



NOTICE OF PUBLIC MEETING

CITY OF ALBANY
CITY COUNCIL WORK SESSION
Albany City Hall, Municipal Court Room
333 Broadalbin Street SW
Monday, June 13, 2011
4:00 p.m.

AGENDA

- 4:00 p.m. **CALL TO ORDER**
- 4:00 p.m. **ROLL CALL**
- 4:00 p.m. **POLICE AND FIRE FACILITIES STUDY REPORT** – Ed Boyd, John Bradner
Action Requested: Information, discussion, direction.
- 5:40 p.m. **BUSINESS FROM THE PUBLIC**
- 5:45 p.m. **COUNCILOR COMMENTS**
- 5:50 p.m. **CITY MANAGER REPORT**
- 6:00 p.m. **ADJOURNMENT**

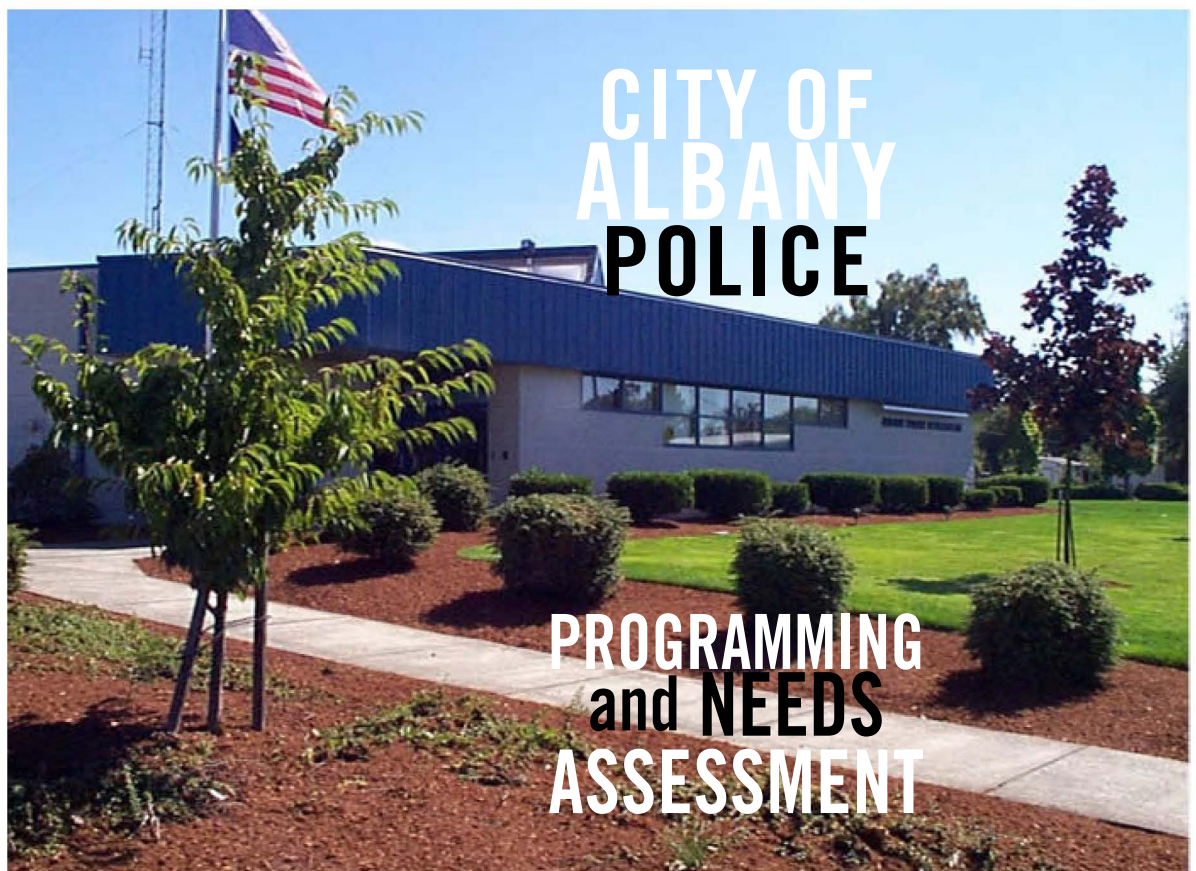
Rules of Conduct for Public Meetings

1. No person shall be disorderly, abusive, or disruptive of the orderly conduct of the hearing.
2. Persons shall not testify without first receiving recognition from the presiding officer and stating their full name and residence address.
3. No person shall present irrelevant, immaterial, or repetitious testimony or evidence.
4. There shall be no audience demonstrations such as applause, cheering, display of signs, or other conduct disruptive of the hearing.

City of Albany Web site: www.cityofalbany.net

The location of the meeting/hearing is accessible to the disabled. If you have a disability that requires accommodation, advance notice is requested by notifying the Human Resources Department at 917-7500.

**CITY OF ALBANY POLICE DEPARTMENT
FACILITIES ASSESSMENT AND PRELIMINARY DESIGN
PHASE 1 – PART A: DEPARTMENT PROGRAMMING AND NEEDS ASSESSMENT**



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**CITY OF ALBANY POLICE DEPARTMENT
FACILITIES ASSESSMENT AND PRELIMINARY DESIGN
PHASE 1 – PART A: DEPARTMENT PROGRAMMING AND NEEDS ASSESSMENT**

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ED BOYD, CHEIF OF POLICE AND WES HARE, CITY MANAGER

SECTION 1 EXECUTIVE SUMMARY

The Albany City Council authorized ZCS/hsr to complete Phase 1 – Part A, the first portion of a three step process to determine Police department needs into the future (Phase 1 – Part A). If authorized by Council the next steps are to review possible options for location (Phase 1 – Part B) and to determine overall known development cost and timeline based on preliminary plans, elevations and site studies for a preferred location (Phase 2).

The purpose of Phase I, Part A is to:

- Review the previous 2002 / 2003 Feasibility Study.
- Review the Police Facility Needs report by Chief Ed Boyd to Wes Hare, City Manager dated September 28, 2010
- Provide Building and Site Programming to determine current, 10, 20 and 40 year needs.
- Provide Spatial Relationship diagrams and general room layouts

In 2002 / 2003 The City of Albany commissioned a Feasibility Study to determine the possibility of adding to / remodeling the existing station, remodeling an existing retail building or building a new station. Results of that report determined that adding to / remodeling of the existing station was impractical. Unless the site can be expanded significantly, we concur. The City has since purchased 4.2 acres on Pacific Highway for a new station.

ZCS / hsr have met with the current Police Chief Ed Boyd and his staff to update space need requirements and adjacency diagrams. Based on information provided by Chief Boyd and his staff we have projected for 10, 20 and 40 year needs. Our space needs determination is based on discussions with the Albany Police Department, comparison with industry standards for station design, area needs and typical industry room layouts. The 20 year needs will be used for purposes of site size determination and preliminary budgeting. When looking at actual potential sites future expansion must be considered then master planned.

Actual staffing in 2002 was 77.23. Today's staff is 97. In 20 years the staff is projected to be 157 with 102 sworn.

The programming area total requirement shows a current need of 34,690 SF, 43,995 SF in 2021 and 50,808 SF in 2031. The previous study called for 33,369 SF in 2002 and 39,096 SF in 2022.

Site size requirements for 20 year needs are 4.52 acres for a single story facility, 3.67 acres for two stories, and 3.38 acres for three stories. Allowance must be made for expansion when performing Phase 1 – Part B: Site Option Studies.

Rough square foot (SF) construction costs for new police stations are \$200 to \$240/ SF plus or minus. Soft costs, such as Architectural and Engineering fees, permits, SDC's, surveys, geotechnical and hazardous materials testing, furniture and relocation costs are not included. These costs could amount to an additional 25% to 35%. Construction and soft costs DO NOT include property purchase. See chart below for a low to high range of costs you can expect (not including property purchase). These numbers are preliminary and are not based on any specific site or actual plans

ALBANY POLICE STATION-SUMMARY
May 27th, 2011

Description	Existing	Current Need	10 Year	20 Year	40 Year
Building Space Needs-SF	11,700	34,690	43,995	50,808	57,493

Project Costs

Project Costs Low Range

-Construction-\$200 per Square Foot	\$6,938,000	\$8,799,000	\$10,161,600	\$11,498,600
-Soft Costs-25% of Construction Costs	\$1,734,500	\$2,199,750	\$2,540,400	\$2,874,650
Does not include cost of property				
Total Project Costs-Low Range	\$8,672,500	\$10,998,750	\$12,702,000	\$14,373,250

Project Costs High Range

-Construction-\$240 per Square Foot	\$8,325,600	\$10,558,800	\$12,193,920	\$13,798,320
-Soft Costs-35% of Construction Costs	\$2,913,960	\$3,695,580	\$4,267,872	\$4,829,412
Does not include cost of property				
Total Project Costs-High Range	\$11,239,560	\$14,254,380	\$16,461,792	\$18,627,732

Site Needs

Single Story	4.52 Acres
Two Story	3.67 Acres

Staffing (Total facility workforce)	94	97	127	157	194
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The next step is to take the information gathered in Phase 1- Part A: Programming and Facilities Assessment and proceed with Phase 1 – Part B: Site Option Studies. We will review and compare various site options using the decision tree provided in our proposal. This will allow us to identify and discard unsuitable options early in the process.

We will provide estimates for construction and property acquisition and apply a percentage for soft costs. In Phase 2 – Site Specific Studies we will provide a Project Cost Worksheet capturing all know costs. This cost estimate will be based on an actual site, preliminary plans and elevations and outline specification.

SECTION 2 REVIEW OF REPORTS

We have been asked to review and comment on the following reports:

- Feasibility Study for New and / or Expanded Police Facility and Municipal Court by Berry Architects P.C. dated (revised) July 10, 2003.
- Report from Chief Boyd to City Manager Wes Hare dated September 28, 2010 regarding Police Facility Information.

BERRY REPORT

This report was performed in 2002 and 2003 by Berry Architects to explore the feasibility of a new Police Station and / or Municipal Court Facility on the existing police site, a renovated existing retail site or a new site.

It is a very extensive and complete report including programming for 2002 and 2022 needs, adjacency diagrams, site selection criteria, concept plans outline specifications and construction estimates (based on 2002 costs).

Much of it is still relevant today in 2011, but needs to have the programming, adjacency diagrams and cost information updated with input from the current Police Chief.

Some highlights pertaining to the Police are:

- Existing area is approx. 11,700 SF, the site is approx. 74,000 SF 1.7 acre)
- 2002 space needs was 33,369 SF (our current programming shows a need for 34,690 SF), site area needed was 146,962 SF (3.4 acres)
- 2022 space needs were 39,096 SF (our programming for 2021 shows a need for 43,995 SF), site area needed was 189,203 SF (4.34 acres).
- Expansion on the existing site not feasible due to expense if 2nd floor added, shortage of parking and irregular shape of parking, cost to build a parking garage, overall shortfall of site size to meet 2002 and 2022 needs projections.
- Staffing 2002 actual was 77, needed 93, projected for 2022 was 142.
- Cost for construction (in 2003) and soft costs for remodel / addition for 2022 requirements was \$6,662,963 (\$171.42 / SF), cost for new building (not including property was \$7,094,331 (\$181.46 / SF). Current construction costs would range from \$200 to \$240 per square foot plus 25 to 35 percent for soft costs not including property purchase.
- The "Site Selection Criteria" Section contains very good information that will be referred to if we are asked to proceed to Phase 1 – Part B: Options Studies.

Updated Programming and Adjacency Diagrams are included elsewhere in this report. A cost estimate based on typical square foot costs is included in the Executive Summary. More detailed estimates for will be included in Phase 1 – Part B: Options Studies based on actual selected sites.

REPORT BY CHIEF BOYD

On September 28, 2010 Albany Police Chief Ed Boyd submitted a report to City Manager Wes Hare outlining a strong case why a new police facility is required.

Some highlights are:

- Possible funding options: Pepsi money, Taxpayer approved bond or COP bonds.
- Current facility was built in 1988 for 47 employees. The Albany Police Department currently has 94 employees, double the amount when built.
- The building has been remodeled 5 times. A modular unit was placed behind the station in 2004 to provide room for detectives which is now overcrowded.
- The facility is woefully short on locker space, meeting areas (Briefing Room is only conference room), offices and toilet rooms (the only toilets used by staff offenders and public are located in the locker rooms).
- It is not practical for offices to change at home due to the nature of contaminants they face and privacy issues.
- A new facility is in the Cities Strategic Plan, and is listed as an unfunded project in the CIP.
- Police vehicle and staff parking is inadequate and unsecure.
- The “Mike Quinn Plan” is impractical because of unaccounted costs such as additional property acquisition, demolition, site work, remodeling of existing space, soft costs such as permits, SDC’s, Architectural and Engineering fees, furniture, temporary relocation etc. By the time these costs are included, the total would be in the neighborhood of \$8,450,000.
- The previous Feasibility Study compiled in 2002-2003 recommended that expansion of the existing site not be considered.
- A combined City / County Joint Facility would be extremely expensive and is politically unlikely to happen in the near future.
- Existing HVAC system is in need of replacement. Cost of engineering and replacement could run \$210,000 to \$250,000.
- The existing station could be made to make – do for six to eight years, but would require about \$3,000,000 for band-aid improvements to make it possible.

Overall, the report provides a strong and convincing case for a new facility. In addition, I would add that the existing lobby is tiny with no public restroom. People waiting view directly into station and view personnel going about their business. Sex offenders there to register wait with the general public including juveniles.

SECTION 3 PROGRAMMING

ALBANY POLICE STATION
SPATIAL ALLOCATION STUDY

BUILDING SPACE REQUIREMENTS

Area	Current	10 Year	20 Year	40 Year
1.0 PUBLIC AREAS	3,551	3,551	3,551	3,551
2.0 ADMINISTRATION	3,957	4,496	4,786	5,071
3.0 OD-SWAT	-	-	506	506
4.0 OD-DETECTIVES	3,393	4,399	5,405	6,555
5.0 OD-PATROL	2,614	2,981	4,373	4,659
6.0 SD-COMMUNITY RESOURCE	2,396	2,713	3,386	4,099
7.0 SD-COMMUNICATIONS	1,659	2,184	2,697	3,916
8.0 SD-RECORDS	778	778	901	1,024
9.0 SD-IT	993	993	993	993
10.0 SD-TRAINING and HIRING	1,936	1,936	1,936	1,936
11.0 SD-EVIDENCE	3,603	7,402	8,616	9,941
12.0 ANCILLARY SUPPORT	3,845	3,845	4,043	4,241
13.0 STAFF SUPPORT	5,968	8,720	9,618	11,002
Total Building Square Footage-Including Circulation and Gross Up	34,690	43,995	50,808	57,493

"Circulation" is the area required to provide access to and from each of the rooms. Please see diagrams on Pages RD 24 and RD25 which shows percentages of circulation for open office and enclosed office layouts.

"Gross up" is the amount of space required for wall thicknesses, chases and shafts. This is shown as a percentage of the overall building square footage requirements.

