total NSF	Comments
Ref	Program Spaces				
Department of Assigned Council					
29	Office, Staff	2	100	200	
	Workstation, Staff	0	64	0	
30		0	0	0	
	Subtotal			200	
Fort Steilacoom Historical Society					
29	Office, Staff	2	100	200	
	Workstation, Staff	4	64	256	
30		0	0	0	
	Subtotal			456	
Clover Park @ CSTC					
29	Office, Staff	1	100	100	
	Workstation, Staff	3	64	192	
30		0	0	0	
	Subtotal			292	
NorthWest Justice					
29	Office, Staff	4	100	400	
	Workstation, Staff	6	64	384	
30		0	0	0	
	Subtotal			784	
Pierce College Central TRC & Bldg 25					
29	Office, Staff	1	100	100	
	Workstation, Staff	3	64	192	
30		0	0	0	
	Subtotal			292	
Pierce County Court (C-17)					
Is this the same court as in Legal services in Administration?					
29	Office, Staff	1	100	100	
	Workstation, Staff	3	64	192	
30		0	0	0	
	Subtotal			292	
RSN-Residential Service Network					
29	Office, Staff	2	100	200	
	Workstation, Staff	16	64	1,024	
30		0	0	0	
	Subtotal			1,224	

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3. Mtg Notes - cont'd Space Program

Washington State Library			
29	Office, Staff	1	100
	Workstation, Staff	0	64
30		0	0
	Subtotal		100

WSH Historical Society			
29	Office, Staff	2	100
	Workstation, Staff	4	64
30		0	0
	Subtotal		456

Department of Corrections			
29	Office, Staff	1	100
	Workstation, Staff	2	64
30		0	0
	Subtotal		228

Shared Resources			
109	Storage, Photocopy and Filing	2	150
110	Hoteling Workstations	4	36
111	Conference Room (Small)	2	180
112	Conference Room (Medium)	2	280
113	Conference Room (Large)	1	
114	Toilet, Staff	4	60
115	Kitchenette/Break Room	2	120
116	Housekeeping	1	60
	Subtotal		1,904

Department Total Net SF (NSF) 6,876
 NSF to DGSF Multiplier 1.30
 Departmental Gross SF (DGSF) 8,939

Number of Key Rooms	84
DGSF	8,939
DGSF/Key Room	106

Number of Beds	350
DGSF	8,939
DGSF/Bed	26

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Pre Design
 Space Program Summary

3. Mtg Notes - cont'd Space Program

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Information Technology/Telecom/WHIS					
1	Server Room (MDF)	1	180	180	
1	Server Room (Security)	1	180	180	
3	Equipment Railing/Resting	1	400	400	assume 10-20 computers arrive at a time and require preparation/testing
4	Peripheral/Parts Storage	1	180	180	
5	Data Closets			0	Incl in Building Gross Area Allocation as an allowance
	Office	3	120	360	
	Hoteling Office	3	60	180	
6	Workstations, Network	3	104	312	bullpen work table in middle
7	Workstations, Telephone	5	104	520	bullpen work table in middle
8	Workstations, Development	14	64	896	In a bullpen arrangement with a shared workspace in the middle
9	Workstation, Technicians	9	64	576	In a bullpen arrangement with a shared workspace in the middle
2	Shared Workspace	2	240	480	Integrated with staff workstations
Subtotal				4,264	

Department Total Net SF (NSF) 4,264
 NSF to DGSF Multiplier 1.30
 Departmental Gross SF (DGSF) 5,543

Number of Key Rooms	43
DGSF	5,543
DGSF/Key Room	129

Number of Beds	350
DGSF	5,543
DGSF/Bed	16

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3. Mtg Notes - cont'd Space Program

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Pre Design
Space Program Summary

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
Medical Records					
Departments/Programs under HMS Director: II & Integration					
10	Office, Medical Rec Director	1	120	120	
11	Office, Supervisor	2	100	200	
12	Workstation	14	64	896	
13	Hoteling Workstation	2	36	72	for clinical team members needing individual short term desk space, in a separate room
14	Equipment, Supplies	1	150	150	high speed copier & scanner, fax, paper, etc. may be co-located with staff workstns
15	Scanning/Repro Room	1	220	220	
16	Microfilm Room	1	250	250	
17	Chart Completion Area	1	80	80	shelving, worktable, computers
18	Records Room	1	750	750	capacity for approximately 2800 - 3,000 lin ft of records using high density shelving
19	Review Room	1	180	180	Release of Information, Transition Team records review, chart research, etc.
20	Study/External Agencies	1	180	180	dual access from external corridor and Dept
Subtotal				3,098	
Release of Information					
Departments/Programs under HMS Director: II & Integration					
21				0	Included within Medical Records
22				0	
Subtotal				0	
Records Retention					
Departments/Programs under HMS Director: II & Integration					
23				0	Included within Medical Records
24				0	
Subtotal				0	
Research, Evaluation & Data Analysis					
Department under REDA Director: II & Integration					
25	REDA Director	1	120	120	
26	REDA Staff	4	64	256	



Quality Administration
Departments under Policy and Operations Director:
Administration

27	Information/Public Disclosure Requests							
28	Workstations	1	64	64	120	120	This staff will not reduce in new facility	
29	Policy and Forms							
30	Workstations	2	64	128	128	128	Outside secure perimeter	
31	Publications							
32	Workstations	2	64	128	128	128		
33	Pre-Press Area	1	300	300	300	300		
34	Press/High Speed Copier	1	420	420	420	420		
35	Collation/Binding	1	225	225	225	225		
36	Packing/Shipping	1	160	160	160	160	Equipment and required space (outside secure perimeter)	
37	Mail Room	1	264	264	264	264	2 Staff. Is this in addition to the mail room in Facilities?	
Subtotal							1,689	

Quality Coordinators & Survey Management/Compliance
Department under Certification & Accreditation:
Administration

38	QC Director	1	120	120	120	120		
39	QC Manager	0	100	0	0	0		
40	Quality Coordinators	2	64	128	128	128		
41	QLT Director	0	120	0	0	0		
42	Office, Program Coord/RN	0	100	0	0	0		
43	Office, Compliance Officer	0	100	0	0	0		
44	Office, Risk Mgmt	0	100	0	0	0		
45	Office, Compl'ts Review Coord	1	100	100	100	100		
46	Office, Utilization RN	1	100	100	100	100		
47	Workstation, Admin Asst/Clerk	3	64	192	192	192		
48	Files, Supplies, Equipment	1	100	100	100	100		
49	Workstation, Nursing Instructor	1	64	64	64	64		
50	Conference Room	1	180	180	180	180	seats 8-10	
51	Storage, Investigative Reports	1	80	80	80	80	sized for approximately 6 filing cabinets; may be combined with equip't room above	
Subtotal							1,064	

Lean & Process Improvement
Departments/Programs under Quality & Lean Transformation Director: Administration

52	Offices, Quality and Lean Transformation	1	120	120	120	120		
53	Workstations, Quality and Lean Transform	4	64	256	256	256		
54								
Subtotal							376	

Project Management
Departments/Programs under Quality & Lean Transformation Director: Administration

55	Offices	0	120	0	0	0		
56	Workstations	0	64	0	0	0		
57								
Subtotal							0	

Clinical Risk Management Team

3. Mtg Notes - cont'd Space Program

58	Offices, CRM Director	1	120	120
59	Workstations, CRM Staff	2	64	128
60				0
Subtotal				248

Abuse and Neglect Call Line
Department/Programs under the Clinical Risk
Management Director: Administration
Confirm staffing and accommodations.

61	Offices	0	120	0
62	Workstations	0	64	0
63				0
Subtotal				0

Investigations
Confirm staffing and accommodations.

64	Offices	2	120	240
65	Workstations	4	64	256
66				0
Subtotal				496

Utilization Management
Confirm staffing and accommodations.

67	Offices	1	120	120
68	Workstations	2	64	128
69				0
Subtotal				248

Enterprise Risk Management
Confirm staffing and accommodations.

70	Offices	1	120	120
71	Workstations	2	64	128
72				0
Subtotal				248

Shared Support

73	Audio/Video Control, Editing	0	180	0	educational video material, digital editing, audio-video teleconferencing control
74	Conference Rooms	2	180	360	
75	Huddles Small Meeting Rooms	2	80	160	
76	File Rooms/Office Equipment	3	150	450	
77	Housekeeping	1	60	60	
78	Toilets, Staff	5	60	240	
79	Staff Break Room	1	240	240	
Subtotal				1,510	

Department Total NetSF (NSF) 9,353
NSF to DGSF Multiplier 1.30
Departmental Gross SF (DGSF) 12,159

Number of Key Rooms	87
DGSF	12,159
DGSF/Key Room	140
Number of Beds	350
DGSF	12,159

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3. Mtg Notes - cont'd
Space Program

Pre Design
 Space Program Summary

Ref	Program/Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
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Kitchen/Support					
1	Receiving/Car Staging/Holding	0	500	0	See Materials Management
2	Catering Kitchen	0	500	0	
3	Housekeeping Closet	0	60	0	

Office/Staff					
4	Dietary Manager	0	100	0	Included below
5	Dieticians	4	64	256	In one of Ice close to units
6	Head Cook/Cooks	0	64	0	

Subtotal 256
 DGSF Factor 1.30
 Total 333

Department Total Net SF (NSF) 256
 Departmental Gross SF (DGSF) 333

Number of Key Rooms 4
 DGSF 333
 DGSF/Key Room 83

Number of Beds 350
 DGSF 333
 DGSF/Bed 1

3. Mtg Notes - cont'd Space Program

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Pre Design
Space Program Summary

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
	Environmental Services				
1	Director	1	120	120	
2	Supervisor/Planner	0	100	0	
3	Custodial supervisor workstation	2	64	128	in two rooms
4	Workstation, Admin	1	64	64	in one room
5	Storage, Files	1	40	40	
6	Storage, Bulk Supply	1	400	400	Cleaning Supplies
7	Storage, Equipment	5	320	1,600	One large equipment storage area per floor (min). Eye wash and venting required.
8	Equipment Cleaning	1	140	140	Floor drain, exhaust
9	Decentralized Housekeeping Closets	0	0	0	(See individual Departmental Space Programs for NSF) floor sink, utility sink, supplies, mops, cleaner's carts, etc.
Subtotal					2,492

Laundry/Linen

10	Specialty Laundering	1	150	150	Semi-commercial washer & dryer
54	Supervisor's Workstation	1	64	64	
55	Workstation, Clerical	1	64	64	
	Clean Linen	1	392	392	
	Soiled Linen	1	392	392	
56	Storage	1	400	400	
Subtotal					1,478

Physical Plant/Maintenance

13	Office, Director	1	100	100	
	Office, Safety Manager (or Maintenance Staff)				
14	Workstations, Staff	9	64	576	
16	Storage/Equipment	1	60	60	
17	Key Room	1	60	60	
18	Hoteling Workstations	2	40	80	
20	Plan Room	1	225	225	
21	General Shop	1	2,800	2,800	
22	Carpentry	1	800	800	
23	Plumbing/Mechanical	1	680	680	
24	Electrical	1	450	450	
	HVAC Shop				0 included in MEP Shop
	Glass Shop				0 included in Carpentry
	Life Safety Shop				0 distributed between MEP and Electrical
	Locksmith	1	160	160	
	Painting	1	375	375	
25	Bulk Storage, Maint. Supply	1	1,000	1,000	
Subtotal					7,336

Physical Plant/Maintenance Depot

11	Storage/Equipment	1	60	60	may be combined with clerical above
12	Key Room	1	60	60	
13	Hoteling Workstations	1	36	36	Contractors, staff, others
14	Decentral Maintenance Depots	1	200	200	workbench, supplies
Subtotal					356

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Western State Hospital, State of Washington
 New Forensic Hospital
 Monday, January 27, 2020

3. Mtg Notes - cont'd
 Space Program

Pre Design
 Space Program Summary

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
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Support Services - Facilities Management

Transportation and Grounds					
54	Supervisor's Workstation	1	80	80	
55	Workstation, Clerical	1	64	64	
56	Storage	1	1,920	1,920	
57	Garage Service Bays	2	300	600	
58	Grounds Equipment Staging & Repair	1	1,900	1,900	
59	Gas/Diesel Pumps	0	0	0	
60	Dispatch/Drivers Wait Area	1	150	150	
Subtotal				4,714	

Central Medical Supply

24	Office, Supervisor	0	100	0	
25	Workstation	0	64	0	
	Clean-Up Room	0	120	0	
	Shelved Storage	0	260	0	
	Pallet/Open storage	0	700	0	
26	C-stk Stocking/Storage	0	250	0	
Subtotal				0	

Switchboard/Telecomm Center/Reception

24	Office, Supervisor	1	100	100	
25	Comm Dispatch Wkstn	2	64	128	Incl 1 wkstn as back-up/future use
26	Wkstn-Phone Communicn/ Emergency Phone	1	100	100	Incl annunciator panels, 1 wkstn @ 64 sf
27	Storage/Files	1	80	80	
Subtotal				408	

Fire Alarm & Dispatch

28			0	0	
Subtotal				0	

Emergency Command Center & Supplies/Services

29	Office, Director	1	100	100	
29	Workstation	1	64	64	
	Secure Telecomm Room and Supply	1	160	160	
29	Command Center	1	400	400	Can be used for day to day conferencing
29	Bulk Emergency Supplies	0	0	0	See Warehouse
Subtotal				724	

Security and Safety

33	Office, Security Supervisor	1	100	100	
34	Office Security Scheduler	1	100	100	
35	Key Management	0	100	0	In control center
36	VRT PER Administrator	1	100	100	
37	PERT Supervisor	2	100	200	
38	VRT Supervisor	1	100	100	
39	Director of Security	0	0	0	See Administration
40	Director of Emergency Management	0	0	0	Not in building
41	Safety Manager	1	100	100	

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3. Mtg Notes - cont'd Space Program

Western State Hospital, State of Washington
New Forensic Hospital
Monday, January 27, 2020

Pre Design
Space Program Summary

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
42	Community Notification Officer	1			
43	Control Center/General Office	1	370	370	4 workstn @ 64 sf plus control panels, monitoring screens
44	Security staff office	3	100	300	Space for security at each floor
45	Recording/Tape Review/Report	1	180	180	Include employee ID
46	Escort	2	64	128	
47	Toilet, Staff	2	60	120	
48	Lockers, Staff (Male & Female)	2	60	120	5 lockers in each room, storage of uniforms, supplies, etc.
49	Emergency Preparedness Supplies	0		0	See Materials Management above
Subtotal					1,978

Materials Management (Campus Annex)

50	Office, Supervisor	0	100	0	
51	Loading Dock	1	1,500	750	Incl Dock Area, outdoor covered space
52	Breakdown/Unloading Area	1	1,000	1,000	
	Palletized Storage	1	7,600	7,600	
	Shelf Storage	1	3,200	3,200	
	Maintenance Storage	1	1,900	1,900	
53	Patient Storage	1	1,000	1,000	Limit to five boxes per patient; approx 280 patients; stacking system for 4 - 5 boxes high
54	Emergency Preparedness Supplies	1	600	600	Incl 300 cots, dehydrated food, water, etc (72 hours supply)
55	Oxygen Storage	1	80	80	3-4 H tanks, 30-40 e-tanks, enclosed room on external wall
56	Trash Compactor	0	100	0	outside the building at the dock area
57	Recycling Center	0	300	0	outside the building at the dock area
58	Biohazard Waste Holding	1	66	66	
Subtotal					16,190

Materials Management (In Building)

50	Office, Supervisor	0	100	0	
51	Loading Dock	1	600	300	Incl 2 Dock Area, outdoor covered space
52	Breakdown/Unloading Area	1	400	400	
53	Patient Storage	1	1,000	1,000	Limit to five boxes per patient; approx 280 patients; stacking system for 4 - 5 boxes high
54	Emergency Preparedness Supplies	0	600	0	Incl 300 cots, dehydrated food, water, etc (72 hours supply)
55	Oxygen Storage	1	80	80	3-4 H tanks, 30-40 e-tanks, enclosed room on external wall
56	Trash Compactor	0	100	0	outside the building at the dock area
57	Recycling Center	0	300	0	outside the building at the dock area
58	Biohazard Waste Holding	1	66	66	
59	Mail Room/Print Shop	0	240	0	See Quality

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3. Mtg Notes - cont'd Space Program

Support Services - Facilities Management

Ref	Program Spaces	No. of Spaces	NSF/Space	Total NSF	Comments
60	- Wikstr, Printing/Mail Staff	0	64	0	may be combined with the Mail Room/Print Shop above
Subtotal					1,840

Shared Support and Employee Locker/Restroom

17	Breakroom, Staff	1	400	400	Share with Mar Mgmt, Dietary & Physical Plant; kitchennette, seating for 8 - 10
18	Conference Rooms	1	180	180	seating for 8-12
19	Copies and Office Supplies	1	150	150	
20	Housekeeping	1	60	60	
21	Toilet Staff	4	60	240	
22	Locker Rooms (Male, Female)	2	500	1,000	150 lockers total between 2 rooms
23	- Toilet/Shower, Staff	2	120	240	
Subtotal					2,270

Department Total NetSF (NSF) 39,726
 NSF to DGSF Multiplier 1.15
 Departmental Gross SF (DGSF) 45,685

Number of Key Rooms	108
DGSF	45,685
DGSF/Key Room	444

Number of Beds	308
DGSF	45,685
DGSF/Bed	131

3. Mtg Notes - cont'd Space Program

Western State Hospital, State of Washington
 New Forensic Hospital
 Monday, January 27, 2020
 Pre-Design
 Space Program Summary

Ancillaries - Clinical		No. of Spaces	NSF / Space	Total NSF	Comments
Reception/Registration					
1	Waiting	1	150	150	10 seats; Shared w/ Clinics & Lab
2	Waiting, Stretcher Patient	0	30	0	alcove
3	Toilet, Patient	1	60	60	
4	Storage, Wheelchair	1	60	60	
5	Reception/Registration	1	140	140	Incl work counter for charts 2 wkstns @ 64 sf
6	- Crash Cart	1	20	20	
7	Storage, PT Records, Supplies	1	150	150	
Subtotal				580	

Admissions					
8	Vehicle Sallyport	1	600	600	enclosed, secure area, floor drain, etc.
9	Sallyport/Admissions Lobby/Waiting	1	120	120	
10	Exam Room	1	130	130	
11	Admissions Staff Workstations	4	64	256	
12	Patient Intake/Inventory	1	150	150	
13	Interview/Consultation Room	2	150	300	
14	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
15	Soiled Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
16	Nourishment Station	1	40	40	
17	Toilet/Shower, Patient	1	80	80	with shower
Subtotal				1,676	

Clinic					
18	Exam Rooms	4	130	520	complement allows 1 room to be allocated for Ophthalmology equipment; wristn with computer; configured to provide staff and patient safety. EKG can be rolled into room.
19	Storage room	1	100	100	Mobile diagnostic equipment
20	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
21	Soiled utility	0	100	0	Shared by entire clinic suite. (See shared, below.)
22	Treatment Room	2	180	360	An exam room with overhead light, extra storage space for supplies
23	Clinical Workstation	8	64	512	physicians, nurse practitioner, visiting specialists, intern
Subtotal				1,492	

Dental Clinic					
24	Operatory/Exam	1	120	120	Also used for Hygiene
25	Operatory/Exam, HC Access	1	140	140	Also used for Hygiene training
26	Storage, Equipment/files	1	80	80	
27	Dental Lab	1	80	80	fridge, sterilizer; may be combined with storage
28	Clean Utility	0	100	0	Shared by entire clinic suite. (See shared, below.)

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Western State Hospital, State of Washington
 New Forensic Hospital
 Monday, January 27, 2020

**3. Mtg Notes - cont'd
 Space Program**

Pie Design
 Space Program Summary

Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
29	Solled utility	0	100	0	Shared by entire clinic suite. (See shared below.)
30	Painoxer Alcove	1	60	60	
31	Workstation, Assistant	1	64	64	may be combined with lab above
32	Workstation, Dentist	1	64	64	
Subtotal					608

EKG					
33				0	See Clinic above.
Subtotal					0

Laboratory					
34	Phlebotomy	1	40	40	Blood-taking, reclining chair, use one of the clinic exam rooms or draw on the unit. Included in Lab space.
35	Laboratory Bays	4	120	480	Hematology, Urology/Serology, General Chemistry, Special Chemistry (Work counters)
36	Open Laboratory Area	1	400	400	Refrigerator, storage (specimen tubes, etc). Large open space. Need eyewash every 500sf. Locate proximate to medical clinic. Include decontamination shower.
37	Lab offices (workstations)	9	64	576	Located immediately off Lab.
38	Lab waiting	0	40	0	Shared with clinics.
39	Storage	1	80	80	
40	Offices	2	120	240	Lab Director, Lab Manager
41	Toilet/Shower, Staff	1	60	60	Include emergency decontamination shower
42	Lab Receiving/Refrigerator	1	80	80	anteroom for lab counter access external to the lab for specimen transport containers, fridge
Subtotal					1,956

Physical Therapy					
43	Office, Director	1	120	120	
44	Workstations, PT	3	64	192	Workstation suite, Surrounded by PT area to allow for observation
	Workstations, OT	1	64	64	Workstation suite, Surrounded by PT area to allow for observation
45	Toilet, Staff	1	60	60	
46	Toilet, Patients	1	60	60	
47	Storage	2	60	120	One for PT equipment and the second for assistive devices, wheelchairs, walkers
48	PT Exercise Area	1	1,800	1,800	Provide handwash station
Subtotal					2,416

Radiology					
49	Radiographic Room	0	360	0	Includes control, assume digital unit
50	Alcove, Patient Dressing	0	40	0	Bench/Cubicle curtain
51	Digital Image Review Station	0	80	0	
52	Technician Work Area	0	80	0	Incl wksin @ 44 sf
53	IRG - al Reconstruction	0	64	0	
Subtotal					0

3. Mtg Notes - cont'd Space Program

Western State Hospital, State of Washington
 New Forensic Hospital
 Monday, January 27, 2020
 Pie Design
 Space Program Summary

Ancillaries - Clinical		No. of Spaces	NSF / Space	Total NSF	Comments
Ref	Program Spaces				
54	Storage, Film	0	80	0	limited storage for resident/patient films received from other sources
Subtotal				0	

Pharmacy					
Satellite Pharmacy					
55	Waiting	0	40	0	2 seats
56	Pick-up Counter	1	40	40	
57	Dispensing Area	1	80	80	
58	Cart Holding	1	120	120	Carts for transporting meds to Care Units; assume 4 - 6 carts to be held
59	Picking Stations	1	200	200	Incl. Computers and Sink
60	Bulk Storage	1	100	100	
61	Vault, narcotics	0	40	0	may be a walk-in w/ double-locked cabinet or a walk-in vault
62	Receiving/Breakout	1	120	120	Ordering Computer and Printer
63	Office Area				
64	Clinical Pharmacist Work area	1	100	100	Multi-use area for clinical pharmacist (1 workstations @ 80 sf), reference material, computers
65	Office, Teaching Faculty				
66	Workstations, Pharmacists	0	64	0	
67	Workstation, Techs/Students	1	40	40	
68	Toilet, Staff	1	60	60	
Subtotal				860	

Infection Control and Employee Health Services					
69	Office, Employee Health RN	1	130	130	Immunization Room
70	Infection Preventionists	2	64	128	
71	Infection Control Manager	0	100	0	
72	Infection Control Director	1	120	120	
73	Industrial Hygienist	1	100	100	
74	Exam/treatment/Phlebotomy	0	150	0	10 seats in waiting
Subtotal				628	

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Western State Hospital, State of Washington
 New Forensic Hospital
 Monday, January 27, 2020

Pie Design
 Space Program Summary

3. Mtg Notes - cont'd Space Program

Ref	Program Spaces	No. of Spaces	NSF / Space	Total NSF	Comments
Ancillaries - Clinical					
Shared Support					
75	Clean Utility	1	120	120	supplies cart, linen cart, disposable trays, etc
76	Soiled Utility	1	100	100	Incl hazardous waste containers, linen hampers, flushing rim sink, counter w sink, etc
77	Med/Surg Supplies	1	80	80	Secure, locked
78	Toilet, Patient	2	60	120	
79	On-Call Room	2	100	200	
80	On-Call Toilet	2	60	120	3-piece
81	Conference Room	1	180	180	
82	Team Room/Lockers, Staff	1	240	240	
83	Toilet, Staff	4	60	240	
84	Housekeeping	2	80	160	
Subtotal				1,560	

Department Total NetSF (NSF) 11,776
 NSF to DGSF Multiplier 1.35
 Departmental Gross SF (DGSF) 15,698

Number of Key Rooms	102
DGSF	15,698
DGSF/Key Room	156

Number of Beds	350
DGSF	15,698
DGSF/Bed	45

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3. Mtg Notes - cont'd Space Program

Western State Hospital, State of Washington
New Forensic Hospital
Monday, January 27, 2020

Pre-Design
Space Program Summary

Patient Therapy/Activity		No. of Spaces	NSF / Space	Total NSF	Comments
Ref	Program Spaces				
Leadership					
1	Director of Active Treatment Services	1	120	120	60
2	Therapy Supervisor (Day/Evening)	2	60	120	
3	Workstation, Secretary	1	64	64	
Subtotal				304	
Occupational Therapy					
4	Workstations	6	64	384	384 Care provided in Neighborhood Mall.
Subtotal				384	
Substance Use Disorder Treatment					
5	Workstations	8	64	512	
6	Classroom	2	300	600	Seats 8-10 Patients
Subtotal				1,112	
Medical Equipment					
7	Workstations, RN	2	64	128	
Subtotal				128	
Community Notifications					
6	Workstations	3	64	512	
Subtotal				512	
Staff and Patient Cafeteria					
8	Servey	1	720	720	
9	Refrigeration, Storage, Holding	1	300	300	
10	Condiment/Tray Carts	1	80	80	
11	Seating	1	1,350	1,350	seating for 50-75 located outside the cafe; adj to Social Center
12	Vending	1	160	160	
Subtotal				2,610	
Leisure Activities					
13	Locker/Shower, Male	0	200	0	
14	Toilet, Male	3	60	180	
15	Locker/Shower, Female	0	200	0	
16	Toilet, Female	3	60	180	
17	Gymnasium/Multi-Purpose Room	1	3,600	3,600	
18	Storage, Gym Equipment	1	200	200	
19	Exercise/Fitness Room	1	800	800	6 stations (treadmills, bikes, ellipticals)
20	Movement Studio	2	800	1,600	for movement classes, yoga, etc.; outfitted with wall-mirrors (non-breakable); includes storage for musical instruments
21	Patient supplies	1	100	100	
22	Workstations, Music Therapy	1	36	36	
23	Music Therapy/Treatment Room	1	360	360	larger groups will have access to gym, auditorium

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3. Mtg Notes - cont'd Space Program

24	Sm. Music Ther. Treatment Rm	1	120	120	
25	Storage, Music Therapy	1	80	80	Secure
26	Common Room	2	120	240	
27	Social Center	1	1,600	1,600	games tables, etc.; adj to gym, cafe & music room; it is assumed this will be the assembly point for patients going to a community event outside the hospital, accommodate 15-20 persons
28	Multi-Purpose Room (Chapel)	1	800	800	Seating for 30; larger worship groups will use Auditorium (e.g. special occasions)
29	Storage, Chapel	1	40	40	
30	Workstation, Chaplain	2	64	128	
Subtotal				10,064	

Life Skills and Vocational Therapy					
31	Multi-purpose Room (Art)	2	400	800	8-10 people normally, but accommodate 15, sink, counter, storage
32	Vocational Therapy Workrooms	3	600	1,800	
33	Greenhouse	1	500	500	
34	Workstation, OT	2	64	128	
Subtotal				3,228	

Speech Language Services					
35	Speech Therapy Room	0	160	0	Individual patient sessions will occur on-unit/treatment mall
36	Workstation	2	64	128	
Subtotal				128	

Library/Resource Center					
37	Workstation, Clerical	1	64	64	adj to VocI Services, below
38	Library Assessment Workroom	1	360	360	8-10 computers @ 30sf; storage for materials and skills assessment tools
39	Resource Library	1	520	520	a portion of the library will be for staff resources not storage on units and/or unavailable on-line; collection will incl DVDs, CDs, VHS, Books, Music Tapes, Pt in/Com'n
40	Storage, library	1	80	80	
Subtotal				1,024	

Barber/Beauty					
41	Waiting/Seating	2	20	40	
42	Barber Station	1	64	64	HC accessible
43	Hairwash	1	64	64	
44	Workstation, Hair Stylist	1	64	64	
45	Storage	1	40	40	
Subtotal				272	

Patient Store					
46	General Store	1	300	300	
47	- Storage	1	80	80	
Subtotal				380	

Shared Support					
48	Housekeeping	2	80	160	
49	Staff Toilets	4	60	240	
50	Patient/Visitor Toilets	6	60	360	
51	Conference Rooms	1	400	400	
52	Conference Rooms	1	260	260	

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3. Mitg Notes - cont'd Space Program

53	Wintegarden	1	5,000	5,000
54	Copy Rooms/Supplies	1	150	150
55	Team Room	0	300	0
Subtotal				6,570

Department Total NetSF (NSF)
 NSF to DGSF Multiplier
 Departmental Gross SF (DGSF)

Number of Key Rooms
 DGSF
 DGSF/Key Room

Number of Beds
 DGSF
 DGSF/Bed

26,716
 1.30
 34,731

97
 34,731
 382

350
 34,731
 99

- The Space Program was compared to the model benchmark.
 - Attachment: WA WSH Model vs Program Summary.pdf
 - Included Building 22 to account for campus functions not provided in the Space Program.
 - Building 22 creates a larger campus program because it's capacity is a 900 bed campus, while the model campus would be based on a 500 bed campus.

3. Mitg Notes - cont'd Space Program

Western State Hospital Benchmarking Modelling

	Benchmark/ Model (DGSF)	2/24 Program (DGSF)	Space Provided in Commissary Building #22 (DGSF)	Total Long-Term Space Provided (DGSF)
Inpatient Units	248,500	265,637	0	265,637
Adjunctive Therapy	38,183	34,564	0	34,564
Administration	35,013	47,085	0	47,085
Clinical and Shared Support	32,985	20,255	11,582	31,837
Facility Support Services	55,473	46,018	24,550	70,568
	410,154	413,559	36,132	449,691
State-wide, Other MH or	0	18,286		18,286
	410,154	431,844		467,976
Planning Factor	1.30	1.30		1.31
Total BGSF	533,201	561,398	50,250	611,648

3. Mitg Notes - cont'd Space Program

- The Space Program was summarized in a head sheet.
 - Attachment: WA WSH Program vs Model.pdf

Western State Hospital, 350 Bed New Building Capable of Supporting a 500-Bed Campus

Logarithmic Version: March 24, 2017 DRAFT
 Total No. Inpatient Beds at Facility: **350** Insert # Do not include cottage, ICF, or Residential Program Beds
 FIE's (including C&Y/Forensic if served by Personnel or E&T): **1,500-1,800** calculated (adjust for coverage ratios different than 2.5 FIE's per bed)

Outpatient FIE's: Insert #
 Research FIE's: Insert #
 Inpatient FIE's: Insert #
 Inpatient FIE's (PG/ME): Insert #
 Average Unit Size in Beds: **23** Insert #
 Classifications: **100%** Insert #
 Will Inpatient Units be Stable Beds? **Y** or **N** Insert #
 % of Beds in Handicapped Accessible Rooms: **22%** Insert #
 Will Each Bedroom have a Private, Ensuite Bathroom that is not shared with Adjacent Bedrooms? **Y** or **N** Insert #
 Will Inpatient Units Have 8-Foot Wide Corridors? **Y** or **N** Insert #
 Number of C&Y Patients in School: **0** Insert # up to maximum of 125
 Number of C&Y Beds included in Total Count: **0** Insert # up to maximum of 125
 "Other" OMH & non-OMH BGSF: **0** Insert #
 OMH Adult, C&Y and Forensic BGSF: **533,201** calculated

	5% under	OMH STD	5% over notes	Is Service or Function Provided?	Additional Beds Supported or Not Supported by Function
Inpatient Residential Services (INPAT)		246,500			
Residential Services	178,333		Overwrite 309,629 with 670 DGSF/Bed from Peer Dataset		
Adjustment for Cottage, ICF or Residential Program Beds	0	187,250	19%,613		
Decentralized Treatment Services	46,667	49,000	0		0
Adjustment for Unit Sizes Smaller Than 30 Beds	14,587	15,316	51,450		
Adjustments for Private Beds in Excess of 33%	0	18,740	16,082		
Adjustment for Sub-Clusters	12,333	12,990	0		
Adjustment for Handicapped Accessible Bedrooms/Bathrooms in Excess of 10%	1,200	1,260	13,598		
Adjustment for Private, Ensuite Bathrooms not Shared with Adjacent Bedrooms	500	525	551		
Adjustment for 8-Foot Wide Corridors	24,598	25,828	27,120	Does not apply to Decentralized Treatment (Neighborhood, Decentralized Treatment (Downtown), Cottages, ICF or Residential Program Beds.	
TOTAL FACILITY GSF	533,201				
				Space Provided in Cottage Program Y/Bldg (DGSF) #22 (DGSF)	Space Total Long-Term Surplus Provided/Devilcent (DGSF) Y
				265,637	265,637 17,137 7%

3. Mtg Notes - cont'd Space Program

Program Space (PROGRAM)	38,183	40,072	34,564	34,564	-3,618	-9%
Centralized Treatment Services	36,365	40,072				
Adjustment for Inpatient School	0	0				
Adjustment for Additional Off-Unit Space Attributable to Child and Adolescent Beds	0	0				
Outpatient and Ambulatory Services	0					
Administration & Other	50,813					
1100 Institution Direction	6,819	7,518	3,827	3,827	-3,333	-47%
1102 Personnel	2,446	2,696	3,887	3,887	1,319	51%
1106 Information Services	2,077	2,290	5,543	5,543	3,362	154%
1109 Nursing Admin.	933	1,029	2,106	2,106	1,126	115%
1112 Medical Staff Admin.	667	735	1,755	1,755	1,055	151%
1114 Social Services Staff Admin.	210	231	0	0	-220	-100%
1116 Rehab Staff Admin.	448	494	0	0	-470	-100%
1130 Medical Records	3,714	4,095	4,027	4,027	127	3%
1131 Prog Eval. & Utilization Review	1,274	1,404	8,132	8,132	6,794	508%
1135 EAP	0	0				
1136 Education & Training	6,785	7,481	9,285	9,285	2,160	30%
1140 Business Office	3,585	3,952	1,851	1,851	-1,913	-51%
1141 Stores	15,048	16,590	20,735	20,735	8,183	83%
1161 PGME	305	336				
TBD MHLS and Courtrooms/Hearing Rooms	1,190	1,313	2,714	2,714	1,464	117%
3423 On Call Suite	476	525	Inc in Clinic			
NA Research			0			
NA Other Non-Inpatient Programs						
Foerisic Evaluation and Navigation			6,061			

STEP 4:
Enter program d,dfsf for additional
services in purple fields.

3. Mitg Notes - cont'd Space Program

Office of Forensic Mental Health Services (OFRHS)										1,212
Labor Relations										213
Video Conference Services										260
Developmental Disabilities Association										213
Home and Community Services										712
Attorney General's Office										213
BHA Ombudsman										130
Office of Capital Programs										333
Department of Assigned Council										260
Fair Steilacoom Historical Society										593
Clover Park @ CSTC										380
NorthWest Justice										1,019
Pierce College Central TRC & Bldg 25										380
Pierce County Court (C-17)										380
RSN-Residential Service Network										1,591
SILAS										842
Washington State Library										130
WSH Historical Society										593
Department of Corrections										296
Shared Lessee Resources										2,475
LOBBY Lobby Services	2,417	2,538	2,665	150	Y	3,957	1,419	56%		
Medical Services		32,985								
1144 Central Medical Supplies	1,771	1,860	1,953	150	Y	6,272	4,412	237%		
1152 Pharmacy	3,619	3,800	3,990	150	Y	6,471	2,671	70%		
3401 Radiology	714	750	788		Y	0	-750	-100%		
3403 EEG-EKG	200	210	221		Y	0	-210	-100%		

3. Mtg Notes - cont'd Space Program

3404 Laboratory Processing	414	435	457	2,641	2,641	2,641	2,206	507%
3405 Dentistry	1,429	1,500	1,575	821	821	821	-679	-45%
ECT/JMS		0						
Infection Control Nurse	171	180	189	848	848	848	668	371%
Employee Health Services		0						
ADMISSIONS Admissions	5210	5,470	5,744	2,263	2,263	2,263	-3,207	-59%
3406 Medical Clinics	4,286	4,500	4,725	2,797	2,797	2,797	-1,703	-38%
3421 Physical Therapy	5,714	6,000	6,300	3,262	3,262	3,262	-2,738	-46%
3422 Speech & Hearing	171	180	189	166	166	166	-14	-8%
TBD Shared Support	7,714	8,100	8,505	6,297	6,297	6,297	-1,803	-22%
Support Services		39,673						
1148 Nutrition Services	9,333	9,800	10,290	333	333	14,383	4,916	50%
1145 Housekeeping & Linen	9,810	10,300	10,815	4,566	4,566	4,566	-5,735	-56%
1104 Communications	1,314	1,380	1,449	1,302	1,302	1,302	-78	-6%
1157 Safety	3,143	3,300	3,465	2,206	2,206	2,206	-1,094	-33%
1153 Work Control/Maintenance/Shared Support	9,832	10,323	10,840	11,456	11,456	1,984	3,117	30%
1154 Transportation	1,476	1,550	1,627	5,421	5,421	5,421	3,871	250%
1155 Groundkeeping	2,876	3,020	3,171	inc above	inc above	inc above	inc above	
Total DGSF		410,154	430,662	431,844	36,132	449,691		
SHRCR Shared Circulation (3%)	11,719	12,305	12,920	12,955	12,955	13,491		
Contingency (5%)		20,508		21,592	21,592	22,485		
N/A Floor Plate Allowance (11%)	42,969	45,117	47,373	47,503	47,503	49,466		
1156 Utilities/Central Mech (11%)	42,969	45,117	47,373	47,503	47,503	49,466		
Total BGSF		533,201		561,398	50,248	584,598		
DGSF/Bed		1,172						
BGSF/Bed		1,523						

3. Mitg Notes - cont'd Hospital Organization

Overall Hospital Organization

- Attachment: WA WSH Accommodating State of the Art Care.pdf
- In response to previous discussions about future proofing the new hospital program for emerging treatment methodologies, Arch+ shared their experience working with behavioral health experts from around the country and explained how that experience gets applied to all of their work.
 - The hospital building will assist with preparing the ground for success.
 - The hospital setting supports the interpersonal relationships between patients, between staff, and between staff and patients.
 - Best practices are predominate in the design, including flexibility, offers of choice, and contact with nature.
 - As a result, the current program represents the best thinking, and the program spaces not currently provided, like an expanded downtown, imaging, DBT/CBT therapies, could be provided in a future expansion.
- Hospitals are organized around units of small groups, 6-8 beds, for the level of interactions provided within that group size. Those groups are clustered in 12-16 bed support structures for efficient clinical teams. Those clusters are grouped in 24 bed common support facilities for affordable nighttime post-position staffing. These common groupings access neighborhood treatment malls that can also connect to downtown services serving the entire hospital.
 - Examples of other existing hospitals were presented for their diverse arrangement of these common elements.

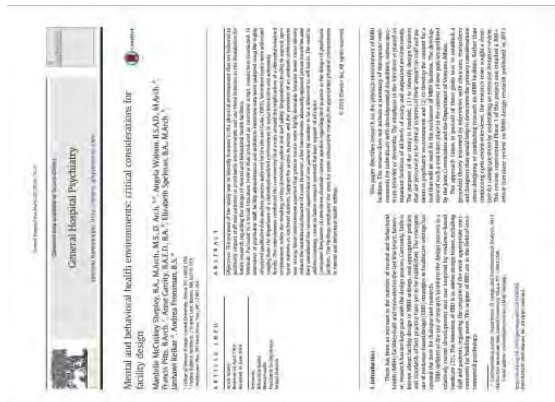
3. Mitg Notes - cont'd Hospital Organization

- Research**
- **PRIVACY**
 - The prosaic, the existential, and control
 - cite Edelman, Altman, Zimmering
 - **SCALE AND SIZE**
 - Individual Response and Small Social Groupings
 - cite Altman and others
 - **CALMING, STRESS REDUCTION, AND HEALING**
 - Positive distraction, biophilia, and physiological and psychological response
 - cite Ulrich, Pert, Wilson, Sternberg
 - **HOME**
 - The Importance of the Familiar and the Normative
 - cite various European
 - **LIGHTING**
 - Source , Spectrum and Direction
 - cite Edelstein
 - **CLINICAL PROGRAMS**
 - Fear and Emergence
 - cite Lamb and Chapman
 - **DIFFERENCE BETWEEN SEEING AND KNOWING**
 - Personal Safety and Security, Clinical Assessment and Environment
 - cite Foucault, countless clinicians, and patient focus groups
 - **ACOUSTICS**
 - cite Edelstein
 - **INNOVATIONS IN MENTAL HEALTH**
 - Research and Treatment
 - cite Kane, Zipursky
 - **NEURO-PSYCHIATRIC CONVERGENCE**
 - Implications
 - cite Kane, Zipursky
 - **NATURAL NAVIGATION**
 - cite Alison and Edelstein
 - **BUDGETING AND RIGHT SIZING FACILITIES**
 - cite architecture+, NYS-OMH
 - **STAFFING EFFICIENCIES, EFFECTIVENESS AND HOSPITAL CONFIGURATION**
 - cite studies for Ontario, Indiana, New York
 - **PATIENT SAFETY**
 - cite architecture+, JCAHO and various
 - **TREATMENT CONTINUUM**
 - cite NYS-OMH, Lamb and Romano

3. Mtg Notes - cont'd Hospital Organization

Challenges, Issues, Opportunities

- Evidence-Based
- The Right Size
- The Right Cost
- The Right Configuration



3. Mtg Notes - cont'd Hospital Organization

Overarching Drivers

- Social Mores and Policy
 - Who gets care? When? Where? How? What Quality?
- The Legal System
 - Who gets forensic treatment? Where? In what range of settings?
 - With what outcomes?
- Clinical Practice
 - Active Treatment. Cognitive neuropsychology. Early Diagnosis and Treatment. Genomics. Epidemiology. Inter-disciplinary

Create an Effective Clinical Setting

- Preparing the Ground for Success
 - Concerns
 - Stress
 - Fear
 - Stigma
 - Violence and Aggression
 - Seeing/Controlling
 - Solutions
 - Engaging
 - Natural
 - Familiar
 - Reduced Spatial Density
 - Reduced Social Density
 - Respectful
 - Knowing/Understanding

- Embedded Floor-plate Repurposing

Support the Work

- Clinical treatment and personal work
 - Activities
 - PSR
 - Recovery
 - Group Therapy
 - Skills Retention
 - Skills Acquisition
 - Insight
 - DBT/CBT
 - Neuro-Imaging
 - Range of Space and Setting Types
 - Size
 - Purpose
 - Mood
 - Relative Location & Sense of Place
 - Flexibility or Access to Imaging

Reciprocal Influences

- Psychosocial Milieu/Setting
 - The place of relationship, caring, healing, learning
- The Work
 - Clinical treatment and personal work
- The Work Place
 - The hospital itself

Best Practices

- Flexibility
 - Change Unit Type/Cohort
 - Change License
 - Template Units
 - Flex-Beds
 - Growth

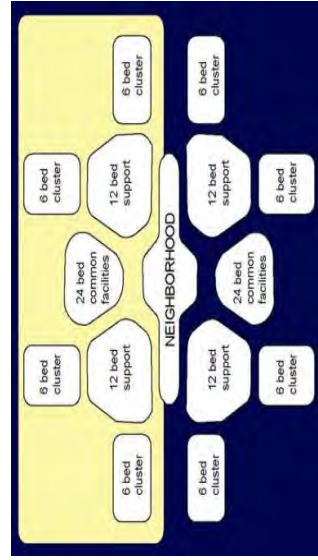
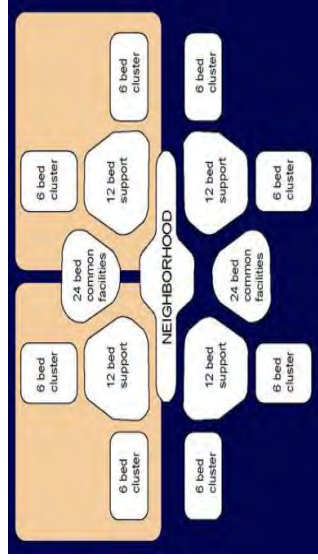
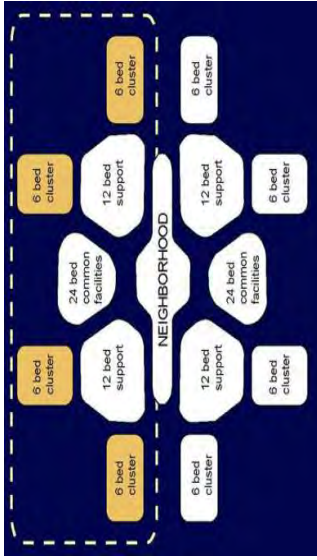
3. Mitg Notes - cont'd Hospital Organization

The Workplace	Best Practices
<ul style="list-style-type: none"> • The hospital itself <ul style="list-style-type: none"> ○ Range of Settings and Emergence - The place of relationship, caring, healing, learning ○ Tailored but Flexible - Support projected needs and therapies and be flexible/adaptable. ○ Durable but Respectful ○ Efficient - Support the greatest possible investment in care itself - Provide tight linkages and connectivity ○ Establish a Safe Place for Care ○ 	<ul style="list-style-type: none"> • Violence and Aggression Reduction <ul style="list-style-type: none"> ○ Private Bedrooms and Ensuite Bathrooms ○ Unit Size and Layout ○ Day Rooms and Lounges ○ Views of Nature ○ Gardens and Courtyards ○ Nature Art ○ Natural Light ○ Privacy and Control ○ Other Variables - Comfort Rooms/ Time Out Rooms - Patient Empowerment: Managing My Own - Safety - Setting and Staff Facilitation - The Admission Process - Way-finding - Normalcy and Verisimilitude - Emergence and Transition

3. Mtg Notes - cont'd Hospital Organization

Inpatient Units

- Variables/Options
 - Number of Beds
 - Number of Sub-Clusters
 - Locus for Living Spaces
 - Range of Spaces
 - Extent of Clinical Program on Unit
 - Location of Dining
 - Location of Seclusion
 - Number of Care Stations
 - Availability of Flex beds
 - Impacts/Issues
 - Facility Size
 - Direct Care Staff Size
 - Milieu Management
 - Unit Calmness/Patient Status
 - Patient and Staff Safety
 - Olmstead Compliance
 - Ability to Grow/Enrich Malls
 - Clinical Staff Offices
 - Diversity of Food Service Investments
 - Census Management
- 6-8 beds lowers stress for patients
 - 6-8 beds lowers stress for patients
 - 12-16 beds builds diverse clinical team
 - 6-8 beds lowers stress for patients
 - 12-16 beds builds diverse clinical team
 - 24+ beds affordable nighttime post-position staffing



3. Mitg Notes - cont'd Hospital Organization

Continuums of Care

- Range of services and experiences
- Emergence and return to community



Nationwide Children's Hospital



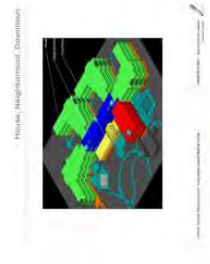
Juravski Center



Wakebrook, North Carolina



Bronx Psychiatric Center



Rochester Psychiatric Center



3. Mtg Notes - cont'd Hospital Organization

Hospital Organization

- Tailoring physical organization to support staff and patients



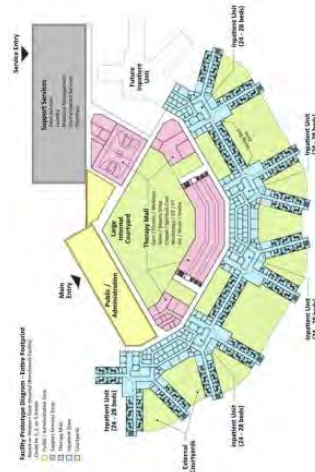
Al Wakra, Doha, Qatar



Worcester Recovery Center and Hospital



University of Texas at Austin



Cannon Design for SASH

3. Mitg Notes - cont'd Hospital Organization

Culture

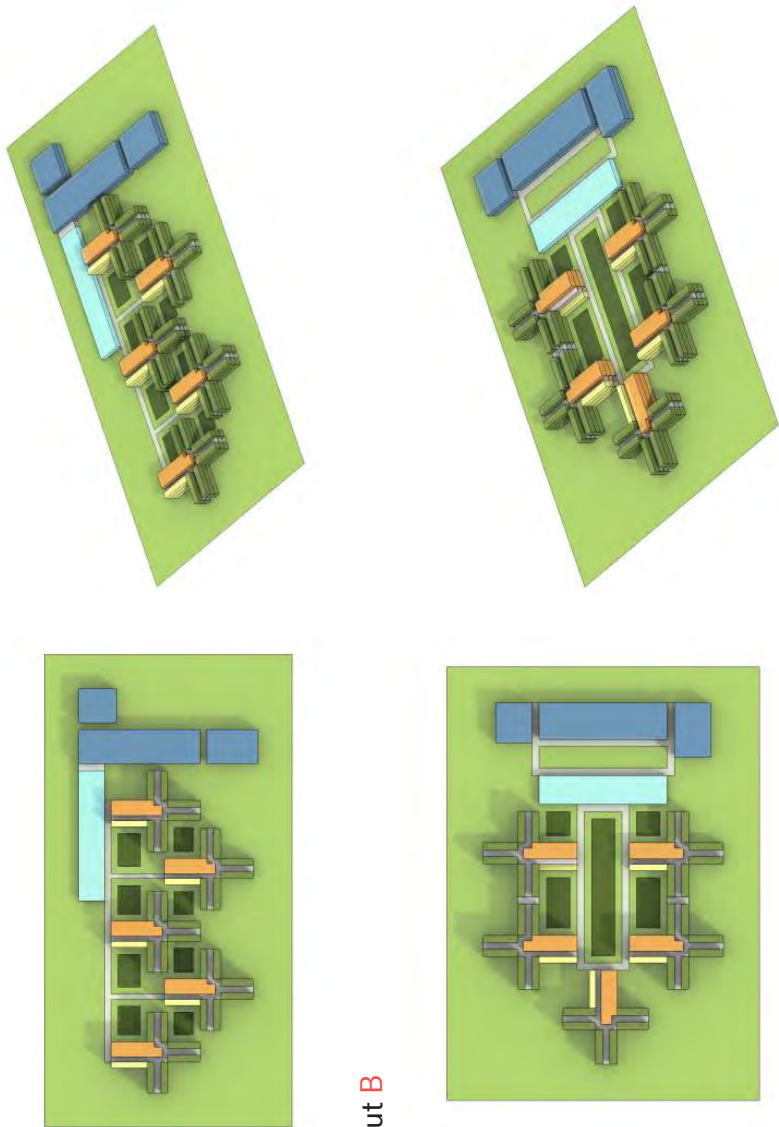
- Who? What? Where?



3. Mitg Notes - cont'd Building Diagrams

- Building Diagrams**
- Attachment; WSH Program Diagrams 2200306.pdf
 - SRG presented, at a high level, a review of different ways to organize the WSH program with the above considerations.
- | | |
|--|--|
| <ul style="list-style-type: none"> ○ Reaction by the attendees was positive for the following attributes: <ul style="list-style-type: none"> - Compact schemes with shorter travel distances - Bookend schemes with entries at both ends | <ul style="list-style-type: none"> ○ Reactions were negative for the following attributes <ul style="list-style-type: none"> - Linear concepts for how strung out they were and the distance they created - Concepts without diverse outdoor space (number and size) |
|--|--|

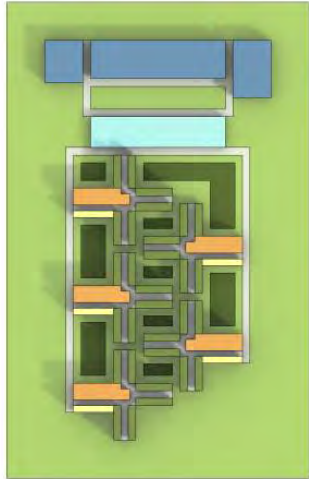
Layout A



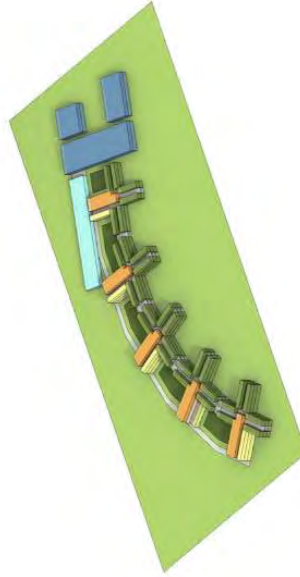
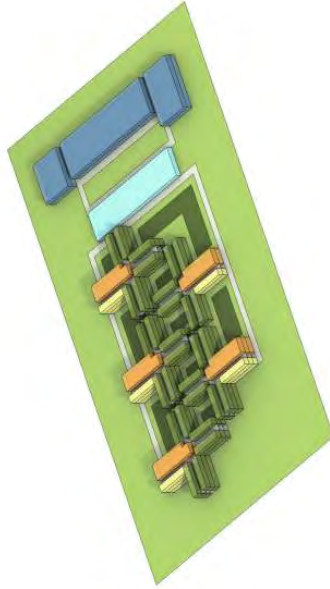
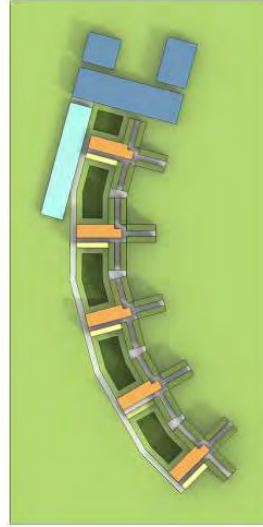
Layout B

3. Mtg Notes - cont'd Building Diagrams

Layout C



Layout D

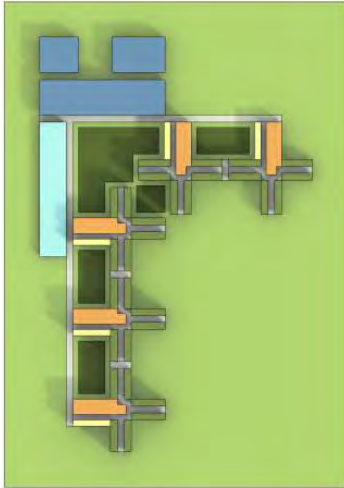


- Hospital Support
- Garden/Outdoor
- Private Courtyard
- Implied Circulation

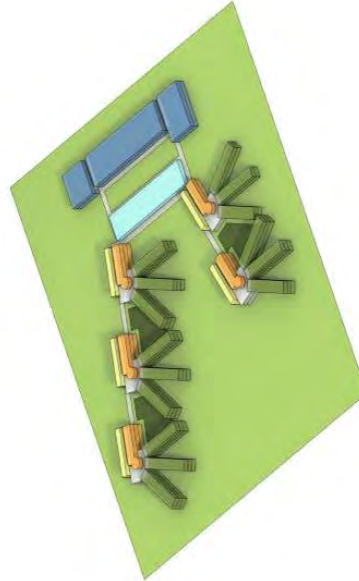
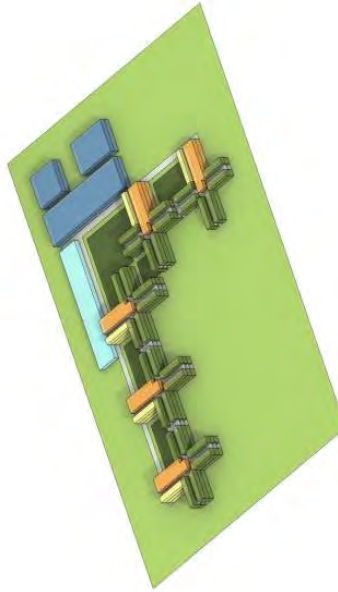
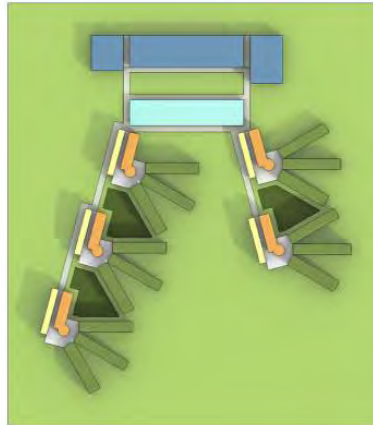
- Patient Units
- Inpatient Support
- Neighborhood
- Downtown

3. Mitg Notes - cont'd Building Diagrams

Layout E



Layout F

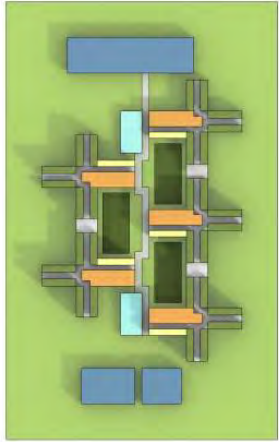


- Hospital Support
- Garden/Outdoor
- Private Courtyard
- Implied Circulation

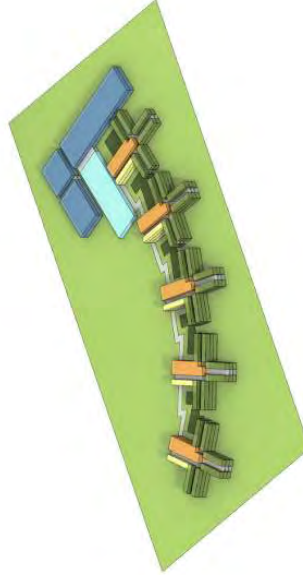
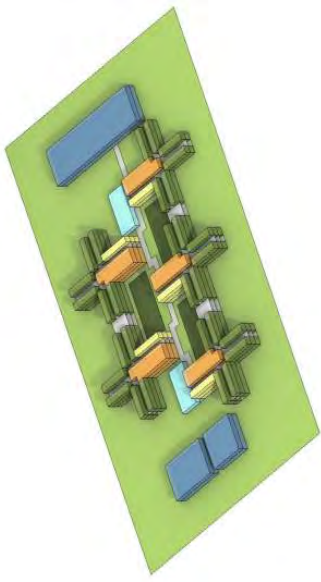
- Patient Units
- Inpatient Support
- Neighborhood
- Downtown

3. Mtg Notes - cont'd Building Diagrams

Layout G



Layout H

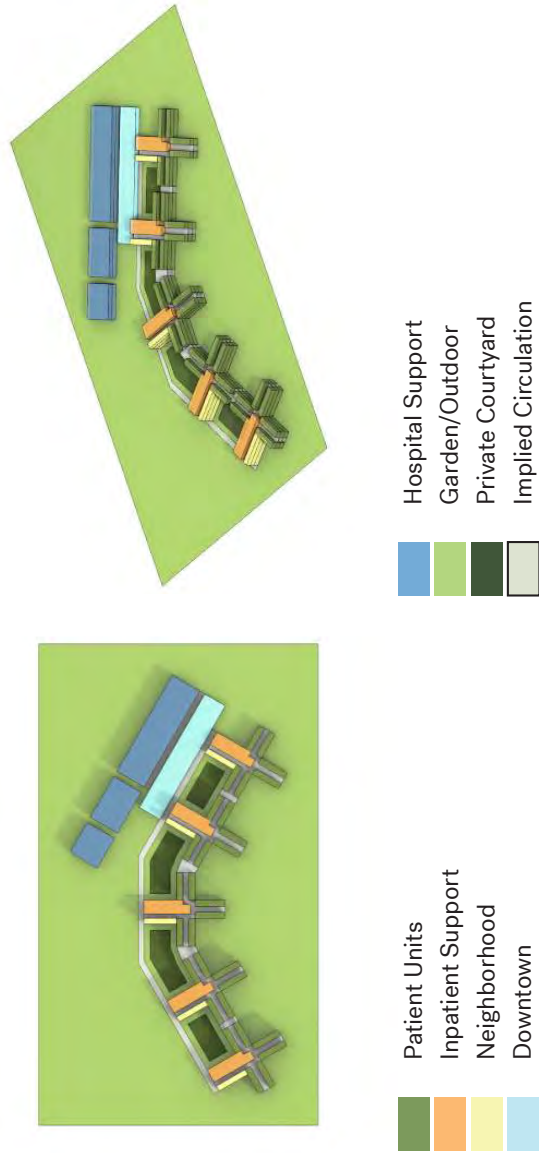


- Patient Units
- Inpatient Support
- Neighborhood
- Downtown

- Hospital Support
- Garden/Outdoor
- Private Courtyard
- Implied Circulation

3. Mitg Notes - cont'd Building Diagrams

Layout I



4. Next Steps

Next Steps

- SRG and Arch+ are preparing diagrams to indicate how the program will fit on the WSH Campus for review in the March 13 meeting.
 - 3 Specific site locations are under study
 - Specific building organization on those sites
- The goal of the meeting on March 13 is to approve the Space Program and select a preferred site and hospital organization for further development in the April Workshop.
 - The date and time of the April workshop will also be established in the March 13 meeting.

SRG
architecture+

Live sawn white oak flooring. Live sawn is the most effective approach of sawing lumber because it utilizes the whole log. This cut provides a very distinct grain that incorporates all aspects of the log, as the grain varies from the quarter sawn on the outdoors to plain sawn in the center.

WESTERN STATE HOSPITAL FORENSIC HOSPITAL PREDESIGN

Workshop #5 - 03-13-2020

SRG
architecture+

Meeting Purpose

This workshop involved the Planning Team meeting with the Leadership Group to review the planning for the new hospital building, with the intent to select a preferred site option.

The following pages are meeting notes for Workshop #5:

- 1 Agenda
- 2 Meeting Attendees
- 3 Meeting Notes
- 4 Leadership Group Debrief

1 Agenda

- 1 Friday March 13, 2020 – Olympia / Online
 - 8:00 8:45 Inpatient Unit / Adjunctive Therapy Form Factors
 - 8:45 9:15 Building Organization
 - 9:15 9:45 Site Options Overview
 - 9:45 10:15 Break
 - 10:15 12:45 Options 1, 2, 3 Review
 - 12:45 2:00 Lunch
 - 2:00 3:30 Selecting Preferred Option
 - 3:30 4:00 Break
 - 4:00 4:30 Leadership Group Debrief

2. Meeting Attendees

Leadership Group:

Danielle Cruver

David Holt

Karen Pitman

Brian Waiblinger

Bryan Zolnikov

Charles Anderson

Megan Celedonia

Aaron Martinez

Michael Miller

Sean Murphy

Francis Pitts

Stephen Kervin

Sara Wengert

Pierce McVey

Jon Mehlschau

Craig Tompkins

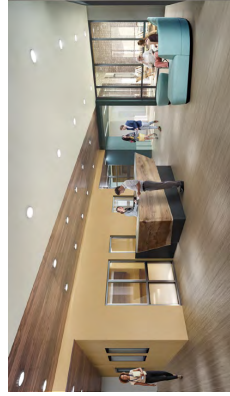
3. User Mtgs - Inpatient Services

Inpatient Services

The Design Team presented to the Leadership Group the case study of prototypical inpatient unit floor plans that was shared in Workshop #3 with the Inpatient Services User Group.

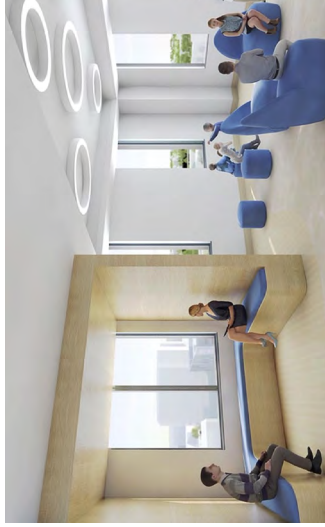
Units of comparable size where illustrated in 8-9 bed clusters in relationship to the nurse station and an on-unit dining room.

Case Study 1: Austin State Hospital



Case Study 2: Nationwide Children's Hospital

3. User Mtgs cont'd - Inpatient Services



Case Study 3: Dayton Children's Hospital

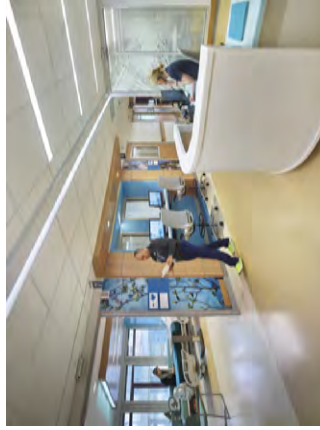


**3. User Mtgs cont'd
- Inpatient Services**



**3. User Mtgs cont'd
- Inpatient Services**

Case Study 4: Carilion Hospital



Case Study 5: King County Hospital

**3. User Mtgs cont'd
- Inpatient Services**



**Case Study 6: Bronx
Psychiatric Center**

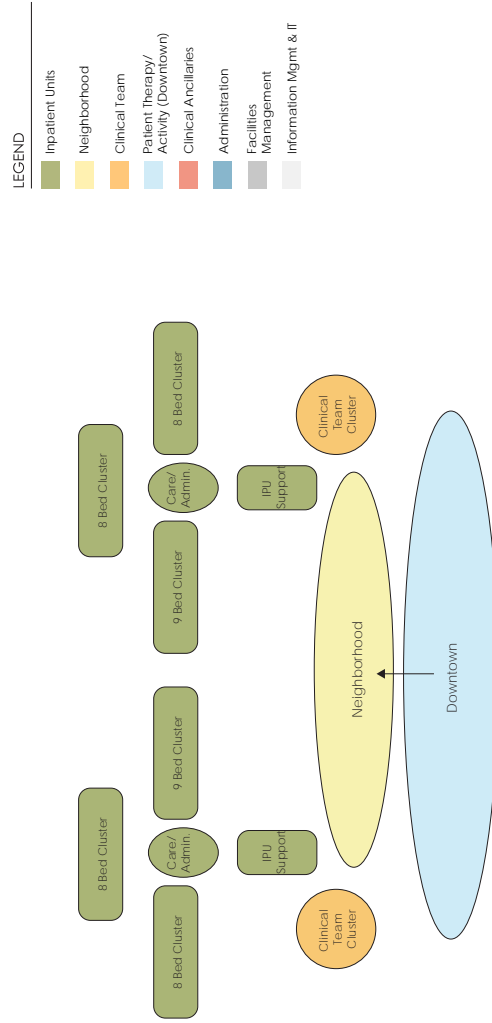
**3. User Mtgs cont'd
- Inpatient Services**



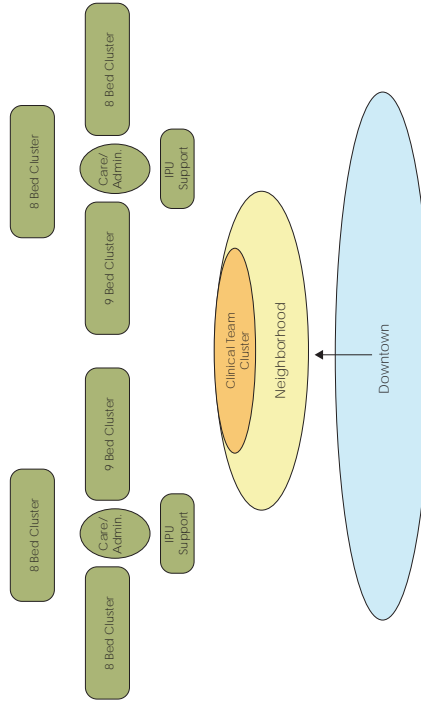
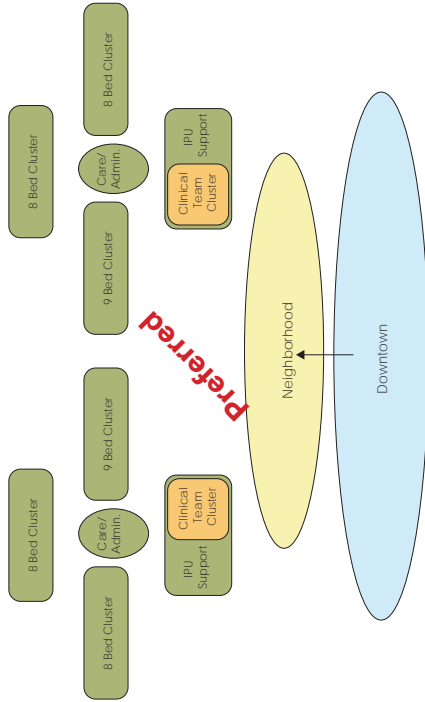
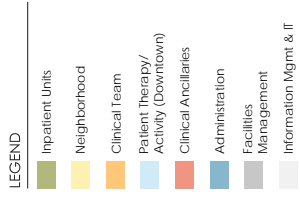
3. Mitg Notes - Building Organization

Building Organization Presentation

The Design Team presented how the building is organized around the Inpatient Units. Adjacency of the Clinical Team to the Inpatient Unit was shown in three options; outside the Inpatient Unit and the Neighborhood, inside the Inpatient Unit, and inside the Neighborhood. The preferred option was to place the Clinical Team Cluster inside the Inpatient Unit.

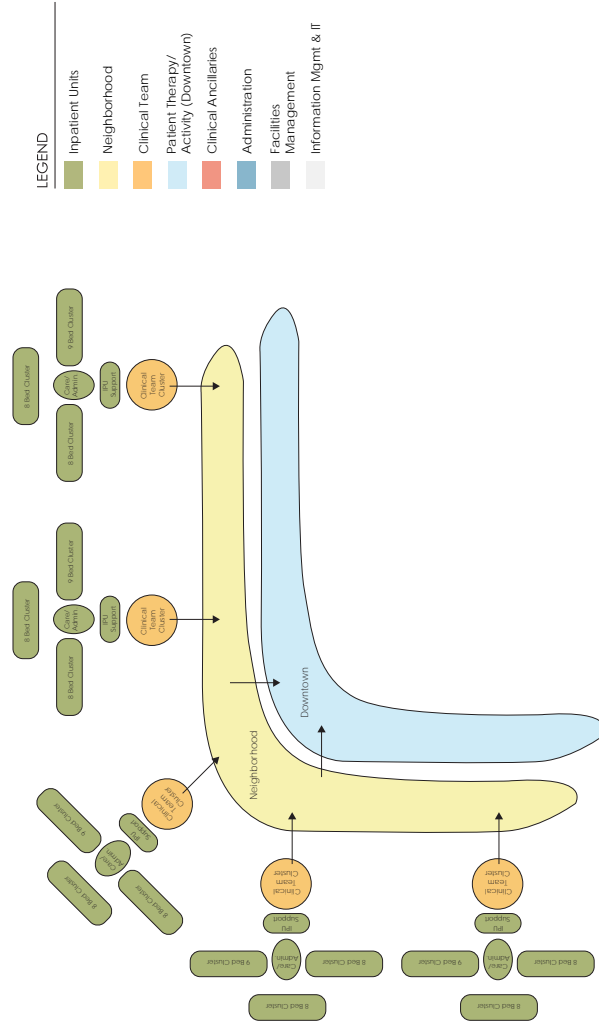


3. Mtg Notes - cont'd Building Organization



3. Mitg Notes - cont'd Building Organization

Multiple patient units would be arranged along a spine so that the neighborhoods can connect. Access to the downtown would be beyond the neighborhoods.



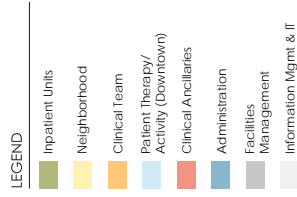
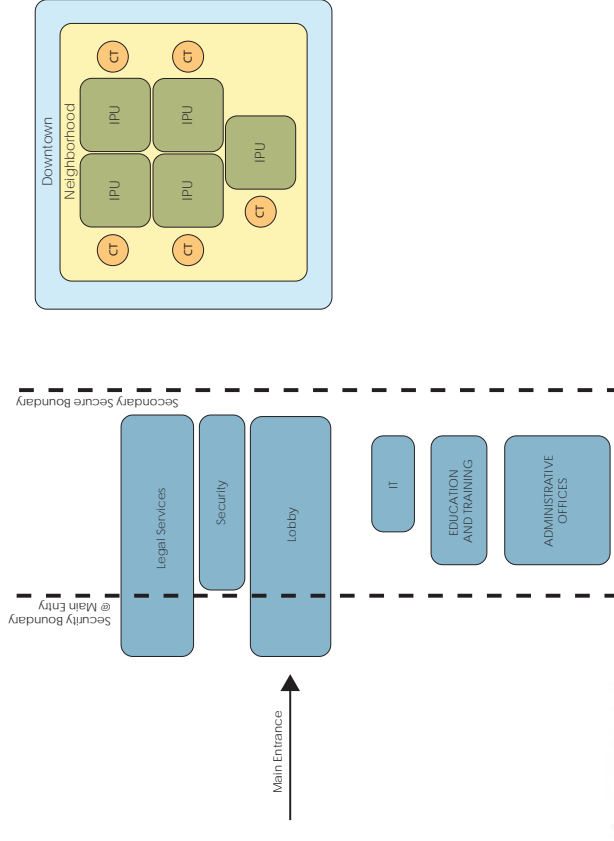
3. Mitg Notes - Building Organization

There are three tiers of security boundaries necessary for the building.

- The second tier is the staff zone of the administration building and support spaces.

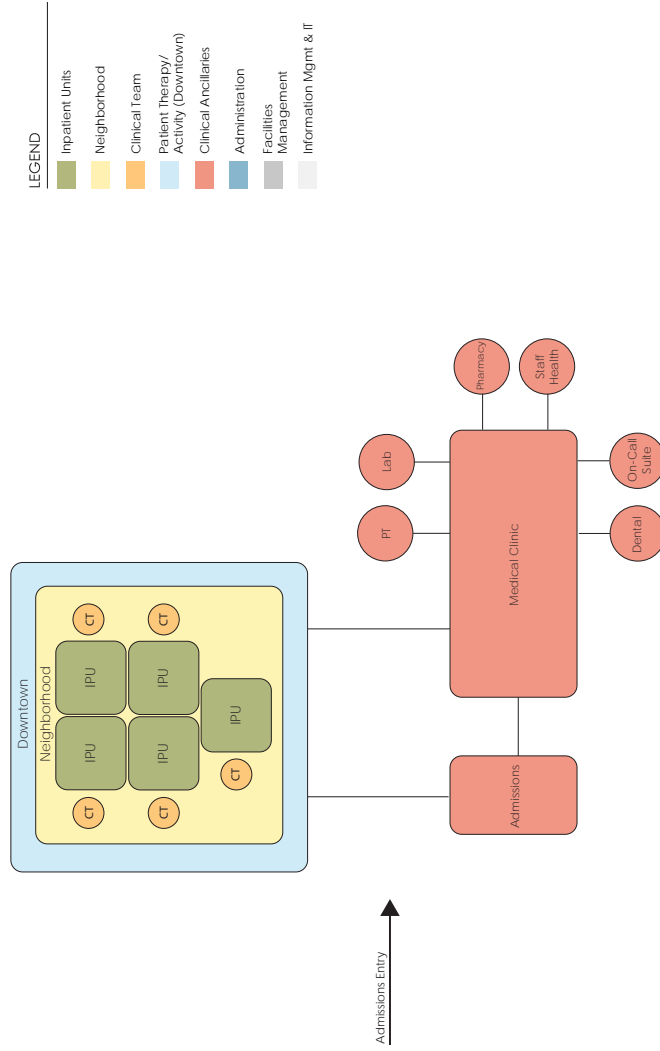
- The first tier is the building perimeter. The building perimeter will create the security perimeter without the need for extensive fencing. The lobby will extend outside this perimeter as the public entrance. And the Courts will extend outside this perimeter for patient entrance from Building 28/29 for the NGRI/1114s hearings.

The primary entry is the Main Entrance into the public lobby.



3. Mitg Notes - Building Organization

The second primary entry will be at the admissions which is adjacent the clinic. The clinic is also connected to the spine that leads to the Inpatient Units.

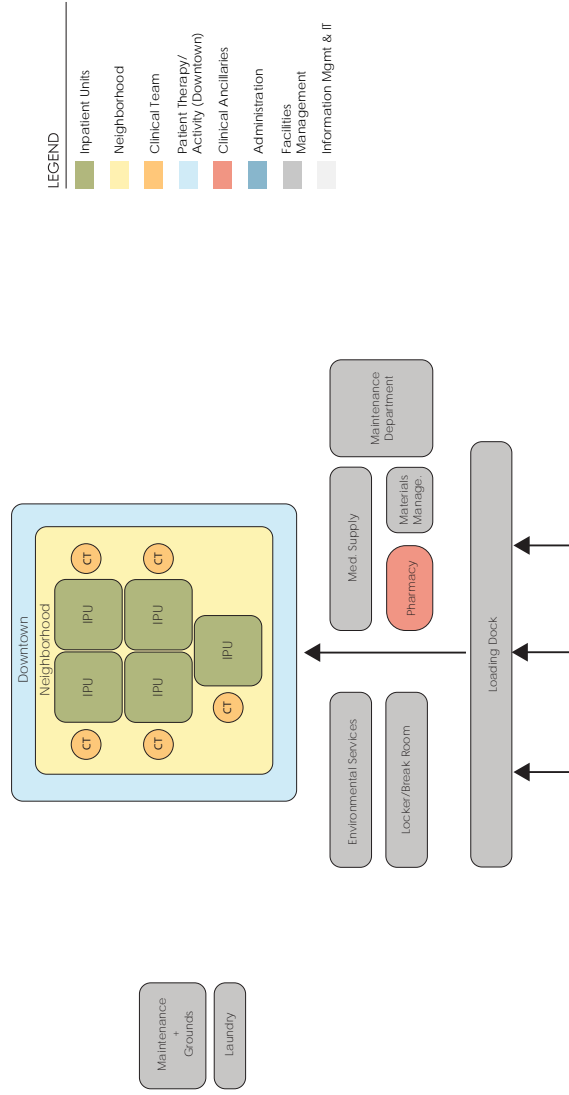


3. Mitg Notes - Building Organization

The third primary entry is for service. Service is from Building 22, which will deliver to the new hospital via box trucks to a loading dock in the separate by adjacent new Support Annex.

The new Support Annex building will be connected at the basement level with the spine that leads to the Inpatient Units.

The new hospital will have a satellite Pharmacy that is supported by the main Pharmacy in Building 22.

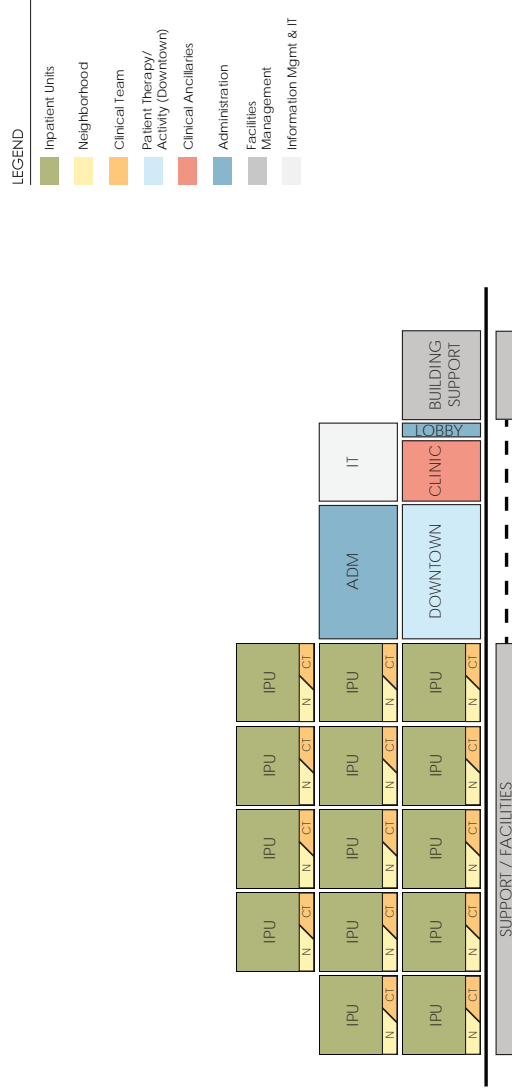


3. Mitg Notes - Building Organization

The stacking diagram of the vertical adjacencies would (3) Inpatient Units stacked in four locations and (2) Inpatient Units stacked in one location for the total of (14) Inpatient Units.

Service to the Inpatient Units would be from the basement connector along the spine. The basement would be connected to the Service Annex.

The Clinic, Downtown, and Administration functions would be in two story locations to reduce the distance to the patients and reduce the overall footprint of the hospital.



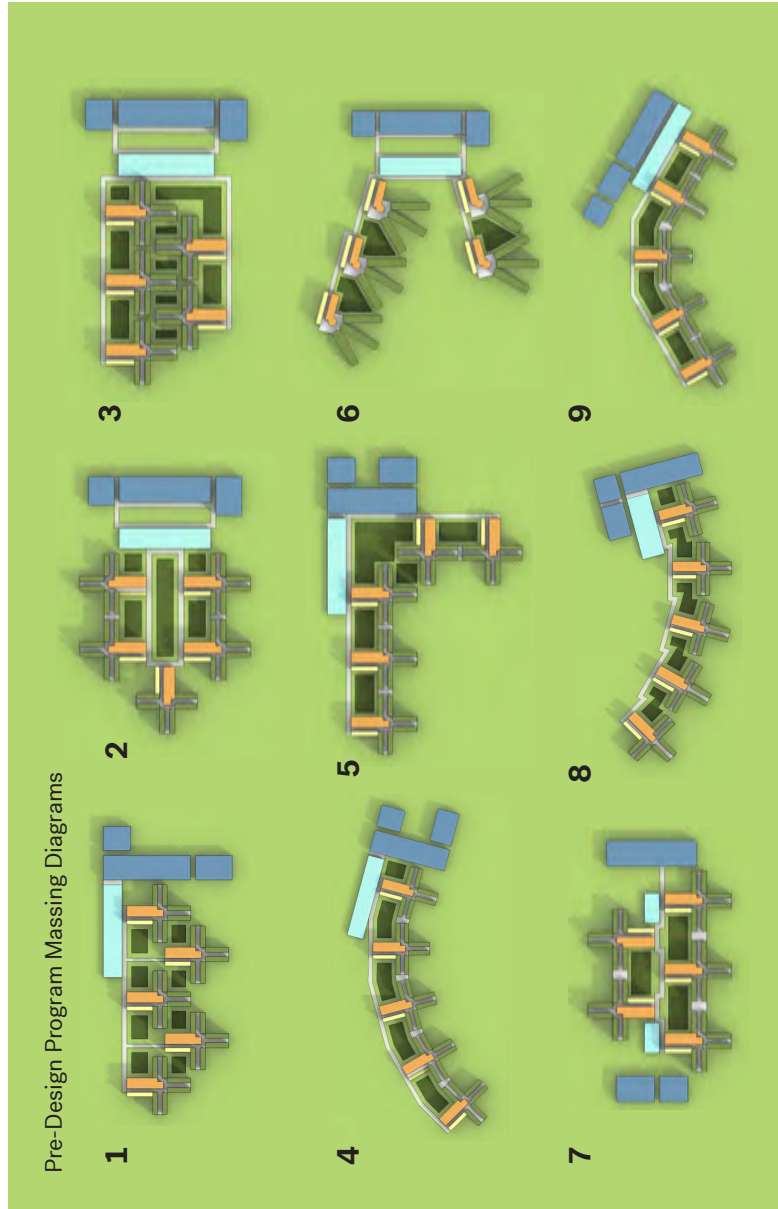
3. Mitg Notes - cont'd Building Diagrams

Building Diagrams

SRG presented, at a high level, a review of different ways to organize the WSH program with the adjacency considerations.

Diagrams 2 and 5 were favorable to the group due to the distance to the downtown and variety of outdoor spaces. However diagram 2 is limited in it's expansion potential, and diagram 5 has limited access.

Diagram 7 was favorable because it's distance to the distributed downtown, clinic, and support functions. The team will explore Diagram 7 to add more outdoor spaces and increase the ability to expand in the future.



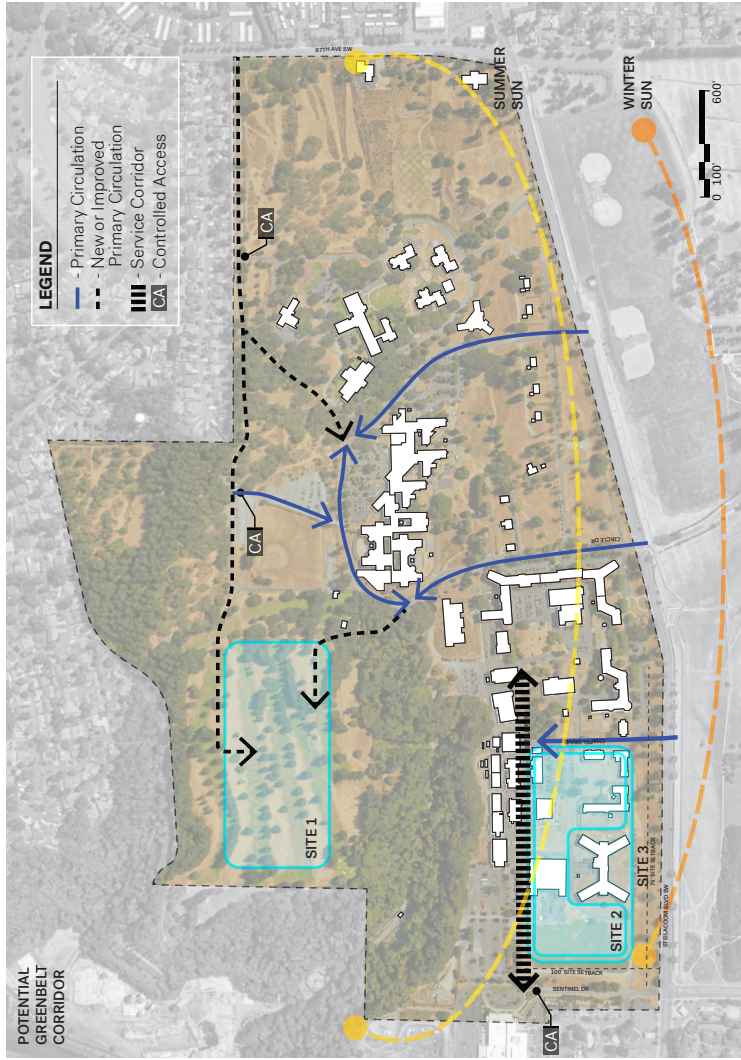
3. Mitg Notes - cont'd Site Options

Site Options

Three sites are under study for the new hospital.