ALBANY POLICE STATION
SPATIAL ALLOCATION STUDY

STAFFING REQUIREMENTS

FUNCTION	Current		10 Year Total	10 Year Largest Shift	Sworn		Nonsworn	20 Year Total		20 Year Largest Shift	Sworn		Nonsworn	40 Year Total		40 Year Largest Shift	Sworn		Nonsworn	
	Actual	Need			Sworn	Nonsworn		Total	Sworn		Nonsworn	Total		Sworn	Nonsworn		Total	Sworn		Nonsworn
2.0 ADMINISTRATION																				
Chief of Police	1	1	1		1			1		1		1		1		1		1		1
Assistant Chief of Police	0	0	0		1			1		1		1		1		1		1		1
Captains	3	3	3		3			3		3		3		3		3		3		3
Lieutenant	1	1	2		2			2		2		2		2		2		2		2
Admin Services Supervisor	1	1	1		1			1		1		1		1		1		1		1
Administrative Assistant	1	1	1		1			1		1		1		1		1		1		1
Administrative Clerk	1	1	1		1			1		1		1		1		1		1		1
Administrative Helper	0	0	1		1			1		1		1		1		1		1		1
Sub-total Administration	8	8	11	0	7	4	4	11	0	0	7	4	4	12	0	8	4	8	4	4
3.0 OD-SWAT																				
Sub-total SWAT																				
4.0 OD-DETECTIVES																				
Lieutenant	1	1	1		1			1		1		1		1		1		1		1
Sergeant	1	1	1		1			1		1		1		1		1		1		1
Detectives	4	4	6		6			7		7		7		9		9		9		9
Drug Detectives	2	2	3		3			4		4		4		5		5		5		5
Domestic Violence	2	2	2		2			3		3		3		4		4		4		4
Detective Clerk	1	1	1		1			1		1		1		1		1		1		1
Computer Forensics	1	1	2		2			3		3		3		4		4		4		4
Crime Analyst	1	1	2		2			3		3		3		4		4		4		4
Sub-total Detectives	13	13	18	0	13	5	5	23	0	0	16	7	7	29	0	20	9	20	9	9
5.0 OD-PATROL																				
Lieutenant	4	1	4		4			4		4		4		4		4		4		4
	4	1	4		4			6		6		6		6		6		6		6
	33	33	40		40			48		48		48		60		60		60		60
K-9 Unit																				
Patrol Dog	2	2	2		2			4		4		4		4		4		4		4
Drug Dog	1	1	1		1			2		2		2		2		2		2		2
Sub-total Patrol	44	38	51	12	51	0	0	64	14	14	64	0	0	76	17	76	0	76	17	0
6.0 SD-COMMUNITY RESOURCE																				
Lieutenant	1	1	1		1			1		1		1		1		1		1		1
Sergeant	0	1	1		1			1		1		1		1		1		1		1
Community Service Officers	4	4	5		5			6		6		6		8		8		8		8
School Resource Officers	3	2	3		3			4		4		4		5		5		5		5
Traffic Sergeant	0	0	0		0			1		1		1		1		1		1		1
Traffic Officers	1	2	3		3			5		5		5		6		6		6		6
Community Ed Specialists	2	2	2		2			3		3		3		4		4		4		4
Civilian Volunteer CES Coordinator	0	1	1		1			1		1		1		2		2		2		2
CES Volunteers	0	1	2		2			3		3		3		6		6		6		6
Sub-total Community Resource	11	14	18	0	8	10	10	25	0	0	12	13	13	34	0	14	20	14	20	6

ALBANY POLICE STATION
SPATIAL ALLOCATION STUDY

FUNCTION	Current		10 Year Largest Shift	Sworn	Nonsworn	20 Year		40 Year Largest Shift	Sworn	Nonsworn	40 Year		Nonsworn
	Actual	Need				Total	Total				Total	Total	
7.0													
SD-COMMUNICATIONS													
Communications Supervisor	1	1	1	1	1	1	1	1			1	1	1
Communication Specialists	11	11	14	14	16	16	20	20			20	20	20
Sub-total Communications	12	12	15	15	17	17	21	0	0	17	21	0	21
8.0													
SD-RECORDS													
Records Supervisor	1	1	1	1	1	1	2	2			2	2	2
Records Clerks	3	3	4	4	4	4	4	4			4	4	4
Release Clerk	1	1	1	1	1	1	1	1			1	1	1
Release Assistant	0	0	1	1	2	2	3	3			3	3	3
Fleet Clerk	1	1	1	1	1	1	2	2			2	2	2
Laserfiche Clerk	1	1	1	1	1	1	1	1			1	1	1
Laserfiche Helpers	1	1	1	1	2	2	3	3			3	3	3
Sub-total Records	7	8	10	10	12	12	16	0	0	12	16	0	16
9.0													
SD-IT													
IT Lead	0	1	1	1	1	1	1	1			1	1	1
IT Assistant	0	1	1	1	1	1	1	1			1	1	1
Sub-total IT	0	2	2	2	2	2	2	0	0	2	2	0	2
10.0													
SD-TRAINING and HIRING													
Sub-total Training and Hiring	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0													
SD-EVIDENCE													
Property and Evidence Specialists	2	2	2	2	3	3	4	4			4	4	4
Sub-total Evidence	2	2	2	2	3	3	4	0	3	0	4	0	4
STAFF TOTALS	97	97	127	127	157	157	194	14	102	55	194	17	72

Notes:

- 1 (1) Captain is unfunded but exists
- 2 The (2) DV Investigators are paid through a Linn County Grant.

ALBANY POLICE STATION
SPATIAL ALLOCATION STUDY

Notes

- 1 Lieutenant
 - (1) Lieutenant per Patrol / (4) patrol teams
 - Configure for two work stations
- 2 Sergeant
 - (1) Sergeant per Patrol / (4) patrol teams
 - Configure for two work stations
- 3 Flow of Patrol Officers
 - a. Locker Room
 - b. Ready Room
 - c. Briefing
 - d. Police cars-locate close to Briefing
- 4 Ready Room
 - 44 LF of storage
- 5 Briefing/Training
 - Size to fit (1) Patrol Unit. Used 2 hrs/day.
 - Can be shared with Computer Training and EOC
 - Can be divided
 - Large Monitor
- 6 Report Writing
 - Tied into main Dispatch
 - Desks with uppers-adjustable hts. Power strip and pin up space.
- 7 Juvenile Interview Room
 - Tempered Window for visibility
 - Semi hard
- 8 Interview Room
 - Semi hard
- 9 K-9 Unit
 - Drug -See Traffic

ALBANY POLICE STATION
SPATIAL ALLOCATION STUDY

- 4 Traffic Officers
Sworn.
Need their own work space.
Traffic Accident Reconstruction
MAT-Multi Agency Traffic
MAIT-Multi Agency Investigation Team
Photos-sensitive photos display on diagramming board, Visual privacy required.
Computer development diagramming with portable TV and flat screen to take to Court Room
Presentation Materials-lap top, easel, projector, portable visual display, flat screen.
White Board
- 5 Traffic Room
Can be shared.
- 6 Community Ed Specialists
Citizens Academy, Sr Program, Neighborhood Watch
Meetings involving small and large public groups. Most meetings in a small public room.
Nonsworn.
Car seats-also need to be accessible to Patrol
Programming
- 7 Bull Pen
Large enough to spread out material
Space for (10-12) people to meet

ALBANY POLICE STATION
SPATIAL ALLOCATION STUDY

- 3 Dispatch
 - Environment-ground floor (to be part of the world), high tinted windows, natural light.
 - Under floor wiring-removable antistatic flooring
 - Back up for Records Reception duties 7pm-6am, weekends and some holidays.
 - Police provides the relief person for Dispatch at nights
 - Dispatch does all data entry so Patrol enter dispatch area to pick up reports. Ability to transfer paper work to Dispatch from Report Writing
 - Currently Records (not certified "Call Takers") handle "Direct Line" calls. In the future Dispatch may possibly take all calls.
 - 4 people on duty at a time except from 3am-7am. This person needs to call Patrol Supervisor for RR break coverage.
 - Lobby is open 24 hrs per day. Dispatch camera and phone to dispatch and ability to allow access from Lobby to Dispatch.
 - Large size consoles. Consoles to have individual heating and cooling. Task lighting. Keep back of consoles clean with easy access. Printer at console
 - Like to face away from each other while at consoles. 6 monitor array. Adj height. Like consoles to be in pods of 4 or groups of 2 that face away from each other.
 - Tour groups not able to see monitors or enter Dispatch, but be able to see into area.
 - Separate HVAC for this area
- 4 Routing Area
 - Close to CSO, Supervisors, lazerfische. Close to door for other workgroups to pick up and distribute work.
- 5 Meeting Room
 - Work on Manual. Staff meetings, group projects, FTO Meetings.
- 6 FTO Office
 - Daily Observation Reports
- 7 Lockers
 - 18" x 18" x 2' tall
 - Provide door
 - Food, head set, personal belongings, manuals books, paper work, food,
 - Also provide locker in locker room

11.0 SD-EVIDENCE

Item	Position	Space Size		Room Code	Current		10 Year		20 Year		40 Year		Note #	Location/Adjacencies
		W	L		Units	NSF	Units	NSF	Units	NSF	Units	NSF		
11.1	Lieutenant													
11.2	Property and Evidence Specialists Counter for Processing	10	10	WS100	2	200	2	200	3	300	4	400	1	Located in Admin Wing Adjacent to Evidence Intake, Processing and Storage.
					0	0		0	0	0	0	0		
					0	0		0	0	0	0	0		
	Evidence Processing													
11.3	Processing	17	30	EP510	1	510	1	510	1	510	1	510	2	
	Pass Through Evidence Lockers													
	-Lockers													
	-(2) Refrigerated Units													
	-Gun Lockers													
	(2) Stinis Process'g Tables													
	- Forms/Supplies													
	Bar Code Printers													
	Sink w/ garbage disposal													
	Garbage, bio haz, etc.-cabinetry													
	Drug Weighing Area													Locate on counter, not on process'g table
														Locate on counter, not on process'g table
														Adjacent to Processing and Evidence Storage
11.4	Temporary Evidence Room	10	10	TER100	1	100	1	100	1	100	1	100		
11.5	Counters on (2) sides													
11.6	Temporary Evidence Locker Room	10	10	TER100	1	100	1	100	1	100	1	100		Adjacent to Processing. No Access to Evidence Storage
	Temporary Evidence Lockers													
11.7	Lab	10	12	ER	1	120	1	120	1	120	1	120		
	Finger Printing													
	Photograph Area-not stainless													
	Fumigation Hood													
11.8	Containment Room	10	10	TER100	1	100	1	100	1	100	1	100		Adjacent to Processing and Evidence Storage. Access to Evidence Storage
	(2) Dryers				0	0		0	0	0	0	0		
					0	0		0	0	0	0	0		
11.9	Evidence Storage-Secure													
	High Density Evidence Storage	12	24	288	1	288	1.5	432	2	576	2.5	720	4	
	(7) HD Shelves-current amt													
11.10	Shelving Storage for Banker Boxes	1.25	20	25	1	25	1.5	37.5	2	50	2.5	62.5		
11.11	Misc Large Evidence Storage	2	6	12	1	12	1.5	18	2	24	2.5	30		
11.12	Guns	2	8	16	2	32	3	48	4	64	6	96		
11.13	Drugs & Money	6	9	54	2	108	3	162	4	216	6	324		
11.14	Refrigerators and Freezers	3	3.5	10.5	2	21	3	31.5	4	42	6	63		
11.15	Large Evidence Lockers-slam	5	8	40	0	0	3	120	4	160	5	200	3	Access to exterior-for drop off.
11.16	CD Storage	1	4	4	1	4	1	4	1	4	1	4		

12.0 ANCILLARY SUPPORT

Item	Position	Space Size		Room Code	Current		10 Year		20 Year		40 Year		Note #	Location/Adjacencies
		W	L		Area	Units	NSF	Units	NSF	Units	NSF	Units		
12.1	Living Rm/Mail Boxes Staff Mail Boxes Coffee, popcorn Seating Area Small Table for 4	14	20	280	1	280	1	280	1	280	1	280		Adjacent to Work Area
12.2	Copy/Work Area Work Table Printer Storage Paper Storage	16	28	448	1	448	1	448	1	448	1	448		Adjacent to Living/Mail Boxes
12.3	Armory Rifles and hand guns Ammunition Gun Cleaning Simunitions	12	16	192	1	192	1	192	1	192	1	192	1	Access to Secure Parking. Secured within the room Currently performed at rifle range.
12.4	Small Conference Room	12	12	144	1	144	2	288	3	432				
12.5	Medium Conference Room	14	24	336	1	336	1	336	1	336				
12.6	Coffee Bar Holding Area (3) Holding Cells (1) Interview Room Secure Equip Stor Clos Sink and Drinking Fountain-close	26	26	676	1	676	1	676	1	676	1	676		
12.7	Sally Port	24	30	720	1	720	1	720	1	720	1	720	2	
12.8	Vehicle Impound													See Evidence
12.9	Shipping and Receiving													In Lobby Interview/Receiving
12.10	Evidence Pick-up													In Lobby Interview/Receiving
12.11	Mail Delivery													In Lobby Interview/Receiving
12.13	Uniform Delivery													In Lobby Interview/Receiving
	SUBTOTAL					2796		2796		2940		3084		
	CIRCULATION				0.25	699		699		735		771		
	GROSS UP				0.1	350		350		368		386		
	TOTAL SQUARE FOOTAGE					3845		3845		4043		4241		

Notes

- 1 Armory Secured
Ammo secured within the room
- 2 Sally Port
Drive through preferred
Work space for IT

13.0 STAFF SUPPORT

Item	Position	Space Size		Room Code	Current		10 Year		20 Year		40 Year		Note #	Location/Adjacencies
		W	L		Area	Units	NSF	Units	NSF	Units	NSF	Units		
13.1	Men's Locker Room Full size lockers for Sworn Half size lockers for Nonsworn	2	5	10	65	650	75	750	100	1000	140	1400	1	No corner lockers.
13.2	Men's Shower (6) showers	1	5	5	30	150	40	200	50	250	60	300		
13.3	Men's Locker RR (3) Lavs (2) Urinals (3) Toilets	12	25	300	0.5	150	1	300	1.5	450	2	600		Combined with TS560
13.4	Women's Locker Room Full size lockers for Sworn Half size lockers for Nonsworn	2	5	10	6	60	15	150	20	200	30	300	2	No corner lockers.
13.5	Women's Shower (2) showers	9	12	108	1	108	1	108	1	108	1	108		
13.6	Women's Locker RR (2) Lavs (3) Toilets	10	17	170	1	170	1	170	1	170	1.5	255		Combined with TS280
13.7	Men's Restroom	10	18	180	2	360	2	360	2	360	2	360	3	
13.8	Women's Restroom	10	18	180	2	360	2	360	2	360	2	360	4	
13.9	Exercise Room	30	40	1200	0	0	1	1200	1	1200	1	1200		
13.11	Break Room/Relaxation Area (2) Commercial Refrigerators (1) Commercial Freezer (1) Industrial Ice Machine (6) Tables for 4-5 persons Range/oven, double sink, DW (2) Vending Machines Recycle Area Storage for kitchen supplies Couch Relaxation Area	22	36	792	0.5	396	1	792	1	792	1	792		
13.11	Quiet/Sleep Room (2) Reciners Sink and small refig	12	14	168	0	0	1	168	1	168	1.5	252	5	
13.12	Hall of Honor	10	12	120	1	120	1	1	1	1	1	1		
13.13	Janitor Closet	8	8	64	2	128	2	128	2	128	2	128		Included within Halls of building
13.14	Building Maintenance Equip	8	10	80	1	80	1	80	1	80	1	80		One per floor
13.15	Janitor Work Station Include in Jan clob or bldg maint	6	6	36	1	36	1	36	1	36	1	36		
13.16	Stairs	10	21	210	2	420	2	420	2	420	2	420		
13.17	Elevator	10	10	100	1	100	1	100	1	100	1	100		
13.18	Elevator Machine Room	8	10	80	1	80	1	80	1	80	1	80		

**SECTION 4
SITE SIZE ANALYSIS**

**City of Albany Police Department
Facilities Assessment and Preliminary Design
Phase 1 – Part A: Department Programming and Needs Assessment**

**SITE SIZE REQUIREMENTS (20 year programming requirements) in square feet
Rev. 0 May 6, 2011**

AREA DESCRIPTION	SINGLE STORY	TWO STORY	THREE STORY
Building footprint	50,808	25,404	16,936
Parking and Other Site Needs	83,582	83,582	83,582
Access Aisle allowance 35' x 200'	7,000	7,000	7,000
Sub Total	134,390	108,986	100,518
Landscape Allowance at 25% of sub total	33597.5	27246.5	25129.5
Hardscape Allowance at 2.5% of sub total	3359.75	2724.65	2512.95
Sub Total	171,347	138,957	128,160
15% Contingency	25,702	20,844	19,224
TOTAL SQUARE FEET	197,049	159,801	147,385
ACRES	4.52	3.67	3.38

Notes;

1. Includes 16 on site parking spaces for Community Room
2. Does not allow for expansion beyond 20 year needs

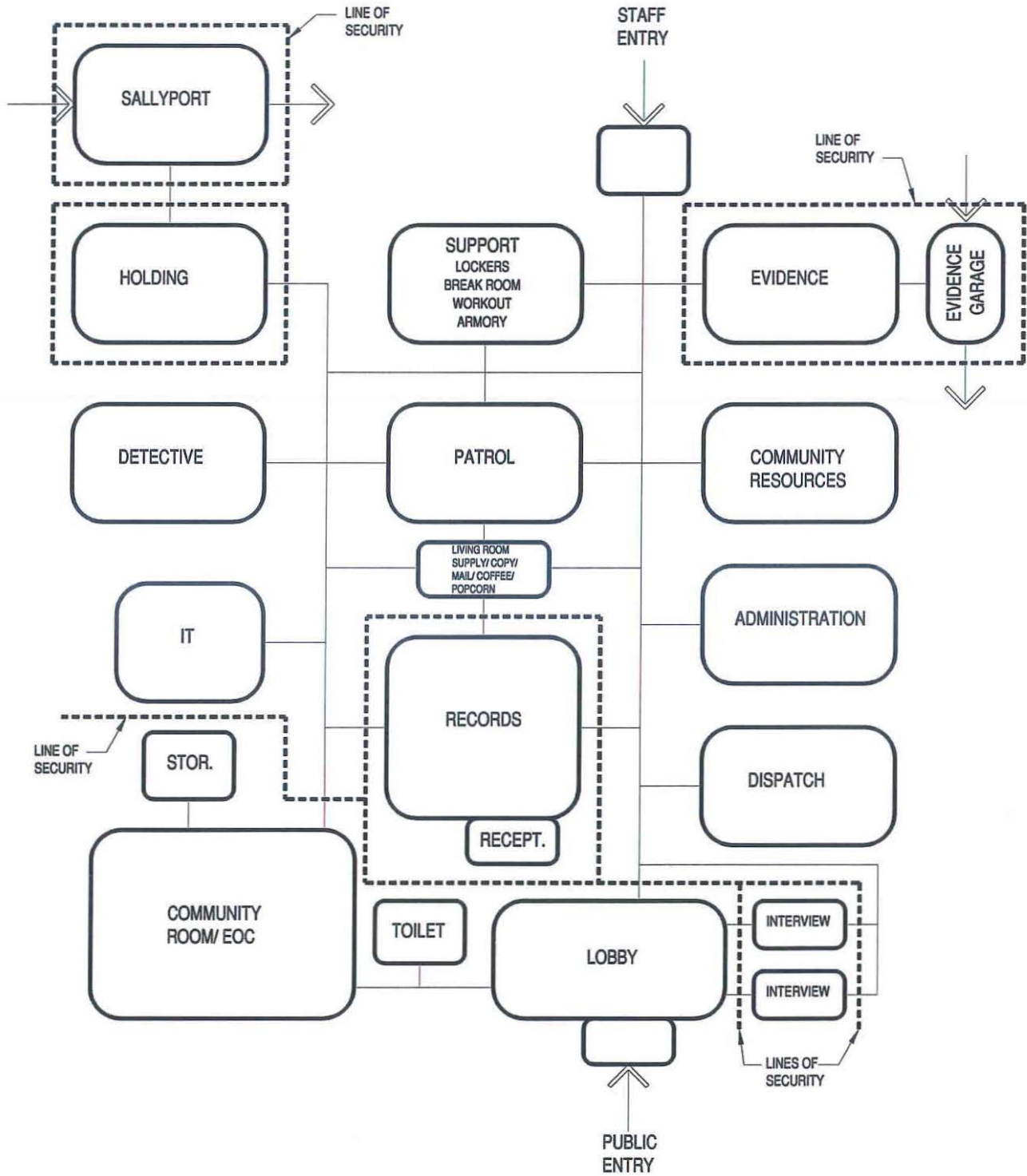
CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: OVERALL BUILDING ORGANIZATION