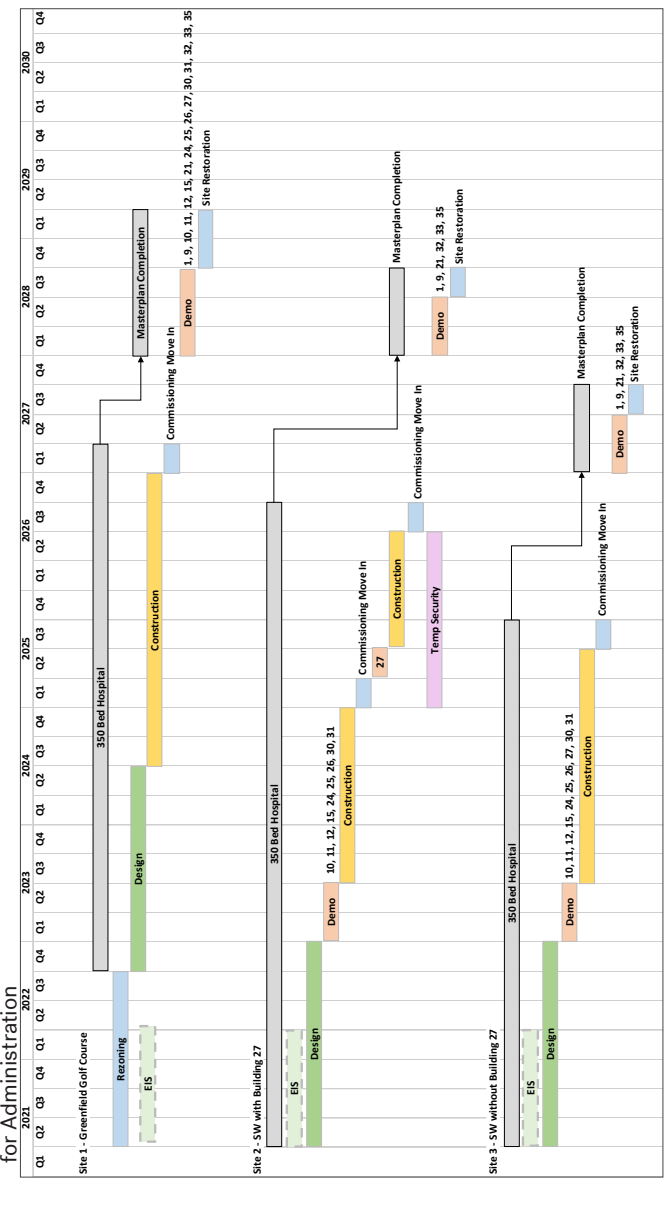
- Site 1 is a control selection to represent a greenfield option.
- Site 2 is an option to preserve Building 27 for as long as possible.
- Site 3 is an option to bring beds on line as soon as possible with least cost.

Site 1	
Building	\$464M
Hospital	561,388 sf
Office Annex	495,481 sf at \$865/sf
Support Annex	\$15 M
Site	21,832 sf at \$700/sf
TOTAL	44,085 sf at \$450/sf
	+\$17 M Delta from Site 3 (infrastructure)
	\$512 M
Site 2	
Building	\$464M
Hospital	561,388 sf
Office Annex	495,481 sf at \$865/sf
Support Annex	\$15 M
Site	21,832 sf at \$700/sf
TOTAL	44,085 sf at \$450/sf
	+ \$2 M Delta from Site 3 (security, phasing)
	\$497M
Site 3	
Building	\$464M
Hospital	561,388 sf
Office Annex	495,481 sf at \$865/sf
Support Annex	\$15 M
Site	21,832 sf at \$700/sf
TOTAL	44,085 sf at \$450/sf
	Baseline
	\$31 M
	\$495M



3. Mtg Notes - cont'd Site Options

Site 1	Site 2	Site 3
<p>Pros</p> <ul style="list-style-type: none"> • Least impact to existing operations • Good views to the landscape <p>Cons</p> <ul style="list-style-type: none"> • Removed from the community (invisible) • Longer schedule time for rezoning • More cost to extend infrastructure to the site • Greater distance to shared services in Building 22 • Greater distance to campus for Administration 	<p>Pros</p> <ul style="list-style-type: none"> • Shorter schedule than Site 1 • Good connection to the community (visible) • Parking availability <p>Cons</p> <ul style="list-style-type: none"> • Impact to existing operations • Working around Building 27 • More spread out than Site 3 • Less ability to expand than Site 3 • More perimeter landscape to maintain 	<p>Pros</p> <ul style="list-style-type: none"> • Shortest schedule • Earliest occupancy • Best ability to expand • Best connection to the community (most visible) • Least cost • Parking availability <p>Cons</p> <ul style="list-style-type: none"> • Impact to existing operations



4. Next Steps

Next Steps

The design team is proceeding with the 561,000 GSF program in a layout that distributes the Administration, Downtown, and Clinic along a spine that the Inpatients are connected to.

- The design team will prepare plans of this scheme at the next workshop.

The Tee shape of the Inpatient Units is preferable because the access to the neighborhood does not pass by bedrooms, and the bedrooms are in small groups of 8 to 9 beds.

DSHS is preparing a justification for removal of Building 27 since this building was part of the court settlement. The proposed schedules for Site 2 and 3 that affect Building 27 indicate demolition of Building 27 far after the terms of the settlement indicated the use of Building 27.

Building 27 is also not able to provide as robust a treatment as the new hospital program, so it will be beneficial to replace Building 27 with the new hospital. The design team will support DSHS with the justification summary by providing input on the rationale, site drawings, and schedule and cost inputs.

The next workshop will be Workshop #6 on April 3rd. This will be the last workshop for the Predesign phase.

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A mix of grasslands and oak trees is otherwise known as an Oak Savannah

WESTERN STATE HOSPITAL FORENSIC HOSPITAL PREDESIGN

Workshop #6 - 04-03-2020

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Meeting Purpose

This workshop involved the Planning Team meeting with the Leadership Group to review the planning for the new hospital building, with the intent to delve into the organization of the preferred site option.

The following pages are meeting notes for Workshop #6:

- 1** Agenda
- 2** Meeting Attendees
- 3** Meeting Notes
- 4** Leadership Group Debrief

1 Agenda

- 1** Friday April 3, 2020 – Olympia / Online
 - 9:00 10:30 Hospital Organization
 - Introduction Overview of Organization
 - Inpatient Unit Detail
 - Neighborhood Detail
 - Downtown Detail
 - Clinic Detail
 - Service Detail
 - Administration Detail
 - 10:30 11:00 Break
 - 11:00 12:00 Site Overview
 - Overall Organization Concept
 - Site Entries
 - Building Entries
 - Parking
 - Buffer Zones / Landscape Character
 - Demolition
 - 12:00 1:30 Break
 - 1:30 2:00 Leadership Group Debrief

2. Meeting Attendees

Leadership Group:

Megan Celedonia
Judy Fitzgerald
David Holt
Bob Hubenthal
Aaron Martinez
Michael Miller
Sean Murphy
Brian Waiblinger
Bryan Zolnikov

Stephen Kervin
Francis Pitts
Hiroki Sawai
Sara Wengert

Kristopher Chan
Pierce McVey
Jon Mehlschau
Craig Tompkins
Bryan Washko

3. User Mtgs - Inpatient Services

The Inpatient Units are connected to the main street spine at the bottom of this plan. The care desk is at the center, with separate suites of 8 to 9 beds, for a total of 25 beds per unit. Activity spaces and porches are visible and adjacent to the care desk.



Patients access the outdoors in elevated roof decks at each level and courtyards at grade by using the elevators and stairs along the main street spine. The plan has an option for a phone room, which will need to be confirmed in the design phase how patients should be communicating. The Dining room is accessible from the Patient Unit and the Neighborhood. The units are connected to emergency access, and at Level 1 the courtyard is accessible from the exterior for maintenance.

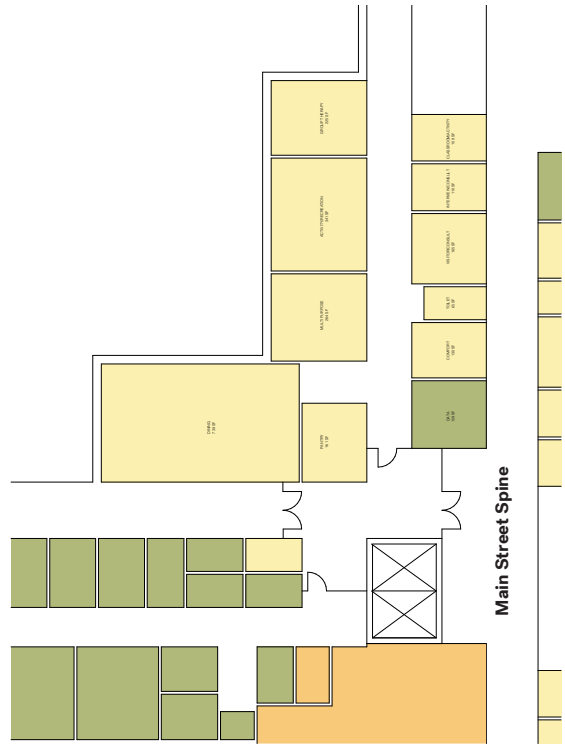
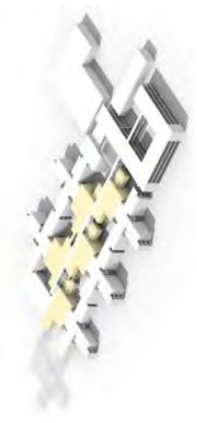
3. User Mtgs cont'd - Neighborhood

The Inpatient Units are connected to the main street spine at the bottom of this plan.

Ten of the 14 Neighborhoods are connected to other Neighborhoods, which provides for more individualized treatment plans with more flexibility to increase the diversity of programs available to a broader patient group. For instance, 2 patients per unit could be a group of 4 which may make a program more feasible to staff.

Consult Rooms are used primarily for consult purposes with clinicians and evaluators, but could be used for on-unit visitation.

Elevated roof decks at each level are adjacent the neighborhood.



3. User Mtgs cont'd - Downtown

The Downtown is connected to the main street spine at the bottom of this plan.

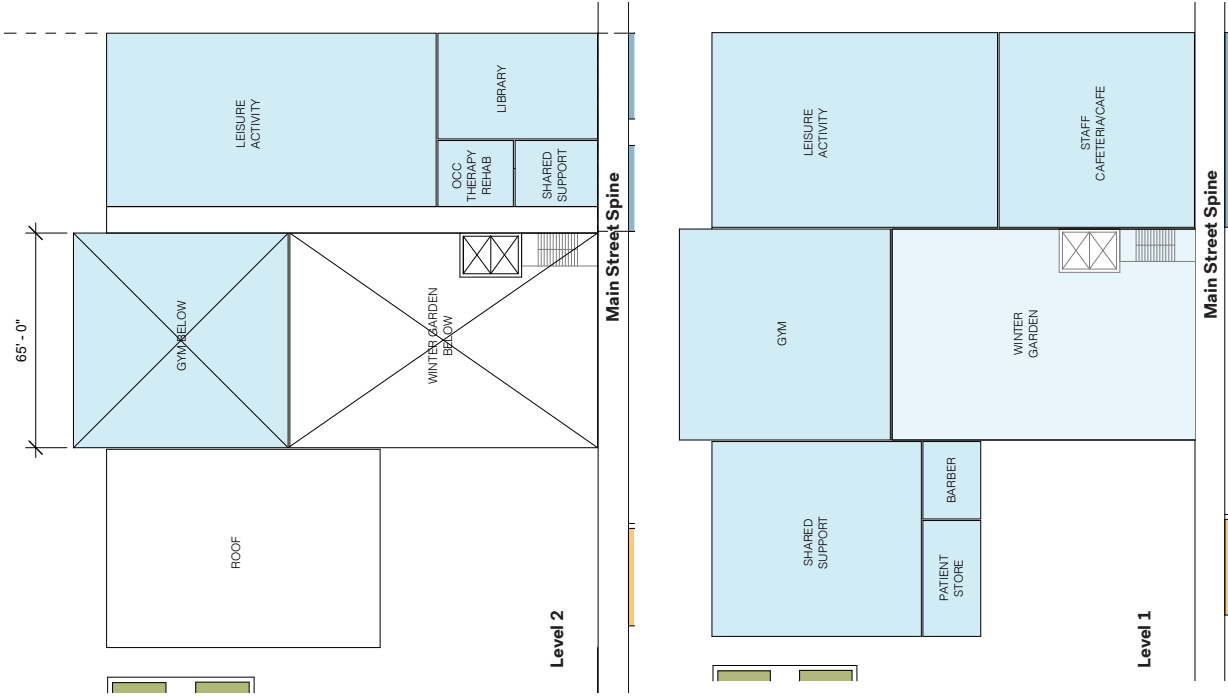
An exterior staff entry point will be through the Downtown. This entry point distributes the entry points between the Administration and the entry at the Clinic to facilitate access to the building and distribute parking on the site.

The Downtown is organized around an indoor "Winter Garden" which is a covered two story space protected from the elements.

Surrounding the "Winter Garden" are large spaces that could be combined to host large events as a central gathering place within the building.

The gym is sized as a junior highschool size, so it's not quite as large as a high school gym.

The Cafe would be shared by staff and those patients with privileges.

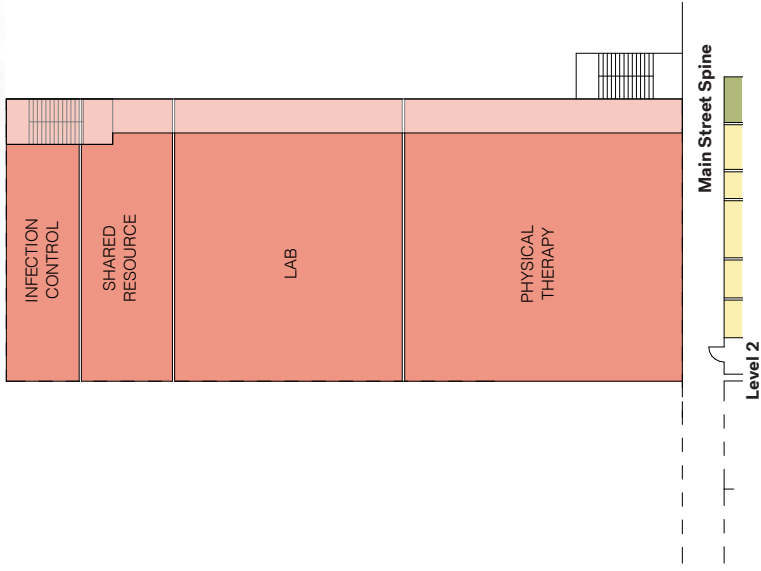
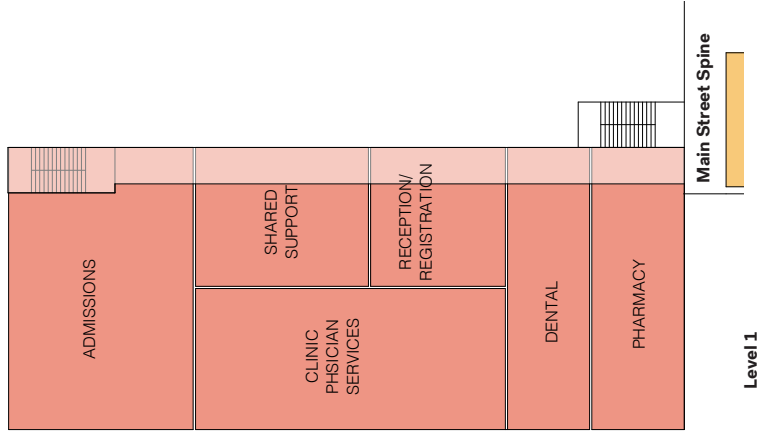


3. User Mtgs cont'd - Clinic

The Clinic is connected to the main street spine at the bottom of this plan. Staff entry and Admissions entry points are located in the Clinic area. This location is on the opposite side of the building from the public entry at the Administration, which will distribute parking on the site and more effectively allow staff to come and go with their shifts.

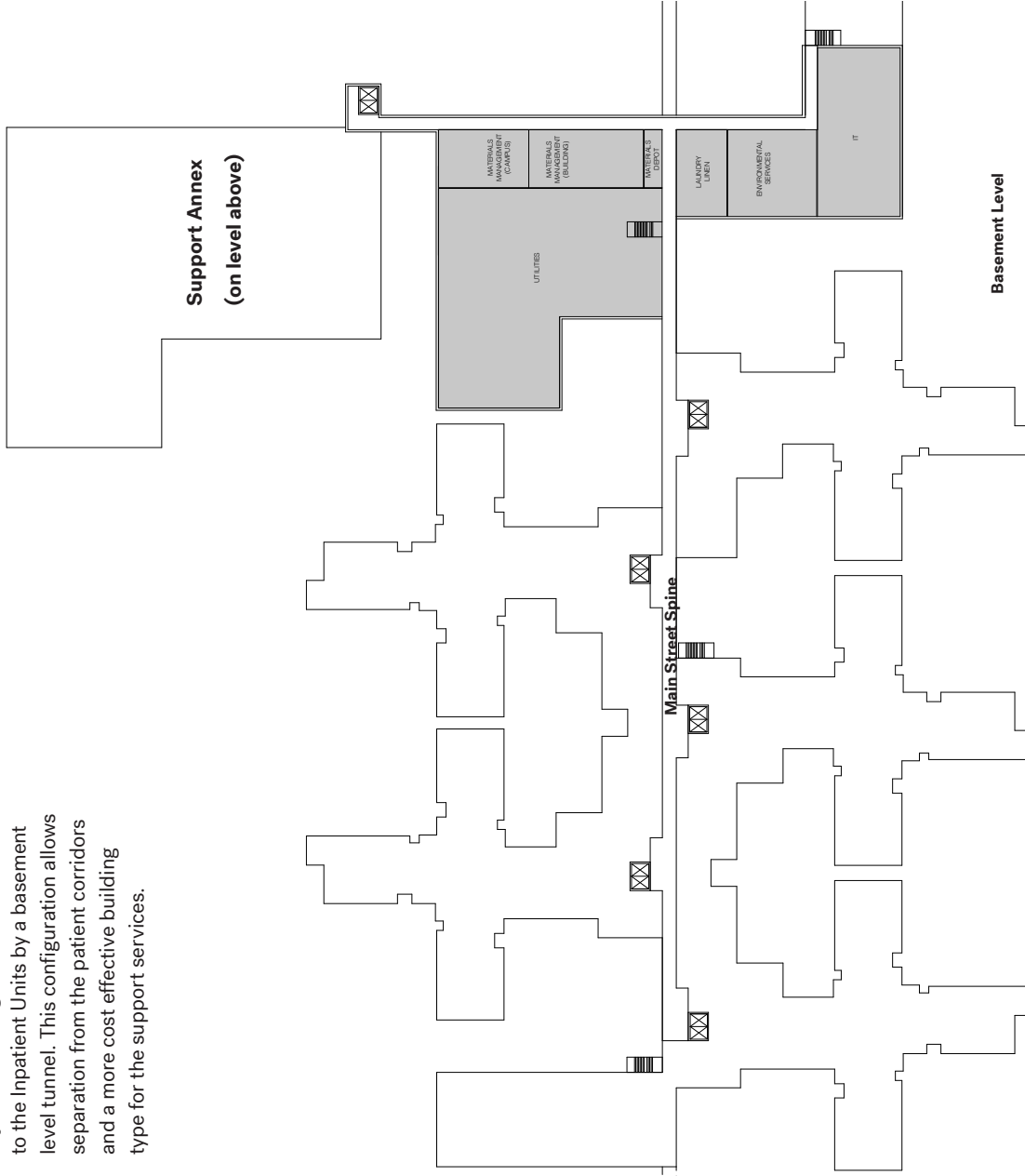
The ambulance entry is on the side of the site as the highschool, however it is at great distance from the high school and will be enclosed by a vehicular sallyport and a screened wall. The satellite Pharmacy and Dental programs are accessed from the Main Street spine, with shared support spaces between Admissions.

The Clinic is not adjacent the Downtown because it is expected to be more central as the building could be expanded to the west. The Physical Therapy and Lab program are on Level 2 and accessible from the Main Street spine.



3. User Mtgs cont'd - Support Services

Support Services are located in an adjacent building that is connected to the Inpatient Units by a basement level tunnel. This configuration allows separation from the patient corridors and a more cost effective building type for the support services.



3. User Mtgs cont'd - Administration

The Administration is connected to the main street spine indicated on this plan.

The public entry is into the main lobby of the building.

The Courts and Visitor Services and Security are all adjacent at the public entry.

The public entry is one of three entry points for staff, the others are at the Downtown and at the Clinic.

Security will be an issue with staffing multiple entries, however the overall staff will benefit from the distribution of parking on the site and the proximity of an entry near their stations.

The Administrative staff in these locations are behind the secure perimeter. There will also be an Administration Annex building adjacent the hospital for staff that will work outside the secure perimeter. The Annex will be an office building type of construction.



3. Mitg Notes - Overall Organization

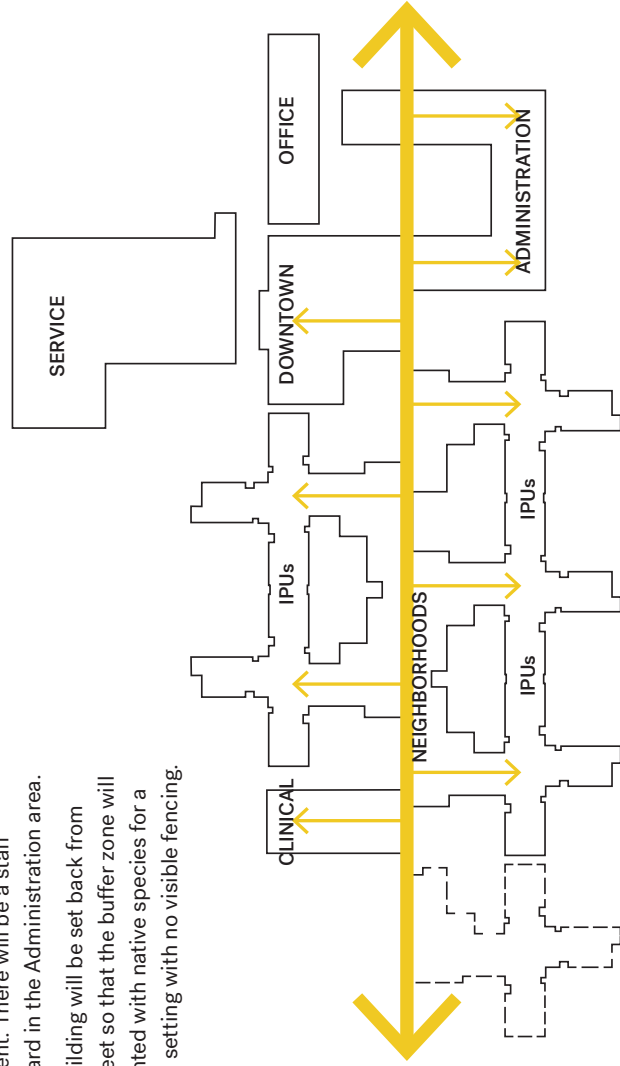
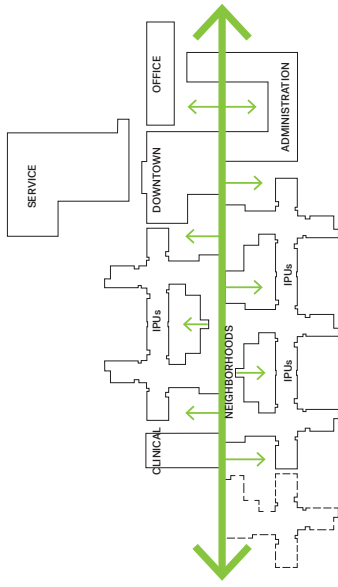
The Main Street spine is the primary circulation of the concept, linking all the major program spaces and all the exterior courtyards.

The connection to nature provides a visual relief, supports a healing environment with elevated roof decks on each level.

The Main Street has daylighting and visual control due to the amount of openness, and wayfinding is supported with views into the courtyards.

The courtyards will have a variety of functions from more active to more passive to support patient treatment. There will be a staff courtyard in the Administration area.

The building will be set back from the street so that the buffer zone will be planted with native species for a natural setting with no visible fencing.



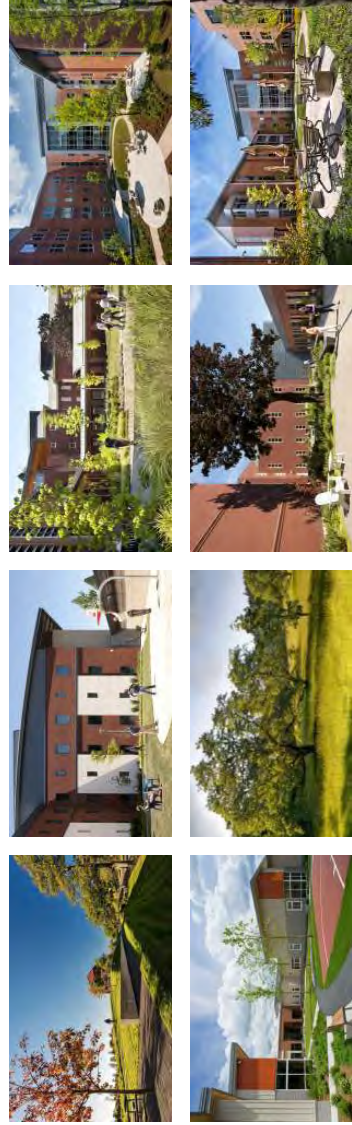
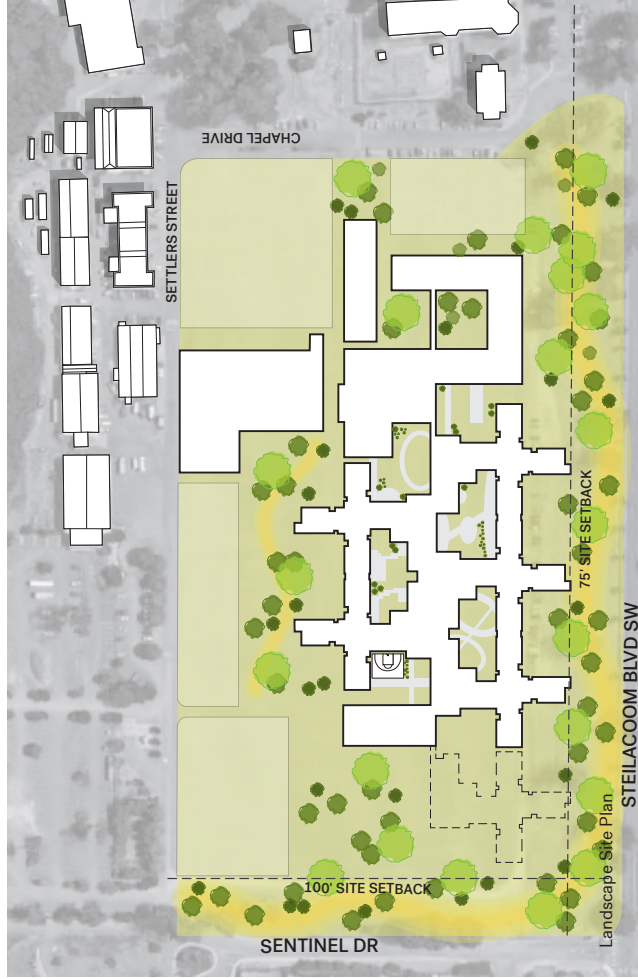
3. Mtg Notes - cont'd Overall Organization

- The primary site access will be from a signalized intersection at Chapel Gate Drive.
- Patients will arrive at the Admissions entry, and food and materials will enter at the Support entry.
- Parking will be distributed on site next to three building entry points at: Administration, Downtown, and the Clinic.
- Separation of each entry type will improve the flow of the hospital in an efficient manner.



3. Mitg Notes - cont'd Overall Organization

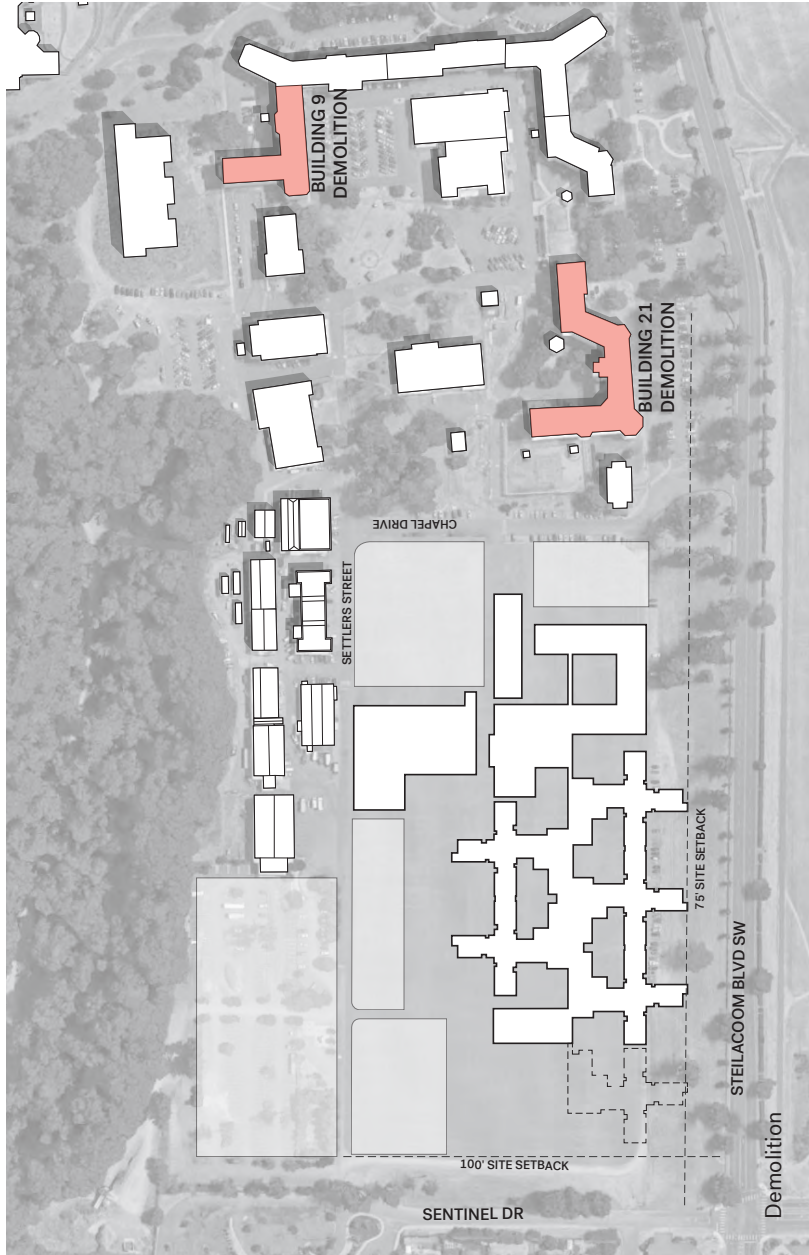
Multiple outdoor space types include active courtyards, passive activity courtyards, and tranquil exterior views into a native landscape.



3. Mtg Notes - Overall Organization

The Master Plan indicated the demolition of Buildings 9 and 21 as those programs move elsewhere, some of which will be in the new hospital.

The timing of these buildings emptying out is not determined and therefore the demolition will not be part of this redesign effort, although they remain noted in the Master Plan as scheduled for demolition.



4. Next Steps

Next Steps

The staff entries will be developed more at the Downtown and Clinic entries.

- Circulation should not pass through the Downtown and patients should not be in proximity to the staff entry. A possibility is for the staff entry to be on the other side of the Cafe.
- The Admissions entry should be from the north to allow for the future expansion. And the staff entry at the Clinic should be through the clinic and not the adjacent patient courtyard.

The loading area at the Service Annex needs to include elevated docks.

The implications of building on top of the Building 27 location need to be better understood.

- An outline of the footprint of Building 27 should be added to a site plan.
- DSHS will review if the program in Building 27 can be relocated to another building.
- The escalation of deferring the demolition of Building 27 could cost \$16 million dollars. (Phase 2 at \$200 million escalated for 2 years at 4%, and 3.2% escalation would be \$12 million).

The impact to the design by the COVID-19 pandemic is unknown.

However the building will facilitate smaller working groups of patients and staff. And the simplicity of the circulation will also reduce the congestion with the support functions from the basement and not in the patient corridors there will be less exposure to patients and staff. And the elevated roof decks will mean that patients have access to more fresh air.

The Predesign report needs to convey the key findings of why one option is preferred over the others.

The Predesign concept including the major decisions made thus far and the preliminary layout were liked by the leadership group.

The leadership group was cautious about the multiple entries and wanted to consult their security director. The design team noted that there are technologies that can help prevent the passage of unwanted items into the hospital at staff entries.

The project team needs to take into account the probability that Lakewood extends the pedestrian sidewalk along the entire length of Steilacoom Blvd. This will require a buffer between the sidewalk and the building.

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1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

April 28, 2020

Coughlin Porter Lundeen
801 Second Avenue, Suite 900
Seattle, Washington 98104

Attention: Keith Kruger, PE, LEED AP

Subject: Draft Preliminary Geotechnical Considerations
Western State Hospital Campus Improvements
Lakewood, Washington
File No. 19476-002-00

INTRODUCTION AND PROJECT UNDERSTANDING

This draft letter provides a summary of anticipated soil and groundwater conditions and includes geotechnical considerations for initial study and improvements to the Western State Hospital (WSH) Campus. WSH is located at 9601 Steilacoom Boulevard SW in Lakewood, Washington. A more detailed geotechnical study and final geotechnical report will be required as part of final design considerations. This summary should be considered preliminary and will not be suitable for final design.

We anticipate that improvements could include expanding or replacing existing buildings, retrofit of existing buildings, adding and expanding parking areas, realigning or extending roadways, constructing stormwater facilities, replacement or retrofitting utilities and landscaping improvements.

SUBSURFACE CONDITIONS

Based on review of the *Geologic Map of the Tacoma 1:100,000 Quadrangle*, the project site is underlain by Steilacoom Gravel Recessional Outwash deposits. Steilacoom gravel is described as granular material ranging in grain size from fine gravel to boulders with variable sand and silt content that was deposited by outburst floods from glacial Lake Puyallup. Lenses of sand and silty sand are also present in these deposits.

GeoEngineers completed a boring to a depth of about 21 feet at the intersection of Circle Drive and Steilacoom Boulevard during preparation of a Geotechnical Engineering Services Report (September 20, 2016) for the City of Lakewood Steilacoom Boulevard Safety Improvement Project. Below the asphalt in this boring we observed about 2 feet of medium dense to dense predominantly silty sand and gravel fill material underlain by Steilacoom gravel deposits consisting of medium dense to dense gravel with silt, sand and cobbles. No groundwater was observed.



Based on our experience in the area, we expect that the regional groundwater table at the site will be deeper than 20 feet below existing grade where near level with Steilacoom Boulevard. Areas of intermittent perched groundwater could be encountered at shallower depths.

SITE CLASS AND SEISMIC CONSIDERATIONS

We anticipated that soils at the site will meet Site Class C per the 2015 International Building Code (IBC). Based on our experience we expect that there is a low risk of liquefaction, lateral spreading and surface rupture at this site. Explorations should be completed to confirm site class and to further evaluate the potential for liquefaction.

FOUNDATION SUPPORT

We expect that there could be some areas of fill present in portions of the WSH campus. We typically recommend that fill be removed from below footings if it cannot be adequately compacted to a firm and unyielding condition, if it contains deleterious materials, or if it has poor density characteristics. We expect that because of the location, it is likely that fill materials were natural materials generated nearby and likely comprise Steilacoom gravel materials.

We anticipate that structures at the site can be adequately supported on shallow foundations. Shallow foundations bearing on Steilacoom gravel deposits can likely be designed using allowable bearing pressure of 3,000 pounds per square foot (psf) to 6,000 psf. In areas of known fill, or possible presence of fill, we would suggest the lower value be considered for this preliminary design phase.

Foundations bearing on Steilacoom gravel deposits or proof compacted granular fill can likely be designed using an allowable coefficient of base friction of 0.35 and an allowable passive pressure equivalent fluid density of 250 pounds per cubic foot (pcf). These values include a factor of safety of about 1.5.

EARTH PRESSURES FOR BELOW-GRADE STRUCTURES

Design of below-grade structures and retaining wall should include at least an 18-inch wide zone of free-draining material located behind the structure. For walls free to yield at the top at least one thousandth of the wall height (i.e., wall height times 0.001), an equivalent fluid density of at least 35 pcf should be used for preliminary design for the level backfill and drained condition. An equivalent fluid density of at least 55 pcf should be used for restrained walls. These values should be increased by 50 percent for sloping conditions behind walls provided that slopes do not exceed a 2H:1V (horizontal:vertical) inclination. For seismic loading conditions, a rectangular earth pressure equal to at least $10 \times H$ psf, where H is the height of the wall (in feet), should be added to the active pressures provided above. If traffic is allowed to operate within one-half the wall height from the top of retaining walls, we recommend a traffic surcharge equal to an additional 2 feet of soil be added to the earth pressure distribution.

We expect that the lateral resistance values presented in the "Foundation Support" section above will also be suitable for design of below-grade structures and retaining walls.

STORMWATER INFILTRATION

The City of Lakewood has adopted the 2019 Washington State Department of Ecology Stormwater Management Manual for Western Washington (SWMMWW) and allows for specific modifications by the City of Lakewood Engineering Standards Manual, which allows for increases in infiltration rates and provides other design provisions. Steilacoom gravel soils typically have a high infiltration potential. Design infiltration rates (including factors) in excess of 9 inches per hour (maximum factored value presented in the SWMMWW) are not unusual for Steilacoom gravel soils and in general, we expect that this value could be considered for preliminary design. Ultimately, infiltration rates and stormwater facilities at the site will need to be designed by completing site-specific explorations to collect soils samples for grain-size analyses and correlations, or by completing a field infiltration test or pilot infiltration test (PIT). For preliminary sizing and pond locations, it may be prudent to consider the effects of pond size and location using a lower rate, such as 5 inches per hour, in the event other soil conditions are encountered. Although not expected at this site, we have encountered Steilacoom gravel with enough silt content to warrant rates around this value.

PAVEMENT DESIGN

Design of pavement sections will depend in part on the soils present at the pavement subgrade elevation. For pavements underlain by medium dense to dense granular fill and Steilacoom gravel deposits compacted to a firm and unyielding condition we typically recommend minimum pavement sections of:

- 2 to 3 inches asphalt concrete (AC) underlying by 4 to 6 inches of crushed surfacing base course (CSBC) in parking lot and vehicular traffic areas.
- 4 to 6 inches AC underlain by 6 inches of CSBC in high volume traffic areas or areas that will receive bus or truck traffic.
- 10 inches of Portland cement concrete (PCC) underlain by 12 inches of CSBC for heavy-duty concrete pavement areas used for truck loading and unloading.

EARTHWORK CONSIDERATIONS

Generally speaking, Steilacoom gravel soils are favorable for re-use during earthwork activities. Steilacoom gravel soils typically contain a relatively low percentage of fines, making them more resilient for use during wet weather conditions. Steilacoom gravel soils can also contain a high percentage of cobbles and boulders. These oversized materials often need to be removed prior to reusing the soils as fill and backfill. These large-size materials can also make for difficult excavation and grading operations. Steilacoom gravel soils can typically be cut to a 1½H:1V inclination for temporary configurations and 2H:1V inclination for permanent configurations.

If import materials will be used, we typically recommend that general structural fill consist of material similar to “Select Borrow” or “Gravel Borrow” as described in Section 9-03.14 of the Washington State Department of Transportation (WSDOT) Standard Specifications. Structural fill used during periods of wet weather should consist of material similar to WSDOT Specification 9-03.9 (Aggregates for Ballast and Crushed Surfacing), 9-03.10 (Aggregate for Gravel Base), or 9-03.14 (Borrow) is suitable for use as select granular fill, provided that the fines content is less than 5 percent (based on the minus ¾-inch fraction) and the maximum particle size is 6 inches.

RECOMMENDATIONS FOR ADDITIONAL STUDIES

The recommendations contained in this letter are preliminary and additional studies should be considered for final design. Final recommendations for design would typically be provided in a separate geotechnical report once development plans are further defined and if necessary, additional subsurface explorations are completed. As part of developing final design recommendations, we recommend that the following additional activities be considered:

- Subsurface explorations in the form of borings or test pits be completed in the area of the proposed improvements, especially as they relate to buildings and new structures.
- Field infiltration tests be completed if large footprint infiltration facilities (such as an infiltration pond) are planned. Soil conditions below smaller sized facilities, such as bioswales and permeable pavements should also be completed, however, field infiltration tests may not be necessary.

LIMITATIONS

We have prepared this draft report for Coughlin Porter Lundeen, for the Western State Hospital Campus Improvements Project located in Lakewood, Washington. Coughlin Porter Lundeen may distribute copies of this report to owner and owner's authorized agents and regulatory agencies as may be required for the project.

Our services have been executed in accordance with generally accepted practices for geotechnical engineering in this area at the time this report was prepared. The conclusions, recommendations, and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty, express or implied, applies to the services or this report.

Please refer to Appendix A titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

We appreciate the opportunity to prepare this draft report and look forward to working with the team as the project progresses.

Sincerely,
GeoEngineers, Inc.

Dennis (DJ) Thompson, PE
Associate

BEL:DJT:tt

Attachment:

Appendix A: Report Limitations and Guidelines for Use

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

APPENDIX A
Report Limitations and Guidelines for Use

DRAFT



APPENDIX A REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This appendix provides information to help you manage your risks with respect to the use of this report.

Report Use and Reliance

This report has been prepared for Coughlin Porter Lundeen. GeoEngineers structures its services to meet the specific needs of its clients. No party other than Coughlin Porter Lundeen may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our verbal email discussion with Coughlin Porter Lundeen dated April 20, 2020 and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or Projects other than those identified in this report.

If changes to the Project or property occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations in the context of such changes. Based on that review, we can provide written modifications or confirmation, as appropriate.

Information Provided by Others

GeoEngineers has relied upon certain data or information provided or compiled by others in the performance of our services. Although we use sources that we reasonably believe to be trustworthy, GeoEngineers cannot warrant or guarantee the accuracy or completeness of information provided or compiled by others.

Conditions Can Change

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

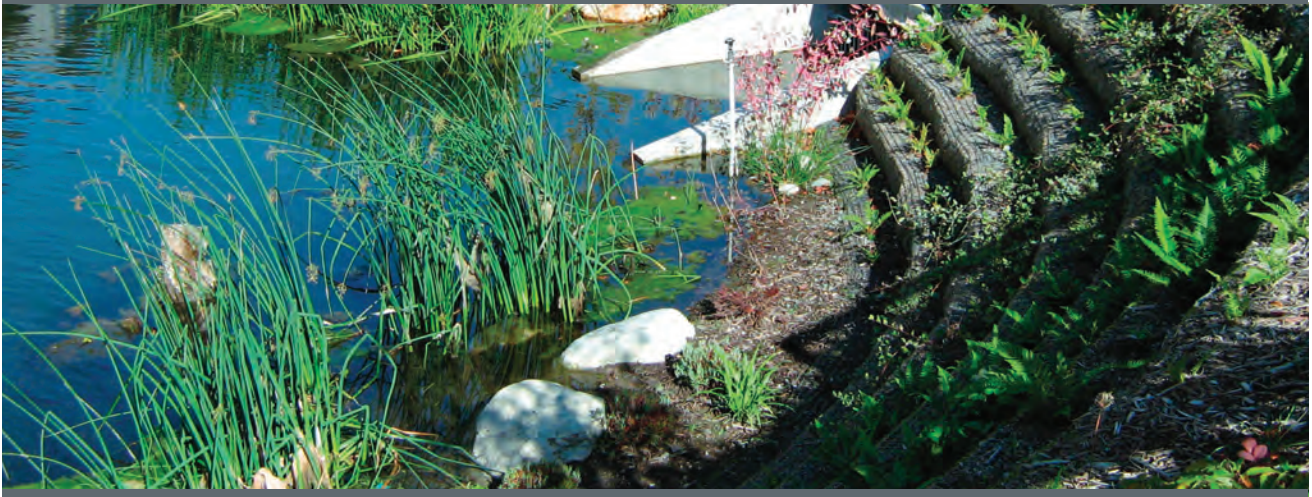
Professional Judgment

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to its services, GeoEngineers includes these explanatory "limitations" provisions in its reports. Please confer with GeoEngineers if you need to know how these "Report Limitations and Guidelines for Use" apply to your Project or site.

¹ Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.



a s s o c i a t e d
e a r t h s c i e n c e s
i n c o r p o r a t e d



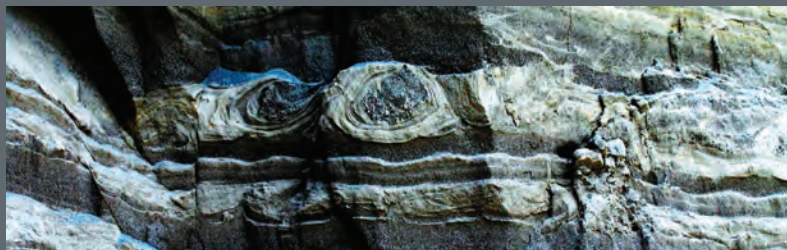
Western State Hospital / Appendix

*Subsurface Exploration, Geologic Hazard, Infiltration Study, and
Geotechnical Engineering Report*

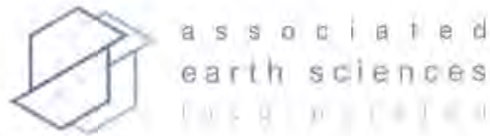
**WESTERN STATE HOSPITAL
NEW PATIENT SUPPORT CENTER**
Lakewood, Washington

Prepared For:
NAC|ARCHITECTURE

September 27, 2017
Project No. 040805E001



Associated Earth Sciences, Inc.
911 5th Avenue
Kirkland, WA 98033
P (425) 827 7701
F (425) 827 5424



September 27, 2017
Project No. 040805E001

NAC|Architecture
2025 1st Avenue, Suite 300
Seattle, Washington 98121

Attention: Mr. Steve Shiver

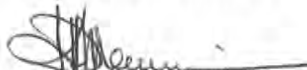
Subject: Subsurface Exploration, Geologic Hazard, Infiltration Study, and
Geotechnical Engineering Report
Western State Hospital - New Patient Support Center
9601 Steilacoom Boulevard SW
Lakewood, Washington

Dear Mr. Shiver:

We are pleased to present our geotechnical engineering report for the referenced project. This report summarizes the results of our subsurface exploration, geologic hazards, infiltration study, and geotechnical engineering studies, and offers recommendations for the design and development of the proposed project. We should be allowed to review the recommendations presented in this report and modify them, if needed, if project plans are changed. We are familiar with this site through our previously completed geotechnical engineering work onsite.

We have enjoyed working with you on this study and are confident that the recommendations presented in this report will aid in the successful completion of your project. If you should have any questions or if we can be of additional help to you, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington


Kurt D. Merriman, P.E.
Senior Associate Engineer

KDM/ms - 040805E001-3 - Projects\20040805\KE\WP

Kirkland Office | 911 Fifth Avenue | Kirkland, WA 98033 P | 425.827.7701 F | 425.827.5424
Everett Office | 2911 1/2 Hewitt Avenue, Suite 2 | Everett, WA 98201 P | 425.259.0522 F | 425.827.5424
Tacoma Office | 1552 Commerce Street, Suite 102 | Tacoma, WA 98402 P | 253.722.2992 F | 253.722.2993
www.aesgeo.com

**SUBSURFACE EXPLORATION, GEOLOGIC HAZARD,
INFILTRATION STUDY, AND
GEOTECHNICAL ENGINEERING REPORT**

**WESTERN STATE HOSPITAL
NEW PATIENT SUPPORT CENTER**

Lakewood, Washington

Prepared for:

NAC|Architecture

2025 1st Avenue, Suite 300
Seattle, Washington 98121

Prepared by:

Associated Earth Sciences, Inc.

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September 27, 2017
Project No. 040805E001

Western State Hospital
New Patient Support Center
Lakewood, Washington

Subsurface Exploration, Geologic Hazard, Infiltration Study,
and Geotechnical Engineering Report
Project and Site Conditions

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of our subsurface exploration, geologic hazard, infiltration study, and hydrogeological and geotechnical engineering study for the proposed new Patient Support Center building at the Western State Hospital campus in Lakewood, Washington. Recommendations in this report are based on review of a Temporary Erosion Control and Excavation Plan, Grading Plan, and Storm Drainage Plan for the New Patient Support Center, Sheets C1.01, C2.00, and C3.00, respectively, prepared by Coughlin Porter Lundeen (CPL), and dated August 28, 2017; our previous work completed at the project site, which includes a report titled "Subsurface Exploration, Geologic Hazards, and Preliminary Geotechnical Engineering Report," dated January 14, 2010; and our knowledge of geologic conditions in the vicinity of the site. The site location is shown on the "Vicinity Map," Figure 1. The approximate locations of explorations completed for this study and for our 2010 study are shown on the "Explorations With Proposed Site Plan," Figure 2 and on the "LIDAR Based Topography Site and Explorations," Figure 3. Logs of the subsurface explorations completed for both studies and copies of laboratory testing results completed for this study are included in the Appendix A.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface data to be utilized in the design and development of the new Patient Support Center building. Our study included a review of available geologic literature, excavation of 11 exploration pits, completing 3 Pilot Infiltration Tests (PITs) in accordance with the Washington State Department of Ecology (Ecology), and performing geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and ground water conditions. Geotechnical and hydrogeological engineering studies were completed to formulate recommendations related to the type of suitable foundations and floors, allowable foundation soil bearing pressure, anticipated foundation and floor settlement, pavement recommendations, infiltration recommendations, and drainage considerations. This report summarizes our fieldwork and offers recommendations based on our present understanding of the project. We recommend that we be allowed to review the recommendations presented in this report and revise them, if needed, when a project design has been finalized.

1.2 Authorization

Our study was accomplished in general accordance with our scope of work letter dated December 29, 2016. This report has been prepared for the exclusive use of Western State Hospital, NAC|Architecture, and their agents, for specific application to this project. Within the limitations of scope, schedule, and budget, our services have been performed in accordance

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with generally accepted geotechnical engineering and hydrogeologic practices in effect in this area at the time our report was prepared. No other warranty, express or implied, is made.

2.0 PROJECT AND SITE DESCRIPTION

The project site is on the existing Western State Hospital campus in Lakewood, Washington. The site is immediately adjacent to the north of the Wards Building, also referred to as Building 9. A building previously existed in the project area, and was badly damaged by the Nisqually earthquake in 2001. The building was later demolished and the site was regraded to a smooth surface by backfilling the excavation that resulted from demolition of the basement of the previously existing building. We understand the backfill operation was monitored. Reportedly, the fill was placed and compacted in lifts. Compaction testing was completed during backfill placement.

The planned project will include construction of a low-rise commissary building for the new Patient Support Center. The project will also include associated improvements, including a surface water management system that will incorporate infiltration of storm water. The provided civil site plan identifies three infiltration facilities located in the south, and northeast portions of the project site. These facilities consist of an 8-foot-diameter infiltration pipe and two infiltration trenches.

We previously completed five subsurface exploration borings as a part of our geotechnical engineering study in 2010 for the project. Each of the exploration borings encountered existing fill to a maximum observed depth of approximately 15 feet. Below the surficial fill, our exploration borings encountered loose to medium dense sand with gravel interpreted as outwash sediments associated with glacial Lake Puyallup, commonly referred to as Steilacoom gravel. In one of our borings, the outwash sediments were observed to be underlain by a more dense granular sediment interpreted as Vashon advance outwash at a depth of approximately 35 feet below the existing ground surface. The other four exploration borings encountered Steilacoom gravel to the full depths explored ranging from approximately 40 to 45 feet below the existing ground surface.

Adjacent to the west and north of the immediate project area are relatively steep slopes which meet the City of Lakewood's definition of Landslide Hazards. The slope to the north of the project area has an approximate height of 20 feet and is generally inclined at 20 to 40 percent. The slope west of the immediate project area is associated with a ravine and has an approximate height of 90 feet and is generally inclined at a 70 percent inclination, with localized sections as steep as 100 percent inclination. A slope reconnaissance was completed on these slopes and is discussed further in our "Slope Stability Hazards and Recommended Mitigation" section.

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A substantial spring is located near the toe of the western ravine slope, the source of which comes from within the western slope and flows towards the northwest. Seepage areas were also observed on the face of the slopes adjacent to the creek. These seepage areas were estimated to be as high as 10 feet above the creek itself.

3.0 SUBSURFACE EXPLORATION

Our current field study included the excavation of 11 exploration pits and completing 3 PITs. The conclusions and recommendations presented in this report are based on the explorations completed for this study. We also relied on subsurface exploration data from work completed by Associated Earth Sciences, Inc. (AESI) onsite in 2010. The number, location, and depth of the explorations were completed within site and budgetary constraints.

3.1 Exploration Pits

The exploration pits completed by AESI were excavated using a tracked excavator. The pits permitted direct, visual observation of subsurface conditions. Materials encountered in the exploration pits were studied and classified in the field by a geologist from our firm. All exploration pits were backfilled after examination and logging. Selected samples were then transported to our laboratory for further visual classification and testing, as necessary.

4.0 SUBSURFACE CONDITIONS

Subsurface conditions at the project site were inferred from the field explorations accomplished for this study and our 2010 study, visual reconnaissance of the site, and review of selected geologic literature. The general distribution of geologic units is shown on the exploration logs. The explorations typically encountered existing fill soils overlying native materials consisting of medium dense recessional outwash gravels. The thickness of the encountered existing fill soils ranged from 2 feet to 15 feet.

We reviewed published geologic mapping for the project (K.G. Troost, D.B. Booth, and R.K. Borden, in review, *Geologic Map of the Steilacoom 7.5-minute Quadrangle, Washington*: U.S. Geological Survey [USGS] Miscellaneous Field Investigation, scale 1:24,000). This map indicates that the site is expected to be underlain at shallow depths by recessional outwash sediments associated with glacial Lake Puyallup, commonly referred to as Steilacoom gravel. Advance outwash is mapped at lower elevations to the northwest. Our on-site explorations and interpretations are generally consistent with the conditions depicted on the published map.

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4.1 Stratigraphy

Grass/Topsoil

A surficial layer of grass and organic topsoil was encountered at the location of each of the exploration pits. This organic layer ranged from approximately 4 to 8 inches in thickness. Due to their high organic content, these materials are not considered suitable for foundation, roadway, or slab-on-grade floor support, or for use in a structural fill.

Fill

Existing fill was observed in all exploration pits for this study up to 8 feet below ground level. The observed existing fill generally consisted of sandy gravels with varying amounts of cobbles and includes variable amounts of brick, concrete, wood debris, and other organic material. In some areas, the fill was observed to be medium dense to dense, indicative of some compaction effort taking place during the placement of the fill. In other areas, the fill was encountered to be loose to medium dense likely indicating that no or little compaction effort took place. Excavated existing fill material is suitable for reuse in structural fill applications if it is free of excessive organic material and other deleterious materials. Existing fill soils are not recommended for use as an infiltration receptor soil based on the variability of the fill sediments.

Recessional Outwash - Steilacoom Gravel

Underlying the fill in all our explorations completed for this study, we encountered typically loose to medium dense, stratified sandy gravels with varying amounts of cobbles and trace silt interpreted as recessional outwash. The encountered recessional outwash was deposited by high-energy meltwater streams emanating from a retreating glacier. The recessional outwash sediments are suitable for support of light to moderate foundation loads with normal preparation procedures. Excavated recessional outwash sediments at this site are expected to perform well in structural fill applications. The recessional outwash is potentially a suitable infiltration receptor soil.

Advance Outwash

Exploration boring EB-1 from our previously completed explorations completed on December 15, 2009, encountered very dense sand at a depth of approximately 35 feet that is interpreted to represent Vashon advance outwash sediments. Advance outwash was deposited by meltwater streams from an advancing glacier, and was subsequently compacted by the weight of the overlying glacial ice. Advance outwash is unlikely to be used for direct foundation support or structural fill for this project due to the depth below the existing ground surface on the order of 35 feet.

4.2 Hydrology

The regional hydrogeology is described in a report by USGS: M.E. Savoca, W.B. Welch, K.H. Johnson, R.C. Lane, B.G. Clothier, and E.T. Fasser, 2010, *Hydrogeologic Framework, Groundwater Movement, and Water Budget in the Chambers-Clover Creek Watershed and Vicinity, Pierce County, Washington*: USGS Scientific Investigations Report 2010–5055.

Ground water seepage was not encountered in our explorations at the time of our field studies. Relatively high moisture contents were observed in existing fill above the native sediments in several areas and in several areas of the recessional outwash. Ground water conditions should be expected to vary in response to changes in season, weather, on- and off-site land use, and other factors.

Off-site ground water seepage was observed near the base of slopes adjacent to the northwest portion of the site during the slope reconnaissance. The water flowing in the pipe and the associated flowing ground water running along the pipe through the culvert was the source of a flowing creek at the bottom of the ravine which flows to the northwest.

The depth to ground water beneath the site is estimated to be on the order of 70 to 80 feet, based on our site reconnaissance for this study and our previous explorations (AESI, 2009). Rainfall currently falling onto the site infiltrates into the subsurface sediments, soaks vertically downward, and eventually recharges the shallow aquifer. The overall quantity of ground water recharge into the shallow aquifer at depth by the proposed infiltration facilities should not be significantly different from the ground water recharge under existing conditions. Infiltrating storm water runoff will ultimately reach the shallow aquifer, then flow toward the northwest, and discharge at the existing springs forming the headwaters of Garrison Creek, adjacent to the site.

4.3 Laboratory Test Results

Three laboratory grain-size analyses were performed in accordance with the *American Society for Testing and Materials* (ASTM) D-422 on representative selected samples collected during our subsurface exploration and infiltration testing for this project. The tests were completed on samples of recessional outwash as part of our storm water infiltration feasibility investigation. The grain-size analyses test results are included in the Appendix A.

5.0 FIELD INFILTRATION TESTING

Infiltration testing at the project site was accomplished through the completion of three tests following the guidelines for the small PIT provided in the 2014 Ecology *Stormwater Management Manual for Western Washington* (2014 Ecology Manual). The tests were completed as “in-situ” tests at the approximate locations and bottom elevations of selected infiltration facilities based on site constraints and consultation with the design team. The purpose of the tests was to obtain representative infiltration rates for the native recessional

outwash gravels encountered across the site to be used for infiltration design. Our field-measured infiltration rate is considered a “short-term rate,” which must be corrected using several factors as outlined in the storm water manual adopted by the City of Lakewood. We understand the City of Lakewood has adopted both the 2014 Ecology Manual as well as the *Pierce County 2015 Stormwater Manual* (2015 Pierce County Manual) (Laura Grignon, P.E., CPL, personal communication). Correction factors are generally related to the site variability and number of locations tested, degree of long-term maintenance to prevent siltation and bio-buildup, and degree of influent control to prevent siltation and bio-buildup.

5.1 Infiltration Testing Procedures

AESI performed infiltration test IT-1 on January 12, 2017, and IT-2 and IT-3 on January 13, 2017. These infiltration tests were conducted in the coarse-grained recessional outwash deposits underlying surficial fill soils. The water used for the testing was obtained from on-site hydrants, which were located by the two proposed infiltration trenches near the northwest and northeast extents of the project site. Northwest Excavating and Trucking provided the excavator, large-ring infiltrometer, some of the hoses, and flow meter for the infiltration testing; AESI also provided hoses and flow meters. The test dimensions, depths, receptor soil, length of inflow (soak), length of falling head, and total volume for each infiltration test are provided in Table 1. Infiltration test data was recorded by hand in the field and subsequently transferred to an electronic spreadsheet. Infiltration test data sheets are included as Appendix B.

Infiltration tests IT-1 and IT-3 were conducted using a 71-inch-diameter steel ring (a large-scale infiltrometer), which provided sidewall shoring and a known surficial area. Infiltration test IT-2 was conducted as an open pit test. Infiltration testing occurred in two phases: a constant head phase and a falling head phase. For each infiltration test, the first phase of testing (constant head phase) began by introducing water through an electronic flow meter with instantaneous flow rate and total flow volume readouts. Water was discharged through a perforated polyvinyl chloride (PVC) pipe diffuser to minimize turbulence and scouring on the testing base. A staff gauge with 0.01-foot divisions was installed in the infiltrometer or pit to monitor the depth of water during testing. No water was present in the testing area prior to testing.

Water was allowed to rise in the infiltrometer or pit until the water level reached approximately 0.5 to 0.8 feet above the bottom of the infiltrometer or pit. A low head (or height) of water within the test area is consistent with design expectations for bioretention systems. A low head also minimizes sidewall caving and horizontal infiltration during testing. After the water level reached the target level, the inflow rate was reduced in order to maintain a constant water level (constant head). This portion of the test also allows the receptor soils in the immediate vicinity of the test area to become saturated. Readings of the water level, instantaneous flow rate, and total flow volume were recorded at approximately 5- to 15-minute intervals. The constant head infiltration rate was calculated using the average flow rate per time step, the test cell dimensions, and accounted for the change in storage within the pit. The inflow continued for about 7 hours for the tests with the exception of IT-1 (test started later in the day), which

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achieved 6 hours of inflow. The total volume used during each test ranged from approximately 2,895 to 18,224 gallons, as shown in Table 1.

In all infiltration tests, the second phase of testing (falling head phase) began by discontinuing the water flow immediately after the constant head phase. After discontinuing water flow, water levels were measured with a staff gauge or water level meter with 0.01-foot divisions. The duration of this phase varied depending on the infiltration rate and ranged from 2 minutes in IT-1 to 9 minutes in IT-2.

Upon completion of the falling head measurements and removal of the infiltrometer if it was used, the pits were overexcavated to: 1) document the types of soils the water infiltrated through, and 2) identify any soil layers that would restrict the downward flow of infiltrating water. Overexcavation within these pits exposed more of the coarse-grained recessional outwash to the maximum depths explored of 12 feet. Infiltration test IT-3 was conducted at a depth of 13 feet below the surface. During the overexcavation of IT-3, we encountered an approximate 12-inch bed of medium sand from 13 to 14 feet below the surface. We did not observe any post-testing seepage during the overexcavation in any of our infiltration pits. Infiltration testing details are contained on the infiltration pit logs included in Appendix B.

Table 1
Infiltration Test Information

Infiltration Test	Approximate Depth (feet) bgs	Infiltration Receptor Unit	Inflow Period (minutes)	Falling Head Period (minutes)	Total Volume (gallons)	Comments
IT-1	12	Recessional Outwash - Coarse-Grained	361	2	18,224	Large-scale infiltrometer used
IT-2	6	Recessional Outwash - Coarse-Grained	421	9	2,895	Pit dimension 7 feet x 3 feet
IT-3	13	Recessional Outwash - Coarse-Grained	420	8	6,153	Large-scale infiltrometer used

bgs = below ground surface.

5.2 Discussion of Field Results

The following discussion of field-based infiltration rates is in regards to the un-factored or uncorrected rates. The field-based constant head and falling head infiltration rates reflect the variability of the subsurface conditions encountered in the infiltration pits. The approximate test locations are shown on Figure 2 and Figure 3. A summary of the infiltration test results are included in Table 2. Design infiltration considerations and correction factors are discussed in the "Infiltration Facility Design Recommendation" section of this report.

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Infiltration tests IT-1, IT-2, and IT-3 were conducted in the coarse-grained recessional outwash-Steilacoom gravel deposits, which consist of stratified sandy gravels with varying amounts cobbles and trace silt and occasionally contain some finer-grained layers of sand. The uncorrected field infiltration rates for the tests are summarized in Table 2. Design rates are discussed in Section 17.0 of this report.

Table 2
Summary of Uncorrected Field Infiltration Rates

Test No.	Infiltration Receptor Unit	Uncorrected Field Infiltration Rates	
		Constant Head Test (in/hr)	Falling Head Test (in/hr)
IT-1	Recessional outwash - Steilacoom gravel	207	177
IT-2	Recessional outwash - Steilacoom gravel	53	46
IT-3	Recessional outwash - Steilacoom gravel	50	45

in/hr = inches per hour.

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II. GEOLOGIC HAZARDS AND MITIGATIONS

The following discussion of potential geologic hazards is based on the geologic conditions as observed and discussed herein.

6.0 SLOPE STABILITY HAZARDS AND RECOMMENDED MITIGATION

6.1 Slope Reconnaissance

Steep slopes exist adjacent to the west and north of the project area that meet the City of Lakewood definition for Landslide Hazard Areas, as defined in *Lakewood Municipal Code* (LMC) Section 14a.146.000, based on inclination and ground water seepage. AESI was not provided with topographic survey data for the entire steep slope areas. However, we did complete a slope reconnaissance on the western and northern-facing slopes adjacent to the project area on January 13, 2016, to visually assess the condition of the slopes. Generally, the western-facing slope adjacent to the existing parking lot located north of Building #6 is the most critical slope, based on height and inclination. The western slope has an estimated height of 90 feet and is associated with an existing ravine. This slope is generally inclined at 70 percent with localized sections of the slope inclined at 100 percent or a 1H:1V (Horizontal:Vertical) inclination. Comparatively, the slope to the north of the project area has an estimated height of 20 feet and is generally inclined at 20 to 40 percent. Both slopes were moderately vegetated with mature evergreen and deciduous trees with relatively straight trunks and very little underbrush vegetation such as shrubs or bushes. Approximately three-quarters down the western-facing ravine slope is an existing, ivy-covered, concrete wall ranging in height from a few feet to approximately 15 feet and generally oriented north to south. At the base of the wall's center is a wing wall extending out perpendicular to the west approximately 10 feet. Adjacent to the wing wall is a concrete box culvert structure. Access to the interior of the box culvert is achieved through a 3-foot-diameter hole in the wing wall. Inside the culvert, we observed a ductile iron pipe 10 to 12 inches in diameter extending from within the slope out past the end of the wing wall. The water flowing in the pipe and the associated flowing ground water running along the pipe through the culvert was the source of a flowing creek at the bottom of the ravine which flows to the northwest.

The entirety of the western and northern-facing slope face was comprised of sandy gravels likely associated with the recessional outwash identified in our explorations. Ground water seepage zones were identified along the lower portion of western slopes during the reconnaissance on the face of the slopes adjacent to the creek. The top of seepage zone along the face of the slope, southwest of the creek near the outfall from the ductile iron pipe was estimated at 10 feet above the creek itself. On the northeast side of the creek the top of the

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seepage zone was estimated at 3 feet above the creek itself. No ground water seepage zones were observed on the face of the slope north of the project area.

AESI also observed the condition of a partially aboveground, 10-inch-diameter, corrugated metal pipe (CMP) utilized for storm water drainage, which ran down the face of the western-facing slope located west of the existing parking lot. This pipe ran above ground from the crest of the slope to approximately two-thirds of the way down the slope before going below ground. This pipe is shown on Sheet C2.00 of the civil plans provided to us and connects to catch basins located within the adjacent parking and driveway areas. The aboveground portion of the pipe on the slope had moderate corrosion along the bottom, and we observed several areas where the pipe was rusted through leaving a number of holes in the pipe. Directly below the pipe, we observed moderate to heavy erosion likely caused from water leaking out the storm pipe and flowing on the face of the slope directly below. This erosion has resulted in a channel under the pipe that was field-measured to be approximately 5 feet wide and 3 feet deep in the more extreme portions.

6.2 Slope Imagery Review

We also reviewed a Light Distance and Ranging (LIDAR) image and aerial photographs of the ravine slopes to the west and the general slopes to the north of the project area. The LIDAR image allows us to observe the geometry of the slope surface without any obscurity caused by vegetation. The LIDAR image of the topographic features near the slope crests are relatively planar and generally show no indications of “scaloped” terrain associated with bowl-shaped landslide features. One exception is a bowl-shaped feature located approximately 75 feet to the northwest of the project area. This feature is located near what appears to be a primitive graded road and is possibly the remnants of a borrow mine.

6.3 Slope Modeling

Analysis of the stability of the western steep slope was conducted using the computer program Slope/W, Version 5.20, by Geo-Slope International. The program used the Morgenstern-Price method for evaluating a rotational failure. Input parameters for the analysis included slope geometry, geology and ground water conditions, soil strength parameters, and seismic conditions. For evaluation of slope stability under seismic conditions, a horizontal ground acceleration of 0.26g was used in our analysis. This corresponds to a value equal to one-half of the peak ground acceleration calculated in accordance with the 2015 *International Building Code* (IBC). The slope geometry was based on the LIDAR-based topographic contours as depicted on the slope profiles generated for the Slope/W modeling, specifically the section of the western slope that had traffic loading closest to the crest. The section of slope selected for stability modeling is shown on Figure 2.

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Subsurface conditions were based on the conditions encountered in our exploration pits and borings, our slope reconnaissance, and regional published geologic mapping. The associated soil strength parameters for these sediments were based on our experience with similar sediments encountered in the Puget Sound region. Ground water conditions were conservatively based on the highest ground water seepage observed on the slope face during the slope reconnaissance.

The stability of a slope can be expressed in terms of its factor of safety. The factor of safety is the ratio between the forces that resist sliding to the forces that drive sliding. For example, a factor of safety of 1.0 would indicate a slope where the driving forces and the resisting forces are exactly equal. Increasing factor of safety values greater than 1.0 indicate increased stability. Factors of safety below 1.0 indicate conditions where driving forces exceed resisting forces and landsliding is imminent.

Our analysis was completed on a cross-section of the slope where proposed traffic loads were identified to be closest to the crest of the steep slope, based on the proved civil site plan. This section was modeled both with the existing condition (no traffic loading) and with proposed condition (traffic loads present). For the proposed conditions, the traffic loading was located 10 feet from the crest of the slope. Our analyses indicate that the minimum factors of safety calculated for this slope under the existing and proposed conditions meet or exceed the required minimums of 1.5 and 1.1 for static and seismic conditions, respectively. Slope profiles generated for the Slope/W modeling, the soil strength parameters used for our analyses, and the calculated minimum factors of safety are included in Appendix C.

6.4 Steep Slope Mitigation Recommendations

Based on our slope reconnaissance and review of LIDAR and aerial imagery, we did not observe indications of recent deep-seated slope instability, such as tension cracks or setback terraces. We did observe signs of surficial sloughing and shallow erosion along the face of the western-facing and northern-facing slopes, particularly on the sections that are oversteepened to an approximate 1H:1V inclination. Based on the absence of visual indications of recent deep-seated slope instability and our slope modeling analyses, it is our opinion that the risk of damage to the proposed project by deep-seated landslides under either static or seismic conditions is low. It is likely that the slopes—and particularly the oversteepened portions observed to the northeast of the creek—will continue to experience weathering, shallow erosion, and surficial soil creep resulting in slow retreat of the slope face. Current project documents show the proposed building is set back at least a distance of 50 feet from the north slope and 175 feet from the west slope. In our opinion, the proposed building will be set back an adequate distance from the identified Landslide Hazard Areas to mitigate local slope instability and surficial soil erosion impacts. Paved driveways and parking lot areas should be set back a distance of 10 feet from the crest of the Landslide Hazard Area, in our opinion, in order to mitigate shallow erosion and surficial soil creep.

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Additionally, in order to mitigate further erosion to the slope caused by the corroded CMP storm pipe, we recommend that this storm line is removed or replaced. If a portion of a replacement drainpipe will remain above ground we recommend utilizing a non-corrosive pipe material such as high-density polyethylene (HDPE). HDPE pipe is a better long-term replacement than conventional plastic corrugated storm pipe because the joints are fused during installation eliminating the risk of leaking joints common with conventional storm pipe.

The opinions presented in this section are dependent upon site grading and construction practices—including drainage and erosion mitigation—being completed in accordance with the geotechnical recommendations presented in this report, and that no alterations of the slopes or their vegetation occurs.

7.0 SEISMIC HAZARDS AND RECOMMENDED MITIGATION

Earthquakes occur in the Puget Sound Lowland with great regularity. The vast majority of these events are small and are usually not felt by people. However, large earthquakes do occur as evidenced by the most recent 6.8-magnitude event on February 28, 2001, near Olympia, Washington; the 1965 6.5-magnitude event; and the 1949 7.2-magnitude event. The 1949 earthquake appears to have been the largest in this area during recorded history. Evaluation of return rates indicate that an earthquake of the magnitude between 5.5 and 6.0 is likely within a given 20-year period.

Generally, there are four types of potential geologic hazards associated with large seismic events: 1) surficial ground rupture, 2) seismically induced landslides, 3) liquefaction, and 4) ground motion. The potential for each of these hazards to adversely impact the proposed project is discussed below.

7.1 Surficial Ground Rupture

Generally, the largest earthquakes that have occurred in the Puget Sound area are sub-crustal events with epicenters ranging from 50 to 70 kilometers in depth. Earthquakes that are generated at such depths usually do not result in fault rupture at the ground surface. However, current research indicates that surficial ground rupture is possible in the Tacoma Fault Zone. The Tacoma Fault Zone is not thoroughly mapped or well understood. We are not aware of detailed maps of active faults in the project area. The best available mapping depicts multiple traces of the Tacoma Fault, all oriented northwest-southeast and passing north of the site. Based on current information, the risk of damage to planned improvements as a result of surface rupture due to faulting is low, in our opinion, and no mitigation efforts beyond complying with the current (2015) IBC are recommended.

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7.2 Seismically Induced Landslides

As discussed in Section 6.0, "Slope Stability Hazards and Recommended Mitigation," it is our opinion that risk of damage to the proposed new building and associated improvements constructed in accordance with the recommendations contained in this report will be low. Any additional risk of damage to the proposed project by landslides under seismic conditions is also considered to be low.

7.3 Liquefaction

Liquefaction is a process through which unconsolidated soil loses strength as a result of vibrations, such as those which occur during a seismic event. During normal conditions, the weight of the soil is supported by both grain-to-grain contacts and by the fluid pressure within the pore spaces of the soil below the water table. Extreme vibratory shaking can disrupt the grain-to-grain contact, increase the pore pressure, and result in a temporary decrease in soil shear strength. The soil is said to be liquefied when nearly all of the weight of the soil is supported by pore pressure alone. Liquefaction can result in deformation of the sediment and settlement of overlying structures. Areas most susceptible to liquefaction include those areas underlain by non-cohesive silt and sand with low relative densities, accompanied by a shallow water table.

Our explorations suggest that the potential risk of damage to the proposed development by liquefaction is low, due to the absence of ground water. No quantitative liquefaction analysis was completed as part of this study, and none is warranted, in our opinion.

7.4 Ground Motion/Seismic Site Class (2015 International Building Code)

Structural design of the proposed new building should follow 2015 IBC standards. We recommend that the project be designed in accordance with Site Class "D" as defined in IBC Table 20.3-1 of *American Society of Civil Engineers (ASCE) 7 – Minimum Design Loads for Buildings and Other Structures*.

8.0 EROSION CONTROL

The LMC defers to the Natural Resources Conservation Service (NRCS) Soil Map to determine Erosion Hazards. Erosion Hazards are considered as having moderate to severe, severe or very severe erosion hazard as determined by the NRCS. The NRCS soil map has identified three general soil types at the project site. These include Everett very gravelly sandy loam, 15 to 30 percent slopes; Spanaway gravelly sandy loam; and Xerochrepts, 45 to 70 percent slopes. The Everett very gravelly sandy loam was identified on the slope north of the project and is considered to have a moderate erosion rating, while Xerochrepts was identified on

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portions of the western slope and is considered to have a very severe erosion rating. The flatter portion of the site is identified as Spanaway gravelly sandy loam with a slight erosion rating.

The following discussion addresses the City of Lakewood erosion control regulations that will be applicable to the project. We anticipate that if our recommendations for erosion mitigation are followed, the development of the project will not increase the site slopes risk of erosion or landslides, nor subject the nearby creek to additional hazards resulting from erosion.

The erosion potential of the site soils is slight to very severe. Avoiding steep slope alteration and clearing, as well as maintaining cover measures atop disturbed ground, typically provides significant reduction to the potential generation of turbid runoff and sediment transport. During the local wet season (October 1st through March 31st), exposed soil should not remain uncovered for more than 2 days unless it is actively being worked. Ground-cover measures can include erosion control matting, plastic sheeting, straw mulch, crushed rock or recycled concrete, or mature hydroseed.

Project planning and construction should follow City of Lakewood standards of practice with respect to temporary erosion and sedimentation control (TESC). Best management practices (BMPs) should include, but not be limited to:

- Provide silt fencing along the lower perimeter of the disturbed areas;
- Route surface water away from work areas;
- Route surface water away from the moderate to steep sloped areas;
- Avoid clearing vegetation on the steep site slopes;
- Stripped areas not actively being worked on should have cover measures;
- All surface water conveyance should have check dams and be “armored” with crushed rock or other ground-cover product.
- Keep staging areas and travel areas clean and free of track-out;
- Provide rocked construction entrance;
- Cover work areas and stockpiled soils when not in use; and
- Complete earthwork during dry weather and site conditions, if possible.

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9.0 AQUIFER RECHARGE AREAS

“Aquifer recharge areas” are designated in LMC Section 14a.150.020 and are those areas with prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of ground water resources or contribute significantly to the replenishment of ground water.

The site is situated on high-permeability coarse-grained Vashon recessional outwash within the Clover/Chambers Creek Basin boundary, and meets the description of an aquifer recharge area. For some land uses, a hydrogeological report is required. Based on our understanding of the project, the project will not include land uses that would trigger a hydrogeological report. The land uses that would trigger a hydrogeologic report are listed in LMC Section 14A.150.030(4) “Regulated Activities,” and include the following:

- “1. Above Ground Storage Tanks (WAC [173-303-640](#));
2. Automobile Washing Facilities (WAC [173-216](#), DOE Publication WQ-R-95-56);
3. Below Ground Storage Tanks (WAC [173-360](#));
4. Residential structures housing three or more units and utilizing on-site septic systems (WAC [246-272](#), TPCD Regulations)
5. Sludge land application sites categorized as S-3, S-4 and S-5, as defined above;
6. Animal Containment Area (WAC [173-216](#), WAC [173-220](#));
7. Inert and demolition waste landfills (WAC [173-304](#));
8. *Facilities with the potential to generate hazardous waste, including, but not limited to boat repair facilities, biological research facilities, dry cleaners, furniture stripping, motor vehicle service garages, photographic processing, and printing shops.* (WAC [173-303](#)).”

According to maps available from the Washington State Department of Health (DOH) Source Water Assessment Program (SWAP) (<https://fortress.wa.gov/doh/eh/dw/swap/maps/>) website, the site lies within the 10-year time-of-travel capture zone of three municipal water wells: City of Fircrest’s Well 9, Western State Hospital Well 2, and Lakewood Water District Source 16 “View Rd N-2.”

The depth to ground water beneath the site is estimated to be on the order of 70 to 80 feet based on our site reconnaissance for this study and our previous explorations (AESI, 2009). Rainfall currently falling onto the site infiltrates into the subsurface sediments, soaks vertically downward, and eventually recharges the shallow aquifer. The overall quantity of ground water recharge into the shallow aquifer at depth by the proposed infiltration facilities should not be significantly different from the ground water recharge under existing conditions. Infiltrating storm water runoff will ultimately reach the shallow aquifer, then flow toward the northwest, and discharge at the existing springs forming the headwaters of Garrison Creek, adjacent to the

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site. In the opinion of AESI, any change in the quantity of ground water discharge on this slope due to the proposed project will be negligible.

Storm water management will include water quality treatment and infiltration of treated storm water designed according to BMPs. In our opinion, there should be no deleterious impact from the proposed development on these water supply wells, because 1) the wells are screened in lower aquifers, with low-permeability sediments separating the source from near-surface impacts associated with site development, and 2) the proposed project will be designed to be protective of ground water and surface water resources by treating and retaining storm water in compliance with the requirements of the City of Lakewood storm water requirements, and incorporating infiltration BMPs.

III. DESIGN RECOMMENDATIONS

10.0 INTRODUCTION

Existing fill was observed in most of the explorations in the project area and was encountered during our current study to range in thickness from 1.5 to 8 feet. EB-3 completed during our previous series of explorations on December 15, 2009, encountered fill to a depth of 15 feet below the surface. These fill thicknesses are likely associated with the filling of the basement of the previous building, which was demolished in 2001. Anecdotal information also suggests that underground tunnels were present below the building.

Current project planning calls for a finish floor basement with an elevation of 227.0 feet for the north portion of the building, Gridline A to Gridline C. South of Gridline C, the building will have a finish floor elevation of 240.0 feet. The bottom of the foundations for the basement portion of the building will have an elevation of 225.0. The portion of the building south of the basement will have deeper conventional foundations relative to the finish floor elevation, with the bottom of the foundation at an elevation of 230.5 feet. This is a result of the 4-foot loading dock and thick braced-framed foundations that are proposed.

11.0 SITE PREPARATION

Erosion and surface water control should be established around the clearing limits to satisfy local requirements. Existing paving, buried utilities, vegetation, topsoil, and any other deleterious materials should be removed where they are located below planned construction areas.

11.1 Building Pad Preparation

Current project plans show excavations at the building pad down to the bottom of foundation elevation of 225.0 feet for the entire portion north of Gridline C and 230.5 feet for the entire portion south of Gridline C. As a result, we anticipate that the encountered soils at the proposed foundation elevation will consist of both native gravels, suitable for foundation support, and existing fill, which requires removal for foundation support. We anticipate that existing fill soils will be exposed in the excavations near the northeast corner of the basement and for the portion of the building south of Gridline C. Where encountered under areas of foundations, the existing fill should be removed down to suitable native. The foundations may be lowered to the elevation of the native gravels or the foundation subgrade elevation can be achieved by placing structural fill over the native gravels. Preparation for the slab should include grading the portion of the building pad where existing grade is within 3 feet of the building slab subgrade, down to an elevation that is 3 feet below the slab subgrade followed by

the compaction of the resulting grade. Next, structural fill should be placed and compacted in lifts to achieve the building slab subgrade elevation. For the portion of the building pad that will require more than 3 feet of fill to achieve slab subgrade elevation, the existing grade, after stripping, should be compacted in place to a firm and unyielding condition before structural fill is then placed and compacted.

Alternatively, the building pad could be cut to the finish floor subgrade elevation for the two portions of the building where slab support will be achieved by the exposed native sediments or remedial preparation of exposed existing fill soils, as described above, and foundations would be excavated through the prepared building pad. This method will require foundation excavations up to nine feet or more if existing fill soils are exposed at the foundation elevations.

11.2 Pavement Preparation

We recommend that paving areas be stripped of existing topsoil, and proof-rolled and compacted as described in the “Structural Fill” section of this report. If the resulting surface is firm and unyielding and compacted to 95 percent or more of the modified Proctor maximum dry density, no further preparation is required. If the subgrade is wet or yielding, we recommend that a portion of the existing fill be removed and replaced with material that is capable of being compacted under field conditions that are present at the time the work is completed. Decisions on appropriate preparation procedures should be made in the field at the time of construction when site, soil, and weather conditions are known.

11.3 Temporary Cut Slopes

In our opinion, stable construction slopes should be the responsibility of the contractor and should be determined during construction. For estimating purposes, however, temporary, unsupported cut slopes can be planned at 1.5H:1V in unsaturated existing fill or recessional outwash—Steilacoom gravels.

These slope angles are for areas where ground water seepage is not present at the faces of the slopes. If ground or surface water is present when the temporary excavation slopes are exposed, flatter slope angles may be required. As is typical with earthwork operations, some sloughing and raveling may occur, and cut slopes may have to be adjusted in the field. In addition, WISHA/OSHA regulations should be followed at all times.

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11.4 Site Drainage and Surface Water Control

The site should be graded to prevent water from ponding in construction areas and/or flowing into excavations. Exposed grades should be crowned, sloped, and smooth drum-rolled at the end of each day to facilitate drainage. Accumulated water must be removed from subgrades and work areas immediately prior to performing further work in the area. Equipment access may be limited, and the amount of soil rendered unfit for use as structural fill may be greatly increased, if drainage efforts are not accomplished in a timely sequence.

11.5 Site Disturbance

Most of the on-site soils contain some fine-grained material and may be moisture-sensitive and subject to disturbance when wet. The contractor must use care during site preparation and excavation operations so that the underlying soils are not softened. If disturbance occurs, the softened soils should be removed and the area brought to grade with structural fill.

11.6 Winter Construction

Care should be taken to seal all earthwork areas during mass grading at the end of each workday by grading all surfaces to drain and sealing them with a smooth-drum roller. Stockpiled soils that will be reused in structural fill applications should be covered whenever rain is possible.

If winter construction is expected, existing paving should be used for construction staging if at all possible. In areas of exposed soil, crushed rock fill could be used to provide construction staging areas. The stripped subgrade should be observed by the geotechnical engineer, and should then be covered with a geotextile fabric, such as Mirafi 500X or equivalent. Once the fabric is placed, we recommend using a crushed rock fill layer at least 10 inches thick in areas where construction equipment will be used.

11.7 Overexcavation/Stabilization

Construction during extended wet weather periods could create the need to overexcavate exposed soils if they become disturbed and cannot be recompacted due to elevated moisture content and/or weather conditions. Even during dry weather periods, soft/wet soils, which may need to be overexcavated, may be encountered in some portions of the site. If overexcavation is necessary, it should be confirmed through continuous observation and testing by AESI. Soils that have become unstable may require remedial measures in the form of one or more of the following:

1. Drying and recompaction. Selective drying may be accomplished by scarifying or windrowing surficial material during extended periods of dry and warm weather.

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2. Removal of affected soils to expose a suitable bearing subgrade and replacement with compacted structural fill.
3. Mechanical stabilization with a coarse crushed aggregate compacted into the subgrade, possibly in conjunction with a geotextile.

11.8 Frozen Subgrades

If earthwork takes place during freezing conditions, all exposed subgrades should be allowed to thaw and then be recompacted prior to placing subsequent lifts of structural fill or foundation components. Alternatively, the frozen material could be stripped from the subgrade to reveal unfrozen soil prior to placing subsequent lifts of fill or foundation components. The frozen soil should not be reused as structural fill until allowed to thaw and adjusted to the proper moisture content, which may not be possible during winter months.

12.0 STRUCTURAL FILL

All references to structural fill in this report refer to subgrade preparation, fill type, placement, and compaction of materials, as discussed in this section. If a percentage of compaction is specified under another section of this report, the value given in that section should be used.

After stripping, planned excavation, and any required overexcavation have been performed to the satisfaction of the geotechnical engineer/engineering geologist, the surface of the exposed ground should be recompacted to a firm and unyielding condition. If the subgrade contains too much moisture, adequate recompaction may be difficult or impossible to obtain, and should probably not be attempted. In lieu of recompaction, the area to receive fill should be blanketed with washed rock or quarry spalls to act as a capillary break between the new fill and the wet subgrade. Where the exposed ground remains soft and further overexcavation is impractical, placement of an engineering stabilization fabric may be necessary to prevent contamination of the free-draining layer by silt migration from below.

After recompaction of the exposed ground is tested and approved, or a free-draining rock course is laid, structural fill may be placed to attain desired grades. Structural fill is defined as non-organic soil, acceptable to the geotechnical engineer, placed in maximum 8-inch loose lifts, with each lift being compacted to 95 percent of ASTM D-1557. The top of the compacted fill should extend horizontally outward a minimum distance of 3 feet beyond the locations of the perimeter footings or roadway edges before sloping down at a maximum angle of 2H:1V.

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The contractor should note that any proposed fill soils must be evaluated by AESI prior to their use in fills. This would require that we have a sample of the material at least 72 hours in advance to perform a Proctor test and determine its field compaction standard.

Soils in which the amount of fine-grained material (smaller than the No. 200 sieve) is greater than approximately 5 percent (measured on the minus No. 4 sieve size) should be considered moisture-sensitive. Use of moisture-sensitive soil in structural fills should be limited to favorable dry weather and dry subgrade conditions. Construction equipment traversing the site when the soils are wet can cause considerable disturbance.

If fill is placed during wet weather or if proper compaction cannot be obtained, a select, import material consisting of a clean, free-draining gravel and/or sand should be used. Free-draining fill consists of non-organic soil, with the amount of fine-grained material (smaller than the No. 200 sieve) limited to 5 percent by weight when measured on the minus No. 4 sieve fraction, and at least 25 percent retained on the No. 4 sieve.

Existing fill and excavated granular site soils are suitable for structural fill if project documents allow and any deleterious materials are removed. The site soils and fill are generally granular and will be usable for fill under a wider range of moisture than silt-rich glacial soils.

13.0 FOUNDATIONS

13.1 Shallow Foundations

Spread footings may be used for building support when founded directly on suitable native sediments or on new structural fill underlain by suitable native sediments. We recommend that an allowable foundation soil bearing pressure of 3,500 pounds per square foot (psf) be used for design of shallow foundations. Perimeter footings should be buried at least 18 inches into the surrounding soil for frost protection. All footings should have a minimum width of 18 inches.

It should be noted that the area bound by lines extending downward at 1H:1V from any footing must not intersect another footing or intersect a filled area that has not been compacted to at least 95 percent of ASTM D-1557. In addition, a 1.5H:1V line extending down from any footing must not daylight because sloughing or raveling may eventually undermine the footing. Thus, footings should not be placed near the edge of steps or cuts in the bearing soils.

Anticipated settlement of footings founded as described above should be on the order of $\frac{3}{4}$ inch or less. However, disturbed soil not removed from footing excavations prior to footing placement could result in increased settlements. All footing areas should be inspected by AESI prior to placing concrete to verify that the design bearing capacity of the soils has been attained and that construction conforms to the recommendations contained in this report. Such

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inspections may be required by the governing municipality. Perimeter footing drains should be provided as discussed under the “Drainage Considerations” section of this report.

13.2 Drainage Considerations

Foundations should be provided with foundation drains. Drains should consist of rigid, perforated, PVC pipe surrounded by washed pea gravel. The drains should be constructed with sufficient gradient to allow gravity discharge away from the proposed new building. Roof and surface runoff should not discharge into the footing drain system, but should be handled by a separate, rigid, tightline drain. In planning, exterior grades adjacent to walls should be sloped downward away from the proposed new building to achieve surface drainage.

14.0 FLOOR SUPPORT

Floor slabs can be supported on medium dense native soils, on new structural fill, or on existing fill with proper preparation as described in our “Site Preparation” section. It is important to note that there is an inherent risk of settlement to the owner if slabs are placed on existing fill. Floor slabs should be cast atop a minimum of 4 inches of clean, washed, crushed rock, or pea gravel to act as a capillary break. Areas of subgrade that are disturbed (loosened) during construction should be compacted to a non-yielding condition prior to placement of capillary break material. Floor slabs should also be protected from dampness by an impervious moisture barrier at least 10 mils thick. The moisture barrier should be placed between the capillary break material and the concrete slab.

15.0 FOUNDATION WALLS

All backfill behind foundation walls or around foundation units should be placed as per our recommendations for structural fill and as described in this section of the report. Horizontally backfilled walls, which are free to yield laterally at least 0.1 percent of their height, may be designed to resist lateral earth pressure represented by an equivalent fluid equal to 35 pounds per cubic foot (pcf). Fully restrained, horizontally backfilled, rigid walls that cannot yield should be designed for an equivalent fluid of 50 pcf. Walls with sloping backfill up to a maximum gradient of 2H:1V should be designed using an equivalent fluid of 55 pcf for yielding conditions or 75 pcf for fully restrained conditions. If parking areas are adjacent to walls, a surcharge equivalent to 2 feet of soil should be added to the wall height in determining lateral design forces.

As required by the 2015 IBC, retaining wall design should include a seismic surcharge pressure in addition to the equivalent fluid pressures presented above. Considering the site soils and the recommended wall backfill materials, we recommend a seismic surcharge pressure of 5H and

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10H psf, where H is the wall height in feet for the “active” and “at-rest” loading conditions, respectively. The seismic surcharge should be modeled as a rectangular distribution with the resultant applied at the midpoint of the walls.

The lateral pressures presented above are based on the conditions of a uniform backfill consisting of excavated on-site soils, or imported structural fill compacted to 90 percent of ASTM D-1557. A higher degree of compaction is not recommended, as this will increase the pressure acting on the walls. A lower compaction may result in settlement of the slab-on-grade or other structures supported above the walls. Thus, the compaction level is critical and must be tested by our firm during placement. Surcharges from adjacent footings or heavy construction equipment must be added to the above values. Perimeter footing drains should be provided for all retaining walls, as discussed under the “Drainage Considerations” section of this report.

It is imperative that proper drainage be provided so that hydrostatic pressures do not develop against the walls. This would involve installation of a minimum 1-foot-wide blanket drain to within 1 foot of finish grade for the full wall height using imported, washed gravel against the walls.

15.1 Passive Resistance and Friction Factors

Lateral loads can be resisted by friction between the foundation and the natural soils or supporting structural fill soils, and by passive earth pressure acting on the buried portions of the foundations. The foundations must be backfilled with structural fill and compacted to at least 95 percent of the maximum dry density to achieve the passive resistance provided below. We recommend the following allowable design parameters:

- Passive equivalent fluid = 250 pcf
- Coefficient of friction = 0.35

16.0 PAVEMENT RECOMMENDATIONS

We understand that the current concept will include construction of new paved parking lots and access roads. At this time we do not anticipate that new paving will be completed on public streets. If new paving is planned on public streets we should be allowed to make situation-specific paving recommendations.

After the area to be paved is stripped, and the subgrade soils are recompacted, the area should be proof-rolled with a loaded truck under the observation of AESI. Any soft, wet, organic, or yielding areas should be repaired as recommended during construction. If warranted, engineering stabilization fabric, such as Mirafi 500X (or equivalent), should be placed over the

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subgrade with the edges overlapped in accordance with the manufacturer's recommendations. Following subgrade preparation, clean, free-draining structural fill should be placed over the fabric and compacted to 95 percent of ASTM D-1557. Where fabric is exposed, spreading should be performed such that the dozer remains on the fill material and is not allowed to operate on uncovered fabric. When 12 inches of fill has been placed, the fabric should be proof-rolled with a loaded dump truck to pretension the fabric and identify soft spots in the fill. Upon completing the proof-rolling operation, additional structural fill should be placed and compacted to attain desired grades.

For private paving outside of the right-of-way, we recommend a pavement section consisting of 4 inches of asphalt concrete pavement (ACP) underlain by 2 inches of $\frac{5}{8}$ -inch crushed surfacing top course and 6 inches of $1\frac{1}{4}$ -inch crushed surfacing base course is the recommended minimum. The crushed rock courses must be compacted to 95 percent of maximum density.

17.0 INFILTRATION FACILITY DESIGN RECOMMENDATION

We understand that the City of Lakewood will consider both the 2015 Pierce County Manual and the 2014 Ecology Manual for infiltration design. Based on a review of correction factors, design infiltration rates will be slightly lower using the 2014 Ecology Manual as compared to the 2015 Pierce County Manual. Therefore, to be conservative, the 2014 Ecology Manual was used to determine appropriate correction factors to be applied to the field-based infiltration rates. The design infiltration rates were derived using the correction factors for site variability (CF_v), testing (CF_t), and maintenance (CF_m), per the following formulas:

$$\text{Total Correction Factor (CF}_T\text{)} = CF_v \times CF_t \times CF_m$$

and

$$K_{\text{sat Design}} = K_{\text{sat initial}} \times CF_T$$

where $K_{\text{sat Design}}$ and $K_{\text{sat initial}}$ are the design and measured infiltration rates. As stated in the "Field Infiltration Testing" section, the constant head field infiltration rate ranged from about 50 to 200 inches per hour (in/hr).

The site variability and number of locations tested correction factor CF_v accounts for uncertainty in subsurface conditions and is recommended to range between 0.33 and 1.0. Site conditions were generally consistent between explorations, and selected a correction factor CF_v of 0.9.

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The uncertainty of test method correction factor CF_t accounts for uncertainties in the testing methods. Small-scale pilot infiltration testing was completed and the correction factor CF_t is 0.5.

The maintenance correction factor (CF_m) is based on the degree of influent control to prevent siltation and bio-buildup. The 2014 Ecology Manual states that typically a maintenance schedule will call for removing sediment when the facility is infiltrating at 90% of its design capacity and recommends a corrector factor of 0.9. We selected a slightly lower value of 0.7 based on discussions with the architect and civil engineer regarding likelihood of regularly or routine maintenance.

The estimated design infiltration rate for facilities in the vicinity of IT-1, IT-2, and IT-3, are 16 to 30 in/hr, respectively. The correction factors used in the calculation and the resulting K_{sat} Design rates are shown in Table 3. Based on our subsurface explorations and testing, for infiltration facilities not located in the vicinity of IT-1, IT-2, or IT-3, we recommend a design rate of 10 in/hr for the on-site recessional outwash.

Table 3
Correction Factors and Design Infiltration Rates

Test No.	Field Infiltration Rate (in/hr) (K_{sat} Initial)	CF_v	CF_t	CF_m	Design Infiltration Rate (in/hr) (K_{sat} Design)
IT-1	207	0.9	0.5	0.7	65; maximum allowable rate is 30
IT-2	53	0.9	0.5	0.7	17
IT-3	50	0.9	0.5	0.7	16

in/hr = inches per hour.

As stated above, it is our understanding that the current development plan includes infiltration facilities.

AESI recommends that the infiltration trench be backfilled with washed gravel meeting the project specifications. The washed gravel backfill will need to be protected from siltation and sand by proper temporary erosion and sediment control (TESC) practices and management of the imported materials stockpile.

The design infiltration rates given above require that a representative of AESI observe the subgrade and is present during the excavation and backfilling of the infiltration facilities. In addition, the infiltration system must remain off-line during construction to avoid siltation. Storm water runoff must not be routed to the infiltration facility until the site is stabilized and runoff is clear.

Once available, we recommend that AESI review the preliminary design of the infiltration facilities to confirm that our recommendations have been properly interpreted and incorporated into the design. The design must be properly implemented during construction. The recommended design infiltration rate assumes that permeable recessional outwash similar to sediments tested in IT-1, IT-2, and IT-3 will be encountered at the infiltration facility subgrade.

17.1 Water Quality Treatment

Pre-treatment of storm water from pollution-generating sources will be required prior to discharge into the infiltration facilities.

17.2 Construction Erosion Hazard Best Management Practices

Care must be taken during construction not to contaminate the infiltration facilities with storm water and silt. The infiltration facilities must not be used to infiltrate storm water during construction. All construction site storm water should be directed to a suitable location as specified on the approved TESC plan.

During construction, the infiltration facilities must be configured to prevent silt-laden construction runoff water from entering the infiltration facilities.

Prior to bringing the infiltration facilities on-line, the following elements must be achieved:

1. All planned earthwork must be complete.
2. Site stabilization must be complete:
 - a. All permanent groundcover in place.
 - b. No exposed topsoil.
 - c. Hydroseeded areas must have established growth sufficient to fix topsoil in place.
 - d. No visible sediment transport by storm water during rain events.
 - e. Catch-basin filter socks should no longer be needed and shall be removed.
3. Hard surfaces such as paving and sidewalks must be cleaned with no visible sediment or substances that could be transported by storm water.
4. All storm water collection system components must be cleaned and inspected:
 - a. All catch basins, manholes, and similar structures shall be cleaned by rinsing and vacuuming to remove visible sediment. No water used in the cleaning of the upstream system shall be discharged into the infiltration vault.

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- b. All storm water pipes shall be jetted to remove visible sediment.
 - c. After cleaning, a video survey shall be completed of all pipes and structures in the storm water collection system. The owner shall be notified prior to the video survey work so they may observe the work in progress if desired. A recording of the video survey shall be provided to the owner, civil engineer, and AESI. The survey shall include sufficient detail to correlate video images with on-site locations.
5. AESI shall be notified that construction is complete, and shall be allowed to install long-term monitoring components such as water level loggers, if required, before water is routed to the infiltration facilities.
 6. The owner, civil engineer, and AESI must be notified that the above items have been completed, and must concur that the above items have been satisfactorily completed.
 7. Written authorization must be provided from the owner, civil engineer, and AESI to the contractor that water may be routed to the infiltration facilities for disposal.
 8. Following the first substantial rain event after the infiltration facilities are brought on-line, the system shall be visually inspected. The contractor shall contact the owner, civil engineer, and AESI to attend the inspection, and shall open ports or enclosures as applicable, catch basins, manholes, and other structures as needed to allow visual inspection.

18.0 PROJECT DESIGN AND CONSTRUCTION MONITORING

We recommend that we are allowed to review the recommendations presented in this report and modify them, if needed, if project plans are changed. We are also available to provide geotechnical engineering and monitoring services during construction. The integrity of the foundation system depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of our currently approved scope of work.

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19.0 CLOSING


We have enjoyed working with you on this study and are confident that these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington


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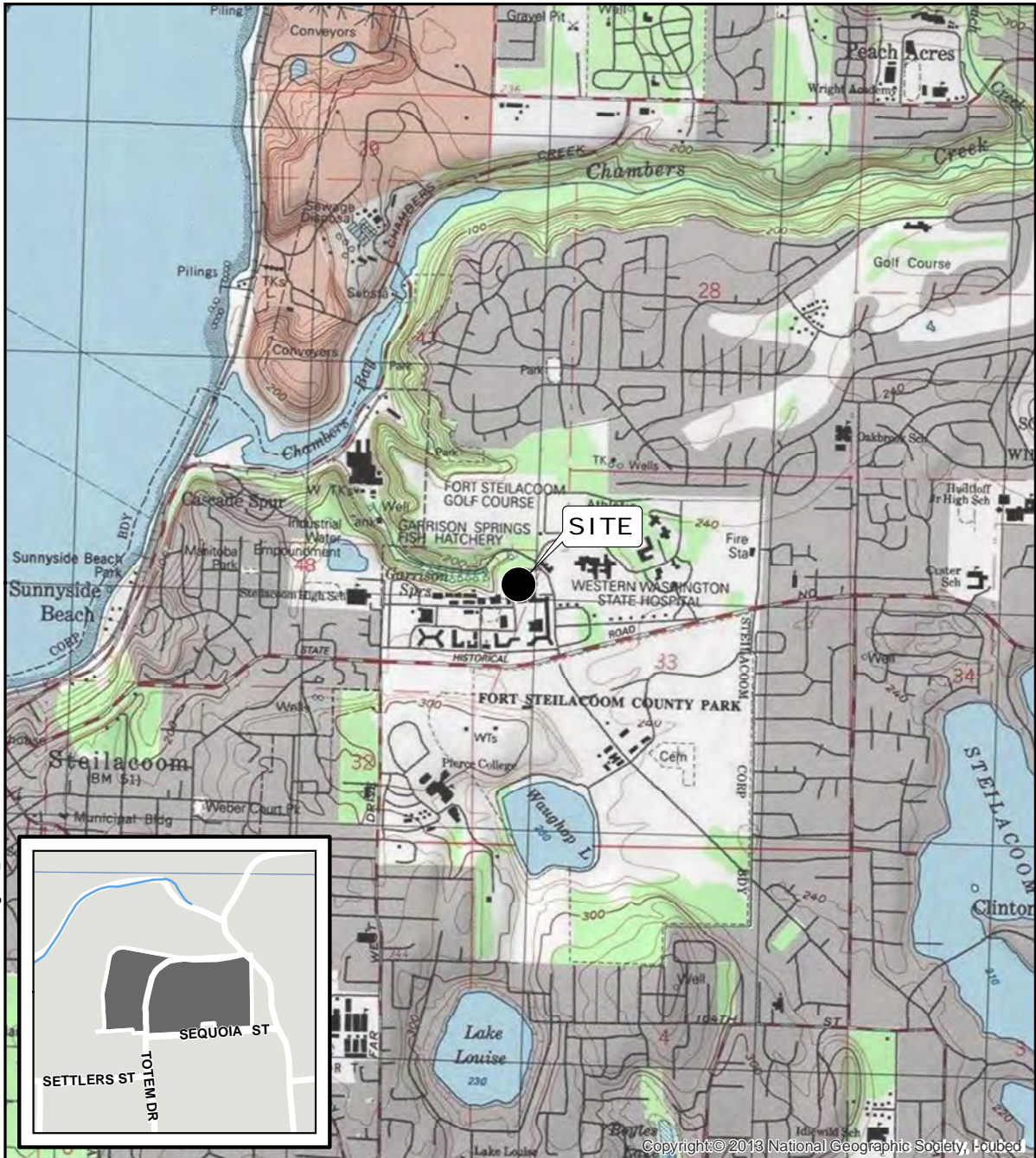
- Attachments:
- Figure 1: Vicinity Map
 - Figure 2: Explorations With Proposed Site Plan
 - Figure 3: LIDAR Based Topography Site and Explorations
 - Appendix A: Exploration Logs
Laboratory Testing Results
 - Appendix B: Infiltration Field Data
 - Appendix C: Slope W/ Profiles

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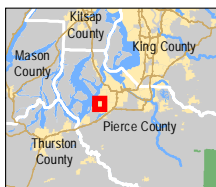
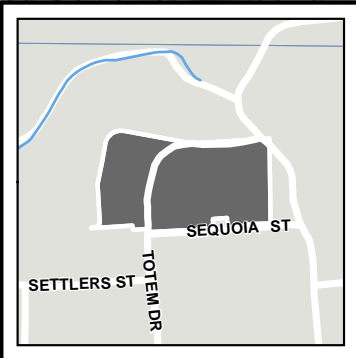
ASSOCIATED EARTH SCIENCES, INC.

Page 28



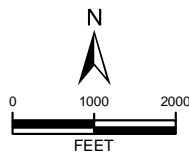
Document Path: \\workfile2\GIS\GIS_S_Projects\161040805 Western State\mxd\040805 Fig1 VM_WSH.mxd

Western State Hospital / Appendix



DATA SOURCES / REFERENCES:
 USGS: 24K SERIES TOPOGRAPHIC MAPS
 PIERCE CO: STREETS, CITY LIMITS, PARCELS 05/16

LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE



NOTE: BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION



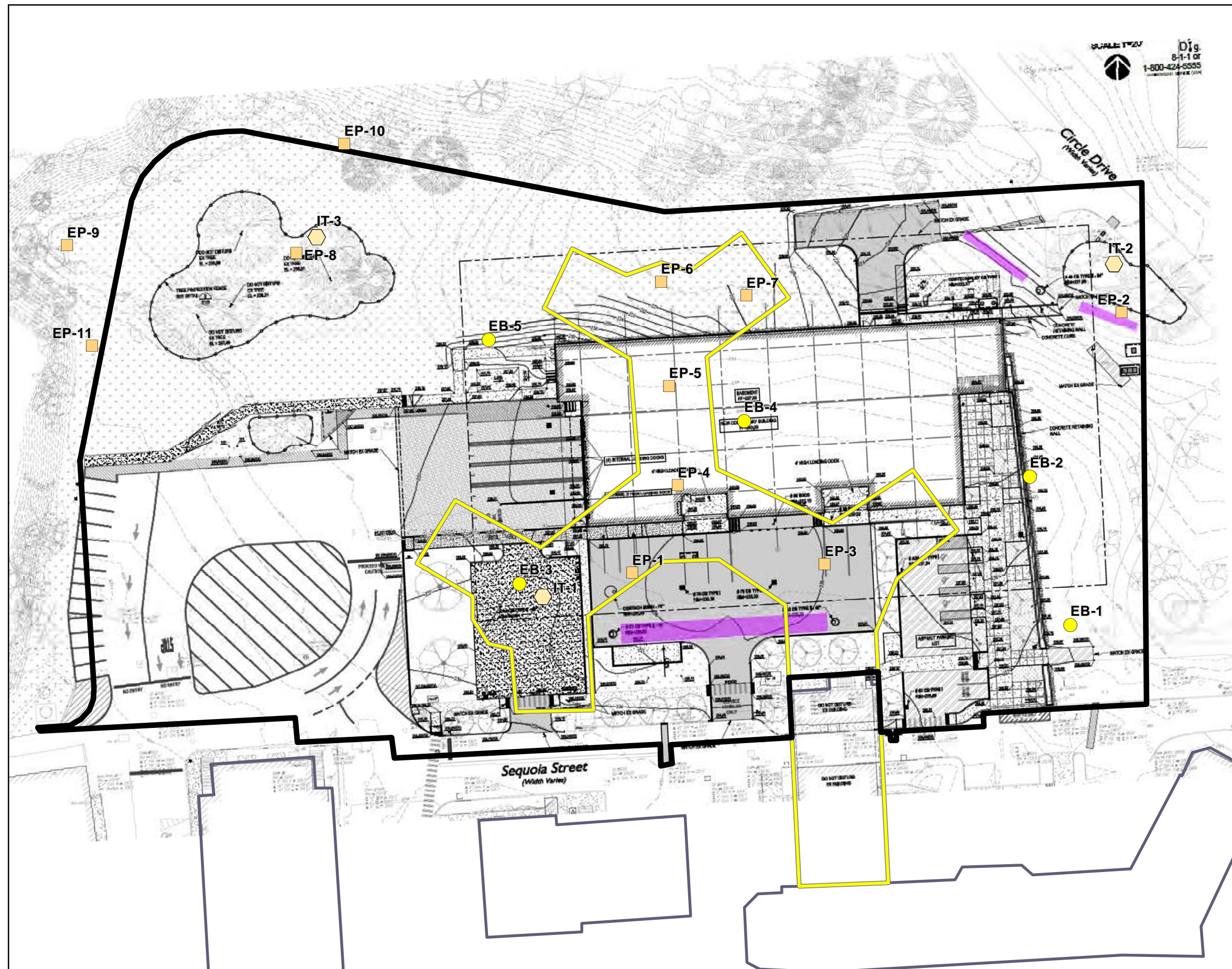
associated
 earth sciences
 incorporated

VICINITY MAP

WESTERN STATE HOSPITAL
 NEW PATIENT SUPPORT CENTER
 LAKEWOOD, WASHINGTON

PROJ NO.	DATE:	FIGURE:
040805E001	9/17	1

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SCALE 1"=20'
 8-1-1 or
 1-800-424-5555
 WESTERN STATE HOSPITAL

LEGEND:

- SITE
- EXPLORATION BORING
- EXPLORATION PIT
- INFILTRATION TEST
- INFILTRATION FEATURE
- PREVIOUS BUILDING SITE
- EXISTING BUILDING

DATA SOURCES / REFERENCES:
 PSLC: PIERCE CO 2010 LIDAR 3"
 PIERCE CO: PARCELS, STREETS 2016
 CIVIL PLAN BY: NAC ARCHITECTURE, CIVIL SITE PLAN
 COMMISSARY SITE, NEW PATIENT SUPPORT CENTER, C2.00, C3.00

LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE



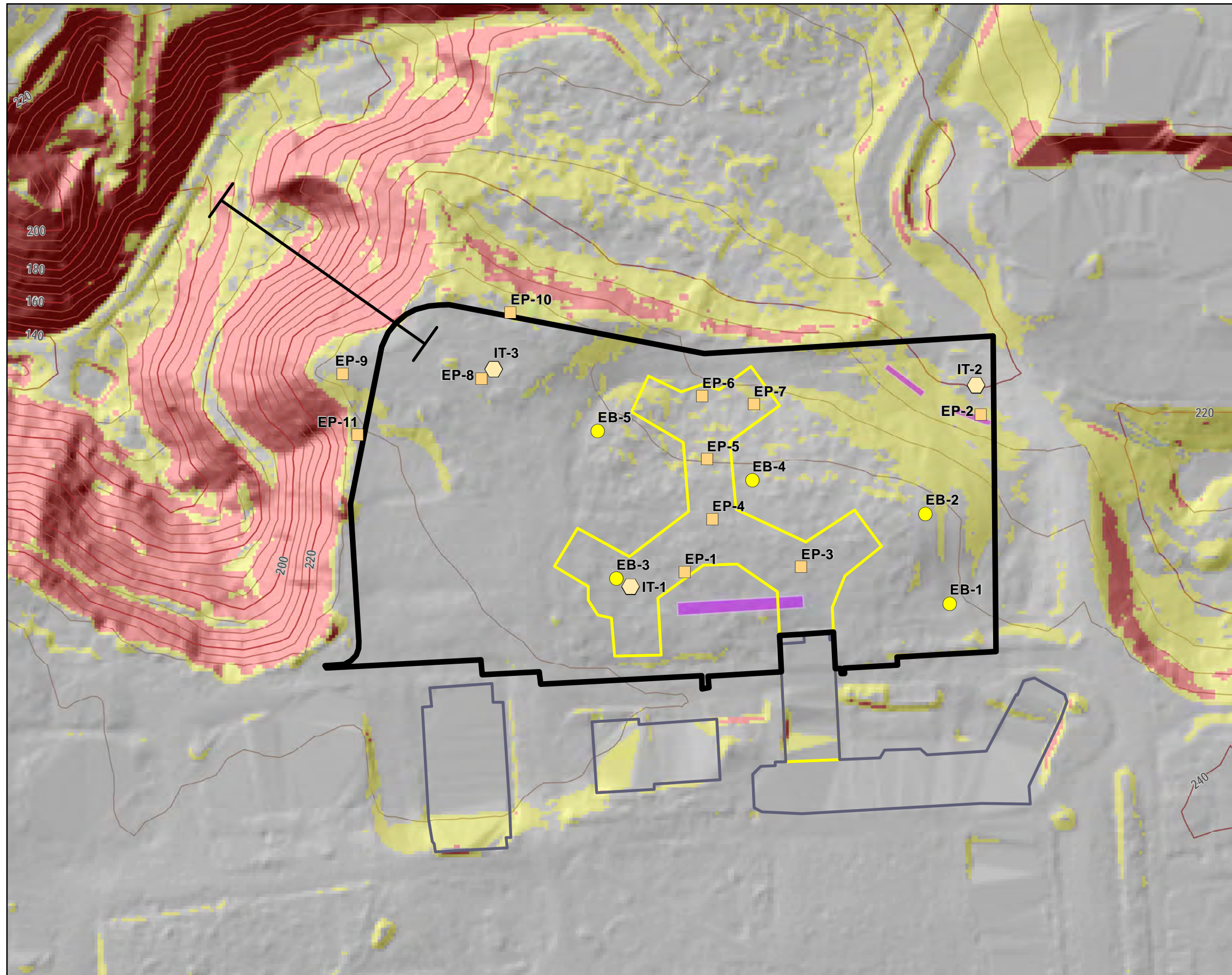
BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION
















**EXPLORATIONS
 WITH PROPOSED SITE PLAN
 WESTERN STATE HOSPITAL
 NEW PATIENT SUPPORT CENTER
 LAKEWOOD, WASHINGTON**

Document Path: \\wsh\file2\GIS\GIS Projects\161040805 Western State\mxd\040805 WSH_SiteExplo11x17.mxd

Western State Hospital - Foundation Report

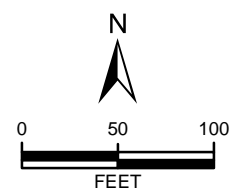


LEGEND:

-  SITE
-  EXPLORATION BORING
-  EXPLORATION PIT
-  INFILTRATION TEST
-  INFILTRATION FEATURE
-  PREVIOUS BUILDING SITE
-  EXISTING BUILDING
-  0 - 10% SLOPE
-  10 - 30% SLOPE
-  >30% SLOPE
-  SLOPE PROFILE
-  CONTOUR 20 FT
-  CONTOUR 5 FT

DATA SOURCES / REFERENCES:
 PSLC: PIERCE CO 2010 LIDAR 3'
 PIERCE CO: PARCELS, STREETS 2016
 CIVIL PLAN BY: NAC ARCHITECTURE, CIVIL SITE PLAN
 COMMISSARY SITE, NEW PATIENT SUPPORT CENTER, C3.00

LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE



BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION



**LIDAR BASED TOPOGRAPHY
 SITE AND EXPLORATIONS
 WESTERN STATE HOSPITAL
 NEW PATIENT SUPPORT CENTER
 LAKEWOOD, WASHINGTON**

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APPENDIX A

Exploration Logs Laboratory Testing Results

LOG OF EXPLORATION PIT NO. EP-1

Depth (ft)		
	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p>DESCRIPTION</p>	
	Fill	
1	Dense to medium dense, slightly moist, dark brown to black, sandy GRAVEL / gravelly SAND, some silt, trace cobbles, occasional boulder; metal debris, concrete rubble and brick present (GP-SP).	
2		
3		
4		
5		
6	As above, except loose to medium dense.	
7		
8	Recessional Outwash - Steilacoom Gravel	
9	Loose to medium dense, moist, brown to gray brown, sandy GRAVEL / gravelly, fine to coarse SAND, trace to some cobbles, trace silt, occasional boulder; horizontally stratified (GP).	
10		
11		
12		
13		
14		
15		
16		
17		
18		
19	Bottom of exploration pit at depth 18 feet No seepage. Minor caving from 8 to 18 feet.	
20		

Western State Hospital / Appendix

KCTP3 040805.GPJ January 25, 2017

Western State Hospital Lakewood, WA

Logged by: JHS
Approved by: JHS



Project No. KE040805C
1/12/17

LOG OF EXPLORATION PIT NO. EP-2

Depth (ft)	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p>
	DESCRIPTION
	Grass / Topsoil
1	<p style="text-align: center;">Fill</p> <p>Medium dense, moist, dark brown and dark gray, fine to medium sandy, GRAVEL, trace cobbles (GP).</p>
2	
3	Recessional Outwash - Steilacoom Gravel
4	<p>Medium dense, moist, tan, sandy GRAVEL, some cobbles, trace silt; coarsely stratified (GP).</p>
5	
6	
7	
8	Becomes moist to very moist.
9	
10	
11	
12	
13	<p>Medium dense, very moist, tannish gray, sandy GRAVEL, some cobbles, trace silt (GP).</p>
14	<p>Bottom of exploration pit at depth 13 feet No seepage. Light to moderate caving from 4 to 13 feet.</p>
15	
16	
17	
18	
19	
20	

Western State Hospital / Appendix

**Western State Hospital
Lakewood, WA**

Logged by: AWR
Approved by: JHS



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Project No. KE040805C

1/12/17

KCTP3 040805.GPJ January 25, 2017

LOG OF EXPLORATION PIT NO. EP-3

Depth (ft)	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p>
	DESCRIPTION
1	Grass / Topsoil
2	Fill
3	Medium dense, moist, dark gray, sandy GRAVEL, trace silt, trace brick, wood and concrete debris (compacted) (GP).
4	
5	Recessional Outwash - Steilacoom Gravel
6	Medium dense, moist, tannish gray, sandy GRAVEL, trace cobbles, trace silt; stratified (GP).
7	
8	
9	More cobbles.
10	Bottom of exploration pit at depth 9 feet No seepage. Light caving from 3 to 9 feet.
11	
12	
13	
14	
15	
16	
17	
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Western State Hospital / Appendix

KCTP3 040805.GPJ January 25, 2017

Western State Hospital Lakewood, WA

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Project No. KE040805C

1/12/17

LOG OF EXPLORATION PIT NO. EP-4

Depth (ft)	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p>
	DESCRIPTION
	Grass / Topsoil Fill
1	
2	Medium dense to dense, moist, dark gray, sandy GRAVEL; contains organic, concrete, and brick debris (compacted) (GP).
3	
4	
5	
6	
7	
8	Recessional Outwash - Steilacoom Gravel
9	Medium dense, very moist, tannish gray, sandy GRAVEL, trace to some cobbles; stratified (GP).
10	
11	Becomes very moist to wet.
12	
13	Medium dense, very moist to moist, tannish gray, sandy GRAVEL, trace silt; stratified (GP).
14	Bottom of exploration pit at depth 13.5 feet No seepage. Light to moderate caving from 4 to 13.5 feet.
15	
16	
17	
18	
19	
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Western State Hospital / Appendix

**Western State Hospital
Lakewood, WA**

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Project No. KE040805C

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KCTP3 040805.GPJ January 25, 2017

LOG OF EXPLORATION PIT NO. EP-5

Depth (ft)		
	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.	
	DESCRIPTION	
	Grass / Topsoil	
1	Fill	
2	Medium dense to dense, moist, dark gray, sandy GRAVEL, trace silt, trace wood and brick debris (compacted) (GP).	
3		
4		
5		
6	Recessional Outwash - Steilacoom Gravel	
7	Medium dense, moist, tannish gray, very sandy GRAVEL, trace silt; stratified (GP).	
8	Fill dives downward towards the NE in the pit walls.	
9		
10	Becomes very moist.	
11	Bottom of exploration pit at depth 10.5 feet No seepage. Light to moderate caving from 5 to 10.5 feet.	
12		
13		
14		
15		
16		
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18		
19		
20		

Western State Hospital / Appendix

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Project No. KE040805C

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LOG OF EXPLORATION PIT NO. EP-6

Depth (ft)	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p>
	DESCRIPTION
	Grass / Topsoil
1	Fill
2	Medium dense, moist, dark gray, sandy GRAVEL, trace silt, trace wood, brick, concrete/rebar debris (GP).
3	
4	Recessional Outwash - Steilacoom Gravel
5	Medium dense, moist to very moist, tannish gray, sandy, cobbly GRAVEL; stratified (GP).
6	
7	
8	
9	Medium dense, very moist, tannish gray, sandy GRAVEL, some cobbles, trace silt; stratified (GP).
10	Bottom of exploration pit at depth 9.5 feet No seepage. Moderate to heavy caving from 1 to 9 feet.
11	
12	
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14	
15	
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17	
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19	
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Western State Hospital / Appendix

**Western State Hospital
Lakewood, WA**

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Project No. KE040805C
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KCTP3 040805.GPJ January 25, 2017

LOG OF EXPLORATION PIT NO. EP-7

Depth (ft)		
	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p>DESCRIPTION</p>	
1	Fill	
2	Medium dense, moist, dark gray, sandy GRAVEL, trace silt; contains some brick, wood, concrete debris (GP).	
3	----- Recessional Outwash - Steilacoom Gravel -----	
4		
5		
6		
7	Medium dense, very moist, tan, sandy, cobbly GRAVEL, trace silt; stratified (GP).	
8	Operator notes harder digging.	
9	As above.	
10	Bottom of exploration pit at depth 9.5 feet No seepage. Heavy caving from 1 to 9 feet.	
11		
12		
13		
14		
15		
16		
17		
18		
19		
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Western State Hospital / Appendix

KCTP3 040805.GPJ January 25, 2017

Western State Hospital Lakewood, WA

Logged by: AWR
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Project No. KE040805C

1/12/17

LOG OF EXPLORATION PIT NO. EP-8

Depth (ft)	<p style="font-size: small;">This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p>DESCRIPTION</p>
	Fill
1	Medium dense, moist, dark gray, sandy GRAVEL, trace silt; contains brick and concrete debris (GP).
2	----- Recessional Outwash - Steilacoom Gravel -----
3	
4	
5	Medium dense, moist, tannish gray, sandy GRAVEL, trace silt; stratified (GP).
6	
7	
8	Medium sand bed (10 inches thick) with trace to some gravel.
9	
10	Medium dense, moist, tannish gray, sandy GRAVEL, trace silt; stratified (GP).
11	
12	
13	
14	Becomes very moist.
15	
16	Medium dense, very moist, tannish gray, sandy GRAVEL, trace silt; stratified (GP).
17	Bottom of exploration pit at depth 16.5 feet No seepage. Minor to moderate caving.
18	
19	
20	

Western State Hospital / Appendix

Western State Hospital Lakewood, WA

Logged by: AWR
Approved by: JHS



Project No. KE040805C
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KCTP3 040805.GPJ January 25, 2017

LOG OF EXPLORATION PIT NO. EP-9

Depth (ft)		
	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.	
	DESCRIPTION	
	Gravel Surface	
	Fill	
1	Medium dense, moist, dark gray, sandy GRAVEL; contains wood and brick debris (GP).	
2		
	Recessional Outwash - Steilacoom Gravel	
3	Medium dense, moist, tan, sandy GRAVEL, trace silt (GP).	
4		
5	Medium dense, moist, tannish gray, fine to medium SAND, trace to some silt, trace to some gravel (SP).	
6		
7	Medium dense, moist, tannish gray, sandy GRAVEL, trace cobbles (GP).	
8		
9		
10		
11		
12		
13		
14	As above.	
15	Bottom of exploration pit at depth 14 feet No seepage. Minor to moderate caving from 2 to 10 feet.	
16		
17		
18		
19		
20		

Western State Hospital / Appendix

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Western State Hospital Lakewood, WA

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Project No. KE040805C

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LOG OF EXPLORATION PIT NO. EP-10

Depth (ft)	<p style="font-size: small;">This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p>DESCRIPTION</p>
1	<p>Fill</p> <p>Medium dense, moist, dark gray, sandy GRAVEL; contains wood and brick debris (GP).</p>
2	<p>-----</p> <p>Recessional Outwash - Steilacoom Gravel</p>
3	
4	<p>Medium dense, moist, tan, sandy GRAVEL, trace silt; stratified (GP).</p>
5	
6	
7	<p>Bottom of exploration pit at depth 6 feet No seepage. Minor caving.</p>
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Western State Hospital / Appendix

KCTP3 040805.GPJ January 25, 2017

Western State Hospital Lakewood, WA

Logged by: AWR
Approved by: JHS



Project No. KE040805C

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LOG OF EXPLORATION PIT NO. EP-11

Depth (ft)		
	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p>DESCRIPTION</p>	
1	Loose to medium dense, moist, dark gray, sandy GRAVEL, trace silt; contains some brick and wood debris (GP).	
2		
3		
4	Recessional Outwash - Steilacoom Gravel	
5	Medium dense, moist, tannish gray, sandy GRAVEL, trace silt (GP).	
6		
7		
8	As above.	
9		
10	Bottom of exploration pit at depth 9 feet No seepage. Light to moderate caving from 2 to 8 feet.	
11		
12		
13		
14		
15		
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17		
18		
19		
20		

Western State Hospital / Appendix

KCTP3 040805.GPJ January 25, 2017

Western State Hospital Lakewood, WA

Logged by:
Approved by: JHS



Project No. KE040805C
1/13/17

LOG OF EXPLORATION PIT NO. IT-1

Depth (ft)	<p style="font-size: small;">This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p style="text-align: center;">DESCRIPTION</p>	
1	Grass / Root Mat	
2	Fill	
3	Medium dense to dense, slightly moist, dark brown, sandy GRAVEL, some silt, trace cobbles; abundant to some debris (brick, plastic, wood and concrete); massive (GW).	
4	Loose to medium dense, slightly moist, dark brown, sandy GRAVEL to gravelly SAND, some silt, occasional cobbles, some debris (brick, concrete, wood); slight caving (GP/SP).	
5		
6		
7	Recessional Outwash - Steilacoom Gravel	
8	Medium dense, slightly moist to moist, brown-gray, sandy GRAVEL, trace silt; horizontally stratified (GP).	
9		
10		
11		
12	As above, except moist to very moist.	
13		
14		
15		
16		
17	As above, except some cobbles, very moist.	
18		
19	Bottom of exploration pit at depth 18 feet No seepage. Caving to 14 feet. Infiltration test completed at 12 feet.	
20		

Western State Hospital / Appendix

Western State Hospital Lakewood, WA

Logged by: KMA
Approved by: JHS



Project No. KE040805C
1/12/17

KCTP3 040805.GPJ January 25, 2017

LOG OF EXPLORATION PIT NO. IT-2

Depth (ft)		
	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.	
	DESCRIPTION	
	Grass / Root Mat	
	Fill	
1	Medium dense to dense, slightly moist, dark brown-black, gravelly, fine to medium SAND, some to trace silt, some debris (brick and wood); rootlets down to ~2 feet; massive (SW).	
2		
3	Native / Steilacoom Gravel	
4	Medium dense, slightly moist to moist, gray-brown, very sandy GRAVEL; sand is medium to coarse (GP).	
5		
6	As above, except very moist.	
7	Medium dense, very moist to wet (becomes wet at 10.5 feet), medium to coarse sandy, fine to coarse GRAVEL, trace to some cobbles, occasional boulder; trace rootlets to BOH; horizontally stratified; heavy caving on side walls from 7 to 9 feet (GP).	
8		
9		
10		
11		
12	Bottom of exploration pit at depth 11 feet No seepage. Slight caving from 3 to 4 1/2 feet. Heavy caving from 7 to 9 feet. Infiltration test completed at 6 feet.	
13		
14		
15		
16		
17		
18		
19		
20		

Western State Hospital / Appendix

KCTP3 040805.GPJ January 25, 2017

Western State Hospital Lakewood, WA

Logged by: KMA
Approved by: JHS



Project No. KE040805C
1/13/17

LOG OF EXPLORATION PIT NO. IT-3

Depth (ft)		
	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.	
	DESCRIPTION	
	Fill	
1	Medium dense, moist, dark gray, sandy GRAVEL, some debris, trace silt (GP).	
2	----- Recessional Outwash - Steilacoom Gravel -----	
3		
4	Medium dense, moist, tannish gray, GRAVEL, trace silt, trace cobbles; stratified (GP).	
5		
6		
7		
8	Becomes moist to very moist.	
9		
10		
11		
12		
13	----- Medium dense, very moist, gray, gravelly SAND, trace silt (SP). -----	
14	Sandy interbed from 13 to 14 feet.	
15	Becomes gravel at 14 feet.	
16		
17		
18	Medium dense, wet, gray, sandy GRAVEL; stratified (GP).	
19	Bottom of exploration pit at depth 18 feet No seepage. Minor caving. Infiltration test completed at 13 feet.	
20		

Western State Hospital / Appendix

Western State Hospital Lakewood, WA

Logged by: AWR
Approved by: JHS



Project No. KE040805C
1/12/17

KCTP3 040805.GPJ January 25, 2017


Associated Earth Sciences, Inc.				Exploration Log			
		Project Number KE040805B		Exploration Number EB-1		Sheet 2 of 2	
Project Name <u>Western State Hospital Commissary</u>				Ground Surface Elevation (ft) <u>235'</u>			
Location <u>Lakewood, WA</u>				Datum <u>NAC Architecture</u>			
Driller/Equipment <u>Gregory/CME 850</u>				Date Start/Finish <u>12/15/09, 12/15/09</u>			
Hammer Weight/Drop <u>140# / 30"</u>				Hole Diameter (in) <u>8"</u>			

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests	
							10	20	30	40		
		S-9		Grades without silt stringers and with few fine gravel (SW).			26					
				Bottom of exploration boring at 41.5 feet			37					
45							35					
50												
55												
60												
65												
70												
75												

Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Grab Sample	<input type="checkbox"/> No Recovery <input type="checkbox"/> Ring Sample <input type="checkbox"/> Shelby Tube Sample	M - Moisture <input type="checkbox"/> Water Level () <input type="checkbox"/> Water Level at time of drilling (ATD)	Logged by: BWG Approved by:
--	---	---	--------------------------------

Western State Hospital / Appendix

AESIBOR 040805B.GPJ January 4, 2010


Associated Earth Sciences, Inc.		Exploration Log			
		Project Number KE040805B	Exploration Number EB-2	Sheet 1 of 2	
Project Name Western State Hospital Commissary		Ground Surface Elevation (ft) 235'		Datum NAC Architecture	
Location Lakewood, WA		Date Start/Finish 12/15/09, 12/15/09		Hole Diameter (in) .8"	
Driller/Equipment Gregory/CME 850					
Hammer Weight/Drop 140# / 30"					

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests	
							10	20	30	40		
				Grass and topsoil.								
				Fill								
5		S-1		Recessional Outwash Medium dense, moist, brown, fine to coarse GRAVEL, with fine to coarse sand, few silt (GW); no stratification.		10 11 13		▲24				
10		S-2		Low recovery. Blow count may be overstated. Drill action suggests cobbles.		9 14 12		▲25				
15		S-3		Same texture as S-1.		9 11 12		▲23				
20		S-4		Dense, moist, brown, fine to coarse GRAVEL, with fine to coarse sand, few silt, few cobbles (GW); no stratification.		11 16 30					▲46	
25		S-5		Medium dense, moist, brown, fine GRAVEL, with medium to coarse sand, trace fine sand and silt (GP).		5 7 13		▲20				
30		S-6		No textural change.		5 10 14		▲24				
35		S-7		No textural change: Increase in SPT driving resistance last 2".		7 7 15		▲22				

Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Grab Sample	<input type="checkbox"/> No Recovery <input type="checkbox"/> Ring Sample <input type="checkbox"/> Shelby Tube Sample	M - Moisture <input type="checkbox"/> Water Level () <input type="checkbox"/> Water Level at time of drilling (ATD)
Logged by: BWG Approved by:		

AESIBOR_040805B.GPJ, January 4, 2010

Western State Hospital / Appendix

Associated Earth Sciences, Inc.		Exploration Log					
		Project Number KE040805B	Exploration Number EB-2	Sheet 2 of 2			
Project Name <u>Western State Hospital Commissary</u>		Location <u>Lakewood, WA</u>		Ground Surface Elevation (ft) <u>235'</u>			
Driller/Equipment <u>Gregory/CME 850</u>		Date Start/Finish <u>12/15/09, 12/15/09</u>		Datum <u>NAC Architecture</u>			
Hammer Weight/Drop <u>140# / 30"</u>				Hole Diameter (in) <u>.8"</u>			

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests	
							10	20	30	40		
		S-8		Becomes dense. No textural change.								
				Bottom of exploration boring at 41.5 feet								
45												
50												
55												
60												
65												
70												
75												

Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Grab Sample	<input type="checkbox"/> No Recovery <input type="checkbox"/> Ring Sample <input type="checkbox"/> Shelby Tube Sample	M - Moisture <input type="checkbox"/> Water Level () <input type="checkbox"/> Water Level at time of drilling (ATD)	Logged by: BWG Approved by:
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Western State Hospital / Appendix

AESIBOR 040805B.GPJ, January 4, 2010

Associated Earth Sciences, Inc.			Exploration Log				
		Project Number KE040805B		Exploration Number EB-3		Sheet 1 of 2	
Project Name Western State Hospital Commissary			Ground Surface Elevation (ft) 237'				
Location Lakewood, WA			Datum NAC Architecture				
Driller/Equipment Gregory/CME 850			Date Start/Finish 12/15/09, 12/15/09				
Hammer Weight/Drop 140# / 30"			Hole Diameter (in) .8"				

Depth (ft)	S	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests	
							10	20	30	40		
		S-1		Grass and topsoil. Fill Medium dense, moist, dark brown, fine to coarse GRAVEL, with brick and concrete, little fine to coarse sand and silt (GW).								
5		S-2		As above.								
10		S-3		Trace recovery of fill as above. Blow count may be overstated.								
15		S-4		No recovery - rock. Fill (slough) in shoe. Blow count overstated. Recessional Outwash								
20		S-5		Dense, moist, brown, fine to coarse GRAVEL, with fine to coarse sand, few silt (GW); no stratification.								
20		S-6		Becomes dense, gradation as above.								
25		S-7		Dense, very moist (no free water), brown, fine to coarse GRAVEL, with medium to coarse sand, few silt; no stratification.								
30		S-8		Low recovery. Continues very moist. No free water.								
35		S-9		Becomes medium dense. Gradation as above.								

Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Grab Sample	<input type="checkbox"/> No Recovery <input type="checkbox"/> Ring Sample <input type="checkbox"/> Shelby Tube Sample	M - Moisture <input type="checkbox"/> Water Level () <input type="checkbox"/> Water Level at time of drilling (ATD)
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Logged by: BWG
Approved by:

AESIBOR 040805B.GPJ January 4, 2010

Western State Hospital / Appendix

Associated Earth Sciences, Inc.		Exploration Log																			
		Project Number KE040805B	Exploration Number EB-3	Sheet 2 of 2																	
Project Name <u>Western State Hospital Commissary</u>		Location <u>Lakewood, WA</u>		Ground Surface Elevation (ft) <u>237'</u>																	
Driller/Equipment <u>Gregory/CME 850</u>		Hammer Weight/Drop <u>140# / 30"</u>		Datum <u>NAC Architecture</u>		Date Start/Finish <u>12/15/09, 12/15/09</u>															
				Hole Diameter (in) <u>.8"</u>																	
Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests										
							Blows/6"	10	20	30		40									
		S-10		Gradation as above.			10														
				Bottom of exploration boring at 41.5 feet			12														
45							15														
50																					
55																					
60																					
65																					
70																					
75																					
<p>Sampler Type (ST):</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> 2" OD Split Spoon Sampler (SPT)</td> <td><input type="checkbox"/> No Recovery</td> <td>M - Moisture</td> <td rowspan="3" style="text-align: right; vertical-align: top;">Logged by: BWG Approved by:</td> </tr> <tr> <td><input type="checkbox"/> 3" OD Split Spoon Sampler (D & M)</td> <td><input type="checkbox"/> Ring Sample</td> <td>∇ Water Level ()</td> </tr> <tr> <td><input type="checkbox"/> Grab Sample</td> <td><input type="checkbox"/> Shelby Tube Sample</td> <td>▼ Water Level at time of drilling (ATD)</td> </tr> </table>												<input type="checkbox"/> 2" OD Split Spoon Sampler (SPT)	<input type="checkbox"/> No Recovery	M - Moisture	Logged by: BWG Approved by:	<input type="checkbox"/> 3" OD Split Spoon Sampler (D & M)	<input type="checkbox"/> Ring Sample	∇ Water Level ()	<input type="checkbox"/> Grab Sample	<input type="checkbox"/> Shelby Tube Sample	▼ Water Level at time of drilling (ATD)
<input type="checkbox"/> 2" OD Split Spoon Sampler (SPT)	<input type="checkbox"/> No Recovery	M - Moisture	Logged by: BWG Approved by:																		
<input type="checkbox"/> 3" OD Split Spoon Sampler (D & M)	<input type="checkbox"/> Ring Sample	∇ Water Level ()																			
<input type="checkbox"/> Grab Sample	<input type="checkbox"/> Shelby Tube Sample	▼ Water Level at time of drilling (ATD)																			

AESIBOR_040805B.GPJ, January 4, 2010

Western State Hospital / Appendix

Associated Earth Sciences, Inc.				Exploration Log																										
Project Number KE040805B		Exploration Number EB-4		Sheet 1 of 2																										
Project Name Western State Hospital Commissary		Location Lakewood, WA		Ground Surface Elevation (ft) 234'		Datum NAC Architecture																								
Driller/Equipment Gregory/CME 850		Hammer Weight/Drop 140# / 30"		Date Start/Finish 12/16/09, 12/16/09		Hole Diameter (in) 8"																								
Depth (ft)	S T	Samples Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests																				
						10	20	30	40																					
			Grass and topsoil.																											
			Fill																											
5		S-1	Medium dense, very moist, dark brown, fine GRAVEL, with fine to coarse sand, few silt (GP); brick and concrete rubble 20%.		12 13 11			▲24																						
		S-2	Low recovery of fill as above. Fill in cuttings.		6 9 9			▲18																						
			Thin zones of perched seepage.																											
			----- Recessional Outwash -----																											
10		S-3	Dense, moist, brown, fine to coarse GRAVEL, with fine to coarse sand, few silt, trace cobbles (GW); no stratification.		9 16 15			▲31																						
15		S-4	Grades to medium dense with predominantly medium to coarse sand (GW).		7 8 10			▲18																						
20		S-5	Gradation of sand fraction returns to fine to coarse.		4 14 14			▲28																						
25		S-6	Dense to very dense (blow count overstated), moist, brown, fine to coarse GRAVEL, with fine to coarse sand, few silt, trace cobbles (GW); no stratification.		6 21 35					▲56																				
30		S-7	Gradation as above, but medium dense.		15 13 10			▲23																						
35		S-8	Grades to trace silt.		12 13 9			▲22																						
<p>Sampler Type (ST):</p> <table border="0"> <tr> <td></td> <td>2" OD Split Spoon Sampler (SPT)</td> <td></td> <td>No Recovery</td> <td></td> <td>M - Moisture</td> <td rowspan="3" style="text-align: right;"> Logged by: BWG Approved by: </td> </tr> <tr> <td></td> <td>3" OD Split Spoon Sampler (D & M)</td> <td></td> <td>Ring Sample</td> <td></td> <td>Water Level ()</td> </tr> <tr> <td></td> <td>Grab Sample</td> <td></td> <td>Shelby Tube Sample</td> <td></td> <td>Water Level at time of drilling (ATD)</td> </tr> </table>													2" OD Split Spoon Sampler (SPT)		No Recovery		M - Moisture	Logged by: BWG Approved by:		3" OD Split Spoon Sampler (D & M)		Ring Sample		Water Level ()		Grab Sample		Shelby Tube Sample		Water Level at time of drilling (ATD)
	2" OD Split Spoon Sampler (SPT)		No Recovery		M - Moisture	Logged by: BWG Approved by:																								
	3" OD Split Spoon Sampler (D & M)		Ring Sample		Water Level ()																									
	Grab Sample		Shelby Tube Sample		Water Level at time of drilling (ATD)																									

AESIBOR 040805B.GPJ January 4, 2010

Western State Hospital / Appendix

Associated Earth Sciences, Inc.		Exploration Log					
		Project Number KE040805B	Exploration Number EB-4	Sheet 2 of 2			
Project Name <u>Western State Hospital Commissary</u>		Ground Surface Elevation (ft) <u>234'</u>		Datum <u>NAC Architecture</u>			
Location <u>Lakewood, WA</u>		Date Start/Finish <u>12/16/09, 12/16/09</u>		Hole Diameter (in) <u>8"</u>			
Driller/Equipment <u>Gregory/CME 850</u>		Hammer Weight/Drop <u>140# / 30"</u>					

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot				Other Tests
								10	20	30	40	
		S-9		Grades to dense.			10 18 18				▲36	
45				Bottom of exploration boring at 41.5 feet								
50												
55												
60												
65												
70												
75												

Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input checked="" type="checkbox"/> Grab Sample	<input type="checkbox"/> No Recovery <input type="checkbox"/> Ring Sample <input checked="" type="checkbox"/> Shelby Tube Sample	M - Moisture <input type="checkbox"/> Water Level () <input checked="" type="checkbox"/> Water Level at time of drilling (ATD)	Logged by: BWG Approved by:
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Western State Hospital / Appendix

AESIBOR 040805B.GPJ January 4, 2010

Associated Earth Sciences, Inc.		Exploration Log								
		Project Number KE040805B	Exploration Number EB-5	Sheet 1 of 2						
Project Name Western State Hospital Commissary		Ground Surface Elevation (ft) 234'								
Location Lakewood, WA		Datum NAC Architecture								
Driller/Equipment Gregory/CME 850		Date Start/Finish 12/16/09, 12/16/09								
Hammer Weight/Drop 140# / 30"		Hole Diameter (in) 8"								
Depth (ft)	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
						10	20	30	40	
			Grass and topsoil. Fill							
5	S-1		Loose, very moist, dark brown, fine to coarse SAND, with fine to coarse gravel, little silt (SM); 5% brick and concrete rubble.	4 4 6		▲10				
	S-2		Blow count overstated. ----- Recessional Outwash	2 10 20			▲30			
10	S-3		Dense, moist, brown, fine to coarse GRAVEL, with fine to coarse sand, trace silty trace cobbles (GW); no stratification.	10 21 14				▲35		
15	S-4		As above.	12 14 19				▲33		
20	S-5		As above.	5 18 21				▲39		
25	S-6		As above.	5 20 29					▲49	
30	S-7		Very dense (blow count may be overstated), moist, brown, fine to coarse SAND, with fine to coarse gravel, trace silt (SW); no stratification.	7 40 38					▲78	
35	S-8		Gradation as above, but medium dense.	6 10 10			▲20			
Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> No Recovery M - Moisture <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Ring Sample <input type="checkbox"/> Water Level () <input type="checkbox"/> Grab Sample <input type="checkbox"/> Shelby Tube Sample <input type="checkbox"/> Water Level at time of drilling (ATD)										
										Logged by: BWG Approved by:

AESIBOR 040805B.GPJ January 4, 2010

Western State Hospital / Appendix

Associated Earth Sciences, Inc.		Exploration Log								
		Project Number KE040805B	Exploration Number EB-5	Sheet 2 of 2						
Project Name <u>Western State Hospital Commissary</u>		Location <u>Lakewood, WA</u>		Ground Surface Elevation (ft) <u>234'</u>						
Driller/Equipment <u>Gregory/CME 850</u>		Hammer Weight/Drop <u>140# / 30"</u>		Datum <u>NAC Architecture</u>		Date Start/Finish <u>12/16/09, 12/16/09</u>				
				Hole Diameter (in) <u>8"</u>						
Depth (ft)	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
						Blows/6"	10	20	30	
45	S-9		Medium dense, moist, brown, fine GRAVEL, with fine to coarse sand, trace silt (GW).	4	10	▲14				
45	S-10		Medium dense, moist, brown, fine SAND, trace silt, trace fine gravel (SP).	10	12	▲24				
46.5			Bottom of exploration boring at 46.5 feet	12						
50										
55										
60										
65										
70										
75										
Sampler Type (ST): <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> No Recovery M - Moisture <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Ring Sample ▽ Water Level () <input type="checkbox"/> Grab Sample <input type="checkbox"/> Shelby Tube Sample ▽ Water Level at time of drilling (ATD)										
										Logged by: BWG Approved by:

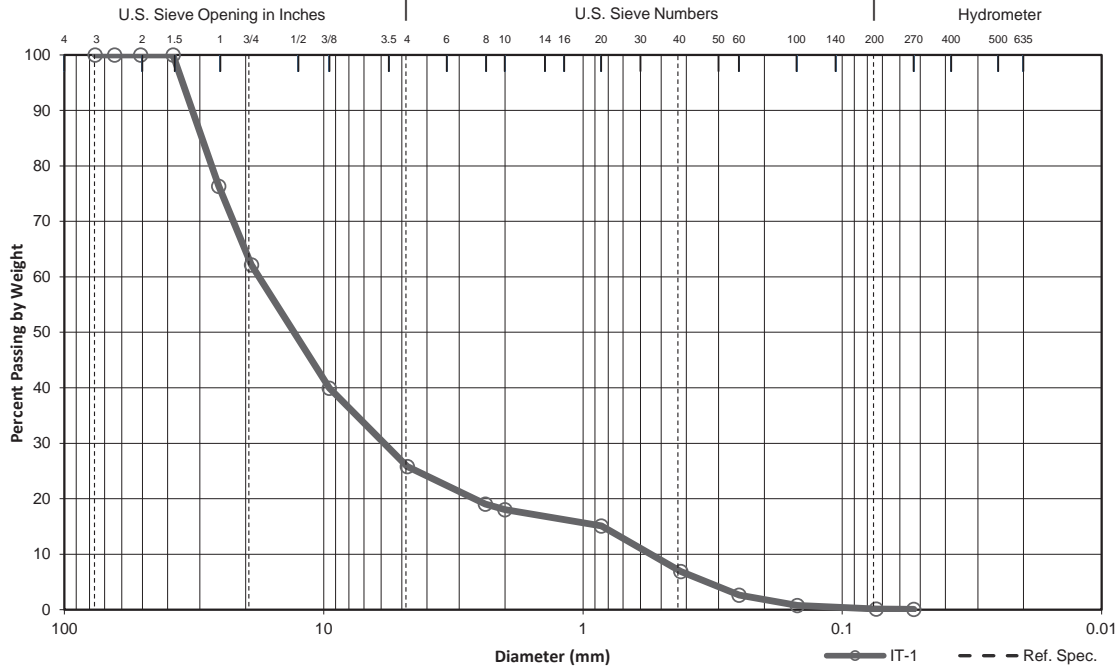
Western State Hospital / Appendix

AESIBOR 040805B.GPJ January 4, 2010



GRAIN SIZE ANALYSIS - MECHANICAL ASTM D422

Project Name Western State Hospital	Project Number KE040805C	Date Sampled 1/12/2017	Date Tested 1/16/2017	Tested By BP
Sample Source Onsite	Sample No. IT-1	Depth (ft) 12	Soil Description sandy GRAVEL, trace silt (GP)	
Total Sample Dry Wt. (g) 3459.2	Moisture Content (%) 0	D ₁₀ (mm) 0.547	Reference Specification	



Cobb.	Gravel				Sand			Silt or Clay
	Coarse		Fine		Coarse	Medium	Fine	

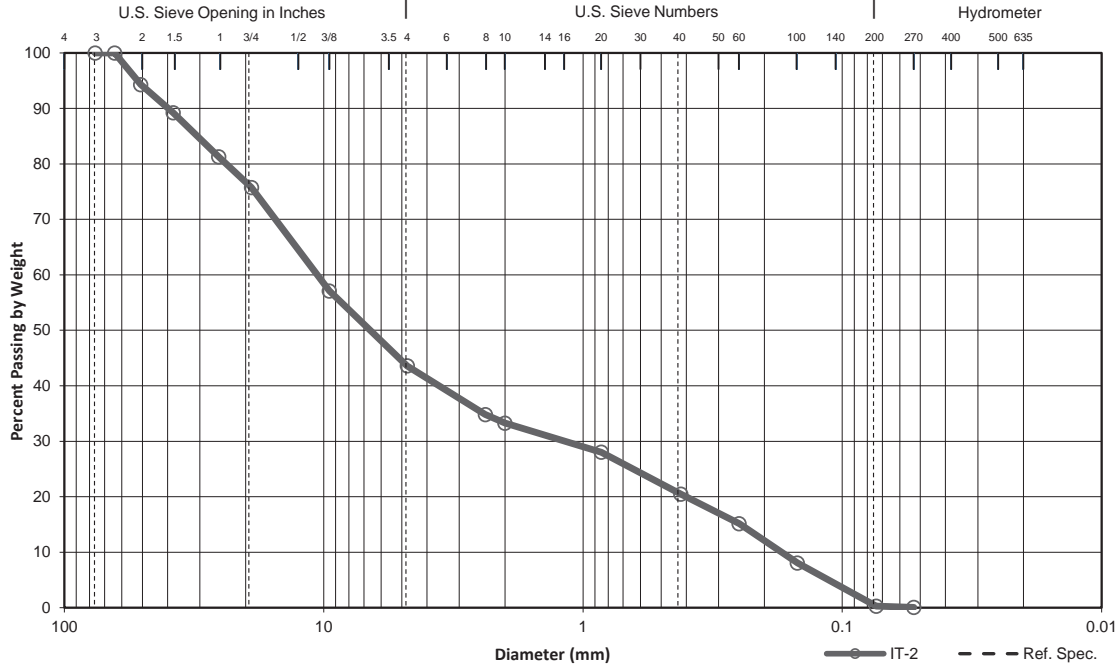
Sieve No.	Diam. (mm)	Cum. Wt. Ret. (g)	% Ret. by Wt.	% Passing by Wt.	% Specs. Pass. by Wt.	
					Min	Max
3	76.1		0.0	100.0		
2.5	64		0.0	100.0		
2	50.8		0.0	100.0		
1.5	38.1		0.0	100.0		
1	25.4	818.2	23.7	76.3		
3/4	19	1309.0	37.8	62.2		
3/8	9.51	2077.1	60.0	40.0		
#4	4.76	2566.6	74.2	25.8		
#8	2.38	2799.8	80.9	19.1		
#10	2	2834.8	81.9	18.1		
#20	0.85	2936.4	84.9	15.1		
#40	0.42	3220.1	93.1	6.9		
#60	0.25	3368.1	97.4	2.6		
#100	0.149	3433.7	99.3	0.7		
#200	0.074	3455.0	99.9	0.1		
#270	0.053	3457.0	99.9	0.1		

Kirkland Office | 911 Fifth Avenue | Kirkland, WA 98033 P | 425.827.7701 F | 425.827.5424
 Everett Office | 2911 1/2 Hewitt Avenue, Suite 2 | Everett, WA 98201 P | 425.259.0522 F | 425.252.3408
 Tacoma Office | 1552 Commerce Street, Suite 102 | Tacoma, WA 98402 P | 253.722.2992 F | 253.722.2993
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GRAIN SIZE ANALYSIS - MECHANICAL ASTM D422

Project Name Western State Hospital	Project Number KE040805C	Date Sampled 1/12/2017	Date Tested 1/16/2017	Tested By BP
Sample Source Onsite	Sample No. IT-2	Depth (ft) 6	Soil Description very sandy GRAVEL, trace silt (GP)	
Total Sample Dry Wt. (g) 4047.2	Moisture Content (%) 0	D ₁₀ (mm) 0.171	Reference Specification	



Cobb.	Gravel				Sand			Silt or Clay
	Coarse		Fine		Coarse	Medium	Fine	

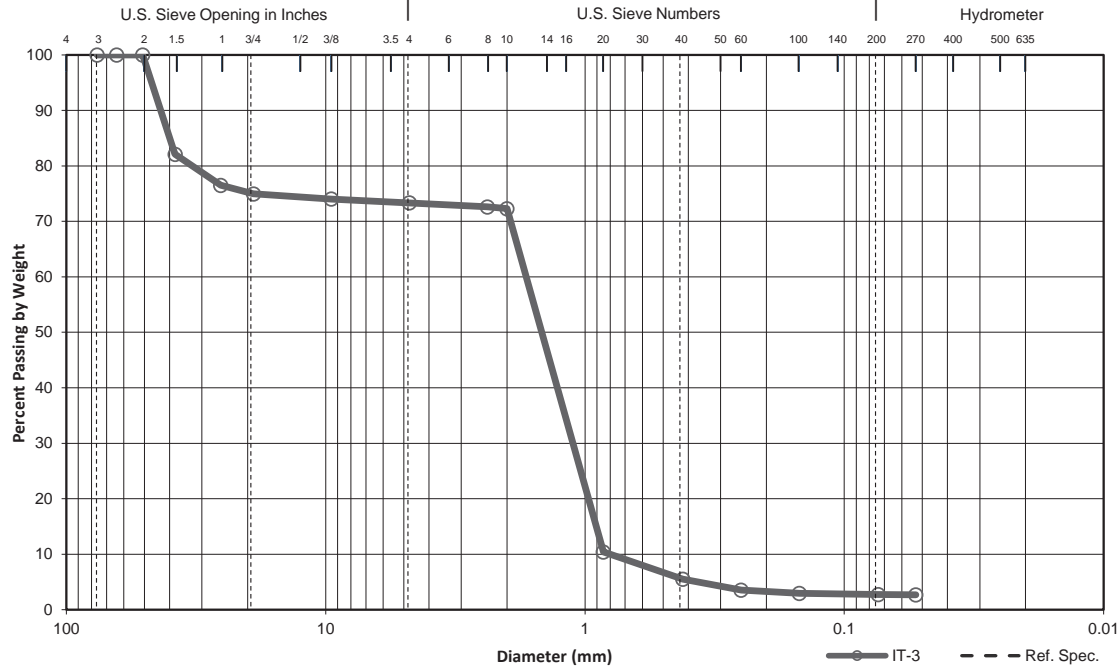
Sieve No.	Diam. (mm)	Cum. Wt. Ret. (g)	% Ret. by Wt.	% Passing by Wt.	% Specs. Pass. by Wt.	
					Min	Max
3	76.1		0.0	100.0		
2.5	64		0.0	100.0		
2	50.8	230.5	5.7	94.3		
1.5	38.1	435.7	10.8	89.2		
1	25.4	757.8	18.7	81.3		
3/4	19	980.9	24.2	75.8		
3/8	9.51	1735.6	42.9	57.1		
#4	4.76	2283.0	56.4	43.6		
#8	2.38	2638.0	65.2	34.8		
#10	2	2701.0	66.7	33.3		
#20	0.85	2912.7	72.0	28.0		
#40	0.42	3218.2	79.5	20.5		
#60	0.25	3433.6	84.8	15.2		
#100	0.149	3721.6	92.0	8.0		
#200	0.074	4035.9	99.7	0.3		
#270	0.053	4045.0	99.9	0.1		

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 Tacoma Office | 1552 Commerce Street, Suite 102 | Tacoma, WA 98402 P | 253.722.2992 F | 253.722.2993
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GRAIN SIZE ANALYSIS - MECHANICAL ASTM D422

Project Name Western State Hospital	Project Number KE040805C	Date Sampled 1/12/2017	Date Tested 1/16/2017	Tested By BP
Sample Source Onsite	Sample No. IT-3	Depth (ft) 13-14	Soil Description gravelly SAND, trace silt (SP)	
Total Sample Dry Wt. (g) 2763.5	Moisture Content (%) 0	D ₁₀ (mm) 0.798	Reference Specification	



Cobb.	Gravel				Sand			Silt or Clay
	Coarse		Fine		Coarse	Medium	Fine	

Sieve No.	Diam. (mm)	Cum. Wt. Ret. (g)	% Ret. by Wt.	% Passing by Wt.	% Specs. Pass. by Wt.	
					Min	Max
3	76.1		0.0	100.0		
2.5	64		0.0	100.0		
2	50.8		0.0	100.0		
1.5	38.1	494.8	17.9	82.1		
1	25.4	649.6	23.5	76.5		
3/4	19	691.5	25.0	75.0		
3/8	9.51	717.6	26.0	74.0		
#4	4.76	736.7	26.7	73.3		
#8	2.38	756.6	27.4	72.6		
#10	2	765.3	27.7	72.3		
#20	0.85	2475.1	89.6	10.4		
#40	0.42	2611.8	94.5	5.5		
#60	0.25	2665.7	96.5	3.5		
#100	0.149	2681.5	97.0	3.0		
#200	0.074	2688.5	97.3	2.7		
#270	0.053	2689.3	97.3	2.7		

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 Tacoma Office | 1552 Commerce Street, Suite 102 | Tacoma, WA 98402 P | 253.722.2992 F | 253.722.2993
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APPENDIX B

Infiltration Field Data

10 + 3

Test Number	IT-1	Job #	K90409051A	
Eastings		Job Name	Western St. Hospital	
Northing		Client		
Operator		Pit Size/Area	NW excavating Ding - 10' (71" dia)	
Excavator	NW excavating	Multiplier-GPM to in/hr	3.49 ² / float & stage gain	
Water Supply	hydrant	Depth	12' - 12.5'	
Meter #	20-2006PM	Date	1-12-2017	
Time	GPM	Stage	Totalizer	Comments / Infiltration Rate
10:20:25	89.1	5.20 = φ		h ₂ O on.
	99.17			
10:21:05	96.52			
10:21:19				
10:22:20		5.50		flow down ↓
10:22:44	67	5.66	197	
10:23:30	58	5.66	244	
10:24:15	58	5.7		flow down ↓
10:24:50	40	5.72	301	
10:29:00	40	5.70	476	flow up ↑ ≈ 50
10:36:00			776.22	flow down ↓
10:39:00	44.14	5.86	949.88	
10:50:00	44.00	5.88	1438.38	
10:55:00	45.02	5.90	1660.78	flow down ↓
11:08:00	42.72	5.87	2222.99	
11:15:00	42.73	5.85	2524.31	flow up ↑
11:30:00	43.31	5.81	3170.19	gpm 42.17 → 43.31
11:45:00	43.31	5.76	3816.06	flow up ↑ ≈
12:00:00	44.90	5.80	4497.32	
12:15:00	46.08	5.78	5179.00	
12:30:00	45.96	5.74	5860.60	
12:45:00	45.96	5.68	6541.23	flow up ↑
13:02:00	48.38	5.73	7351.70	
13:16:00	48.94	5.71	8031.98	
13:30:00	49.28	5.67	8711.29	172 in/hr.

10:20:25
10:21:05
10:21:19
10:22:20
10:22:44
10:23:30
10:24:15
10:24:50
10:29:00
10:36:00
10:39:00
10:50:00
10:55:00
11:08:00
11:15:00
11:30:00
11:45:00
12:00:00
12:15:00
12:30:00
12:45:00
13:02:00
13:16:00
13:30:00

Associated Earth Sciences, Inc.

6/1/2015 6:25 AM Infiltration Forms Methods and Tables SST.xlsx

Sketch on back.

Test Number	IT-1		Job #	K2040805 C
Easting			Job Name	WSH
Northing			Client	
Operator			Pit Size/Area	multiplier = 3.4997
Excavator			Multiplier-GPM to in/hr	
Water Supply	hydrant		Depth	12' - 12.5'
Meter #	20-200		Date	1-12-2017
Time	GPM	Stage	Totalizer	Comments
13:45:00	47.56	5.61	9444.12	flow ↑ / 1166
14:00:00	53.66	5.76	10247.9	flow ↑ (53)
14:05:00	54.36	5.76	10515.4	
14:10:00	53.90	5.76	10785.2	
14:15:00	54.24	5.74	11055.8	190 in/hr
14:30:00	54.13	5.70	11864.1	flow ↑
14:45:00	54.01	5.67	12673.0	flow meter seems ~ 51 → 55
14:55:00	55.65	5.67	13224.8	to be fluctuating 010 +
15:05:00	55.30	5.67	13772.6	
15:15:00	55.30	5.64	14325.6	flow ↑ (minor)
15:20:00	56.58	5.65	14604.0	197 in/hr
15:25:00	56.35	5.66	14891.1	55-57 Range.
15:30:00	57.64	5.65	15172.2	
15:35:00	56.85	5.65	15462.7	
15:40:00	56.94	5.68	1574.75	flow ↑ 199 in/hr
15:45:20	60.68	5.65	16047.9	
16:50:00	60.56	5.69	16332.7	
15:55:00	60.44	5.69	16634.7	211 in/hr
16:00:00	60.56	5.69	16936.7	212 in/hr
16:05:00	60.32	5.65	17238.5	
16:10:00	60.32	5.65	17540.5	
16:15:00	60.32	5.64	17842.6	
16:20:00	60.21	5.63	18144.7	

gpm range
 666
 → 55.05
 51 → 55

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Test Number	IT-1		Job #	
Easting			Job Name	
Northing			Client	
Operator			Pit Size/Area	Ring (71" diameter) 27.5 sq ft
Excavator			Multiplier-GPM to in/hr	3.79
Water Supply			Depth	12'
Meter #	Falling Head		Date	1-12-2017
Time	GPM	Stage	Totalizer	Comments
10:21:00		5.73		
10:21:30		5.60	18224.3	Off. Water Off.
10:21:40		5.50		
10:21:47		5.30		
10:21:55		5.5		
10:22:02		5.45		
10:22:10		5.41		
10:22:28		5.45		
10:22:40		5.30		
10:22:50		5.27		
10:22:59		5.25		
10:23:07		5.20		
10:23:15		5.17		"Dry"

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total 1
11715.7

Test Number	IF-2		Job #	KF1A0805C
Easting			Job Name	WSH
Northing			Client	
Operator			Pit Size/Area	mixed area = 3' x 7' = 21 sqft
Excavator	NW excavating	Kevin Walker	Multiplier-GPM to in/hr	4.58 in/hr → 4.58
Water Supply	Hydrant	ASSI's	Depth	60'
Meter #	50-300 3-50		Date	1-13-2017
Time	GPM	Stage	Totalizer	Comments
7:40:30				Water on
7:49:00	~39	1.0	212.50	Switch meters.
7:51:30				3-50 water on
7:55:00	3.43	.75	13.86	
7:57:00	3.59	.65	20.91	flow ↑
8:00:00	4.73	.58	34.18	↑ flow
8:06:00	6.52	.54	72.41	↑
8:10:00	11.90	.58	117.88	
8:15:00	?	.70	143.32	Flow meter acting wonky switching 0.39 GPM
8:30:00		.71		keep h2o steady at 3.07'
8:55:00				Water off - Switch meters to Kevin's 3-50
8:56:00				Water on - flow meter
9:05:00	10.90	.78	128.02	not reading - change batteries
9:10	11.06	.79	182.12	
9:15	10.8	.80	236.00	
9:19	10.9		280.00	Water off - Switch meter
9:23:00	10.01	1.1	194.40	↓ back to original ASSI's 3-50 water on
9:55:00	8.22	.71	24.110	@ 9:25 flow meter acting wonky again. Keep h2o level steady @ ~.70
9:59:00	water off	Ass. WSH	back up to hydrant	
10:00:00	back on			
10:05:00	11.82	.69	111.37	
10:10:00	11.48	.72	169.41	↓
10:15:00	10.11	.75	222.58	
10:20:00	10.12	.77	274.28	↓
10:30	9.67	.75	368.23	

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Range 10-13

50-300 meter: Total 1: 121229

Finish (@ 7:49) 121250

Test Number	IT-2		Job #	K2040805A
Easting			Job Name	WSH
Northing			Client	
Operator			Pit Size/Area	7x3
Excavator	NW excavating		Multiplier-GPM to in/hr	4.58
Water Supply	Hydrant		Depth	6'
Meter #	3-50		Date	1-13-2017
Time	GPM	Stage	Totalizer	Comments
10:45:00	9.64	.70	508.60	↑
11:00:00	9.91	.75	659.92	
11:15:00	10.01	.78	811.22	
11:30:00	10.03	.79	962.48	
11:45:00	10.00	.79	1113.81	
11:55	0.0		1211.12	water off for WSH
11:57:30				h2o back on.
12:00:00	9.95	.67	1236.64	
12:16:30	9.86	.70	1400.42	
12:30:00	9.55	.75	1534.18	
12:45:00	10.08	.77	1682.96	
13:01:00	9.90	.79	1841.36	
13:15:00	9.88	.80	1980.16	
13:30:00	9.98	.80	2128.58	
13:45:00	9.88	.80	2277.18	
13:50:00	10.08	.80	2326.62	
13:55:00	9.90	.80	2375.96	
14:00:00	10.14	.80	2425.26	
14:05:00	10.09	.80	2474.98	
14:10:15	10.16	.80	2516.54 2526.54	
14:15:00	9.59	.80	2572.78	
14:20:00	10.11	.80	2623.24	
14:25:00	9.82	.78	2672.82	
14:30:00	9.80	.78	2721.99	
14:35:00	9.93	.78	2771.38	

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Test Number	IT-2		Job #	K8040805C
Easting			Job Name	WSTH
Northing			Client	
Operator			Pit Size/Area	7 x 11 3 = 21 sq. ft.
Excavator			Multiplier-GPM to in/hr	4.58
Water Supply	hydrant		Depth	6'
Meter #	3-50		Date	1-13-2017
Time	GPM	Stage	Totalizer	Comments
14:40:00	9.85	.78	2820.71	
14:45:00	9.80	.78	2970.22	
14:47:00	9.82	.78	2890.13	
14:47:30	0.0	.76	2894.60	h2O off
14:47:40		.74		
14:48:03		.70		
14:48:35		.68		
14:48:55		.66		
14:49:18		.64		
14:49:36		.62		
14:50:03		.60		
14:50:44		.58		
14:50:58		.56		
14:51:32		.54		
14:52:14		.52		
1		.50		
14:53:00		.45		leaf obstruction
14:53:23		.40		on staff gauge
14:53:53		.36		
14:54:28		.32		
14:54:43		.30		
14:54:56		.28		
14:55:06		.26		
14:55:35		.24		
14:56:06		.22		

FALLING HEAD

56:24 .20
 Associated Earth Sciences, Inc. 1/18/2015 6:25 AM Infiltration Forms Methods and Tables SST.xlsx
 56:36
 NO STANDING WATER @ .18 (-.18=0) WATER STILL PONDING IN PIT. "DRY" @ 15:00=10

Test Number	IT-2		Job #	KL040805C
Location			Job Name	Washburn St. Hosp
AESI Rep	AWE		Client	
Excavator			Pit/Ring Area	Ring
Water Supply	Hylant		Mult. GPM>IPH	
Water Meter	Kevon (20-200) / Kevon 3-50		Depth	13'
Weather	30's clear		Date	1-13-17
Time (24 hr)	Flow (gpm)	Totalizer (gal)	Stage (ft)	Comments
8:45			5.08	water on at 8:45 am
8:48	59.9 ↓	131.18	5.5	
8:50	22.04	153.22	5.61	
8:58	13.90	167.12	5.70	water ↓ @ 8:56
9:00	13.79	180.91	5.70	
9:15	13.71 ↑	204.62	5.64	↑ 15:10
9:27	15.46	220.08	5.67	Gaug meter to 3-30 Serial total 756.08 g
9:30	14.85	234.93	5.64	
9:45	15.07	250.00	5.66	
10:00	14.40	264.40	5.67 ↓	↓ 14.12
10:15	14.35	278.75	5.65	
10:30	14.55	293.30	5.65	
10:45	14.45	307.75	5.65	
11:00	14.37	322.12	5.65	
11:16	14.38	336.50	5.65	
11:30	14.20	350.70	5.64	
12:00	14.31	365.01	5.64	
12:15	14.14	379.15	5.64	
12:30	14.18	393.33	5.64	
12:45	14.30	407.63	5.64	
1:00	13.8	421.43	5.64	
1:15	14.13	435.56	5.64	
1:30	14.28	449.84	5.64	
1:45	14.35	464.19	5.64	
2:01	14.18	478.37	5.64	

0

Test Number	J5-3		Job #	KE 040805 C
Location			Job Name	Western St Hospital
AESI Rep	AWE		Client	
Excavator			Pit/Ring Area	ring
Water Supply	Hydrant		Mult. GPM>IPH	
Water Meter			Depth	13'
Weather	30's clear		Date	1-13-17
Time (24 hr)	Flow (gpm)	Totalizer (gal)	Stage (ft)	Comments
14:15	13.84	4111.57	5.64	
14:30	13.82	4324.75	5.64	
14:46	14.32	4552.79	5.64	
14:51	14.02	4673.12		
14:55	14.02	4679.92	5.64	
15:00	14.35	4750.89		
15:05	13.94	4821.90	5.64	
15:11	14.09	4907.08		
15:15	13.94	4963.88		
15:20	14.16	5034.85		
15:25	14.06	5105.72	5.64	
15:30	14.57	5176.70		
15:35	14.74	5247.90		
15:40	14.96	5322.36	5.64	
15:45	14.82	5396.88	5.65	
15:46	0			water off
15:46			5.64	
15:46.45			.62	
15:47.03			.60	
15:47.20			.58	
15:47.40			.56	
15:48.00			.54	
15:48.17			.52	
15:48.34			.50	
15:48.54			.48	

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Test Number	IT-3		Job #	KP048057
Location			Job Name	Western State Hospital
AESI Rep	Hunk		Client	
Excavator			Pit/Ring Area	Ring
Water Supply	Hydrant		Mult. GPM>IPH	
Water Meter			Depth	3'
Weather			Date	1-13-17
Time (24 hr)	Flow (gpm)	Totalizer (gal)	Stage (ft)	Comments
15:49:14			.46	
15:49:42			.44	
15:49:58			.42	
15:50:15			.40	
15:50:35			.38	
15:50:58			.36	
15:51:17			.34	
15:51:32			.32	
15:51:56			.30	
15:52:20			.28	
15:52:28			.26	
15:52:45			.24	
15:53:00			.22	
15:53:13			.20	
15:53:28			.18	
15:53:47			.16	
15:54:03			.14	
15:54:19			.12	
15: :			.10	

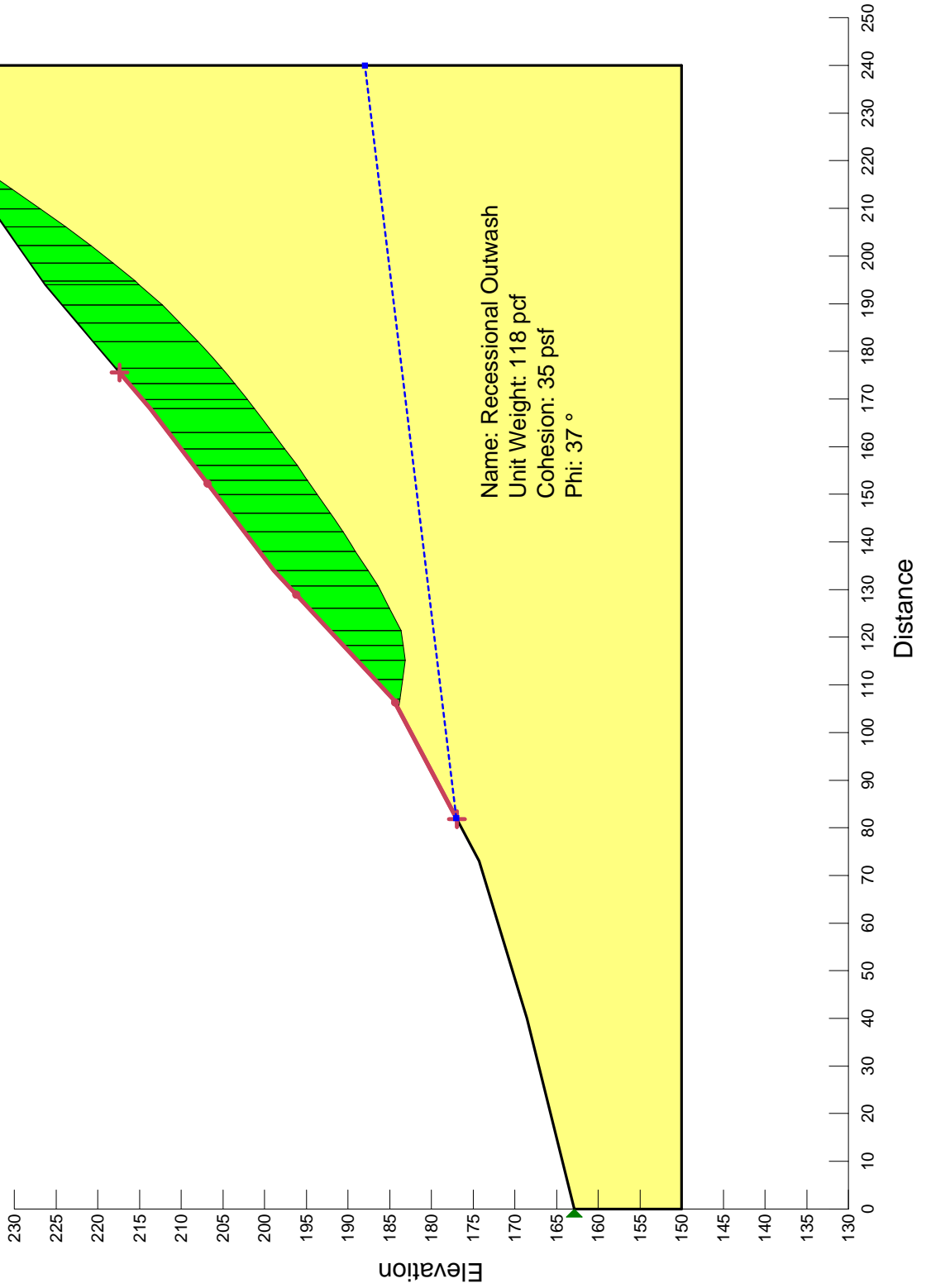
Western State Hospital / Appendix

APPENDIX C

Slope W/ Profiles

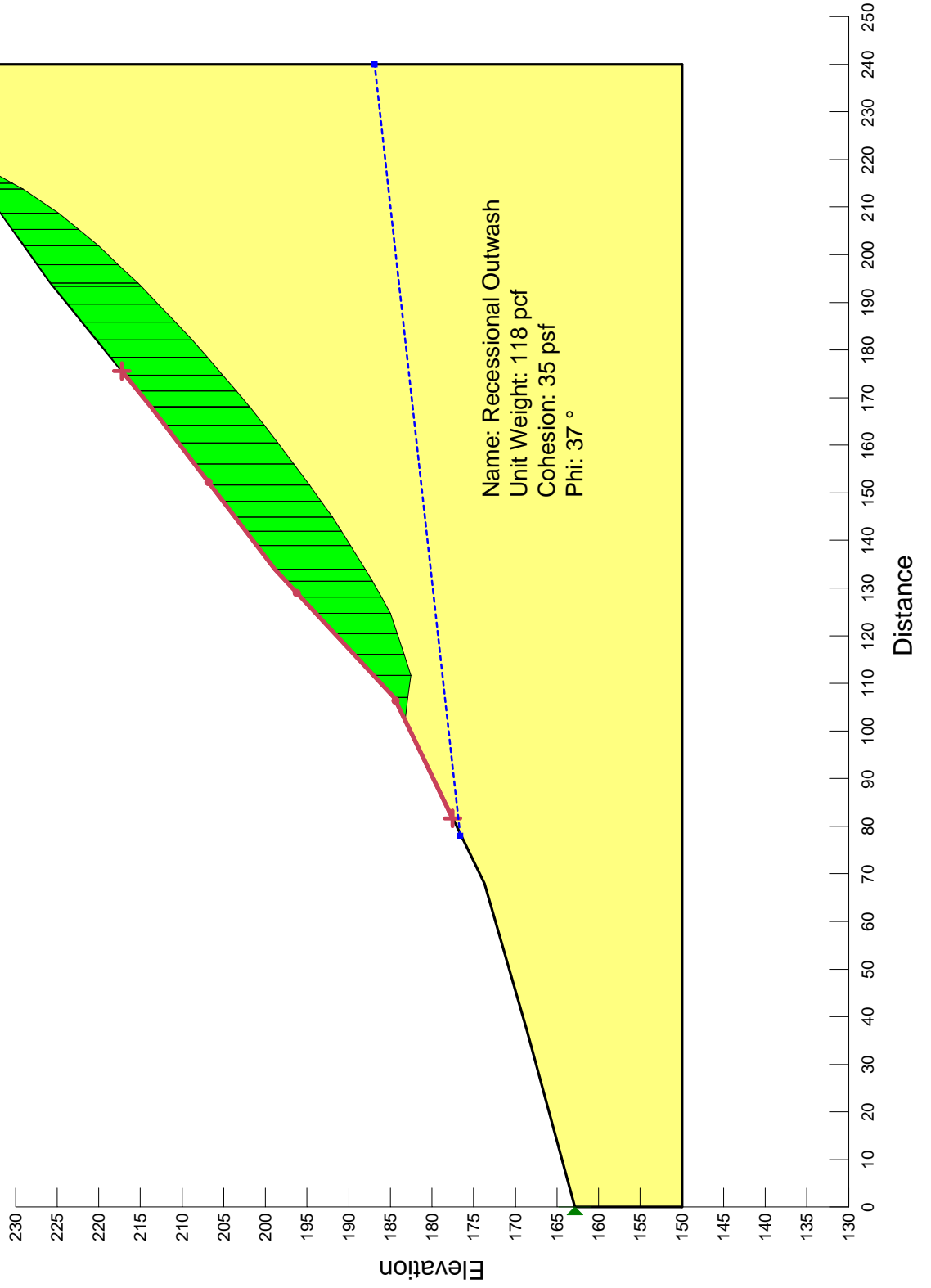
1.8

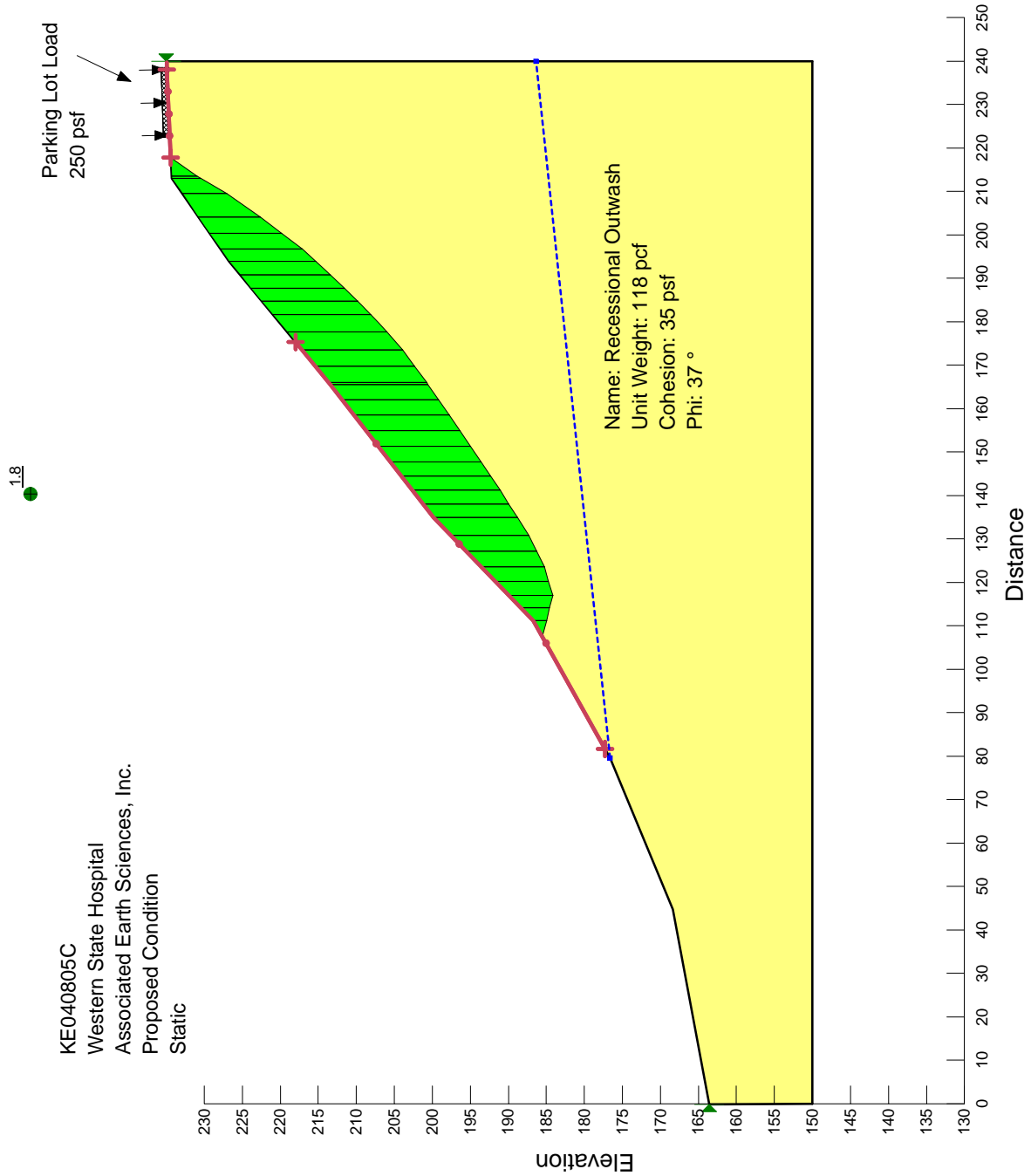
KE040805C
Western State Hospital
Associated Earth Sciences, Inc.
Existing Condition
Static



1.1

KE040805C
Western State Hospital
Associated Earth Sciences, Inc.
Existing Condition
Siesmic Condition

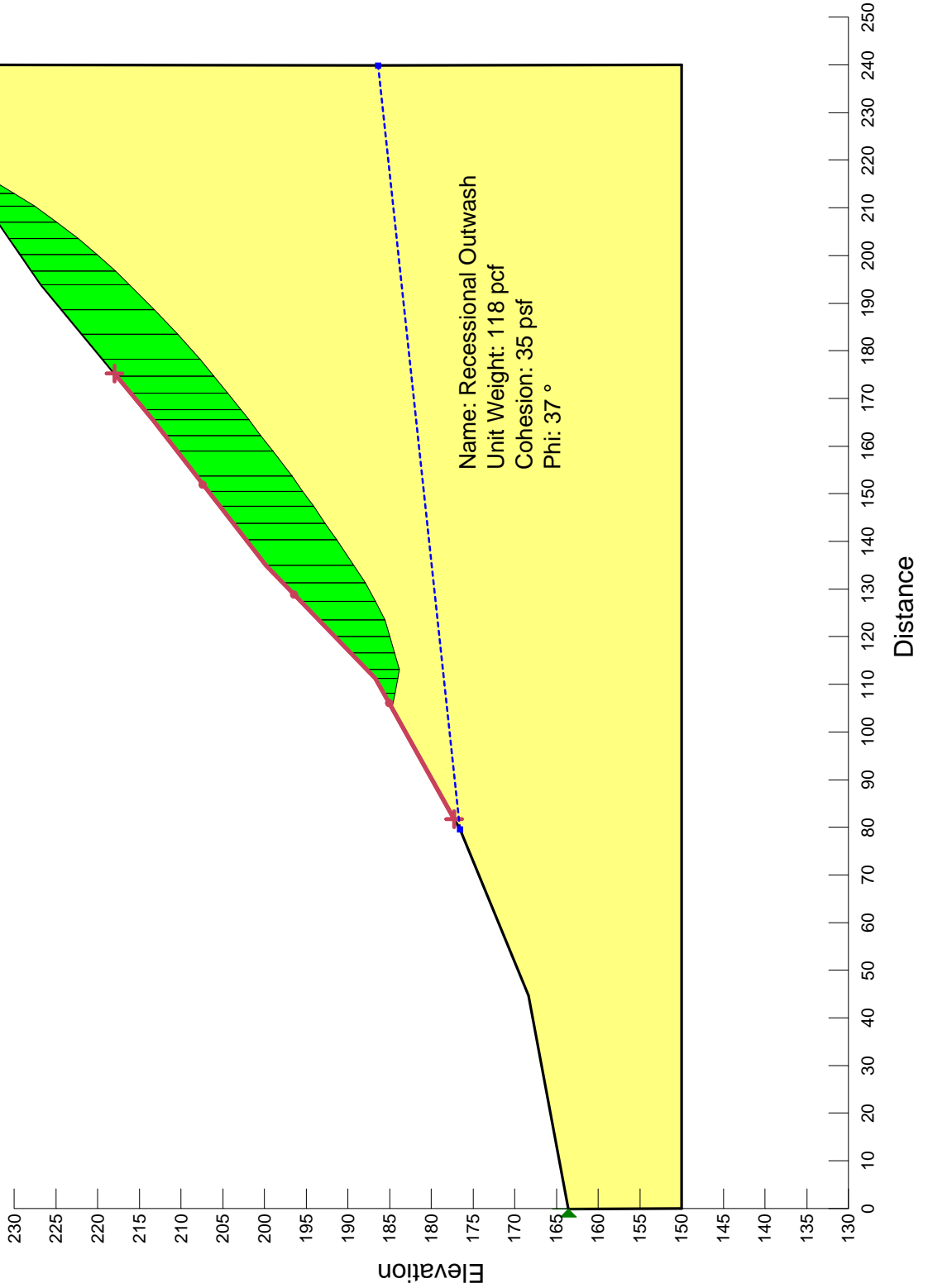




1.1

KE040805C
 Western State Hospital
 Associated Earth Sciences, Inc.
 Proposed Condition
 With Seismic

Parking Lot Load
 250 psf



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February 7, 2020

Craig Tompkins, AIA
SRG PARTNERSHIP, INC
621 SW Columbia Street
Portland, Oregon 97201

Via email: ccompkins@srgpartnership.com

Regarding: Natural Resource Evaluation
Western State Hospital Master Plan Update
Lakewood, Washington
PBS Project 41189.001, Phase 0001

Mr. Tompkins,

PBS has been retained to conduct initial site investigation to support City of Lakewood SEPA permitting for master planned improvements on the Western State Hospital Campus. The site investigation consists of an evaluation of the natural resource elements typically regulated under SEPA in the soils, water, plants, and animals' sections of SEPA. The following specific resources in these categories will be addressed:

- Soils. General characteristics of the soils present at the site
- Waters. A summary of mapped floodplains, wetlands, streams and other waters on the Campus or in the vicinity
- Plants. A summary of the plants present on the Campus, with particular emphasis on wetland plants; plants that are listed under the US Endangered Species Act as Endangered, Threatened, or Candidate; have been identified as rare or sensitive; have populations of high conservation value; or are considered noxious weeds.
- Animals that are listed under the US Endangered Species Act as Endangered, Threatened, or candidate; are otherwise federally regulated; are considered priority habitats or species by Washington State Department of Fish and Wildlife; or are defined by the City of Lakewood as Critical Fish or Wildlife species.