SECURE STAFF PARKING



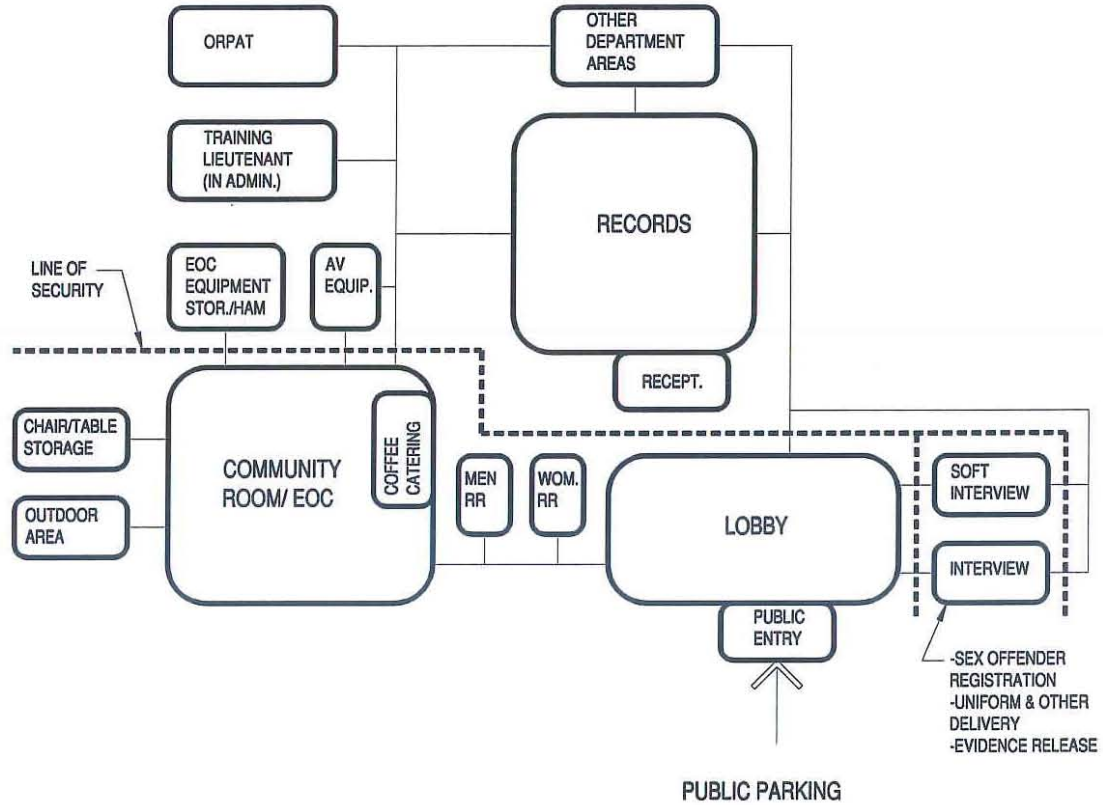
PUBLIC PARKING

CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: PUBLIC AREAS

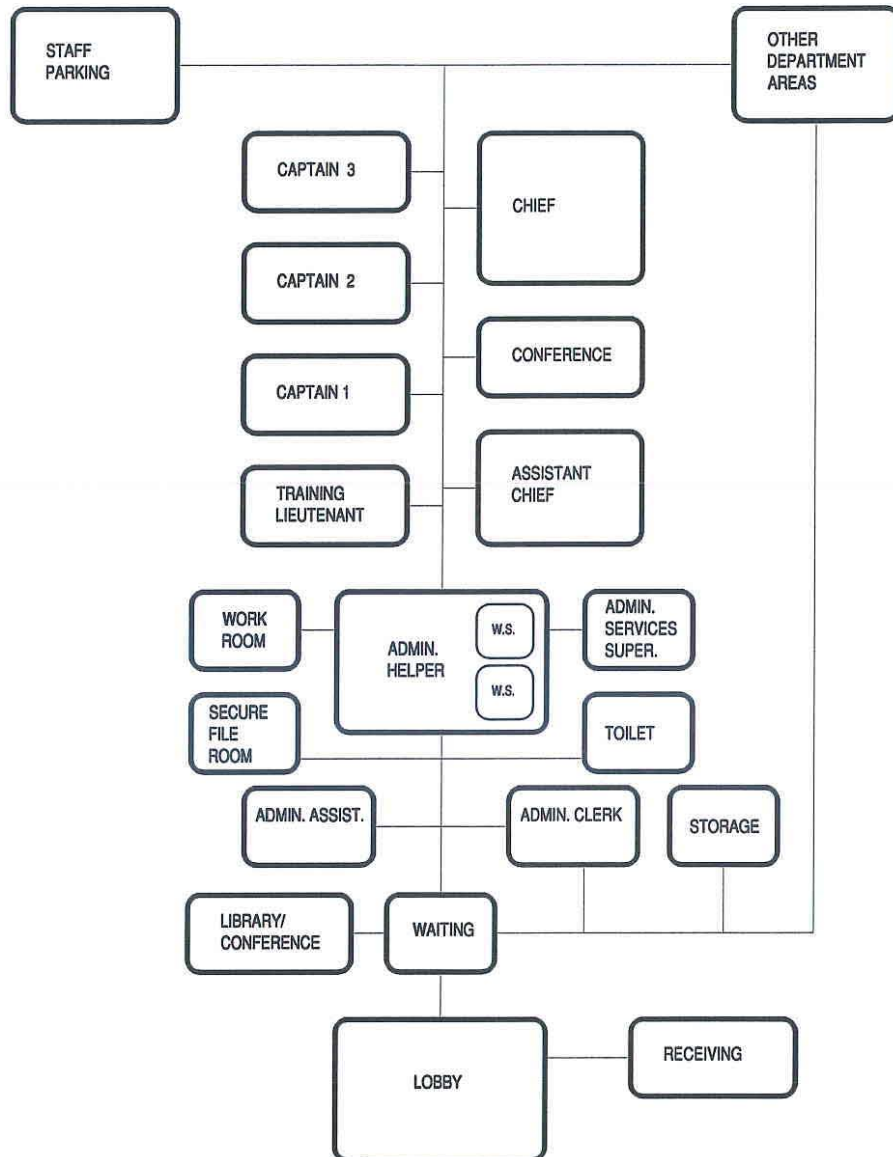


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

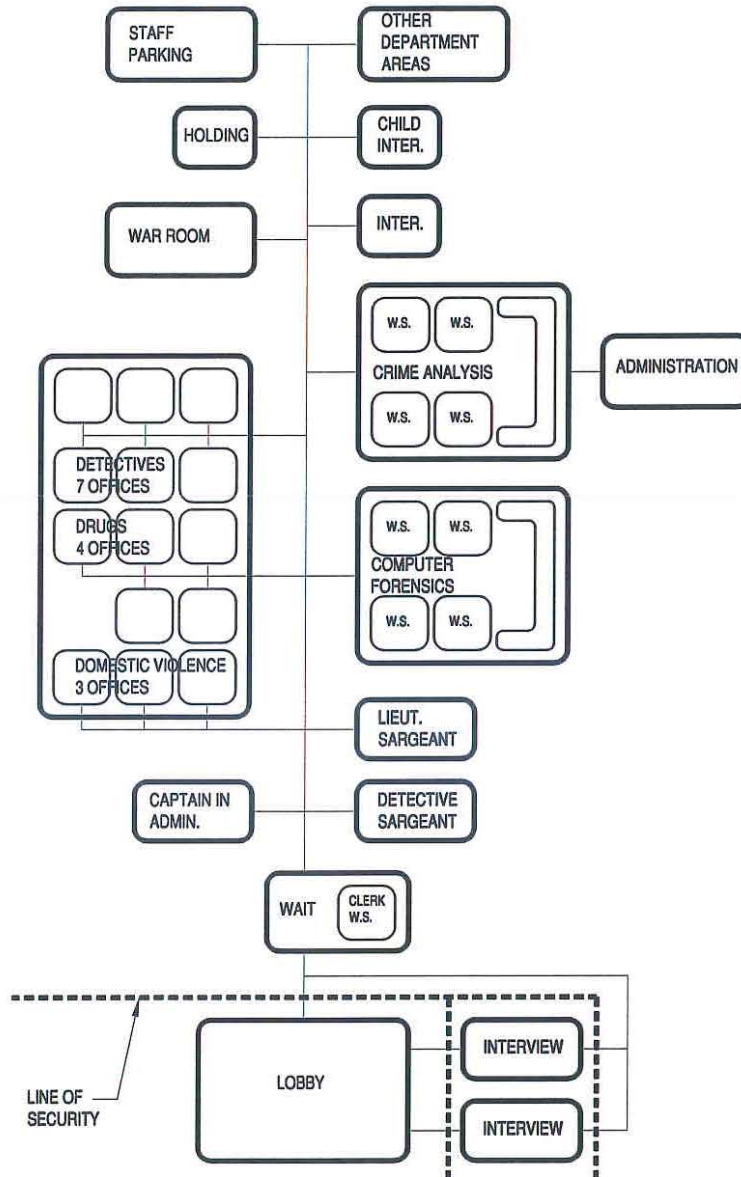
20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: ADMINISTRATION