The following memorandum introduces the site and the master plan process and describes the methods and results of the initial environmental site investigation.

1 SITE LOCATION AND DESCRIPTION

Western State Hospital (WSH) is located in the City of Lakewood, Washington (Figure 1). The City of Lakewood (City) is located in western Pierce County approximately seven miles south of the City of Tacoma, and 22 miles to the northeast of the state capital in Olympia.

The Western State Hospital Campus is located on the north side of Steilacoom Boulevard SW, extending from 87th Avenue SW on the east to Sentinel Drive on the west. The Campus extends northward from Steilacoom Boulevard SW to Golf course Road SW on the east side to approximately 79th Street SW on the west. The campus totals approximately 288 acres, and is composed of four separate tax parcels, described below.

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The largest parcel (0220321022) is 215.71 acres in size, and includes the frontage of Steilacoom Boulevard SW from 87th Avenue SW westward to Sentinel Drive. This parcel contains most of the developed portions of the campus, as well as Garrison Springs and the associated forested valley slopes.

The second parcel (0220321007) is 36.73 acres in size, and extends northward from Garrison Springs. This parcel includes the majority of the Fort Steilacoom Golf Course.

The third parcel (0220283027) is 29.75 acres in size, and is located to the north of Parcel 0220321007. This parcel includes the northern ¼ of the Fort Steilacoom Golf Course, the forested valley slope to the north, and the forested disc golf course area to the east.

The last parcel (0220283026) is located at the northeastern-most corner of the site and is 6.15 acres in size. The parcel is currently part of the disc golf course.

2 MASTER PLANNING

WSH was established on the site of historic Fort Steilacoom in 1871, and is one of only two state-owned psychiatric hospitals for adults in Washington. WSH provides inpatient mental health services to adults from 20 western Washington counties. The hospital provides evaluation and inpatient treatment for individuals with serious or long-term mental illness, including patients referred through their Behavioral Health Organization, the civil court system (when individuals meet the criteria for involuntary treatment under RCW 71.05), or through the criminal justice system (RCW 10.77). WSH provides more than 800 beds for these patients, and employs approximately 2,200 staff members, making it the fourth largest employer in the City of Lakewood.

DSHS is engaged in an ongoing master planning effort for the WSH campus to: incorporate changing facility needs; address the growth management issues of stakeholders (including Pierce County and the City of Lakewood); and streamline the permitting process for future projects. The initial master plan for the campus was approved by the City in 1998 and is based on a 10-year planning period. An update to the Master Plan was prepared in 2008, and the latest planning efforts were initiated in 2018. As part of the current master planning update, DSHS has evaluated several alternatives for layout of the campus, including rehabilitating existing buildings and constructing new facilities.

3 METHODS

The presence of elements of the natural environment were evaluated using a two-step process. The first step consisted of an in-office evaluation based on existing maps and documents for the vicinity. The second step consisted of a reconnaissance level field evaluation to ground-truth the in-office evaluation and identify any additional resources present. Additional details of the methods used for these two steps are described below.

In-Office Evaluation

The office evaluation consisted of a review of online sources and documents to identify the presence of or conditions that would support the presence of natural resource elements (soils, water, plants, and animals). The Study Area for the in-office evaluation included the WSH Campus and adjoining areas within 200 feet as required by Lakewood Municipal Code (LMC) 14.162.070. Specific documents reviewed included:

General site information:

- Current and recent historical aerial photographs (Google Earth, 2019)

Appendix A-12: Natural Resources Memo

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- Climate and precipitation data (US Department of Agriculture National Resources Conservation Service [USDA NRCS] Field Office, 2019a)

Soils:

- Digital soil data for the Study Area (USDA NRCS, 2019b)

Water:

- FEMA floodplain maps (FEMA, 2019)
- Wetlands of High Conservation Value and USFWS National Wetland Inventory map (Washington Department of Natural Resources [WDNR], 2019b)
- Local critical area data from Pierce County PublicGIS (Pierce County, 2019)

Plants:

- Endangered species information (IPaC Information for Planning and Consultation; USFWS, 2019)
- Known rare plants and nonvascular species of high conservation value (WDNR, 2019b)
- County list of rare plants (WDNR, 2018)
- State noxious weed list (Washington State Noxious Weed Control Board, 2019)
- County noxious weed list (Pierce County Noxious Weed Control Board, 2019)

Animals:

- Fish Passage online mapping application (WDFW, 2019a)
- Forest Practices Application Review System mapper (WDNR, 2019a)
- Priority Habitats and Species online mapping (WDFW, 2019c)
- Salmonscape (WDFW, 2019d)
- Salmon and Steelhead Stock Inventory Assessment Program Statewide Fish Distribution (SWIFD) Map (The Northwest Indian Fisheries Commission, 2019)
- Streamnet (Pacific States Marine Fisheries Commission, 2019)

Other documents:

- Lakewood Municipal Code
- Lakewood Shoreline Management Program

Field Evaluation

Following the in-office evaluation, a reconnaissance level field evaluation was conducted. The purpose of the field evaluation was to verify data from the in-office evaluation and identify any additional resources present on the Western State Hospital Campus or in the vicinity.

The field evaluation included resources in the water, plant and animal elements of the natural environment, including wetlands, streams, and wildlife. The field evaluation was restricted to the parcels within the Western State Hospital Campus, with supplemental information collected from publicly accessible rights-of-way.

Plants

Plant communities were visually evaluated, and species were identified using botanical reference books (Cooke, 1997; Hitchcock and Cronquist, 1973; Pojar and MacKinnon, 2004; and Taylor, 1990) and web sites (Giblin et al., 2003; Pierce County Noxious Weed Control Board, 2019, WDNR, 2018 and 2019; and Washington Noxious Weed

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Control Board, 2019). Plant nomenclature and wetland indicator status are consistent with the *2016 National Wetland Plant List* (Lichvar et al., 2016).

Wetlands

The wetland component of the field evaluation was conducted in accordance with the definition from the LMC 14.162.020, using the methods outlined in the US Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory, 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Supplement (Version 2.0)* (WMVC Regional Supplement) (USACE, 2010), and the *Washington State Wetlands Identification and Delineation Manual* (Ecology, 1997).

Wetlands on the WSH Campus were classified according to the habitat guidelines in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979), and preliminary ratings were determined using the criteria the *Washington State Wetland Rating System for Western Washington Revised* (Hruby, 2014).

Streams

The presence of stream bed and bank features were identified based on the presence of an ordinary highwater mark (OHWM) consistent with the criteria listed in LMC 14.164.010. The presence of an OHWM was determined using the indicators described in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et. Al., 2016). Stream in on the WSH Campus were preliminarily rated using the criteria identified in the City of Lakewood's Shoreline Master Program (SMP) Chapter 4 Section C.

Animals (Fish and Wildlife)

The presence of fish and wildlife were identified consistent with the requirements outlined for Fish and Wildlife Habitat Conservation Areas in Pierce County Code (PCC) 18E.040.030.B and City of Lakewood Municipal Code requirements for Critical Fish and Wildlife Habitat Conservation Areas (LMC 14.154.020).

The field evaluation of the presence of terrestrial wildlife and habitats was based on the presence of visual indicators such as nests, scat, trails, and audible such as calls and vocalizations. Stream habitats were identified consistent with the criteria in *The California Department of Fish and Game Salmonid Habitat Restoration Manual* (CDFG 1998) and *Stream habitat classification and inventory procedures for northern California* (McCain et al., 1990).

4 RESULTS

The results of the office review and the field investigation are provided below. Sections for both evaluations are divided by environmental element.

Office Evaluation

The following sections document the results of the in-office evaluation.

Topography and Soils

The Campus is primarily upland terraces with slopes less than 15 percent; with the overall topography sloping gently from the southeast corner to the northwest corner. Steeper slopes (up to 70 percent in some areas) are present on the forested valley slopes to the north and south of the golf course.

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Three soil mapping units were identified in the study area: Spanaway gravelly sandy loam; Everett very gravelly sandy loam; and Xerochrepts (Web Soils Survey, NRCS, 2019b). The boundaries between these soil map units are shown in Figure 2, and a summary of the characteristics is provided below in Table 1.

Table 1 Soils present in the Study Area¹

Symbol	Map Unit Name	Slope	Landform	Parent Material	Drainage Class	Soils hydric? Hydric inclusions?
41A	Spanaway gravelly sandy loam	0 to 15%	Terraces and plains	Glacial outwash	Somewhat excessively drained	No (15% Spana, Yes)
13D	Everett very gravelly sandy loam	15 to 30%	Outwash terraces and escarpments, kames, moraines, eskers	Glacial outwash	Somewhat excessively drained	No (10% Alderwood, No but may support wetlands in some situations) (10% Indianola, No)
47F	Xerochrepts	45 to 70%	Valley sides	Sandy and gravelly outwash and/or glacial till	Well drained	No

¹ NRCS, 2019b.

Spanaway soils occur at elevations from 200 to 590 feet and are typically used for woodland, pasture, cropland, homesites, and wildlife habitat (NRCS, 2019b). Spanaway gravelly sandy loam is not considered a hydric (wetland) soil by the National Technical Committee for Hydric Soils (NTCHS).

Everett soils occur at elevations from 30 to 900 feet and are typically used for livestock grazing, timber production, and urban development (NRCS, 2019b). Everett very gravelly sandy loam is not considered a hydric soil by the NTCHS, however this soil unit does include slopes of 15 to 30 percent.

Xerochrept soils occur at elevations from 0 to 980 feet on steep valley sides; these soils are not considered hydric soils by NTCHS, however this soil unit does include slopes of 45 to 70 percent.

Wetlands

The Washington Natural Resources Heritage Program (Figure 3), using the U.S. Fish and Wildlife Service National Wetland Inventory (NWI) data, identifies two riverine wetland systems (R4SBC; riverine intermittent streambed seasonally flooded) within the study area and one palustrine wetland (PUBKx; palustrine unconsolidated bottom artificially flooded excavated) to the west of the property (WDNR, 2019b). Pierce County PublicGIS does not identify wetlands on or within the vicinity of the Site (Figure 4) (Pierce County, 2019).

Streams and other Waters

Two streams were identified within the Study Area: Garrison Springs and an Unnamed Tributary to Chambers Creek. The stream locations shown on maps from WDFW, WDNR, and Pierce County and fisheries resources are consistent with the riverine wetland systems identified in the National Wetland Inventory mapping (Figure 3).

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Plants

The following sections detail the results for evaluation of plant species listed under the federal Endangered Species Act, plant species or habitats identified as rare or sensitive by the WDNR Natural Resources Heritage Program, priority habitats and species identified by WDFW; and noxious weeds identified by the Washington State and Pierce County Noxious Weed Control Boards.

Federally Listed Plants

A review of information from the USFWS IPaC database (Appendix A) identified three federally threatened or endangered plant species as potentially present in the vicinity of the project. These species are listed in Table 2 and described below.

Table 2. Federally Listed Plant Species

Common Name	Scientific Name	Federal ESA Listing Status	Critical Habitat Designated?
Golden Paintbrush	<i>Castilleja levisecta</i>	Threatened	No
Marsh Sandwort	<i>Arenaria paludicola</i>	Endangered	No
Water Howellia	<i>Howellia aquatilis</i>	Threatened	No

Golden paintbrush is listed as Threatened under the ESA and is found in native northwest grasslands. There are no current or historic populations in Pierce County (USFWS, 2000). Marsh sandwort is listed as Endangered under the ESA. This species is found in swamps, wetlands, and freshwater marshes along the coast (WDNR, 2019c). In western Washington, water howellia occurs in low-elevation wetlands and small vernal pools (WDNR, 2019c).

Rare and Sensitive Plant Species

The WDNR Natural Resources Heritage Program website identifies three rare or sensitive species as potentially present on or near the WSH Campus. Characteristics of these species are listed in Table 3 and described below.

Table 3. Rare and Sensitive Plant Species

Common Name	Scientific Name	Historic or Current presence?	Washington State Status	Potential habitat present?
White-top aster	<i>Seriocarpus rigidus</i>	Current	Sensitive	Yes
Common bluecup	<i>Githopsis specularioides</i>	Historic	Sensitive	Possible
Giant chain fern	<i>Woodwardia fimbriata</i>	Historic	Sensitive	Yes

White-top aster is found in relatively flat, open grasslands of lowlands in gravelly, glacial outwash soils (WDNR, 2019c). White-top aster is mapped as occurring in the northeast corner of the WSH Campus (Figure 3) and has been identified by WDNR as present as recently as August 13, 2010 (WDNR 2019b).

Common bluecup is historically found in the vicinity of the WSH Campus. This species is found in dry, open places in lowlands, such as grassy balds, talus slopes, and gravelly prairies. There are no recent observations of common bluecup in Pierce County, and none of the habitats that support this species are present within the Study Area.

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Giant chain fern is historically found in the vicinity of the WSH Campus. This species is found in stream banks, shaded wet road banks, the edges of bogs, and wet bluffs amongst coniferous trees and adjacent to saltwater. Similar habitats are present on the Western State Hospital Campus and nearby.

Native Plants

Mapping from the WDNR Natural Resources Heritage Program identifies a single native plant community as present on or near the WSH Campus. This plant community is Oregon white oak (*Quercus garryana*) dominated or co-dominated canopies. This community occurs in four locations on the Western State Hospital Campus: two on the eastern end of the Fort Steilacoom Golf Course near Garrison Springs, and two to the east one either side of Kids First Lane. Location of these habitat area are shown on Figure 5.

Noxious, Invasive, and Non-Native Plants

No noxious weeds are mapped on the Western State Hospital Campus. Table 4 presents a list of noxious weeds and non-native plants identified in the Study Area or mapped within the vicinity.

Table 4. List of Noxious, Invasive, and Non-Native Plants

State Classification	Common Name (Scientific Name)
Class A Noxious Weed	Spotted knapweed (<i>Centaurea biebersteinii</i> , or <i>C. maculosa</i>) Tansy ragwort (<i>Senecio jacobaea</i>)

¹ Non-regulated noxious weed per Pierce County Noxious Weed Control Board

Future projects will meet Pierce County and City of Lakewood regulations with regard to the control of noxious and invasive weeds.

Animals

Federal and State-Listed Habitats and Species

The USFWS IPaC website (Appendix A), NOAA Fisheries ESA listings, and WDFW PHS data (Figure 6) identify several federally and state threatened or endangered species, as well as priority habitats and species in the vicinity of the project. The results are presented in Table 5.

Table 5. Listed Habitats and Species

Common Name	Scientific Name	Status	Critical Habitat Designated?
Puget Sound Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Federally Threatened	Yes
Puget Sound Steelhead	<i>O. mykiss</i>	Federally Threatened	Yes
Puget Sound-Coastal Bull Trout	<i>Salvelinus confluentus</i>	Federally Threatened	Yes
Gray wolf	<i>Canus lupus</i>	Federally Endangered (Proposed for delisting)	No
North American Wolverine	<i>Gulo gulo luscus</i>	Federally Threatened (Proposed)	No
Marbled murrelet	<i>Brachyramphus marmoratus</i>	Federally Threatened	Yes
Streaked horned lark	<i>Eremophila alpestris strigata</i>	Federally Threatened	Yes
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Federally Threatened	Proposed

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Common Name	Scientific Name	Status	Critical Habitat Designated?
Oregon spotted frog	<i>Rana pretiosa</i>	Federally Threatened	Yes
Biodiversity area	N/A	State Priority Habitat	N/A
Little brown bat	<i>Myotis lucifugus</i>	State Priority Species	N/A
Slender-billed white-breasted nuthatch	<i>Sitta carolinensis aculeata</i>	State Candidate Species	N/A
Western Pond Turtle	<i>Actinemys marmorata</i>	State Endangered	N/A

Salmonscape (Figure 7) and StreamNet (Figure 8) were also reviewed for presence of anadromous fish, but no habitat was identified in either database. No invasive animals are known to be present in the Study Area.

Migratory Bird Act and the Bald and Golden Eagle Protection Act

The USFWS IPaC website (Appendix A) provided several species which are protected under the Migratory Bird Act that may be present in the Study Area. These species. The results are presented in Table 6.

Table 6. Listed Migratory Birds

Common Name	Scientific Name	Breeding Season ¹
Bald Eagle	<i>Haliaeetus leucocephalus</i>	January 1 – September 30
Black Turnstone	<i>Arenaria melanocephala</i>	Breeds elsewhere ²
Great Blue Heron	<i>Ardea herodias fannini</i>	March – August 15
Lesser Yellowlegs	<i>Tringa flavipes</i>	Breeds elsewhere ²
Marbled Godwit	<i>Limosa fedoa</i>	Breeds elsewhere ²
Olive-sided Flycatcher	<i>Contopus cooperi</i>	May 20 – August 31
Red-throated Loon	<i>Gavia stellate</i>	Breeds elsewhere ²
Rufous Hummingbird	<i>Selasphorus rufus</i>	April 15 – July 15
Western Screech-owl	<i>Megascops kennicottii kennicottii</i>	March 1 – June 30

¹ Noted by USFWS to be a liberal estimate of breeding season

² Indicates the species does not likely breed within project area

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Critical Fish and Wildlife Species and Habitats

LMC 14.154.020 identifies a list of 11 critical fish and wildlife species and habitats, five of which are likely to occur on-site. Table 7 provides details on these critical fish and wildlife species and habitats.

Table 7. Critical Fish and Wildlife Species and Habitats

Habitats and Species of Local Importance	Description
Priority Oregon white oak woodlands	WDNR identifies four patches of either oak-dominant forest or woodland canopy, or urban oak canopy (Figure 5). The four patches are located in the northern half of the property, and total 32.61 acres.
Snag-rich areas	Snag-rich areas are likely to occur adjacent to the two streams within the Study Area.
Rivers and streams with critical fisheries	Rivers and streams with critical fisheries are known to occur in the Study Area and are discussed above.
Waters of the state, including all water bodies classified by the Washington Department of Natural Resources (DNR) water typing classification system as detailed in WAC 222-16-030, together with associated riparian areas	WDNR Forest Practices Application Mapping Tool identifies Garrison Springs and the unnamed tributary to Chambers Creek within the Study Area (Figure 9).
Lakes, ponds, streams, and rivers planted with game fish by a governmental entity or tribal entity.	Garrison Springs Hatchery may meet the requirements of this habitat of local importance, the hatchery is run by WDFW (WDFW, 2019b).

Field Evaluation

Patrick Togher (Professional Wetland Scientist) conducted the field evaluation of the project Study Area on June 27, 2019. The field evaluation was conducted from within the Western State Hospital Campus, with supplemental data collected from publicly accessible rights-of-way.

The level of effort for this field evaluation is consistent with a reconnaissance level analysis. As a result, formal delineations of wetlands and streams were not conducted, and formal presence studies were not complete for the presence of ESA species or rare plants.

Soils

No field evaluation was conducted for soils. Individual projects within the Master Plan will require preparation of a Geotechnical Memorandum or Geotechnical Report to assess soil and slope characteristics for compliance with SEPA and City of Lakewood permit requirements.

Wetlands

An evaluation of the presence of wetlands requires that the reviewer determine whether the recent rainfall reflects the normal precipitation for the area. For this evaluation, precipitation data was gathered from the Tacoma weather station #1, which is north nearest site with comprehensive precipitation records. Precipitation

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measurements for the three months preceding the field visit were reviewed and area summarized in Table 8. Rainfall data for June 1 – 26 of 2019 is included in the table, but was not used in the calculation of normal rainfall.

Table 8. Monthly Precipitation in Inches and “normal” ranges and means for the Tacoma #1 Station, Tacoma, Washington¹

Month	Mean ¹	30% chance less than ¹	30% chance more than ¹	Measured Rainfall	Condition	Value	Weight	Result ²
March	4.5	3.32	5.28	1.9	Below	1	1	1
April	3.19	2.13	3.82	2.65	Normal	2	2	4
May	2.07	1.11	2.53	0.4	Below	1	3	3
June 1-26 ³	1.52	0.95	1.84	0.14	Below			
Overall								8

¹ Agricultural Applied Climate System WETS Station in Tacoma#1 Weather Station, Tacoma, WA. Data for the normal range represents the period from 1983 to 2018 (USDA NRCS, 2019a).

² Results of 6-9 are below normal, results of 10-14 are normal, results of 15-16 are above normal.

³ Precipitation for the portion of June prior to the field visit.

Precipitation for the three months before the field evaluation was below normal, and the rainfall for the 26 days immediately preceding the field visit were also below normal for this period. However, seeps on the site were flowing freely and streams in the vicinity were near their normal water levels. As a result, we believe that sufficient primary and secondary indicators of wetland hydrology were present to assess the presence of wetlands on the Campus.

Two wetlands (GS South and GS North) were identified within or in the immediate vicinity of the project area (Figure 9). A description of the wetlands is provided in Table 9. The table summarizes the Cowardin classification, hydrogeomorphic class, and preliminary rating and buffer width per LMC 14.162.080.

Table 9. Potential Wetlands Present at the Site with Preliminary Ratings and Buffers

Wetland	Wetland HGM Class ¹	Cowardin Classification ²	Dominant Species Observed	Wetland Hydrology Indicators Observed	Preliminary Wetland Rating ^{3,4}	Preliminary Buffer Width ⁴
GS South	Slope	Palustrine Forested (PFO)	Red alder, salmonberry, Himalayan blackberry, lady fern, giant horsetail, and English ivy	Saturation at the surface, shallow inundation/surface flows	II/III	60-225

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GS North	Slope	Palustrine Forested (PFO)	Red alder, salmonberry, Himalayan blackberry, lady fern, giant horsetail, small-fruited bulrush, and English ivy	Saturation at the surface, shallow inundation/surface flows	II/III	60-225
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¹ Hydrogeomorphic classification after Hruby (2014).
² Cowardian classification after Cowardin et al. (1979).
³ Preliminary rating based on Washington State Wetland Rating System for Western Washington (Hruby, 2014).
⁴ Local wetland ratings and buffer widths are based on City of Lakewood Municipal Code (LMC) Title 14 – Environmental Protection (LMC 14.162).

Wetlands GS North and GS South are slope wetlands associated with the Garrison Springs riparian corridor. Numerous areas of seepage were observed on the valley walls upslope of the stream during the site visit, and these areas were dominated by wetland plant species. Preliminary wetland ratings were completed with the 2014 Washington State Wetland Rating System for Western Washington, consistent with LMC 14.162.030. Both wetlands fall on the margin of the Category II/III. Buffers for wetland with these ratings range from 60-225 feet, depending on the habitat score.

Streams

The presence of the two streams identified during the in-office evaluation were confirmed during the field evaluation. These streams, Garrison Springs and an Unnamed Tributary to Chambers Creek, are shown on Figures 3, 7 and 8. A summary of the characteristics of these streams and preliminary stream rating and buffer widths are provided in Table 10.

Table 10. Potential Streams present at the Site and preliminary rating

Stream	Flows to	Preliminary Stream Rating ^{1,2}	Preliminary Buffer Width ²
Garrison Springs	Chambers Creek	Perennial, Fish-bearing (Type F)	65-150
Unnamed Tributary to Chambers Creek	Chambers Creek	Perennial, Fish-bearing (Type F)	65-150

¹ Water typing based on definition per 14.165.010
² Local stream ratings and buffer widths are based on Lakewood’s Shoreline Master Program (SMP) Chapter 4 Section C.

Garrison Springs/Garrison Creek is located in the central west portion of the Western State Hospital Campus. Garrison Springs, is a perennial stream, originating from seeps on the steep slopes on the western portion of the Campus and flowing northwest to the Garrison Springs Hatchery and the Chambers Creek Estuary on Puget Sound. Garrison Springs is approximately 5-15 feet wide at the ordinary high water mark and appeared to be channelized adjacent to the access road which leads to the hatchery. Current habitat in the stream is predominantly riffle and run type. Pools are largely limited to the areas above man-made structures on the stream. The stream substrate is primarily gravels with some fines, and the banks are somewhat incised. Mixed forest canopy and forested slope wetlands provided 100 percent canopy coverage, except where interrupted by

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the hatchery access road. The stream flows beneath Chambers Creek Road, entering Chambers Creek through a concrete box outfall with a steel rack that limits access.

The unnamed stream is a tributary to Chambers Creek and is located beyond the Campus northern property line. As a result, most of the stream could not be evaluated during the site assessment. However, water could be heard flowing the deep, steep sided valley located to the north of the Fort Steilacoom Golf Course. The lower reach of this stream appears to be piped beneath the abandoned industrial facility at Chambers Creek Road. Several seeps areas were also identified in this area, and a concrete pipe outfall was located on the estuary of Chambers Creek, which likely represents the terminus of this stream. Flows were present at the outfall in July 2019, indicating that flows in this stream area likely perennial. Aerial imagery shows a densely vegetated, mixed forest riparian canopy in the riparian area, extending from the disc golf area northwest to Chambers Creek Road.

Future Master Plan projects at the Campus that require State or federal funding or permits will be required to assess the presence of wetlands and streams prior to funding or permit approval. More detailed field studies would be conducted at this time.

Plants

The majority of the Campus is developed, and vegetation in these areas consists of maintained lawn area with landscape trees. Species present in this area include common domestic grasses (bent grasses [*Agrostis* sp.], bluegrasses [*Poa* sp.], fescues [*Festuca* sp.], and rye grasses [*Lolium* sp.]) and disturbance tolerant forbs (e.g. common dandelion [*Taraxicum officinale*], hairy cat's ear [*Hypochaeris radicata*], sheep sorrel [*Rumex acetosella*], etc.), and landscape trees (domestic cherry and flowering plums [*Prunus* sp.], European horse-chestnut [*Aesculus hippocastanum*], Norway maple [*Acer platanoides*], and Tree-of-Heaven [*Alianthus altissima*]), with scattered native trees (Douglas fir [*Pseudotsuga menziesii*], Sitka spruce [*Picea sitchensis*], and corses of Oregon white oak.

The Fort Steilacoom Golf Course is located the northwest corner of the property, and is also maintained as grass, with scattered native coniferous trees and Oregon White Oak. The disc golf area has a similar canopy to the golf course. In the open areas, the shrub community is dominated by Scot's brook (*Cytissus scoparius*). In areas where the canopy is denser, the dominant shrub species include California dewberry (*Rubus ursinus*), dull Oregon grape (*Berberis nervosa*), evergreen blackberry (*Rubus laciniatus*), Himalayan blackberry (*Rubus armeniacus*), and snowberry (*Symphycarpos albus*).

In the two ravine areas, the vegetation consists of a mixture of native and non-native species. The dominant species present include red alder (*Alnus rubra*) and bigleaf maple (*Acer macrophyllum*) in the canopy, and California dewberry (*Rubus ursinus*), dull Oregon grape, evergreen blackberry, Himalayan blackberry, oceanspray (*Holodiscus discolor*), salmonberry (*Rubus spectabilis*), snowberry, and vine maple (*Acer circinatum*). Dominant herbaceous species present include giant horsetail (*Equisetum telmateia*), orchard grass (*Dactylis glomerata*), reed cararygrass (*Phalaris arundinacea*), Pineland sword fern (*Polystichum munitum*), and western lady fern (*Athyrium cyclosorum*).

Federally Listed Plants

The field reconnaissance did not identify any individuals of golden paintbrush, marsh sandwort or water howellia on the WSH campus. However, the protocols for identification of ESA plants require multiple field visits conducted over several years, and timed to match the emergence/flowering of the target species. Future projects in the Master Plan will need to conduct more comprehensive field studies to fully determine the presence of ESA listed plants.

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Rare and Sensitive Plant Species

The field reconnaissance did not identify any individuals of white-top aster, common bluecup, or giant chain fern. However, the protocols for identification of rare and sensitive species may require multiple field visits timed to match the emergence/flowering of the target species. Considering the relatively recent identification of white-top aster (August 2010). This species should be presumed to be present, and future projects in the Master Plan will need to conduct more comprehensive field studies for the presence of rare and sensitive plant species.

Native Plants

Table 11 presents a list of the native trees, shrubs, and herbaceous species identified on the WSH Campus during the field evaluation.

Table 11. List of Native Plants on WSH Campus

Stratum	Common Name (Scientific Name)
Tree	Bigleaf maple (<i>Acer macrophyllum</i>) Oregon white oak (<i>Quercus garryana</i>) Red alder (<i>Alnus rubra</i>)
Shrub	California dewberry (<i>Rubus ursinus</i>) Dull Oregon grape (<i>Berberis nervosa</i>) Oceanspray (<i>Holodiscus discolor</i>) Salmonberry (<i>Rubus spectabilis</i>) Snowberry (<i>Symphicarpus albus</i>) Vine maple (<i>Acer circinatum</i>)
Herbaceous	Giant horsetail (<i>Equisetum telmateia</i>) Orchard grass (<i>Dactylis glomerata</i>) Sword fern, or Pineland sword fern (<i>Polystichum munitum</i>) Western lady fern (<i>Athyrium cyclosorum</i>)

Noxious, Invasive, and Non-Native Plants

No Class A noxious weeds were identified on the WSH Campus during the field investigation. Scattered knapweed specimens were present on the site, but were not positively identified as *C. biebersteinii*. A number of Class B and C noxious weeds were identified on the Campus. These species are listed below in Table 12.

Table 12. List of Noxious, Invasive, and Non-Native Plants

State Classification	Common Name (Scientific Name)
Class A Noxious Weed	Scattered knapweed specimens were present on the site, but were not positively identified as <i>C. biebersteinii</i> .
Class B Noxious Weed	Scot's broom (<i>Cytissus scoparius</i>) ¹
Class C Noxious Weed	English ivy (<i>Hedera helix</i>) Evergreen blackberry (<i>Rubus laciniatus</i>) ¹ Hairy cat's ear (<i>Hypochaeris radicata</i>) Himalayan blackberry (<i>Rubus armeniacus</i>) ¹ Reed canarygrass (<i>Phalaris arundinacea</i>) ¹ Tree of Heaven (<i>Alianthus altissima</i>)

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State Classification	Common Name (Scientific Name)
Non-regulated, non-native species	Bentgrasses (<i>Agrostis</i> sp.)
	Bluegrass (<i>Poa</i> sp.)
	Cherry (likely cultivar varieties of the genus <i>Prunus</i>)
	Common sheep sorrel (<i>Rumex acetosella</i>)
	Eastern redcedar (<i>Juniperus virginiana</i>)
	European horse-chestnut (<i>Aesculus hippocastanum</i>)
	Fescue grasses (<i>Festuca</i> sp.)
	Flowering plum (varieties of the genus <i>Prunus</i>)
	Lanceleaf plantain (<i>Plantago lanceolata</i>)
Norway Maple (<i>Acer platanoides</i>)	

¹ Non-regulated noxious weed per Pierce County Noxious Weed Control Board.

Future Master Plan projects at the Campus will need to meet Pierce County and City of Lakewood regulations with regard to the control of noxious and invasive weeds.

Animals

The only positive wildlife identifications during the field evaluation were woodpeckers (identified by their sound), squirrels (likely eastern gray squirrel [*Sciurus carolinensis*] or eastern fox squirrel [*Sciurus niger*]), and American crow (*Corvus brachyrhynchos*). However, considering the large size of the site and the presence of relatively undisturbed riparian areas in close proximity to Puget Sound, we would anticipate a variety of wildlife species that are adapted to proximity with suburban human populations, such as rats, mice, voles and similar rodents; North American raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and passerine bird species. Deer (*Odocoileus* sp.) and coyote (*Canis latrans*) and were not observed on the Campus, but are likely present due the proximity of the riparian habitats on and near the Campus to Chambers Creek Estuary, which supports a variety of fish and wildlife species. A brief reconnaissance of the estuary area positively identified deer, great blue heron (*Ardea herodias*), and bald eagle (*Haliaeetus leucocephalus*).

Federal and State-Listed Habitats and Species

Suburban developed areas in the Puget Sound do not provide suitable, usable habitat for large terrestrial predators such as Gray wolf or North American Wolverine. Oregon spotted frog requires relatively large areas of emergent wetland that are not present on the Campus.

Exposed gravel areas to the site could provide potential habitat for streaked horned lark, but the frequency of disturbance on the Campus makes nesting by this species unlikely. Nearby marine areas could potentially provide foraging habitat for marbled murrelet. Habitat suitable for use by yellow-billed cuckoo includes large tracts of riparian habitat with small trees and shrubs suitable for nesting. Some areas of similar riparian habitat are present on the Campus and nearby. Future projects should assume that streaked horned lark, marbled murrelet, yellow-billed cuckoo or suitable habitats may be present and should conduct more detailed studies.

Streams on the Campus and nearby have long culverted sections or other man-made barriers that preclude use by listed anadromous ESA listed fish species (Chinook salmon, steelhead, and bull trout). However, these species are present in Puget Sound and likely use the nearby areas of Chambers Creek. As a result, future projects should assume the potential for impact to these species.

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The riparian areas along Garrison Springs and the unnamed Tributary to Chambers Creek meet the definition of biodiversity areas and would be protected as critical areas. Similarly, habitats for little brown bat, slender-billed white-breasted nuthatch (mapped on the site) western pond turtle (mapped in the vicinity) would also need to be considered by future projects. Potential impacts to migratory birds during their breeding season would need to be considered by future projects.

Future Master Plan projects at the Campus should conduct detailed field studies to identify ESA listed, priority, and critical species and habitats in the immediate project vicinity.

5 CONCLUSIONS

We hope this memorandum has been responsive to your needs for a natural resource evaluation to support the preparation of a SEPA Checklist for the Western State Hospital Master Plan. Please feel free to contact me at 206.766.7618 or patrick.togher@pbsusa.com with any questions or comments.

Sincerely,



Digitally signed by Patrick J.
Togher, PWS
Date: 2020.02.07 08:56:19
-08'00'

Patrick J Togher,
Senior Project Manager

PJT:GP:EJ

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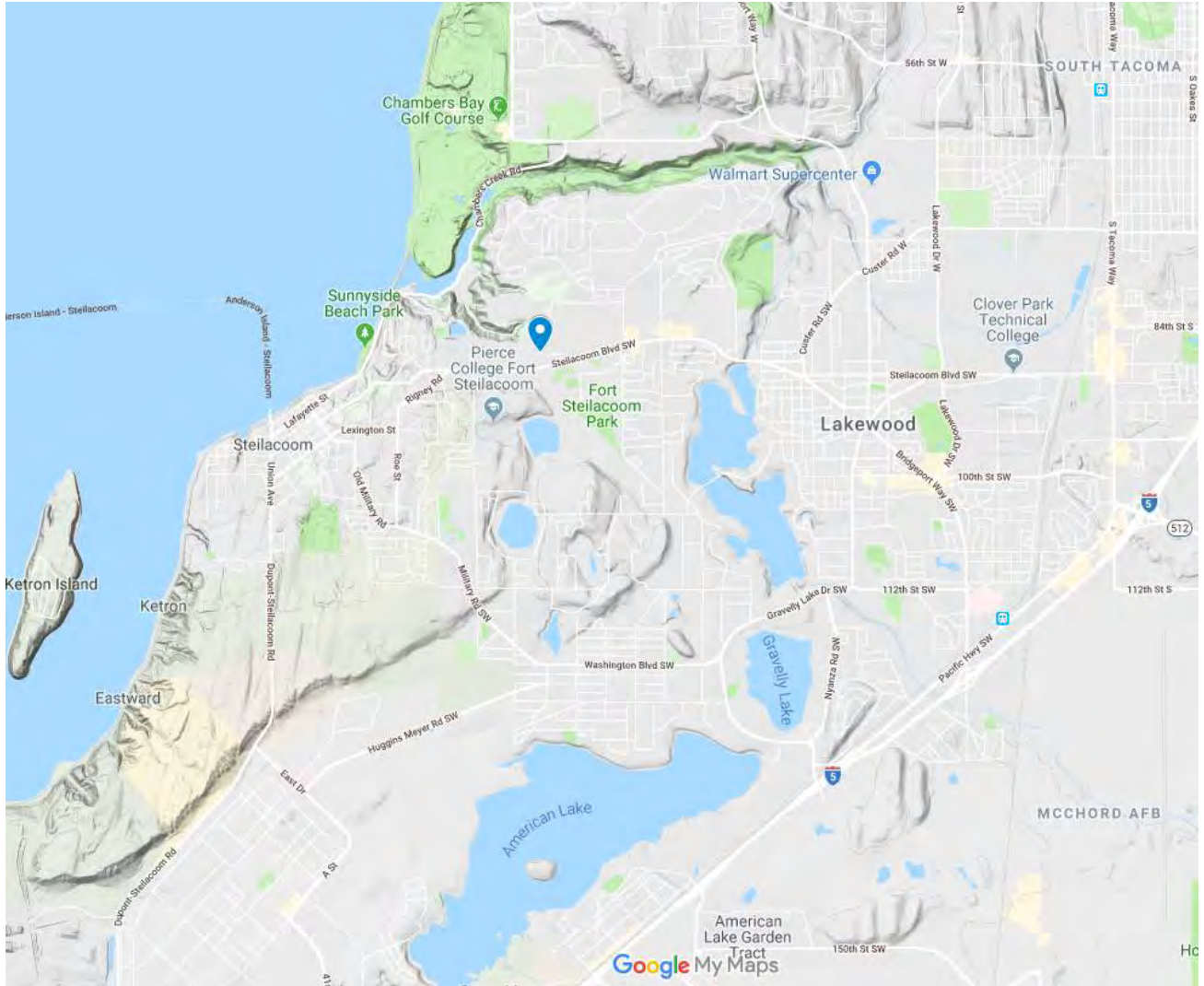
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Figures



Western State Hospital / Appendix



PROJECT#
41189.001

DATE
July 2019

VICINITY MAP
Western State Hospital Master Plan Update
Natural Resource Reconnaissance Memorandum
9601 Steilacoom Blvd SW, Lakewood, WA 98498

FIGURE

1



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13D	Everett very gravelly sandy loam, 15 to 30 percent slopes	3.6	0.6%
41A	Spanaway gravelly sandy loam	536.7	84.7%
47F	Xerochrepts, 45 to 70 percent slopes	76.3	12.0%
48A	Xerorthents, fill areas	11.7	1.9%
Totals for Area of Interest		633.6	100.0%



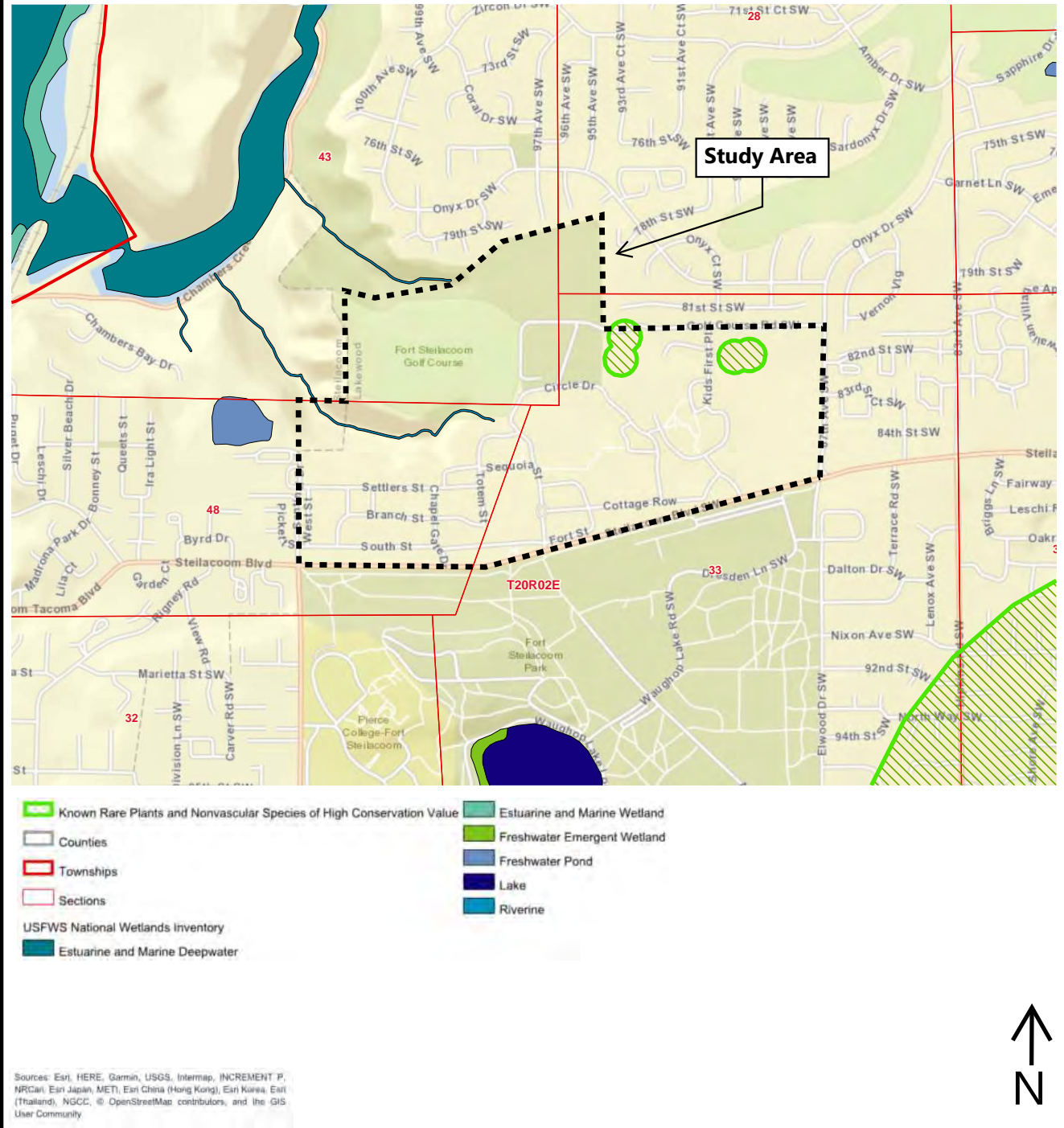
PROJECT#
41189.001

DATE
July 2019

WEB SOIL SURVEY MAP
Western State Hospital Master Plan Update
Natural Resource Reconnaissance Memorandum
9601 Steilacoom Blvd SW, Lakewood, WA 98498

FIGURE

2



PBS

PROJECT# 41189.001	DATE July 2019
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NATIONAL WETLAND INVENTORY & RARE PLANTS MAP
 Western State Hospital Master Plan Update
 Natural Resource Reconnaissance Memorandum
 9601 Steilacoom Blvd SW, Lakewood, WA 98498

FIGURE
3



		<p align="center">PIERCE COUNTY PUBLICGIS MAP Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498</p>	<p align="center">FIGURE</p>
<p>PROJECT# 41189.001</p>	<p>DATE July 2019</p>		




Western State Hospital / Appendix

PATCH NAME, PATCH SIZE IN ACRES


- PATCH A, 2.7985 AC
- PATCH B, 1.9348 AC
- PATCH C, 18.3011 AC
- PATCH D, 9.5754 AC
- PATCH TOTAL: 32.61 AC**



SOURCE: WDNR GIS OPEN DATA, DATED FEBRUARY 28, 2019

		<p>OREGON WHITE OAK WOODLANDS MAP Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498</p>	<p>FIGURE 5</p>
<p>PROJECT# 41189.001</p>	<p>DATE July 2019</p>		



		WDFW PHS MAP Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498	FIGURE 6
PROJECT# 41189.001	DATE July 2019		

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPiusPublic Query ID: P190625130711
 REPORT DATE: 06/25/2019 1.07

Common Name Scientific Name	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Biodiversity Areas And	PUYALLUP STEEP OPEN PHSREGION 902552	Terrestrial Habitat N/A http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Biodiversity Areas And	PIERCE COUNTY CANDIDATE PHSREGION 902061	Terrestrial Habitat N/A http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Little Brown Bat Myotis lucifugus	WS_OccurPoint 110873 June 01, 1997	Breeding Area Biotic detection http://wdfw.wa.gov/publications/pub.php?	Map 1:12,000 <= 33	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Slender-billed white- Sitta carolinensis aculeata	WESTERN WA STATE WS_OccurPoint 113059 January 01, 1983	Breeding Site Biotic detection http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter)	N/A Candidate PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Points
Western Pond Turtle Actinemys marmorata	WS_OccurPoint 110843 October 21, 2007	Occurrence Biotic detection http://wdfw.wa.gov/publications/pub.php?	1/8 mile	N/A Endangered PHS LISTED	Y QTR-TWP	WA Dept. of Fish and Wildlife Points
Western Pond Turtle Actinemys marmorata	WS_OccurPoint 110841 April 19, 2006	Occurrence Biotic detection http://wdfw.wa.gov/publications/pub.php?	1/8 mile	N/A Endangered PHS LISTED	Y QTR-TWP	WA Dept. of Fish and Wildlife Points
Western Pond Turtle Actinemys marmorata	WS_OccurPoint 110840	Occurrence Biotic detection http://wdfw.wa.gov/publications/pub.php?	1/8 mile	N/A Endangered PHS LISTED	Y QTR-TWP	WA Dept. of Fish and Wildlife Points

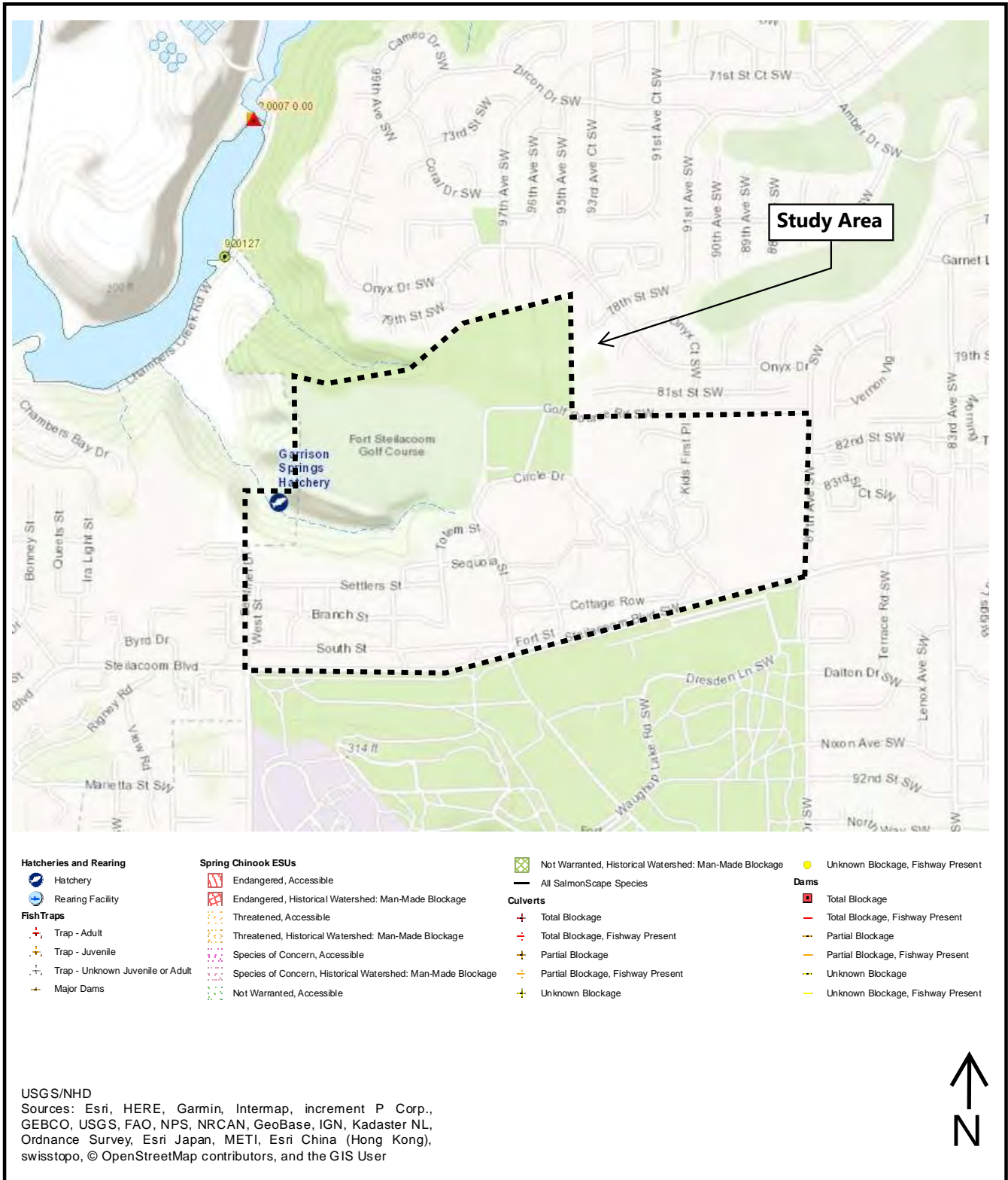
06/25/2019 1.07

Appendix A-12: Natural Resources Memo

Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Western Pond Turtle Actinemys marmorata	WS_OccurPoint 110842 November 18, 2006	Occurrence Biotic detection http://wdfw.wa.gov/publications/pub.php?	1/8 mile	N/A Endangered PHS LISTED	Y QTR-TWP	WA Dept. of Fish and Wildlife Points
Western Pond Turtle Actinemys marmorata	PHSREGION 912957	Occurrence Individual occurrence http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter)	N/A Endangered PHS LISTED	Y QTR-TWP	WA Dept. of Fish and Wildlife Polygons

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

06/25/2019 1.07



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		<p>SALMONSCAPE MAP Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498</p>	<p>FIGURE 7</p>
<p>PROJECT# 41189.001</p>	<p>DATE July 2019</p>		



- | | | |
|--|-----------------------|-----------------------|
| StreamNet - Trend Survey Locations with links - Trends4GIS_web | Unknown | Rearing and migration |
| Adult Return-Estimates of Spawning Population | Summer Chinook | Spawning and rearing |
| Adult Return-Redd Counts | Migration only | Unknown |
| Coho Salmon | Rearing and migration | Fall Chinook |
| Migration only | Spawning and rearing | Migration only |
| Rearing and migration | Spring Chinook | Rearing and migration |
| Spawning and rearing | Migration only | |

PSMFC GIS, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the




		STREAMNET MAP Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498	FIGURE 8
PROJECT# 41189.001	DATE July 2019		



- Map Symbols**
- | | |
|-------------------------|----------------------|
| --- Harvest Boundary | ☉ Landing |
| - - - Road Construction | ▽ Waste Area |
| ~ Stream | 🌲 Clumped WRTS/GRTS |
| ▨ RMZ / WMZ Buffers | 🏠 Existing Structure |
| ⊗ Rock Pit | |



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		<p>DNR MAPPER</p> <p>Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498</p>	<p>FIGURE</p> <p>9</p>
<p>PROJECT#</p> <p>41189.001</p>	<p>DATE</p> <p>July 2019</p>		




Wetland	Wetland HGM Class ¹	Cowardin Classification ²	Dominant Species Observed	Wetland Hydrology Indicators Observed	Preliminary Wetland Rating ^{3,4}	Preliminary Buffer Width ^{4,3}
GS South	Slope	Palustrine Forested (PFO)	Red alder, salmonberry, Himalayan blackberry, lady fern, giant horsetail, and English ivy	Saturation at the surface, shallow inundation/surface flows	II/III	60-225
GS North	Slope	Palustrine Forested (PFO)	Red alder, salmonberry, Himalayan blackberry, lady fern, giant horsetail, small-fruited bulrush, and English ivy	Saturation at the surface, shallow inundation/surface flows	II/III	60-225

¹ Hydrogeomorphic classification after Hruby (2014).

² Cowardin classification after Cowardin et al. (1979).

³ Preliminary rating based on Washington State Wetland Rating System for Western Washington (Hruby, 2014).

⁴ Local wetland ratings and buffer widths are based on City of Lakewood Municipal Code (LMC) Title 14 – Environmental Protection (LMC 14.162).

		WETLAND RECONNAISSANCE MAP Western State Hospital Master Plan Update Natural Resource Reconnaissance Memorandum 9601 Steilacoom Blvd SW, Lakewood, WA 98498	FIGURE 10

Appendix A

USFWS IPaC Resource List

6/28/2019

IPaC: Explore Location

IPaC**U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Pierce County, Washington



Local office

Washington Fish And Wildlife Office

☎ (360) 753-9440

📅 (360) 753-9405

510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263

<http://www.fws.gov/wafwo/>

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IPaC: Explore Location

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

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IPaC: Explore Location

Gray Wolf *Canis lupus* Proposed Endangered
 No critical habitat has been designated for this species.

North American Wolverine *Gulo gulo luscus* Proposed Threatened
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/5123>

Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark <i>Eremophila alpestris strigata</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is proposed critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
Oregon Spotted Frog <i>Rana pretiosa</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6633	Threatened

Fishes

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Flowering Plants

NAME	STATUS
------	--------

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IPaC: Explore Location

Golden Paintbrush <i>Castilleja levisecta</i>	Threatened
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7706	
Marsh Sandwort <i>Arenaria paludicola</i>	Endangered
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	
Water Howellia <i>Howellia aquatilis</i>	Threatened
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7090	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#).

This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list

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IPaC: Explore Location

will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
<https://ecos.fws.gov/ecp/species/1626>

Breeds Jan 1 to Sep 30

Black Turnstone *Arenaria melanocephala*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Great Blue Heron *Ardea herodias fannini*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Mar 15 to Aug 15

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

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Marbled Godwit *Limosa fedoa*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9481>

Breeds elsewhere

Olive-sided Flycatcher *Contopus cooperi*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3914>

Breeds May 20 to Aug 31

Red-throated Loon *Gavia stellata*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Rufous Hummingbird *selasphorus rufus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

Breeds Apr 15 to Jul 15

Western Screech-owl *Megascops kennicottii kennicottii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Mar 1 to Jun 30

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week

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of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

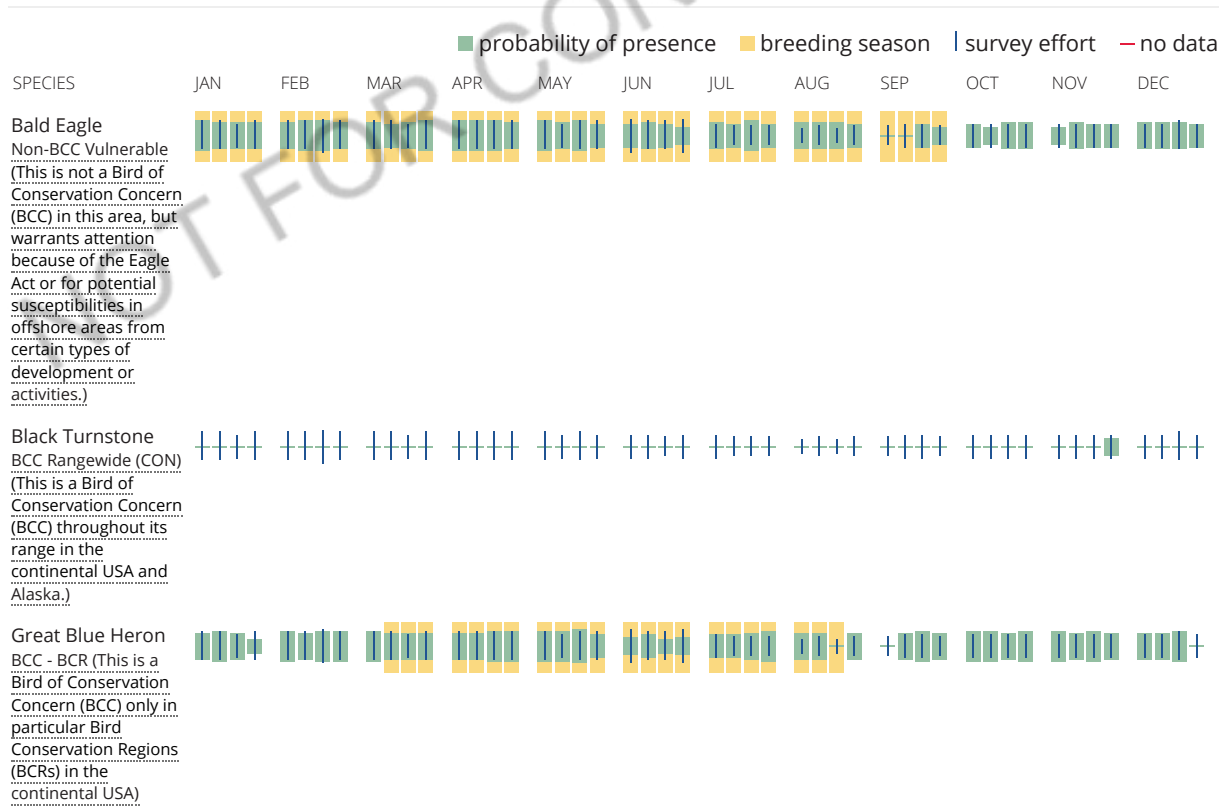
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

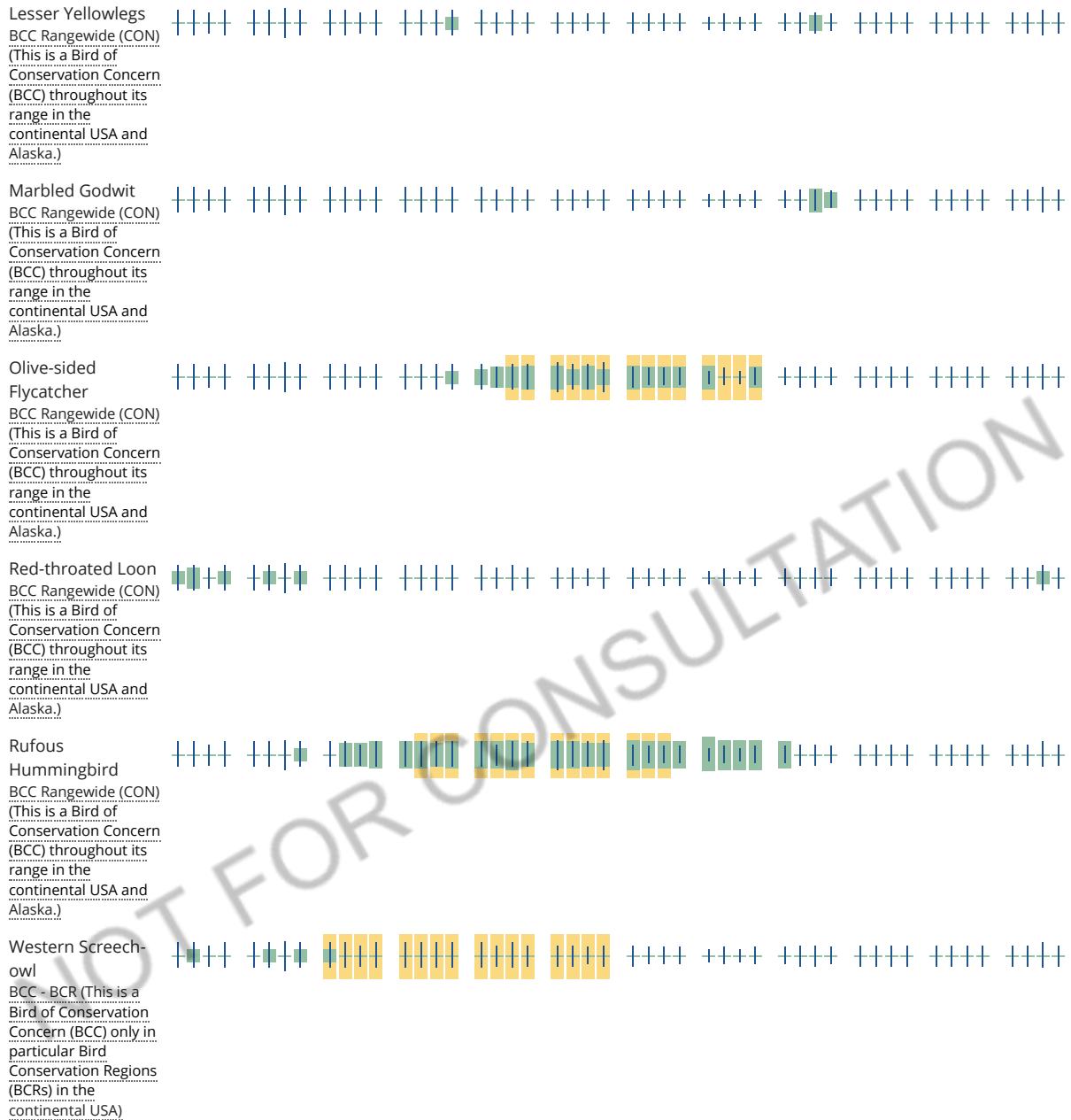
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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IPaC: Explore Location



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

<https://ecos.fws.gov/ipac/location/Y7TA4SLZ5VETDOPYS5Q3HWPEQ/resources#facilities>

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IPaC: Explore Location

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangelwide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangelwide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

6/28/2019

IPaC: Explore Location

Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

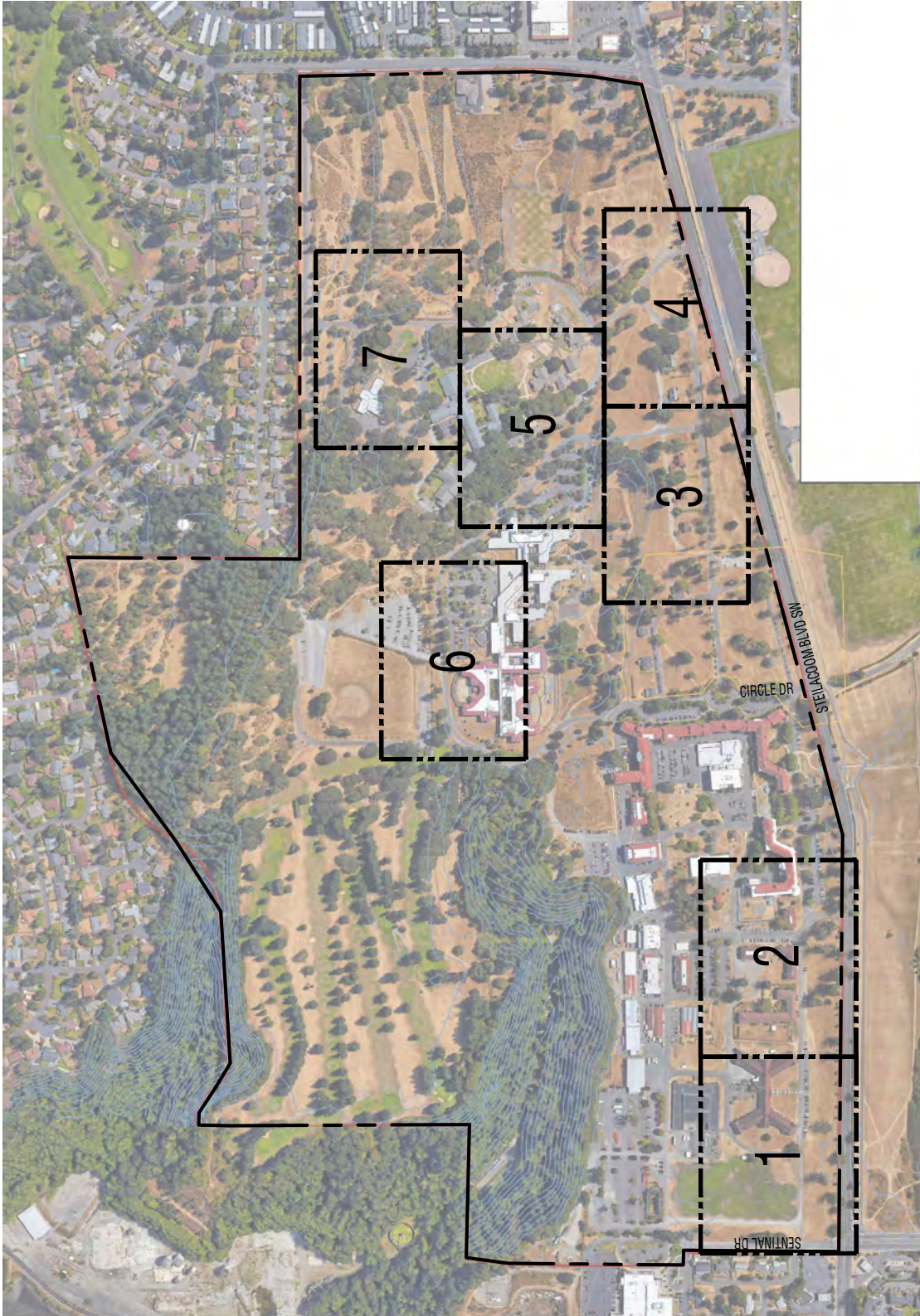
Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions



Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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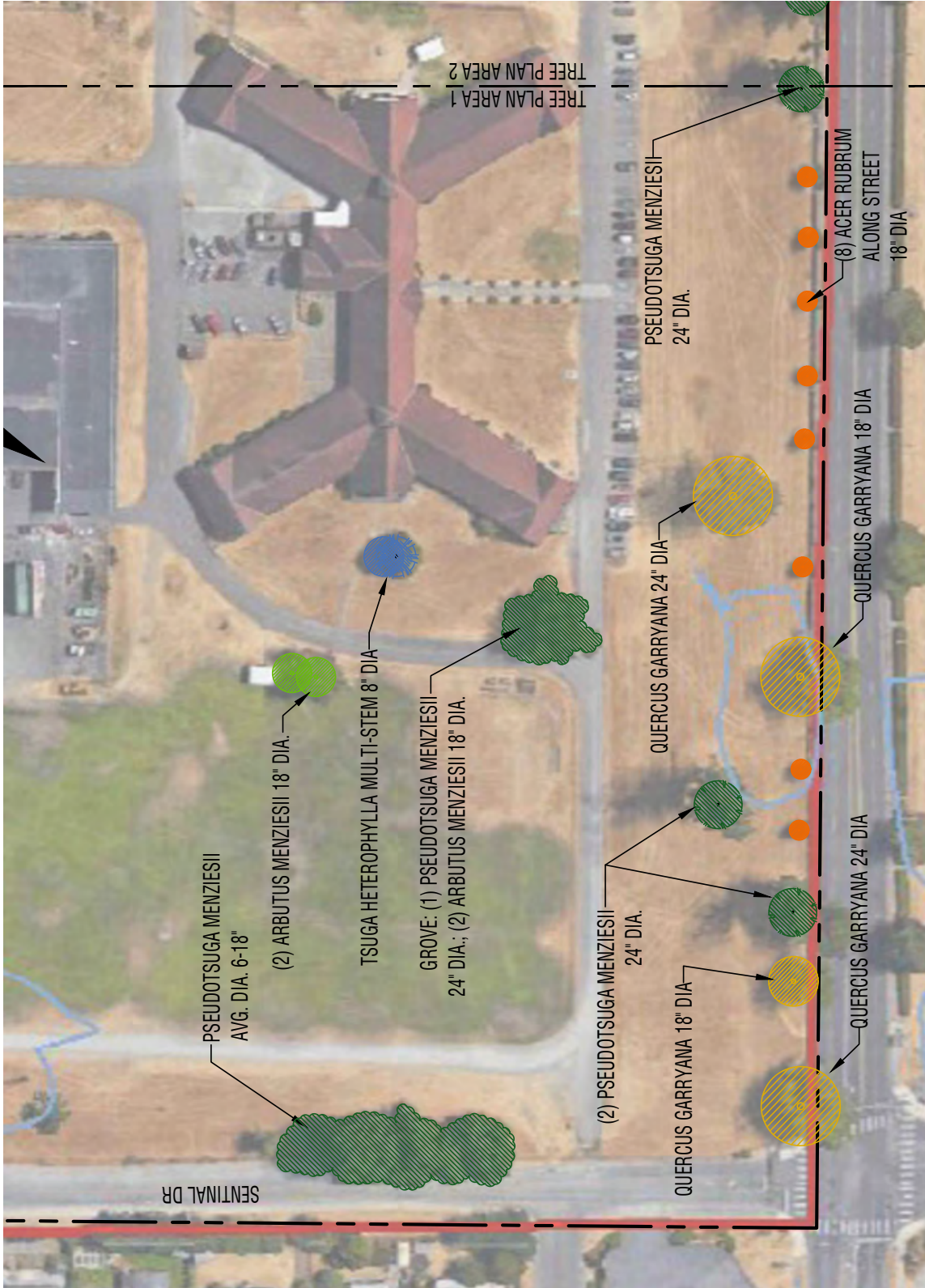


TREE PLAN KEY PLAN
SCALE: 1:600

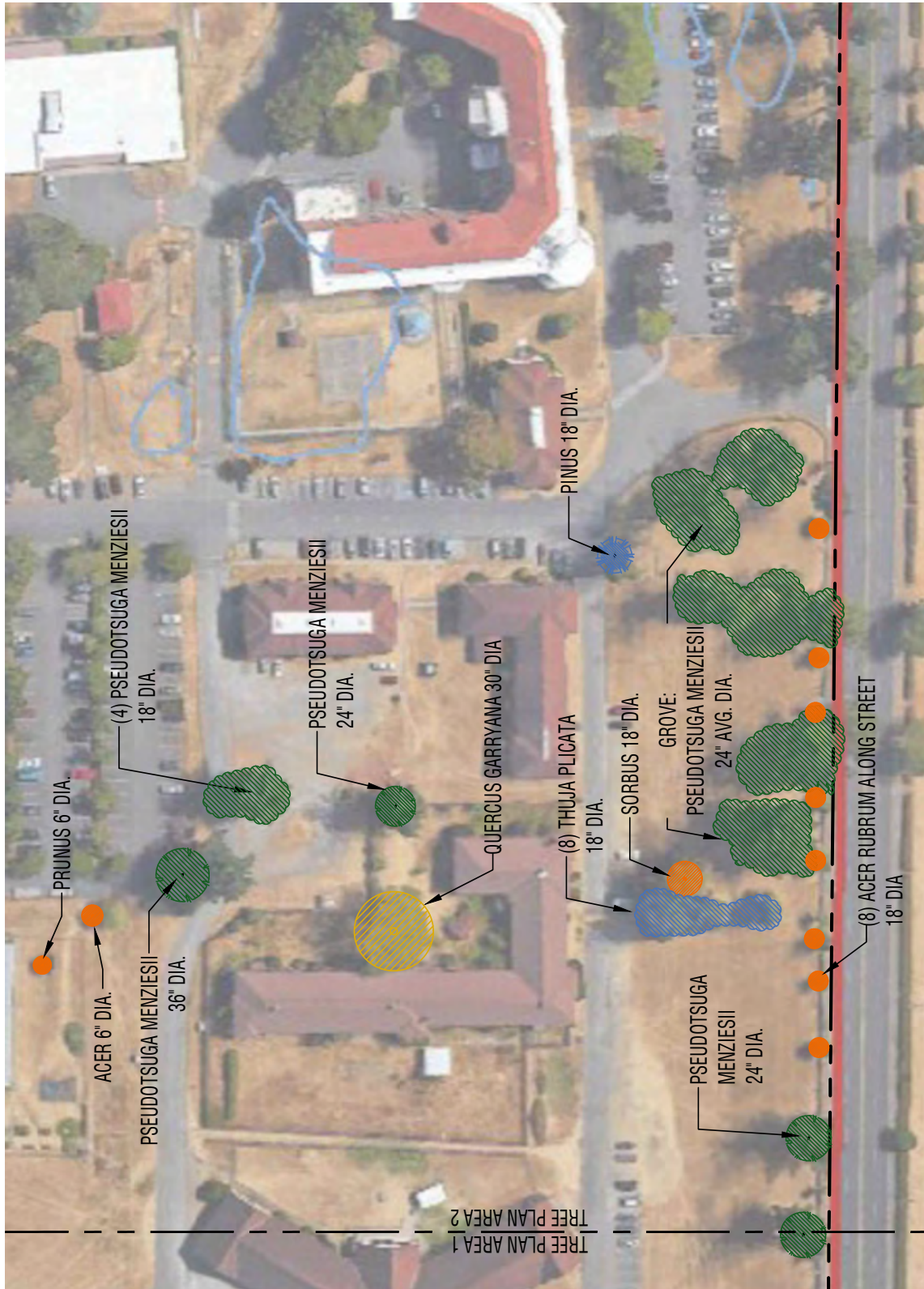
TREE PLAN LEGEND

	ARBUTUS MENZIESII, PACIFIC MADRONE TREE
	PSEUDOTSUGA MENZEISII, DOUGLAS FIR TREE
	QUERCUS GARRYANA, GARRY OAK TREE
	SEQUIADENDRON GIGANTEUM, SEQUOIA TREE
	VARYING DECIDUOUS SPECIES, SEE LABELS ON PLAN
	VARYING EVERGREEN SPECIES, SEE LABELS ON PLAN

TREE PLAN LEGEND
SCALE: 1:100



TREE PLAN AREA 1
SCALE: 1:100



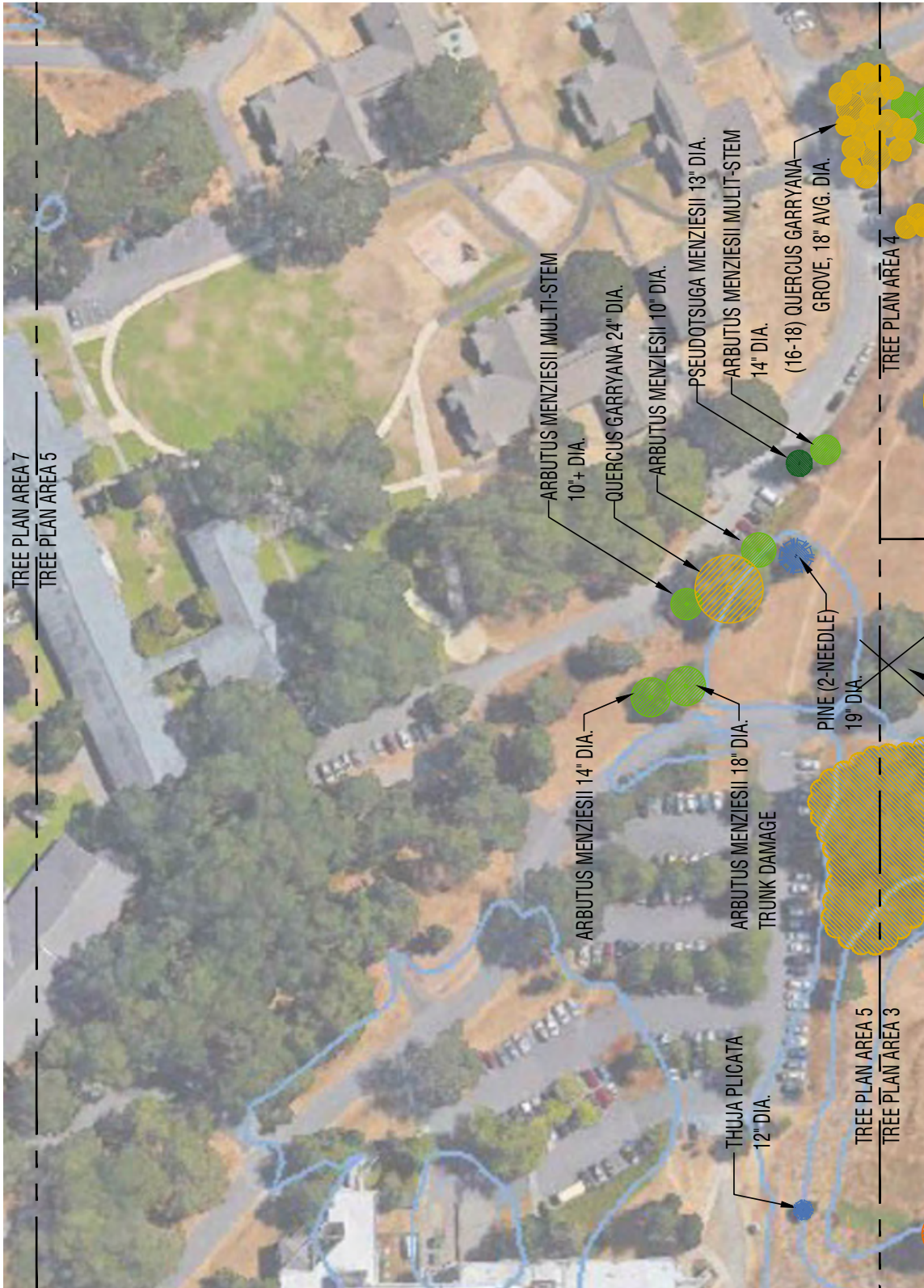
TREE PLAN AREA 2
SCALE: 1:100



TREE PLAN AREA 3
SCALE: 1:100



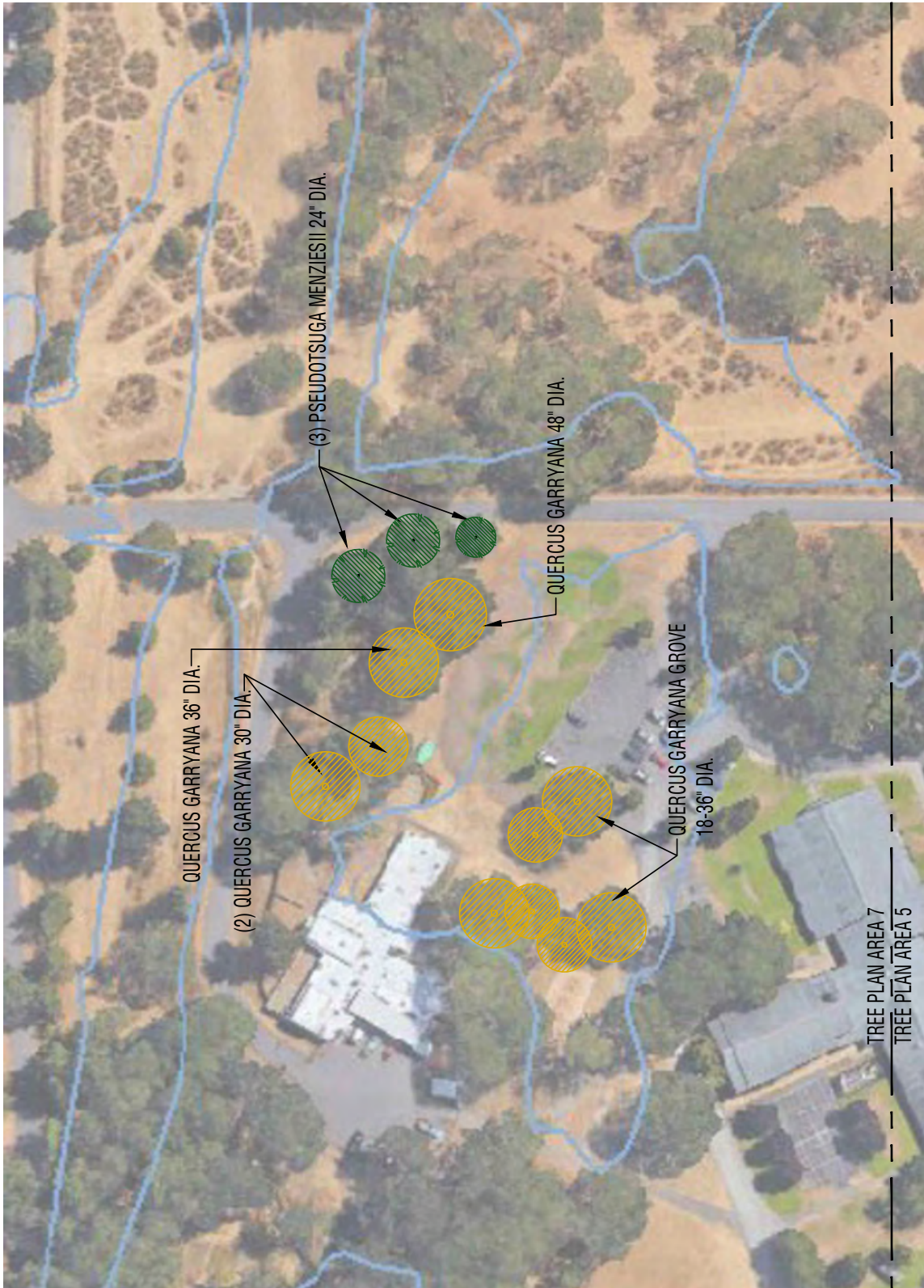
TREE PLAN AREA 4
SCALE: 1:100



TREE PLAN AREA 5
SCALE: 1:100



TREE PLAN AREA 6
SCALE: 1:100



TREE PLAN AREA 7
SCALE: 1:100

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R-2000-S/R-2000-W

Ultra Long Range Readers

Ultra Long Range, Hands-Free RFID Readers for Vehicle, Asset and Personnel Tracking



R-2000-S Serial Reader (Shown in a 2NEM Enclosure)

The R-2000 Series Ultra Long Range RFID Reader detects and decodes RF transmitted signals from 1st Choice Tags.

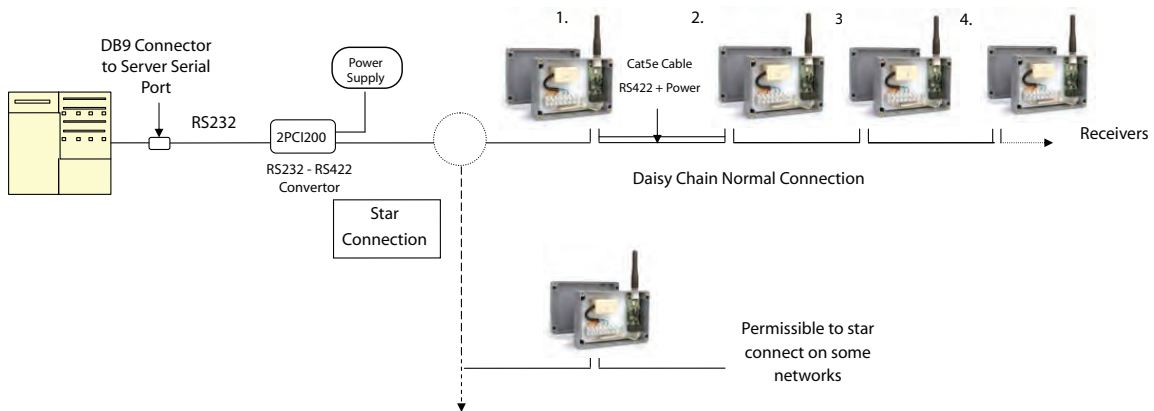
R-2000 Series Readers can connect to third party software systems using RS232/RS422 and/or connect to any Access Control System using Wiegand protocol.

Tags and Readers provide an accurate and real-time ability to detect, track, control and monitor vehicles, assets and personnel. This dynamic technology can be applied to operations and processes in all types of industries.

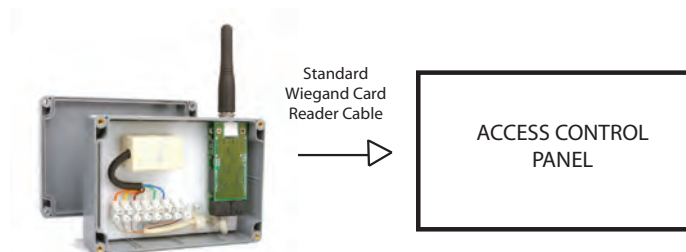
Features:

- * Adjustable read range :
1'-600' with standard Antennas -
Longer range with special
Antennas
- * R-2000-S includes RS422 multi-
drop connection in serial network
mode
- * R-2000-W outputs Wiegand 26/32 bit
for direct connection to Access
Control Systems and serial
RS-232/422 for custom software
solutions
- * R-2000-W includes Adjustable
Wiegand multi-tag buffering for
use with Access Control Systems
- * Reader status indication LEDs
- * Plug-in tool kit for field
programming and adjustments
- * Simultaneous multiple Tag read
capability
- * Both Omni-Directional and
Directional Antennas are available
- * **PROTRAC** Dynamic Tag Tracking
- * Secure Encrypted Transmission
between Tags and Readers

R-2000-S Basic Serial Configuration



R-2000-W Basic Wiegand Configuration



RFID Applications

- *Transportation
- * Mining
- * Emergency Evacuation
- * Supply Chain
- * Petrochemical
- * Healthcare
- * Manufacturing
- * Gated Communities
- * Education

Reader Specification

RX Frequency.....433.92 Mhz	Operational Temperature -40° to +140° F
RF Input.....BNC (Female)	Size.....4.3" x 2.4" x .86"
Sensitivity..... -103 dBm	Weight.....1.2 oz
Bandwidth.....700kHz	Max Current.....60mA
	Supply Voltage.....8.5 - 24 VDC

For More Information Contact:

1st Choice Security Solutions, Inc
 1201 Peachtree Street NE
 400 Colony Square, Suite 200
 Atlanta, GA 30361
 Sales@1stChoiceSecuritySolutions.com
 www.1stChoiceSecuritySolutions.com
 P) 770-487-7727 F) 770-487-7765

METOR 28

Hand-held metal detector with 3 sensitivity settings to detect all types of metal.

Unique Angled Design

Rugged Construction

Detects All Metals

Lightweight



Hand-held metal detectors are an integral part of the physical security screening process. With the Metor 28, we have designed a unit that benefits security personnel as well as the person being scanned. Our unique angled design allows you to thoroughly scan an individual, while keeping your hand away from their body.

Additional Benefits

- The circular opening assists in pinpointing metal objects
- Comfortable handle for easy control and grip
- Lightweight 260 g (9.3 oz.) with battery
- Wrist strap

Detection

Detects all metals, both ferrous and non-ferrous.

Sensitivity

Three (3) sensitivity settings

Detection performance:

- Level 1: small handguns and knives
- Level 2: razor blades, handcuff keys
- Level 3: .22 caliber bullet, metal shanks

Operation

3-way push-button operation:

On/Off/Momentary.

Battery

NiMH rechargeable battery or 9V alkaline battery.

Low battery indicator, both visual and audible.

Alarm

Audible and visual alarm indication.

Rugged Construction

High impact resistant ABS case.

Safety

The Metor 28 is safe for people with pacemakers and will not affect magnetic recording media. The magnetic field strength of the Metor 28 meets with the limits set by international standards for human safety.

Warranty

Two (2) years, parts.



Rapiscan[®]
systems

An OSI Systems Company

www.rapiscansystems.com

METOR 28

Conformity

Safety Standards	Conforms with the applicable EU directives.
CE Compliant	Yes, conforms to the applicable international standards for electrical safety and EMC.

Specifications

Ambient Operating Temperature	0°C to 50°C (32°F to 122°F)
Power Supply	Standard 9V battery or rechargeable NiMH battery.
Battery Life	Alkaline battery 120 h Rechargeable NiMH battery (170 mAh) 40 h* Recharge time for NiMH battery (170 mAh) 12 h* *The values may vary between batteries with different capacity.
Weight	260 g (9.3 oz.) with battery.
Dimensions (Body)	410 x 140mm (16.35 x 5.5 in).
Dimensions (Grip)	33 x 33mm (1.3 x 1.3 in).
Warranty	Two (2) years, parts

Options and Accessories

Charging Unit: Simple charging connection that plugs directly into the unit.

With continual development of our products Rapiscan Systems reserves the right to amend specifications without notice. Product pictures are for general reference. Please note that due to US laws and regulations, not all Rapiscan products are available for sale in all countries without restriction. Please contact your Rapiscan Systems sales representative for more information.

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An OSI Systems Company

ONE COMPANY - TOTAL SECURITY



Rapiscan Systems is
ISO 9001:2008 Certified

www.rapiscansystems.com

91110779-1 100913



AMERICAN ACCESS CONTROL SYSTEMS SECURITY DOORS AND SECURITY PORTALS DIVISION OF HI-TECH METALS



AACS SERIES 300 ACCESS CONTROL PORTAL

Outside cabin dimensions 100”H X 60” with clear passage measuring 87”X34”

Six passages per minute per tunnel with an ADA mode that operates at a slower speed, activated by a separate input provided by the facility’s security system

Fire Alarm override allows the security officer to close the doors in the event of an attempted security breach

Smart E-Stop technology tries to open the door used to enter the portal and if the attempt to open fails, the clutch releases and forces the user out the same door that was used for entry

Console alerts security of an alarm situations and impending equipment failures, provides an option allowing for override of detection systems by an authorized security officer

Console displays current status of up to eight portals individually or collectively as selected

Logs 16,000 cycles of data for troubleshooting assistance, log can be downloaded to a USB and emailed to the factory for analysis

Main control disconnects the affected circuit in the event of an overload condition and reconnects once the condition is corrected

Voice message is programmable on site allowing for a custom message to meet the facility’s requirements

Near infrared tailgating detection system

Five hour battery backup

9/16” safety glass (UL LEVEL BR3 glass available)

Powder coated finishes available in all RAL listed powder coating colors (#4 stainless & non-directional stainless are optional

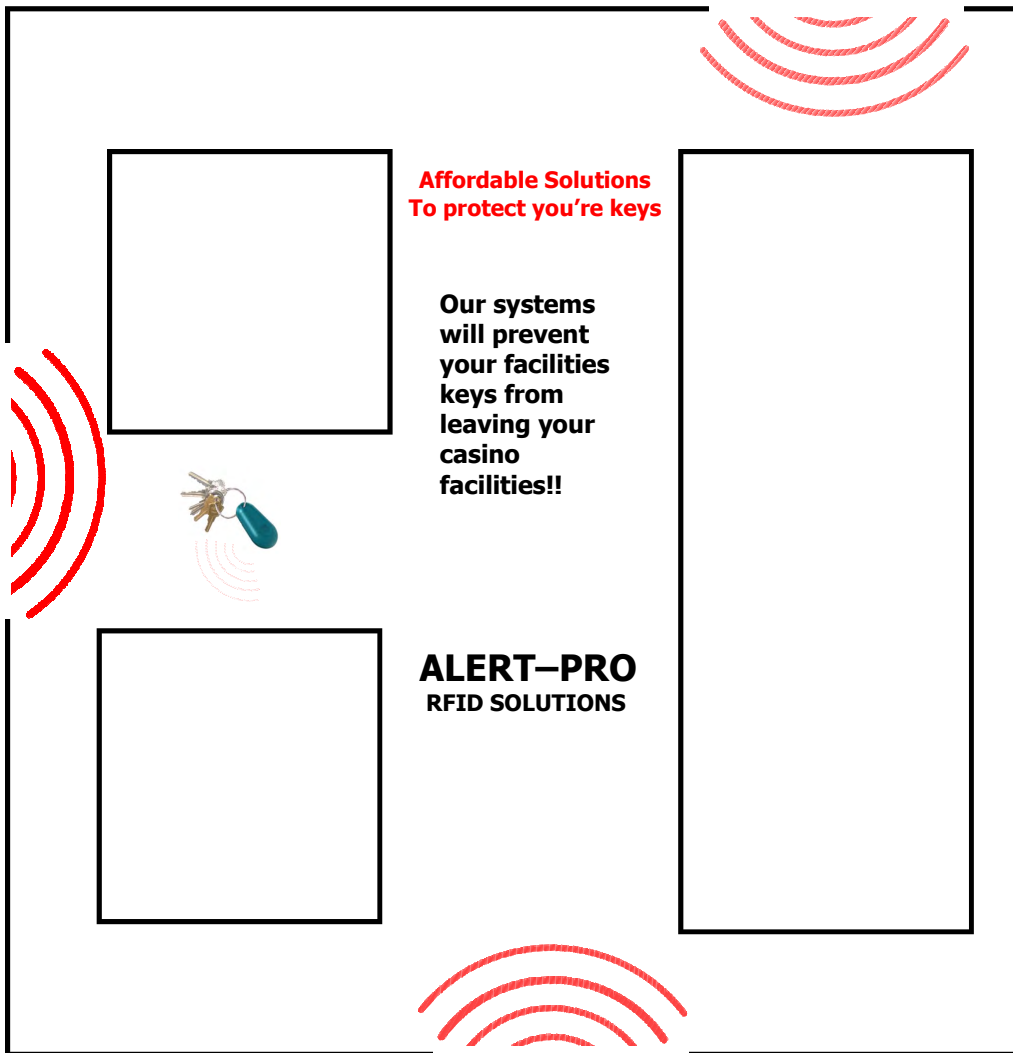


ALERT-PRO RFID Key Exit Alert System

By Time Access Systems inc

Affordable, Secure Key Asset Management Solutions

Typical Site Layout



Western State Hospital / Appendix

For More Information or Pricing Please Contact Us



Distributed and Supported by
Time Access System Inc
Phone (604) 460-8670 Toll Free 1-877-460-9602
www.timeaccessinc.com

ALERT-PRO
RFID SOLUTIONS

Circlelock



This high security door accurately ensures that only authorised visitors are allowed access to a building's most sensitive areas. Available in two sizes and with a variety of security systems, the exact level of security offered by the Circlelock can be matched specifically to your needs.

Security Options

- Biometrics; determine the identity of the user in the door
- StereoVision; advanced time of flight technology that accurately detects both tailgating and piggybacking
- Weight System; detects tailgating and piggybacking
- Contact Mats; detects piggybacking
- Sensor System; basic piggybacking detection

Options

- Card reader mounting options
- External control panel for integration in the reception desk
- Push-button free out
- Cleaning mode function, operated with a key switch panel on the secured side of the door
- Feedback signals to the authorisation system



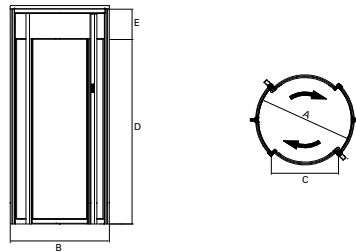


- Connection to an external fire alarm system
 - Alternative junctions to the facade or wall
 - Vandalism (P4A), burglary (P6B) or bullet resistant (BR2NS / BR4NS) glass or solid panels in the door set and/or curved walls
 - A steel floor construction allowing the Circlelock to be mounted on a computer floor
- All Boon Edam secured entry solutions can easily be integrated with virtually any access control system.

Dimensions and Specifications

A Diameter (mm)	Capacity / Minute	# of Door Wings	Disabled Access	Type of Traffic	Emergency Exit*	B Instal- lation Width (mm)	C Throat Opening (mm)	D Height Under Canopy (mm)	E Canopy Height (mm)
1000	1x 5	2	x		x	1077	584	2100-2600	200-600
1500	1x 4	2			✓	1577	937	2100-2600	200-600

* Escape route requirements are subject to local regulations



Emergency Egress

The Circlelock is always equipped with an emergency button mounted inside the door. The emergency button is indicated with a red LED light and will open the door set by which the user entered.

The Circlelock is equipped with a battery back-up enabling the door to carry out one last action in the event of a power failure either opening or locking the doors. As standard, the Circlelock is supplied with fail-safe operation. During an emergency the lock on the sliding doors will be disengaged, allowing manual opening. Alterna-

tively, one of the door sets can be programmed fail-secure to lock in the event of a power failure, allowing anyone inside the Circlelock to escape without compromising security. (Escape route requirements are subject to local regulations).

Technical Specifications

Power Supply: 220-240 VAC, 50/60 Hz

Power Consumption

Operating: 65W

Stationary: 45W

Ambient Temperature: -20°C to +50°C

Fuse: External Power supply fused with 16A slow



RFID-READY PORTAL.

IT WORKS OVERTIME SO YOU DON'T HAVE TO.

This versatile workhorse RFID equipment cabinet offers an aesthetically-pleasing solution for a multitude of applications. It's suitable for retail environments, corporate offices, laboratories, store rooms, and even warehouse duty. The basic unit accommodates all major brands of RFID hardware and allows for flexible antenna positioning for more accurate tag reads and directionality.



RFID STAND DELIVERS SUBSTANTIAL PROTECTION & PERFORMANCE.

✓	Unit Size: 47" x 14" x 3.5"
✓	Custom-size units available
✓	Slim, sturdy and compact for impact resistance
✓	14-guage steel construction with RFID-transparent EPDM or ABS shield
✓	Easy access to equipment with four thumbscrews
✓	Bottom openings and knock-outs for wiring, compatible with ¾" or 1" conduit
✓	Shipped boxed 48" x 15" x 4"
✓	One-year Limited Warranty, Extended Warranty available with select equipment



Model number: RF-143

The unit comes with a removable base so it's capable of either mounting onto a wall or sitting flush against the wall along the baseboard. Designed for quick and easy installation.

- ✓ Resilient power-coated finish
- ✓ Easily removable cover design
- ✓ Variety of bracketing for all installed RFID equipment
- ✓ Purchase cabinet alone or with equipment
- ✓ rfidCollector® or Impinj Readers
- ✓ rfidCollect or VESA mount hi-gain circular antennas
- ✓ Infrared/Microwave Motion Sensor
- ✓ Cables and Cable Trays available
- ✓ Power Supply or POE

Wall-Mountable



Flush to Wall Mount



Motion Sensor

Activation sensor utilizing K-band microwave technology. Detects speeds as low as 2.2" per second.



Splitter for POE

Power over Ethernet (PoE) Splitter, both data and electrical power can be delivered to a non-PoE Ethernet-enabled device from a single CAT5 Ethernet cable.



Flexibility in design. High Performance guaranteed. Call your rfidCollect representative today for more information or price quote.





All portals have a face-plate drilled out to match virtually any mounting pattern. Antenna cables are tucked away neatly behind the face plate.



Floor base plate is removeable and is pre-holed to mount to floor. Portal back is flat and pre-holed for wall or baseboard mounting.



rfidCollect LLC, 9520 Bendix Road N., #750, Columbia, MD 21045 + 866-248-5040 + www.rfidcollect.com



COMMODOOR LIGHT 3 WAY

ACCESS CONTROL



MOTORIZED ACCESS CONTROL BOOTH

COMMODOOR LIGHT 3 WAY is a special version of the LIGHT series with three automatic doors which allow the choice of direction of access during the transit and is at norm with the standard disable rules. It is a monobloc realized with extremely thin profiles and a circular base, which can be placed on the existing floor without the need of built-in works. Elegant and of easy positioning with wide shutters and lateral curved glass walls for the fixing of the existing structure and is made in the dismantable version. Varnished with embossed finish in the RAL colours or at request (glossy finishes in inox coating, bronze, alluminum etc.)

Technical Features

- Autonomous control of the room with a SUN sensor for the sensing of objects deposited at the inside only by passage of 70cm (optional)
- Metal detector inserted in the structure only by passage of 70cm (optional) Internal
- Internal microcamera (optional)
- PBS Anti piggy backing system for the control of the transit of one person at a time. (optional)
- Command Console programmable by intercom
- Semaphoric system
- Digital vocal communication for the guide of the transit users
- Security block in closer with mechanical lock
- First in last out key
- Security sensor
- Predisposition for access control with badge, fingerprint readers, facial readers, connections (RS 232 RS 485) access.



ITALIAN DESIGN, INTERNATIONAL SECURITY.



COMMODOOR LIGHT 3 WAY

ACCESS CONTROL

Electrical System

Power Supply: 220v +/- 10%, 50Hz

Maximum power absorb: 200W

Temperature: -10° / 55° C

Buffer Battery: functions in case of absence of power

Motors: n.3 motors 24Vcc for reversable movement of the shutters, with security block for closure. Opening of both the shutters in case of emergency

Logistic management: programmable with microprocessor with n.3 lines RS232 (n.1 RS232 reserved)

Metal detector: placed on the inside of the structure (as option)

Console: for the management of the compass, with interphone

Lighting: Internal room spot light

Accident prevention: photocell on vertical rod of the doors both of entrance and exit and control system which guarantees the regulation of the motors

Structure

Frame: monobloc with section bar and plate in pressed steel bent 3mm

Crash: curved layered glass 21|22 mm P7B (En356) BR2 (EN1063)

Finishing: embossed finish in RAL colours, smooth as sample

Function and Operations

Type of reset: automatic after the allarm of the metal detector (in option)

Anti piggy backing: electronic control system in the inside transit room to avoid access to two people at the same time

Transit Speed: 6 passages at the minute in entrance and exit.

Dimensions and Weight

Dimensions:

Height 2400mm

Diameter 1500mm

Passage dimensions:

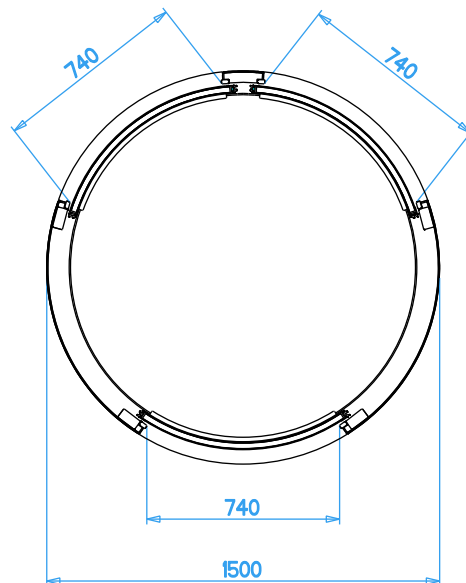
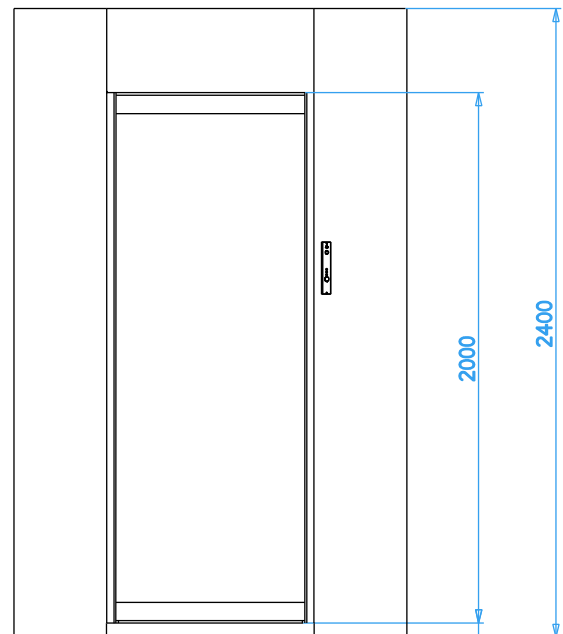
Height 2000mm

Width 740mm

Weight: 1030kg

MOTORIZED ACCESS CONTROL BOOTH

Technical Features



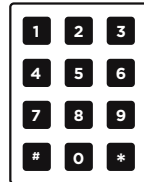
THE PARADIGM HAS SHIFTED

COVID-19 means traditional identification methods are no longer viable.

Many municipalities rely on security solutions that could put employees' and citizens' health at risk. Access to public buildings must remain secure, smart and prioritize health for individuals.



Hand Scanners or Fingerprint Scanners have the potential to spread viruses and bacteria.



PIN Keypads, like Fingerprint Scanners, have the potential to spread germs from one user to the next.



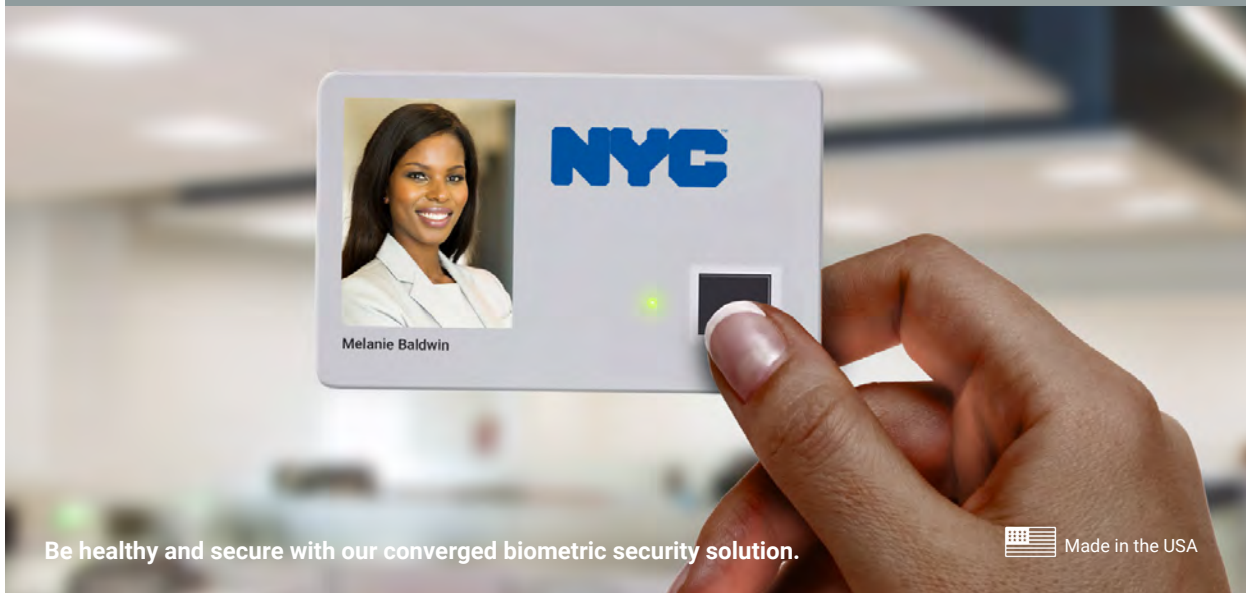
Legacy card formats, like Prox and MagStripe, can be easily compromised by bad actors.

Introducing SentryCard™, a healthier, more secure identification solution.


A frictionless, multi-function credential for physical and logical access—the first of its kind.

Self-contained, biometric fingerprint technology, replacing the need for common touchpoints.

Disconnected from any network for unrivaled security plus GDPR and CCPA compliance.



Be healthy and secure with our converged biometric security solution.

 Made in the USA

Contact Us: info@sentryenterprises.com



We Didn't Invent Security. We Converged It.

"100% of all cyber intrusions begin with bypassed or falsified identification."

PIERRE BOURGEIX
President & Security Evangelist
at ESI Convergent

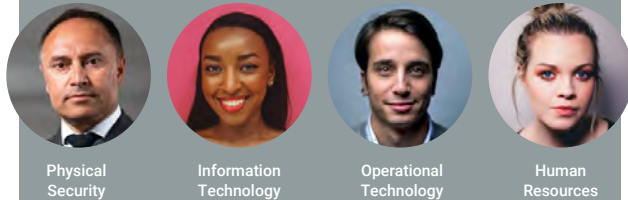
Does your current form of identification provide a proof-positive answer to these two most fundamental security questions?

1. Can you prove you are who you say you are?
2. Can you prove you're authorized to do what you're trying to do?

Redefining trust. We're driving a new paradigm of converged biometric security, shifting away from relying on legacy forms of identification to the use of biometrically authenticated identification.

Enabling Convergence

We bring teams together across organizations.



Physical Security

Information Technology

Operational Technology

Human Resources

The balance between People, Process and Technology has never been more important. The SentryCard™ will mitigate numerous risk-factors that exist across your organization.

Delivering Immediate ROI

We set out to build solutions that remove all barriers of entry for our partners and their end-users."

MARK BENNETT, CEO, Sentry Enterprises



LEVERAGE
Your existing infrastructure



AVOID
GDPR and CCPA fines



SOLVE
For innumerable use cases



ENABLE
A converged approach



REPLACE
Standalone solutions

Contact Us: info@sentryenterprises.com



SENTRYHOUND™

CELL PHONE DETECTION SECURITY PORTAL



DETECTS ANY CELL PHONE ON OR OFF

SentryHound excels where common metal detectors fail by reducing false triggers using highly sensitive sensors. This gives it the ability to detect phones in pockets, purses and even body cavities for the most comprehensive TSCM.

MULTI-ZONE LED ALERTS & SIRENS

SentryHound contains 12 ultra-sensitive and independent cell phone detection zones lighting up according to location on body / distance from detected phone as well as audible siren with adjustable volume.

ENFORCE YOUR NO CELL PHONE POLICY

SentryHound is perfect for any security team or venue with a NO CELL PHONE POLICY in place. Setup & operation is quick and simple in a variety of spaces including government & military SCIFs, educational, corporate & correctional facilities. SentryHound also avoids invasive and time consuming searches in public spaces such as court rooms, concert halls & theaters.

SECURING YOUR FACILITY

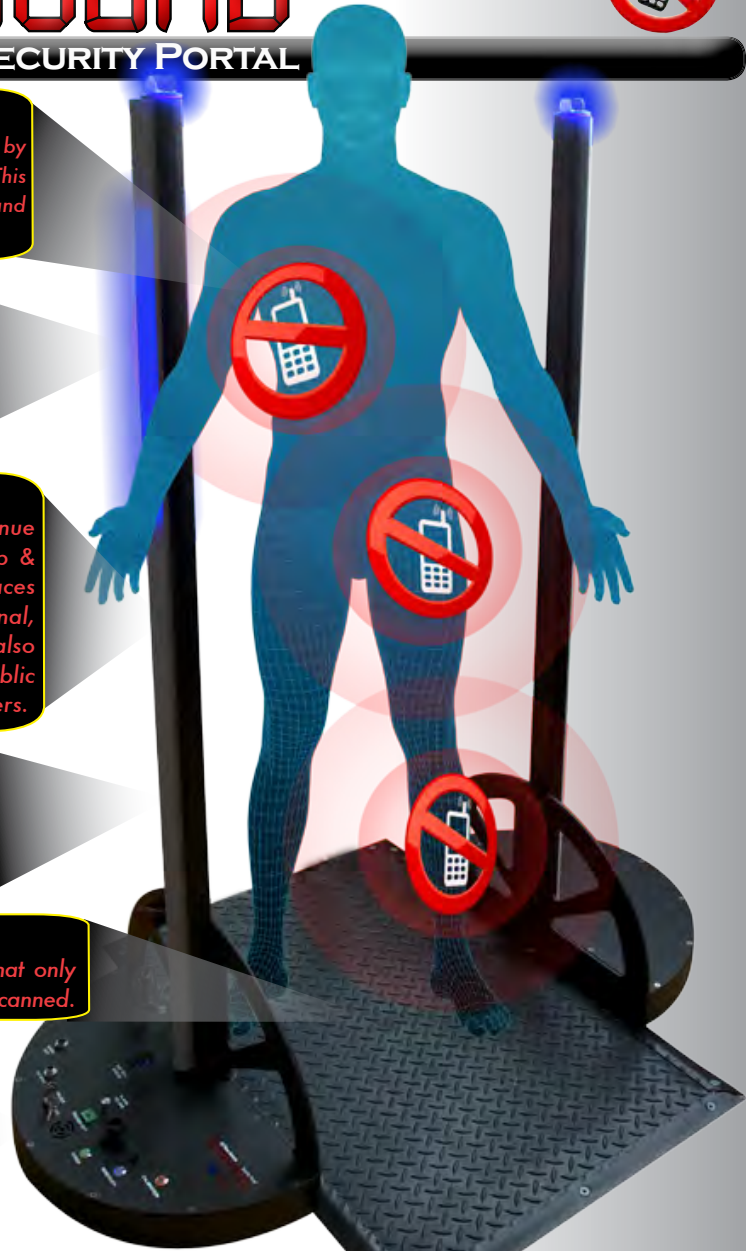
SentryHound detects ferromagnetic materials. This includes all cell phones but also many knives & guns too with sensitivity rivaling expensive and complex metal detection systems.

RUGGED PRESSURE TRIGGER MAT

SentryHound includes a pressure switch ensuring that only suspects passing through its sensors will be instantly scanned.

MADE IN THE USA

SentryHound is both AC and DC powered (internal rechargeable battery power) for independent operation anywhere. The unit is rugged and lightweight with easy assembly, operation and transportability.



Prisons & Correctional Facilities • Courtroom & Municipal Buildings • Law Enforcement Agencies • Government & Military SCIFs • Universities & Testing Facilities

Call us today for more information:
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SENTRYHOUND™



CELL PHONE DETECTION SECURITY PORTAL

SENTRYHOUND SPECIFICATIONS:

SENSORS	(12) Independent detection zones (6 per pole)
PRESSURE MAT	Heavy duty diamond plate vinyl surface switch activates at 15 lbs
HORIZONTAL RANGE	30 (user adjustable) inches (between poles)
VERTICAL RANGE	75 inches (head to toe)
POSSIBLE FALSE TRIGGERS	Some metallic objects, surfaces & strong nearby electromagnetic activity
WEIGHT	50 lbs. assembled
DIMENSIONS	75" H x 30" L x 24" W
ALERTS	High intensity blinking/fading color LEDs (multi-zone) Integrated siren with adjustable volume Dry trigger contacts for remote camera, DVR, etc. alerts
CONTROLS	ON/OFF security key switch Manual push buttons for calibration & sensitivity adjustment
SENSITIVITY	10 levels (user selectable)
CALIBRATION MODE	Auto or manual (calibration approximately 5 seconds)
WARM UP TIME	Approximately 10 minutes
POWER	110VAC for continuous operation Internal rechargeable battery with fast charger (10 hours of continuous use)
OPERATING TEMP	14° to 149° F
INCLUDES	Sensor poles (2), adjustable base units, base sync cable, rugged pressure switch mat, power cable / charging adapter

Western State Hospital / Appendix



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Customer Advisory



Temperature Monitoring Gates

KBB - Model B: NextGen

Published: April 24, 2020

DH Pace is working with KBB, a worldwide expert in doors, to offer temperature detection gates for mass temperature screening to enhance the safety of facilities in Manufacturing, Distribution, Healthcare, Education, Government, Transportation, and other facilities where helping control outbreaks of infectious diseases are critical.

Features

- Non-Contact Infrared Body Temperature Detection with Accuracy up to +/- 0.3°C
- High Capacity with Detection Time Approximately One Second
- Dual Alarm, Audible and Visual with LCD Display
- Portable Design and Easily Moved for Indoor and Outdoor Applications 20° to 95°F
- Data Storage for 99,999 Passes
- Power Requirements 110/220V
- Network Software and Battery Backup Features (Optional)



Model B: NextGen



LCD Display



Software

Metal Detection (Optional)

- Metal Detection Sensitivity Adjustment
- Anti-Interference Function to Prevent False Alarm

Model	External Dimension	Internal Dimension	LCD Display	Water Resistance	Temperature Detecting Sensitivity	Metal Detection Accuracy
B	Height: 7' 6 7/8" Width: 3' 1 3/4" Depth: 2' 1 3/4"	Height: 6' 6 3/4" Width: 2' 4" Depth: 1' 11 7/8"	7.0'	IP55	High-Level	Objects < 1" diameter

For More Information Contact Us Today At TemperaturePortals@dhpace.com.

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AZ ROC #183892 CR60 • AZ ROC #184002 CR67 • AZ ROC #270220 CR60 • AZ ROC #296201 B-01 • FL LIC #CBC1259220 • MA LIC #67C
 NM LIC #366998- GS06, ES03 • NM LIC #380246- GS06, ES03 • NM LIC #380247- GS06, ES03 • NM LIC #399279- ES03
 NV LIC #0071664 C-3 • NV LIC #0075881 C-14E • NV LIC #0083652 C-2D • OK LIC # AC440675



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THE DH PACE DIFFERENCE



PROFESSIONAL EMPLOYEES

Trained, highly skilled and ready to serve



BROAD PRODUCT OFFERING

For every type of door, loading dock and security system in all types of buildings



CUSTOMIZED SOLUTIONS

Designed to meet each customer's specific needs



RELIABLE SERVICE

Nationwide service when and where customers need it



LIFE CYCLE BUILDING MANAGEMENT

A trusted partner of construction, renovation, maintenance and repair

Our mission is to improve the safety, security and convenience of buildings in the communities we serve. We fulfill this mission by installing, maintaining and servicing all types of door, docking and security systems. We have been serving customers since 1926, and today our services are offered nationwide with emergencies handled promptly – anytime, day or night.

PRODUCTS

- Commercial Sectional and Rolling Doors
- Industrial, High Speed and Specialty Doors
- Loading Dock Equipment
- Entry Door Systems and Automatic Doors
- Electronic Security and Gate Systems
- Residential Garage Doors and Openers

SERVICES

- Emergency Service
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Fever Detection Systems

Home » Our Capabilities » Fever Detection Systems



Western State Hospital / Appendix

Technology is heading in this direction to address the concerns due to current healthcare events. It is not yet refined to this level, but as systems are developed and properly vetted, incorporating this capability into other systems or stand-alone operations will be available in the near future.

WALLHOUND™-PRO

WIRELESS DETECTION AND DETERRENT ALERT

TURNKEY SOLUTION FOR COMMON WIRELESS THREATS IN ANY SECURE FACILITY

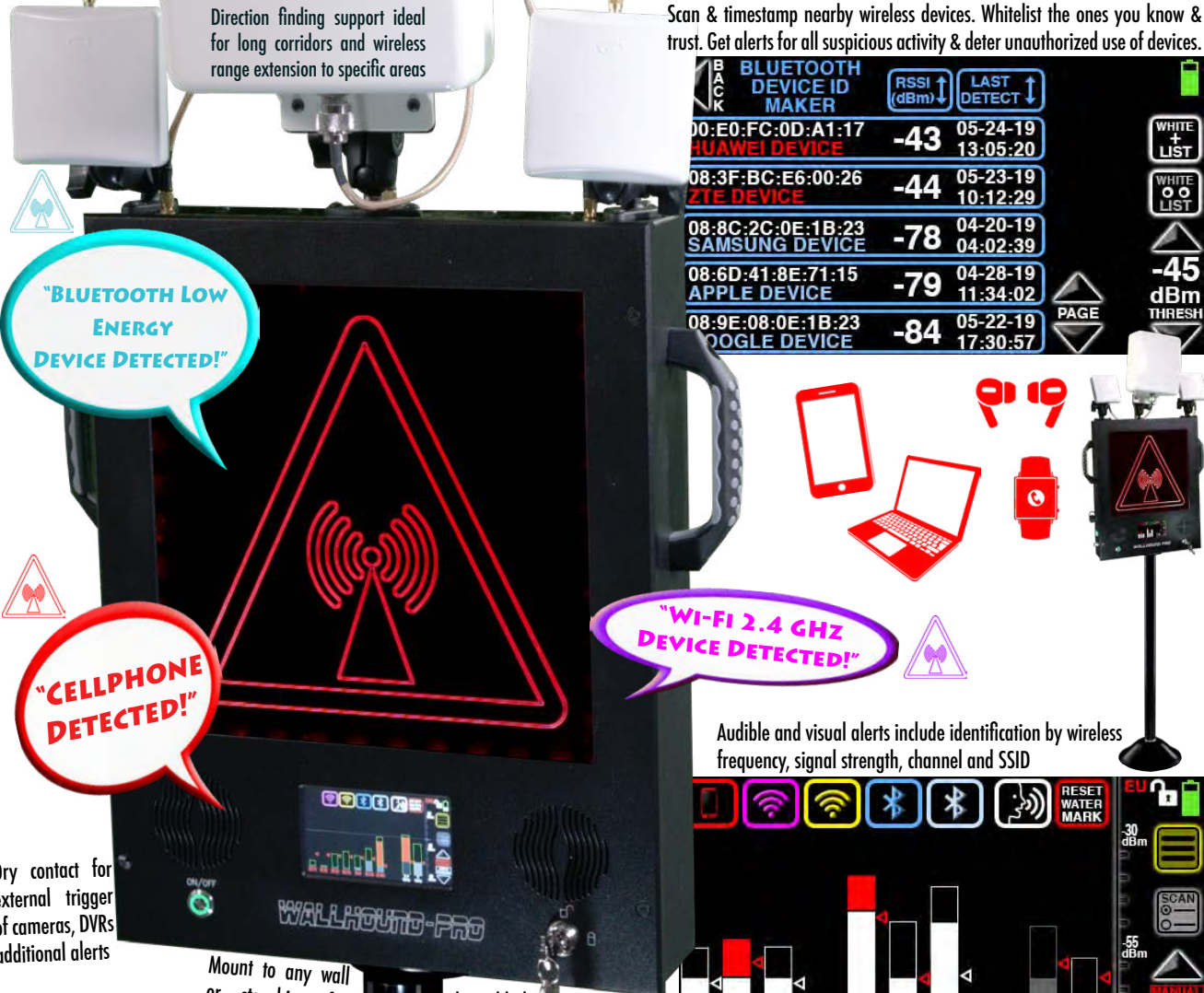
SELF-CONTAINED AND LOCKABLE MAKING IT THE ULTIMATE WIRELESS SECURITY GUARD

PERFECT FOR SCIFs, MILITARY, GOVERNMENT, BORDER SECURITY & CORRECTIONAL FACILITIES

BRIGHT VISUAL + AUDIO ALERTS IDENTIFY & LIST ALL NEARBY WIRELESS DEVICES / THREATS

Direction finding support ideal for long corridors and wireless range extension to specific areas

Scan & timestamp nearby wireless devices. Whitelist the ones you know & trust. Get alerts for all suspicious activity & deter unauthorized use of devices.



Western State Hospital / Appendix

Dry contact for external trigger of cameras, DVRs additional alerts

Mount to any wall or stanchion for portable, flexible wireless monitoring

Physical lock and key to prevent tampering



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Audible and visual alerts include identification by wireless frequency, signal strength, channel and SSID



Scan all cellular, Wi-Fi, BT, BLE and even undemodulated 2.4 GHz and 5 GHz nearby RF. Set auto or manual alert thresholds all on one touchscreen.

WALLHOUND™-PRO

WIRELESS DETECTION AND DETERRENT ALERT

FREQUENCY RANGE	650 MHz to 3 GHz and 4.9 GHz to 5.9 GHz
CW DETECTION	All U.S. and International Cellular Bands
	Wi-Fi 2401-2495 MHz and 5180-5825 MHz
	Bluetooth & BLE 2402-2480 MHz
DEMODULATION (DUAL-BAND)	2.4 GHz Wi-Fi Channels: 1,2,3,4,5,6,7,8,9,10,11
	5 GHz Wi-Fi Channels: 36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140,149,153,157,161,165
	Bluetooth Channels: 1-79
	Bluetooth Low Energy Channels: 1-40
MAXIMUM COVERAGE	125 Feet (up to 250 feet using optional DF antenna line of site)
ADDITIONAL DETECTION	BSSID, SSID, Device ID, WPA, WPA2, MAC, Channel/Band #
	CONTINUOUS WAVE RECEIVER:
	DYNAMIC RANGE 70 dB
	SENSITIVITY -90 dBm
	BANDWIDTH RESOLUTION 4 MHz, 20 MHz
	SELECTIVITY REJECTION Better than 40 dB
	RECEIVING MODES High-speed active scanning
ANTENNAS SUPPORTED	(3) Removable omni-directional antennas (3) Removable DF direction finding antennas (one for cellular and one for Wi-Fi and BT)
POWER REQUIREMENTS	110 VAC via 19 VDC power converter and 12 VDC internal backup battery (charges from same AC power source)
BACKUP BATTERY RUNTIME	Up to 4 hours (depending upon amount of nearby wireless activity and alerts)
DISPLAY & CONTROL	480 x 272 backlit color TFT with a resistive touch screen
UNIT DIMENSIONS	17.4" x 20" x 4"
WEIGHT	15 lbs. (not including optional DF antennas or stanchion)
PORTS	Dry contacts for external trigger of cameras, DVR and speakers USB for firmware upgrades (cannot be accessed without security key)
ALERTS	12" x 12" color-coded visuals with adjustable brightness and flashing patterns
SOUND	Voice alerts that profile each device with fully adjustable volume control
INCLUDED ACCESSORIES	(3) Omni-directional SMA antennas, power supply, wall mount, (2) keys for security lock
OPTIONAL ACCESSORIES	(3) Direction Finding antennas, stanchion mount

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Controlling Contraband Cell Phones



Interception
and Detection
in Prisons,
Correctional and
Secured Facilities



By Scott Schober
*Wireless Detection and
Cybersecurity Expert*

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Controlling Contraband Cell Phones

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1 Controlling Contraband Cell Phones

Contraband smart phones present challenges to wardens

Contraband has been around as long as there have been prisoners, but contraband cell phones are a relatively new phenomenon. Cell phones started out as bulky devices the size of a brick, but market forces and evolving technology have made them progressively smaller and smarter. Cell phones first started to make their way into prison systems in the 1990s, but the number of contraband phones exploded in the 2000s. Now many correctional systems seize thousands of phones per year.

Even basic phones offer unmonitored communication with associates on the outside. Smartphones also allow inmates to access to the Internet and social media platforms.

In 2014 a routine sweep at a prison in New Mexico uncovered a smart watch.

Some inmates use contraband phones to talk with their families and avoid charges from the pay phones installed in correctional facilities. Other users are not so benign. They also use contraband phones to pass orders to accomplices inside or outside the prison. Inmates have used cell phones to orchestrate escape attempts, run identity theft and drug rings, intimidate witnesses, run scams, extort money, coordinate riots and protests and take out contract hits on members of the public and other inmates.



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Click on this link to watch the actual video:
<http://krqe.com/2014/10/24/watch-phone-found-in-prison-lockdown-search>

Controlling Contraband Cell Phones

2

Think twice before "Jamming"

**Can't prisons just "Jam" cell phone transmissions?
No, it's illegal.**

Jamming causes more problems than it solves. Under current law, the use of technologies that block (or "jam") mobile calls are illegal in the United States. Cell phone jamming doesn't just block inmate calls -- it can also interfere with mobile 9-1-1 emergency calls and public safety communication. Plus if "jammers" were legalized for any purpose, the department of Homeland Security, would be worried that if put in the hands of terrorists, they could "jam" an area after an attack. It's a very complicated issue. Therefore, we don't see "jamming signals" as an alternative any time in the near future.

Plus a single "jamming" act can generate a \$100,000 fine.

According to the FCC, the unlawful use of a jammer is a criminal offense, and can result in various sanctions, including (ironically), a jail sentence. More specifically, the unlawful marketing, sale or operation of cell phone, GPS, or other signal jammers in the U.S. can result in significant fines. Up to \$16,000 for each violation or each day of a continuing violation, and as high as \$112,500 for any single act. So if anyone tries to sell you a jamming device - run!



**Possibly 10% of
prisoners
have cell phones**

The California Department of Corrections and Rehabilitation found 12,151 phones in 2013. A writer for The Atlantic estimated that number represented 10% of the phones in the system, meaning almost all of the state's 135,600 inmates had a phone. Sources from other prisons estimate higher catch rates, but the number of phones getting into inmates' hands is far too high.



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3 Contraband Cell Phone use on Internet

Media coverage of contraband use is all over the internet



In today’s “instant news internet,” as soon as a story breaks, it is everywhere, in spite of excellent security records. The more “sensational” the story that faster it travels, damaging public perception and internal effectiveness. Here are just a few examples:

How Gangs Took Over Prisons

In 2015 approximately 7,600 cell phones were seized in Georgia prisons, and the director the Office of Investigations and Compliance estimated they were only able to catch half of the phones. Link to article in The Atlantic:

<http://www.theatlantic.com/magazine/archive/2014/10/how-gangs-took-over-prisons/379330/>



Half of all contraband cell phones make it into prisons

The article later explains an incident of how contraband cell phones entered a prison by throwing a cell phone over the wall inside a dead cat. Link to CBS 46 story:

<http://www.cbs46.com/story/29996400/prisoners-kill-cat-use-carcass-to-sneak-cell-phone-inside-prison>



A sex offender in an Oklahoma prison

Man was caught possessing a cell phone eight times over 21 months starting in early 2012. Read entire story, click on link:

<http://newsok.com/article/3885597?embeddedLinkType=article>

Cell phones in the wrong hands...

Cell phones in the hands of convicted criminals pose a danger to staff, other inmates and the public outside the prison. Unfortunately, far too many of them escape detection. However, in an Indiana prison, a representative reported a single inmate was caught with *three phones in under two weeks*.

Combating contraband cell phones in correctional facilities effectively takes a comprehensive effort with committed, trained staff and the right equipment.



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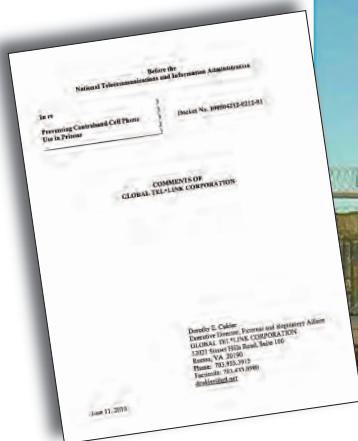
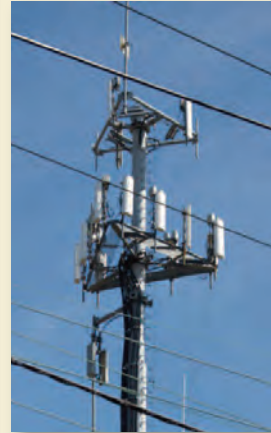
Blocking Unauthorized Calls?

4

Cell Phone Detection vs. Managed Access

Managed Access Systems (MAS) route calls through a system that mimics a cell phone tower. Calls from authorized devices are allowed through while unauthorized devices are blocked. Even at facilities using a Managed Access Systems, preventing inmates access to contraband phones is important for the following reasons:

- Managed Access Systems effectiveness depends on coverage in all areas of the facility, while FCC regulations prohibit the Managed Access Systems signal from reaching outside the prison walls. The possibility of undiscovered holes in the Managed Access Systems coverage means inmate could still make calls if they find a spot that allows an unauthorized phone to connect to outside towers.
- It is possible for inmates to get their hands on authorized devices through corruption or manipulating prison staff.
- Cellular technology is constantly evolving. New wireless technology could potentially outpace MAS equipment.
- Several North American wireless carriers advocate using both managed access and detection.



Preventing Contraband Cell Phone Use in Prisons

Report published by Global Tel•Link Corporation before the National Telecommunications and Information Administration.

To read report click on link:

(https://www.ntia.doc.gov/files/ntia/publications/contrabandcell-phonereport_december2010.pdf)



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5 How Phones Enter Secure Facilities

There are few hard statistics on how phones are smuggled in, but here are several broad categories:

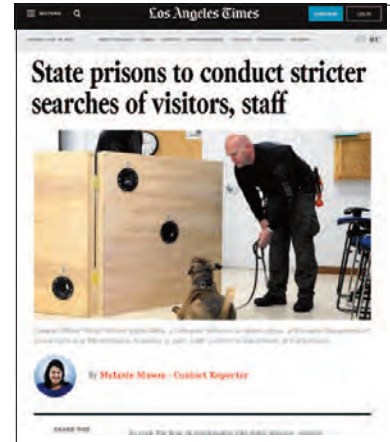


1. Employees

Inmates and prisoner advocate organizations claim most cell phones are brought into correctional facilities by staff or contractors. Unfortunately, corruption is a legitimate problem. In 2009, 300 California prison employees were suspected of trafficking cell phones to prisoners.

For some, the motive is financial. With inmates or their associates paying up to \$1,500 per cell phone, some staff can't resist taking money on the side. In 2011 two employees at a single

California prison boasted they made over \$100,000 smuggling contraband. To read article-click link: <http://calcoastnews.com/2011/07/cmc-guard-ac-cused-of-smuggling-cell-phones/>



For staff involved in personal relationships with inmates, a cell phone is a communication method to keep in touch while they're not at work.

2. Deliveries

Having cell phones delivered requires an inmate coordinate with at least one accomplice outside the facility, a task made easier if the inmate already has access to a phone. The accomplice can stash phones inside the delivery containers or on the delivery vehicles.



Cell phones have been found in everyday objects pictured here. A cell phone hidden inside the plastic peanut butter jar makes it difficult for dogs to detect. Cell phones have also arrive at correctional facilities through the mail concealed inside everyday objects. Instead of the old file in the cake, an inmate might get a phone inside a hollowed-out loaf of bread.



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How Phones Enter Secure Facilities 6

Magnetic boxes in delivery truck

In October 2015 a correctional officer at a prison in Maryland noticed a delivery truck with magnetic boxes containing cell phones attached under the cabin. Further inspection turned up three more trucks carrying contraband.

To read complete article, click on link: (<http://news.maryland.gov/dpscs/2015/10/16/correctional-officers-intercept-contraband-intended-for-prisons/>)



3. Visitors

The vast majority of visitors do not cause problems, and studies have shown that inmates who stay in contact with family on the outside are less likely to reoffend and have better post-release outcomes.

Some visitors smuggle in contraband, including cell phones. The volume of visitor traffic makes it impractical for most facilities to thoroughly search everyone. Staff must rely on observation, intuition and involuntary guilt cues to determine who to search.

546 visitors arrested

There is no doubt that visitors are a source of contraband phones. In September 2014, a California Department of Corrections representative told the L.A. Times they had arrested 546 visitors for attempting to bring in contraband phones and drugs.



546
Visitors
Arrested

<http://www.latimes.com/local/politics/la-me-pol-prisons-20140925-story.html>



Attorney arrested

Legal representatives are not above suspicion either. A Florida attorney was arrested in March 2015 for smuggling a smartphone into the Seminole County Jail for his client. To read complete news article, click on link: (<http://www.wftv.com/news/local/attorney-accused-smuggling-cellphone-jail-client/nkYNQ/>)



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7 How Phones Enter Secure Facilities



4. Thrown Over Fences

In correctional facilities where total 24-hour surveillance is not possible some contraband phones literally go over the prison walls. When the inmate is allowed outside they retrieve the contraband and it enters the prison economy.



For example, outsiders have been known to cut open a basketball, fill it with contraband, stuff with filler, re-stitch the basketball so it looks normal and throw it over the wall. It fits right in with the athletic equipment. The prisoner knows when to expect it, so he just walks out into the yard and picks it up.



5. Drones drop phones over walls.

This is a new and growing threat whereby drones with “hooks” can literally fly low on the outside of the prison wall unseen, go up and over quickly totally undetected, then fly low to the ground, drop the contraband package, and get back out in a matter of minutes. The civilian drone industry in the US has grown from almost nothing in 2013 to over \$1 billion projected in 2016.



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How Phones Enter Secure Facilities 8

Creativity abounds once a cell phone is smuggled into a facility...

Prisoners have stashed phones behind ceilings and walls, inside hollowed-out books and legal briefs, toiletries, loose clothing, electronics and food containers that appear sealed, under and inside mattresses and attached to bed frames. They often hide phones outside their cell in common areas such as the kitchen, yard, library and work areas. For example, an inmate going on work detail might leave their phone in the prison shower during the day and retrieve it when they return. Shower shoes with the soles split open make effective cell phone vehicles.



Prisoners also transport phones inside commissary items, in their clothing or wrapped in plastic and inserted in their body cavities. Overweight inmates can tuck phones under their breasts or folds of body fat. Inmate kitchen workers and janitors often serve as couriers, since they have relatively free movement and easy access to areas with many hiding spots.

Believe It or Not??



Occasionally an inmate with a contraband phone will slip up and give themselves away. A prisoner in a Shri Lanka prison hiding a phone in his rectum was caught when he received a call and the phone rang.

RAWSTORY

WORLD

Sri Lanka phone-smuggling prisoner betrayed by ringing butt

AFP AGENCE FRANCE-PRESSE
08 FEB 2013 AT 07:19 ET

Facebook LinkedIn More

DON'T MISS STORIES. FOLLOW RAW STORY!

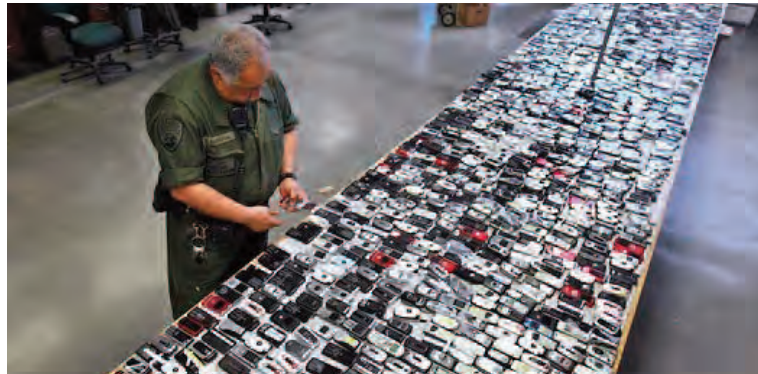
9 How Phones Enter Secure Facilities

Did you know?



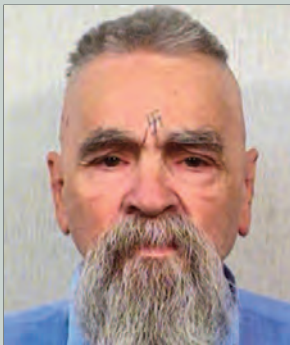
Contraband travels together

Chances are if you find a contraband cell phone, you will also find additional contraband. Sometimes a “ferrous” detected knife, often drugs, cigarettes and cash. So, since the cell phone is easier to “detect” while drugs, cigarettes and cash are not, if you find the contraband cell phone in that container of Ajax, chances are you will find additional contraband as well.



Believe It or Not??

Charles Manson makes call from prison



Charles Manson

Cell phones have made their way into the hands of closely-guarded prisoners. Murderous cult leader Charles Manson has been caught with cell phones twice since 2008, and a follower was arrested for trying to smuggle a cell phone to him in 2013.

Man Accused of Smuggling Cellphone to Charles Manson

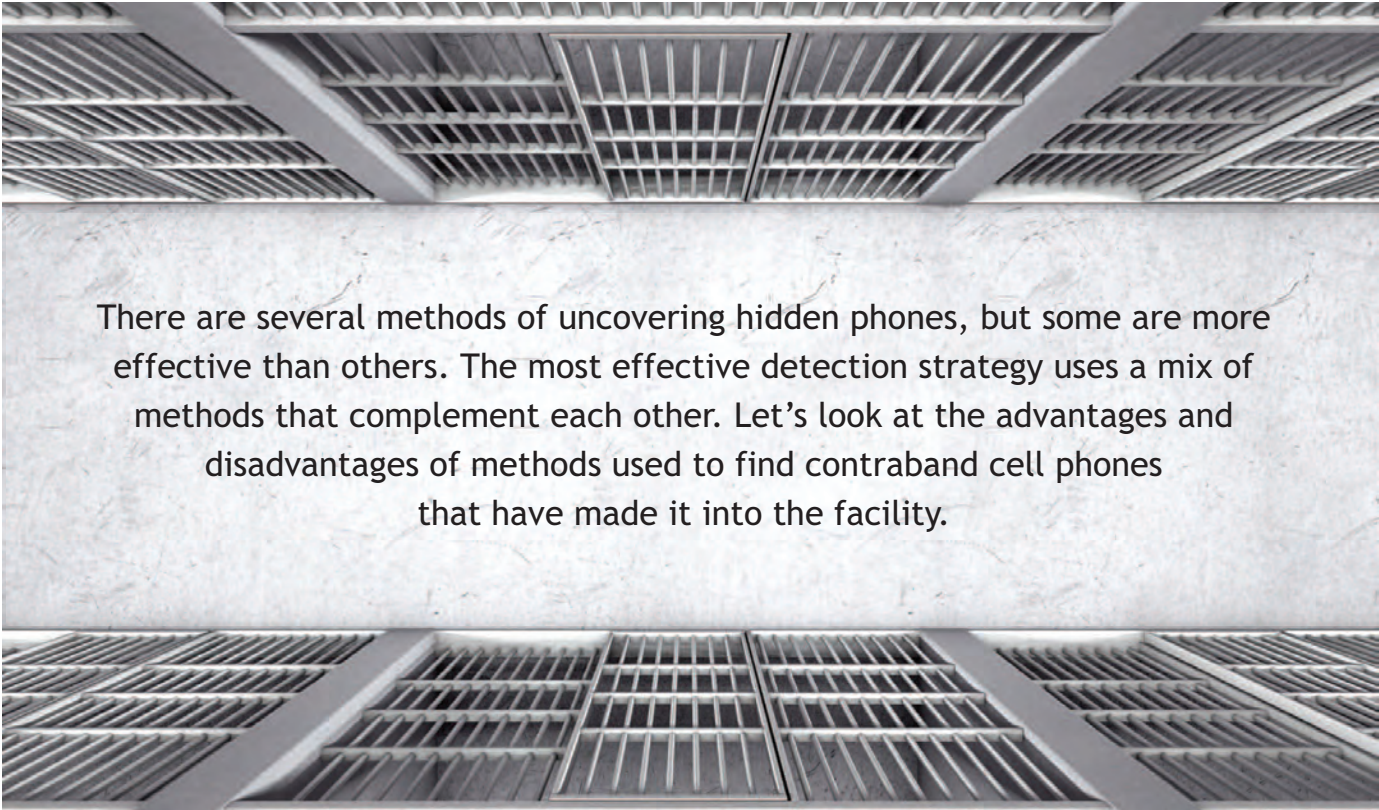
March 26, 2013
By NANA NIKIAS via GOOD MORNING AMERICA, WORLD NEWS



Images Courtesy: Wings Crossing, Sheriff Dept.

CONTRABAND DETECTION METHODS

10



There are several methods of uncovering hidden phones, but some are more effective than others. The most effective detection strategy uses a mix of methods that complement each other. Let's look at the advantages and disadvantages of methods used to find contraband cell phones that have made it into the facility.

Western State Hospital / Appendix

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11

Detection Methods Defined



Cell Phone Sniffing Dogs

Dogs are a valuable tool for finding many types of contraband. They can quickly sniff out phones, batteries and accessories in both cells and common areas with a high degree of accuracy. The exact scent they key in on is not known, so it is possible a dog may miss phones that do not contain the signature smell.

The major downside comes from the fact that dogs are living animals. Dogs can't be everywhere at once. Because of the expenses involved multiple facilities usually share the same dog, and word of their presence spreads fast. They require expensive specialized training and ongoing upkeep costs. There is also the possibility the dog may develop health problems that render them unfit for service.



The Cell Phone needs to be ON, but not in use with the Radio Frequency Detectors (RFD)

Radio Frequency Detectors pick up the radio waves generated when a cell phone communicates with the tower. When a phone is on but not actively on a call or sending/receiving data it "checks in" with the tower every few seconds then shuts down the antenna to conserve power. When on a call or transmitting data the tower communication is sustained until the call ends or the transmission stops. When the phone is off or in flight mode, no transmission occurs.

Radio Frequency Detectors are available in both stationary and portable format. Stationary units are permanently installed and ideal for monitoring common areas such as showers, lunchrooms and outdoor yards for cell phone activity. Portable units vary from small, concealable devices that can be hidden under clothing on foot patrols to powerful handheld devices that can detect a signal from over 100 yards and triangulate a phone's exact location.



The Cell Phone does NOT need to be on with Ferromagnetic Detectors (FMD)

Ferromagnetic Detectors pick up the electromagnetic field generated by cell phones and other electronic devices. They are similar to handheld metal detectors, but are not triggered by non-target metals like jewelry, medical implants and clothing studs.

- **The phone does not need to be on**
- It can pick up phones concealed behind walls
- Can detect cell phones under clothing and in small containers.
- Able to detect phones hidden inside body cavities

This makes the **Ferromagnetic Detectors** ideal for use in scanning visitors and their belongings, also perfect for scanning the mail and any small-box deliveries. Perfect for scanning purses and briefcases without opening them.

The only downside is their range is extremely short, usually less than a foot. They must be in close proximity to the object being scanned.

Detection Method Comparison

12

Type	Advantages	Disadvantages
<p>Cell Sniffing Dogs</p> <p>BUDGET: Approx. \$10,000 ongoing expenses</p>	<p>Phone can be on or off. Can find phone parts, chargers and accessories. Some dogs can alert on multiple types of contraband, like drugs and cigarettes.</p>	<p>Require handlers and expensive training. Cost of upkeep: Food, vet bills, etc. Loss of investment if the dog becomes unfit for service. Search causes disruption and is obvious to other inmates. Not COVERT...Phones are immediately flushed down toilets.</p>
<p>Radio Frequency Detectors</p> <p>BUDGET: \$500-\$2,500</p>	<p>Long range. Can triangulate phone position. Some units are concealable under clothing. Installed systems can monitor specific areas 24-7.</p>	<p>Phone must be ON and not in airplane mode. Cannot find (smell) other contraband such as drugs or cigarettes.</p>
<p>Ferromagnetic Detectors</p> <p>BUDGET: \$600-\$6,500</p>	<p>Phone can be on or off. Does not alert on non-target metals. Can uncover phones inside containers and behind walls. Inexpensive. Detects cell phones, metal ferrous knives, shanks and guns</p>	<p>Very short range. Cannot find other contraband.</p>



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13 Interception and Detection Recommendations

It's better to intercept phones coming in before they can cause any harm. Once contraband phones are on the inside, there is an almost unlimited number of places for inmates to hide them compared to the relatively few routes of entry. In either case it's important for staff to be observant and alert for anything that breaks routine or seems out of the ordinary.

#1

Scanning Staff, Visitors and Contractors

Corrupt staff members who smuggle in phones typically conceal them under their clothes or inside bags or lunch containers. A few have concealed them inside body orifices. They rely on recognition or authority to avoid being subjected to search. Sometimes multiple staff members make up a smuggling ring, so it's possible the person doing the inspection is part of the problem. Legal representatives and contractors can also bring phones in. They conceal phones on their person as well as on vehicles and inside cargo.

Visitors may conceal phones anywhere on their person or in their belongings. They have been caught bringing in contraband phones concealed in their hair, hidden under clothing, folds of fat, wigs and belt buckles, inside bags, prosthetic limbs and the soles of shoes, inserted into body orifices and even concealed on children.

“Arresting 20-30 visitors and staff per month”

The problem is widespread and many inmates and prisoner advocates claim the majority of contraband phones are smuggled in by prison workers. Staff and workers certainly have more opportunity than regular visitors. In September 2015 a Georgia prison representative told a local news station they were arresting between 20 and 30 visitors and staff per month for smuggling contraband.

It hasn't quite worked out that way. More than 100 Aramark employees have been fired for alleged misconduct that included sneaking cell phones into prisons, distributing drugs, and having sexual contact with inmates. On Sept. 23 an Aramark worker at an Ionia prison was fired on suspicion that he'd tried to pay one prisoner to beat up another. The next day a worker at a maximum-security prison, also in Ionia, lost her job after corrections officers found a 65-page love letter she wrote to an inmate with whom she was allegedly having an affair.

“Food service vendors fired”

In October 2015, Bloomberg Business reported over 100 food-service workers for a food vendor for the Michigan correctional system had been fired over the previous 10 months for having personal relationships with inmates and smuggling in cell phones and other contraband.

Read article at: <http://www.bloomberg.com/bw/articles/2014-10-02/aramarks-michigan-prison-workers-face-misconduct-allegations>



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Interception and Detection Recommendations 14

#2

Monitor the Mail Room!

Inmates enlist accomplices on the outside to mail in contraband phones disguised inside items of all kinds. Unlike drugs cell phones cannot be concealed under a stamp or inside greeting cards, but just about anything larger could be used to smuggle in a phone or smartwatch. Contraband phones arrive hidden inside everything from apparel to toiletries. Small food packages and containers that appear factory sealed can in fact hold multiple phones. Accomplices can take apart some phones to make them even smaller and harder to detect.



Scan all packages with an Ferromagnetic Detectors device, no matter how pristine and innocuous the item or packaging looks. Skilled product adulterers can open a box or hollow out a loaf of bread, insert a phone and seal it back up so no one could tell it has been tampered with.

Western State Hospital / Appendix

Believe It or Not??

Phone threat from prison to John Whitmire

In 2008 a death row inmate in Texas called state senator John Whitmire and threatened his family.

USA TODAY Home News Travel Money Sports

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Death row killer threatens Texas senator via cellphone

Updated 10/21/2008 9:06 AM | Comment | Recommend

HOUSTON (AP) — The nation's second-largest prison system is enforcing a lockdown after authorities learned a condemned killer had made threatening calls to a Texas state senator from a cellphone smuggled into death row.

Gov. Rick Perry on Monday ordered the lockdown of the state's 111 prisons and a systemwide search for contraband.

The condemned inmate's 60-year-old mother was arrested and accused of buying minutes for the phone, and investigators said more arrests were expected. Perry's office said the phone was smuggled into prison by a bribed corrections officer.

Authorities learned about the phone after inmate Richard Tabler called Sen. John Whitmire and told him he knew the names of the legislator's daughters and where they lived, said John Moriarty, the prison system's inspector general.

15 Interception and Detection Recommendations

#3

Police Outdoor and Common Areas



Another way of getting phones inside prison walls is over the fences. A 2014 article by the Associated Press reported a correctional officer walked the grounds and spotted a couple of 2-liter soda bottles floating in a pond near the fence. Most people who saw them would assume they were simply trash. When the officer retrieved them he found they were tied to waterproof bags filled with over two dozen phones. Read the details: <http://nypost.com/2014/02/16/prisoners-use-of-smuggled-cellphones-on-the-rise/>

An accomplice will sneak up to the outer fence under cover of darkness and attempt to throw packages containing contraband onto the grounds. Accomplices have also used aerial drones to drop phones and other contraband.

Facilities can stop people from throwing phones over by increasing the distance between the inner and outer walls and increasing the height of fences with netting. Improving fencing will not stop drops from drones so surveillance and frequent ground patrols are still important.

The short range of **Ferromagnetic Detectors** devices makes them ineffective for scanning large areas, but an **Radio Frequency Detector** is capable of finding phones as long as they are on. **Radio Frequency Detectors** are also ideal for identifying inmates using their devices both outside and in large common areas.

Stationary Radio Frequency Detectors devices installed in these areas can covertly monitor for contraband phone transmissions at all times. By comparing alert times it is possible to narrow down the field of suspected phone owners. Staff can then use them in conjunction with handheld **Radio Frequency Detectors** to zero in on the target.



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Interception and Detection Recommendations

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#4

Covert Detection on Foot Patrols

When conducting an active search of either the interior or exterior grounds, it's important to maintain the element of surprise. Word travels fast in prison, and when inmates receive advance warning they turn off their phones and hide them. This makes the contraband phones more difficult to uncover, especially in minimum and medium security facilities where inmates are housed in open dorms rather than individual cells. There are many places to hide a phone and inmates might move them to a different dorm in rotation as the individual dorms are searched. During mass movements it's difficult to prevent handoffs.



For the stealth approach, the solution is a small Radio Frequency Detectors device a correctional officer can wear in a pocket or under clothing as they make their rounds. A phone on a call or streaming data will trigger an alert and allow the officer to identify which cells to search or even catch the owner in the act. If a phone is on but not active, the detector may pick up a short transmission when the phone contacts the tower. The phone signal may not last long enough to lead the officer to the device, but it will allow them to confirm a phone is in the general area.

End the RISK of Contraband Cell Phones

Contraband cell phones in the hands of prisoners pose a significant risk to staff, inmates and the public. They are simply too dangerous to take lightly. With the right equipment and training, even correctional facilities without a managed access system can substantially decrease the number of contraband phones.

Berkeley Varitronics Systems manufactures a full line of Radio Frequency Detectors and Ferromagnetic Detectors that assist correctional facility staff in keeping phones out of inmates' hands.



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17 Berkeley Products Detect Contraband Cell Phones

Manta Ray™

A portable Ferromagnetic Detectors that can be used in handheld or mounted to a stationary base. The Manta Ray is ideal for use in the mail room and visitor check-in to scan small packages and containers. It can also be used during cell sweeps to find cell phones hidden inside objects and behind walls.



manual sweeping



Point-of-entry

SentryHound™

A stationary portal Ferromagnetic Detectors for quickly scanning visitors and workers without time-consuming searches. The SentryHound can find phones on or off and has both audible alarms and lights to show the location of the hidden phone.

WatchHound™

A stationary Radio Frequency Detectors that continuously and covertly monitors for cell phone use in open areas such as yards, lunch rooms and prisoner dorms. The WatchHound creates alert logs that staff can use to identify cell phone users by comparing the trigger times with surveillance footage or other records.



continuous scanning



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Berkeley Products Detect Contraband Cell Phones

PocketHound™

This Radio Frequency Detector is about the size of a pack of cards, making it perfect for covert scanning on foot patrols. It can trigger an LED alert and a silent vibration when it picks up a signal.



covert detection



long range scanning

WolfHound™

The ultimate in long-range cell phone detection.

This Radio Frequency Detector can sniff out targets up to 150 feet away and identify multiple phones at the same time. It features a direction finding antenna allowing users to hone in on any phone actively including voice, texts and data. Perfect for sweeping prison yards and catching phone users in the act.



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19 Berkeley Varitronics Systems and Scott Schober



Scott N. Schober, Author and Cybersecurity Expert

Looking for specific contraband training and control for your prison?

Berkeley Varitronics Systems has years of experience in helping prisons control contraband cell phones. We can offer an onsite audit to show you the scope of the problem at your facility. And we offer onsite training. When prisoners have cell phones, you lose control. We help you take back control.

Give us a call at 732-548-3737 or email Scott@BVSystems.com to tailor a cell phone detection training program that fits your needs.



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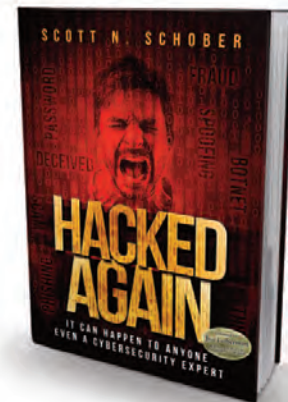
Scott N. Schober is the President and CEO

of Berkeley Varitronics Systems (BVS), a forty-year-old New Jersey-based privately held company and leading provider of advanced, world-class wireless test and security solutions. Schober also invented BVS's cell phone detection tools, used to enforce a "no cell phone policy" in prisons and secure government facilities.

Scott is a highly sought-after expert on the topic of cybersecurity.

He is often seen on ABC News, Bloomberg TV, Al Jazeera America, CBS This Morning News, CCTV America, CNBC, CNN, Fox Business, Fox News, Good Morning America, Inside Edition, MSNBC, and many more. His precautionary advice is heard on dozens of radio stations such as XM Sirius Radio, Bloomberg Radio, and The Peggy Smedley Show. Scott has been interviewed in the Wall Street Journal, Forbes, Fortune, Success, Newsweek, USA Today, and The New York Times.

Hacked Again, written by Scott Schober, details the ins and outs of this cybersecurity expert. As a CEO of a top wireless security tech firm, Scott, struggles to understand the motives and mayhem behind his being hacked. Scott realized his worst fears were only a hack away as he fell prey to an invisible enemy. Order his book online to discover helpful tips to prevent you from being HACKED! Visit: www.ScottSchober.com to order.



Berkeley Varitronics Systems has been designing and manufacturing cell phone detection equipment since 1990.

Our devices can find phones using all of the current cellular technologies and frequencies. Correctional systems around the world rely on BVS equipment to keep cell phones out of the hands of dangerous criminals.

Start making your facility safer for staff, inmates and the public by contacting BVS today.



Call 732-548-3737 or
email scott@bvsystems.com for more information
www.BVSystems.com



**Western State Hospital
Master Plan Update**

Traffic Impact Analysis

January 14, 2020

Prepared for:
Western State Hospital,
SRG Partnership, Inc.
&
City of Lakewood

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Traffic Impact Analysis

Abbreviations

DSHS	Departments of Social and Health Services
WSH	Western State Hospital
EIS	Environmental Impact Statement
CFS	Center for Forensic Services
Civil	Civil Commitment
CSTC	Child Study and Treatment Center
FHWA	Federal Highways Administration
WSDOT	Washington State Department of Transportation
MUTCD	Manual of Uniform Traffic Control Devices
HCM	Highway Capacity Manual
LOS	Level-of-Service
V/C	Volume-to-Capacity
Blvd.	Boulevard
Ave.	Avenue
St.	Street
Rd.	Road
Dr.	Drive
Pl.	Place
Ln.	Lane
Ct.	Court

DRAFT

Western State Hospital / Appendix

Executive Summary

This Traffic Report summarizes the traffic impacts associated with an update of the Master Plan for WSH.

The DSHS is proposing to reduce the overall number of patient beds at WSH. For the Master Plan, the number beds for civil patients is anticipated to be reduced from 530 to 153, the number beds for forensic patients is anticipated to increase from 330 to 533, the beds associated with the CSTC is anticipated to increase from 47 to 65, and a new 48 bed community hospital would be added to the campus.

The proposal would vacate the South St. driveway off Sentinel Dr. SW and remove and relocate the CSTC Entrance driveway off Steilacoom Blvd. SW. Access controls are also proposed to enhance access to the campus to and from Steilacoom Blvd. SW and to reduce traffic impacts on Sentinel Dr. SW and 87th Ave SW via Golf Course Rd. New traffic signals, or equivalent, are proposed at Chapel Gate Dr. and CSTC Entrance also, the existing signal at Circle Dr. is proposed to be removed.

Future traffic conditions were forecast for year 2030.

Proposed Action

The proposed changes are forecast to generate:

- 731 AM trips, between 6:30 and 7:30 AM, a 12% reduction from the campus' current trip generation.
- 603 AM trips, between 7:00 and 8:00 AM, an 11% reduction from the campus' current trip generation.
- 673 PM trips, between 2:15 and 3:15 PM, a 12% reduction from the campus' current trip generation.
- 325 PM trips, between 4:00 and 5:00 PM, a 12% reduction from the campus' current trip generation.
- 5,407 average weekday daily trips, a 12% reduction from the campus' current trip generation.

The technical analysis focuses on the AM and PM peak hour periods between 7:00 and 9:00 AM and 4:00 and 6:00 PM.

Level-of-Service/Operations

Currently, the CSTC Entrance driveway off Steilacoom Blvd. SW is computed to operate at LOS E (AM peak hour) and LOS F (PM peak hour) and outside of the City of Lakewood's LOS standards.

In the future No Action conditions, the Chapel Gate Dr. and CSTC Entrance driveways off Steilacoom Blvd. SW are forecast to operate outside of the City of Lakewood's LOS standards:

- Chapel Gate Dr. LOS F (PM peak hour).
- CSTC Entrance. LOS F (AM and PM peak hours)

In the future Proposed Action conditions, the Chapel Gate Dr. and CSTC Entrance driveways off Steilacoom Blvd. SW are forecast to operate similar to the No Action conditions.

When signalized, both driveways are forecast to operate at LOS B or better and the traffic conditions around the campus meet the City of Lakewood standards.

Circulation

Revised on-campus circulation patterns are not forecast to adversely impact traffic on the campus.

With the Proposed Action, a new forensic hospital would be built on the west side of the campus west of Chapel Gate Dr. This will shift more traffic to the Chapel Gate Dr. driveway.

Western State Hospital

Traffic Impact Analysis

Use of the central area of the campus will be reduced and less traffic is anticipated to use the Circle Dr. driveway.

The relocation of the CSTC Entrance off Steilacoom Blvd. SW allows for direct access to the new community hospital and expanded services at the CTSC and east WSH campus buildings. The new access location is also more midblock from Circle Dr. and 87th Ave SW, allowing for more spacing between the intersections.

The primary patient discharge route is anticipated to shift to the new CSTC Entrance. The primary service vehicles route is anticipated to be via Sentinel Dr. SW.

Safety

There were no existing safety deficiencies identified after review of the historical collision data. Improved access to the campus would reduce the potential safety risks with the revised traffic patterns on the campus.

Non-Motorized Impacts

On-campus pedestrian facilities will be upgraded to support campus activities.

The City of Lakewood and Town of Steilacoom are planning non-motorized improvements on Steilacoom Blvd. SW. The City of Lakewood's scope and timing for constructions of improvements on Steilacoom Blvd. SW including curb, gutter, sidewalk, sharrows, turn lanes, street lighting, drainage and overlay is undefined.

The Proposed Action is not forecast to change or adversely impact the current transit network.

Recommendations

The following are the recommendation with the Proposed Action.

- Circulation. Improve the campus's internal circulation by increasing the spacing between internal roadways and intersections and driveways.
- Access. Improve access to the campus by enhancing traffic flow to and from Steilacoom Blvd. SW via:
 - Install traffic control signals at Chapel Gate Dr. and at CSTC Entrance, with the intent to concentrate more traffic to these campus accesses and reduce traffic impacts on Sentinel Dr., 87th Ave. SW and Golf Course Rd. Traffic control signal installation requires certain "warrants" to be satisfied. This preliminary analysis suggests the signal control warrants are met at the Chapel Gate Dr. and are nearly met at the CSTC Entrance. With signal control, the driveways are forecast to operate at LOS B or better and improve access to and from the campus.
 - Widen Steilacoom Blvd. SW to provide left turn pockets and acceleration lanes to improve left turn maneuvers to and from the campus. Left turn lanes would enhance site access by providing a "pocket" off of the mainline for vehicles to queue in before making a left turn to the campus. Acceleration lanes, in the form of a center turn lane, would allow staged left turn maneuvers (left turn out of campus to turn lane to merge with opposing traffic volume). Widening requires right-of-way acquisition.
 - Remove the existing signal at Circle Drive and Steilacoom Blvd SW, and repurposing the intersection to be right-in and right-out only restricted. This will decentralize access at Circle Dr. and refocus traffic to the Chapel Gate Dr. and CSTC Entrance driveways. This is feasible with access (signal) improvements at the Chapel Gate Dr. and CSTC Entrance driveways.
 - An alternative to a traffic signal is a roundabout. Roundabouts do not create fixed stops and do not have adopted "warrant" criteria. Roundabouts do involve additional right-of-way.

- Close or add gates (restrictions) to existing main campus access off Sentinel Dr. and Golf Course Rd. West St. could be gated and restricted for service vehicles only. Kids First Pl. could also be gated, for fire and emergency vehicle access to the site only. Also, vehicle access to campus' other secondary entrances off Golf Course Rd. could be restricted. By restricting or eliminating these access, the campus traffic would be forced to access the site off Steilacoom Blvd SW, which would mitigate neighborhood concerns with campus traffic impacting the high school and residents. This is currently proposed with a vacation of the South St. driveway.
- The Proposed Action includes new buildings nearer to the Chapel Gate Dr. and CSTC Entrance where enhanced accessibility would allow support improvements to driveway traffic control off Steilacoom Blvd SW.
- Support. DSHS should provide their support for non-motorized and turn lane improvements on Steilacoom Blvd. SW, planned by both the Town of Steilacoom and City of Lakewood. The Proposed Action to support improvements by the Town of Steilacoom and City of Lakewood.
- Parking. Consolidate, mark, pave and manage parking areas to reduce parking sprawl on campus. Designate areas for staff based on the location and function of employees. The Proposed Action is consolidating parking and parking designations will be addressed with building-out of the site.

DRAFT

Western State Hospital

Traffic Impact Analysis

Introduction

This report describes the traffic impacts associated with an update of the Master Plan for WSH. The purpose of this report is to identify potentially significant and adverse traffic impacts and, where appropriate, outline programmatic and/or physical improvements to minimize or eliminate those impacts.

The study area for this analysis focuses on the public roadways and intersections fronting the WSH campus.

Project Location and Existing Use

WSH is located at 9601 Steilacoom Blvd. SW, in the City of Lakewood, WA.

Figure 1 shows the campus and surrounding roadway network.

The main campus is bordered by Steilacoom Blvd. SW and Fort Steilacoom Park, to the south; the former Fort Steilacoom Golf Course and Golf Course Rd., to the north, Sentinel Dr. SW/Farwest Dr. SW and Steilacoom High School, to the west; and 87th Ave. SW, to the east. Sentinel Dr. SW/Farwest Dr. SW separates the City of Lakewood from the Town of Steilacoom.

The site is zoned “Public/Institutional (PI)” by the City of Lakewood.

Project Description

The campus includes two major zones: Adult Hospital Zone and Adolescent Hospital Zone. Figure 1 shows the campus divided into four sub-campuses: West, Central, East, and CSTC. The Oakridge Group Home and West Pierce Fire and Rescue Station (No. 24) are on the campus but are under separate ownerships and are not connected to the campus by internal roadways.

The DSHS is proposing to reduce the number of civil patients on campus and expand both forensic and child services over a 10-year period. The Master Plan includes demolishing about 264,825 sq. ft. of existing building area, adding about 720,740 sq. ft. of new building area to the campus, including upgrading the existing central campus area and historic Fort Steilacoom Fort, and constructing a new community hospital on the campus.

Table 1 summarizes the number of patient beds of the existing and proposed for the future campus, broken down by bed type.

Table 1: Existing and Proposed Number of Beds

Bed Type	Existing Baseline	Near Term (1-5 years)¹	Mid Term (6-10 years)¹
Center for Forensic Services (CFS)	360	458	533
Civil Commitment (Civil)	500	348	153
Child Study and Treatment Center (CSTC)	47	65	65
New CFS Hospital	0	0	350
New Community Hospital	0	0	48
Oakridge Group Home ²	16	16	16
Total	923	887	815

1. Master Plan
2. Not part of main campus

A conceptual site plan included as Figure 2.