ADJACENCY DIAGRAM: DETECTIVES

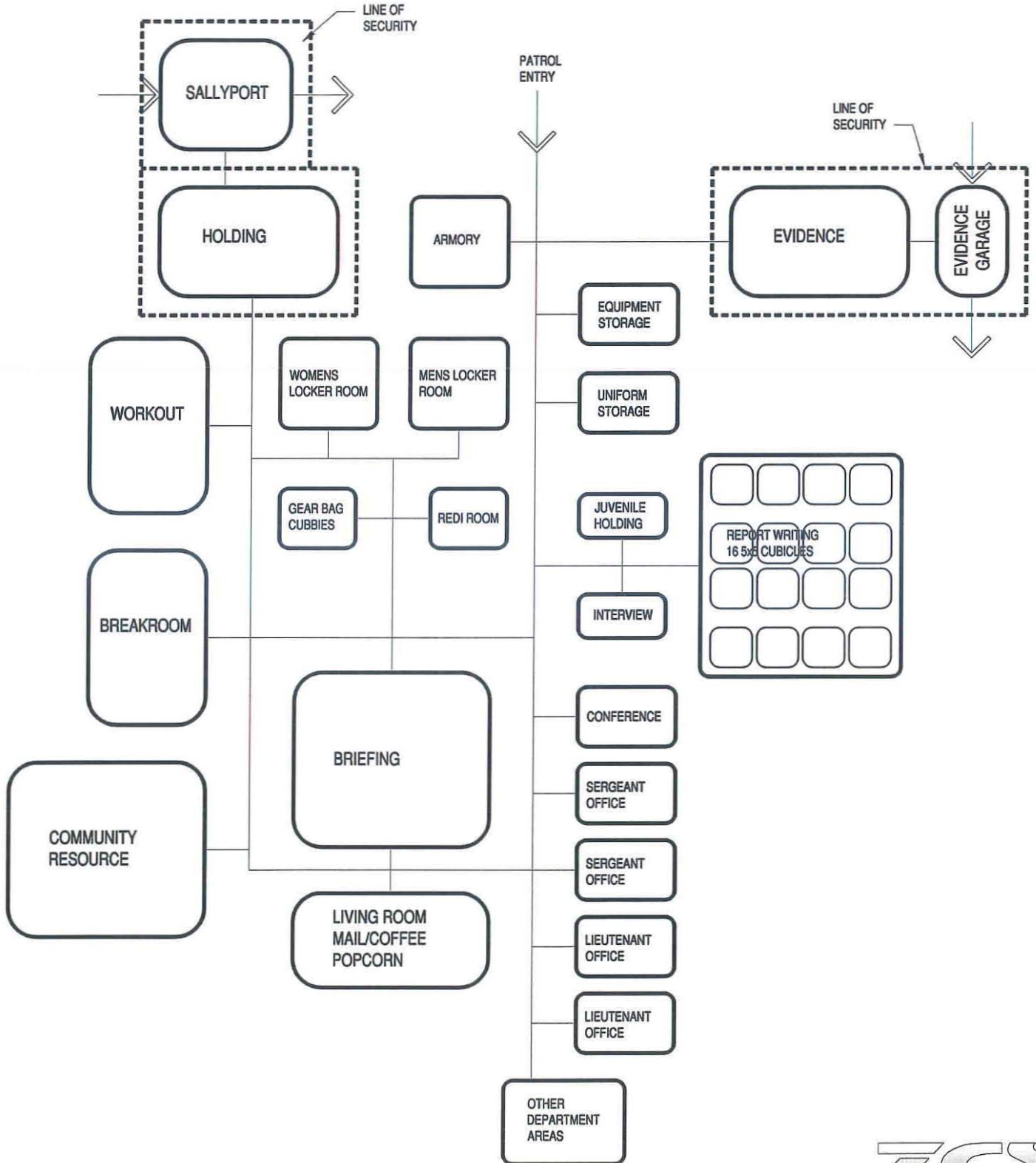


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: PATROL

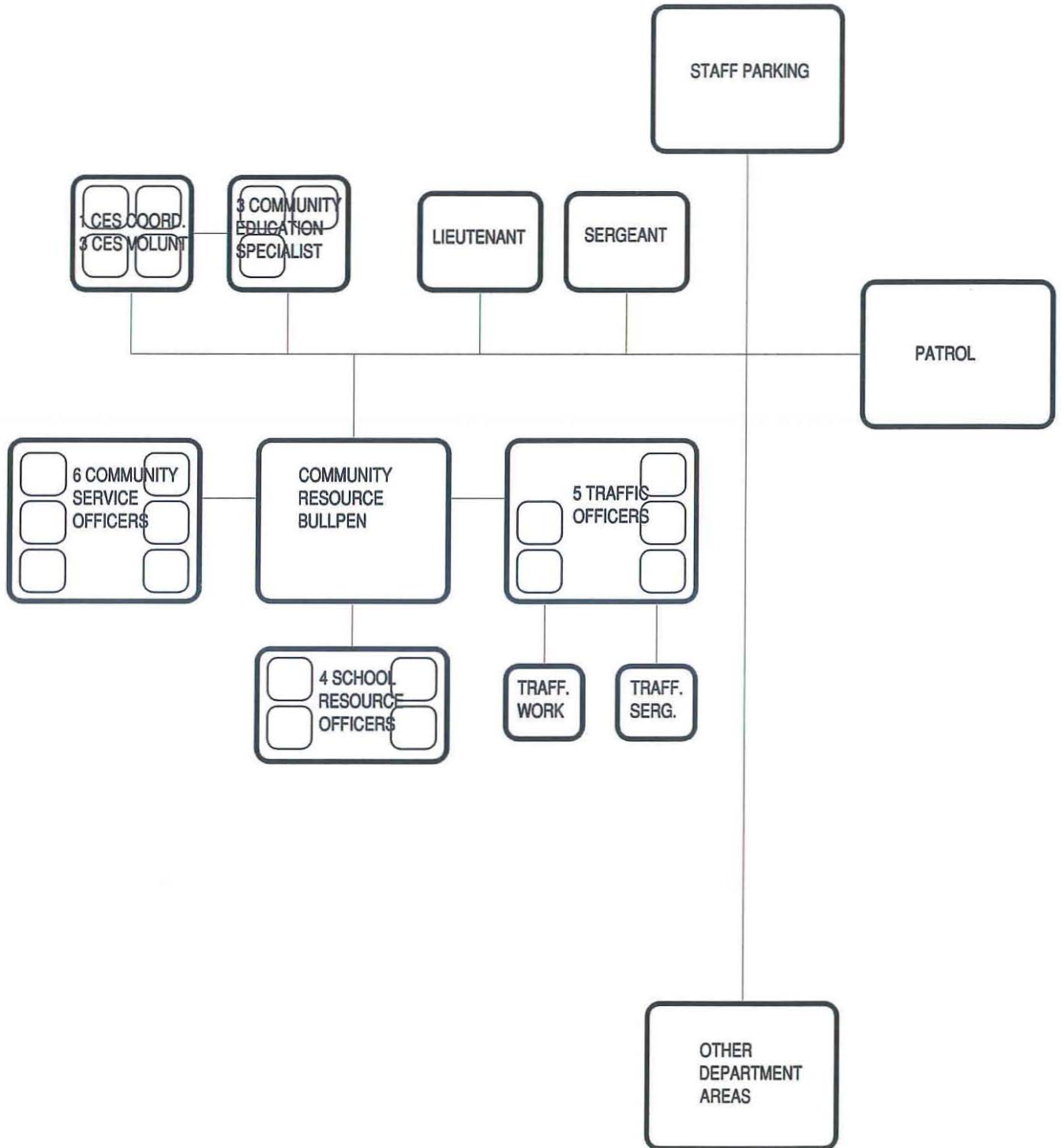


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: COMMUNITY RESOURCE

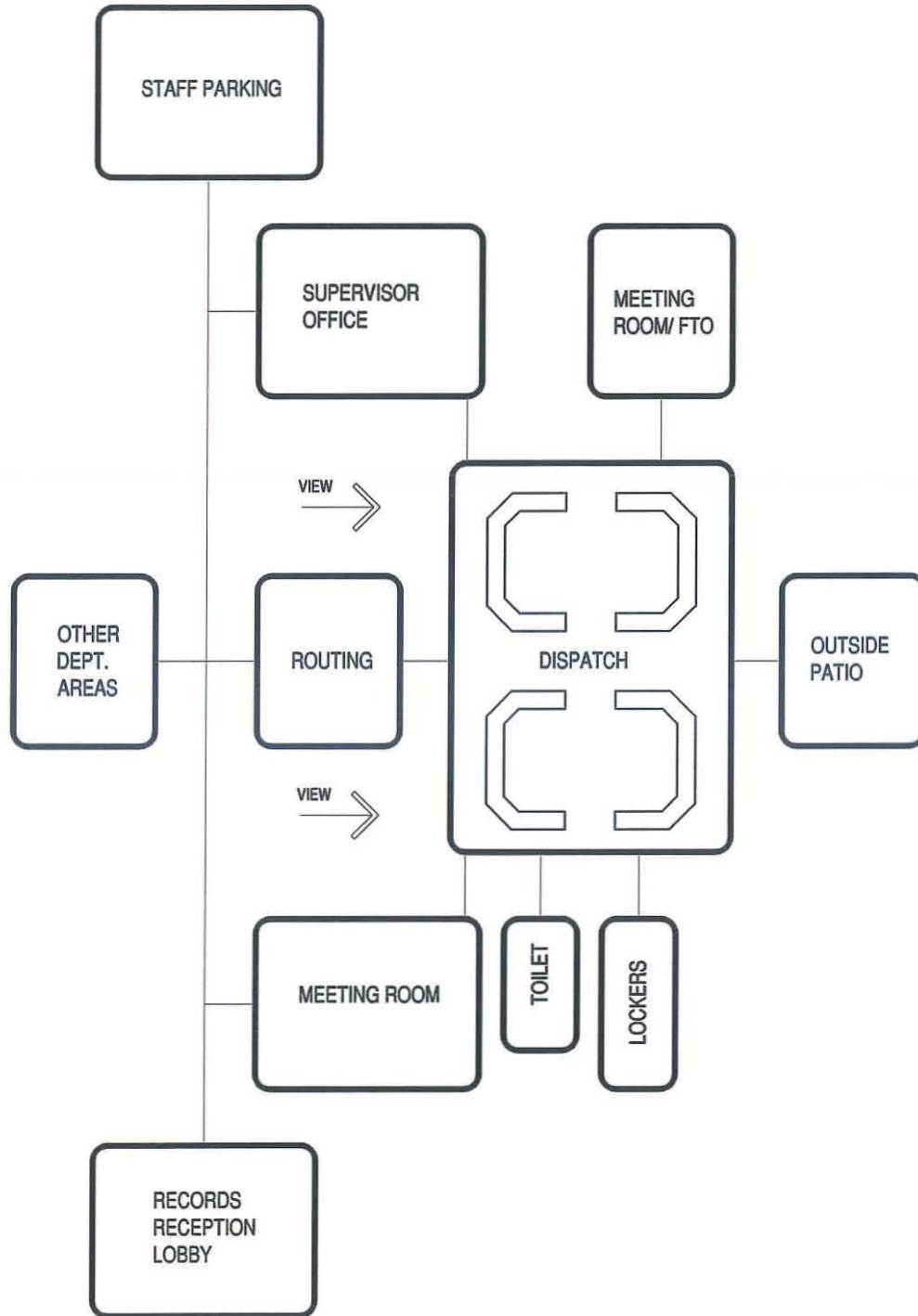


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: COMMUNICATIONS/DISPATCH

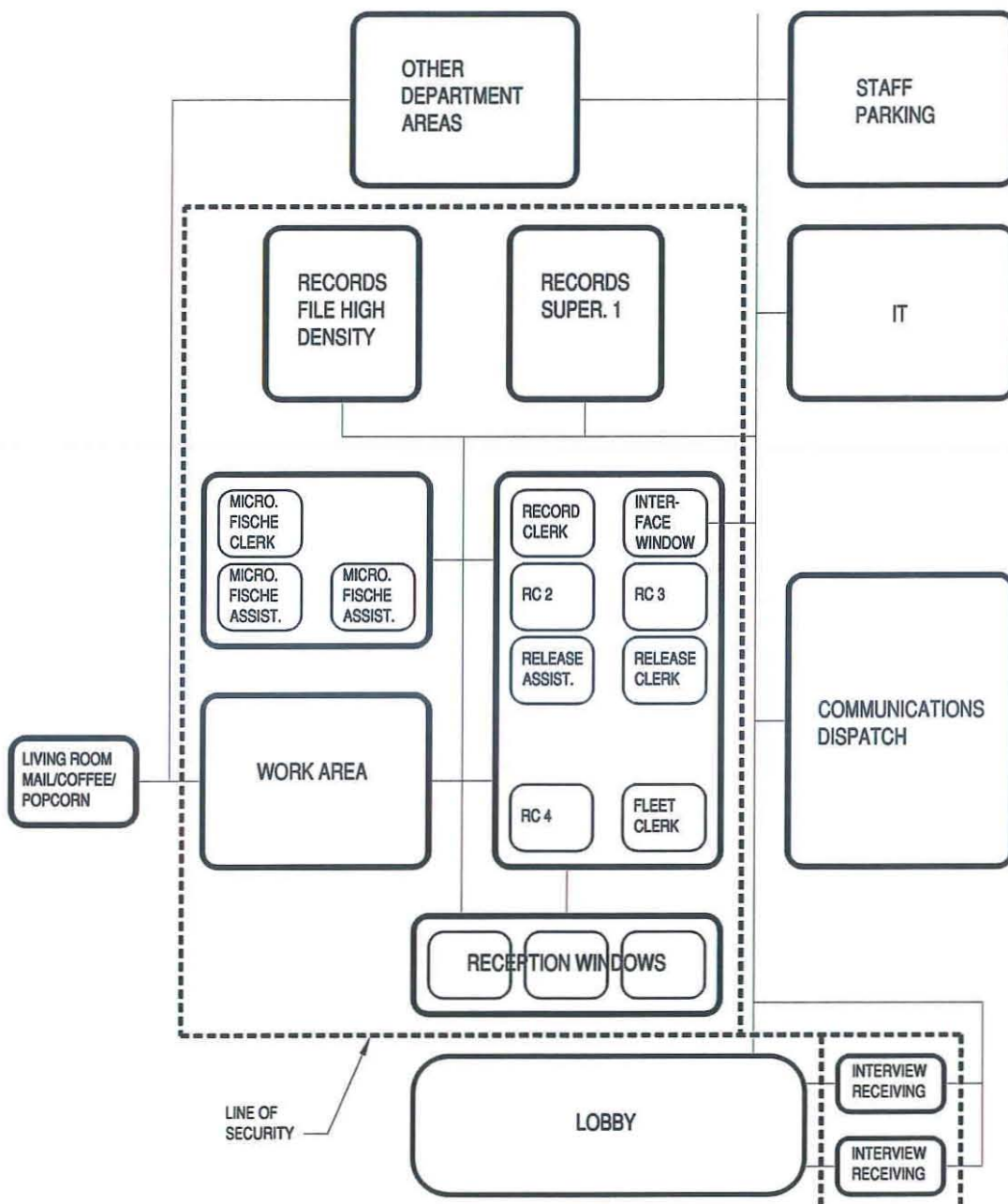


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: RECORDS

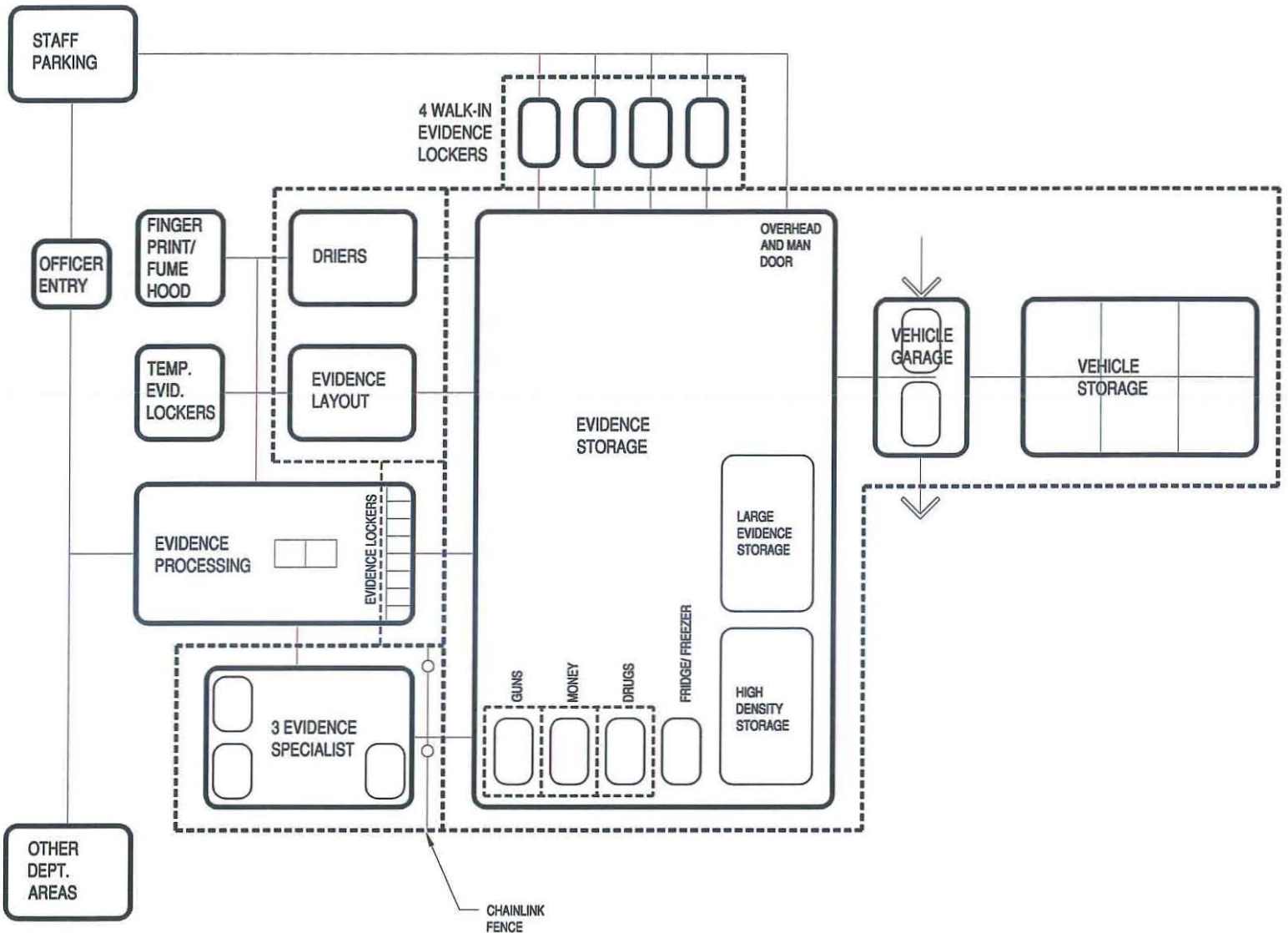


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: EVIDENCE

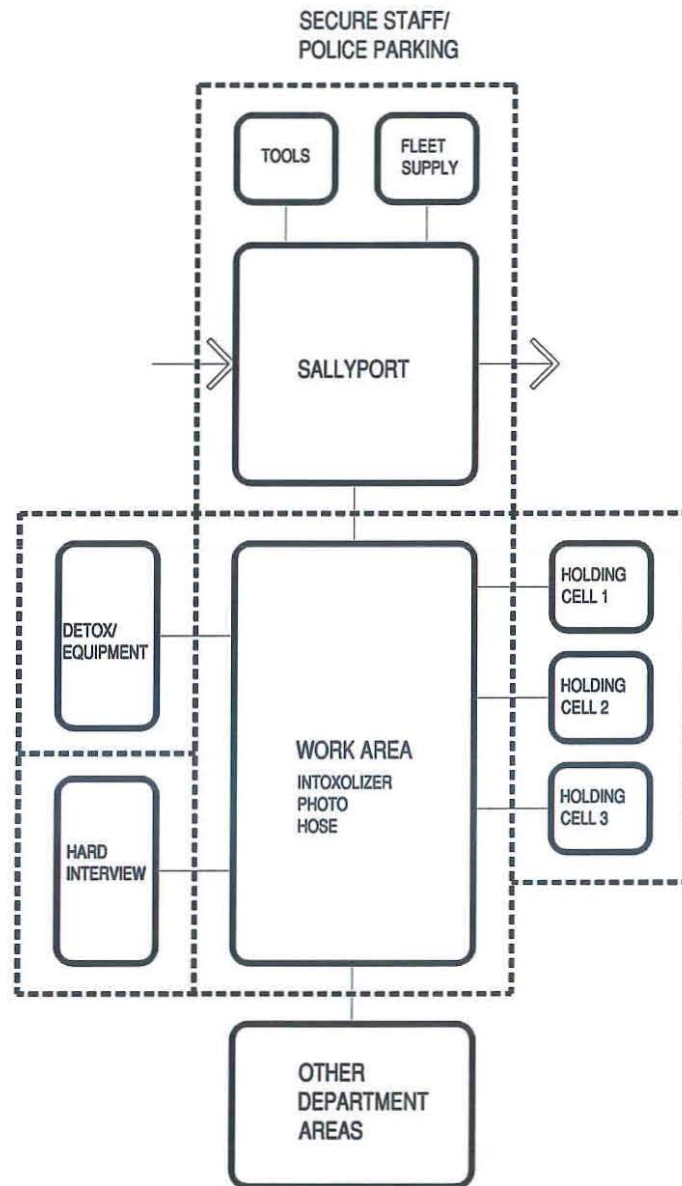


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

ADJACENCY DIAGRAM: HOLDING

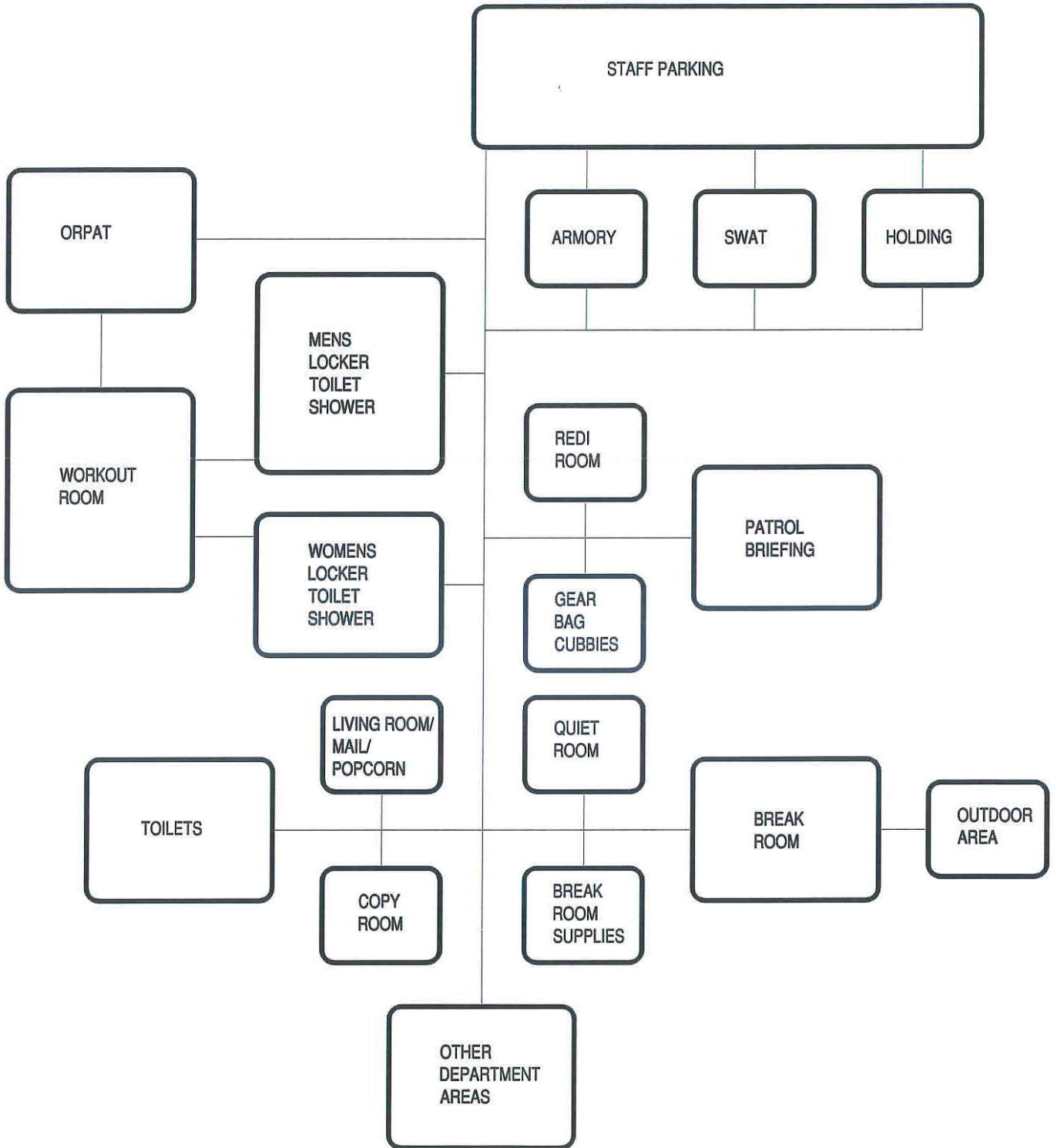


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV.1 04/25/11

ADJACENCY DIAGRAM: ANCILLARY SUPPORT

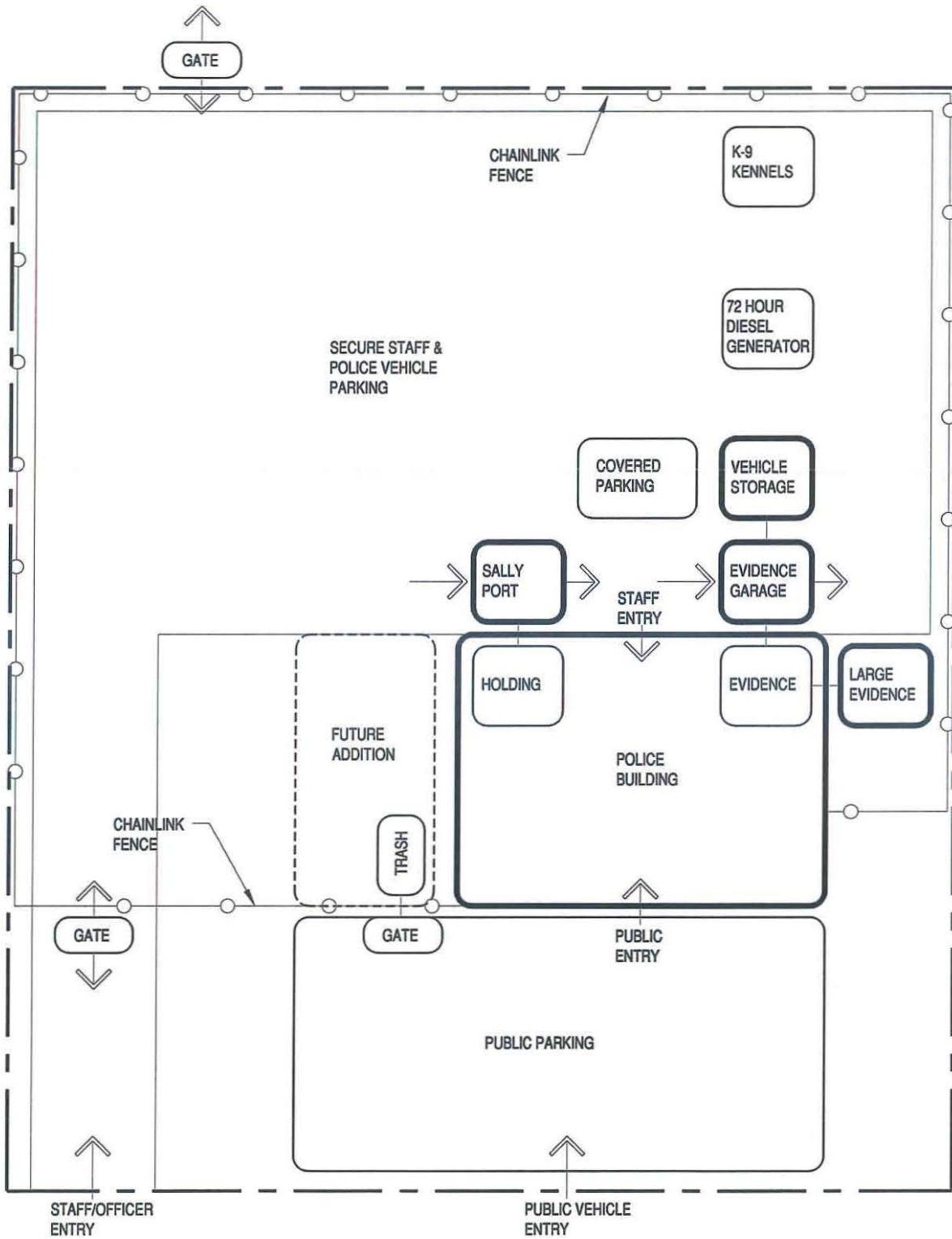


CITY OF ALBANY POLICE DEPARTMENT PROGRAMMING

20-YEAR NEEDS

REV. 1 04/25/11

SITE SCHEMATIC PLAN



SECTION 6 ROOM DIAGRAMS

CITY OF ALBANY

POLICE DEPARTMENT PROGRAMMING

ROOM DIAGRAMS TABLE OF CONTENTS

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6.	Private Offices 3
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9.	Breakrooms 2
10.	Breakrooms 3
11.	Work Spaces 1
12.	Work Spaces 2
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18.	Conference Rooms 3
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23.	Storage Areas 4
24.	Circulation for Open Office Work Space
25.	Circulation for Offices
26.	Various Restroom Templates
27.	Locker/ Toilet/ Shower Templates





















































APPENDIX A



TO: Wes Hare, City Manager
FROM: Ed Boyd, Chief of Police
DATE: September 28, 2010
SUBJECT: Police Facility Information

This memorandum will seek to provide you with the information you need to put together the report for the Council related to our need for a new facility. Please feel free to modify the information presented in any way you feel is appropriate for the purposes of the report. There are really only three ways for us to get the funding needed to build a new facility: proceeds from the Pepsi money, a taxpayer approved bond or COP bonds. Of course, another option is that we stay in our current facility for the next several years. I will hopefully provide you with the information needed on each of those topics as well as others that have arisen during this conversation.

BACKGROUND

The current Albany Police Department was dedicated for service on April 29, 1988. It was constructed at a cost of just over 1 million dollars and was 10,500 square feet situated on 1.68 acres of land. The population of Albany at that time was 28,060. The size of APD at that time was 36 sworn officers and 11 non-sworn for a total of 47 employees. Currently, the City is right at 50,000 population and APD has a total of 94.25 employees – 63 sworn and 31.25 non-sworn.

For comparison purposes, the current Philomath Police Department is 10,000 square feet for 10 full time employees; the new Lebanon Police Department has approximately 23,000 square feet for a department less than half the size of APD. Keizer, Woodburn and McMinnville Police Departments average 25,000 to 33,000 square feet for departments with less than half the personnel as APD.

In our current facility, the men's locker room contains 47 lockers – we currently have 66 male employees. The female locker room has 20 lockers; we currently have 28 female employees. The Watch Commanders office has been separated with a curtain for a make-shift locker room for all patrol supervisors. All detectives and command personnel have a standalone locker in their office space.

A 1,176 square foot modular building was added in 2004 at a cost of \$150,000 to accommodate needed space for our 9 detective personnel.

The current facility has been remodeled no less than 5 different times to accommodate the growth of the department over the years. One current office used to be a bathroom. Another office was created in a hallway that has been blocked off for that purpose. Another employee uses a computer at a makeshift desk in the computer server/radio equipment room.

We have one conference room left in the police department which is used for patrol briefings, training and department meetings. There have been times where we have been required to move a staff meeting outside around a picnic table because there was a scheduled training or another meeting already happening in our conference room.

Parking is continually a challenge for us. We have enough parking spaces for our department vehicles but on most days, there is not adequate parking for the number of employees working during the day which forces them to park in the surrounding neighborhood – for which we also receive occasional complaints because we are parked on the street in front of their house.

The need for a new facility goes much further than 94 employees being more comfortable. At shift change each and every day, there are up to 14 to 16 officers trying to get changed into or out of their uniforms at the same time in 189 square feet – The floor area of the men's locker room is 7 feet wide and 27 feet long. At shift change an individual can't turn around without bumping into another person.

In the detective unit, because of the cramped space, we have to use blinking lights at each work station to let other people know that a detective is on an important phone call with a victim, witness (phone calls that we most often digitally record) so that everyone will stay silent as not to interfere with the recording. If everyone is at their desks in the detective unit (in our modular) a person basically can't back their chair up from their desk without hitting the chair behind them if someone is sitting in it.

Hasso Herring recently wrote an editorial asking why officers don't just change at home – there are many reasons why the vast majority of officers don't do that. None of this is special or specific to Albany – it is the same in most all police departments. Officers, daily, deal with situations and circumstances in our community that the vast majority of citizens doesn't even understand or acknowledge exist. We are in the dirtiest places, dealing with very unpleasant and unhealthy people and places. Blood, spit, vomit are just a few things that officers get on their uniforms not all that infrequently. The last thing any officer wants to do is to take that stuff home with them in their personal cars and their homes. Most officers shower at the end of their shift before they go home for the same reasons. It is not uncommon that officers have to change uniforms in the middle of the shift for one reason or another. Most officers have their uniforms sent out for cleaning from the department (which by contract we pay for) so they don't take their dirty uniforms into their homes.

Police officers, before and after work, do the same things that every other citizen in this community does. They go to the store; they pick up their kids, they go to sporting events or a myriad of other things. Officers can't wear their uniforms when they do all that because when they do, we get complaints of officers doing personal business on duty –

It also comes down to security issues, too – officers driving their personal cars don't want to be seen in their uniform as it very clearly is visible to people that we don't necessarily want to know who we are in our personal lives. There have been instances all over this country of officers being seen in their personal vehicles, in uniform, and being confronted by individuals or followed all the way to their personal home by people that should not know where we live.

ACKNOWLEDGED NEED

The need for a new police facility has been acknowledged for several years now. It is currently a main goal in the City's Strategic Plan and is listed as an unfunded project in the CIP. Various Council members have publicly stated their support in different venues for the needs of the police department getting a new facility. Council supported your plan to start putting money aside for police and fire facility needs upon your arrival almost six years ago which allowed us to recently purchase land for a new facility. The need for a facility was acknowledged in 2002 when

authorization was granted to hire a professional architectural firm to do a needs assessment and preliminary facility plan. The 2002 space needs assessment indicated that APD “should” have 33,000 square feet (33,369) for the department size at that time. That square footage was projected to be adequate through 2022 at which time the needs assessment indicated a projected requirement of 39,000 square feet (39,096). Additionally the needs assessment indicated that APD needed 3.37 acres of land for our needs in 2002 (we currently have 1.68) with a needs projection of 4.34 acres by 2022. As you know, we purchased approximately 4.2 acres of land in the past six months so we have met the land needs.

It is currently estimated that we could build a 30,000 square foot facility (3 times our current size) for approximately 9 million dollars (\$300.00 per square foot). I also believe that in today’s economic conditions that we could most likely do it approximately \$250.00 per square foot for a total of 7.5 million. The needs assessment showed that in 2002, projected costs for a 33,000 square foot facility would have been 5.8 million which is a difference of almost 3.2 million (using the 9 million dollar figure) in just eight years. If we wait another six, seven or eight years before we build a new police facility the costs could easily be an additional 1.5 – 2 million (this is speculative depending on economic conditions of course).

THE MIKE QUINN “PLAN”

During a recent Council meeting Mr. Mike Quinn presented a set of conceptual drawings and verbally advised Councilor’s that he could build a 27,000 square foot addition for “around 3 million, probably less.” This equates to construction costs of approximately \$111 per foot. I have four recently built police departments in this state where the average construction cost was \$250 per square foot on the low end and 300 a square foot on the high end. These costs are inclusive of hard costs (actual building the structure) soft costs (furnishing the building) and all fees (architectural, engineering and SDC’s). \$300 per square foot for a 30,000 square foot facility would be nine million dollars. The same structure at \$250 per square foot would equal 7.5 million dollars. Additionally, the Linn County Sheriff’s office has indicated their desire to purchase our current building to alleviate their own significant space needs. We would reasonably expect about \$1.2 million dollars from the sale of our current building which further off-sets the total overall cost.

By his own admission, Mr. Quinn’s plan does not account for the following:

- The cost of acquiring all the other property required to do his plan
- The cost of the demolition and removal of existing structures
- The costs to do the site work necessary to build a parking lot along with the building addition
- The costs to remodel our current building (which includes the most expensive things to overhaul such as property and evidence, locker rooms, dispatch, and interview rooms)

We have researched the additional costs associated with the plan of expanding the current site and building the addition as suggested by Mr. Quinn.

There are six separate pieces of property that would need to be purchased or acquired to do any expansion on the current site. The Linn County Assessor files list the combined Real Market Value of all these properties at **\$1,833,260**. This cost could reasonably be more due to the differences between what an assessed Real Market Value is and what properties actually are sold

for. Additionally, another dilemma in this scenario is when property owners know that it is the City seeking to buy property, the price tends to go up even more. This is also assuming that all property owners would be interested in selling their property. If even if one or two hold out it forces the council to go through the condemnation process which is time consuming and if completed also requires the city to pay for the relocation costs of those force to move.

Costs to demolish and remove the structures on those properties will easily be \$500,000 to accomplish. This figure is based on some research completed when we were considering the current YMCA site as a potential location for our new facility.

Site work to prepare for parking lot work is estimated minimally at \$326,700. This is based on \$5.00 per square foot costs for 1.5 acres of asphalt.

Remodel of our current building could possibly be done for around \$170 per square foot which at the low end would be \$1,785,000. This estimate is based on input from different local contractors on remodel costs for an existing building when we were researching the viability of the Weyerhaeuser property.

All construction projects have architectural fees, engineering fees, SDC and other similar fees attached to them. Estimates based on other recent projects we have researched show approximately \$1,000,000 for these fees (for new construction).

These costs add up to a new total of \$8,444,960. This is just a little short of what we believe the high end cost of a brand new facility on our property will cost. That price assumes that Mr. Quinn's stated cost that equals approximately \$111 per square foot for commercial construction is accurate. I have researched four different recently built police departments in this state. The low end average cost per square foot was \$250. The high end was \$300 per square foot.

It's important to understand that Mr. Quinn has never built a police department and does not know the needs or specifications that are required. Mr. Quinn submitted his drawings and opinions to Council without ever speaking to me once about it to find out our needs, ask questions and find out what has already been done over the past several years on this issue.

It is of significant importance that a professional architectural firm hired by the City to conduct an assessment on our current facility eight years ago recommended no further consideration of expanding on the current site because the cost greatly outweighed the benefit for doing so and that the current site was unsuitable for the long term future needs of the Albany Police Department. Adding a second floor to our current facility was discussed and considered by the architectural firm in 2002. They recommended no further consideration of that idea due again to the high cost with very little benefit over the long term. It is somewhat feasible to add another significantly larger modular building to our current location (which I'll discuss in further detail later) but even that comes with some questions related to zoning and the exemptions probably required to do that.

COUNTY/CITY JOINT FACILITY

There has been some discussion of a possible joint county/city public safety justice center and that time should be taken to fully explore this option prior to committing any funds to build a new facility for the police department. The concept is of course a good one. Anytime multiple units of government can partner and combine resources to streamline efficiencies it makes good sense.

However, from a reality based approach, the only discussion that has occurred on this topic has been a “wouldn’t it be nice if” approach that from my understanding comes up every few years. There has not been a single serious discussion, a bringing together of those that would be impacted by such a plan, a concept plan proposed or anything other than some verbal comments repeated second and third hand.

A project of this magnitude and size would easily reach the 25-30 million dollar range to make it happen and would require voter approval. Linn County will be asking voters for a 15 million dollar bond this year; the City of Albany goes out to approve our public safety levy next year and Linn County Sheriff has to approve their operating levy again a couple years after that. Additionally, there has been continued talk of going to voters to approve a bond for street improvements in our community, too. There is no one who could reasonably say that the voters, assuming that they approve everything that we already know will be coming to them, will also then approve another 25-30 million in new taxes on themselves to build a combined justice center. The idea is great; the reality of it occurring anytime in the next decade or longer is highly doubtful.