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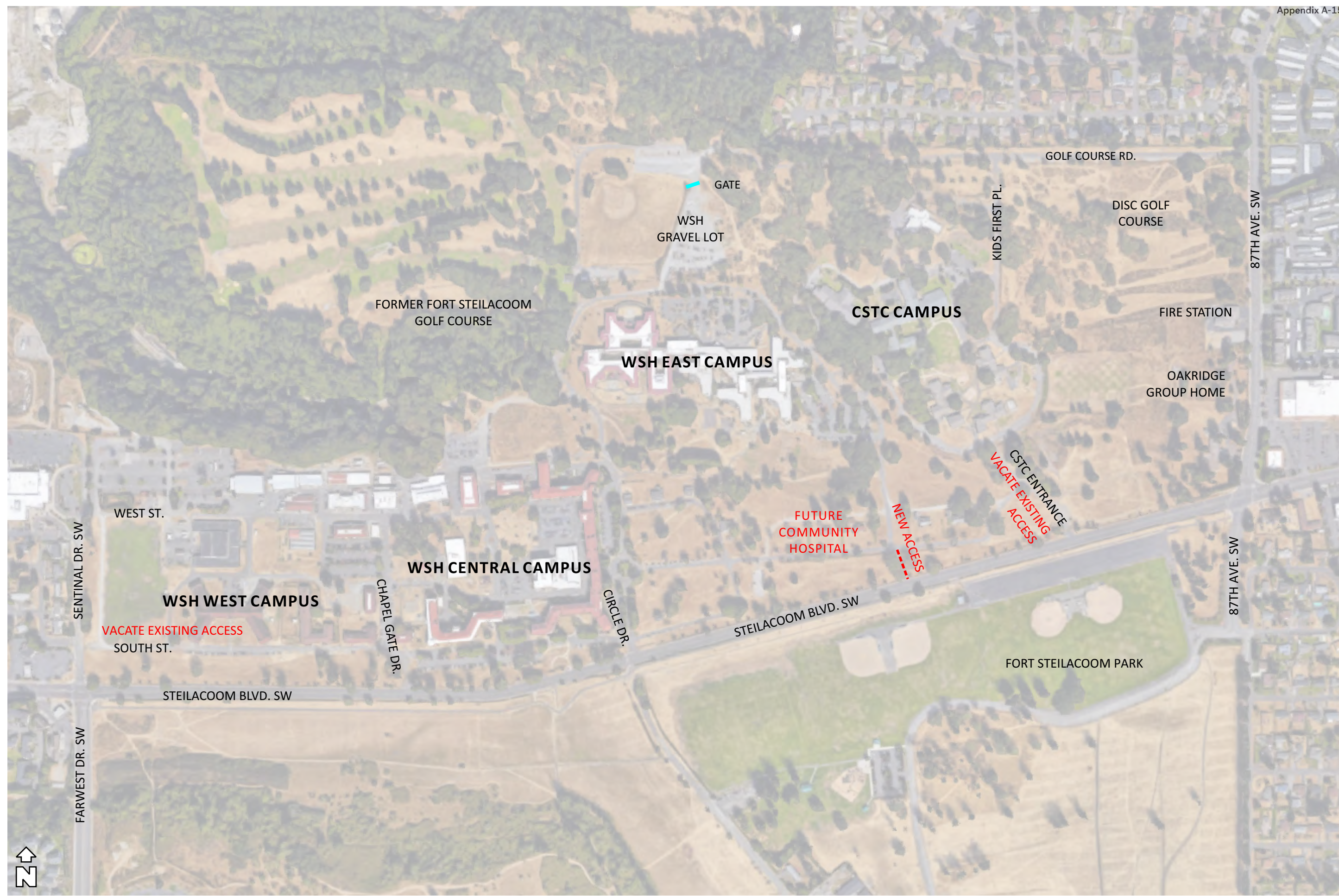
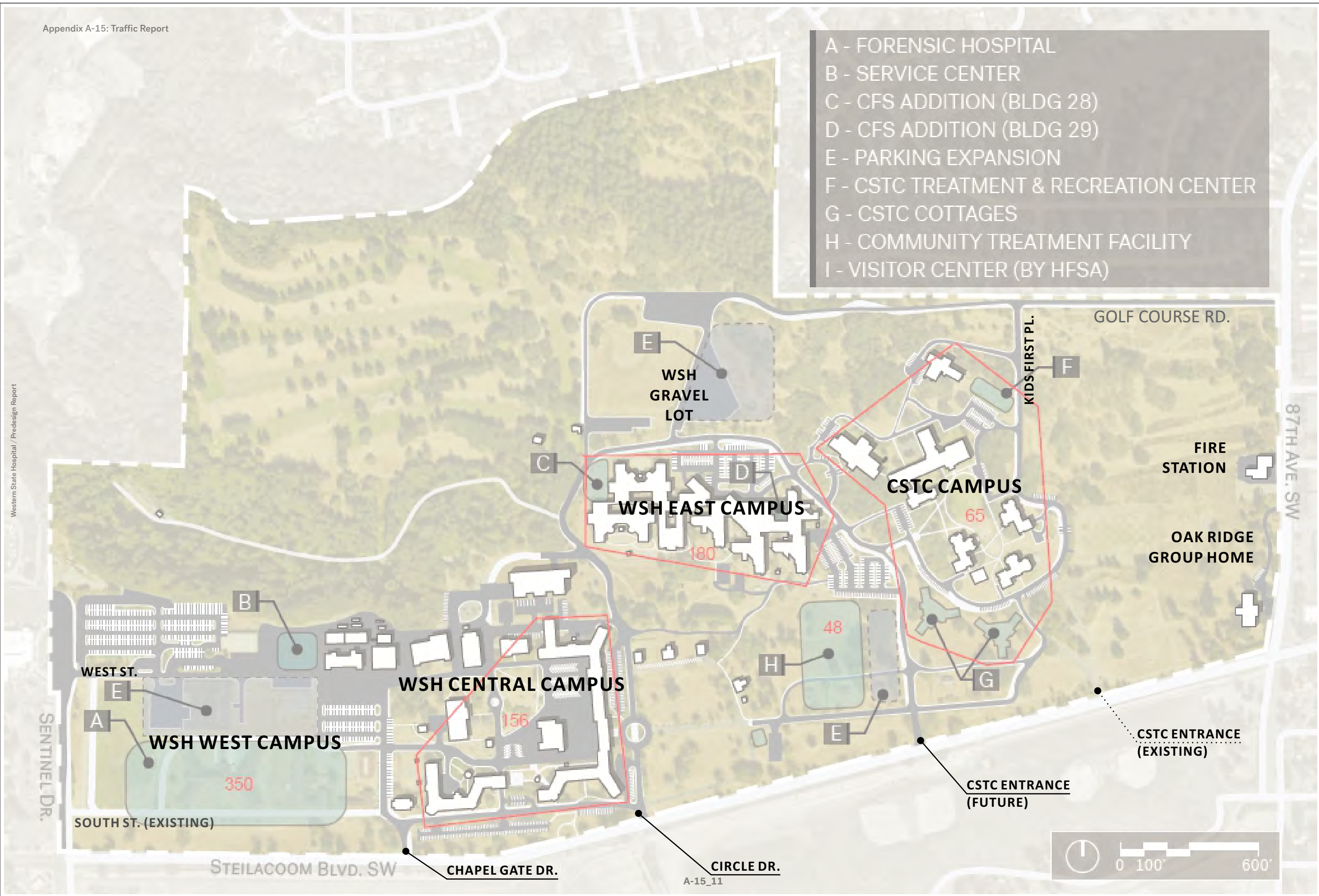


Figure 1: Vicinity Map

Western State Hospital / Pre-design Report



- A - FORENSIC HOSPITAL
- B - SERVICE CENTER
- C - CFS ADDITION (BLDG 28)
- D - CFS ADDITION (BLDG 29)
- E - PARKING EXPANSION
- F - CSTC TREATMENT & RECREATION CENTER
- G - CSTC COTTAGES
- H - COMMUNITY TREATMENT FACILITY
- I - VISITOR CENTER (BY HFSA)



A-15_11

Figure 2: Conceptual Site Plan

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In addition to reducing the total number of beds on the campus, DSHS has also expressed their desire to increase accessibility to Steilacoom Blvd. SW. Site access enhancements on Steilacoom Blvd SW include improving traffic control at Chapel Gate Dr., removal of the existing signal and restricting turning movements at Circle Dr., and relocating the existing CSTC Entrance further east and improving traffic control. Traffic control improvements may include signalization. Additionally, the South St. driveway on Sentinel Dr. would be vacated and use of the 87th Ave. SW as an access-way to/from the campus' existing gravel lot is contemplated as being permanently gated and closed.

These access enhancements are intended to encourage more campus vehicle traffic on and off Steilacoom Blvd. SW as opposed to Sentinel Dr. and 87th Ave. SW.

Campus Accesses

The existing main campus includes six major driveways off the public roadway network:

- Two driveways off Sentinel Dr., at West St. and South St.
- Three driveways off Steilacoom Blvd. SW, at Chapel Gate Dr., Circle Dr. and CSTC Entrance
- Two driveways off Golf Course Rd., at Kid's First Pl. and at WSH's gravel lot

Gated accesses include South St. off Sentinel Dr. and the WSH's gravel lot off Golf Course Rd.

Internal roadways connect between the major campus areas.

Oakridge Group Home and the fire station are adjacent uses to the campus; however, both are operated independently of the campus. There are not internal roadway connections between the campus and Oakridge Group Home and the fire station.

Parking

The existing campus parking is dispersed around the campus grounds. The future Master Plan includes consolidating parking areas and improving visitor, staff, maintenance and service vehicle parking, adding pavement markings and signing. The future parking supply will meet the needs of the campus.

Study Area

This focuses on the following study intersections:

- Sentinel Dr. / Farwest Dr. SW and West St. (campus access)
- Sentinel Dr. / Farwest Dr. SW and South St. (campus access)
- Farwest Dr. SW and Steilacoom Blvd. SW
- Chapel Gate Dr. and Steilacoom Blvd. SW (campus access)
- Circle Dr. and Steilacoom Blvd. SW (campus access)
- CSTC Entrance and Steilacoom Blvd. SW (campus access)
- 87th Ave. SE and Steilacoom Blvd. SW
- 87th Ave. SE and Oakridge Group Home (standalone campus access)
- 87th Ave. SE and Golf Course Rd.
- Kids First Pl. and Golf Course Rd. (campus access)

Existing Traffic Conditions

The following describes the existing transportation system and its operational characteristics.

Major Roadway Network

- Steilacoom Blvd. SW is classified as a Principal Arterial in the City of Lakewood. West of Farwest Dr. SW, the roadway has a 3-lane cross-section with a center turn lane. Fronting WSH, the roadway has a 4-lane cross-section with no center turn lane. East of 87th Ave. SW, the roadway has a 5-lane cross-section with a center turn lane. The posted speed limit is 35-mph. Fronting WSH, signalized intersections are at Farwest Dr. SW, Circle Dr., and 87th Ave. SW. Both sides of Steilacoom Blvd. SW are lined with curb and gutter. A shared-use path is on the Fort Steilacoom Park side of Steilacoom Blvd. SW.
- Farwest Dr. SW/Sentinel Dr. is classified as a Minor Arterial in the Town of Steilacoom. North of Steilacoom Blvd. SW, Farwest Drive SW becomes Sentinel Dr. approaching Steilacoom High School. Farwest Dr. SW has a 5-lane cross-section and a posted speed limit of 35-mph south of Steilacoom Blvd. SW. Sentinel Dr. is 2-lanes wide and has posted 20-mph school zone speed signs. On Sentinel Dr. SW, curb, gutter and sidewalk extend from Steilacoom Blvd. SW to the high school. The intersection of Farwest Dr. SW and Sentinel Dr. SW is signalized at Steilacoom Blvd. SW.
- 87th Ave. SW is classified as a Minor Arterial at Steilacoom Blvd. SW and a Collector Arterial to the north of Golf Course Rd. Near Steilacoom Blvd. SW, the roadway has a 5-lane cross-section that transitions into a 3-lane section near Oakridge Group Home and later transitions into a 2-lane roadway at Onyx Dr. SW, north of Golf Course Rd. The posted speed limit is 30-mph and the roadway includes curb, gutter and sidewalk on both sides.
- Golf Course Rd. is an access road between the former Fort Steilacoom Golf Course, which closed in September 2018, and 87th Ave. SW. Golf Course Rd. is stop sign controlled at 87th Ave. SW. The roadway is paved but includes no pavement markings or marked pedestrian facilities. Disc golf players currently use the open field areas accessible off Golf Course Rd. There are pullouts for parking alongside the roadway to the east of Kids First Pl. and the CSTC campus.

Traffic Volumes

Year 2019 traffic volumes were collected by Traffic Count Consultants, Inc., an independent traffic data collection firm.

Pneumatic tube counters were located to capture daily traffic volumes at seven of the eight campus accesses and on Steilacoom Blvd. SW near the Chapel Gate Dr. and CSTC Entrance between May 28 and May 30, 2019. Figure 3 illustrates the calibrated daily traffic volumes around and at the campus.

Tube counters were not located at the gated WSH gravel lot access since the access was closed during the initial field reviews, WSH management indicated that this access is opened periodically to support campus traffic flows. It is noted that the former Steilacoom Golf Course and public land area surrounding Golf Course Rd. is currently used for disc golf course and other recreational activities.

The AM and PM peak hour periods are defined as the highest 4 consecutive 15-minute traffic volume intervals between 7 and 9 AM and between 4 and 6 PM. These periods represent conditions when traffic volumes on the local roadways are typically at their highest and correspond, in general, to traditional peak commute times.

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AWDT AVERAGE WEEKDAY DAILY TRAFFIC



Figure 3: Existing Average Daily Traffic Volumes

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AM and PM peak hour intersection turning movement volumes were collected at the study intersections on Thursday, May 30, 2019 and Thursday, July 20, 2019. The driveway and intersection turning movement volumes were calibrated to be consistent with the daily traffic volumes. The raw count data is attached. Figure 4 illustrates the existing AM and PM peak hour traffic volumes at the study intersections and driveways.

Level-of-Service

Study area LOS was evaluated using the Synchro computer program and HCM 2010 methodology. Table 2 summarizes the intersection level-of-service and delay categories.

Table 2: Intersection Level-of-Service and Delay Categories

LOS	Signalized Intersection Delay	Stop-Controlled Intersection Delay
A	≤ 10 seconds	≤ 10 seconds
B	10-20 seconds	10-15 seconds
C	20-35 seconds	15-25 seconds
D	35-55 seconds	25-35 seconds
E	55-80 seconds	35-50 seconds
F	> 80 seconds	> 50 seconds

The City of Lakewood's level-of-service standards are as follows:

- Maintain LOS D with a V/C ratio threshold of 0.90 during weekday PM peak hour conditions on all arterial streets and intersections in the city, including state highways of statewide significance except as otherwise identified.
- Maintain LOS D during weekday PM peak hour conditions at all arterial street intersections in the city, including state highways of statewide significance except as otherwise identified.
- Maintain LOS F with a V/C ratio threshold of 1.10 in the Steilacoom Blvd. corridor between 88th St. SW and 83rd Ave. SW.
- Maintain LOS F with a V/C ratio threshold of 1.30 on Gravelly Lake Dr. between I-5 and Washington Blvd. SW and Washington Blvd. SW, west of Gravelly Lake Dr.
- The City may allow two-way and one-way stop-controlled intersections to operate worse than the level-of-service standards. However, the City requires that these instances be thoroughly analyzed from an operational and safety perspective.

Intersection Level of Service

Table 3 summarizes the existing peak hour intersection operations and the output is included in the Appendix.

The study intersections are calculated to operate at LOS D or better and satisfy the City of Lakewood's LOS threshold, except the CSTC Entrance at Steilacoom Blvd. SW. The southbound stop-controlled approach at CSTC Entrance is calculated to operate at LOS F, in the AM peak hour, and LOS E, in the PM peak hour.

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PM (AM) Volume
Level of Service

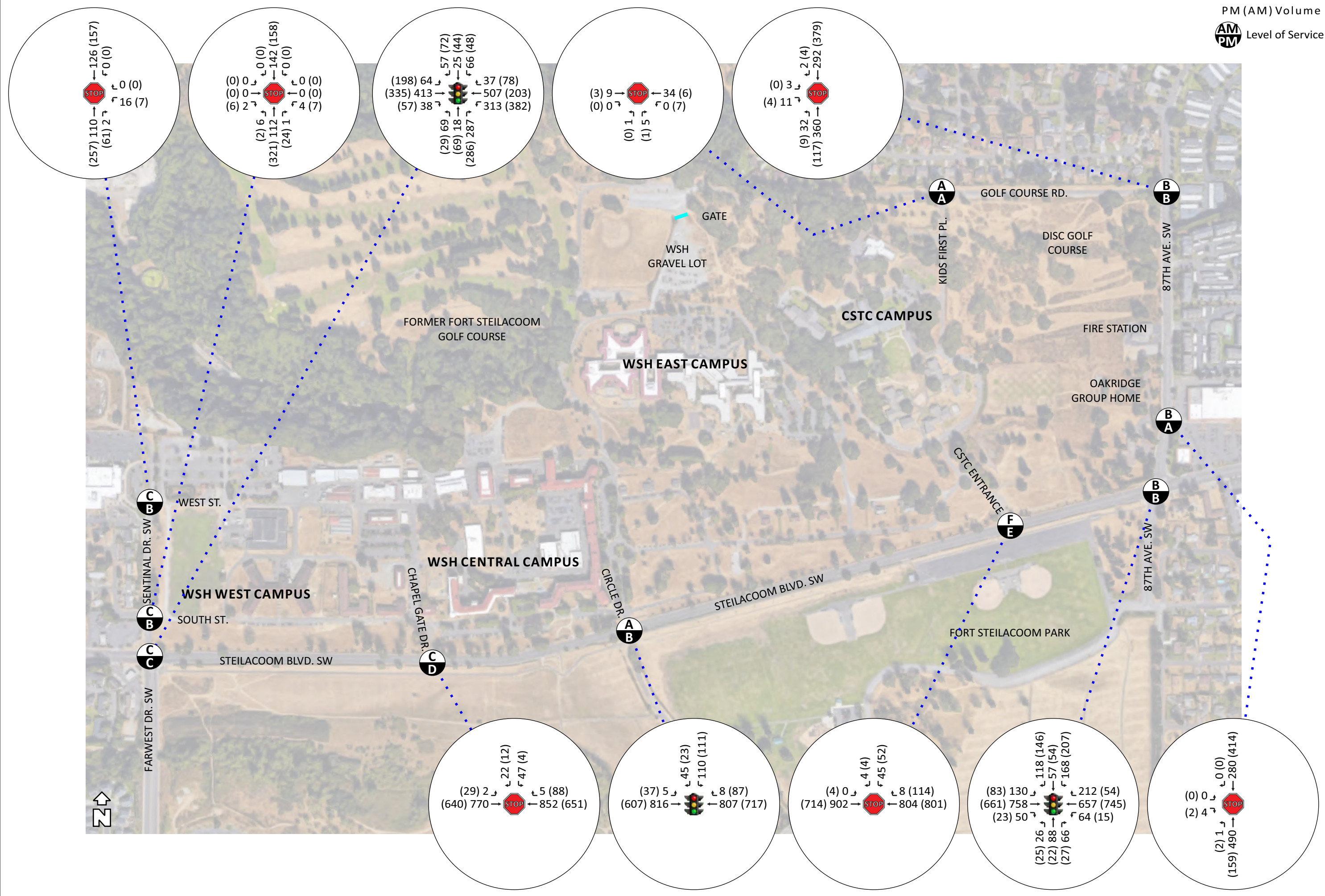


Figure 4: Existing AM and PM Peak Hour Volumes

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Table 3: Existing AM and PM Peak Hour Intersection LOS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		LOS	Delay	LOS	Delay
Sentinel Dr. / West St.	WB Stop	C	19.1	B	11.3
Sentinel Dr. / South St.	WB Stop	C	22.1	B	10.8
Farwest Dr. / Steilacoom Blvd.	Signal	C	28.3	C	33.4
Chapel Gate Dr. / Steilacoom Blvd.	SB Stop	C	15.2	D	32.8
Circle Dr. / Steilacoom Blvd.	Signal	A	5.3	B	14.6
CSTC Entrance / Steilacoom Blvd.	SB Stop	F	52.7	E	39.9
87th Ave. / Steilacoom Blvd.	Signal	B	16.6	B	19.1
87th Ave. / Oakridge Group Home	EB Stop	B	10.9	A	9.9
87th Ave. / Golf Course Rd.	EB Stop	B	10.9	B	10.6
Kids First Pl. / Golf Course Rd.	NB Stop	A	8.3	A	8.4

Arterial Level of Service

Table 4 summarizes the existing peak hour arterial LOS on Steilacoom Blvd. SW. The arterial capacity is from the City of Lakewood's Comprehensive Plan EIS and the LOS is expressed as a V/C ratio. The arterial volumes on Steilacoom Blvd. SW in the vicinity of the campus satisfies the V/C threshold from the City of Lakewood.

Table 4: Existing Arterial LOS on Steilacoom Blvd. SW

Direction	Capacity ¹	Maximum Volume ²	V/C Ratio
Eastbound	1,825	992	0.54
Westbound	1,825	933	0.51

1. City of Lakewood Comprehensive Plan Final EIS – June 2000

2. Maximum PM peak hour volume in one direction

Vehicle Queuing (Stacking)

Existing vehicle queues were computed at the existing study intersections using the HCM 2010 95th-percentile queue equations to identify existing vehicle queue impacts around the campus. 95th-percentile queues are typically used for traffic design and are a statistical calculation of the vehicle queue length that has a 5% probability of occurring during the analysis hour. Table 5 summarizes the queue output.

- The 95th-percentile queues are noticeable, but the intersection and driveway spacing on Steilacoom Blvd. SW are more than sufficient to support the computed queues.
- The westbound left turn queue on Steilacoom Blvd. SW approaching Farwest Drive. SW is computed to exceed the 200-foot storage pocket in both the AM and PM peak hours, by up to 150 feet. Overall, the westbound approach queues, overall, do not extend into the adjacent Chapel Gate Dr. intersection.
- The southbound queue at Chapel Gate Dr. approaching Sentinel Dr. SW is computed to be up to 40 feet.
- The southbound queue at Circle Dr. approaching Steilacoom Blvd. SW is computed to be 80 feet. The Circle Dr. and internal Front St. intersection is located approximately 25 feet north of the signalized intersection. Peak hour queues were observed to frequently extend through the internal intersection from Steilacoom Blvd. SW.
- The southbound queue at CSTC Entrance approaching Sentinel Dr. SW is computed to be up to 55 feet.
- The eastbound left turn queue Steilacoom Blvd. SW approaching 87th Ave. SW is computed to fit within the 200-foot storage pocket in both the AM and PM peak hours.
- The AM peak hour southbound left turn queue on 87th Ave. SW approaching Steilacoom Blvd. SW is computed to exceed the 125-foot storage pocket, by 40 feet or roughly two vehicle lengths.

Table 5: Existing Steilacoom Blvd. SW 95th-Percentile Queue Analysis

Intersection	Mvmt.	AM Peak Hour			PM Peak Hour			Storage (feet)
		Q-V/L ¹	Q-feet ²	V/C	Q-V/L ¹	Q-feet ²	V/C	
Farwest Dr. / Steilacoom Blvd.	WB L	14.0	350	0.77	12.9	325	0.74	200
	WB T	6.3	160	0.25	11.9	300	0.45	1,380
	WB TR	6.3	160	0.26	12.2	305	0.45	1,380
	SB L	2.7	70	0.26	4	100	0.51	125
	SB TR	7.1	180	0.68	5.1	130	0.69	140
Chapel Gate Dr. / Steilacoom Blvd.	SB App.	0.1	5	0.05	1.6	40	0.36	
Circle Dr. / Steilacoom Blvd.	EB LT	3.3	85	0.36	10.1	255	0.58	1,000
	EB T	3.0	75	0.40	9.1	230	0.63	1,000
	WB T	4.2	105	0.47	9.2	230	0.60	1,955
	WB TR	4.2	105	0.47	9.6	240	0.60	1,955
	SB LT	2.1	55	0.50	3.1	80	0.21	25
CSTC Entrance / Steilacoom Blvd.	SB App.	2.1	55	0.47	1.4	35	0.34	
87th Ave. / Steilacoom Blvd.	EB L	2.9	75	0.78	5.3	135	0.79	200
	EB T	7.7	195	0.42	9.8	245	0.51	685
	EB TR	7.9	200	0.42	10	250	0.51	685
	SB L	6.6	165	0.58	0.7	20	0.48	125
	SB TR	1.6	40	0.19	1.6	40	0.18	550
	SB R	4.6	115	0.59	3.6	90	0.42	250

1. queue expressed as vehicles per lane
2. queue lengths are converted to feet with approximately 25 feet per vehicle and are rounded to the nearest multiple of "5"

Traffic Circulation

- Figure 5 shows the existing major traffic circulation routes on the campus.
- Figure 6 shows the existing patient admissions and discharge route to and from the WSH campus.
- Figure 7 shows the existing on-campus shuttle routes.
- Figure 8 shows the existing service routes.

PRIMARY ON-CAMPUS VEHICLE CIRCULATION ROUTES

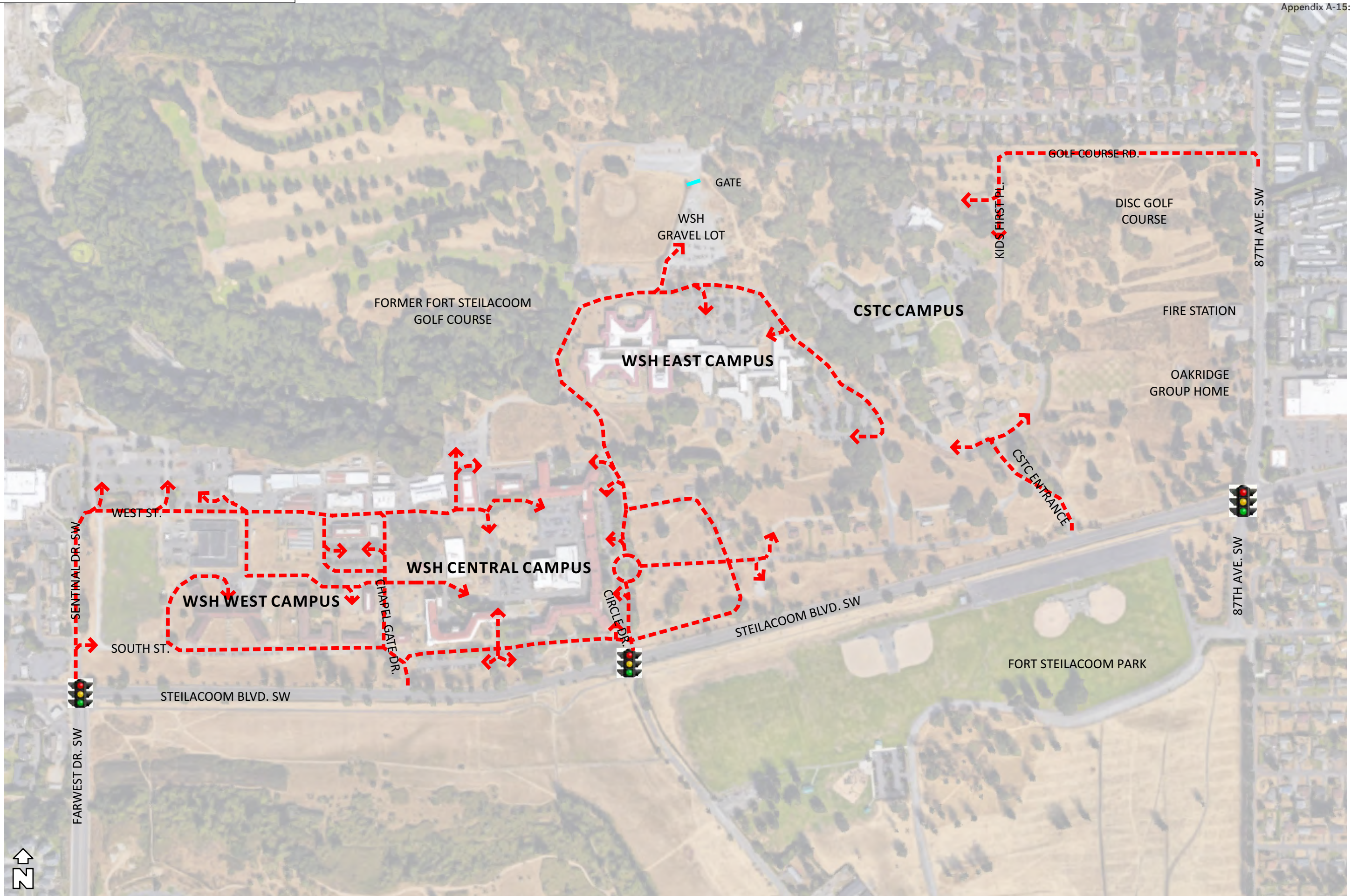


Figure 5: Existing On-Campus Primary Vehicle Circulation Routes





Figure 6: Existing Admissions and Discharge Routes



Figure 7: Existing On-Campus Shuttle Route

■ SERVICE VEHICLE ROUTES

Appendix A-15: Traffic Report

Western State Hospital / Pre-design Report



Figure 8: Existing Service Vehicle Circulation Routes

Safety

A 6-year crash history was provided by the WSDOT for the area surrounding the campus on Sentinel Drive, Steilacoom Blvd SW, 87th Ave SW, and Golf Course Road Table 6 summarizes the crash history by year and resulting crash rates. Table 7 summarizes the crashes by location and by crash type.

Table 6: Crash History per Year

Location	Number of Crashes Reported per Year					Avg. Crashes	Est. AWDT ¹	Crash Rate
	2013	2014	2015	2016	2017			
Intersection								MEV²
87th Ave. at 82nd Street	0	0	0	1	0	0.20	6,000	0.09
87th Ave. at 83rd Street Ct.	0	1	1	0	1	0.60	6,000	0.27
87th Ave. at Oakridge Group Home	0	2	0	0	0	0.40	7,700	0.14
Steilacoom Blvd. at Farwest Drive	4	12	3	4	2	5.00	18,900	0.72
Steilacoom Blvd. at Chapel Gate Dr.	1	0	2	0	1	0.80	17,000	0.13
Steilacoom Blvd. at Circle Dr.	1	3	0	2	2	1.60	18,000	0.24
Steilacoom Blvd. at CSTC Entrance	0	0	0	0	1	0.20	17,700	0.03
Steilacoom Blvd. at 87th Ave.	3	1	3	3	5	3.00	23,900	0.34
Segment								MVM³
87th Ave. north of 82nd St.	0	0	1	0	0	0.20	6,000	1.29
87th Ave.: 82nd Street to 83rd St.	0	0	0	0	0	0.00	6,000	0.00
87th Ave.: 83rd Street to Steilacoom Blvd.	0	3	0	0	1	0.80	7,700	1.77
Sentinel Dr. north of Steilacoom Blvd.	0	1	0	0	0	0.20	2,700	4.76
Steilacoom Blvd.: Farwest to Chapel Gate	2	5	5	4	0	3.20	16,500	1.91
Steilacoom Blvd.: Chapel Gate to Circle Dr.	3	2	3	0	0	1.60	16,800	1.32
Steilacoom Blvd.: Circle Dr. to CSTC Entry	0	0	0	1	1	0.40	17,500	0.16
Steilacoom Blvd.: CSTC Entry to 87th Ave.	0	0	0	1	3	0.80	17,600	0.82
Golf Course Rd. west of 87th Ave.	0	0	0	0	1	0.20	500	1.10

1. Estimated Average Weekday Daily Traffic
2. Crashes per Million Entering Vehicles
3. Crashes per Million Vehicle Miles Traveled

Table 7: Crash History by Type

Location	Rear-End	Fixed Object	Opp. Dir. Left ¹	Side-swipe	Entering at Angle	Ped. / Bike	Other
Intersection							
87th Ave. at 82nd Street	0	1	0	0	0	0	0
87th Ave. at 83rd Street Ct.	1	0	0	0	2	0	0
87th Ave. at Oakridge Group Home	0	1	0	0	0	1	0
Steilacoom Blvd. at Farwest Drive	11	3	8	1	1	0	1
Steilacoom Blvd. at Chapel Gate Dr.	1	0	0	0	2	0	1
Steilacoom Blvd. at Circle Dr.	4	1	1	0	2	0	0
Steilacoom Blvd. at CSTC Entrance	0	0	1	0	0	0	0
Steilacoom Blvd. at 87th Ave.	5	1	3	4	2	0	0
Segment							
87th Ave. north of 82nd St.	0	0	0	0	0	1	0
87th Ave.: 82nd Street to 83rd St.	0	0	0	0	0	0	0
87th Ave.: 83rd Street to Steilacoom Blvd.	2	1	0	0	0	1	0
Sentinel Dr. north of Steilacoom Blvd.	1	0	0	0	0	0	0
Steilacoom Blvd.: Farwest to Chapel Gate	9	3	0	2	0	0	2
Steilacoom Blvd.: Chapel Gate to Circle Dr.	2	2	0	3	0	0	1
Steilacoom Blvd.: Circle Dr. to CSTC Entry	1	0	0	0	0	0	1
Steilacoom Blvd.: CSTC Entry to 87th Ave.	1	1	0	2	0	0	0
Golf Course Rd. west of 87th Ave.	0	0	0	0	0	0	1

1. Reported as "Opposite Direction - One Left - One Straight" and not "Entering at Angle"

Between 2013 and 2017 there were 96 collisions reported and 69% of those crashes resulted in property damage only. In 2015 there was one fatality reported on Steilacoom Blvd. SW with a vehicle in the eastbound direction colliding with the rock wall along the roadway.

Overall, the number of reported crashes peaked in 2014, with 30 total crashes reported. Compared to the other years, where the annual number of crashes ranged from 14 to 18 per year.

In general, intersections with crash rates of 1.00 crashes per million entering vehicles and roadway segments with crash rates of 10.00 crashes per million vehicle miles traveled are considered as high crash locations. None of the study area intersections or roadway segments meeting these crash rate thresholds.

The study area crashes included: rear-end (40%), fixed object (15%), opposite direction (14%), sideswipe (12%), entering at angle (9%), pedestrian or bicyclist (3%) and other (7%). On Steilacoom Blvd. SW the low rock walls on both sides of the roadway and lack of a center lane or turn lane factors into the types of crashes reported, with rear ends, opposite direction, sideswipes, entering at angle crashes.

Non-Motorized Conditions

Sentinel Dr. SW includes sidewalks on both sides of the roadway from Steilacoom Blvd. SW to the high school. There is one east-west crossing at the south end of the southmost high school driveway.

A shared-use path is along the Fort Steilacoom Park side of Steilacoom Blvd. SW. A tunnel under Steilacoom Blvd. SW provides direct access between the campus to the park. The signalized intersection at Circle Dr. includes marked crosswalks on the north and west legs of the intersection.

87th Ave. SW includes sidewalks and bicycle lanes on both sides of the roadway from Steilacoom Blvd. SW to Onyx Dr. SW, just north of Golf Course Rd.

There are no marked pedestrian facilities on Golf Course Rd.

Transit Conditions

Pierce Transit Route 212 Steilacoom provides weekday and weekend services along Steilacoom Blvd. SW and to Pierce College. Weekday headways are about 50 minutes in length. Transit stops are located at Farwest Dr. SW, between Chapel Gate Dr. and Circle Dr. and at 87th Ave. SW.

Future No Action

This section summarizes the future traffic conditions prior without improvement and modifications to the existing campus. The future “No Action” condition represents a baseline condition against which to measure specific impacts related to the proposed Master Plan.

Horizon Year

The Master Plan represents a 10-year build-out plan for WSH. For this analysis the horizon year is 2030.

The Comprehensive Plans from the City of Lakewood Comprehensive Plan and Town of Steilacoom were reviewed to estimate traffic growth in the study area. On Steilacoom Blvd. SW, the traffic volumes were forecast to grow by less than 0.5% per year, based on information from the Town of Steilacoom.

To be conservative, between now and 2030 traffic volumes around the WSH campus is estimated to grow at a rate of 1.0% annually. The growth rate includes both regional and local traffic growth.

The No Action analysis does not assume any growth on the campus and at the high school.

Transportation Improvements

The City of Lakewood’s Six-Year 2020-2025 Transportation Improvement Plan (TIP) identifies the following transportation facility improvements near the campus:

- 302.0024 Steilacoom Blvd. SW – Farwest Dr. SW to Phillips Rd. SW. Acquire right-of-way to design and construct curb, gutter, sidewalk, sharrows, turn lanes, street lighting, drainage and overlay. Right-of-way acquisition and design are funded, and construction is not. With the exception of design, the project is anticipated to be complete by 2021. (Lakewood TIP)
- 302.0117 Roundabout 87th Ave. SW, Dresden Ln. SW and Fort Steilacoom Park Entrance. Constructs roundabout, with curb, gutter, sidewalk, sharrows, street lighting, drainage, roadway reconstruction and signage at the park entrance on 87th Ave. SW. This project is not currently funded. (Lakewood TIP)

The Town of Steilacoom’s Six-Year Transportation Improvement Plan 2019 to 2024 and Comprehensive Plan identify the following transportation facility improvements near the campus:

- Steilacoom Blvd. SW Non-Motorized Improvements. Design and construct curb, gutter, sidewalk and bike lanes on Steilacoom Blvd. SW from Puyallup St. to Farwest D. SW. The project is fully funded, and completion is anticipated in 2019. (Steilacoom TIP/Comprehensive Plan)

Transportation facility improvements are incorporated into the analyses of future traffic conditions.

Traffic Volumes

Figure 9 illustrates the future no action traffic volumes.

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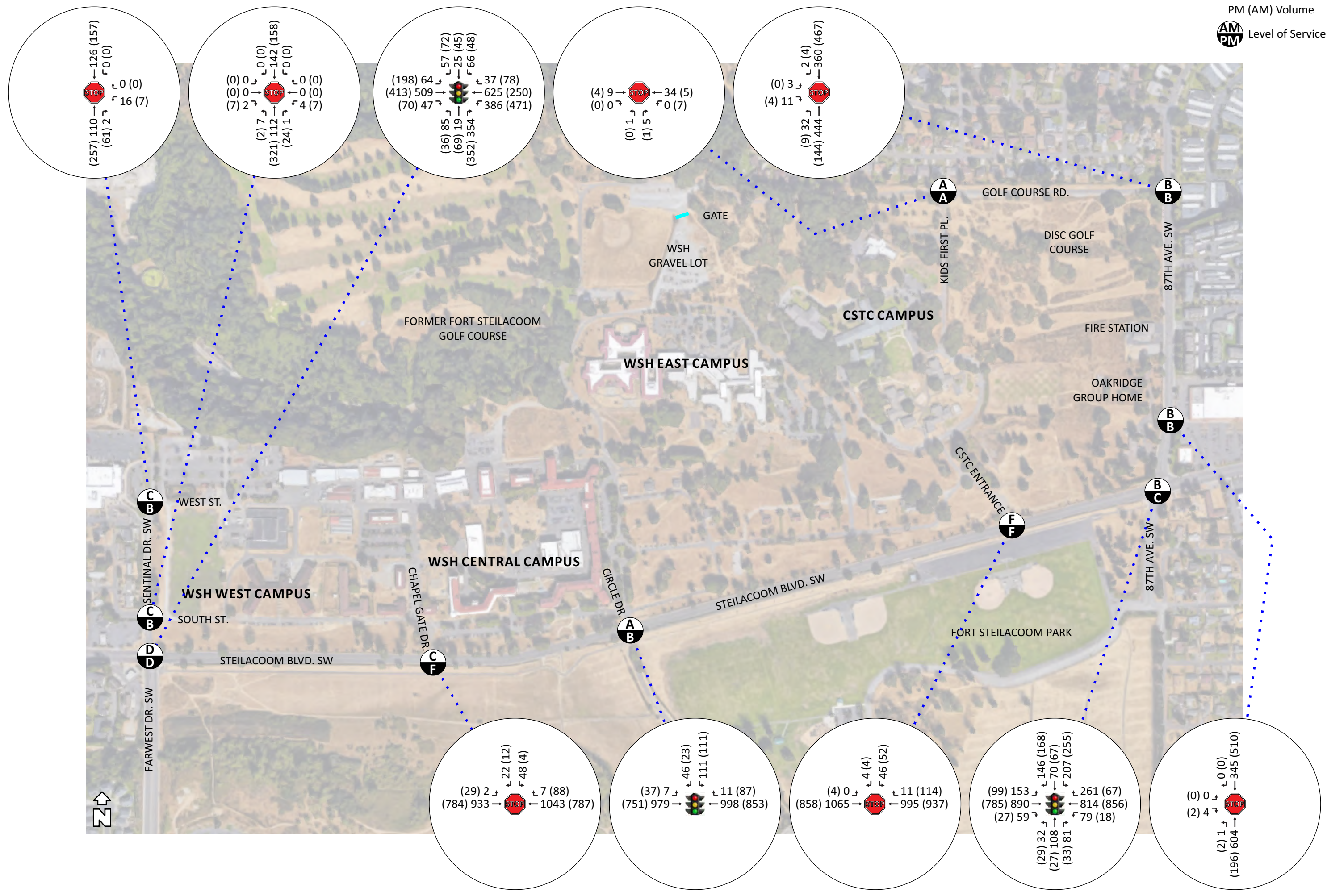


Figure 9: Future No Action AM and PM Peak Hour Traffic Volumes

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Western State Hospital

Traffic Impact Analysis

Level of Service*Intersection Level of Service*

Table 8 summarizes the future no action study intersection LOS.

Table 8: Future No Action AM and PM Peak Hour Intersection LOS

Intersection	Control	AM Peak Hour				PM Peak Hour			
		Existing		No Action		Existing		No Action	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Sentinel Dr. / West St.	WB Stop	C	19.1	C	19.1	B	11.3	B	11.3
Sentinel Dr. / South St.	WB Stop	C	22.1	C	18.8	B	10.8	B	10.8
Farwest Dr. / Steilacoom Blvd.	Signal	C	28.3	D	36.9	C	33.4	D	41.5
Chapel Gate Dr. / Steilacoom Blvd.	SB Stop	C	15.2	C	18.3	D	32.8	F	60.1
Circle Dr. / Steilacoom Blvd.	Signal	A	5.3	A	5.3	B	14.6	B	14.4
CSTC Entrance / Steilacoom Blvd.	SB Stop	F	52.7	F	100	E	39.9	F	74.8
87th Ave. / Steilacoom Blvd.	Signal	B	16.6	B	19.3	B	19.1	C	21.8
87th Ave. / Oakridge Group Home	EB Stop	B	10.9	B	11.8	A	9.9	B	10.4
87th Ave. / Golf Course Rd.	EB Stop	B	10.9	B	11.7	B	10.6	B	11.3
Kids First Pl. / Golf Course Rd.	NB Stop	A	8.3	A	8.4	A	8.4	A	8.5

In the future, the additional non-WSH traffic volumes result in increases in control delay at the study intersections. The study intersections are forecast to operate at LOS D or better and satisfy the City of Lakewood's LOS threshold, except the Chapel Gate Dr. and CSTC Entrance driveways off Steilacoom Blvd. SW.

- In the AM peak hour, the Chapel Gate Dr. stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS C (existing) and LOS C (No Action). In the PM peak hour, the approach is calculated to operate at LOS D (existing) and LOS F (No Action).
- In the AM peak hour, the CSTC Entrance stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS F (existing) and LOS F (No Action). In the PM peak hour, the approach is calculated to operate at LOS E (existing) and LOS F (No Action).

Arterial Level of Service

Table 9 summarizes the future No Action peak hour arterial LOS on Steilacoom Blvd. SW. The future arterial volumes on Steilacoom Blvd. SW in the vicinity of the campus satisfy the City of Lakewood's V/C threshold.

Table 9: No Action Arterial LOS on Steilacoom Blvd. SW

Direction	Capacity ¹	Existing V/C	No Action Vol. ²	No Action V/C
Eastbound	1,825	0.54	1,178	0.65
Westbound	1,825	0.51	1,154	0.63

1. City of Lakewood Comprehensive Plan Final EIS – June 2000

2. Maximum PM peak hour volume in one direction

Vehicle Queuing (Stacking)

Vehicle queues were computed using the HCM 2010 95th-percentile queue equations to evaluate future vehicle queue impacts around the campus. Table 10 summarizes the queue output.

Table 10: Future No Action Steilacoom Blvd SW Queues

Intersection	Mvmt.	AM Peak Hour			PM Peak Hour			Storage (feet)
		Q-V/L ¹	Q-feet ²	V/C	Q-V/L ¹	Q-feet ²	V/C	
Farwest Dr. / Steilacoom Blvd.	WB L	22.3	560	0.95	12.8	320	0.97	200
	WB T	7.8	195	0.29	14.5	365	0.55	1,380
	WB TR	7.8	195	0.30	14.9	375	0.55	1,380
	SB L	2.8	70	0.26	4.0	100	0.51	125
	SB TR	7.4	185	0.69	5.1	130	0.69	140
Chapel Gate Dr. / Steilacoom Blvd.	SB	0.2	5	0.06	2.7	70	0.54	
Circle Dr. / Steilacoom Blvd.	EB LT	4.2	105	0.42	11.6	290	0.63	1,000
	EB T	4.0	100	0.74	10.8	270	0.68	1,000
	WB T	5.1	130	0.52	11.1	280	0.66	1,955
	WB TR	5.2	130	0.52	11.5	290	0.66	1,955
	SB LT	2.4	60	0.54	3.3	85	0.23	25
CSTC Entrance / Steilacoom Blvd.	SB	3.4	85	0.68	2.4	60	0.53	
87th Ave. / Steilacoom Blvd.	EB L	4.1	105	0.78	7.0	175	0.80	200
	EB T	9.6	240	0.51	12.0	300	0.60	685
	EB TR	9.6	240	0.51	12.3	310	0.60	685
	SB L	8.9	225	0.73	2.9	75	0.61	125
	SB TR	2.0	50	0.22	2.1	55	0.22	550
	SB R	5.4	135	0.63	4.6	115	0.51	250

1. queue expressed as vehicles per lane
 2. queue lengths are converted to feet with approximately 25 feet per vehicle and are rounded to the nearest multiple of "5"

The 95th-percentile queues are noticeable, but the intersection and driveway spacing on Steilacoom Blvd SW are more than sufficient to support the computed queues.

- The westbound left turn queue on Steilacoom Blvd. SW approaching Farwest Dr. SW is computed to exceed the 200-foot storage pocket in both the AM and PM peak hours, by up to 360 feet. The peak hour westbound left turn V/C ratios are greater than 0.90 suggesting that the left turn movement is nearing capacity. Overall, the westbound approach queues, overall, do not extend into the adjacent Chapel Game Dr. intersection.
- The southbound queue at Chapel Gate Dr. approaching Sentinel Dr. SW is computed to be up to 70 feet.
- The southbound queue at Circle Dr. approaching Steilacoom Blvd. SW is computed to be 90 feet. The Circle Dr. and internal Front St. intersection is located approximately 25 feet north of the signalized intersection. Peak hour queues are forecast to continue to extend through the internal intersection from Steilacoom Blvd. SW.
- The southbound queue at CSTC Entrance approaching Sentinel Dr. SW is computed to be up to 85 feet.
- The eastbound left turn queue on Steilacoom Blvd. SW approaching 87th Ave. SW is computed to fit within the 200-foot storage pocket in both the AM and PM peak hours.
- The southbound left turn queue on 87th Ave. SW approaching Steilacoom Blvd. SW is computed to exceed the 125-foot storage pocket in the AM peak hour, by 100 feet or four vehicle lengths.

Traffic Circulation

The on-campus circulation is not forecast to substantially change in the future with the proposed No Action.

Safety

The crash frequency is forecast to increase proportional to the future traffic volumes.

Western State Hospital

Traffic Impact Analysis

Non-Motorized Conditions and Transit Conditions

The on-campus circulation and the non-motorized and transit conditions are not forecast to substantially change between now and 2030 with the No Action conditions.

Recommendations

The following outlines recommendations for the future No Action condition.

- Circulation. Improve the campus's internal roadway circulation by increasing the spacing between internal roadways and intersections and driveways.
- Access. Improve access to the campus by enhancing traffic flow to and from Steilacoom Blvd. SW via:
 - Install a traffic control signal at Chapel Gate Dr., with the intent of concentrating more traffic to this access and reducing traffic impacts on Sentinel Dr. The FHWA recommends that a traffic control signal meet certain "warrants", which are discussed later in this document.
 - Shift CSTC Entrance east and signalize the driveway, to increase the spacing between the CSTC Entrance and 87th Ave. SW and with the intent of concentrating more traffic to this access and reducing traffic impacts on 87th Ave. SW. The FHWA recommends that a traffic control signal meet certain "warrants", which are discussed later in this document.
 - Widen Steilacoom Blvd. SW to provide left turn pockets and acceleration lanes to improve left turn maneuvers to and from the campus. Left turn lanes would enhance site access by providing a "pocket" off of the mainline for vehicles to queue in before making a left turn to the campus. Acceleration lanes, in the form of a center turn lane, would allow staged left turn maneuvers (left turn out of campus to turn lane to merge with opposing traffic volume). Widening requires right-of-way acquisition.
 - An alternative to widening, is to reduce the number of lanes on Steilacoom Blvd. SW, this is often referred to as a "road diet". The lane reduction would create a three-lane cross-section with wide shoulders and bicycle lanes and a center turn lane. The FHWA recommends a feasibility study for a road diet of four- to three-lane roadway where the ADT is greater than 20,000 vehicles.
 - As alternative to traffic signals, install a single-lane (or multilane) roundabout. Unlike a signal, roundabouts have less of an impact on travel times since they are not creating designated stops for the mainline traffic flow. Roundabouts also do not have adopted "warrant" criteria.
 - Remove the existing signal at Circle Drive and Steilacoom Blvd SW, and repurposing the intersection to be right-in and right-out only restricted. This will decentralize access at Circle Dr. and refocus traffic to the Chapel Gate Dr. and CSTC Entrance driveways.
 - Close or add gates (restrictions) to existing main campus access off Sentinel Dr. and Golf Course Rd. West St. could be gated and restricted for service vehicles only. Kids First Pl. could also be gated, for fire and emergency vehicle access to the site only. Also, vehicle access to campus' other secondary entrances off Golf Course Rd. could be restricted. By restricting or eliminating these access, the campus traffic would be forced to access the site off Steilacoom Blvd SW, which would mitigate neighborhood concerns with campus traffic impacting the high school and residents.
- Support. DSHS should provide their support for non-motorized and turn lane improvements on Steilacoom Blvd. SW, planned by both the Town of Steilacoom and City of Lakewood.
- Parking. Consolidate, mark, pave and manage parking areas to reduce parking sprawl on campus. Designate areas for staff based on the location and function of employees

Trip Generation, Distribution and Assignment

This section describes the trip generation and PM peak hour trip distribution and travel assignment forecasts for the proposed Master Plan, or “Action” condition. The following analysis is consistent with the trip generation methodology from the traffic concurrency request and concurrency findings output.

Trip Generation

Trips generated by build-out of the Master Plan were forecast from the existing campus’ driveway volumes. Trip rates were computed based on the number of vehicle trips generated per bed. Table 11 summarizes the trip forecast for the Proposed Action.

Table 11: Proposed Action Trip Generation Forecast

	“No Action” # of Beds ^{1,2}	“No Action” Trips	% (In/Out)	Rate (Trips/Bed)	“Action” # of Beds ¹	“Action” Trips	Trip Difference
AM Generator (6:30-7:30 AM)	907	828	66/34	0.91	799	727	(101)
AM Peak Hour (7:00-8:00 AM)	907	677	67/33	0.75	799	599	(78)
PM Generator (2:15-3:15 PM)	907	764	41/59	0.84	799	671	(93)
PM Peak Hour (4:00-5:00 PM)	907	366	16/84	0.40	799	320	(46)
Daily Trips	907	6,046	48/52	6.67	799	5,329	(717)

1. See Table 1
2. Excludes Oakridge Group Home, which is not proposing to change from its current 16 bed capacity.

Overall, the Proposed Action reduces the number of patient beds on the campus; and thus, is forecast to generate less trips compared to the current campus (No Action).

Campus Area Breakdown

Overall, the Proposed Action reduces the patient capacity of the main campus. Services in the existing civil and forensic care would be consolidated from 860 patient beds (No Action) to 336 patient beds (Proposed Action). Future conditions also include a new forensic hospital for 350 patients, expansion of the CSTC from 47 beds (No Action) to 65 beds (Proposed Action), and addition of new community hospital with 48 patient beds.

Tables 12 and 13 summarize the AM and PM peak hour trips generated by the major campus accesses.

Table 12: AM Peak Hour Trips Generation by Campus Area

Campus Area	Existing Campus			Proposed Action		
	In	Out	Total	In	Out	Total
Sentinel Drive Driveway(s)	85	14	99	70	15	85
Steilacoom Blvd West Driveway (Chapel Gate)	117	16	133	109	15	124
Steilacoom Blvd Central Driveway (Circle Drive)	124	134	258	95	106	201
Steilacoom Blvd Driveway East (CSTC)	118	56	174	117	61	178
87th Ave SW at Golf Course Road	11	2	13	10	1	11
Total	455	222	677	401	198	599

Western State Hospital

Traffic Impact Analysis

Table 13: PM Peak Hour Trips Generation by Campus Area

Campus Area	Existing Campus			Proposed Action		
	In	Out	Total	In	Out	Total
Sentinel Dr. Driveway(s)	3	20	23	3	20	23
Steilacoom Blvd. West Driveway (Chapel Gate Dr.)	9	70	79	15	60	75
Steilacoom Blvd. Central Driveway (Circle Dr.)	18	157	175	17	125	142
Steilacoom Blvd. East Driveway (CSTC)	11	50	61	16	59	75
87th Ave. SW at Golf Course Rd.	19	9	28	0	5	5
Total	60	306	366	51	269	320

Peak Hour Trip Assignment

Campus generated trips were distributed based on the traffic volumes at the campus driveways and on Steilacoom Blvd. SW and 87th Ave. SW.

This analysis assumes the future campus will generate similar peak hour trip patterns compared to existing conditions. With the Proposed Action:

- South St. driveway off Sentinel Dr. SW is vacated;
- CSTC Entrance is relocated about 800 feet to the west of its current location to be roughly midblock on Steilacoom Blvd. SW between Circle Dr. and 87th Ave. SW; and
- use of the gated access to the gravel lot off Golf Course Rd. is restricted with traffic redistributed to Steilacoom Blvd. SW.

Figure 10 illustrates the AM and PM peak hour trips of the existing campus (No Action).

Figure 11 illustrates the net new AM and PM peak hour trips with the Proposed Action.

With the Proposed Action, the overall campus the volumes in the study area reduced. Certain driveways are projected to see increases in traffic based on the locations of new buildings and certain driveways are projected to see decreases in traffic based on buildings being removed and activities being consolidated on the campus.

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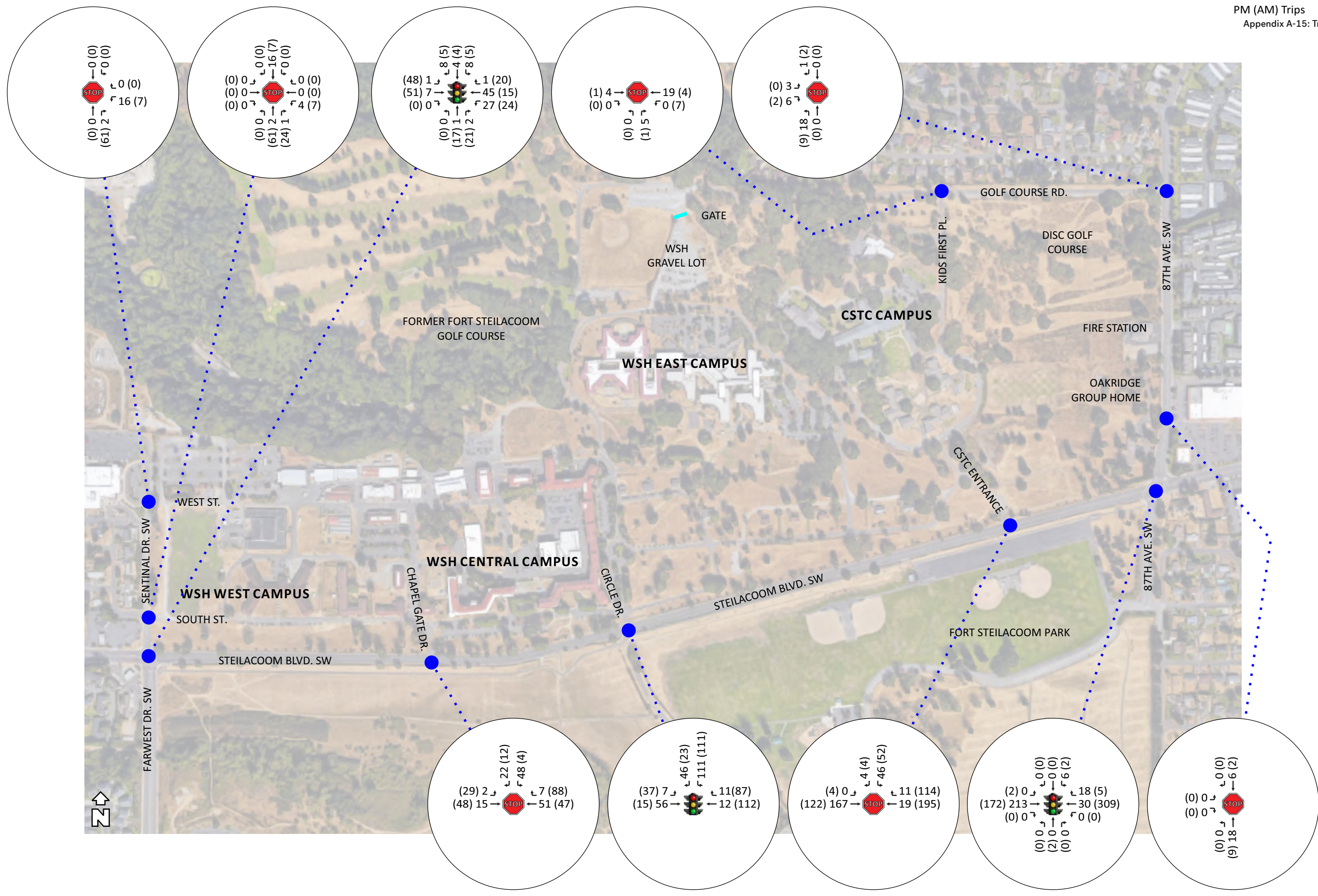


Figure 10: Existing (No Action) AM and PM Peak Hour Campus Trips

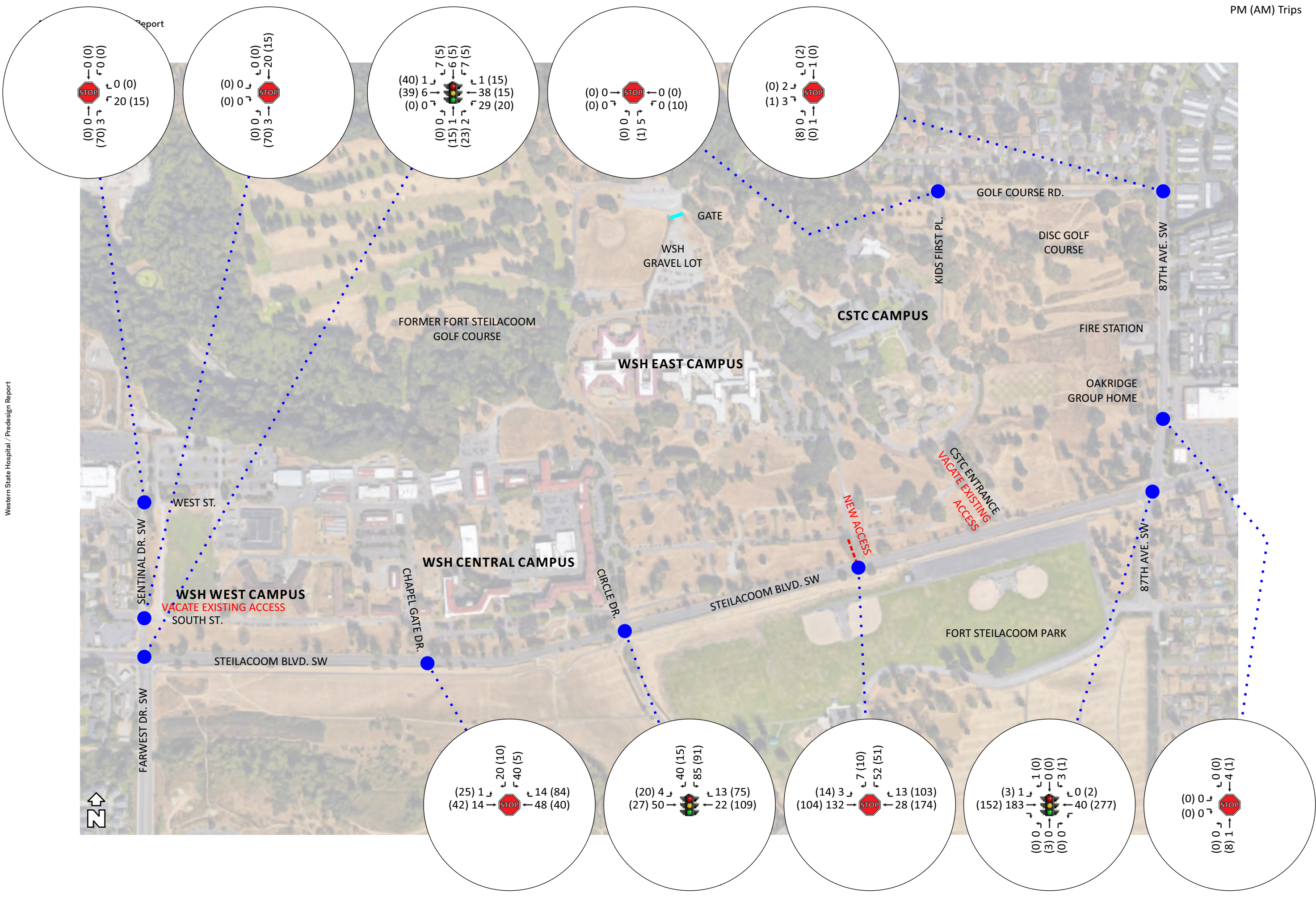


Figure 11: Proposed Action AM and PM Peak Hour Campus Trips

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Proposed Action

This section summarizes the future traffic conditions with built-out of the Proposed Action.

With the Proposed Action, the existing CSTC Entrance is proposed to be relocated to the east on Steilacoom Blvd. SW at roughly midway between the existing Circle Dr. intersection and 87th Ave. SW. Additionally, the existing South St. driveway off Sentinel Dr. SW would be closed.

Traffic Volumes

Future AM and PM peak hour traffic volumes with the Proposed Action were forecast by adding the net new trips generated with the proposal to the future No Action volumes. The future AM and PM peak hour traffic volumes with the Proposed Action are illustrated in Figure 12.

Level of Service

Intersection Level of Service

Table 8 summarizes the future no action study intersection LOS.

Future with-Project study intersection level-of-service is summarized in Table 14.

Table 14: Proposed Action AM and PM Peak Hour Intersection Level-of-Service

Intersection	Control	AM Peak Hour				PM Peak Hour			
		No Action		Proposed Action		No Action		Proposed Action	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Sentinel Dr. / West St.	WB Stop	C	19.1	C	20.0	B	11.3	B	11.3
Sentinel Dr. / South St.	WB Stop	C	18.8	Closed		B	10.8	Closed	
Farwest Dr. / Steilacoom Blvd.	Signal	D	36.9	D	36.0	D	41.5	D	41.7
Chapel Gate Dr. / Steilacoom Blvd.	SB Stop	C	18.3	C	19.9	F	60.1	F	51.1
Circle Dr. / Steilacoom Blvd.	Signal	A	5.3	A	5.1	B	14.4	B	14.5
CSTC Entrance / Steilacoom Blvd.	SB Stop	F	100	F	94.1	F	74.8	F	83.6
87th Ave. / Steilacoom Blvd.	Signal	B	19.3	B	19.3	C	21.8	C	21.8
87th Ave. / Oakridge Group Home	EB Stop	B	11.8	B	11.7	B	10.4	B	10.4
87th Ave. / Golf Course Rd.	EB Stop	B	11.7	B	11.7	B	11.3	B	11.1
Kids First Pl. / Golf Course Rd.	NB Stop	A	8.4	A	8.3	A	8.5	A	8.4

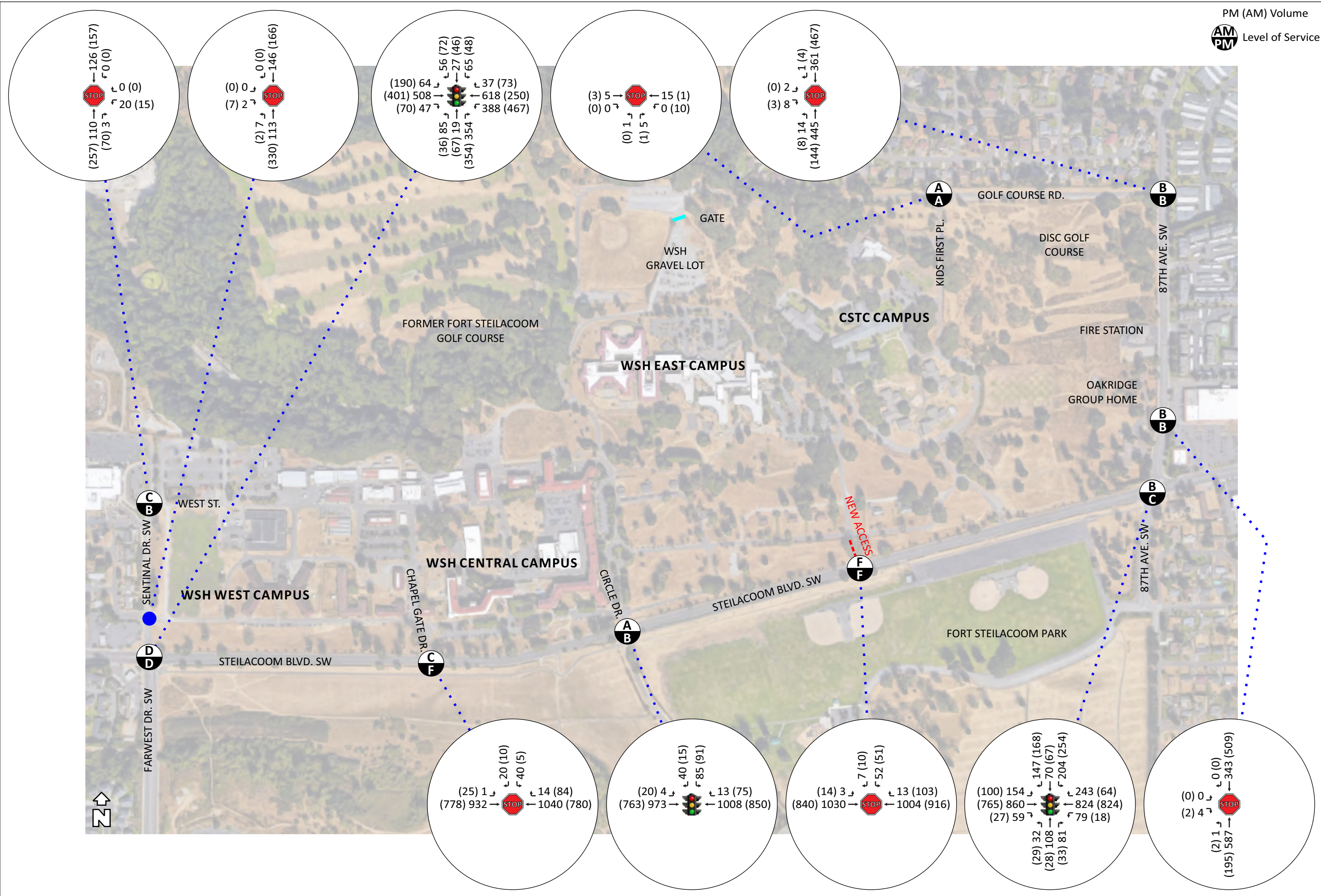
The study intersections are forecast to operate at LOS D or better and satisfy the City of Lakewood’s level-of-service threshold, except the Chapel Gate Drive and CSTC Entrance driveways on Steilacoom Blvd SW.

- In the AM peak hour, the Chapel Gate Dr. stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS C (No Action) and LOS C (Proposed Action). In the PM peak hour, the approach is calculated to operate at LOS F (No Action) and LOS F (Proposed Action).
- In the AM peak hour, the CSTC Entrance stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS F (No Action) and LOS F (Proposed Action). In the PM peak hour, the approach is calculated to operate at LOS F (No Action) and LOS F (Proposed Action).

Consolidation of services on the campus, even with the expansion results in reducing the number of trips generated and vehicle delays at the West Street, South Street, Chapel Gate Drive and Circle Drive driveways.

Build-out of the proposed WSH East Zone and expansion of services in the CSTC Zone increase the number of trips generated and vehicle delays at the CSTC Entrance and Kids First Place driveways.

Figure 12: Future Proposed Action AM and PM Peak Hour Traffic Volumes



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Western State Hospital

Traffic Impact Analysis

Arterial Level-of-Service

Table 15 summarizes the future Proposed Action peak hour arterial level-of-service on Steilacoom Blvd SW. The future arterial volumes on Steilacoom Blvd SW in the vicinity of the campus satisfies the volume-to-capacity threshold from the City of Lakewood.

Table 15: Proposed Action Arterial Level-of-Service on Steilacoom Blvd SW

Direction	Capacity ¹	No Action V/C	Action Vol. ²	Action V/C
Eastbound	1,825	0.65	1,145	0.63
Westbound	1,825	0.63	1,150	0.63

1. City of Lakewood Comprehensive Plan Final EIS – June 2000
2. Maximum PM peak hour volume in one direction

With the Proposed Action, the volumes on Steilacoom Blvd SW and corresponding volume-to-capacity ratios are less than in the No Action conditions.

Vehicle Queuing (Stacking)

Vehicle queues were computed using the HCM 2010 95th-percentile queue equations to evaluate future vehicle queue impacts around the campus. Table 16 summarizes the queue output.

Table 16: Proposed Action Steilacoom Blvd SW Queues

Intersection	Mvmt.	AM Peak Hour			PM Peak Hour			Storage (feet)
		Q-V/L ¹	Q-feet ²	V/C	Q-V/L ¹	Q-feet ²	V/C	
Farwest Dr. / Steilacoom Blvd.	WB L	21.7	545	0.94	13.0	325	0.98	200
	WB T	7.6	190	0.29	14.4	360	0.54	1,380
	WB TR	7.7	195	0.29	14.7	370	0.54	1,380
	SB L	2.8	70	0.69	3.9	100	0.50	125
	SB TR	7.5	190	0.68	5.1	130	0.69	140
Chapel Gate Dr. / Steilacoom Blvd.	SB	0.2	5	0.06	2.0	50	0.45	
Circle Dr. / Steilacoom Blvd.	EB LT	4.3	110	0.41	11.5	290	0.63	1,000
	EB T	3.9	100	0.46	10.7	270	0.67	1,000
	WB T	5.0	125	0.51	11.5	290	0.67	1,250
	WB TR	5.1	130	0.51	11.9	300	0.67	1,250
	SB LT	1.8	45	0.42	2.6	65	0.19	25
CSTC Entrance / Steilacoom Blvd.	SB	3.5	90	0.68	3.0	75	0.61	
87th Ave. / Steilacoom Blvd.	EB L	4.2	105	0.78	7.1	180	0.80	200
	EB T	9.4	235	0.50	11.7	295	0.58	1,550
	EB TR	9.7	240	0.50	11.9	300	0.58	1,550
	SB L	8.9	225	0.73	2.6	65	0.60	125
	SB TR	2.0	50	0.22	2.1	55	0.22	550
	SB R	5.4	135	0.63	4.7	120	0.52	250

3. queue expressed as vehicles per lane

4. queue lengths are converted to feet with approximately 25 feet per vehicle and are rounded to the nearest multiple of "5"

The 95th-percentile queues are noticeable, but the intersection and driveway spacing on Steilacoom Blvd SW are more than sufficient to support the computed queues.

- The westbound left turn queue on Steilacoom Blvd. SW approaching Farwest Dr. SW is computed to exceed the 200-foot storage pocket in both the AM and PM peak hours, by up to 345 feet. Compared to the No Action condition, the Proposed Action queues are similar. With the Proposed Action, the peak hour westbound left turn V/C ratios are greater than 0.90 suggesting that the left turn movement is

nearing capacity. Overall, the westbound approach queues, overall, do not extend into the adjacent Chapel Gate Dr. intersection.

- The southbound queue at Chapel Gate Dr. approaching Sentinel Dr. SW is computed to be up to 50 feet.
- The southbound queue at Circle Dr. approaching Steilacoom Blvd. SW is computed to be 65 feet. The Circle Dr. and internal Front St. intersection is located approximately 25 feet north of the signalized intersection. Peak hour queues are forecast to continue to extend through the internal intersection from Steilacoom Blvd. SW.
- The southbound queue at CSTC Entrance approaching Sentinel Dr. SW is computed to be up to 90 feet.
- The eastbound left turn queue on Steilacoom Blvd. SW approaching 87th Ave. SW is computed to fit within the 200-foot storage pocket in both the AM and PM peak hours.
- The southbound left turn queue on 87th Ave. SW approaching Steilacoom Blvd. SW is computed to exceed the 125-foot storage pocket in the AM peak hour, by 100 feet or four vehicle lengths.

Traffic Circulation

- Figure 13 shows the shows the major traffic circulation routes with the Proposed Action. Changes include deemphasizing use of Circle Dr. and Golf Course Rd, closure of the South St. driveway off Sentinel Dr. SW and enhancing use of the Chapel Gate Dr. and relocated CSTC Entrance driveways.
- Figure 14 shows the patient admissions and discharge route to and from the WSH campus with the Proposed Action. Changes include ingress and egress proposed from the relocated CSTC Entrance to deemphasize use of the Circle Dr.
- It is not yet clear whether the on-campus shuttle service will change or continue with the Proposed Action; and therefore, no new routing is being proposed.
- Figure 15 shows the primary service vehicle routes to the WSH campus with the Proposed Action. The service vehicle routes are intended to shift to the periphery of the campus via Sentinel Dr. SW.

- A - FORENSIC HOSPITAL
- B - SERVICE CENTER
- C - CFS ADDITION (BLDG 28)
- D - CFS ADDITION (BLDG 29)
- E - PARKING EXPANSION
- F - CSTC TREATMENT & RECREATION CENTER
- G - CSTC COTTAGES
- H - COMMUNITY TREATMENT FACILITY
- I - VISITOR CENTER (BY HFSA)

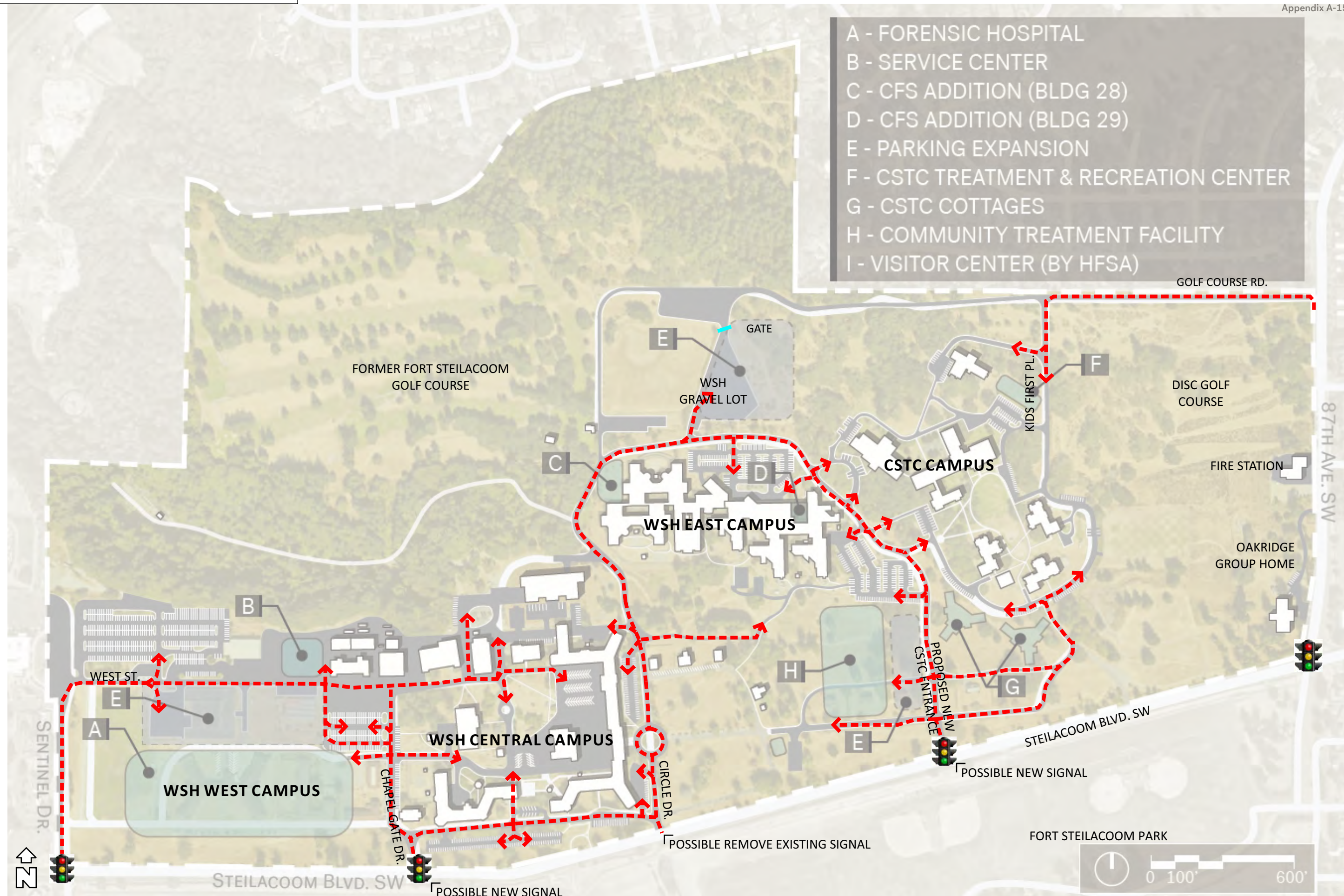


Figure 13: Proposed Action On-Campus Primary Vehicle Circulation Routes

■ PATIENT ADMISSIONS AND DISCHARGE ROUTE

Appendix A-15: Traffic Report

- A - FORENSIC HOSPITAL
- B - SERVICE CENTER
- C - CFS ADDITION (BLDG 28)
- D - CFS ADDITION (BLDG 29)
- E - PARKING EXPANSION
- F - CSTC TREATMENT & RECREATION CENTER
- G - CSTC COTTAGES
- H - COMMUNITY TREATMENT FACILITY
- I - VISITOR CENTER (BY HFSA)

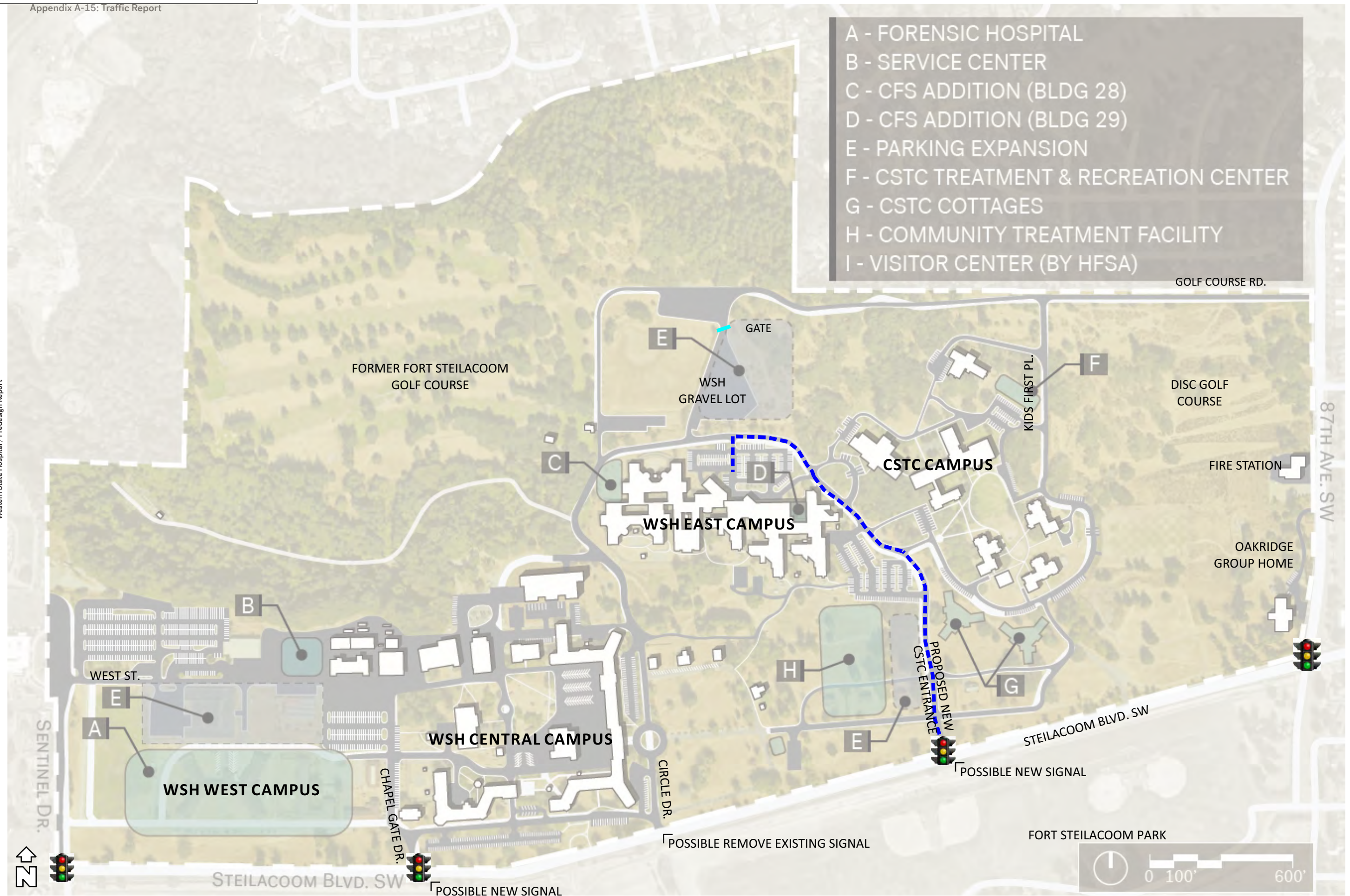


Figure 14: Proposed Action Patient Admissions and Discharge Route

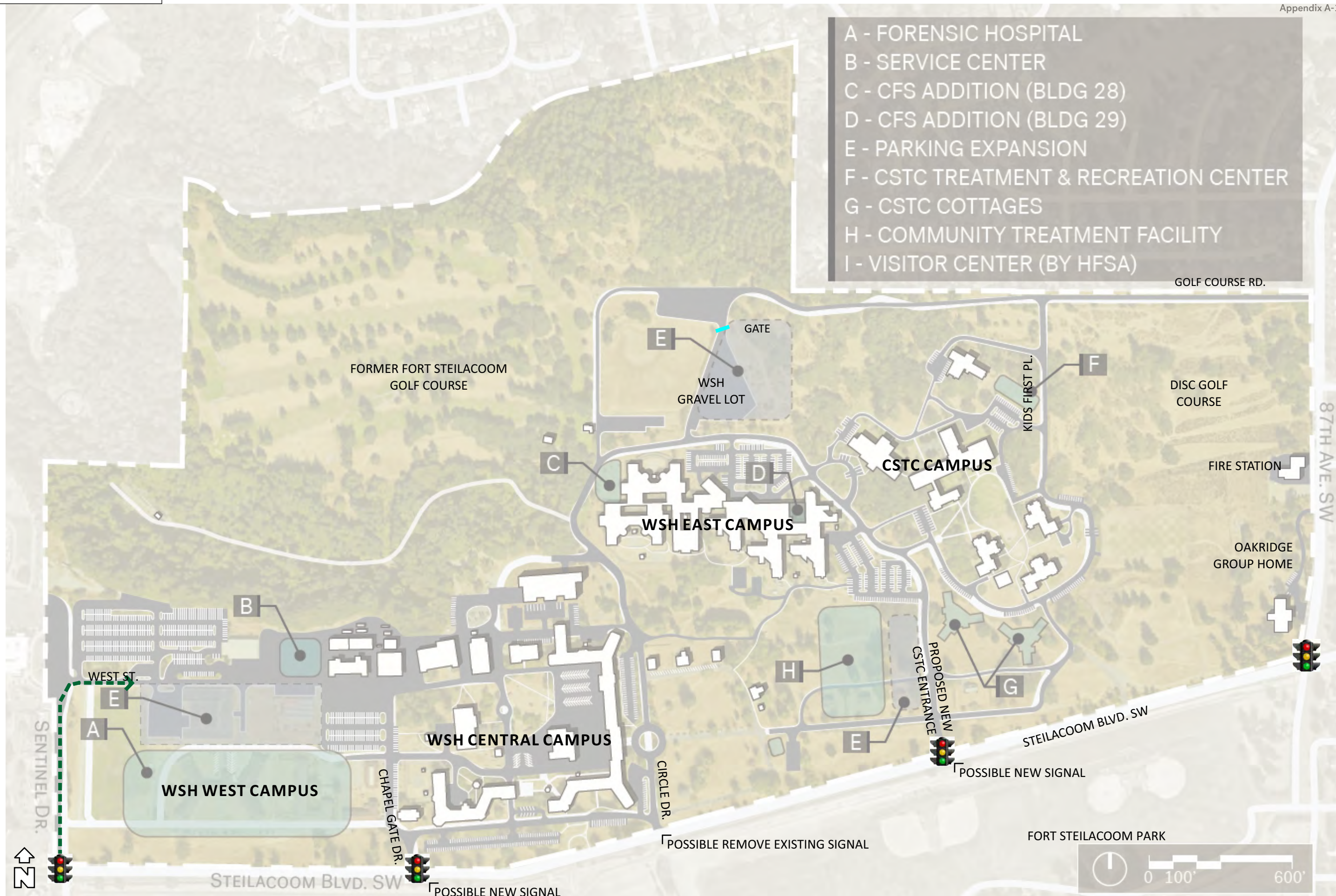


Figure 15: Proposed Action On-Campus Primary Service Vehicle Routes

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Western State Hospital

Traffic Impact Analysis

Safety

The overall future crash frequency is anticipated to be proportional to the forecasted changes in the traffic volumes and patterns around the site.

Review of the 2013-2017 crash history identified no reported crashes on 87th Ave. SW at Golf Course Rd. or on Sentinel Dr. SW at West St. or South St. At the main campus accesses off Steilacoom Blvd. SW, there were no trends or crash incidents to suggest any significant safety issue(s).

With the Proposed Action, crash incidents at the three campus driveways off Steilacoom Blvd. SW. on were reviewed in further detail to provide recommendations for enhancing access to the campus off Steilacoom Blvd SW. Reported incidents at the main campus accesses on Steilacoom Blvd. SW include:

<u>Chapel Gate Drive</u>	<u>Circle Drive</u>	<u>CSTC Entrance</u>
<ul style="list-style-type: none"> • 2 lefts-out of Chapel Gate • 1 rear-end on Steilacoom • 1 vehicle strikes deer on Steilacoom Blvd SW 	<ul style="list-style-type: none"> • 1 left-in to Circle Drive • 2 left-out of Circle Drive • 4 rear-ends on Steilacoom • 1 right-in strikes tree at Circle Drive 	<ul style="list-style-type: none"> • 1 left-out of CSTC Entrance

Most of the left-turn collisions appear to involve service or delivery vehicles, classified in the collision reports as “pickup, panel truck, or vanette under 10,000 lb” maneuvers into or out of the driveways.