VOTOR APPROVED BOND

Figures from Stewart Taylor indicate that a voter approved bond in the amount of 10 million dollars to build a new police department would cost the average taxpayer \$42.00 a year on a home valued at \$150,000. That’s truly not all that much but if you add another 6-8 million on the same bond for a new fire station (which if we go that route probably makes the most sense) we are probably looking at a 16-18 million dollar total bond which would probably be somewhere in the neighborhood of \$70.00 a year for the average homeowner on a \$150,000 home – I did not confirm that second amount with Stewart and is just an approximation on my part! The \$42.00 per year number I got from Stewart some time ago for a 10 million dollar bond. Even though some economists have indicated the recession has been over for a year now, many more “experts” indicate that we are most probably looking at another 3-5 years before any real uptick in our economy and related conditions will improve.

I’m actually a little nervous about getting our public safety levy reapproved next year – I’m not confident at all that any other bond measure would feasibly be approved – especially given the other bonds coming up as mentioned previously.

COSTS OF STAYING HERE

There are costs associated with staying in our current facility as well. As I’ve mentioned previously, our HVAC system has been in need of replacement for almost four years now. We have been advised that the main reason that we have so many issues with the current HVAC system being able to adequately provide either the necessary heating and/or cooling is that the current system in place is undersized for a building of this size. Because of the many remodels that have taken place over the life of this building and the moving of walls that go along with doing that, the duct work and layout is not adequate as it currently sits. There are times when one portion of the building is so hot it literally requires fans to keep it bearable (this happens in dispatch routinely) and in other parts of the building you have to wear a jacket in the office because it is so cold – at the same time!

Budgetary and other reasons have prevented us from being able to do that. It is rapidly reaching the point where we have no choice and will have to make it happen. Facilities Maintenance has

February 28, 2011

estimated replacement of our HVAC system at approximately \$180,000-\$200,000 inclusive. Additionally, there could be costs of around \$30,000 to 50,000 for the engineering and structural modifications needed to put a larger HVAC system in place. According to Craig Carnagey the ongoing annual costs to maintain our current facility are about 20% higher than they should or could be if we were in an up-to-date facility. These costs are not optional if we are required to stay in this building for a few more years.

It is certainly feasible for us to stay where we are at for another six, seven or eight years. However, for us to do that brings significant costs (although a lot less than building a new building). If we are required to stay in this facility for any length of time we will have to do some expansion of the current facilities. This would include at a minimum the locker rooms, property and evidence and adding additional square footage in the form of additional modular components to increase the overall size of the facility. Although I have not completely researched it yet I believe we could potentially place another modular (two-story this time) on the same location as our current modular that could feasibly give us approximately 7,000 more square feet (3,500 per floor). This would give us at maximum, 17,000 square feet total between the regular building and the modular which we could probably work with for another 5-7 years if absolutely necessary. The modular addition could feasibly be done for about 1.5 million and a limited remodel of the existing building could be done for around 1.5 million as well. Total estimated funding required to stay on site for several more years would be about \$3,000,000. This is simply a band-aid approach to make the current location viable for a few more years.

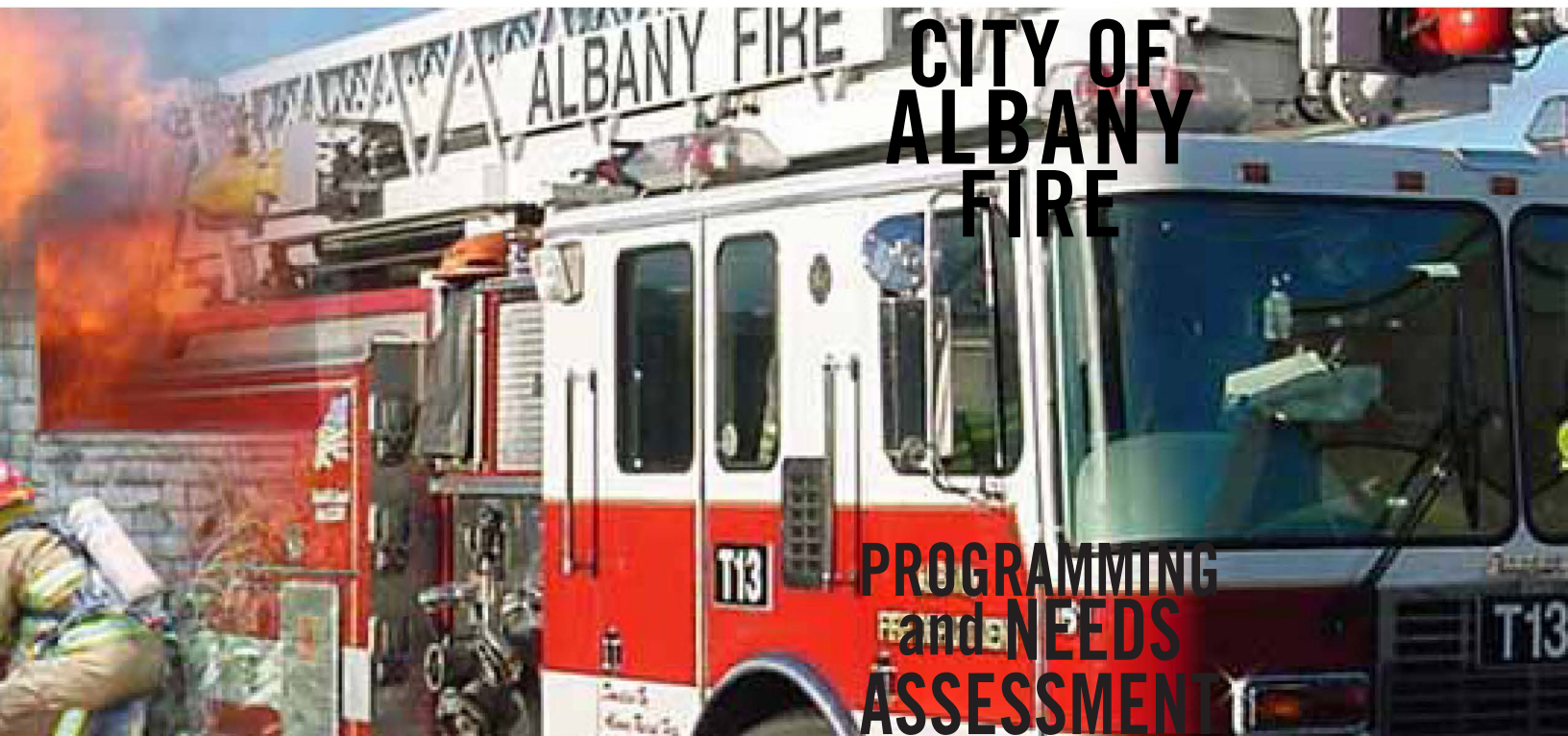
There are also some issues related to City Code, setbacks and other requirements that “may” be problematic in trying to put a larger modular on our current site. This, too, has not been fully researched or vetted to this point. It is simply an option for consideration.

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Attachment

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**CITY OF ALBANY FIRE DEPARTMENT,
STATION 11
FACILITIES ASSESSMENT AND PRELIMINARY DESIGN
PHASE 1 – PART A: DEPARTMENT PROGRAMMING AND NEEDS ASSESSMENT**



900 Klamath Avenue
Klamath Falls, OR 97601
T: (541) 884-7421
F: (541) 883-8804



838 NW Bond Street, Suite 2
Bend, OR 97701
T: (541) 389-3904
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**CITY OF ALBANY FIRE DEPARTMENT, STATION 11
FACILITIES ASSESSMENT AND PRELIMINARY DESIGN
PHASE 1 – PART A: DEPARTMENT PROGRAMMING AND NEEDS ASSESSMENT**

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ROOM DIAGRAMS

SECTION 7

APPENDIX A - 2010 CORRESPONDENCE BETWEEN
JOHN BRADNER, FIRE CHIEF AND WES HARE, CITY MANAGER

APPENDIX B - DEGENKOLB REPORT

SECTION 1 EXECUTIVE SUMMARY

The Albany City Council authorized ZCS/hsr to complete Phase 1 – Part A, the first portion of a three step process to determine Station 11 needs into the future (Phase 1 – Part A). If authorized by Council the next steps are to review possible options for location (Phase 1 – Part B) and to determine overall known development cost and timeline based on preliminary plans, elevations and site studies for a preferred location (Phase 2).

The purpose of Phase I, Part A is to:

- Review the Station 11 portion of the Degenkolb Building Evaluation, dated December 10, 2003
- Review the Facility Needs report by Chief John R Bradner to Wes Hare, dated October 4th, 2010
- Provide Building and Site Programming for Station 11 for current, 10, 20 and 40 year needs.
- Provide Spatial Relationship diagrams and typical industry standard room layouts

ZCS / hsr have met with the Fire Chief John Bradner and his staff to determine space need requirements and adjacency diagrams. Based on information provided by Chief Bradner and his staff we have projected for 10, 20 and 40 year needs. Our space needs determination is based on discussions with the Albany Fire Department, comparison with industry standards for station design, area needs and typical industry room layouts. 20 year needs will be used for purposes of site size determination and preliminary budgeting. The 40 year needs are the same as those for 20. As the City grows, a new station will be needed in a different location to provide adequate response time rather than to expand Station 11.

20 year needs indicate that 29,387 SF will be needed to provide for:

- Lobby and Community Room.
- Suppression living space with 10 bedrooms.
- Battalion Chief Bullpen with 3 bedrooms.
- Training Room (also an Emergency Command Center) and offices.
- Prevention offices, storage and work space.
- EMS office and supplies.
- 6 Apparatus Bays

Rough square foot (SF) construction costs for new fire stations are \$200 to \$240/ SF plus or minus. Soft costs, such as Architectural and Engineering fees, permits, SDC's, surveys, geotechnical and hazardous materials testing, furniture and relocation costs are not included. These costs could amount to an additional 25% to 35%. Construction and soft costs DO NOT include property purchase. See the chart below for a low to high range of costs you can expect (not including property purchase). The numbers are preliminary for a new station and are not based on any specific site or actual plans.

Building Space Needs-SF	14,800	26,790	29,117	29,387	29,387
Project Costs					
Low Range of Project Costs					
-Construction-\$200 per Square Foot		\$5,358,000	\$5,823,400	\$5,877,400	\$5,877,400
-Soft Costs-25% of Construction Costs		\$1,339,500	\$1,455,850	\$1,469,350	\$1,469,350
Does not include cost of property					
Total Project Costs-Low Range		\$6,697,500	\$7,279,250	\$7,346,750	\$7,346,750
High Range of Project Costs					
-Construction-\$240 per Square Foot		\$6,429,600	\$6,988,080	\$7,052,880	\$7,052,880
-Soft Costs-35% of Construction Costs		\$2,250,360	\$2,445,828	\$2,468,508	\$2,468,508
Does not include cost of property					
Total Project Costs-High Range		\$8,679,960	\$9,433,908	\$9,521,388	\$9,521,388
Site Needs					
Single Story	.5 Acres			1.88 Acres	
Two Story				1.64 Acres	
Three Story				1.37 Acres	
Staffing (Total facility work force)	29	33	35	36	36

ZCS' review of the Degenkolb report notes that estimates for seismic strengthening of \$573,120 is considered low and that a figure of \$975,000 should be used for budgeting. This figure does not address gravity system upgrades that may be required. Seismic loads are primarily lateral forces. The gravity system is the ability of a structure to hold up live loads and dead loads. Often, when renovating older existing structures the load bearing structural system requires upgrades.

The Facility Needs report by Chief Bradner outlines needed upgrades to keep the building functional are as follows:

Costs to upgrade the facility without remodeling or providing Fire, Life Safety:

	Degenkolb	ZCS/hsr
Seismic Upgrade	\$573,120	\$975,000
Rewiring and Generator	\$410,000	\$410,000
Windows, HVAC, Stair Treads		
Parking Lot repair	\$100,000	\$125,000
	\$1,083,120	\$1,510,000

ESTIMATED REHABILITATION

The \$2.5-\$4.5M range provided in the report includes Seismic upgrades of \$573,120 and "costs related to ADA compliance, asbestos abatement, relocation of equipment/staff, architectural and engineering design fee, programmatic renovations, deferred maintenance, replace of glazing/finishes".

$$\$2,500,000/14,800 = \$168.00 \text{ per square foot*}$$

*this figure includes the seismic upgrade of \$573,120 versus \$975,000 which is recommended by ZCS.

$$\$4,500,000/14,800 \text{ SF} = \$304.00 \text{ per square foot}$$

\$168 per square foot seems low. \$304 may be appropriate if soft costs (except property acquisition) are

Site size and the ability to design the site with the given location of the existing fire station are important considerations of this site to meet the current and future needs of Station 11. Programming shows that depending on design of the building as a one, two or three story facility the site area required to meet 20 year needs is:

- Single Story 1.88 acres
- Two story 1.64 acres
- Three Story 1.37 acres.

The existing site is .5 acres. The minimum additional required site area is .87 acres with a three story building; this does not include an allowance (contingency) for designing the site with the building in its current location or configuration and location of the additional property.

Site and preliminary floor plan design will help to determine the feasibility of utilizing this site and incorporating the current building, razing the building on the current site and rebuilding or relocating. Site circulation problems that pose operational and safety issues were identified in Chief Bradner's report.

CURRENT STATUS OF EXISTING FACILITY:

- Upgrading the building may cost as much as new construction
- The current building and apparatus bays have functional and life safety issues.
- The interior and exterior materials systems are showing their age-replacement, repair, upgrades and maintenance are required.
- Energy efficiency of the shell and systems in the building could be greatly improved
- Additional land is required to meet the current and 20 year Station 11 needs.

The next step is to take the information gathered in Phase 1- Part A: Programming and Facilities Assessment and proceed with Phase 1 – Part B: Site Option Studies. We will review and compare various site options including expansion and reuse of the existing building, a new building on the existing site or other selected sites using the decision tree provided in our proposal. This will allow us to identify and discard unsuitable options early in the process and will determine whether rehabilitation, replacement on the current site or relocation for Station 11 is most prudent. We will provide estimates for construction and property acquisition and apply a percentage for soft costs. In Phase 2 – Site Specific Studies we will provide a Project Cost Worksheet capturing all know costs. This cost estimate will be based on an actual site, preliminary plans and elevations and outline specification.

SECTION 2 REVIEW OF REPORTS

We have been asked to review and comment on the following report:

REVIEW OF FIRE STATION 11 FACILITY NEEDS REPORT. BY: JOHN R. BRADNER, FIRE CHIEF TO: WES HARE, CITY MANAGER, DATED OCTOBER 4TH, 2010. (You can find this original report in Appendix A of this Document.)

Fire Chief John R Bradner submitted his report which is a compilation of studies and investigations on the existing condition and inadequacies of Station 11. The conclusion is that “rehabilitation of the existing structure would not be prudent and replacement and possible relocation of Station 11 is vital to the Fire Department’s continued ability to provide essential services to our community”.

The construction costs per square foot in this report are meant to cover seismic improvements, sprinklering improvements, HVAC, electrical, ADA and window replacements to keep the building functional. The costs indicated are substantial. Additional money will be required to make improvements to the interior and exterior to accommodate current unmet needs as well as future needs. The cost for utilizing the existing building may outweigh new construction costs and may not provide the highest degree of functionality.

Station 11 provides emergency fire, rescue, and medical and community services and must remain functional at all times. Approximately 25% of the Fire Department’s emergency response force is located at Station 11. They are at risk due to seismic inadequacies of the structure.

Generally the costs in the report describe upgrades to keep the building functioning. Additional “costs related to ADA compliance, asbestos abatement, relocation of equipment/staff, architectural and engineering design fees, programmatic renovations, deferred maintenance, replacement of glazing/finishes and other have all been excluded from the 2003 Tier 1 Evaluation and are given a cost estimate of \$2.5-\$4.5. In addition fire sprinklering above the basement level and providing energy efficiency measures to the building shell were not included.

SEISMIC INSTABILITY

Please refer to the ZCS review of the Degenkolb report of Dec 10, 2003 for Station 11.

ELECTRICAL AND EMERGENCY POWER NEEDS

The building is incapable of supporting an adequate emergency power supply. Existing electrical systems are antiquated, obsolete and inadequate. Cost for rewiring and generator shown as approximately \$410,000.

ADA ACCESSIBILITY

The report correctly notes that the City of Albany Fire Station 11 falls under the “The Department of Justice’s regulation implementing Title II, Subtitle A, of the ADA which prohibits discrimination on the basis of disability in all services, programs, and activities provided to the public by State and local governments, except public transportation services.”

The building will have to follow the more stringent of the ADA or ADAAG rules. ADAAG does not limit improvements to provide an accessible facility to 25% of the “Alteration and Substantial Alteration “cost for a Title II Public Facility.

ENVIRONMENTAL STANDARDS

Costs for changes to the collection and transfer of wash water to a sanitary sewer line would be higher if existing underground utilities would be altered. The ability to provide this change may be less if the building is remodeled and/or added onto and changes to utilities occur in an area that are be part of the work.