To reduce the campus’ traffic impacts on 87th Ave. SW and Sentinel Dr., DSHS is proposing to enhance access to the main campus off Steilacoom Blvd. SW. Enhancement-improvements options to consider include:

- 1A. Widen the Steilacoom Blvd. SW to accommodate left-turn pockets for vehicles making left-turns into the campus. Turn pockets, allow left turning vehicles to queue separate from the major eastbound traffic flow while drivers wait for a gap in the opposing traffic to turn into the campus. The left turn pockets would reduce the rear-end crash potential on Steilacoom Blvd. SW.
- 1B. Add a center lane to Steilacoom Blvd. SW. This may include a center turn lane with medians. A center lane allows vehicles turning left from the site to enter the center lane and accelerate to merge into the eastbound traffic flow. This movement option can reduce delays and queue impacts onsite and it is generally safer for the driveway only have to discern one direction of traffic at a time.
2. Signalize the Chapel Gate Dr. and CSTC Entrance. Signalizing the driveways creates more direct access to the campus and allows for improved exiting traffic flows. By signalizing the driveways, the existing Circle Dr. signal could be removed, and the driveway could further be restricted to right-turns in and right-turns out only. Signal warrants are discussed in more detail later in this report.

It was understood that there were potential historical impacts along Steilacoom Blvd. SW that may limit the ability to widening the roadway. If viable, a widening the roadway with a center lane (Option 1B) allows for both left turn pockets and acceleration lanes.

The signals option (Option 2) will stop traffic on Steilacoom Blvd. SW combined with left turn pockets (Option 1A), would further enhance access to the campus. A drawback of the additional traffic signals is that they will increase the travel time on Steilacoom Blvd. SW.

Non-Motorized and Transit Conditions

On-campus pedestrian facilities will be upgraded to support campus activities.

As noted above the City of Lakewood and Town of Steilacoom are planning non-motorized improvements on Steilacoom Blvd. SW. The City of Lakewood's scope and timing for constructions of improvements on Steilacoom Blvd. SW including curb, gutter, sidewalk, sharrows, turn lanes, street lighting, drainage and overlay is undefined.

The Proposed Action is not forecast to change or adversely impact the current transit network.

Recommendations

The recommendations based on the Proposed Action are similar to those for the No Action.

- Circulation. Improve the campus's internal circulation by increasing the spacing between internal roadways and intersections and driveways.
- Access. Improve access to the campus by enhancing traffic flow to and from Steilacoom Blvd. SW via:
 - Install traffic control signals at Chapel Gate Dr. and at CSTC Entrance, with the intent to concentrate more traffic to these campus accesses and reduce traffic impacts on Sentinel Dr., 87th Ave. SW and Golf Course Rd. Traffic control signal installation requires certain "warrants" to be satisfied and these are discussed later in this document.
 - Widen Steilacoom Blvd. SW to provide left turn pockets and acceleration lanes to improve left turn maneuvers to and from the campus. Left turn lanes would enhance site access by providing a "pocket" off of the mainline for vehicles to queue in before making a left turn to the campus. Acceleration lanes, in the form of a center turn lane, would allow staged left turn maneuvers (left turn out of campus to turn lane to merge with opposing traffic volume). Widening requires right-of-way acquisition.
 - Remove the existing signal at Circle Drive and Steilacoom Blvd SW, and repurposing the intersection to be right-in and right-out only restricted. This will decentralize access at Circle Dr. and refocus traffic to the Chapel Gate Dr. and CSTC Entrance driveways.
 - An alternative to a traffic signal is a roundabout. Roundabouts do not create fixed stops and do not have adopted "warrant" criteria. Roundabouts do involve additional right-of-way.
 - Close or add gates (restrictions) to existing main campus access off Sentinel Dr. and Golf Course Rd. West St. could be gated and restricted for service vehicles only. Kids First Pl. could also be gated, for fire and emergency vehicle access to the site only. Also, vehicle access to campus' other secondary entrances off Golf Course Rd. could be restricted. By restricting or eliminating these access, the campus traffic would be forced to access the site off Steilacoom Blvd SW, which would mitigate neighborhood concerns with campus traffic impacting the high school and residents.
 - The Proposed Action includes new buildings nearer to the Chapel Gate Dr. and CSTC Entrance where enhanced accessibility would allow support improvements to driveway traffic control off Steilacoom Blvd SW.
- Support. DSHS should provide their support for non-motorized and turn lane improvements on Steilacoom Blvd. SW, planned by both the Town of Steilacoom and City of Lakewood. The Proposed Action to support improvements by the Town of Steilacoom and City of Lakewood.
- Parking. Consolidate, mark, pave and manage parking areas to reduce parking sprawl on campus. Designate areas for staff based on the location and function of employees. The Proposed Action is consolidating parking and parking designations will be addressed with building-out of the site.

Signal Warrants

The MUTCD, published by the FHWA, includes the national guidance for supporting the installation of traffic control signals. The MUTCD outlines criteria to support the installation of a new traffic signal.

This following evaluates traffic volume conditions based on MUTCD Warrant 1, Eight-Hour Vehicular Volume, Warrant 2, Four-Hour Vehicular Volume, and Warrant 3, Peak Hour, as applied to the Chapel Gate Dr., Circle Dr. and CSTC Entrance driveways. The warrants were developed using the daily traffic volume data.

This analysis assumes that the volumes generated to/from the Circle Dr. intersection with Steilacoom Blvd. SW are reduced and that the driveway is restricted to right-in/right-out movements only, consistent with the recommendations in the previous section. Reducing the traffic impacts at Circle Dr., shifts more traffic to the Chapel Gate Dr. and CSTC Entrance driveways. The peak hour volume shift is illustrated in Figure 17.

Warrant 1, Eight-Hour Vehicular Volume

The eight-hour vehicular volume warrant criteria and analysis is provided in the charts included in Tables 17-19. The analysis incorporates conditions assuming the 85th-percentile vehicle speeds on Steilacoom Blvd. SW are above 40 mph. The analysis shows that with the forecasted conditions the warrant criteria are not met for eight consecutive hours of a typical day.

Warrant 2, Four-Hour Vehicular Volume

The four-hour vehicular volumes are evaluated Figure 18. The analysis incorporates conditions assuming the 85th-percentile vehicle speeds on Steilacoom Blvd. SW are above 40 mph. The analysis shows that with the forecasted conditions the four-hour warrant criteria are met at the Chapel Gate Dr. campus driveway, using the 70% volume conditions.

The warrant criteria are met for only three consecutive hours at the CSTC Entrance campus driveway.

Warrant 3, Peak Hour

The vehicular volume portion of the peak hour warrant is evaluated in Figure 19. The analysis incorporates conditions assuming the 85th-percentile vehicle speeds on Steilacoom Blvd. SW are above 40 mph. The analysis shows that with the forecasted conditions the peak hour volume portion of the warrant is satisfied at both the Chapel Gate Dr. and the CSTC Entrance campus driveways using the 100% volume conditions.

The peak hour warrant conditions are unique and also require analysis for excessive delays. The delay criteria of the warrant will not be satisfied based on the forecasted traffic conditions.

Warrant Conclusions

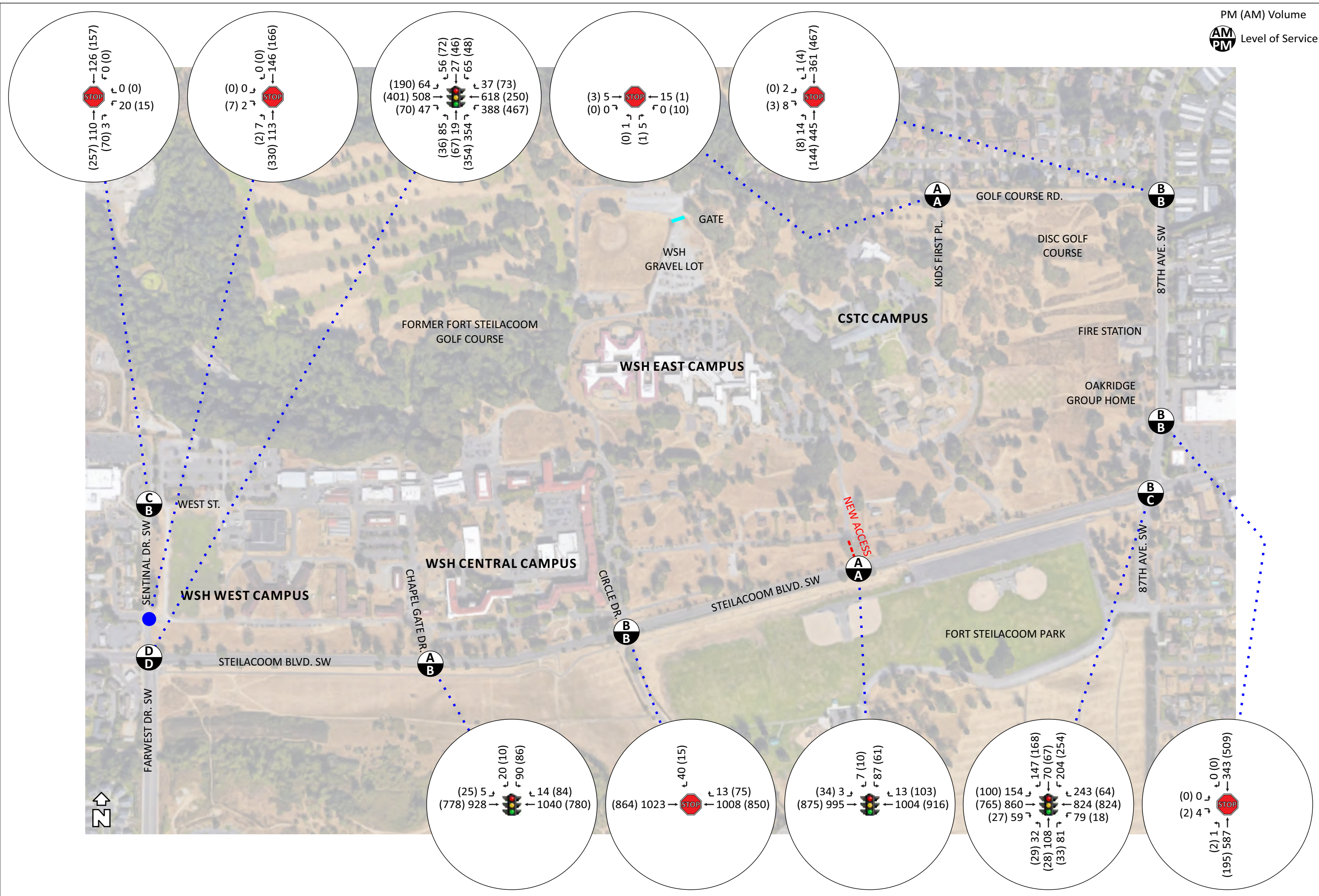
Warrant 2, the four-hour vehicular volumes warrant is nearly satisfied for the future conditions. Additional campus access restrictions to further limit use of Golf Course Rd. and Sentinel Dr. SW to access to the campus could allow the traffic conditions to support the warrant criteria.

The four-lane cross-section on Steilacoom Blvd. SW could support the signalized access controls to increase safety for left turning vehicles along this section of the roadway. Additionally, while the pedestrian volumes were low, the addition of signalized access, would allow additional controlled crossings of Steilacoom Blvd. SW to Fort Steilacoom Park to promote the park's usage.

A LOS of service analysis with traffic control signals at Chapel Gate Dr. and CSCT Entrance driveways is provided as Table 20.

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Figure 12: Future Proposed Action AM and PM Peak Hour Traffic Volumes



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Western State Hospital

Traffic Impact Analysis

Table 17: 2030 Proposed Action Warrant 1 – Chapel Gate Dr.

	Condition A			Condition A			Condition A			Condition A		
	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met
	100%	100%	Y/N?	80%	80%	Y/N?	70%	70%	Y/N?	56%	56%	Y/N?
	150	600		120	480		105	420		84	336	
12 AM	0%	16%	N	0%	20%	N	0%	23%	N	0%	29%	N
1 AM	0%	8%	N	0%	10%	N	0%	12%	N	0%	15%	N
2 AM	0%	7%	N	0%	8%	N	0%	9%	N	0%	12%	N
3 AM	0%	11%	N	0%	13%	N	0%	15%	N	0%	19%	N
4 AM	4%	21%	N	5%	26%	N	6%	29%	N	8%	37%	N
5 AM	6%	83%	N	7%	103%	N	8%	118%	N	10%	148%	N
6 AM	30%	167%	N	38%	209%	N	43%	239%	N	54%	298%	N
7 AM	23%	265%	N	29%	331%	N	33%	379%	N	41%	473%	N
8 AM	14%	212%	N	18%	265%	N	20%	303%	N	26%	379%	N
9 AM	26%	200%	N	32%	250%	N	37%	286%	N	46%	358%	N
10 AM	20%	180%	N	25%	225%	N	29%	257%	N	36%	322%	N
11 AM	34%	202%	N	43%	253%	N	49%	289%	N	61%	362%	N
12 PM	50%	217%	N	63%	271%	N	72%	310%	N	90%	387%	N
1 PM	46%	209%	N	57%	261%	N	66%	298%	N	82%	373%	N
2 PM	70%	264%	N	88%	330%	N	100%	377%	Y	125%	472%	Y
3 PM	136%	266%	Y	170%	332%	Y	195%	379%	Y	243%	474%	Y
4 PM	100%	287%	Y	125%	359%	Y	143%	410%	Y	179%	513%	Y
5 PM	42%	294%	N	52%	367%	N	59%	420%	N	74%	525%	N
6 PM	19%	218%	N	23%	272%	N	27%	311%	N	33%	388%	N
7 PM	17%	184%	N	22%	230%	N	25%	262%	N	31%	328%	N
8 PM	9%	152%	N	11%	190%	N	12%	217%	N	15%	272%	N
9 PM	10%	109%	N	13%	136%	N	14%	156%	N	18%	195%	N
10 PM	33%	79%	N	41%	99%	N	47%	113%	N	59%	142%	N
11 PM	30%	40%	N	38%	50%	N	43%	57%	N	54%	71%	N
	Condition B			Condition B			Condition B			Condition B		
	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met
	100%	100%	Y/N?	80%	80%	Y/N?	70%	70%	Y/N?	56%	56%	Y/N?
	75	900		60	720		53	630		42	504	
12 AM	0%	11%	N	0%	14%	N	0%	16%	N	0%	19%	N
1 AM	0%	6%	N	0%	7%	N	0%	8%	N	0%	10%	N
2 AM	0%	4%	N	0%	5%	N	0%	6%	N	0%	8%	N
3 AM	0%	7%	N	0%	9%	N	0%	10%	N	0%	13%	N
4 AM	9%	14%	N	11%	17%	N	12%	20%	N	15%	25%	N
5 AM	11%	55%	N	14%	69%	N	16%	79%	N	20%	99%	N
6 AM	60%	111%	N	75%	139%	N	85%	159%	N	108%	199%	Y
7 AM	46%	177%	N	57%	221%	N	65%	253%	N	82%	316%	N
8 AM	29%	141%	N	36%	177%	N	41%	202%	N	51%	252%	N
9 AM	52%	134%	N	65%	167%	N	73%	191%	N	92%	238%	N
10 AM	40%	120%	N	50%	150%	N	57%	172%	N	72%	215%	N
11 AM	69%	135%	N	86%	169%	N	97%	193%	N	123%	241%	Y
12 PM	100%	145%	Y	125%	181%	Y	142%	207%	Y	179%	258%	Y
1 PM	92%	139%	N	115%	174%	Y	130%	199%	Y	164%	249%	Y
2 PM	140%	176%	Y	176%	220%	Y	199%	252%	Y	251%	315%	Y
3 PM	272%	177%	Y	340%	221%	Y	385%	253%	Y	486%	316%	Y
4 PM	201%	192%	Y	251%	239%	Y	284%	274%	Y	358%	342%	Y
5 PM	83%	196%	N	104%	245%	Y	118%	280%	Y	148%	350%	Y
6 PM	37%	145%	N	47%	181%	N	53%	207%	N	67%	259%	N
7 PM	34%	122%	N	43%	153%	N	49%	175%	N	61%	219%	N
8 PM	17%	101%	N	22%	127%	N	24%	145%	N	31%	181%	N
9 PM	20%	73%	N	25%	91%	N	28%	104%	N	36%	130%	N
10 PM	66%	53%	N	82%	66%	N	93%	76%	N	118%	95%	N
11 PM	60%	26%	N	75%	33%	N	85%	38%	N	108%	47%	N

Assumes Circle Dr. volumes are reduced, and driveway is restricted to rights-in and rights-out

Condition A (100%) criteria satisfied if met for 8-hours of an average day -or-
 Condition B (100%) criteria satisfied if met for 8-hours of an average day -or-
 Conditions A & B (80%) criteria satisfied if met for 8-hours of an average day

Condition A (70%) criteria satisfied if met for 8-hours of an average day -or-
 Condition B (70%) criteria satisfied if met for 8-hours of an average day -or-
 Conditions A & B (56%) criteria satisfied if met for 8-hours of an average day
 * 85th percentile speed on the Steilacoom Blvd. SW exceeds 40 mph

WARRANT MET: NO

WARRANT MET: NO

Table 18: 2030 Proposed Action Warrant 1 – Circle Dr.

	Condition A			Condition A			Condition A			Condition A		
	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met
	100%	100%	Y/N?	80%	80%	Y/N?	70%	70%	Y/N?	56%	56%	Y/N?
	150	600		120	480		105	420		84	336	
12 AM	1%	17%	N	2%	22%	N	2%	25%	N	3%	31%	N
1 AM	0%	9%	N	1%	11%	N	1%	12%	N	1%	15%	N
2 AM	1%	7%	N	2%	9%	N	2%	10%	N	3%	12%	N
3 AM	2%	12%	N	3%	15%	N	3%	18%	N	4%	22%	N
4 AM	1%	23%	N	2%	28%	N	2%	33%	N	2%	41%	N
5 AM	6%	89%	N	7%	112%	N	8%	128%	N	10%	160%	N
6 AM	16%	192%	N	20%	241%	N	23%	275%	N	29%	344%	N
7 AM	17%	285%	N	21%	357%	N	24%	408%	N	30%	510%	N
8 AM	5%	222%	N	6%	278%	N	7%	317%	N	9%	396%	N
9 AM	5%	206%	N	7%	258%	N	8%	295%	N	10%	368%	N
10 AM	5%	187%	N	6%	234%	N	7%	267%	N	9%	334%	N
11 AM	9%	213%	N	11%	266%	N	12%	304%	N	15%	381%	N
12 PM	12%	232%	N	15%	289%	N	17%	331%	N	21%	413%	N
1 PM	10%	219%	N	13%	274%	N	15%	313%	N	19%	391%	N
2 PM	19%	288%	N	24%	360%	N	27%	412%	N	34%	515%	N
3 PM	28%	283%	N	35%	353%	N	40%	404%	N	50%	505%	N
4 PM	19%	299%	N	24%	373%	N	27%	427%	N	34%	533%	N
5 PM	8%	300%	N	10%	375%	N	12%	428%	N	15%	535%	N
6 PM	9%	224%	N	11%	280%	N	12%	320%	N	15%	400%	N
7 PM	2%	185%	N	3%	232%	N	3%	265%	N	4%	331%	N
8 PM	3%	155%	N	3%	193%	N	4%	221%	N	5%	276%	N
9 PM	2%	112%	N	3%	140%	N	3%	160%	N	4%	200%	N
10 PM	12%	97%	N	15%	121%	N	17%	138%	N	21%	172%	N
11 PM	12%	47%	N	15%	58%	N	18%	67%	N	22%	83%	N
	Condition B			Condition B			Condition B			Condition B		
	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met
	100%	100%	Y/N?	80%	80%	Y/N?	70%	70%	Y/N?	56%	56%	Y/N?
	105	420		84	336		53	630		42	504	
12 AM	3%	12%	N	4%	15%	N	4%	17%	N	5%	21%	N
1 AM	1%	6%	N	1%	7%	N	1%	8%	N	1%	10%	N
2 AM	3%	5%	N	4%	6%	N	4%	7%	N	5%	8%	N
3 AM	5%	8%	N	6%	10%	N	6%	12%	N	8%	15%	N
4 AM	2%	15%	N	3%	19%	N	3%	22%	N	4%	27%	N
5 AM	12%	60%	N	15%	75%	N	17%	85%	N	21%	106%	N
6 AM	33%	128%	N	41%	160%	N	46%	183%	N	58%	229%	N
7 AM	33%	190%	N	42%	238%	N	47%	272%	N	60%	340%	N
8 AM	10%	148%	N	12%	185%	N	14%	211%	N	18%	264%	N
9 AM	11%	137%	N	14%	172%	N	15%	196%	N	20%	245%	N
10 AM	10%	125%	N	13%	156%	N	14%	178%	N	18%	223%	N
11 AM	17%	142%	N	22%	178%	N	25%	203%	N	31%	254%	N
12 PM	23%	154%	N	29%	193%	N	33%	220%	N	41%	276%	N
1 PM	21%	146%	N	26%	182%	N	29%	209%	N	37%	261%	N
2 PM	38%	192%	N	48%	240%	N	54%	275%	N	68%	343%	N
3 PM	57%	188%	N	71%	236%	N	80%	269%	N	101%	337%	Y
4 PM	38%	199%	N	48%	249%	N	54%	284%	N	69%	356%	N
5 PM	16%	200%	N	20%	250%	N	23%	286%	N	29%	357%	N
6 PM	17%	149%	N	21%	187%	N	24%	213%	N	30%	267%	N
7 PM	4%	123%	N	5%	154%	N	6%	176%	N	8%	220%	N
8 PM	5%	103%	N	7%	129%	N	8%	147%	N	10%	184%	N
9 PM	5%	75%	N	6%	93%	N	6%	107%	N	8%	133%	N
10 PM	24%	64%	N	30%	80%	N	34%	92%	N	43%	115%	N
11 PM	25%	31%	N	31%	39%	N	35%	44%	N	44%	55%	N

Assumes Circle Dr. volumes are reduced, and driveway is restricted to rights-in and rights-out

Condition A (100%) criteria satisfied if met for 8-hours of an average day -or-
 Condition B (100%) criteria satisfied if met for 8-hours of an average day -or-
 Conditions A & B (80%) criteria satisfied if met for 8-hours of an average day

Condition A (70%) criteria satisfied if met for 8-hours of an average day -or-
 Condition B (70%) criteria satisfied if met for 8-hours of an average day -or-
 Conditions A & B (56%) criteria satisfied if met for 8-hours of an average day
 * 85th percentile speed on the Steilacoom Blvd. SW exceeds 40 mph

WARRANT MET: NO

WARRANT MET: NO

Western State Hospital

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Table 19: 2030 Proposed Action Warrant 1 – CSTS Entrance

	Condition A			Condition A			Condition B			Condition B		
	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met
	100%	100%	Y/N?	80%	80%	Y/N?	100%	100%	Y/N?	80%	80%	Y/N?
	150	600		120	480		75	900		60	720	
12 AM	0%	19%	N	0%	23%	N	0%	27%	N	0%	33%	N
1 AM	0%	9%	N	0%	11%	N	0%	12%	N	0%	16%	N
2 AM	0%	7%	N	0%	9%	N	0%	10%	N	0%	13%	N
3 AM	0%	14%	N	0%	17%	N	0%	20%	N	0%	25%	N
4 AM	0%	25%	N	0%	31%	N	0%	36%	N	0%	44%	N
5 AM	5%	96%	N	6%	120%	N	7%	137%	N	9%	172%	N
6 AM	21%	218%	N	26%	272%	N	30%	311%	N	37%	389%	N
7 AM	47%	306%	N	58%	382%	N	66%	437%	N	83%	546%	N
8 AM	20%	232%	N	25%	290%	N	28%	332%	N	35%	414%	N
9 AM	22%	212%	N	27%	265%	N	31%	303%	N	39%	379%	N
10 AM	21%	194%	N	26%	242%	N	30%	277%	N	37%	346%	N
11 AM	35%	224%	N	44%	280%	N	50%	320%	N	63%	399%	N
12 PM	43%	246%	N	54%	308%	N	62%	351%	N	78%	439%	N
1 PM	24%	229%	N	30%	286%	N	34%	327%	N	42%	409%	N
2 PM	79%	312%	N	98%	390%	N	112%	446%	Y	140%	558%	Y
3 PM	103%	300%	Y	129%	375%	Y	148%	428%	Y	185%	536%	Y
4 PM	54%	310%	N	67%	387%	N	77%	443%	N	96%	554%	N
5 PM	31%	306%	N	39%	382%	N	44%	437%	N	55%	546%	N
6 PM	26%	231%	N	32%	288%	N	37%	330%	N	46%	412%	N
7 PM	18%	187%	N	22%	233%	N	25%	267%	N	31%	333%	N
8 PM	16%	157%	N	19%	196%	N	22%	224%	N	28%	280%	N
9 PM	7%	115%	N	9%	144%	N	10%	164%	N	13%	206%	N
10 PM	63%	114%	N	79%	142%	N	90%	162%	N	113%	203%	Y
11 PM	51%	54%	N	63%	67%	N	72%	77%	N	90%	96%	N
	Condition A			Condition A			Condition B			Condition B		
	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met	MINOR	MAJOR	Met
	70%	70%	Y/N?	56%	56%	Y/N?	70%	70%	Y/N?	56%	56%	Y/N?
	105	420		84	336		53	630		42	504	
12 AM	0%	12%	N	0%	15%	N	0%	18%	N	0%	22%	N
1 AM	0%	6%	N	0%	7%	N	0%	8%	N	0%	10%	N
2 AM	0%	5%	N	0%	6%	N	0%	7%	N	0%	9%	N
3 AM	0%	9%	N	0%	11%	N	0%	13%	N	0%	16%	N
4 AM	0%	17%	N	0%	21%	N	0%	24%	N	0%	30%	N
5 AM	5%	64%	N	6%	80%	N	7%	92%	N	9%	114%	N
6 AM	21%	145%	N	26%	182%	N	30%	208%	N	37%	259%	N
7 AM	47%	204%	N	58%	255%	N	66%	291%	N	83%	364%	N
8 AM	20%	155%	N	25%	193%	N	28%	221%	N	35%	276%	N
9 AM	22%	141%	N	27%	177%	N	31%	202%	N	39%	253%	N
10 AM	21%	129%	N	26%	162%	N	30%	185%	N	37%	231%	N
11 AM	35%	149%	N	44%	186%	N	50%	213%	N	63%	266%	N
12 PM	43%	164%	N	54%	205%	N	62%	234%	N	78%	293%	N
1 PM	24%	153%	N	30%	191%	N	34%	218%	N	42%	273%	N
2 PM	79%	208%	N	98%	260%	N	112%	298%	Y	140%	372%	Y
3 PM	103%	200%	Y	129%	250%	Y	148%	286%	Y	185%	357%	Y
4 PM	54%	207%	N	67%	258%	N	77%	295%	N	96%	369%	N
5 PM	31%	204%	N	39%	255%	N	44%	291%	N	55%	364%	N
6 PM	26%	154%	N	32%	192%	N	37%	220%	N	46%	275%	N
7 PM	18%	124%	N	22%	156%	N	25%	178%	N	31%	222%	N
8 PM	16%	105%	N	19%	131%	N	22%	149%	N	28%	187%	N
9 PM	7%	77%	N	9%	96%	N	10%	110%	N	13%	137%	N
10 PM	63%	76%	N	79%	95%	N	90%	108%	N	113%	135%	Y
11 PM	51%	36%	N	63%	45%	N	72%	51%	N	90%	64%	N

Assumes Circle Dr. volumes are reduced, and driveway is restricted to rights-in and rights-out

Condition A (100%) criteria satisfied if met for 8-hours of an average day -or-
 Condition B (100%) criteria satisfied if met for 8-hours of an average day -or-
 Conditions A & B (80%) criteria satisfied if met for 8-hours of an average day

Condition A (70%) criteria satisfied if met for 8-hours of an average day -or-
 Condition B (70%) criteria satisfied if met for 8-hours of an average day -or-
 Conditions A & B (56%) criteria satisfied if met for 8-hours of an average day
 * 85th percentile speed on the Steilacoom Blvd. SW exceeds 40 mph

WARRANT MET: NO

WARRANT MET: NO



Figure 17: Four-Hour Vehicular Volume Warrant Analysis

Western State Hospital / Appendix

Western State Hospital

Traffic Impact Analysis

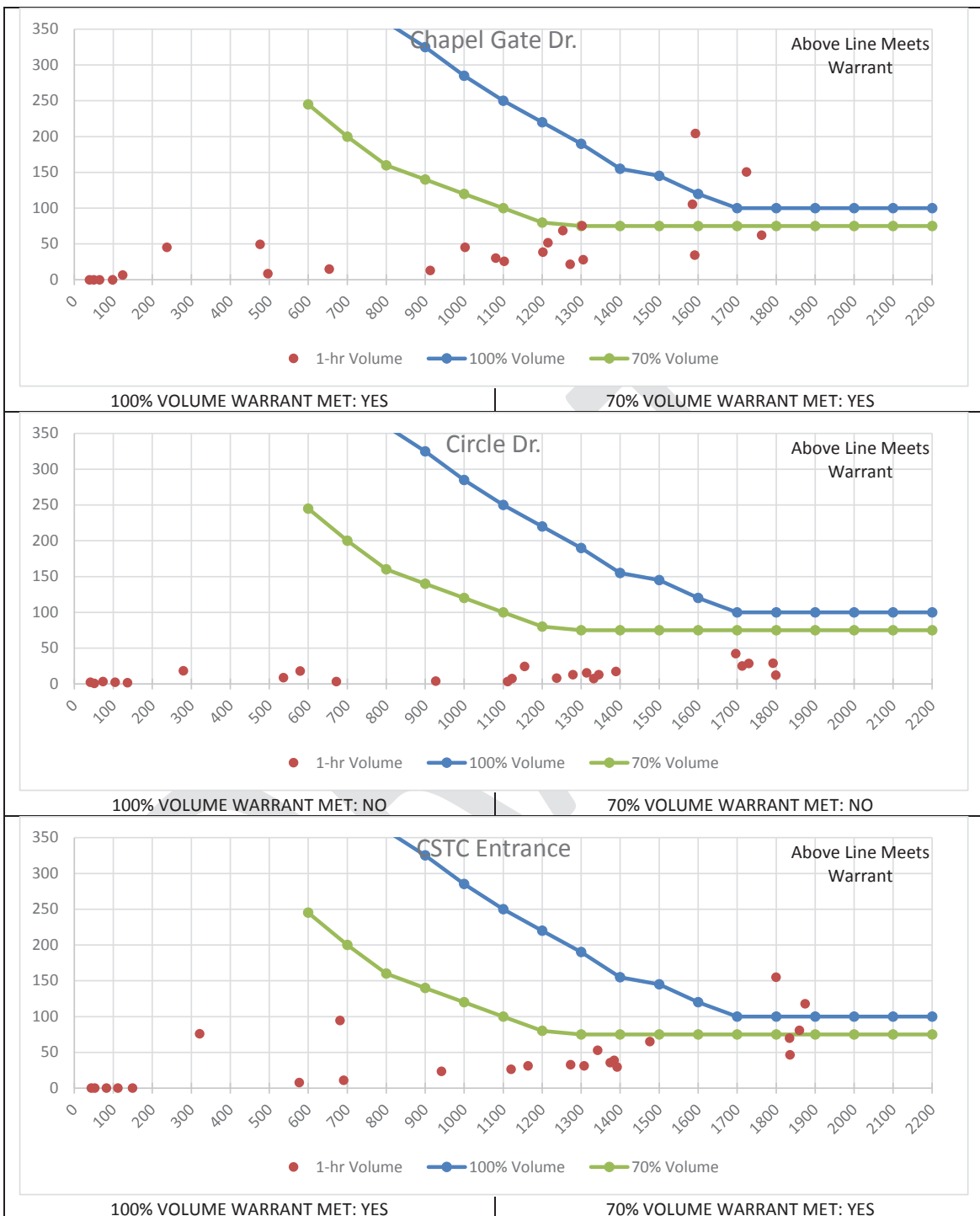
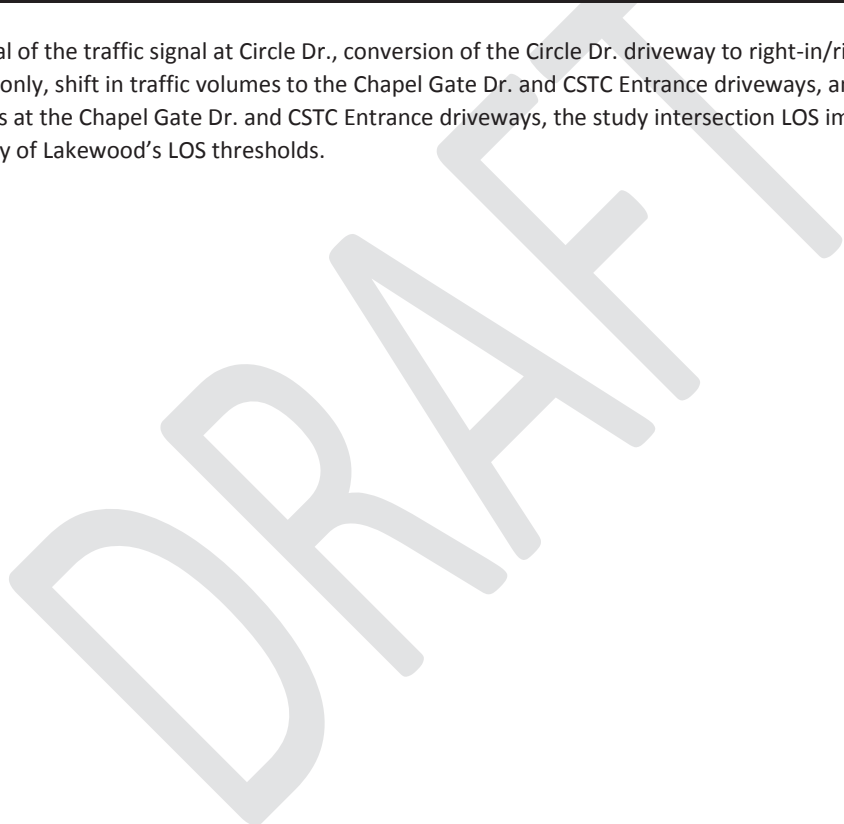


Figure 18: Peak Hour Volume Warrant Analysis

Table 20: Proposed Action AM and PM Peak Hour Intersection Level-of-Service with Access Changes

Intersection	Control	AM Peak Hour				PM Peak Hour			
		Proposed Action		Access Change		Proposed Action		Access Change	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Sentinel Dr. / West St.	WB Stop	C	20.0	C	20.0	B	11.3	B	11.3
Sentinel Dr. / South St.	WB Stop	Closed		Closed		Closed		Closed	
Farwest Dr. / Steilacoom Blvd.	Signal	D	36.0	D	36.0	D	41.7	D	40.1
Chapel Gate Dr. / Steilacoom Blvd.	Signal	C	19.9	A	4.9	F	51.1	B	11.0
Circle Dr. / Steilacoom Blvd.	SB Stop	A	5.1	B	12.3	B	14.5	B	13.0
CSTC Entrance / Steilacoom Blvd.	Signal	F	94.1	A	4.7	F	83.6	A	4.8
87th Ave. / Steilacoom Blvd.	Signal	B	19.3	B	19.3	C	21.8	C	21.8
87th Ave. / Oakridge Group Home	EB Stop	B	11.7	B	11.7	B	10.4	B	10.4
87th Ave. / Golf Course Rd.	EB Stop	B	11.7	B	11.7	B	11.1	B	11.1
Kids First Pl. / Golf Course Rd.	NB Stop	A	8.3	A	8.3	A	8.4	A	8.4

With removal of the traffic signal at Circle Dr., conversion of the Circle Dr. driveway to right-in/right-out movements only, shift in traffic volumes to the Chapel Gate Dr. and CSTC Entrance driveways, and installation of traffic signals at the Chapel Gate Dr. and CSTC Entrance driveways, the study intersection LOS improve and all meet the City of Lakewood’s LOS thresholds.



Western State Hospital

Traffic Impact Analysis

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Appendix

Western State Hospital / Appendix



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May 27, 2020

To: Craig Tompkins, AIA, LEED AP
 SRG Partnership, Inc.

From: Jeff Hee, Transportation Solutions, Inc.

Subject: Western State Hospital Master Plan Updated Bed Matrix
 Summary of Preliminary Traffic Analysis Findings

This memorandum summarizes the preliminary traffic analysis findings for the Western State Hospital (WSH) Master Plan with the current updated bed matrix.

Table 1 summarizes the current bed matrix.

Table 1: Bed Matrix

	2019 Existing	In-Development	Near-Term (1 to 5 yrs.)	Mid-Term (6 to 10 yrs.)	Long-Term (10+ yrs.)
Bed Type					
Total Beds	862	978	923	748	814
Total Civil Beds	470	470	415	153	201
Total Forensic Beds	345	443	443	530	530
Total Adolescent Beds	47	65	65	65	83
Breakdown by Use					
Civil/Forensic Beds	815	913	858	333	333
CSTC Beds	47	65	65	65	83
New CFS Hospital Beds	0	0	0	350	350
Community RTF Beds	0	0	0	0	48
Total Beds	862	978	923	748	814

Trip Generation

Table 2 summarizes the trip generation forecast.

Table 2: Trip Generation Forecast

	2019 Exist. # of Beds	2019 Exist. Trips	2019 Exist. % In/Out	Trip Rate (Trips/Bed)			
AM Generator (6:30-7:30 AM)	862	828	66/34	0.91			
AM Peak Hour (7:00-8:00 AM)	862	677	67/33	0.75			
PM Generator (2:15-3:15 PM)	862	764	41/59	0.84			
PM Peak Hour (4:00-5:00 PM)	862	366	16/84	0.40			
Daily Trips	862	6,046	48/52	6.67			



Table 2: Trip Generation Forecast

	Trip Rate (Trips/Bed)	In-Dev. # of Beds	In-Dev. Trips	Change from Existing	Near-Term # of Beds	Near-Term Trips	Change from In-Dev.
AM Generator (6:30-7:30 AM)	0.91	978	939	+111	923	887	(52)
AM Peak Hour (7:00-8:00 AM)	0.75	978	768	+91	923	725	(43)
PM Generator (2:15-3:15 PM)	0.84	978	867	+103	923	818	(49)
PM Peak Hour (4:00-5:00 PM)	0.40	978	415	+49	923	392	(23)
Daily Trips	6.67	978	6,860	+814	923	6,474	(386)
	Trip Rate (Trips/Bed)	Mid-Term # of Beds	Mid-Term Trips	Change from Near-Term	Long-Term # of Beds	Long-Term Trips	Change from Mid-Term
AM Generator (6:30-7:30 AM)	0.91	748	718	(169)	814	782	+64
AM Peak Hour (7:00-8:00 AM)	0.75	748	587	(138)	814	639	+52
PM Generator (2:15-3:15 PM)	0.84	748	663	(155)	814	721	+58
PM Peak Hour (4:00-5:00 PM)	0.40	748	318	(74)	814	346	+28
Daily Trips	6.67	748	5,246	(1,228)	814	5,709	+463

The January 2020 Traffic Impact Analysis focused on analyses of AM peak hour (7:00-8:00 AM) and PM peak hour (4:00-6:00 PM) traffic conditions, representing the times when the volume of traffic, or traffic congestion, on the local roadways are highest.

Tables 3 and 4 compare the AM and PM peak hour trips generated at the major campus accesses. For analysis, the driveways on Sentinel Drive at West Street and South Street are combined and Kids First Place and access to the former golf course/existing gravel lot are combined.

Table 3: AM Peak Hour (7:00-8:00 AM) Trips by Driveway

	Sentinel Drive			Chapel Gate			Circle Drive			CSTC East Drwy.			Golf Course Rd.		
	In	Out	Tot.	In	Out	Tot.	In	Out	Tot.	In	Out	Tot.	In	Out	Tot.
2019 Existing	85	14	99	117	16	133	124	134	258	118	56	174	11	2	13
In-Development	85	14	99	117	16	133	151	148	299	148	72	220	15	2	17
Near-Term (1-5 yrs.)	85	14	99	117	16	131	136	140	276	134	66	200	15	2	17
Mid-Term (6-10 yrs.)	73	12	85	101	13	114	102	113	215	105	53	158	14	2	16
Long Term (10+ yrs.)	73	12	85	101	13	114	102	113	215	138	68	206	17	3	20

Table 4: PM Peak Hour (4:00-6:00 PM) Trips by Driveway

	Sentinel Drive			Chapel Gate			Circle Drive			CSTC East Drwy.			Golf Course Rd.		
	In	Out	Tot.	In	Out	Tot.	In	Out	Tot.	In	Out	Tot.	In	Out	Tot.
2019 Existing	3	20	23	9	70	79	18	157	175	11	50	61	19	9	28
In-Development	3	20	23	9	70	79	20	184	204	14	63	77	22	11	33
Near-Term (1-5 yrs.)	3	20	23	9	70	79	19	169	188	13	58	71	20	11	31
Mid-Term (6-10 yrs.)	3	17	20	8	61	69	15	131	146	11	47	58	15	10	25
Long Term (10+ yrs.)	3	17	20	8	61	69	15	131	146	37	63	100	15	12	27



Intersection Level-of-Service

Tables 5 and 6 summarize the intersection LOS and delay analyses for the study intersections and campus driveways. The LOS and delay computations were updated to the current HCM 6 methodologies.

Future conditions include a 1% annual growth to represent background traffic growth in and through the study area. We note that the traffic volumes from high school and campus were not “grown” using a growth rate.

- The campus trips were distributed based on the existing conditions.
- The In-Development conditions, represent campus build-out currently permitted within the pipeline. The number of beds In-Development represent a greater bed scenario compared to the Master Plan.
- Year 2024 In-Development conditions includes traffic growth between 2019 and 2024 and represent current build-out plans through the proposed Near-Term (1-5 years) Master Plan conditions.
- Year 2030 In-Development conditions includes traffic growth between 2019 and 2030 and represent current build-out plans through the proposed Long-Term (10+ years) Master Plan conditions. This replaces the “No Action” condition from the traffic impact analysis report.
- Year 2030 Long-Term conditions includes traffic growth between 2019 and 2030 and represent the full build-out of the Master Plan with new CFS hospital beds and a new community RTF facility. The Long-Term conditions assume the South Street driveway is closed, unlike the In-Development conditions.

Table 5: AM Peak Hour Intersection LOS and Delay

Intersection	Control	2019 Existing		2024 In-Dev.		2030 In-Dev.		2030 Long-Term	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Sentinel Dr. / West St.	WB Stop	C	19.1	C	19.1	C	19.1	C	20.0
Sentinel Dr. / South St.	WB Stop	C	22.1	C	18.8	C	18.8	-	-
Farwest Dr. / Steilacoom Blvd.	Signal	C	28.1	C	29.8	C	31.7	D	35.7
Chapel Gate Dr. / Steilacoom Blvd.	SB Stop	C	15.2	C	15.9	C	16.7	C	19.9
Circle Dr. / Steilacoom Blvd.	Signal	A	5.8	A	5.9	A	5.9	A	5.7
CSTC Entrance / Steilacoom Blvd.	SB Stop	F	52.7	F	84.3	F	105.2	F	94.1
87th Ave. / Steilacoom Blvd.	Signal	B	16.6	B	17.2	B	18.0	B	19.3
87th Ave. / Oakridge Group Home	EB Stop	B	10.9	B	11.1	B	11.3	B	11.7
87th Ave. / Golf Course Rd.	EB Stop	B	10.9	B	11.1	B	11.3	B	11.7
Kids First Pl. / Golf Course Rd.	NB Stop	A	8.3	A	8.4	A	8.4	A	8.3

Table 6: PM Peak Hour Intersection LOS and Delay

Intersection	Control	2019 Existing		2024 In-Dev.		2030 In-Dev.		2030 Long-Term	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Sentinel Dr. / West St.	WB Stop	B	11.3	B	11.3	B	11.3	B	11.3
Sentinel Dr. / South St.	WB Stop	B	10.8	B	10.8	B	10.8	-	-
Farwest Dr. / Steilacoom Blvd.	Signal	C	33.4	C	34.9	D	36.8	D	36.6
Chapel Gate Dr. / Steilacoom Blvd.	SB Stop	D	32.8	E	36.9	E	43.4	E	40.2
Circle Dr. / Steilacoom Blvd.	Signal	B	17.7	B	17.4	B	17.5	B	17.7
CSTC Entrance / Steilacoom Blvd.	SB Stop	E	39.9	F	56.1	F	68.6	F	62.2
87th Ave. / Steilacoom Blvd.	Signal	B	18.8	B	19.4	C	20.1	C	20.0
87th Ave. / Oakridge Group Home	EB Stop	A	9.9	B	10.0	B	10.2	B	10.2
87th Ave. / Golf Course Rd.	EB Stop	B	10.6	B	10.9	B	11.1	B	10.9
Kids First Pl. / Golf Course Rd.	NB Stop	A	8.4	A	8.5	A	8.5	A	8.4



Craig Tompkins, SRG Partnership, Inc.
 Western State Hospital Master Plan Updated Bed Matrix
 Summary of Preliminary Traffic Analysis Findings
 May 27, 2020
 Page 4 of 4

In general, the traffic conditions are similar to the those from the traffic impact analysis. The campus' updated existing bed-mix does change the distribution of trips to the campus driveways based on the bed locations in the west, central and east sides of the campus.

Overall, the In-Development conditions are forecast to generate more trips compared to the Existing and Long-Term conditions. In 2024, while trips generated by the campus are higher, under the Long-Term conditions, the traffic volumes on Sentinel Drive, Steilacoom Blvd SW and 87th Ave SW are expected to higher in year 2030.

The study intersections are forecast to operate at LOS D or better and satisfy the City of Lakewood's intersection LOS threshold, except the Chapel Gate and CSTC Entrance driveways off Steilacoom Blvd. SW.

- In the AM peak hour, the Chapel Gate Dr. stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS C, under the 2019 Existing, 2024 In-Development, 2030 In-Development, and 2030 Long-Term conditions. In the PM peak hour, the Chapel Gate Dr. stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS D, under the 2019 Existing condition, and LOS E, under the 2024 In-Development, 2030 In-Development, and 2030 Long-Term conditions.
- In the AM peak hour, the CSTC Entrance stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS F, under the 2019 Existing condition, and LOS E, under 2024 In-Development, 2030 In-Development, and 2030 Long-Term conditions. In the PM peak hour, the Chapel Gate Dr. stop-controlled approach to Steilacoom Blvd. SW is calculated to operate at LOS E, under the 2019 Existing condition and LOS F, under the 2024 In-Development, 2030 In-Development, and 2030 Long-Term conditions.

The proposed improvements to the travel patterns on the campus including closing the West Street driveway; shifting traffic away from Circle Drive to new signalized accesses at the Chapel Gate and CSTC driveways; and discouraging use of Golf Course Road access to the campus are still forecast to generate similar future conditions to what were evaluated in the January 2020 Traffic Impact Analysis report.

Consideration for the interim In-Development conditions, may accelerate the needs for improvement to change the campus travel patterns sooner rather than later. This may assist with arguments for new access controls, such as traffic control signals.

With the new bed matrix, it would be prudent to update the traffic impact analysis; however, the major conclusions from the study are the same as they were traffic impact analysis, but an updated study would allow the traffic impact analysis to be consistent with the other Master Plan elements.

If you have any questions, please feel free to contact me at your convenience.

Western State Hospital

User Group Organization:

December 2019

ROLES

User Groups: Responsible for understanding the detailed day-to-day workings of their service or department and on that basis able to offer advice to the architects relative to, especially with respect to relative weight of needs and the nuance of interpretation or expression of need that becomes evident when reacting to a proposed design as a response to a previously expressed need. The User Groups will be vetting our program and designs at the level of their department of service (including physical relationships to other departments/services) and will help us to understand the detailed and prescriptive needs of their department that need to find expression in the program and project design

User Group Senate: A vehicle for obtaining feedback and guidance relative to the relationships between project elements at the whole-hospital level and a means by which we can introduce the project and process as a whole at significant milestones in the project to the User Group's leadership so that they are, in turn, better empowered to work with their individual User Group's members.

Clinical Advisory Panel/Strategic Leadership Panel: This group establishes the key overarching project goals at the level where they impact the hospital as a whole or the hospital's mission and purpose. This is the first group to whom the project will be shared at major milestones and from whom critical reactions will be requested. This group is responsible for setting the standards, purposes, needs, and goals that drive the remainder of the work. This group is also a sounding board for the A/E team with respect to clarifying that which is heard but not completely understood and for reconciling any differences of opinion between and among User Groups or between an individual User Group's requests and a larger policy decision that has been taken.

Management Leadership/Project Management Team: This Group is responsible for guiding the programming, planning and design process itself and the form of the output. It is only secondarily concerned with the content of the project deferring to the other groups for content. This is the Group that is responsible for keeping the trains running on time, on budget, and on the right tracks.

Membership

User Groups: The ideal User Group member has detailed content knowledge at the operational level, a critical understanding of the organizations overarching mission and his/her department's role in achieving that mission, ideas about how to improve service delivery, and sufficient foresight, flexibility and imagination to see the critical future relationships between physical environment and operations. The ideal User Group member rarely exists and so the best User Groups are made up of people who collectively have these characteristics. Simply assigning people based upon the functional job descriptions/roles identified below is not sufficient.

- Inpatient Services
 - Chief of Inpatient Service/Chief of Psychiatry
 - Director of Nursing or Assistant Director of Nursing
 - Service Line Managers for Each Inpatient Service
 - Patient Advocate
 - Two or Three Front Line RN's
 - One or Two Therapy Aides
 - Two or Three from the On-Unit Clinical Disciplines (SW, Psychology, Medicine)
- Dietary Services
 - Director of Food Services
 - Service Line Managers for One or Two Inpatient Services
 - One or Two Front Line RN's
 - Dietician
 - One or Two Cooks
- Therapy/Activity
 - Chief of Inpatient Service/Chief of Psychiatry
 - Director of Nursing or Assistant Director of Nursing
 - Service Line Managers for One or Two Inpatient Services
 - Director of rehabilitation Services
 - Three or Four Representatives from Adjunctive Therapies Disciplines/Services
 - Patient Advocate
- Clinical Ancillaries
 - Chief Medical Officer
 - Director of Nursing or Assistant Director of Nursing
 - Dentist
 - Clinic Manager
 - Radiologist
 - Chief Pharmacist
 - Director of Lab Services
 - Director of OT, Vocational and PT Services
- Information Technology and Integration
 - Director of Medical Records
 - Director of IT Services
 - Director of Management Information Services
 - QA/IR Director
 - Director of Staff Education
 - Two or Three Line Staff Responsible for Service Delivery

- Facilities Management Services
 - Chief Operating Officer or Director for Support Services
 - Director of Facilities/Maintenance
 - Director of Housekeeping
 - Director of Transportation
 - Director of Safety/Security
 - Director of Materials Management
- Administrative Services
 - Chief Operating Officer
 - Legal Services Coordinator
 - Coordinator for PGME and Internship Programs
 - One or Two Researchers
 - One representative from each major functional area to be accommodated

User Group Senate: Two to three people from each of the User Groups above plus one or two people from the CAP/SLP (below).

Clinical Advisory Panel/Strategic Leadership Panel: Representation from the senior leadership at the hospital and DSHS.

Management Leadership/Project Management Team: Project Managers from DSHS/BHA, WSH and Design Team. If community partner becomes a key participant in the Project's development, a representative from the partner would be included.

Western State Hospital

Questionnaire for:

Clinical Ancillaries

- Clinics
- Physician Services
- Dental Clinic
- EKG
- Laboratory
- Radiology
- Pharmacy (including Clinical Pharmacology)
- Shared Support



December 2019

Completed By: Name

Contact (phone or email)

Completed By: Name	Contact (phone or email)
Dr. Ostry	3358

architecture+

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Program/Service Description:

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Clinics

Physician Services

Dental Care

Coordinate patient appointments with escort scheduling, escort's, nursing, physicians and security in movement of the patient to the dental clinic.

Deliver dental treatment to patients, tailored to their particular needs.

Advise patients of their daily oral care required to maintain their dental health.

What the patient's current dental needs are currently to obtain dental health at this point in time.

Provide a safe environment in which to deliver dental treatment, both in time and field.

Provide emergency and routine dental care to residents of WSH, Child Treatment Center and HMH to the extent determined by facilities and staffing available.

To provide training and assistance to ward staff and residents to help attain a high standard of oral hygiene for residents.

To control and elimination of dental and oral pain.

To control and elimination of dental and oral infection.

To provide adequate maintenance of patients' presenting dentition to the degree possible.

To provide adequate replacement and restoration of lost function where indicated.

EKG

Laboratory

Radiology

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

- 1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility with fewer total beds (this could be the result of an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.).

Clinics

Physician Services

Dental Clinic

The need to update the radiology equipment to current community standards.

There would be no change since the mental population does not regard dental health as a concern and is usually self-neglected.

A need to provide personal hygiene instruction and requirements on a daily basis.

EKG

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Clinics

Physician Services

Dental Clinic

Consistent environmental daily care required in a surgical area.

Patient movement to appointments.

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

-
3. Please describe the current internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Clinics

Physician Services

Dental Clinic

Separate filing system room even when one goes electronic, for charts and models.

Separate room for storage apart from compressor and suction system.

Separate room for laboratory.

Separate room for dirty instrument processing with correct airflow directions.

Doorways large enough for large wheelchairs and jerry chairs for x-ray areas and treatment facilities.

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Feedback loop with regards to patient movement to appointments.

Screening patients in dental emergency status.

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Please note any differing opinions that still exist at the conclusion of your discussions.

Radiology

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Pharmacy Services (including Clinical Pharmacology)

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

- 5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Need for digital x-ray equipment to insure air quality. Be aware that the current ways we process x-rays is years behind community standards, to the point we have to acquire used parts since the dental industry no longer processes x-rays but uses digital.

Even going digital will not decrease our needs for space since we use models of the mouth that need to be retained according to state law.

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Radiology

Please note any differing opinions that still exist at the conclusion of your discussions.

Pharmacy Services (including Clinical Pharmacology)

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

6. Please list the titles of **current** staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Clinics						
Physician Services						
Dental Clinic	2	dentist	chairside	8		
	2	Dental assistant	chairside	8		
	2	hygienist	chairside	8		
	1	Dental health coordinator	office	24		
EKG						
Laboratory						
Radiology						
Pharmacy						
Shared Support						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Western State Hospital

Questionnaire for:

Clinical Ancillaries- Physical Therapy

December 2019

Western State Hospital / Appendix

Completed By: Name	Contact (phone or email)
(LEAD)	
Teddy Garcia, DPT, CKTP, CLT (PT Supervisor)	253-756- 2541,
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architecture+

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).
7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

Program Description

- 1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below. From the big picture perspective, what do you do and what are your treatment goals (including contact hours per week)?

Physical Therapy

The PT Clinic is staffed with 4 licensed physical therapists and supportive personnel such as 2 physical therapist assistants, 1 Therapy aide, 1 mental health technicians and 2 medical escorts. All PT personnel works 40 hrs. per week from Monday to Friday. There is no clinic on weekends at this time. Average therapist's case load is 4-6 patients per day.

WSH PT Clinic provides services to Western State Hospital and Child Study and Treatment Center (CSTC) patients with physical impairments, activity limitation and participation restriction related to musculoskeletal, neuromuscular and cardiopulmonary disorder

The Department plays a critical role of promoting physical activity as an important part of a holistic care for patients with mental illness that often reduce the need for expensive surgery and long-term use of prescription drugs and their adverse side effects.

- 1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility (this could include an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.)

Physical Therapy

The nature of the program will probably remain the same in terms of the type of services and scope of practice that will be provided. However, processes have to be adjusted to accommodate the acuity level of the patients in the new facility.

Moving the department will have either a positive or negative impact on scheduling and transporting patients to the physical therapy clinic depending on where the majority of the higher acuity patients are located.

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

2. List the main program elements (spaces or functions) of each area currently. This includes key features of your program. Please add comments focusing also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Physical Therapy

AREAS: Gym room, Ambulation area, Mat/treatment table room, storage/supply room, wheelchair/assistive device room, work station/staff room.

Our program and services includes but not limited to:

- **Treatment of Pain** with the use manual mobilization, movement, and modalities including use of Diathermy, Ultrasound, electric muscular stimulation and Kinesio Taping method.
- **Lymphedema management** through Complete Decongestive Therapy with the use of Manual Lymphatic drainage technique and/or Flexitouch machine, compression bandaging, Kinesio Taping, skin care and remedial exercises
- **Upper and lower body strengthening** with the use of manual skills, isometrics, isokinetic, plyometrics and evidence based exercise programs.
- **Dynamic Gait and balance retraining** with the use of least restrictive assistive devices, parallel bars and advance neuromuscular reeducation strategies.
- **Fall prevention** including staff training, ward and patient room environmental assessments.
- **Endurance and strength training** with the use of devices such as NuStep, Omnicycle, treadmill, recumbent bicycle, and hybrid elliptical machine.
- **Restoring joint motion and fascia/muscle restrictions** with manual techniques including but not limited to: strain counter strain, mobilization, muscle energy, Mailland, and Mckenzie technique.
- **Develop customized preventative/maintenance exercise and ambulation program** for patients with chronic debilitating diseases.
- **Prescription of prefabricated orthotic devices** such as shoe inserts, braces, AFOs, etc.
- **Wheelchair/Seating and positioning assessment.**

COMMENTS:

Our current area is sufficient enough in catering these services however, the lay out is not efficient and organize. The setup of our clinic is departmentalized with poor visualization, multiple entrances and/or exists and limited places to document.

The flow of traffic and safety measures need improvement. Additional storage spaces for supplies and equipment parts are also lacking.

The overall set up of our clinic creates a less than optimal set up to keep both the patient and staff safe while trying to provide efficient and excellent patient care.

Our clinic does not have an ELECTROTHERAPY room where you can isolate patients being treated with high frequency currents.

3. Please describe the current internal operations and functions of each area that support the activities and functions identified above. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are currently located in several places across the Facility fragmenting workflow, supervision, etc.

Physical Therapy

Current clinic is fragmented impairing workflow and ability to supervise.

For example, moving from the exercise gym area to the ambulation area, you will need to exit a door and pass through another area where the exercise mat is located. This kind of set up badly affects smooth transitioning, safety and patient's privacy.

Also due to limited space working with low functioning patients that need mechanical assistive devices (Hoyer lift, STS machine) is a challenge and very difficult especially during busy hours

Supervisor's office/work station is isolated and not readily accessible.

South and Central campus patients need to be transported to the clinic which necessitates the need for an escort/security and a vehicle.

4. Please indicate if there are any operational changes that would improve the efficiency of each area and in particular any physical features that could make your area more efficient.

Physical Therapy

Placing the staff's documentation work station in a centralized location would be beneficial to allow ease of viewing and overseeing clinic operation. Portable laptops or devices that will allow safe documentation on floor and in gym area will improve efficiency and productivity.

Please note any differing opinions that still exist at the conclusion of your discussions

5. Treatment Accommodations:

- What is the appropriate setting for types of patient care with respect to the in-patient unit, areas directly adjacent to the inpatient unit and a central program mall?
- Clinician mix, direct care staff involvement, patient density, spaces, and modalities in on-unit or neighborhood spaces.
- Clinician mix, direct care staff involvement, patient density, spaces, and numbers in Downtown/Treatment Mall Spaces.

Physical Therapy

The ideal setting for a PT clinic is, it should be located centrally or in proximity to the inpatient unit where patients can be easily and safely transported.

Clinicians directly involved with PT treatments include Licensed PTs, PTAs, PT aide and MHTs. The current average treatment visits is 650 per quarter.

All Modalities and equipment should be in on-unit for safety and to be able to provide quality care.

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

6. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues, trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Please note any differing opinions that still exist at the conclusion of your discussions.

Physical Therapy

40% of our patients is coming from CFS. We are anticipating an increase of referrals considering the transition of the hospital to pure forensics.

We are also looking forward to new technologies and advancement on pain management, gait and balance training. This suggests that a bigger space will be needed in the future to accommodate new modalities and other sophisticated exercise machines. (Example, Anti-gravity treadmill machines, gait training aids, lifts etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

6. Please list the titles of **current** staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Physical Therapist Supervisor	1		yes	5-10		
Physical Therapist 3	3		yes	3-5		
Physical Therapy Assistant	2		yes	3-5		
Physical Therapy Aide	1		yes	1-2		
Ambulation Tech- MHT2	1		yes	1-2		
Medical Escort – MHT3	2		yes	1-2		

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

7. Adjacency Requirements

Describe **ideal critical internal adjacency relationships** within your area(s) regardless of whether these are currently achieved or not possible. These relationships may be a result of resident flow, material flows, or staff movements or supervision needs.

Between (Function/Area)	And (Function/Area)	Reason
Documentation area/Work Station	Treatment Areas	Monitoring and supervision

Please note any differing opinions that still exist at the conclusion of your discussions.

7. Adjacency Requirements (continued)

Describe critical **ideal future external adjacency relationships** that each area has with other departments in the facility. These relationships may be a result of resident flow, materials flow, or staff movements. Some historic relationships may not be necessary in a more electronically connected environment.

Using the "Closeness" indicator identified below, indicate how near you should be located to the listed departments. Identify the most important "Reason" from the list below, or add explanation. Also, estimate the number of contacts you make per day with that particular department. Again, please think about it from your understanding of the future patient profile and a new facility/environment.

CLOSENESS INDICATOR

- 1 - Directly next to
- 2 - Same floor
- 3 - Doesn't matter

REASON INDICATOR

- A - Resident movement
- B - Staff movement
- C - Materials movement

Department	Closeness	Reason	Contacts/Day
Occupational Therapy – Physical Functioning	1	A & B- To facilitate multidisciplinary approach	Multiple
Clinic – Orthopedic, Neurology, Orthotics and Prosthetics	2	B - For care coordination	Single
X-Ray/Diagnostic Dept.	2	B- For care coordination	Single
Ward	2	A & B – Ease of transport, safety	Multiple

Please note any differing opinions that still exist at the conclusion of your discussions.

8. Please list materials, space, personnel or other resources that you currently share with any other department(s). Please indicate which department(s) and describe the nature of the sharing.

What do you Share	Share with Whom	Nature of Sharing
Bathroom	Pharmacy	
Break Room	Clinics	

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Administrative Services

- Hospital Administration*
- Clinical Administration*
- Accounting/Business Office/Patient Accounts*
- Community Transition Services*
- Public Relations*
- Human Resources*
- Payroll*
- Patients' Rights*
- Patient Advocate*
- Legal*
- Volunteers*
- Lobby Services/Mailroom*
- Publications*
- Public Disclosure Requests*
- Policy and Forms*
- Quality Coordinators & Survey Management/Compliance*
- Lean & Process Improvement*
- Project Management*
- Clinical Risk Management*
- Abuse & Neglect Call Line*
- Community Support/Case Management*
- Research*
- Court*
- Education and Conferencing*
- Staff Development*
- Other Shared Administrative Services/Support*

December 2019

Completed By: Name	Contact (phone or email)
Karen Green	greenkr@dshs.wa.gov

architecture+

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Administrative Services

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Program Description

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Hospital Administration
not applicable

Clinical Administration
not applicable

Accounting/Business Office/Patient Accounts
not applicable

Community Transition Services
not applicable

Public Relations
not applicable

Human Resources
not applicable

Payroll
not applicable

Patients' Rights
not applicable

Patient Advocate
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal
not applicable

Volunteers
not applicable

Lobby Services/Mailroom
not applicable

Publications
not applicable

Public Disclosure Requests
not applicable

Policy and Forms
not applicable

Quality Coordinators & Survey Management/Compliance
not applicable

Lean & Process Improvement
not applicable

Project Management
not applicable

Clinical Risk Management
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line
not applicable

Community Support/Case Management
not applicable

Research
not applicable

Court
not applicable

Education and Conferencing
not applicable

Staff Development (Nursing Education)

Staff Development for nursing staff is currently divided between Organizational Development and the Nursing Department – I manage the nurse educators in the Nursing Department, and we are responsible for training the established nursing staff. The nurse educators in Organizational Development are responsible for training/onboarding of new nursing staff (NEO).

The nurse educators responsible for NEO currently teach in a classroom setting using a two week rotating schedule; the classroom space is used every day on day shift.

The Nursing Admin nurse educators teach on all shifts at different locations due to a lack of designated training space. For the 2020 training calendar, this team has designated space within our office area to provide competency based training for approximately 1300 staff. This team also provides CPR training for hospital staff, which takes place in a designated room in the Organizational Development building.

Other Shared Administrative Services/Support
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

- 1.2 Please provide your thoughts on the changes that will occur to the nature of each of the administrative services as a result of moving into a new facility with fewer total beds (there could be an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, new strategies for computerization and moving more into an electronic world, etc.).

Hospital Administration
not applicable

Clinical Administration
not applicable

Accounting/Business Office/Patient Accounts
not applicable

Community Transition Services
not applicable

Public Relations
not applicable

Human Resources
not applicable

Payroll
not applicable

Patients' Rights
not applicable

Patient Advocate

Western State Hospital

Questionnaire
Administrative Services

December 2019

not applicable

Legal
not applicable

Volunteers
not applicable

Lobby Services/Mailroom
not applicable

Publications
not applicable

Public Disclosure Requests
not applicable

Policy and Forms
not applicable

Quality Coordinators & Survey Management/Compliance
not applicable

Lean & Process Improvement
not applicable

Project Management
not applicable

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Western State Hospital

Questionnaire
Administrative Services

December 2019

Clinical Risk Management
not applicable

Abuse & Neglect Call Line
not applicable

Community Support/Case Management
not applicable

Research
not applicable

Court
not applicable

Education and Conferencing
not applicable

Staff Development
Changes to the training needs of nursing staff would be determined new processes enabled by a new facility; for example, training of an EHR if one is implemented. Fewer beds may also mean fewer staff, which, if current training hours were maintained, would allow for more in depth and specialized training.

Other Shared Administrative Services/Support
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery, and/or staff environment.

Hospital Administration
not applicable

Clinical Administration
not applicable

Accounting/Business Office/Patient Accounts
not applicable

Community Transition Services
not applicable

Public Relations
not applicable

Human Resources
not applicable

Payroll
not applicable

Patients' Rights
not applicable

Patient Advocate
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal
not applicable

Volunteers
not applicable

Lobby Services/Mailroom
not applicable

Publications
not applicable

Public Disclosure Requests
not applicable

Policy and Forms
not applicable

Quality Coordinators & Survey Management/Compliance
not applicable

Lean & Process Improvement
not applicable

Project Management
not applicable

Clinical Risk Management
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line
not applicable

Community Support/Case Management
not applicable

Research
not applicable

Court
not applicable

Education and Conferencing
not applicable

Staff Development

Nursing Administration Nurse Education: Current functions include competency based training, CPR, and classroom trainings for current nursing staff. Present ability to provide quality training is limited by lack of designated training space; we compete with everyone else for conference rooms when classroom trainings are needed. Competency education is limited by lack of space, and because the NEO educators are housed in a different building, there is no ability to share larger pieces of equipment, such hospital beds or lifts. This leads to either no training resources for one team or another, or burdens the hospital by needing to buy duplicate training equipment for each team.

Organizational Development Nurse Education: Current functions include competency based training, CPR, and classroom trainings for new nursing staff. CPR classes in NEO tend to be large and take place in the gym. The classroom has some competency stations on the perimeter; ie, emergency equipment, lifts, hospital bed.

Other Shared Administrative Services/Support
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

3. Please describe the internal operations and functions of each area. Please discuss any current problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Hospital Administration
not applicable

Clinical Administration
not applicable

Accounting/Business Office/Patient Accounts
not applicable

Community Transition Services
not applicable

Public Relations
not applicable

Human Resources
not applicable

Payroll
not applicable

Patients' Rights
not applicable

Patient Advocate
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal
not applicable

Volunteers
not applicable

Lobby Services/Mailroom
not applicable

Publications
not applicable

Public Disclosure Requests
not applicable

Policy and Forms
not applicable

Quality Coordinators & Survey Management/Compliance
not applicable

Lean & Process Improvement
not applicable

Project Management
not applicable

Clinical Risk Management
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line
not applicable

Community Support/Case Management
not applicable

Research
not applicable

Court
not applicable

Education and Conferencing
not applicable

Staff Development
Both nurse education teams are housed with their team members and supervisors. What would improve internal operation is if the two teams were housed together to increase opportunities for collaboration.

Other Shared Administrative Services/Support
not applicable

Western State Hospital

Questionnaire
Administrative Services

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Hospital Administration
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Administration
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Accounting/Business Office/Patient Accounts
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Transition Services
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Relations
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Human Resources
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Payroll
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Patients' Rights
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Patient Advocate
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Legal
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Volunteers
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Lobby Services/Mailroom
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Publications
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Disclosure Requests
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Policy and Forms
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Quality Coordinators & Survey Management/Compliance
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Lean & Process Improvement
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Project Management
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Risk Management
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Abuse & Neglect Call Line
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Community Support/Case Management
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Research
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Court
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Education and Conferencing
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Staff Development
Training of nursing staff would be improved with designated training space to meet needs. For example, a 2,000 ft² space with competency stations on the perimeter would meet the needs for competency training for new and established staff, as well as CPR training. A classroom with capacity for 60 people that could be divided into two 30 person classrooms would meet the classroom needs for training new nursing staff and established staff. A computer lab with 20 stations would meet the need for training electronic processes.

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Other Shared Administrative Services/Support
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

- 5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Hospital Administration
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Administration
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Accounting/Business Office/Patient Accounts
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Transition Services
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Public Relations
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Human Resources
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Payroll
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Patients' Rights
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Patient Advocate
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Volunteers
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Lobby Services/Mailroom
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Publications
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Disclosure Requests
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Policy and Forms
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Quality Coordinators & Survey Management/Compliance
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Lean & Process Improvement
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Project Management
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Risk Management
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Community Support/Case Management
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Research
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Court
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Education and Conferencing
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Staff Development
The trend is toward hands-on, skill based training, which is limited by space and the inability for the nurse education teams to share equipment.

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Other Shared Administrative Services/Support
not applicable

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Hospital Administration						
Clinical Administration						
Accounting/ Business Office/ Patient Accounts						
Community Transition Services						
Public Relations						
Human Resources						
Payroll						
Patient's Rights						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Patient Advocate						
Legal						
Volunteers						
Lobby Services/ Mailroom						
Publications						
Public Disclosure Requests						
Policy & Forms						
Quality Coordinator & Survey Mgmt/ Compliance						
Lean & Process Improvement						
Project Mgmt						

Western State Hospital / Appendix

Appendix A-16: User Questionnaires

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Clinical Risk Mgmt						
Abuse & Neglect Call Line						
Community Support/Case Management						
Research						
Court						
Education & Conferencing						
Staff Development (Nursing Education)						
Karen Green	1	1	Office	0	Dedicated	0
Jean DeVera	1	1	Workstation	0	Dedicated	0
Larisa Popkova	1	1	Workstation	0	Dedicated	0
Larita Smalls	1	1	Workstation	0	Dedicated	0
Alex Ulbrickson	1	1	Workstation	0	Dedicated	0
Beth Bartnicki	1	1	Workstation	0	Dedicated	0
Tabitha Tubbs	1	1	Workstation	0	Dedicated	0
Vacant	1	1	Workstation	0	Dedicated	0
Danielle Oluokun	1	1	Workstation	0	Dedicated	0
* Amy Fernandez	1	1	Workstation	0	Dedicated	0
* Cheri Stanley	1	1	Workstation	0	Dedicated	0
* Cory Myers	1	1	Workstation	0	Dedicated	0
* Chris Stringfield	1	1	Workstation	0	Dedicated	0
* These are nurse educators who work in the Organizational Development in New Employee Orientation; we would like to combine our teams geographically in future state, so I included them here.						
Other Shared Administrative Services/Support						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas

Western State Hospital

Questionnaire
Administrative Services

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Administrative Services

- Hospital Administration*
- Clinical Administration*
- Accounting/Business Office/Patient Accounts*
- Community Transition Services*
- Public Relations*
- Human Resources*
- Payroll*
- Patients' Rights*
- Patient Advocate*
- Legal*
- Volunteers*
- Lobby Services/Mailroom*
- Publications*
- Public Disclosure Requests*
- Policy and Forms*
- Quality Coordinators & Survey Management/Compliance*
- Lean & Process Improvement*
- Project Management*
- Clinical Risk Management*
- Abuse & Neglect Call Line*
- Community Support/Case Management*
- Research*
- Court*
- Education and Conferencing*
- Staff Development*
- Other Shared Administrative Services/Support*

December 2019

Completed By: Name	Contact (phone or email)
Angie Hosking, Director of Organizational Development	<u>253-858-5517</u>

architecture+

Western State Hospital

Questionnaire
Administrative Services

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Administrative Services

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Program Description

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Hospital Administration

Clinical Administration

Accounting/Business Office/Patient Accounts

Community Transition Services

Public Relations

Human Resources

Payroll

Patients' Rights

Patient Advocate

Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal

Volunteers

Lobby Services/Mailroom

Publications

Public Disclosure Requests

Policy and Forms

Quality Coordinators & Survey Management/Compliance

Lean & Process Improvement

Project Management

Clinical Risk Management

architecture+

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Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line

Community Support/Case Management

Research

Court

Education and Conferencing

Staff Development : all employees attend a 2-week New Employee Orientation (NEO) program, then some progress into a 1-week Clinical NEO, and others to a 1-week Pharmacy NEO depending on their job class. We also collaborate with the DSHS Human Resources Department to offer on-site *Foundations of Leadership* courses, which has 8 modules to develop supervisors or aspiring leaders. WSH also offers refresher training to improve safety and reduce violence. All staff are also required to complete online trainings annually in the Learning Management System (LMS).

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

1.2 Please provide your thoughts on the changes that will occur to the nature of each of the administrative services as a result of moving into a new facility with fewer total beds (there could be an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, new strategies for computerization and moving more into an electronic world, etc.).

Hospital Administration

Clinical Administration

Accounting/Business Office/Patient Accounts

Community Transition Services

Public Relations

Human Resources

Payroll

Patients' Rights

Patient Advocate

architecture+

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Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal

Volunteers

Lobby Services/Mailroom

Publications

Public Disclosure Requests

Policy and Forms

Quality Coordinators & Survey Management/Compliance

Lean & Process Improvement

Project Management

Clinical Risk Management

Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line

Community Support/Case Management

Research

Court

Education and Conferencing

Staff Development: we anticipate smaller classes sizes or less frequent NEO cohorts if the size of staffing is reduced. Our concern is that space won't be adequate for our needs in the event class sizes aren't reduced. We currently have 45-person classes who use the gymnasium to do physical intervention courses that require them to be at a safe distance from one another to minimize risk of injuries. We also run multiple courses at once and can have up to 6 rooms used at the same time with anywhere from 10-45 people in each. We take up a lot of space, but are open to ideas that allow us to maximize smaller spaces more effectively, if needed.

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery, and/or staff environment.

Hospital Administration

Clinical Administration

Accounting/Business Office/Patient Accounts

Community Transition Services

Public Relations

Human Resources

Payroll

Patients' Rights

Patient Advocate

Western State Hospital

Questionnaire
Administrative Services

December 2019

Legal

Volunteers

Lobby Services/Mailroom

Publications

Public Disclosure Requests

Policy and Forms

Quality Coordinators & Survey Management/Compliance

Lean & Process Improvement

Project Management

Clinical Risk Management

architecture+

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Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line

Community Support/Case Management

Research

Court

Education and Conferencing

Staff Development: We have 4 large classrooms that seat between 30-45 people each, plus 1 smaller classroom for CPR that seats about 15, and 1 small classroom that seats about 20. We also have a large gymnasium for physical components of classes that we use weekly, as well as a "situation room" where we practice the medsled and restraints. In addition to classroom/gym space, we have 1 large shared office with 8 safety trainers in it, 5 offices with 2 staff apiece in them, and then 3 single-person offices. We lack a reasonable staff break room, as it is a closet off to the side of the locker room and no one feels clean/comfortable using it at lunch. There's also no lactation room for new employees and current staff who are breastfeeding. We also don't have enough bathrooms for all the bodies we have in the building at once, so they frequently overflow. We also need a clinical room with equipment to train new employees. Ideally, we'd benefit from a mock-ward setup for the scenarios we train.

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

3. Please describe the internal operations and functions of each area. Please discuss any current problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Hospital Administration

Clinical Administration

Accounting/Business Office/Patient Accounts

Community Transition Services

Public Relations

Human Resources

Payroll

Patients' Rights

Patient Advocate

Western State Hospital

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Administrative Services

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Volunteers

Lobby Services/Mailroom

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Public Disclosure Requests

Policy and Forms

Quality Coordinators & Survey Management/Compliance

Lean & Process Improvement

Project Management

Clinical Risk Management

Western State Hospital

Questionnaire
Administrative Services

December 2019

Abuse & Neglect Call Line

Community Support/Case Management

Research

Court

Education and Conferencing

Staff Development: there aren't too many logistical issues (e.g. workflow disruption) with our current operations since we're pretty self-contained, other than what is described in the previous question. The fact that our building is so big (it's an old patient gym/rec center) could be seen as a problem itself because it causes the team to be polarized to different sides of the building, which reduces collaboration efforts and morale building. Another issue we experience is the lack of involvement from other departments, which may be due to how far we are located from hospital operations (wards). We have a NEO class where WSH leaders are invited to introduce themselves to the class, but many don't attend. We also have a NEO class where we invite supervisors of new employees to have donuts together, and then go off to their work-site for a couple hours of immersion; but supervisors often don't show.

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Hospital Administration

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Administration

Please note any differing opinions that still exist at the conclusion of your discussions.

Accounting/Business Office/Patient Accounts

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Transition Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Relations

Please note any differing opinions that still exist at the conclusion of your discussions.

Human Resources

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Payroll

Please note any differing opinions that still exist at the conclusion of your discussions.

Patients' Rights

Please note any differing opinions that still exist at the conclusion of your discussions.

Patient Advocate

Please note any differing opinions that still exist at the conclusion of your discussions.

Legal

Please note any differing opinions that still exist at the conclusion of your discussions.

Volunteers

Please note any differing opinions that still exist at the conclusion of your discussions.

Lobby Services/Mailroom

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Publications

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Disclosure Requests

Please note any differing opinions that still exist at the conclusion of your discussions.

Policy and Forms

Please note any differing opinions that still exist at the conclusion of your discussions.

Quality Coordinators & Survey Management/Compliance

Please note any differing opinions that still exist at the conclusion of your discussions.

Lean & Process Improvement

Please note any differing opinions that still exist at the conclusion of your discussions.

Project Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Clinical Risk Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Abuse & Neglect Call Line

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Support/Case Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Research

Please note any differing opinions that still exist at the conclusion of your discussions.

Court

Please note any differing opinions that still exist at the conclusion of your discussions.

Education and Conferencing

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Development: this department would benefit from large shared workspaces that keep the various instructors connected, which would improve relationships, morale, productivity, and efficiency. It would also reduce the real-estate footprint we make by having so many different offices. Our classrooms need to be strategically designed so they muffle the distracting sounds of other classes going on at the same time - complaints we receive frequently from students. It'd also be helpful if we were located closer to the wards so staff has fewer barriers to participating in trainings and programs.

Please note any differing opinions that still exist at the conclusion of your discussions.

Other Shared Administrative Services/Support

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

- 5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Hospital Administration

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Administration

Please note any differing opinions that still exist at the conclusion of your discussions.

Accounting/Business Office/Patient Accounts

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Transition Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Relations

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Human Resources

Please note any differing opinions that still exist at the conclusion of your discussions.

Payroll

Please note any differing opinions that still exist at the conclusion of your discussions.

Patients' Rights

Please note any differing opinions that still exist at the conclusion of your discussions.

Patient Advocate

Please note any differing opinions that still exist at the conclusion of your discussions.

Legal

Please note any differing opinions that still exist at the conclusion of your discussions.

Volunteers

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Lobby Services/Mailroom

Please note any differing opinions that still exist at the conclusion of your discussions.

Publications

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Disclosure Requests

Please note any differing opinions that still exist at the conclusion of your discussions.

Policy and Forms

Please note any differing opinions that still exist at the conclusion of your discussions.

Quality Coordinators & Survey Management/Compliance

Please note any differing opinions that still exist at the conclusion of your discussions.

Lean & Process Improvement

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Project Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Risk Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Support/Case Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Research

Please note any differing opinions that still exist at the conclusion of your discussions.

Court

Please note any differing opinions that still exist at the conclusion of your discussions.

Education and Conferencing

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Development: our staffing is increasing by 2 managers and 8 trainers, and our services are expanding. We will be launching Virtual Reality training in 2020, which has its own set of IT needs. There has also been ongoing talk from BHA about expanding the 2-week General NEO program to a 5- or 6-week program, which means students will be using the space for much longer durations. Another potential change that may happen, according to trends, is the opportunity to train/work from computers off-site or at home, so it could reduce the number of hours spent in the actual department for trainers and students.

Please note any differing opinions that still exist at the conclusion of your discussions.

Other Shared Administrative Services/Support

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Hospital Administration						
Clinical Administration						
Accounting/ Business Office/ Patient Accounts						
Community Transition Services						
Public Relations						
Human Resources						
Payroll						
Patient's Rights						

Appendix A-16: User Questionnaires

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Patient Advocate						
Legal						
Volunteers						
Lobby Services/ Mailroom						
Publications						
Public Disclosure Requests						
Policy & Forms						
Quality Coordinator & Survey Mgmt/ Compliance						
Lean & Process Improvement						
Project Mgmt						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Clinical Risk Mgmt						
Abuse & Neglect Call Line						
Community Support/Case Management						
Research						
Court						
Education & Conferencing						
Staff Development	20 (+10 more coming) 1 Director 2 Administrators 3 Managers 16 Safety Trainers 5 RN3 Educators 3 Admin Assist.	20-30 staff bodies	9 offices 1 front desk 6 classrooms 1 gym 1 restraint room 1 interview room 1 breakroom	Up to 100 bodies in building when multiple classes going at once	Dedicated and multi-use areas	2 visitor computers in open public access area behind front desk
Director	1	1	Office	1-4 at a time	Dedicated	No
Administrators	2	2	Shared Office	1-4 at a time	Dedicated	No
Managers	3	3	2 Shared Offices	1-4 at a time	Dedicated	No
Safety Trainers	16	8	1 Shared Office (8 on one shift, 8 on another)	1-10 at a time	Dedicated	Yes, for meetings
RN3 Nurse Educators	5	5	3 Shared offices	0-2 at a time	Dedicated	No

Western State Hospital / Appendix

Appendix A-16: User Questionnaires

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Admin Assistants	3	2 1	Office Front Desk	1-2 at a time Up to 100 passing through or needing assistance	Dedicated Dedicated	No
Other Shared Administrative Services/Support						

Western State Hospital

Questionnaire
Administrative Services

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Administrative Services

- Hospital Administration*
- Clinical Administration*
- Accounting/Business Office*
- Community Transition Services*
- Public Relations*
- Human Resources*
- Payroll*
- Volunteers*
- Lobby Services*
- Community Support/Case Management*
- Research*
- Court*
- Other Shared Administrative Services/Support*

December 2019

Completed By: Name	Contact (phone or email)
(LEAD) Bryan Zolnikov	zolnibi@dshs.wa.gov

architecture+

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Administrative Services

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Program Description

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Hospital Administration

Clinical Administration

The scope of clinical operations spans an array of services including psychosocial rehabilitation, vocational rehabilitation, physical rehabilitation, general medical, nursing, nutrition, psychiatric, and psychopharmacological. Underneath these functions are several disciplines who perform various procedures that meet the patient's treatment needs.

Accounting/Business Office

Community Transition Services

Public Relations

Human Resources

Payroll

Volunteers

Western State Hospital

Questionnaire
Administrative Services

December 2019

Lobby Services

Community Support/Case Management

Research

Court

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

- 1.2 Please provide your thoughts on the changes that will occur to the nature of each of the administrative services as a result of moving into a new facility with fewer total beds (there could be an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, new strategies for computerization and moving more into an electronic world, etc.).

Hospital Administration

Clinical Administration

Overall, the potential technological advancement of a new facility would enhance clinical services, streamline various procedures, and enhance security. A new facility can provide for more space for novel treatment programming such as mindfulness yards. It can provide the space to expand on what is currently offered for vocational rehabilitation training. It can provide for more spaces that would allow compliance with best practice standards for group therapy treatment (e.g., enough group treatment rooms that would enable the amount of patients in the group to be capped at 10).

The patient populations served is very discrete with one population, competency to stand trial evaluation and restoration (CE and CR) being shorter term whereas the other, Not Guilty by Reason of Insanity (NGRI), being longer term. Each population has a different clinical foci. The focus on CE and CR are to be evaluated for competency and becoming competent to stand trial respectively; the treatment needs are different in many ways than the NGRI population. The NGRI population is focused on learning the skills necessary for relative independent living in the community. There is also a subset of NGRI patients who are elderly and need space that accounts for their medical treatment needs. The new facility should provide adequate space for each population with the longer term population needing more functional spaces. The design should account for these differences and, for some spaces, the spaces utilized by these distinct populations should be separated.

Accounting/Business Office

Community Transition Services

Public Relations

Western State Hospital

Questionnaire
Administrative Services

December 2019

Human Resources

Payroll

Volunteers/Internships

Lobby Services

Community Support/Case Management

Research

Court

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery, and/or staff environment.

Hospital Administration

Clinical Administration

In terms of ideal patient care:

An admission space that is spacious and therapeutic. This space should have a warm entrance that flows into a waiting room. There should be adequate space for an admissions team to meet with the newly admitted patient. There should be an ADA-compliant toilet and shower area, a nursing area, and adequate office space for the staff assigned to this area.

The living units should be comfortable and have enough size for personal space. The living units should have a residential atmosphere. As with any type of psychiatric facility, the facility should have as many anti-ligature fixtures as is possible. It should have materials that are very durable but look residential. The design should have no blind spots.

There should be several functional treatment areas for staff to engage patients in group therapy treatment, vocational rehabilitation, physical rehabilitation, and recreational rehabilitation.

Accounting/Business Office

Community Transition Services

Public Relations

Human Resources

Payroll

Western State Hospital

Questionnaire
Administrative Services

December 2019

Volunteers

Lobby Services

Community Support/Case Management

Research

Court

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

3. Please describe the internal operations and functions of each area. Please discuss any current problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Hospital Administration

Clinical Administration

The clinical staff on the ward should have offices near each other. They should not have to traverse lengthy area in order to interact. As for clinical supervisors, they should be very close to the clinical staff on the ward. There should be adequate space for supervision meetings both in a group and individual format.

Accounting/Business Office

Community Transition Services

Public Relations

Human Resources

Payroll

Volunteers

Western State Hospital

Questionnaire
Administrative Services

December 2019

Lobby Services

Community Support/Case Management

Research

Court

Other Shared Administrative Services/Support

Western State Hospital

Questionnaire
Administrative Services

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Hospital Administration

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Administration

As noted in #3, close proximity is important. Also, having technology readily available in many areas would make clinical processes more efficient (e.g., PCs in treatment team rooms so that staff can write treatment plans while meeting with patients, telemedicine capabilities in various parts of the wards, videoconferencing capabilities in meeting rooms). Having WiFi in all areas provides the ability to have internet access wherever staff need this access. The inclusion of "hotel" offices for official visitors is very important because there are various types of official visitors for various purposes and having dedicated space for them will streamline processes for official visitors.

Please note any differing opinions that still exist at the conclusion of your discussions.

Accounting/Business Office

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Transition Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Relations

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Human Resources

Please note any differing opinions that still exist at the conclusion of your discussions.

Payroll

Please note any differing opinions that still exist at the conclusion of your discussions.

Volunteers

Please note any differing opinions that still exist at the conclusion of your discussions.

Lobby Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Support/Case Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Research

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Court

Please note any differing opinions that still exist at the conclusion of your discussions.

Other Shared Administrative Services/Support

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Hospital Administration

Please note any differing opinions that still exist at the conclusion of your discussions.

Clinical Administration

Diagnostic neuroimaging for psychiatric conditions is on the horizon so it may be wise to consider a imaging room which has very special requirements.