FACILITY AND SITE LIMITATIONS

Currently there are traffic, safety and response time issues for apparatus circulation with the existing site layout and structural limitations of the building.

The Station was not designed to accommodate women in Fire Service, although modifications have been made to accommodate one female firefighter per shift.

The services of Station 11 must be provided continuously which presents challenges. Staff/equipment must be relocated or work must be phased to allow continuous services.

BUILDING SIZE, PROPERTY SIZE, LOCATION

The location of the existing building on the half acre property poses challenges for accommodating current and future ingress and egress to apparatus bays, secure parking, visitor parking, pedestrian/vehicular circulation and additional building area required.

See Size Analysis spread sheet and Executive Summary comments on Property Size.

Factors in determining a site for Station 11 such as response time, access to emergency travel routes, cost, negative community impact, meeting community and Department needs and proximity to hazardous locations are described.



5/5/11

City of Albany Fire Department
333 Broadalbin Street SW
Albany, OR 97321

Reference: City of Albany Fire Station #11

Subject: Building Evaluation Review Summary

We have performed a pedestrian survey of Station 11 and have reviewed the Building Evaluation Report prepared by Degenkolb Engineers, 2003.

We generally concur with the structural system classifications and the seismic evaluation and strengthening concept approaches as described in the report. However, the use of shotcrete to develop an adequate system of shear walls should be reconsidered in our opinion. The application of shotcrete, while effective, will add seismic mass to an already relatively heavy structure and increase seismic base shears. We believe that the replacement, not strengthening, of existing inadequate shearwalls with reinforced concrete masonry or cast-in-place concrete may be a more effective approach. Furthermore, replacement walls could be strategically located to perform in concert with a system of perimeter structural steel collector elements to establish diaphragm to shearwall continuity without having to provide new shear wall and shear wall-to-diaphragm connection along the entire perimeter of the building.

As part of our evaluation scope, we have also reviewed the Cost Estimate for the proposed strengthening scheme as detailed in the Degenkolb report. The report suggests that the seismic strengthening measures only could cost \$573,120, or \$44.09 per gross square foot. There was no mention of gravity system upgrades in the report. Since this facility will be required to meet essential facility performance expectations, a gravity system evaluation and the costs for any resulting structural upgrades should ultimately be considered. This point aside, we believe that the cost estimate for a comprehensive seismic strengthening program that will satisfy Immediate Occupancy Performance Objectives is too low based on our experience with similar facilities. ZCS Engineering is presently in the finishing stages of a fire station seismic upgrade program that will cost some \$700,000 for a building that is a little more than half the square footage of Fire Station 11. The labor intensity associated with foundation upgrade solutions, selective demolition and replacement of lateral force system components, and the application of seismic toughness detailing techniques to an existing structure is often far more rigorous and therefore

more expensive than what is typically expected during the preliminary planning and budgeting phase of a rehabilitation project. It is our position that the existing seismic strengthening cost estimate for this facility be increased to at least \$75 per square foot, or \$975,000. Again, this figure does not address any gravity system upgrades that may be required.

Should seismic strengthening be pursued, it must be understood that although the resulting product will consist of a structural shell that will satisfy Immediate Occupancy Performance Objectives from a structural standpoint. The costs mentioned above do not consider non-structural issues such as hazmat abatement, ADA compliance, access and egress, and the entire architectural and MEP package.



Russell C. Carter, PE, SE

STRUCTURAL



SECTION 3 PROGRAMMING

CITY OF ALBANY
FIRE DEPT
SPATIAL ALLOCATION STUDY

BUILDING SPACE REQUIREMENTS

Item	Space	Current	10 Year	20 Year	40 Year
1.0	PUBLIC AREAS	2,294	2,294	2,294	2,294
2.0	ADMINISTRATION	697	697	697	697
3.0	TRAINING	2,677	2,920	3,004	3,004
4.0	PREVENTION	1,878	2,934	2,934	2,934
5.0	EMS	1,077	1,453	1,572	1,572
6.0	APPARATUS	9,845	9,845	9,845	9,845
7.0	ANCILLARY SUPPORT	715	715	715	715
8.0	LIVING	7,607	8,259	8,325	8,325
	BUILDING SUBTOTAL-Square Footage including Circulation and Gross Up	26,790	29,117	29,387	29,387

"Circulation" is the area required to provide access to and from each of the rooms. Please see diagrams on pages RD 20 and 21 which show percentages of circulation for open office and enclosed office layouts.

"Gross up" is the amount of space required for wall thicknesses, chases and shafts. The is shown as a percentage of the overall building square footage requirements.

CITY OF ALBANY
FIRE DEPT SPATIAL ALLOCATION STUDY

STAFFING REQUIREMENTS

FUNCTION	Current Actual	Current Need	10 Year Total	10 Year Largest Shift	20 Year Total	20 Year Largest Shift	40 Year Total	40 Year Largest Shift
ADMINISTRATION								
Emergency Management Specialist	0.5	0.5	1	1	1	1	1	1
Clerk	0	0.5	1	1	1	1	1	1
Front Desk clerk								
Sub-total Administration	0.5	1	2	2	2	2	2	2
TRAINING								
Training Lt	1	1	1	1	2	2	2	2
Logistics Lt	0	1	1	1	1	1	1	1
Preplanning	0	0	0	0	0	0	0	0
Sub-total Training	1	2	2	2	3	3	3	3
PREVENTION								
DFM	2	3	4	4	4	4	4	4
Public Education	1	2	2	2	2	2	2	2
Public Education Clerk	0	1	1	1	1	1	1	1
Could also serve as EMS Clerk								
Sub-total Prevention	3	6	7	7	7	7	7	7
SUPPRESSION/EMS								
Battalion Chiefs	3	3	3	1	3	1	3	1
Lieutenants	3	3	3	1	3	1	3	1
Apparatus Operators	3	3	3	1	3	1	3	1
Fire Fighters	3	3	3	1	3	1	3	1
Floaters	12	12	12	4	12	4	12	4
Medics-included above								
Sub-total Apparatus	24	24	24	8	24	8	24	8
STAFF TOTALS	28.5	33	35	19	36	20	36	20

CITY OF ALBANY
FIRE DEPT SPATIAL ALLOCATION STUDY

Notes

- 1 Community Meeting/Class Room
Isolated for Public Use
Use as an EOC
Boy Scouts use this room
- 2 Community Outreach Programs
34 LF of shelving
Enough storage for immediate Community Consumption-not for storage of all materials

CITY OF ALBANY
FIRE DEPT SPATIAL ALLOCATION STUDY

Notes

- 1 Training Lieutenant
Involved with Health & Fitness, Safety, EMS Advisory, Field Advisor, Fire Advisory
- 2 Logistics Lieutenant
EMS Training
Operations
Emergency Response
Department wide purchasing. Meet with Vendors in small conference or community mtg room
Receiving Area
Bookcase, desk, files
- 3 Training/Meeting Room
Sound Isolated
EMS is the biggest group that meets in this room
Provide parking for Meeting Attendees
Web Casts
Plan for a Future Training Center
Use Kitchen in house
Wired for Internet, TV, Audio/Visual
9'-10' Ceiling
ECC-located in Training/Meeting Room Above
- 5 (4) Sections, Space for 20-25 Positions
Normally 5-10 People-2 positions per table
Easel for each Section = 4 plus 1 extra = 5 easels.
White Boards
- 6 Individual Computers
(2) phone lines per section-hard wired connections
Outdoor area
Training/Meeting Storage
Dedicated EMS Storage
Mannequin-high fidelity
AV
Room to be secure

CITY OF ALBANY
FIRE DEPT SPATIAL ALLOCATION STUDY

Notes

EMS GENERAL

Handles 84.6% of the Load
Provides the in town ambulance Service
Partner with Senior Services, social services
Seek to find appropriate solutions for frequent customers who comprise 3-4% of the population
65 EMS personnel, 55 are Paramedics

- 1 EMS Supply
Secured Storage
Hand carry or hand truck to vehicles
Easy to load and unload
- 2 Mass Casualty Storage
Ok to be unheated
- 3 DCON
Commercial Washer/dryer for bio-hazard

CITY OF ALBANY
FIRE DEPT SPATIAL ALLOCATION STUDY

6 APPARATUS

Item	Position	Space Size			Current		10 Year		20 Year		40 Year		Note #	Location/Adjacencies
		W	L	Area	Units	NSF	Units	NSF	Units	NSF	Units	NSF		
6.1	APPARATUS Apparatus													
	Bay Type A	16	60	960	4	3840	4	3840	4	3840	4	3840	1	Middle Apparatus Bays
	Bay Type B	20	60	1200	2	2400	2	2400	2	2400	2	2400	1	
	-(1) Boat/brush rig												2	
	-BC SUV/Rescue													
	-Ladder 11 or Truck 11													Drive Through-immediate response
	-Engine 11													Drive Through-immediate response
	-(2) Medic Units													Drive Through-immediate response
	-Tender													Immediate Response
	-(1) Truck 42													
	-Technical Rescue													
	-Ski Doo												2	
	APPARATUS SUPPORT													
6.2	Tool Crib	18	20	360	1	360	1	360	1	360	1	360		Off of Apparatus Bay
	Work Bench													
	Tool Chests													
	Work Area													
6.3	Radio Equipment	4	5	20	1	20	1	20	1	20	1	20		
6.4	Turnout Gear	16	30	480	1	480	1	480	1	480	1	480		
	38 Turn Out Lockers													
	-30 plus Firefighters													
	-3 DFM													
6.5	Garbage/Recycle	6	10	60	1	60	1	60	1	60	1	60		In Apparatus Bay
6.6	General Storage	10	30	300	1	300	1	300	1	300	1	300		Direct Access to apparatus Bay
6.7	DCON/EMS			0	0		0		0		0			See EMS
6.8	EMS Supply			0	0		0		0		0			See EMS
6.9	Janitor Closet	10	10	100	1	100	1	100	1	100	1	100		
	Apparatus Bay Cleaning													
	Equipment/Vehicle Cleaning													
	Mop Sink													
6.10	Storage				0	0	0	0	0	0	0	0		See Ancillary
	Uniform Storage													Direct Access to Bays
6.11	Summer Field Fire Equipment	2	16	32	1	32	1	32	1	32	1	32		Direct Access to Bays
6.12	Apparatus Bay RR	8	8	64	1	64	1	64	1	64	1	64		Direct Access to Bays

8 LIVING

Item	Position	Space Size		Room Code	Current		10 Year		20 Year		40 Year		Note #	Location/Adjacencies
		W	L		Area	Units	NSF	Units	NSF	Units	NSF	Units		
8.1	Living Area (7) Recliners	18	20	360	1	360	1	360	1	360	1	360		
8.2	Kitchen Pot Sink with pull down faucet (2) Dishwashers Large Grill Common shift pantry (4) High End Res Refrig/Freeze Individual and Guest Pantries (36) 1'-6" x 1'-6" x 2'-6" H Dining Round Table-Dining for 12 Seating for large dinners & parties Storage Closet Tables and Chairs Kitty Supply/Pantry BC Area Dorm Rooms RR/Shower BC Bull Pen (3) Work Station -TV, Radio, Security Monitors -Table with (4) Chairs	18	18	324	1	324	1	324	1	324	1	324	1	Living/Dining/Kitchen Great Rm Plan. Adjacent to outdoor patio and covered area.
8.3	Exercise Room Storage for Equipment	24	32	768	1	768	1	768	1	768	1	768	3	
8.4	Laundry Stackable Washer and Dryer Sink Storage Janitor Closet Electrical Mechanical Fire Riser Room Dorms Single Room (3) Drawers under bed Men's Locker Room (32) Full size lockers Men's Shower (3) showers	8	12	96	1	96	1	96	1	96	1	96		
8.5	Men's Locker Room (32) Full size lockers Men's Shower (3) showers	12	14	168	1	168	1	168	1	168	1	168		See Men's Locker/Toilet/Shower
8.6	Men's Shower (3) showers	12	14	168	1	168	1	168	1	168	1	168		See Men's Locker/Toilet/Shower
8.7	Exercise Room Storage for Equipment	24	32	768	1	768	1	768	1	768	1	768	3	
8.8	Laundry Stackable Washer and Dryer Sink Storage Janitor Closet Electrical Mechanical Fire Riser Room Dorms Single Room (3) Drawers under bed Men's Locker Room (32) Full size lockers Men's Shower (3) showers	8	12	96	1	96	1	96	1	96	1	96		
8.9	Men's Locker Room (32) Full size lockers Men's Shower (3) showers	12	14	168	1	168	1	168	1	168	1	168		See Men's Locker/Toilet/Shower
8.10	Men's Shower (3) showers	12	14	168	1	168	1	168	1	168	1	168		See Men's Locker/Toilet/Shower
8.11	Exercise Room Storage for Equipment	24	32	768	1	768	1	768	1	768	1	768	3	
8.12	Laundry Stackable Washer and Dryer Sink Storage Janitor Closet Electrical Mechanical Fire Riser Room Dorms Single Room (3) Drawers under bed Men's Locker Room (32) Full size lockers Men's Shower (3) showers	8	12	96	1	96	1	96	1	96	1	96		
8.13	Men's Locker Room (32) Full size lockers Men's Shower (3) showers	12	14	168	1	168	1	168	1	168	1	168		See Men's Locker/Toilet/Shower
8.14	Men's Shower (3) showers	12	14	168	1	168	1	168	1	168	1	168		See Men's Locker/Toilet/Shower
8.15	Exercise Room Storage for Equipment	24	32	768	1	768	1	768	1	768	1	768	3	

10 SITE AND PARKING

Item	Position	Space Size		Room Code	Current		10 Year		20 Year		40 Year		Note #	Location/Adjacencies
		W	L		Area	Units	NSF	Units	NSF	Units	NSF	Units		
10.1	Visitor Parking	10	32	320	2	640	2	640	2	640	2	640		
10.2	Community/Class Room	10	32	320	0	0	9	2880	9	2880	9	2880		9 Required per Code-can be on ST
10.3	Training Room	10	32	320	0	0	15	4800	15	4800	15	4800		15 Required per Code-can be on ST
10.4	Bike Parking	2	6	12	2	24	4	48	4	48	4	48		1 Bike Space for every 10 Auto spaces required. 2 min req'd.
10.5	Secure Staff Parking Biggest Shift	10	32	320	20	6400	20	6400	20	6400	20	6400		
10.6	Shift Change-Secure preferred	10	32	320	0	0	8	2560	8	2560	8	2560		
10.7	Other Dept Vehicles-Secure	10	32	320	0	0	5	1600	5	1600	5	1600		
10.8	Bike Parking	2	6	12	2	24	4	48	4	48	4	48		1 Bike space for every 10 Auto spaces required. 2 min req'd.
	OTHER SITE NEEDS													
10.9	Outdoor Covered Patio/BBQ Area	16	24	384	0	0	1	384	1	384	1	384		
10.10	Trash/Recycle	10	16	160	1	160	1	160	1	160	1	160		
10.11	Generator	12	20	240	1	240	1	240	1	240	1	240		
10.12	Lawn Maintenance	10	12	120	1	120	1	120	1	120	1	120		
10.13	Aprons	116	42	4872	0.5	2436	2	9744	2	9744	2	9744		
	SUBTOTAL					10044		29624		29624		29624		
	CIRCULATION					1507		4444		4444		4444		
	TOTAL SQUARE FOOTAGE					11551		34068		34068		34068		

Notes

SECTION 4 SITE SIZE ANALYSIS

City of Albany Fire Department, Station 11 Facilities Assessment and Preliminary Design Phase 1 – Part A: Department Programming and Needs Assessment

SITE SIZE REQUIREMENTS (20 year programming requirements) in square feet Rev. 0 May 6, 2011

AREA DESCRIPTION	SINGLE STORY	TWO STORY	THREE STORY
Building footprint	29,387	21,062	12,139
Parking and Other Site Needs	34,068	34,068	34,068
Sub Total	63,455	55,130	46,207
Landscape Allowance at 10% of sub total	6345.5	5513	4620.7
Hardscape Allowance at 2.5% of sub total	1586.375	1378.25	1155.175
Sub Total	71,387	62,021	51,983
15% Contingency	10,708	9,303	7,797
TOTAL SQUARE FEET	82,095	71,324	59,780
ACRES	1.88	1.64	1.37

Notes;

1. Includes 24 on site parking spaces for Community and Training Rooms
Zoning allows off site (street) parking if available within 800'.
2. Three story building would have Apparatus and Public functions on ground floor
3. Does not allow for expansion beyond 20 year needs. A new station elsewhere would be needed at that time.
4. Two story building would have Living (only) on the second floor.

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**SECTION 6
ROOM DIAGRAMS**

CITY OF ALBANY

FIRE DEPARTMENT PROGRAMMING

ROOM DIAGRAMS TABLE OF CONTENTS

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18.	Storage Areas 1
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21.	Circulation for Offices
22.	Various Restroom Templates
23.	Locker/ Toilet/ Shower Templates







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APPENDIX A



TO: Wes Hare, City Manager
FROM: John R. Bradner, Fire Chief
DATE: October 4, 2010
SUBJECT: Fire Station 11 Facility Needs Report

Fire stations are essential facilities to a community and much consideration goes into their location, design, and construction. The time it takes for firefighters and paramedics to respond to an emergency is crucial to the outcome. Fire stations must be strategically located and emergency responders must be available and able to respond quickly to affect a positive outcome during a tragic event.