Please note any differing opinions that still exist at the conclusion of your discussions.

Accounting/Business Office

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Transition Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Public Relations

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Human Resources

Please note any differing opinions that still exist at the conclusion of your discussions.

Payroll

Please note any differing opinions that still exist at the conclusion of your discussions.

Volunteers

Please note any differing opinions that still exist at the conclusion of your discussions.

Lobby Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Community Support/Case Management

Please note any differing opinions that still exist at the conclusion of your discussions.

Research

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

Court

Please note any differing opinions that still exist at the conclusion of your discussions.

Other Shared Administrative Services/Support

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Administrative Services

December 2019

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Hospital Administration						
Clinical Administration						
Accounting/ Business Office						
Community Transition Services						
Public Relations						
Human Resources						
Payroll						
Volunteers						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Administrative Services

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Lobby Services						
Community Support/Case Management						
Research						
Court						
Other Shared Administrative Services/Support						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Administrative Services

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Clinical Ancillaries

- Clinics*
- Physician Services*
- Dental Clinic*
- EKG*
- Laboratory*
- Physical Therapy*
- Pharmacy (including Clinical Pharmacology)*
- Shared Support*

December 2019

Completed By: Sook H. Yang

Contact: sook.yang@dshs.wa.gov

(LEAD)	

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
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5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Program/Service Description:

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Clinics

Physician Services

Dental Care

EKG

Laboratory

Scope of the Laboratory Services is to provide to provide the highest quality laboratory services to serve Washington State's most vulnerable citizens and physicians with professional skills and respects; pursuing the excellency by adhering to all provisions of the accreditation standards in a safety-focused manner to promote recovery and well-being in partnership with the people we serve.

Physical Therapy

Pharmacy (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility with fewer total beds (this could be the result of an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.).

Clinics

Physician Services

Dental Care

EKG

Laboratory

I do not expect much change in the laboratory functions and services, but the working environment would be much better in terms of storages,

Physical Therapy

Pharmacy (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Clinics

Physician Services

Dental Care

EKG

Laboratory

General Chemistry section

Special Chemistry section

UA/Serology section

Hematology/Coagulation section

Processing section

Phlebotomy section

Lab office

Lab Conference/Library/staff lounge

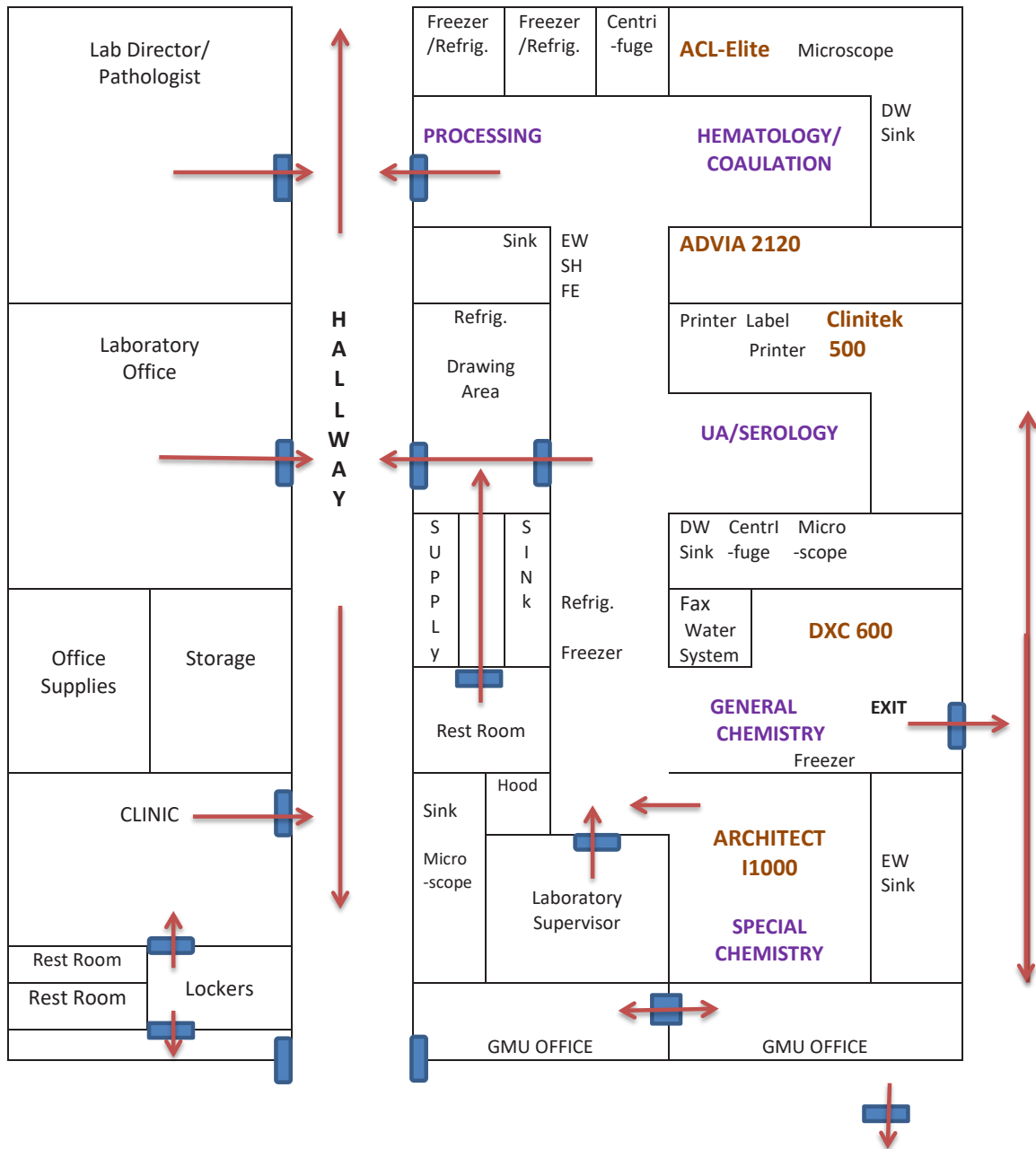
Lab Supervisor's office

Lab Director's office

Office Supply room

Storage room

CURRENT LAYOUT OF THE LABORATORY

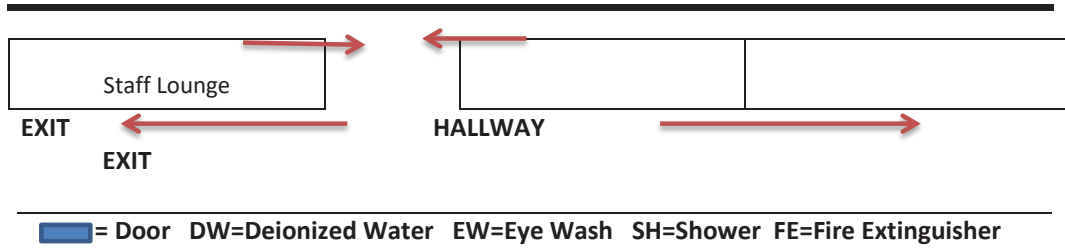


Western State Hospital / Appendix

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019



Physical Therapy



Pharmacy (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

3. Please describe the current internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Clinics

Physician Services

Dental Care

EKG

Laboratory
Please refer to #2

Physical Therapy

Pharmacy (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Current system is working smoothly

Please note any differing opinions that still exist at the conclusion of your discussions.

Physical Therapy

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Pharmacy (including Clinical Pharmacology)

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Not much of any anticipated changes that may occur within the next five years

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Physical Therapy

Please note any differing opinions that still exist at the conclusion of your discussions.

Pharmacy (including Clinical Pharmacology)

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Clinics						
Physician Services						
Dental Clinic						
EKG						
Laboratory	7	8	laboratory		Multi-use/ dedicated	n/a
	0.5	1	Lab Director		Dedicated	
	1	1	Lab Supervisor		Dedicated	
	1	1	Lab office		Dedicated	
Physical Therapy						
Pharmacy						
Shared Support						

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Clinical Ancillaries

- Clinics
- Physician Services
- Dental Clinic
- EKG
- Laboratory
- Physical Therapy**
- Pharmacy (including Clinical Pharmacology)
- Shared Support

December 2019

Completed By: Name	Contact (phone or email)
(LEAD) Teddy Garcia, DPT, CKTP, CLT (PT Supervisor)	253-756-2541, garcitd@dshs.wa.gov

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

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- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
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INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

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Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
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10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Program/Service Description:

- 1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Physical Therapy

The PT Clinic is staffed with 4 licensed physical therapists and supportive personnel such as 2 physical therapist assistants, 1 Therapy aide, 1 mental health technicians and 2 medical escorts. All PT personnel works 40 hrs. per week from Monday to Friday. There is no clinic on weekends at this time. Average therapist's case load is 4-6 patients per day.

WSH PT Clinic provides services to Western State Hospital, Child Study and Treatment Center (CSTC) and Fort Steilacoom Competency Restoration Program (FSCRCP) patients with physical impairments, activity limitation and participation restriction related to musculoskeletal, neuromuscular and cardiopulmonary disorder

The Department plays a critical role of promoting physical activity as an important part of a holistic care for patients with mental illness that often reduce the need for expensive surgery and long-term use of prescription drugs and their adverse side effects.

- 1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility with fewer total beds (this could be the result of an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.).

Physical Therapy

The nature of the program will probably remain the same in terms of the type of services and scope of practice that will be provided. However, treatment and safety processes might have to be adjusted to accommodate the acuity level of the patients in the new facility.

Moving the department will have either a positive or negative impact on scheduling and transporting patients to the physical therapy clinic depending on where the majority of the higher acuity patients are located.

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Physical Therapy

AREAS: Gym room, Ambulation area, Mat/treatment table room, storage/supply room, wheelchair/assistive device room, work station/staff room.

Our program and services includes but not limited to:

- Treatment of Pain *with the use manual mobilization, movement, and modalities including use of Diathermy, Ultrasound, electric muscular stimulation and Kinesio Taping method.*
- Lymphedema management *through Complete Decongestive Therapy with the use of Manual Lymphatic drainage technique and/or Flexitouch machine, compression bandaging, Kinesio Taping, skin care and remedial exercises*
- Upper and lower body strengthening *with the use of manual skills, isometrics, isokinetic, plyometrics and evidence based exercise programs.*
- Dynamic Gait and balance retraining *with the use of least restrictive assistive devices, parallel bars and advance neuromuscular reeducation strategies.*
- Fall prevention *including staff training, ward and patient room environmental assessments.*
- Endurance and strength training *with the use of devices such as NuStep, Omnicycle, treadmill, recumbent bicycle, and hybrid elliptical machine.*
- Restoring joint motion and fascia/muscle restrictions *with manual techniques including but not limited to: strain counter strain, mobilization, muscle energy, Maitland, and Mckenzie technique.*
- Develop customized preventative/maintenance exercise and ambulation program *for patients with chronic debilitating diseases.*
- Prescription of prefabricated orthotic devices *such as shoe inserts, braces, AFOs, etc.*
- Wheelchair/Seating and positioning assessment.

COMMENTS:

Our current area is sufficient enough in catering these services however, the lay out is not efficient and organize. The setup of our clinic is departmentalized with poor visualization, multiple entrances and/or exists and limited places to document.

The flow of traffic and safety measures need improvement. Additional storage spaces for supplies and equipment parts are also lacking.

The overall set up of our clinic creates a less than optimal set up to keep both the patient and staff safe while trying to provide efficient and excellent patient care.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Our clinic does not have an ELECTROTHERAPY room where you can isolate patients being treated with high frequency currents. There is also no room for future expansion/program advancement.

3. Please describe the current internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Physical Therapy

Current clinic is fragmented impairing workflow and ability to supervise.

For example, moving from the exercise gym area to the ambulation area, you will need to exit a door and pass through another area where the exercise mat is located. This kind of set up badly affects smooth transitioning, safety and patient's privacy.

Also due to limited space working with low functioning patients that need mechanical assistive devices (Hoyer lift, STS machine) is a challenge and very difficult especially during busy hours

Supervisor's office/work station is isolated and not readily accessible.

South and Central campus patients need to be transported to the clinic which necessitates the need for an escort/security and a vehicle.

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Physical Therapy

Placing the staff's documentation work station in a centralized location would be beneficial to allow ease of viewing and overseeing clinic operation. Portable laptops or devices that will allow safe documentation on floor and in gym area will improve efficiency and productivity.

Please note any differing opinions that still exist at the conclusion of your discussions.

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Physical Therapy

40% of our patients is coming from CFS. We are anticipating an increase of referrals considering the transition of the hospital to pure forensics. Hiring additional PTs and PTAs might be needed to accommodate increase case loads.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

We are also looking forward to new technologies and advancement on pain management, gait and balance training. This suggests that a bigger space will be needed in the future to accommodate new modalities and other sophisticated exercise machines. (Example, Anti-gravity treadmill machines, gait training aids, lifts, hydrotherapy tanks, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

- Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Physical Therapist Supervisor	1		yes	5-10		
Physical Therapist 3	3		yes	3-5		
Physical Therapy Assistant	2		yes	3-5		
Physical Therapy Aide	1		yes	1-2		
Ambulation Tech- MHT2	1		yes	1-2		
Medical Escort – MHT3	2		yes	1-2		

- Adjacency Requirements

Describe *ideal critical internal adjacency relationships* within your area(s) regardless of whether these are currently achieved or not possible. These relationships may be a result of resident flow, material flows, or staff movements or supervision needs.

Between (Function/Area)	And (Function/Area)	Reason
Documentation area/Work Station	Treatment Areas	Monitoring and supervision

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Adjacency Requirements (continued)

Describe critical *ideal future external adjacency relationships* that each area has with other departments in the facility. These relationships may be a result of resident flow, materials flow, or staff movements. Some historic relationships may not be necessary in a more electronically connected environment.

Using the "Closeness" indicator identified below, indicate how near you should be located to the listed departments. Identify the most important "Reason" from the list below, or add explanation. Also, estimate the number of contacts you make per day with that particular department. *Again, please think about it from your understanding of the future patient profile and a new facility/environment.*

CLOSENESS INDICATOR

- 1 - Directly next to
- 2 - Same floor
- 3 - Doesn't matter

REASON INDICATOR

- A - Resident movement
- B - Staff movement
- C - Materials movement

Department	Closeness	Reason	Contacts/Day
Occupational Therapy – Physical Functioning	1	A & B- To facilitate multidisciplinary approach	Multiple
Clinic – Orthopedic, Neurology, Orthotics and Prosthetics	2	B - For care coordination	Single
X-Ray/Diagnostic Dept.	2	B- For care coordination	Single
Ward	2	A & B – Ease of transport, safety	Multiple

Please note any differing opinions that still exist at the conclusion of your discussions.

8. Please list materials, space, personnel or other resources that you currently share with any other department(s). Please indicate which department(s) and describe the nature of the sharing.

What do you Share	Share with Whom	Nature of Sharing
Bathroom	Pharmacy	
Break Room	Clinics	

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Clinical Ancillaries

- Clinics*
- Physician Services*
- Dental Clinic*
- EKG*
- Laboratory*
- Radiology*
- Pharmacy (including Clinical Pharmacology)*
- Shared Support*

December 2019

Completed By: Name	Contact (phone or email)
(LEAD)	
Katy Tomisser	<u>756-2351</u>
Mark Underwood	<u>756-3916</u>
Robert Kahns	<u>756-2514</u>
Christy Kinch	<u>984-4192</u>

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

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- To assist in the development of a database useful in planning activities.

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5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
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Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
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10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Program/Service Description:

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Clinics

Physician Services

Dental Care

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Drug distribution and medication order processing for WSH, CSTC, and FSCR from 3 pharmacies on campus: Main Pharmacy Bldg 13, Central Campus Pharmacy Bldg , and East Campus Pharmacy. When the new pharmacy opens it is our intent to close the Central Campus satellite and combine it with main pharmacy functions. Main campus pharmacy has the largest drug inventory as this is the location where the daily Pyxis med station refills originate. The pharmacy department has oversight of all medication rooms and performs monthly inspections. We have oversight of all pharmaceutical waste streams. Drug delivery to WSH and CSTC wards is performed up to 3 times daily, via foot or vehicle. The main pharmacy hours are Monday – Friday 6:30am to 10pm, Sat/Sun 7:30am to 5:30pm. East Campus hours Mon – Friday 7:30am to 6pm and Central Campus pharmacy 7:30am to 4pm. We have an on-call pharmacist who is available after business hours.

Clinical pharmacists on wards providing clinical consultation to treatment teams, ward Internists and Psychiatrists regarding medication therapy. Pharmacist who are designated to work on ward

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

generally provide service to 2 wards. Pharmacists who have drug distribution duties generally provide service to 1 ward.

Select medication prescribing via collaborative practice agreements.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility with fewer total beds (this could be the result of an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.).

Clinics

Physician Services

Dental Clinic

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Medication order processing will change with an EHR because providers will enter orders. Clinical services provided by pharmacists will be increased.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Clinics

Physician Services

Dental Clinic

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Current deficiencies are the lack of an EHR and lack of clinical pharmacist office space near the wards.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

3. Please describe the current internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Clinics

Physician Services

Dental Clinic

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

See #2 for deficiencies. Lack of EHR delays care, relies on paper processes, wastes time finding patient information, causes medication errors, delays drug delivery to patients.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Please note any differing opinions that still exist at the conclusion of your discussions.

Radiology

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Pharmacy Services (including Clinical Pharmacology)

The new building will need a satellite pharmacy in order to provide the best, timeliest care.

A pneumatic tube system would allow for the timeliest drug distribution to wards for urgent medication orders.

EHR would allow for clinical pharmacists to spend more time on wards to provide consultation and troubleshoot issues right on the ward.

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Radiology

Please note any differing opinions that still exist at the conclusion of your discussions.

Pharmacy Services (including Clinical Pharmacology)

Constant increasing regulations regarding medication safety happen, but it's hard to predict the future.

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Clinics						
Physician Services						
Dental Clinic						
Pharmacy						
Chief Pharmacy Officer	1	1	Office		Dedicated	
Deputy Chief Pharmacy Officer	1	1	Office		Dedicated	
Ward Pharmacist	9	9	Offices		Multi-use	
Staff Pharmacist	11	11	Workstation			
Lead Pharmacy Technician	1	1	Office		Dedicated	
Pharmacy Technician	9.5	10	Workstation			
Diabetes Pharmacist	1	1	Office		Bldg 17	
Safety Pharmacist	1	1	Office		Bldg 17	
Antimicrobial Pharmacist	1	1	Office		Bldg 17	
Supply Officer	1	1	Workstation		Dedicated	
Medicare Part D Biller	1	1	Workstation		Dedicated	
Medicare Specialist 1	1	1	Office		Dedicated	
Admin Assistant 4	1	1	Workstation		Dedicated	
Pharmacy IT	4	3	Workstation		Dedicated	

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Shared Support						

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Adjacency Requirements (continued)

Describe critical *ideal future external adjacency relationships* that each area has with other departments in the facility. These relationships may be a result of resident flow, materials flow, or staff movements. Some historic relationships may not be necessary in a more electronically connected environment.

Using the "Closeness" indicator identified below, indicate how near you should be located to the listed departments. Identify the most important "Reason" from the list below, or add explanation. Also, estimate the number of contacts you make per day with that particular department. *Again, please think about it from your understanding of the future patient profile and a new facility/environment.*

CLOSENESS INDICATOR

- 1 - Directly next to
- 2 - Same floor
- 3 - Doesn't matter

REASON INDICATOR

- A - Resident movement
- B - Staff movement
- C - Materials movement

Department	Closeness	Reason	Contacts/Day
All wards, MDs, nursing staff	3		
Central service	2		
Lab	3		
Quality – data requests	3		
Hospital management			
Dietary – diabetes related care	3		
Employee Health – provide vaccines	3		
CSTC and FSCRIP – all pharmacy services			
Organizational Development	3		
HIMS – requests for charts	3		
Maintenance and refrigeration	3		
East Campus clinic	3		
Custodial services	3		

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

The Pharmacy department is schedule to move into a new main pharmacy in April. The plan is to consolidate 2 existing pharmacies (staff and inventory) into one department. The East campus satellite will remain in operation servicing East campus wards and CSTC. The new main pharmacy will service CFS, Central campus, South Hall, HMM, FSCRW wards. The new pharmacy workflows were designed assuming we would have an EHR in place which would replace the current system of faxing physician orders to the designated pharmacy.

Western State Hospital

Questionnaire for:

Clinical Ancillaries

- Clinics*
- Physician Services*
- Dental Clinic*
- EKG*
- Laboratory*
- Radiology*
- Pharmacy (including Clinical Pharmacology)*
- Shared Support*

December 2019

Completed By: Name	Contact (phone or email)
Dr. Ostry	3358

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Program/Service Description:

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Clinics

Physician Services

Dental Care

Coordinate patient appointments with escort scheduling, escort's, nursing, physicians and security in movement of the patient to the dental clinic.

Deliver dental treatment to patients, tailored to their particular needs.

Advise patients of their daily oral care required to maintain their dental health.

What the patient's current dental needs are currently to obtain dental health at this point in time.

Provide a safe environment in which to deliver dental treatment, both in time and field.

Provide emergency and routine dental care to residents of WSH, Child Treatment Center, FSCRCP and HMH to the extent determined by facilities and staffing available.

To provide training and assistance to ward staff and residents to help attain a high standard of oral hygiene for residents.

To control and elimination of dental and oral pain.

To control and elimination of dental and oral infection.

To provide adequate maintenance of patients' presenting dentition to the degree possible.

To provide adequate replacement and restoration of lost function where indicated.

EKG

Laboratory

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Radiology

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

- 1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility with fewer total beds (this could be the result of an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.).

Clinics

Physician Services

Dental Clinic

The need to update the radiology equipment to current community standards.

There would be no change since the mental population does not regard dental health as a concern and is usually self-neglected.

A need to provide personal hygiene instruction and requirements on a daily basis.

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Clinics

Physician Services

Dental Clinic

Consistent environmental daily care required in a surgical area.

Patient movement to appointments.

EKG

Laboratory

Radiology

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

3. Please describe the current internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Clinics

Physician Services

Dental Clinic

Separate filing system room even when one goes electronic, for charts and models.

Separate room for storage apart from compressor and suction system.

Separate room for laboratory.

Separate room for dirty instrument processing with correct airflow directions.

Doorways large enough for large wheelchairs and jerry chairs for x-ray areas and treatment facilities.

Separate restroom facilities for staff.

Separate front desk and office area for dental health coordinator.

EKG

Laboratory

Radiology

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Pharmacy Services (including Clinical Pharmacology)

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Feedback loop with regards to patient movement to appointments.

Screening patients in dental emergency status.

Please note any differing opinions that still exist at the conclusion of your discussions.

Maybe a separate patient waiting area away from view of operatories.

If there is combined waiting area between services there would be a need for security in a large enough number in case of patient incident.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Laboratory

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Radiology

Please note any differing opinions that still exist at the conclusion of your discussions.

Pharmacy Services (including Clinical Pharmacology)

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Clinics

Please note any differing opinions that still exist at the conclusion of your discussions.

Physician Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Dental Clinic

Need for digital x-ray equipment to insure air quality. Be aware that the current ways we process x-rays is years behind community standards, to the point we have to acquire used parts since the dental industry no longer processes x-rays but uses digital.

Even going digital will not decrease our needs for space since we use models of the mouth that need to be retained according to state law. This would include paper documents, charts and written communications.

Please note any differing opinions that still exist at the conclusion of your discussions.

EKG

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

Laboratory

Please note any differing opinions that still exist at the conclusion of your discussions.

Radiology

Please note any differing opinions that still exist at the conclusion of your discussions.

Pharmacy Services (including Clinical Pharmacology)

Please note any differing opinions that still exist at the conclusion of your discussions.

Shared Support (e.g. reception, waiting, clean and soiled utility rooms, etc.)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Clinics						
Physician Services						
Dental Clinic	2	dentist	chairside	8		
	2	Dental assistqnt	chairside	8		
	2	hygienist	chairside	8		
	1	Dental health coordinator	office	24		
EKG						
Laboratory						
Radiology						
Pharmacy						
Shared Support						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Clinical Ancillaries

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Encouragement of ward staff in daily oral care requirements toward the patients function.

Western State Hospital

Questionnaire for:

Dietary Services

December 2019

Completed By: Michelle Gessner

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architecture+

Western State Hospital

Questionnaire
Dietary Services

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Dietary Services

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Dietary Services

December 2019

 Program Description

- 1.1 Please provide a brief narrative that summarizes the current scope/operations of your Dietary Department. Please be sure to identify the on-unit services to the patients of the Facility.

The Food and Nutrition Services department provides medical nutrition therapy or clinical nutrition services to all patients. Ensuring that all patients are assessed for nutritional risk upon admission, provides medical nutrition therapy recommends diets and interventions to physicians, and continuously monitors nutritional status. The dietitian participates in treatment team meetings and provides nutrition classes and counseling to patients and staff.

The food service department provides meals and snacks to patients producing up to 3000 meals and 2000 snacks per day from a central kitchen. Meals are assembled onto trays meeting individualized nutritional needs for each patient. Trays/meals are then kept cool until just prior to transport to the wards, the meal carts are connected to a re-therm unit which cooks and cools meal items. The hot food is then transported to the wards by transportation for service to the patients.

The wards prepare all beverage items within the ward kitchenette; beverage service includes coffee, water, diet drink, milk, and hot chocolate. The ward kitchenette also supplies a small inventory of food products that staff may access for patients throughout the day/night as needed.

- 1.2 Please provide your thoughts on the changes that will need to occur to the nature of the food services production, delivery and meal service as a result of moving to a facility with fewer total beds than your systems were originally designed to support (this reduction in bed count is likely to bring an overall increase to the acuity and functional disabilities of the patients); there may also be new opportunities in meal production and service styles, etc.

The kitchen space is new and will not require too many changes as the new facility is brought onboard.

The hospital can change back to 1 meal service time instead of 2, due to potentially having a sufficient number of re-therm units.

The central kitchen could take on preparing meals for a retail operation/Café for staff within the new building. The new building could just provide the serving space.

The team of clinical dietitians will need office spaces this will be for 10 staff members.

The ward kitchenettes should be equipped with coffee and water machines, re-therm units for remote heating of meals, microwaves, refrigeration and either 3 compartment sinks or sanitizing warewashing units. This space should also offer locked cabinets for storing items in the kitchen, such as foods, dry goods, disposables and beverages.

Western State Hospital

Questionnaire
Dietary Services

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please include information on the dietary services provided on the resident care units. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery, and/or staff environment.

Clinical nutrition office spaces

Nutrition Education space for teaching patient discharge skills on buying, making, and storing foods

Central kitchen

Ward kitchenettes (need to have cleaning supplies and access to trash removal)

Ward dining rooms, one for each ward

3. How and when will food be transported to the inpatient units (meals and nourishments)?

Meals are sent three times a day about 1 hour prior to meal service times, by the transportation trucks.

Snack items and ward food supply is sent 1 time per day at the designated time on the transportation truck.

All food items are transported in carts and loaded onto a transportation truck for delivery, carts are taken to a building loading dock area. Loading dock must have easy access to elevator and ward kitchens.

4. How many carts are used for the building? How big will the carts be in terms of size and number needed per unit per meal?

We use 1 meal cart per ward of up to 30 patients and 1 snack cart per ward. Supply delivery cart could be used for large inventory deliveries.

Number needed depends on the number of open wards within a building.

5. Is a holding area required if deliveries are not timed for individual meals? If so, what cart manufacturer and model number is anticipated?

The holding unit would be the retherm unit, which preferably would be in the kitchenette to ensure food safety and accuracy of meal delivery, otherwise the holding area is the central kitchen as trays go through the retherm process.

Western State Hospital

Questionnaire
Dietary Services

December 2019

6. How many sittings will be scheduled at each meal for each dining room?

Current we allow for 30 patients to be in dining room at one time. This depends on if wards share a dining room. Currently some wards will share a dining room, 2 wards per dining space is maximum.

7. Will dining occur on the unit or at a central location within the building? How and when are carts returned to the kitchen?

Dining will occur on each ward unit.

Carts are returned to the central kitchen once meal service is completed. About 1.5 hours after drop off occurs.

8. Will service be family style, pre-plated or service line? If pre-plated, how will the need for seconds be accommodated?

Meals will be pre-plated on trays.

Seconds are not provided, staff has access to a small amount of food inventory they can provide to a patient if needed. The dietitian may also order double portions if a patients has a medical need for additional foods.

9. What accommodations need to be provided at the Dining Room for beverage storage and distribution?

Patients need access to water all day

Staff need to brew coffee, and make hot chocolate and tea for patients

Staff mix a diet beverages for patients to drink with meals. Milk is provided with meals from the ward kitchens as well.

Ward Kitchens should store dry supplies such as cups, coffee condiments, individual juices, and specialty milks/beverages. Some frozen items will need to stored.

10. Where will service ware, plates, and cutlery be washed?

All meal service items are disposable and not washed presently

Items in the cart such as the plate-lid and the tray are sent back to the central kitchen for washing

Each kitchenette has a small sanitizer for washing any pans or serving utensils needed on the ward.

Western State Hospital

Questionnaire
Dietary Services

December 2019

11. Please describe the current internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

We are not sure about this yet, we move into the new kitchen space in spring 2020.

12. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

If we provide a retherm unit in each kitchen on the patient ward, we can send food around campus cold and re-heat the meals on each ward. Improving food quality and food safety.

Please note any differing opinions that still exist at the conclusion of your discussions.

13. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external, equipment or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Starting a new retail employee café operation that is run by WSH.

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Dietary Services

December 2019

14. Please list the titles of *current* staff and number of FTE's and Bodies of each area within Dietary Services and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, visitors) please indicate the "usual" number of such others that would be present in the office - this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally - e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Food Service Worker	91	100	4		Multi	Y
Cooks	13	14	2		Multi	Y
Supervisor	6	6	6		Dedicated	n
Manager	1	1	1		Dedicated	n
Diet Office Staff	2	2	2		Dedicated	n
Office Assistant	1	1	1		Dedicated	n
Dietitians	8.5	9	9		Dedicated	n
Clinical Nutrition Mgr.	1	1	1		Dedicated	n
Software Mgr/RD	1	1	1		Dedicated	n
Department Director	1	1	1		Dedicated	n

Western State Hospital

Questionnaire
Dietary Services

December 2019

17. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

The Food Service team needs a venue/room for large events that can accommodate holding and serving foods. Many times food items are offered during meetings and we do not have space to hold or serve lunch or snack items.

Western State Hospital

Questionnaire for:

Facilities Management Services

- Environmental Services (Housekeeping)*
- Laundry & Linen Supply*
- Maintenance Shops*
- Central Supply/Central Stores/Warehousing*
- Employee Lockers*
- Transportation (Building & Grounds)*
- Security*
- Fire/Safety*

December 2019

Completed By: Name	Contact (phone or email)
(LEAD)Tammy Adams-Norman	Tammy.adams-norman@dshs.wa.gov

Western State Hospital / Appendix

architecture+

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

Program Description

1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Environmental Services (Housekeeping)

N/A

Laundry & Linen Supply

N/A

Maintenance Shops

N/A

Central Supply/Central Stores/Warehousing

Central Service provides the service of cleaning and sterilizing of all medical and dental instruments used throughout the hospital. We also clean and sanitize all or most medical equipment for the facility. We direct all patient care equipment to the biomedical department for maintenance and service after cleaning and sanitizing. Central service also provides all Medical Supply services to the entire hospital to include inventory and delivery of all supplies to all areas of the hospital. We maintain the warehouse and supply of medical supplies as well as initiate and track all orders and receipts of the medical supplies.

Employee Lockers

Central Service staff have the requirement to have lockers within our department as we must change into facility prepared uniforms sometimes several times a day within our department. Lockers to facilitate holding of coats and or rain gear upon entry to the new facility from our department in building 22 would be a good idea.

Transportation (Building & Grounds)

Central Service has the use of 2 vehicles for the delivery of medical supplies and instruments/equipment. We require a place near ramps under cover to be able to load and unload supplies that need to be free from rain etc. to remain clean and sanitary as well as to facilitate safe and efficient delivery.

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

Security

N/A

Fire/Safety

N/A

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

- 1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility with fewer total beds (this could be related to an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.).

Environmental Services (Housekeeping)

Laundry & Linen Supply

Maintenance Shops

Central Supply/Central Stores/Warehousing

We are already moving to a much smaller facility and are hoping the decrease in beds will simply mean we will then have adequate space to store and serve medical supplies and equipment and instruments as needed by the hospital.

Employee Lockers

Transportation (Building & Grounds)

Security

Fire/Safety

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Environmental Services (Housekeeping)

Laundry & Linen Supply

Maintenance Shops

Central Supply/Central Stores/Warehousing

There is a very real need for space, and structure to store in a compliant manner all medical supplies needed by the wards at each location as well as a supply area from which small stores of supplies can be placed into use. The patient rooms could have a small lockable area where supplies needed for that patient could be safely stored to eliminate the need to carry supplies from a different area into each room vs having at bedside etc. Medical equipment needed by a patient also needs to have a lockable space provided such as CPAP machines, Nebulizers, oxygen concentrators etc.

There needs to be thought and planning for elevators and access for delivery of supplies to the wards. Parking for delivery vehicles (from multiple disciplines) where supplies can be safely and efficiently offloaded and delivered without having to make multiple trips across long distances that are not even etc due to no parking, ramps etc.

Employee Lockers

Transportation (Building & Grounds)

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

Security

Fire/Safety

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

3. Please describe the internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

Environmental Services (Housekeeping)

Laundry & Linen Supply

Maintenance Shops

Central Supply/Central Stores/Warehousing

Central Service will have the new facility already and will deliver to the wards and the clinics. There might should be a central Biohazardous waste room where sharps and dirty instruments etc could be collected in the new building before being transported to CS for further processing.

Employee Lockers

Transportation (Building & Grounds)

Security

Fire/Safety

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Environmental Services (Housekeeping)

Please note any differing opinions that still exist at the conclusion of your discussions.

Laundry & Linen Supply

Please note any differing opinions that still exist at the conclusion of your discussions.

Maintenance Shops

Please note any differing opinions that still exist at the conclusion of your discussions.

Central Supply/Central Stores/Warehousing

Please note any differing opinions that still exist at the conclusion of your discussions.

Employee Lockers

Please note any differing opinions that still exist at the conclusion of your discussions.

Transportation (Building & Grounds)

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

Security

Please note any differing opinions that still exist at the conclusion of your discussions.

Fire/Safety

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Environmental Services (Housekeeping)

Please note any differing opinions that still exist at the conclusion of your discussions.

Laundry & Linen Supply

Please note any differing opinions that still exist at the conclusion of your discussions.

Maintenance Shops

Please note any differing opinions that still exist at the conclusion of your discussions.

Central Supply/Central Stores/Warehousing

Please note any differing opinions that still exist at the conclusion of your discussions.

Employee Lockers

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

Transportation (Building & Grounds)

Please note any differing opinions that still exist at the conclusion of your discussions.

Security

Please note any differing opinions that still exist at the conclusion of your discussions.

Fire/Safety

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Environmental Services (Housekeeping)						
Laundry & Linen Supply						
Maintenance Shops						
Central Supply/ Central Stores/ Warehousing						
CS Supervisor	1	1	1	1	Multi	1
CS lead	1	1	1	1	Multi	
Technicians	9	10	10		Multi	
CS EVS	1	1	2		Multi	
Employee Lockers						
Transportation (Building & Grounds)						
Security						
Fire/Safety						

Western State Hospital

Questionnaire
Facilities Management Services

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Information Technology & Integration

- Information Services*
- Medical Records*
- Quality Assurance/Incident Reporting*
- Staff Development*
- Switchboard/Communications*
- Education & Conferencing*
- Electronic/Data/Systems Integration*

December 2019

Completed By: Sharon Bourne, Dir. HIMS and Privacy WSH	<u>253.756.2762</u>

Western State Hospital / Appendix

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Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

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- To assist in the development of a database useful in planning activities.

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2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
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6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

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10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

Program Description

- 1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below:

Information Services

Medical Records:

Responsible to ensure hospital compliance with state and federal regulations including Conditions of Participation by the Centers for Medicare & Medicaid Services (CMS), Health Insurance Portability and Accountability Act (HIPAA) Privacy and Security Rule – laws governing protected health information (PHI), Washington Administrative Code (WAC) and Revised Code of Washington (RCW). Responsible to lead and manage 47 staff, all Health Information Management (HIM) related services, development of medical record related policy and protocols, HIPAA Privacy activities for the hospital's medical staff, and in departmental areas throughout the hospital. Ensures, tracks, and audits compliance of 825+ active legal clinical records and the protection, storage, archiving and dissemination of information (PHI) contained in over 10,000 discharged patient records. Promote best practice, and provide education and trainings to staff in all areas related to the legal health record and in the safeguarding of protected health information.

Quality Assurance/Incident Review

Staff Development

Switchboard/Communications

Education & Conferencing

Electronic/Data/Systems Integration

- 1.2 Please provide an overview of the current status of electronic data and systems integration at the hospital. Please describe also the electronic linkages in place with the Department of Mental Health for applicable functions below:

Administrative and Financial Reporting Systems

Electronic Health Record, including electronic multidisciplinary charting

At this time Dec. 2019, WSH does not have an EHR in place. The hardcopy clinical record remains as the final repository of all patient clinical documentation for all current or former (inpatients) admitted into WSH. WSH does however, have electronic tools/programs in use that have been written by BHA/WSH IT staff. These programs were developed with the intent to assist with the tracking, scheduling and documentation of active treatment activities (TRx), the tracking, review, scheduling and follow up of all medical consults - Consultation Review Tracking System (CRTS), or as a tool to assist in the "dictation" of health information for medical staff providers - Clinical Document Manager (CDM). It is important to note that these programs have since been "adapted" in effort to facilitate a method of electronic documentation in some instances, and remain as such. They are not the official record or official electronic health record of WSH. They are electronic documents management or tracking systems and are becoming increasingly problematic for the hospital due to factors such as a lack of IT resources to update existing coding, or that they have become incompatible with newer programs such as WOS 10. WSH's main database in use is Cache, (a "free" mumps based program from the VA years ago) this program too is so old that new developers coming out of school are not taught this program. WSH uses Cache data to generate many of its data reports, or data visible through an interface such as Patient Inquiry. (IT staff can verify if I have it correct)

Integration of Patient Demographics, Clinical Information and Other Patient/Care/Treatment Data with the Electronic Health Record
(As explained above)

Education, Meeting and Conferencing Support (electronic room booking and scheduling, internal and externally interfaced audio and video teleconferencing,

Building Automation Systems

Integrated Security Systems (patient security systems, entry/exit security systems, staff personal security/alarm systems, etc.)

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

- 1.3 Please provide your thoughts on the changes that will occur to the nature of each of the services and systems as a result of moving into a new facility with fewer total beds (there could be an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, new strategies for computerization and moving more into an electronic world, etc.)

Information Services

Medical Records, including Electronic Health Record, integrated patient data/clinical information

Dependent upon the move-in year, storage of hard copy discharged clinical records would need to be maintained on site for a minimum of 2 years (currently we store 5 years, but that will change in 2020) It would be my hope that the cost of a fully integrated, official EHR would be included with the design of the new hospital - there should be no question about this. An EHR purchased from a professional vendor that will incorporate all pertinent patient clinical data is a must. WSH's current paper environment is becoming closer and closer to extinction; especially in comparison to the outside world, it will become increasingly difficult to purchase supplies and to accommodate coordination of care needs in the community if we remain as current.

How an EHR would be implemented in the new hospital - as there are many factors to consider, would be dependent upon the software program and vendor that is purchased/contracted. The acuity level or decrease in beds would not necessarily impact the continued need for compliant clinical documentation. Only the frequency of documentation that is needed related to the acuity level of the patients (lesser episodes of S&R etc.) might change, that is unless the new hospital would be under different certification standards (not CMS etc.). All HIPAA related events would continue to be reported as federally required. Processing of release of information requests would be much simpler once in an electronic environment.

Switchboard/Communications

Quality Assurance/Incident Review

Staff Development

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

Education & Conferencing Services, Facilities and Systems

Administrative and Financial Reporting Systems

Building Automation Systems

Integrated Security Systems (patient security systems, entry/exit security systems, staff personal security/alarm systems, etc.)

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

-
2. List the main program elements (spaces or functions) currently of each area. This includes key features of your program. Please focus also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

*Information Services**Medical Records*

Current State:

- 29 wards with 25 – 30 “4” inch clinical record binders on each ward
- Documentation over flow locations such as drawers or locked file cabinets of “split” records these are generated from a lengthy stay (years) or from a high acuity patient.
- Several individual 3 ring “binders” containing patient record information outside of the hard copy record for staff convenience to access such as: vital sign flow sheets, seclusion and restraint documents, census sheets, behavioral and observation flow sheets etc.
- 2 rooms in the HIM area that are large enough to house 9,000 inpatient “split” clinical records and over 7,000 discharged patient records.
And house 17 HIM staff who are responsible for: assembly, analysis, coding, archiving, maintenance, storage, records requests, compliance reports, audits, concurrent and federal tags, release of information, forensic files, SUD files, that are included in the processing and storage of all current/former inpatient clinical records.
- Dictation facilitation, and chart deficiency and delinquency resolution location.

Concept of ideal pt. care:

With an EHR, review and retrieval of clinical documentation would not only be much more efficient, but much more expedient in many ways, examples could be:

- Significant decrease in the amount of staff time spent conducting audits, creating data reports, ensuring compliance standards and records review overall.
- Required documentation elements such as date, time, signature etc. could be part of the EHR software program. As an example; a provider cannot “save or submit” an electronic “document” until all required elements are “checked” or are completed, reviewed and signed. This feature would save thousands of dollars in the amount of staff time performing concurrent chart reviews and CMS tag audits.
- External reviewers such as CMS, DOH, would be able to review information they are “looking for” much more expeditiously than as is current. As example; not having to sort through very thick charts, or clinical staff having to search through a “document program” such as TRx or CDM, for a care note that wasn’t printed out by an OA, or filed in the chart...etc. etc.
- An EHR would facilitate timelier release (federal requirement) and processing of information requests (ROI) this in turn, would help facilitate timely coordination of care with external partners, community providers, hospitals, AGs, etc.

Quality Assurance/Incident Review

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

Staff Development

Switchboard/Communications

Education & Conferencing

Electronic/Data/Systems Integration

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

-
3. Please describe the internal operations and functions of each area. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are located in several places across the Facility fragmenting workflow, supervision, etc.

*Information Services**Medical Records*

Currently the HIMS department is displaced from 2 floors earlier this year (2019). There have been numerous ways that this has impacted the ability to perform the daily records functions in order to efficiently continue to meet the business needs of the hospital. A few of these are:

Staff is housed in 2 buildings. One is separate from the records storage location in the original HIMS dept. Staff runs to and from each location across the large campus in order to process ROI, collect or distribute records and/or enter data.

Limited access to computer programs and databases specific to verify new admitted patient identification, HIMS specific files, limited number of computers, environment hazards, construction, and lack of storage, supplies, equipment, and space to store confidential staff and patient information and communication challenges.

HIMS does not have a dedicated campus vehicle. This makes transportation of patient records on the large campus difficult for staff. Some records contain multiple volumes and are very heavy to lift on and off the shuttle bus.

I am hoping that the recent events of the WSH HIMS dept. are being considered in the new hospital by not housing the medical records department under water sources with the potential to flood or leak. Although if in an EHR that would eliminate this need.

I would assume that it is known that an EHR comes with different kind of security measures that need to be tight, backed up and closely monitored on a regular basis to ensure data security in the prevention of any ransom ware encryptions or hacks and that this would be a deliverable.

*Quality Assurance/Incident Review**Staff Development*

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

Switchboard/Communications

Education and Conferencing

Electronic/Data/Systems Integration

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

4. Please indicate if there are any operational changes that would improve the efficiency of each area, in particular any physical features that could make your area more efficient.

Information Services

Medical Records

In our regular location, the space was adequately and efficiently designed to meet the need as described above save being in the basement under patient care areas with water sources.

To improve our efficiency:

- An EHR as explained previously
- A vehicle dedicated solely to the HIMS department

It is the future of HIMS to be moved into a different building on campus without a water source above it. In the new hospital it would be best for HIMS to be in an area without water above if in the new hospital remains in a paper environment.

Quality Assurance/Incident Review

Staff Development

Switchboard/Communications

Education & Conferencing

Electronic/Data/Systems Integration

5. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Information Services

Please note any differing opinions that still exist at the conclusion of your discussions.

Medical Records

- In January the OA3s (ward clerks) will be reporting to the HIMMS department under the Office of Quality. This will impact records maintenance with the intent to improve standardization.
- A date TBD in 2020, the current location of the HIMMS dept. in build.19 will move to the current pharmacy building
- In January of 2020 the HIMMS dept. will initiate a records archival project that will take our current storage of records from 5 years down to 2 years. This is to accommodate new storage needs.
- In 5 years it may be impossible to purchase paper record supplies such as divider tabs from vendors. Nationally, there are fewer companies in business for this purpose.
- I am not aware of an implementation date in the next 5 years for an EHR at WSH.

Please note any differing opinions that still exist at the conclusion of your discussions.

Quality Assurance/Incident Review

Please note any differing opinions that still exist at the conclusion of your discussions.

Staff Development

Please note any differing opinions that still exist at the conclusion of your discussions.

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

Switchboard/Communications

Please note any differing opinions that still exist at the conclusion of your discussions.

Education & Conferencing

Please note any differing opinions that still exist at the conclusion of your discussions.

Electronic/Data/Systems Integration

Please note any differing opinions that still exist at the conclusion of your discussions.

6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstn	Usual # Visitors to office/ wrkstn	Requires Dedicated or Multi-Use	Hoteling Areas
Information Services						
Medical Records	52					
Director	1	1	Office	100+ year	Yes	
Records Manager	1	0	Office	50+ year	Yes	
OA Supervisor	1	1	Office	50+ year	Yes	
HRT 2s/RHITs	8	7	Workstation	<10 year	Yes	
OA Leads	6	2 in HIMS 4 on wards	Workstation In HIMS and on wards		Yes	
OA3s	33	4 in HIMS 25 on wards	Workstation In HIMS and on wards		Yes	
Secretary Seniors	2	1	workstation	100+ year	Yes	
Dictation/Delinqncy room	Medical Staff	Up to 3 at a time	Office	100+ year	Yes	
HIMS Reception Area	Staff, Visitors, Previous Patients	Up to 6 at a time	Foyer	100+ year	yes	
QA/Incident Report						
Staff Development						
Switchboard/ Communications						
Education & Conferencing						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

Staff Title	FTE's	Bodies	Office/ Workstn	Usual # Visitors to office/ wrkstn	Requires Dedicated or Multi-Use	Hoteling Areas
Electronic/Data/ Systems Integration						

Western State Hospital

Questionnaire
Information Technology & Integration

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?

Western State Hospital

Questionnaire for:

Therapy/Activity

- Rehabilitation Leadership*
- Recreation Therapy/Gym/etc.*
- Music Therapy*
- Library/Patient Education/Technology Center*
- Patient Clothing*
- Barber Shop/Beauty Shop*
- Chapel*
- Points Store/Commissary*
- Outdoor Functions*

December 2019

Completed By: Kathrin Christensen	253-984-4111/chriska@dshs.wa.gov
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Alvin Johnson - vocation	JOHNSAC@dshs.wa.gov
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Lynnette McInturff – OTA Physical Rehab	MCINTAL@dshs.wa.gov
Kathleen Benoun - Library	kathleen.benoun@sos.wa.gov
Lindsey Carney – Recreation Therapy	CARNELI@dshs.wa.gov
Art Kelly – Evening and Weekend Programs	KELLYAE@dshs.wa.gov
Kim Stavrum –CFS representation	STAVRKM@dshs.wa.gov
Andrea Martinez	Martiav@dshs.wa.gov
Sascha Schaudies	SCHAUSA@dshs.wa.gov
Scott Mannering -Patient Education	MANNESC@dshs.wa.gov
Chad McMullen – SUD representative	MCMULCM@dshs.wa.gov

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

PURPOSE OF THIS QUESTIONNAIRE

This questionnaire has been developed by the Planning Team to assist in collecting programming and planning information for the design of a state-of-art treatment facility for adults with serious and persistent mental illness, to replace the current forensic programs and facilities at Western State Hospital.

You are requested to answer the questionnaire for the areas (programs, services and facilities) for which you have responsibility. We are interested in multiple viewpoints, therefore individuals have been identified from both the existing hospital facility and from DSHS & BHA. You are requested to respond to the questionnaire from the collective viewpoint, therefore all identified representatives covering each department/ service will need to meet and discuss the issues in the questionnaire to create a combined response (please see below for a description of this process). For questions or issues where there are clearly different viewpoints, we ask that you briefly outline these for us. Such differences may relate to culture, treatment philosophies/ approach, roles and responsibilities or ideal facilities/patient care environment, in moving into the future.

In all cases, we ask you to think about your new future, a future that provides for your new treatment and service environments, new technologies and the like.

The questionnaire's purpose is as follows:

- To assist the Planning Team in analyzing the current and future activities of hospital departments.
- To communicate information about the Hospital's current and future programs and services to the Planning Team.
- To serve as a tool for the Planning Team in evaluating demands and needs of departments.
- To assist in the development of a database useful in planning activities.

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Read all questions carefully before answering any part of the questionnaire.
2. Each of the designated individuals who has primary responsibility for the department/services covered should complete the questionnaire, particularly related to the existing services and facilities. We also ask that you think about the future (5 to 10 years from now).
3. A Briefing and Visioning Session is scheduled for December 10 and 11, involving representatives from Western State Hospital and DSHS. Please bring your questionnaire responses and thoughts about the future to this planning day. Following the visioning session, the representatives for all services will be asked to get together as groups to review their responses and determine what the collective response should be. Where there is a divergence of opinion regarding any particular question, space is provided to document this for our planners. We value multiple points of view.
4. At this review session, the identified lead individual will then complete the consolidated questionnaire.
5. Each question should be answered by entering the information requested or by entering the numerical value requested in the spaces provided. It is hoped that the questionnaire can be completed electronically. Any added information that is in electronic format should be appended to the email to which the response is returned (or a subsequent email, depending on the capacity of the email system). Any additional material that is hard copy should be scanned and emailed or faxed.
6. The sources of information should be cited if applicable (e.g. Committee Meeting Minutes or Monthly Medical Record Report).

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7. Please state when information is not available or estimates are provided as answers to any questions.
8. If any question does not relate to your department, please indicate "Not Applicable".
9. It is requested that the nominated 'lead' assemble the collected responses in advance of the Detailed User Group Programming Meetings which are tentatively scheduled for January 2020.
10. Please be prepared to verbally submit your detailed responses to the Planning Team in January 2020.

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 Program Description

- 1.1 Please provide a brief narrative that summarizes the current scope/operations for each of the programs/services listed below. From the big picture perspective, what do you do and what are your treatment goals (including contact hours per week)?

Rehabilitation Leadership: Supervises staff who provide direct therapy care to patients. Treatment mall leadership for these populations (CR and NGRI) includes Therapies Supervisors X's 2 currently but may build out to 3 to include an evening and weekend program Therapies Supervisor in time.

Treatment Malls – competency restoration and Not Guilty by Reason of Insanity (NGRI).

Evening and Weekend Programs – competency restoration and Not Guilty by Reason of Insanity

Program Managers- Substance Use Disorders

Each of these supervisors manages 10-35 staff with daily direct care and direct supervision.

Active Treatment Director – supervises all of the above supervisors. Programs supervised by the director are:

Substance Use Disorders

Treatment malls

Recreation Therapy/Evening Weekend programs

Beauticians

Recreation Therapy/Gym/etc.: civil patients currently do not have access to a gym. When the quadrangle fencing went up, it did not include this area of the hospital. Forensic patients have a gym in the treatment mall which is used for large group parties/events with patients, organized sports, free/open gym time. The gym area has both a full sized basketball court with wood floor and a separate weight room which requires patient supervision and doctor's order to use the space.

The evening and weekend recreation program provides various services that heavily focus on Rec Therapy, Gym, Music Therapy, and Outdoor Functions.

The gym is available to CR patients 1 hour a day and to NGRI patients for 3 hours day.

Attendance requirements vary as CR and 1 hour of NGRI gym time are scheduled groups with patients assigned to work on leisure, recreation, and coping skills with the additional NGRI 2 hours beings on a drop-in basis, so participation levels vary greatly from patient to patient. The goals with our provided services:

- a. Provide clients with a safe space in which to participate in recreation and fitness oriented activities.
- b. Provide a variance of available activities to try and address as many interest areas as possible. Current focus areas include games and physical wellness.
- c. Increase and/or maintain fitness level in patients to provide them with the knowledge and skills necessary to maintain healthy lifestyles once they discharge. This is done by providing both structured and unstructured fitness activities.
- d. Provide patients with healthy recreational habits to help prevent relapses by providing alternative coping activities.

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Music Therapy: We provide one group a day by a certified Music Therapist for the NGRI patients. She currently stores all musical instruments throughout various storage spaces in the current TRC. She uses a large group room that is semi secluded from other rooms due to lack of sound proofing in the walls. There is currently no music therapy programing for the CR patients.

Library/Patient Education/Technology Center: Although Pierce County Library System has a location within the patient quadrangle, additional libraries have been established that are run by treatment malls on a smaller scale to provide materials to patients who are not able to move to the quadrangle. They provide much of the same materials one would find in a traditional library. Center based libraries do not have access to internet or computer use. NGRI patients do have access to computers through Pierce college computer lab based within the current TRC. These group offerings have recently allowed NGRI patients to access the internet for educational purposes. CR patients are not allowed to access the computer lab due to safety and security requirements.

Time: one hour a week

Patient Clothing: clothing stores are available to NGRI patients on the treatment mall and a larger store on campus is available and run through HMM (outside our dept). The stores are designed to provide fashion items in a variety of options. Patients are allowed to access the store using earned points from group participation. Patients can use the store one time a week.

Time: one hour weekly to shop for one item

CR patients are provided hospital sweat suits to wear upon their admission.

Barber Shop/Beauty Shop: two beauticians currently support hospital wide haircuts. They make monthly visits to each ward and provide this service in the open day area on the wards. This service is provided at no charge to the patients. They have a location within the quadrangle for South/Central hall patients to get haircuts. The haircut shop is open every Friday half day and some Mondays and Tuesday. Schedules are set in advance.

Ideally they would have a location in the new hospital to allow patients to come to them for hair services.

Chapel: The chapel currently uses treatment mall space (gymnasium in CFS) on Sundays. They store a podium in our storage area and use TRC equipment. *Ideally they would have a location to store their own equipment to provide multi-dominational services in a multipurpose space in the treatment mall.*

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Points Store/Commissary: Similarly to Patient Clothing store, our patients have access to a therapy mall based market which they can access based on points earned on a weekly basis. We also have a Java site, serving snacks and coffee which is run by another program (HMH); however this program requires monetary exchange not points.

Outdoor Functions: We (treatment malls) currently do not have a designated place to conduct outdoor functions for either the CR or NGRI population such as evening and weekend events, and patient outdoor privileges. Goal: to provide social activities that promote self-care, fun and re-inforce skills learned in treatment.

Ex: Outdoor activities may include, walk/run events, basketball, bike riding, team sports, and other individualized coping skills. Goal: to provide social activities that promote self-care, fun and re-inforce skills learned in treatment.

Substance Use Disorders (SUD): currently there are 4 certified staffs to provide drug and alcohol assessment and licensed SUD group treatment. Goal: to support integrated recovery of patients who are living with sud and mental health concerns which is known to improve outcomes for those living with co-occurring issues.

The Substance Use Disorders' (SUD) program currently receives referrals from treatment teams across the hospital and asses patients for SUD. The assessment identifies DSM-5 Criteria to make diagnoses. The assessment also follows the American Society of Addiction Medicine (ASAM) criteria to assess the severity of problems caused or exacerbated by the SUD if present to make treatment recommendations of patients who are diagnosed as having a SUD.

The program also works throughout WSH to educate staff about SUD and the types of treatment available.

The SUD program also provides Screening Brief Interventions and Referral to Treatment (SBIRT) to help motivate patients to engage treatment.

The SUD program currently consists of a Program Manager and Four IC3s, who perform the work of this department with plans for expansion.

- 1.2 Please provide your thoughts on the changes that will occur to the nature of the program and its services in moving to a new facility (this could include an overall change to the acuity or treatment needs of the patients, new opportunities in treatment programming that will be possible in a new facility, etc.)

Rehabilitation Leadership: no real expected changes with exception of expected growing pains with new facility and transition. No expectation of additional leadership (transfer current leaders)

Occupational Therapy: a Physical Rehab PT,OT, SLP and AO center (traditional rehab center) design would allow for better use of space and time of those providing the services. PT and OT would be able to complete conjoint sessions where appropriate and refer to each other when a referral request was made for one, but more appropriate for the other to treat. WSH could meet CMS requirements for OT to provide privacy in treatment (currently they have no location to provide services. They work with patients in the day area). The ability for patients to move to the space for treatments would also allow for the larger equipment used in these treatments to be available.

Mental Health OT's - Ideally, the staffing levels would be robust with regards to Occupational Therapy Practitioners (OTP) whose area of expertise is mental health OT. There would be one OTP assigned to every ward who would be an active member on the interdisciplinary team, contribute to treatment planning, and provide functional assessments and recommendations to improve a patient's functional independence and quality of life. There would be treatment areas for patient's to habilitate and/or rehabilitate with regards to activities of daily living. There would be a physical space to conduct such treatment that would include, but not limited to a therapeutic kitchen (e.g., range with hood, washer and dryer). A central space for the department to gather would foster and improve OTP to OTP teaching, learning, sharing information with one another including a central place to store resources to facilitate therapeutic activities.

Services are expected to happen in this population, but location of staffing can be in either this building or the NGRI building (28/29).

Outdoor Functions

Recreation Therapy/Gym/etc.: a large gym/basketball court and stationary exercise equipment may help patients control weight and health issues.

Our services already vary based on our clients. Fitness level, coordination, interests, and cognitive ability play into what wellness and recreation activities we choose to facilitate. We have larger-scale events that can cover a wide range of the interests, while the smaller events focus on specific interest areas. As such, a change in clientele acuity would not likely adjust our function to a significant degree. However, a new facility could provide a number of significant improvements:

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- a. Construction of a new building/recreation area could be designed to meet needs as opposed to what we do currently: fit activities to existing structure that may or may not suffice for desired programming.
 - b. Fresh expectations/system regarding fitness could improve health - Exercise could be integrated into the curriculum and be accepted as part of standard treatment

Outdoor leisure spaces to sit and enjoy nature/sunlight

Music Therapy: music therapy could continue to be housed in the treatment area and be provided to patients who could benefit from this service. A specific designated space would allow for instruments and other equipment to be kept and stored appropriately and help with noise pollution.

Library/Patient Education/Technology Center: one larger library in each treatment mall allows for streamlining staffing, tracking of materials and library based activities such as a book club. If the Library is set in the treatment mall area, it is available to all patients with growing resources for the CR patients to include having a Law Library. Housing Pierce College (current contract) tech centers within a treatment mall allows for use of research materials as needed. We currently have a technology center accessible only to NGRl patients. Allowing space for technology center provides opportunities for discharging patients to learn about services that we now use to pay bills, purchase on line, do research and find social activities in the community.

Patient Clothing: one patient clothing area per treatment mall allows for streamlining staffing and better monitoring of inventory on grounds, as well as providing more varied positions for vocational programs.

Barber Shop/Beauty Shop: a shop in the new hospital would put us where patients can come to us for services which provide opportunities for practicing patient's skills in appointment setting and timeliness. It may open vocational opportunities for patients and if given the space, it could open opportunities for apprenticeships.

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Chapel: The chapel currently uses treatment mall space on Sundays. Only change would be finding storage space for their materials to provide multi-denominational services in a multipurpose space.

Points Store/Canteen: One Canteen/Points Store (token reward store) per patient area (Treatment Mall) allows for streamlining staffing and better monitoring of inventory on grounds.

Substance Use Disorders Program: expansion plans for this program are underway and we hope to offer licensed drug and alcohol treatment to patients all over WSH as needed/referred. SUD services complete about 10-16 assessment monthly. Groups will eventually be offered in all treatment areas. Obstacles: approval to hire 12 additional SUD certified staff.

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2. List the main program elements (spaces or functions) of each area currently. This includes key features of your program. Please add comments focusing also on elements that relate to shortcomings of your area in relation to your concept of the ideal patient care, service delivery and/or staff environment.

Rehabilitation Leadership: Dungeon likes offices/ no windows and all shared space currently which is not a problem; however there is not enough space.

Occupational Therapy: no current dedicated space despite the need for it

Recreation Therapy/Gym/etc.

1. Building 6 – Pearcy Art & Recreation Center
 - a. Daily GP-time recreation services
 - i. No consistency across wards for GP times or rules
 - ii. Fragmented GP durations result in inability to provide structured planning at most times
 - b. Workout facility
 - i. Relatively low buy-in to fitness programs
 - ii. Workouts can only focus on one fitness area at a time due to staffing and available space to facilitate activities
 - c. Holiday Parties and National Day Celebrations – Works great, no concerns
2. Outdoor Recreation
 - a. Daily GP-time recreational services – same concerns as indoor
 - b. Basketball Court – The addition of the walking track has prevented staff from parking within the court. The court is getting daily use, even in the winter.
 - c. Larger Scale inter-ward athletic events
 - i. Coordination with South and Central services centers can be quite difficult
 - ii. Both staff and patients resist physical activity
 - iii. Many staff escorts would rather sit with patients at the java site instead of encourage active participation
 - d. Summer Therapeutic Fair – Good Program, no concerns
3. Amphitheater – Movie Night (Show recent release movies with refreshments). No accessible sink makes it difficult to clean food equipment. Other users of the facility leave staplers and full-sized pens in the theater frequently.

Music Therapy: We currently do not have it.

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Library/Patient Education/Technology Center: We have a small library space for comp res patients currently. No patient education or tech center.

Patient Clothing: This is shared with NGRI patients right now. It is a small windowless space with poor lighting and cinderblock wall

Barber Shop/Beauty Shop: 2 hairstylists. Chairs, storage, desks with computers, hairdryer stations, shampoo stations, separate dispensary sink (double sinks) for chemicals (separate from shampoo bowl). Counter workspace and locking cabinets for chemical products as well as towel storage.

Chapel: We are currently using the gym for this now. Hard to hear and has to be set up and torn down each weekend before groups start up on Monday mornings.

Canteen/Points Store: Very small dark space. Small window and patients come to a window and make orders rather than come into a store. Does not simulate actual shoppin

Outdoor Functions: Yards are mostly grass and get very soggy. Walking trails are dirt or concrete. Fences are in full view of both patients and passersby. Looks jail like.

Substance Use Disorders: The SUD program staff of 5 currently shares 3 offices to document their encounters with patients and to provide complete treatment meetings. The SUD program spaces have asbestos tiling, has poor heating and cooling, and often gets strange odors from the venting of the adjacent kitchen.

The SUD program is also housed and completely separate from all patient interactions. The program is also reliant of the limited spaces on hospital wards to meet with patient to conduct SUD assessments, and is frequently asked to move to different spaces, which may not include tables for laptops, etc. The SUD staff is occasionally requested to reschedule their appointments with patients as space is unavailable.

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3. Please describe the current internal operations and functions of each area that support the activities and functions identified above. Please discuss any problems or problem areas that affect the smooth functioning of each area. An example of this would be work areas that are currently located in several places across the Facility fragmenting workflow, supervision, etc.

Rehabilitation Leadership

Occupational Therapy: shared supervision between a daily manager and a clinical manager

Recreation Therapy/Gym/etc.

1. Our team is split into two units: Sunday through Wednesday and Wednesday through Saturday. Both halves operate fairly independently, but realistically would greatly benefit from increased coordination and consistency of program offerings. Coordinated activities cannot be scheduled through the week (for instance, a structured workout schedule) due to the disconnect between the two units' programming.
2. The schedule of the center follows (as best it can) patient GP times, but due to the variance of times and restrictions, many activities are restricted to specific and finite windows during the day.
3. The proximity of our recreation center to the in-patient units is not ideal. If we were to try to offer a ward-based fitness group, it would not be feasible to move our fitness equipment to those restricted to the ward. Likewise, with instrument-based activities, the amount of equipment that is realistically portable is significantly less than what we have.
4. Ideally, we would have more recreation staff to facilitate a greater number of hours and a greater amount of programming. With evening programming, we are short if we hope to give programming to all locations.
5. Support from external staff (security, ward staff, etc.) is pretty non-existent.
6. Budgeting in this unit is working well. Needs and supply orders are assessed and processed within, enabling the unit to get the exact equipment required for programming.

FORESNIC

There are three different teams that use the TRC gymnasium. All use should be coordinated through the treatment mall supervisor; however this is not always the case.

CR and NGRI teams work regular hours Monday through Friday and the Evening Weekend program works 4/10 scheduled Sunday through Wednesday or Wednesday through Saturday. CR and NGRI day time crew run groups at the same time which has caused a lack of space for classrooms and overcrowded group's rooms. Evening Weekend has had to limit their programming due to staffing to patients ratios and safety.

The gym is currently used as a large classroom/overflow for patients as it is the biggest area in the TRC. There are often 40-50 NGRI patients with 2 staff in this area. CR program will use this area when

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there are not enough staff to have 3 wards come down at a time which could lead to 60 patients and 6 staff.

Music Therapy: We currently have a music therapist for the NGRI population who does not have the space or proper capacity to provide therapy services to patients.

Library/Patient Education/Technology Center

There currently is lack in CR resource in the TRC library to include no access to a law library. The library is mainly housing NGRI resources and material at this time.

Patient Clothing: Specific for NGRI, not accessible to CR patients. Safety risks include space is not large enough to accommodate multiple patients and there is difficulty in maneuvering wheelchairs, walkers, and/or other mobility assisting devices in the tiny space limiting the amount of life skills or practices.

Barber Shop/Beauty Shop

Currently none available in TRC, all done on ward.

Chapel

Done in gymnasium, difficulty hearing due to echoes and acoustics.

Canteen/Points Store

Too small of a space to store items needed. See m same concerns as clothing store (no simulation of life skills in the community such as shopping)

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Outdoor Functions
Currently unable to provide at this time.

Pearcy Center: see recreation

Substance Use Disorders
Work areas that are currently located in several places across the facility fragmenting workflow, supervision, etc.

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4. Please indicate if there are any operational changes that would improve the efficiency of each area and in particular any physical features that could make your area more efficient.

Rehabilitation Leadership

Please note any differing opinions that still exist at the conclusion of your discussions.

Occupational Therapy

Please note any differing opinions that still exist at the conclusion of your discussions.

Recreation Therapy/Gym/etc.

1. Increased Indoor storage – Our current investigation is to see if a locked door could be reinstalled where there used to be an opening between the Art Center storage room and the Recreation Center side.
2. Outdoor Storage – Storage for either bicycles and/or outdoor equipment in a more.
3. Coordinating GP and level standards across wards would help with planning and programming.
4. Increase staffing.

FORENSIC

Limited access to all storage units and space

Limited resources for program specific patients in need

More staffing

Please note any differing opinions that still exist at the conclusion of your discussions.

Internally, there is a persisting difference of opinion as to the focus and goal of our team in terms of clientele. While it is agreed that our recreation center is open to all of WSH, certain members of our

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team focus their active treatment planning and engagement on forensic patients. Despite our team being hired to address the recreational needs of civil patients and the fact that CFS has a team for this purpose, there is a continuing focus on forensics patients by portions of our team. Similarly, we do not all agree as to our role in the recreation center. It is unclear as to whether our role is to provide guidance and structured programming or simply to open the door and let people do their own thing.

Music Therapy

Please note any differing opinions that still exist at the conclusion of your discussions.

Library/Patient Education/Technology Center

Please note any differing opinions that still exist at the conclusion of your discussions.

Patient Clothing

Please note any differing opinions that still exist at the conclusion of your discussions.

Barber Shop/Beauty Shop: office support to set all appointments and having patients come to the shop.

Please note any differing opinions that still exist at the conclusion of your discussions: None.

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Chapel

Please note any differing opinions that still exist at the conclusion of your discussions.

Canteen/Points Store

Please note any differing opinions that still exist at the conclusion of your discussions.

Outdoor Functions (yard)

Please note any differing opinions that still exist at the conclusion of your discussions.

Possible additional duties for security or staff to insure continued safety in the secure outdoor settings. Currently security has to sweep the yards before they can be used, will this be the same policy although the secure area will belong to the TRC (such as the courtyard in current TRC that does not get swept before use).

Pearcy Center: See recreation

Substance Use Disorders

- Assessment area either shared space on wards or dedicated space in treatment area adjacent to the SUD program space.
- Need Multi- Functional Printer (MFP)s
- A fully integrated electronic medical records system
- Dedicated SUD group room space large enough for groups of 12 and 2 staff with adjacent office space for 8-10

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Please note any differing opinions that still exist at the conclusion of your discussions.

SUD: one person felt that a separate SUD area for co-occurring patient groups could take place to allow for more confidentiality in SUD.

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5. Treatment Accommodations:

- What is the appropriate setting for types of patient care with respect to the in-patient unit, areas directly adjacent to the inpatient unit and a central program mall?
- Clinician mix, direct care staff involvement, patient density, spaces, and modalities in on-unit or neighborhood spaces.
- Clinician mix, direct care staff involvement, patient density, spaces, and numbers in Downtown/Treatment Mall Spaces.

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6. Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

Rehabilitation Leadership

Please note any differing opinions that still exist at the conclusion of your discussions.

Occupational Therapy

Please note any differing opinions that still exist at the conclusion of your discussions.

Recreation Therapy/Gym/etc.

Please note any differing opinions that still exist at the conclusion of your discussions.

Treatment Accommodations

- What is the appropriate setting for types of patient care with respect to the in-patient unit, areas directly adjacent to the inpatient unit and a central program mall?
 - The ideal location for the majority of our programming is in areas adjacent to the in-patient unit: The quadrangle and/or the Recreation Center. Smaller scale recreational activities can be facilitated directly on the in-patient unit, but for fitness and music related programming, the wards are typically not a feasible location to conduct treatment.
 - Individuals from the team can conduct treatment on the treatment malls (and have in the past), but currently their schedule focuses on other tasks and locations.

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- o The preference would be to keep recreational services as close to patient care areas as possible for easier access. It proves difficult to provide on ward recreational programming due to acuity on units, the amounts of patients, and safety for staff. The closeness of recreational setting to the units allows for more time the patients would be able to access the recreational activities.
 - Clinician mix (range of job classes), direct care staff involvement (mht, etc), patient density (amount of patients), spaces, and modalities in on-unit or neighborhood spaces.
 - o RAS3s are generally sufficient for this team, but it could benefit from having a RT and/or OT on staff.
 - o Direct Care/Support staff are not really necessary as long as other units cooperate with patient transport to events.
 - o In the recreation center – minimal staff (3) can safely facilitate the center for upwards of 60+ patients assuming security staff secures the quadrangle effectively
 - o Would prefer to see one RT's and RAs3's in forensic units. Also 12 patients to 2 staff is the preferred ratio in an semi-open environment.
 - Clinician mix, direct care staff involvement, patient density, spaces, and numbers in Downtown/Treatment Mall Spaces.
 - o For fitness interventions, a ratio of approximately 1:6 facilitating staff:patients is appropriate for effective education
 - o For recreational activities, 2-3 staff is sufficient for a large number of patients
 - o Please describe any anticipated changes that may occur within the next five years that might have a significant impact on each area's operation, where these have not been covered in earlier questions. *These changes are most likely to be the result of external or industry changes.*

Some items that you might discuss here are: planning issues/trends, new services, new methods of delivering care/services, personnel, equipment, adjustments to operating costs, method of operation, etc. This includes important executive directives or licensing objectives that may impact space requirements or influence locations or adjacencies.

The most significant change to come is likely the restructuring of the hospital and community mental health programs due to legislative focus. With the hospital becoming entirely forensic, I would expect areas to require higher security levels, increasing our need for more staff for our same programming. Expecting this growth, it could be useful to consider smaller satellite units offering similar programming around campus instead of being based in one large location. This could make it easier to bring treatment to those with mobility issues or areas with restricted movement permissions. The equipment startup cost would probably be significant, but once equipment was on hand, it would just require personnel to provide treatment.

We *could* theoretically work with people pre and post-discharge with fitness regimens to assist with stability, but that would require significant restructuring.

Please note any differing opinions that still exist at the conclusion of your discussions.

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Music Therapy

Sound proof room to prevent noise pollution and proper storage for musical equipment.

Please note any differing opinions that still exist at the conclusion of your discussions.

Library/Patient Education/Technology Center

Adequate seating for up to 12 patients with 2 staff (IC3's or OT/RT), shelving that can accommodate several hundred books and a law library.

Please note any differing opinions that still exist at the conclusion of your discussions.

Patient Clothing

Racks to hang clothes wide enough apart to accommodate mobility assisting devices (ie wheelchair). 1 IC3 to supervise the vocational patient staff within the store, a counter patients can take clothing to for "purchase" and fitting rooms to mimic real life scenarios.

Please note any differing opinions that still exist at the conclusion of your discussions.

Barber Shop/Beauty Shop

Barber chairs and sinks wide that meet requirements to accommodate mobility assisting devices (ie wheelchair). 1 IC3 to supervise the program, a counter patients can work for scheduling appointments to mimic real life scenarios.

Please note any differing opinions that still exist at the conclusion of your discussions.

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Chapel

Any multipurpose room that can hold up to 30-40 patients at a time that allows for quick and easy set up and take down. Adequate storage for all denominational equipment.

Please note any differing opinions that still exist at the conclusion of your discussions.

Canteen/Points Store

Shelves to place items on wide enough apart to accommodate mobility assisting devices (ie wheelchair). 1 IC3 to supervise the vocational patient staff within the store, a counter patients can take items to for "purchase" to mimic real life scenarios.

Please note any differing opinions that still exist at the conclusion of your discussions.

Outdoor Functions

Secure open area large enough to accommodate 50-60 patients participating in recreational or leisure activities.

Please note any differing opinions that still exist at the conclusion of your discussions.

Pearcy Center: see recreation

Substance Use Disorders

Please note any differing opinions that still exist at the conclusion of your discussions.

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6. Please list the titles of *current* staff and number of FTE's and Bodies of each area and note if an office or workstation is needed. An office would be required if confidential conversations take place in the course of daily work. For offices that will also host others from outside the area (other staff, multiple clients or visitors/family members) please indicate the "usual" number of such others that would be present in the office – this will enable us to appropriately size the offices for the most common situations. Are any of the staff transients? Are there individuals that may only be in the area for short periods of time and only occasionally – e.g. hoteling areas (access to a workstation for short periods of time in the day) for some staff or outside organizations?

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Rehabilitation Leadership						
Therapies Supervisor	9 (3 are CFS)	7+1 vacant+ 1 new position(converted ATS)				
SUDProgram manager	1	1				
Rehab Dir?	1-doesnt have to move	1				
Physical Therapy Under a different chain of command/NA						
Occupational Therapy						
Mental health OT's	7 position, 4 filled 3 vacant.					
Physical Rehab OT's						
OT program manager?	1-doesnt have to move					
Vocational Services						
IC3's						
OT's						
Rec Therapy/ Gym/etc.						
RAS3	5	5				
COTA	1	vacant				
RT2s	3 positions, 2 filled.					

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Appendix A-16: User Questionnaires

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Music Therapy	1					
IC3s	12 positions. 4 vacant and 8 filled					
Psychology Associates	4 positions.					
Speech & Hearing						
SLP licensed	1	1				
Library/Patient Education/Tech. Center						
Pierce County Lib. system	1	1				
Patient Clothing						
IC3/ per center min.	1	1				
Bank						
Under a different chain of command/NA						
Barber/Beauty Shop						
Licensed	2	2				
Chapel						
Under a different chain of command/NA						

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

Staff Title	FTE's	Bodies	Office/ Workstation	Usual # Visitors to Office/ Workstation	Requires Dedicated or Multi-Use	Hoteling Areas
Canteen/Gift Shop						
IC3 (patient store)						
OT(patient store)						
Transportation/ Community Integration						
Under a different chain of command/NA						
Outdoor Functions						
Evening and weekend staff						
Ross settlement staffing (quad and grounds walks)						
Substance Use Disorders						
Substance Use Disorders Professionals	4 Expansion is expected- up to 16	4	Shared space is fine for up to 8- 10	2-4	Dedicated/ confidential information in progress	
Program Manager	1	1	Single office or shared with close by smaller conference room	4-16	Dedicated confidential information in progress	

Western State Hospital / Appendix

Western State Hospital

Questionnaire
Therapy/Activity

December 2019

9. Is there any other information or data that you feel the programming/planning team should be aware of that has not been requested by this questionnaire?



WASHINGTON GOVERNOR
JAY INSLEE

**POLICY
BRIEF**

December 2018

TRANSFORMING WASHINGTON'S BEHAVIORAL HEALTH CARE SYSTEM

Gov. Inslee puts forward plan to significantly increase community-based treatment

Washington's behavioral health system is based on an outdated model of care. We know the best way to treat patients is in the community and in smaller facilities that help them stay closer to home. Yet today, we lack enough community-based treatment options. This puts too much of a burden on our aging, oversized state psychiatric hospitals, where staffing and safety concerns strain treatment efforts. Meanwhile, a host of other problems — such as opioid abuse and a shortage of mental health treatment professionals — further stress our treatment systems. Gov. Jay Inslee's 2019–21 operating and capital budgets make significant investments to help transform our system of care.

Background

Washington's two primary psychiatric treatment facilities — Western State Hospital and Eastern State Hospital — were built more than a century ago. As demand for behavioral health treatment services has grown in recent

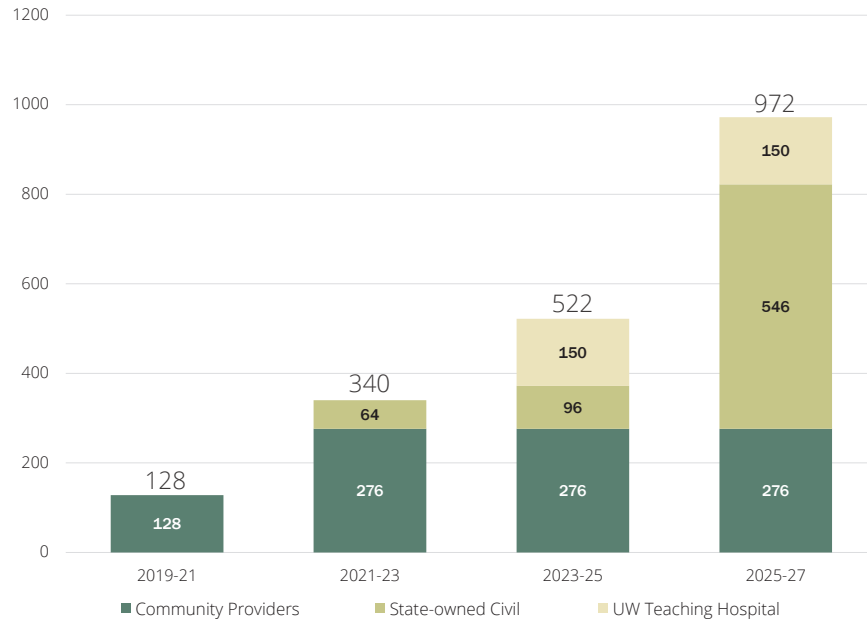
"We are trying to provide 21st century medical care using a 19th century model of care. Large institutions were popular in 1918, but in 2018, we know smaller hospitals closer to home are far more effective for patients. Through a combination of mostly state-run options, we will be able to serve nearly all our civil patients in smaller facilities that are much closer to home and much more able to sustain the kind of supports that ensure patients get the right care at the right time."

Gov. Jay Inslee



Western State Hospital main entrance

Expanding civil placement capacity in the community



Gov. Inslee is proposing several types of placement options to help ensure appropriate care for an anticipated increase in 90- and 180-day civil commitment patients.

years, it has become clear that the hospitals and our system of care are falling short.

Western State, the larger of the state hospitals, struggles to keep up with rising demand and has been challenged to find appropriate placements for patients ready to be discharged. At the end of November 2018, 71 individuals waited for admission to a civil bed at the hospital; 189 individuals had completed active treatment and were on a waitlist to be discharged.

Meanwhile, at both state hospitals, patients are being treated in facilities built to outdated codes. For example, buildings at Western State still have wood-structure roofs, elevators inside 80-year-old shafts and electrical wiring more than 50 years old,

making it difficult, expensive and in some cases, impossible to install new technologies. In particular, the problems at Western State have been the focus of greater scrutiny and more sanctions from judges and federal accrediting authorities.

A big part of the problem is rooted in a statewide shortage of appropriate community-based facilities for individuals with complex behavioral health conditions. Without such options, the hospitals simply cannot meet the treatment needs of all our forensic and civil patients, and the resulting backlog causes stress not only at the hospitals but on almost every other part of the behavioral health system. If the state had more capacity for treating civilly committed patients in smaller, community-based

facilities, the hospitals could better focus on serving forensic and certain high-need civil patients.

In many respects, the state hospitals and the rest of our behavioral health system are still recovering from deep cuts made during the recession that started a decade ago. Those cuts shrank treatment capacity and led to substandard care and concerns with safety and security while demand increased.

Since Gov. Inslee took office, more than \$500 million in state funds has been invested in the behavioral health system. The state has added more than 70 treatment beds and hired more than 500 additional staff to improve patient care and safety at the hospitals.

Meanwhile, reform efforts are underway. In his 2017–19 budget, the governor began laying out a comprehensive vision for the delivery of behavioral health services across the state. The vision concentrated on building hospital discharge capacity, adding civil commitment capacity in the community and creating forensic centers of excellence at the state hospitals. In the meantime, experts have continued the crucial push for integrating physical and behavioral patient care to treat the whole patient.

While these recent reform efforts and investments have begun to ease the crises in our behavioral health system, we know much more remains to be done.

Gov. Inslee's comprehensive strategy

Last spring, Inslee announced a five-year plan to dramatically reshape how and where we treat people suffering from acute mental illness. His proposed 2019–21 operating and capital budgets provide significant new resources to launch that transformative effort. The plan immediately invests

in developing community capacity and treatment services. This means individuals will be diverted from the state hospitals, and individuals at the hospitals can successfully transition back to the community. The plan also invests in long-term strategies to grow the behavioral health workforce while building additional civil commitment beds in the community. Lastly, the governor makes investments in the state hospitals to keep them running and safe for patients and staff while the system is being transformed.

To launch this effort, the governor's operating budget includes \$404 million and his capital budget includes \$271 million in investments during the next biennium, primarily in five key areas.

Expanding behavioral health treatment options

A February 2015 report from the Washington State Institute for Public Policy, "Inpatient Psychiatric Capacity and Utilization in Washington State," found that the prevalence rates for mental health conditions in Washington are among the highest in the nation. With an estimated 24 percent of adults experiencing a diagnosable mental health condition and 7 percent meeting criteria for serious mental illness, Washington ranks third and second, respectively, in the nation on these measures.

In 2015, approximately 180,000 individuals received an outpatient mental health service; of these patients, just over 1 percent were also admitted to a state hospital.

Effective behavioral health treatment options in the community help make sure patients can be appropriately discharged from the state hospitals and help address behavioral health issues early on, preventing some individuals from needing psychiatric hospitalization in the first place. And, in some instances, effective treatment in the

community can divert individuals from the criminal justice system.

Even for individuals with severe and chronic behavioral health needs, services in the community can offer timely and effective care that supports them in managing their condition outside the state hospitals.

To discharge patients from the state psychiatric hospitals and provide the necessary services, the governor's budget includes more than \$40 million to expand community alternative placements — such as long-term care facilities and state-operated living facilities — and creates new facility types for individuals who no longer need treatment but have high behavioral needs.

More than \$30 million is invested in community services — such as intensive outpatient treatment, partial hospitalization and intensive wraparound services — to make sure discharge placements are successful and to divert individuals from more inpatient care.

In addition to expanding mental health treatment options, the governor makes investments in substance use disorder treatment by increasing provider rates for secure withdrawal management and stabilization facilities across the state.

More housing support

Stable housing, paired with community treatment options, is essential to successfully stabilize individuals in their communities. Meeting housing needs can reduce the use of jails, emergency services and shelters. It can also help individuals who are ready for hospital discharge but lack the housing to go to.

Washington received federal approval to use Medicaid funding to provide the supportive services necessary to stably house the highest-need chronically homeless individuals. However, these federal dollars do not cover rental assistance, so many individuals who are eligible for these services remain homeless. The governor invests nearly \$35 million in rental assistance for permanent supportive housing services to an estimated 1,000 vulnerable people; priority is given to patients being discharged from the state hospitals.

The governor also proposes \$20 million in capital funding in the Housing Trust Fund for permanent supportive housing for people who suffer from chronic mental illness.

Workforce development

The demand for behavioral health professionals has outpaced our treatment system's ability to keep up nationwide. Meanwhile, high turnover rates, noncompetitive compensation and a shortage of professionals have compounded workforce challenges in our behavioral health system. In his 2017–19 biennial budget, Inslee invested in compensation increases and professional loan repayment to recruit and retain employees at our state hospitals.

Additional investment is needed to continue growing the workforce. Today there are 300 licensed psychiatrists in Washington state, 45 of whom are at Western State Hospital alone. As of November 2018, there were 17 vacant psychiatrist positions at the hospital.

The governor proposes investing a total of \$4 million to address these workforce shortages. His budget creates a new behavioral health conditional scholarship for 50 students who commit to working in high-demand behavioral health fields

in state hospitals and state behavioral health community sites. The governor also adds five residency positions at the University of Washington's psychiatry residency program.

In addition to these proposed items, funding is provided for advanced behavioral home care aide specialist training and supports for providers who care for individuals in the community.

Appropriate community-based facilities

While community treatment options are essential, some individuals need institutional care. Two years ago, Inslee laid out a vision to move all civil commitments out of the hospitals and into the community over time. This will be done through a combination of community providers and new state-owned and -operated facilities in regional settings. This way, patients can remain close to their family and friends and be better connected to community resources upon discharge.

In his operating budget, the governor invests more than \$35 million for community providers to serve patients committed under the Involuntary Treatment Act, a key first step in his plan to phase all civil commitments into the community. Community providers can more quickly expand civil commitment capacity while work is underway on future capital budget investments in state-owned and -operated facilities. To aid in this effort, the capital budget includes \$110 million for grants to community hospitals and community providers. These grants expand capacity that helps divert and discharge individuals from the state hospitals. This investment is projected to add more than 500 beds statewide.

This governor also proposes making a major investment in transforming the way state-owned, state-operated civil commitments are served. His

capital budget includes \$31 million to begin work on state-operated civil behavioral health facilities. Of this sum, nearly \$23 million will be tabbed for predesign and design of four 16-bed and two 48-bed facilities. The remaining \$8.3 million is for predesign of three 150-bed facilities. All these facilities will provide smaller settings to better serve patients in the community.

In addition, the governor's capital budget proposes \$2 million to conduct a predesign of a behavioral health-focused teaching hospital at the University of Washington.

Continued investment in state hospitals

While adding capacity in the community for civil placements, the governor recognizes we must continue to serve patients in our state hospitals. His capital budget includes nearly \$56 million for building improvements and critical infrastructure at Western and Eastern State hospitals. Almost half this funding is for fire safety projects and others to help keep patients from harming themselves or others.

It is nearly impossible to bring Western State Hospital back into compliance with building code and federal standards, both requirements for federal certification. The governor's capital budget includes \$7.5 million to conduct a predesign for a new 500-bed forensic hospital; this is a key step in planning a facility that will provide a 21st century model of care for forensic services. The intent is to pursue about \$25 million in the 2021–23 budget for design and \$528 million in the 2023–25 budget for construction. In the interim, nearly \$47 million is provided to construct two new wards and a modern treatment space at Western State Hospital.

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