Albany's four fire stations are strategically located throughout the city. The two newest, Stations 13 and 14, were built to withstand forces associated with a moderate to large earthquake. Station 12 is receiving structural reinforcement in the coming year to do the same. Each of these stations is equipped with an appropriate-sized emergency generator to enable continuation of operations following a significant event, such as a weather emergency or earthquake. Station 11, Albany's main fire station located downtown, is seismically unstable and currently incapable of supporting an adequate emergency power supply.

There have been many discussions over the past few years concerning the need to replace Station 11, which have led to this facility needs assessment. This report provides information to support that rehabilitation of the existing structure would not be prudent and replacement and possible relocation of Station 11 is vital to the Fire Department's continued ability to provide essential services to our community.

Station 11 was built in 1948, and any 62-year-old structure inherently has deficiencies that require attention. This report will focus on the seismic instability, electrical and backup power needs, handicap accessibility needs, environmental concerns, and facility and site limitations of Station 11.

Seismic Instability

When Station 11 was built, seismic activity and their forces were generally not considered in structural design. Since then seismic design forces for buildings in Oregon have increased significantly, in part due to the increased knowledge of seismic hazards present in Oregon, such as the Cascadia Subduction Zone. This fault lies off the Oregon Coast and stretches for more than 700 miles from Northern California to Vancouver Island in British Columbia. Great subduction zone earthquakes are the largest earthquakes in the world and can exceed a magnitude of 9.0. Alaska experienced a 9.2 subduction zone earthquake in 1964 which caused major damage and significant loss of life. Earthquake size is proportional to the total area of the fault, and the Cascadia Subduction Zone is very large with a history of major earthquakes over time.

Seismic zones were established in order to address seismic hazards in construction. Seismic zones are expressed on a scale of zero, 1, 2A, 2B, 3, and 4, with each zone progressively expected to experience an earthquake of a greater magnitude. Our newest fire stations, Stations 13 and 14, built in 1998, were required to be constructed to meet Seismic Zone 3 building standards. Oregon is rated third highest in the nation for potential loss due to earthquakes, which is why buildings are constructed to meet this higher standard.

In 2003 Degenkolb Engineering was hired to conduct a seismic evaluation (Tier 1) of Stations 11 and 12. The structures were evaluated using the American Society of Civil Engineers (ASCE) 31-02 *Seismic Evaluation of Existing Buildings* standard. The evaluations determined that both stations did not meet the immediate occupancy performance objectives considered appropriate for emergency response facilities. The report stated, "Fire personnel and their equipment must be able to respond to the needs of the public after a major disaster. Fire stations need to be designed so that they can remain in operation after a major earthquake."

Station 12 is receiving structural rehabilitation in the coming year to address its seismic instability. Funding for these improvements is possible through a State of Oregon grant targeting seismic rehabilitation of critical public buildings. Station 11 was excluded from the grant application for several reasons. The grant excluded projects that exceed either the useful life of the building or 30 years, whichever is less. We could not foresee, nor guarantee, that the current Station 11 structure would be viable as a fire station for an additional 30 years. Additionally, it is believed to be cost-prohibitive to rehabilitate the structure, as described below.

Station 11 is approximately 14,800 square feet and is a two-story structure with a partial basement. It is constructed of shear walls with concrete floors. According to the Tier 1 evaluation, its major deficiencies are a weak first story (cracks are visible in the walls and ceiling of the apparatus bays) and torsional irregularities from the large apparatus bay openings. The report concluded that the reinforcing in the walls is below the required minimum; the walls and diaphragm lack a positive connection with reinforcement; the shear walls are not adequately doweled into the foundation and lack boundary elements; there is no trim steel located around openings in the shear walls; and the roof slab has inadequate strength to transfer the diaphragm forces to the shear walls. If this building were to be seismically rehabilitated, the remedy for correcting these issues would be to add new concrete shear walls to all four sides of the building from the foundation to the roof, adjacent to the existing concrete shear walls, in addition to new connections and replacing the roof diaphragm. This rehabilitation was described as building a stable structure inside the current building to support the existing structure.

The 2003 Tier 1 evaluation preliminarily estimated seismic rehabilitation construction costs for Station 11 at \$573,120. In addition, the report indicated that "costs related to ADA compliance, asbestos abatement, relocation of equipment/staff, architectural and engineering design fees, programmatic renovations, deferred maintenance, replacement of glazing/finishes, and others have all been excluded from this report." The report concludes that, "the inclusion of these items could increase the overall cost of the project 3 to 5 times." Rehabilitation including the above items with inflationary consideration could be expected to cost between \$2.5 and \$4.5 million.

It is imperative that all emergency response facilities remain operational during a community emergency, Station 11 in particular. In addition to housing up to six emergency response personnel, Station 11 houses the offices of the City's Emergency Management Specialist, the Fire Department's Training Lieutenant, and up to five Deputy Fire Marshals (Inspectors, Public Educators, and Public Information Officer). All of these staff, and the ability for them to do their respective jobs, are extremely important during an extended community emergency. Relocating offices to another station is not an option. Stations 12, 13, and 14 were designed only to support the functions of emergency response personnel and do not have space for additional offices and personnel.

Station 11 houses two fire engines, one ambulance, one of only two brush firefighting vehicles, two of the three rescue watercraft, the battalion chief command vehicle, the only water tender,

and a rescue vehicle that is equipped with the Department's breathing air system and water rescue equipment. Due to the other stations' space limitations, Station 11 is also the depository and restock location for all medical supplies, rescue equipment, personal protective equipment, and fire equipment for all four stations. The Fire Department's ability to provide ongoing emergency fire, rescue, and medical response services would be crippled should Station 11 become inaccessible due to a seismic event.

Many structures in the downtown area are of similar age or older than Station 11 and are all subject to collapse in the event of an earthquake due to the aged integrity of the structures. A collapse in any of these structures could result in injuries or loss of human life. Approximately 25 percent of the Fire Department's emergency response workforce is located at Station 11, and at times, all on-duty emergency responders are at this station at one time for training or meetings. A collapse of Station 11 could result in the loss of between one-quarter to an entire shift of emergency responders. A loss of this magnitude and the inability to access essential equipment and supplies stored at this station would be critically detrimental to the Fire Department's ability to provide emergency response during a time of greatest need.

Electrical and Emergency Power Needs

If expected to continue emergency operations from the existing Station 11 structure, replacement of the single-phase wiring would be required. Since 1948 and the advent of computers, electronic phone systems, and other advancements in electronic equipment, the core wiring in the structure has remained unchanged. If this building were constructed today, it would be supplied with three-phase wiring to meet the requirements of modern electrical equipment.

Jim Alexander, the City's electrical inspector, inspected Station 11 in September 2010. He reported that the majority of the current electrical distribution system was manufactured by Bull Dog, a company that is no longer in business. This system is antiquated and obsolete; therefore, replacement parts will be difficult, if not impossible, to find. He concluded that since mechanical components in a building's electrical system will fail over time, it would be prudent to replace the electrical system on a predetermined schedule rather than during an emergent situation when parts could fail. Rough estimates by local electrical contractors for rewiring the building range from \$15 to \$35 per square foot. Using an average cost estimate of \$25 per square foot, the cost for rewiring Station 11 would be approximately \$370,000.

The current single-phase wiring and an obsolete transfer switch limit the size of the emergency generator for this building to 7.5 kilowatts (kw). The peak electrical demands and anticipated needs to maintain emergency operations at this station during an extended power outage would require a minimum of a 45 kw generator. Stations 13 and 14 are both equipped with a 50 kw generator to support the emergency power needs at these locations. Rough estimates by local electrical contractors to purchase a 50 kw emergency generator is between \$25,000 and \$32,000. Costs associated with installation, distribution feed, transfer switch, and additional fuel storage capacity would increase the cost to approximately \$40,000.

The existing emergency power system is significantly limited in the electrical equipment it can support during a power outage. It is intended to support the emergency notification system from the 9-1-1 center, apparatus bay doors, telephone system, and radio base station. However, during recent short-term power outages, station personnel have reported that the telephones and radio base station have not remained operational. Communications are priority to successful emergency response. No telephones or radio base station at this location creates a vulnerable communication

system, especially during emergent times. The current generator does not support lighting in operational areas of the station. Limited battery-powered lighting is currently used, but is insufficient and inadequate. An extended power outage would exhaust battery capacity and crews would be unable to continue working effectively from this location.

Apparatus bay door openers have remained powered by the emergency generator during power outages. However, should this system fail, opening these doors without automatic openers would be very difficult, if not impossible. The size and weight of the doors requires multiple personnel to lift them open. If the number of personnel in the station is not adequate to perform the task, the ability for emergency response from this station would be limited or not available.

Handicap Accessibility

The City's legal obligations and liabilities are significant in regards to the Americans with Disabilities Act (ADA). Complaints are treated as a potential violation of an individual's civil rights and processed by the Department of Justice. The ADA was passed in 1990, and it requires public facilities built or modified after 1992 to conform to specific accessibility standards. If built prior to 1992, either the barriers to the disabled need to be removed, or the program, service, or activity must be made available by an alternate means of delivery. Unless a public building is designated as completely inaccessible to the public, reasonable accommodations must be made so that disabled have the same access as others. As a civil rights' violation, the governing body along with the individual allowing the incident to occur can be held liable. Cities in Oregon have been required to make substantial changes to their buildings and infrastructure to become compliant with ADA, and accessibility lawsuits have become commonplace in parts of the country.

Station 11 is a multi-story building with no elevator access to the basement and second floor. The public typically does not need access to the basement, but the second floor houses the majority of the business offices and the only meeting room in the building. This meeting room is used routinely, as it is the largest and most centrally located for Fire Department business and training activities. Recent examples of accessibility issues include an outside instructor arriving at Station 11 in a wheelchair to teach a class to our personnel on the second floor, and an outside individual arriving for a training session who was also in a wheelchair. In both cases last-minute arrangements had to be made to re-locate to a suitable meeting room in another location. This creates a potential liability for the City, an uncomfortable situation for the individual, disruption for everyone involved, and potentially requires canceling a scheduled training event or meeting if no other location is available.

Station 11 is also a popular facility for public tours, primarily with school-aged children. A significant interest for participants is the firefighters' living quarters which reside on the second floor. Birthday parties at the fire station are auctioned off by various non-profit groups in our community as fundraisers. Those who purchase these events often request to hold their party at Station 11, in part due to the size of the meeting room on the second floor. We have had children in wheelchairs and adults with limited mobility arrive for tours or events and have had to make last-minute adjustments and limit their tour to the first floor. This creates a potential liability for the City by not providing the same program or activities to all of the public at this facility.

There is a perception that it is not necessary to provide disabled access to the second floor because firefighters should all be able to use stairs to perform their job. Firefighters experiencing limited mobility while recovering from medical situations have experienced difficulties attending

training activities or assignments at this station. The Fire Department's workforce is also made up of more than just firefighters and emergency responders. We employ non-emergency staff as well, whose offices are located in this building, and other staff who need access to the second floor of Station 11 to conduct business in performing their job duties. Using another fire station meeting room for groups of more than twelve is not an option. Station 12 doesn't have a meeting room, and the meeting rooms at Stations 13 and 14 can only accommodate ten to twelve people comfortably and are inadequate for large groups.

According to the Building Code, if a structure with public access is rehabilitated and the interior occupiable space is impacted in any way, an additional 25 percent of the total project cost must go toward improvements for making the structure more accessible for the disabled. This could include installation of an elevator and ramps, widening doors and hallways, and other improvements related to ADA. The nature of any ADA improvement would be dependent upon the type of barriers to access and the dollar amount required by the 25 percent rule. Many of these improvements would compound current issues by encroaching into already inadequate spaces inside the structure. If the cost of rehabilitating Station 11 is \$4 million, \$1 million would be required toward making these improvements, which additionally inflates the overall cost of a rehabilitation project.

Environmental Standards

The City of Albany was designated by the Oregon Department of Environmental Quality (DEQ) as a municipality along the Willamette River that must implement measures to improve water quality. This required a survey of City-owned facilities for sources of pollution that could affect waterways. Station 11 was evaluated through that process and a number of Best Management Practices (BMPs) were identified to assist in keeping pollutants from the storm drains.

Under local and state regulations, no washwater from vehicles or floor cleaning is permitted to be discharged to the stormwater system. Station 11 floor drains in the apparatus bays and the curb drains outside the station discharge to the stormwater system. The implications of this regulation are that our emergency vehicles and apparatus floors should not be cleaned with water unless we collect and transfer the washwater to a sanitary sewer line. Routine cleaning is essential to maintaining our vehicles and facility. If this building continues as an emergency response facility, infrastructure changes to the drainage system would be required and would be extensive and costly since it involves altering underground utilities.

Facility and Site Limitations

Fire Station 11 has a number of facility and site limitations that create concern. Access to four of the six emergency apparatus bays is on Lyon Street (Hwy. 20). There are no drive-through bays, requiring fire engines to be backed into the building. This blocks traffic on Lyon Street, a busy street, various times throughout the day and creates a public hazard as well as an unsafe situation for emergency vehicles and personnel. More accidents occur when backing as opposed to driving forward into a station.

The two apparatus bays that exit on Sixth Avenue are located above the basement. The size and weight of today's fire engines was not anticipated in 1948 when the building was constructed, so this area of the structure cannot support a fire engine. There are additional vehicle limitations inside this building due to the configuration of the apparatus bays and the height of the apparatus

bay doors. The aerial truck does not fit in Station 11 and responds from Station 13, in part due to this limitation.

At the time Station 11 was built, there was no consideration for women in the Fire Service. Today's Fire Service includes women, which facilitates the need to provide separate hygiene areas to accommodate female firefighters. A number of years ago a storage closet was turned into a women's locker room, with shower and bathroom facilities that can accommodate only one female firefighter at a time. This limits how we can staff our stations, as Station 11 is limited to no more than one female firefighter per shift.

A 2008 facilities condition assessment report identified that the exterior windows need replacing. Most of the first floor windows are original to the building, are not energy efficient, and create a security exposure. The report also identified replacement needs of the heating, ventilation and air conditioning (HVAC) systems, and vinyl stair tread on the interior staircase. The parking lot was identified in need of major repair due to severe cracking and pooling of water. There are additional issues with bathroom plumbing and general wear and tear of a 62-year-old structure. The estimated cost for replacing the windows, HVAC systems, stair tread, and parking lot repairs is between \$100,000 and \$125,000.

Stations 12, 13, and 14 are fully protected by fire sprinkler systems. Station 11 was built prior to this code requirement, but a sprinkler system was later added to the basement when it became a code requirement and compliance issue. If this structure were built today, it would be required to be fully protected by a fire sprinkler system. In order to continue as an emergency response facility, the remainder of the building should be equipped with a fire sprinkler system in order to protect the occupants and structure in the event of a fire.

Station 11 is located on an approximate one-half acre lot. Station 12 is located on approximately 3.25 acres, and Stations 13 and 14 are each on approximately 1.6 acres of land. The current Station 11 site location is inadequate for on-site parking, requiring staff and visitors to routinely park on surrounding neighborhood streets and private business parking lots. Properties surrounding the current Station 11 site are developed with established commercial and residential occupancies. Limited access to additional property and the current lot size limit the Fire Department's ability to keep pace with the increasing needs of the community and demands for service at its current location.

New Facility Size and Location Needs

A new fire station should be expected to last a community 40 to 60 years. When considering the replacement of Station 11, current and anticipated future needs must be evaluated. There are three major areas to consider with this project: building size, property size, and location.

Building Size

Station 11 is the largest of Albany's four fire stations, at approximately 14,800 square feet. Additional space is used at this station for day staff, the shift chief officers, training classroom, drill tower, and storage space for supplies and equipment. Current Fire Department facilities do not support housing all of our emergency response vehicles inside a fire station, requiring some equipment to be stored outdoors or in other outbuildings like the vehicle maintenance facility at Station 13. Our technical rescue trailer, a reserve ambulance, and a hazardous materials vehicle and trailer are all examples of equipment stored in these outside station locations. This equipment

should be stored inside a fire station to maintain its longevity and ensure its readiness for response. The current station size is not adequate and when designing a new station, additional space should be included to accommodate current and potential future vehicle and equipment storage needs. Because of our inability to store all of our emergency response vehicles inside a fire station, a new downtown fire station should have a minimum of five drive-through apparatus bays.

Office space is currently needed for ten staff members, in addition to office space required for emergency crews. Anticipating future growth, office space will need to accommodate a minimum of 15 people in addition to the office space for emergency crews. This would allow the department to grow as our community and the need for additional life safety, training, and emergency management increases. A new station should have a meeting/training room to accommodate a minimum of 60 people and additional space for storage.

Storage space is always a premium and Station 11 currently houses the majority of storage space for medical and fire equipment and supplies. A new station must have expanded space for medical and fire equipment, personal protective equipment, and space necessary for maintaining records in compliance with records retention laws.

In evaluating our current and future needs, I believe we need a new station that is approximately 25,000 square feet. For comparison purposes, Corvallis Fire Department's main station, built in 1998, is 24,950 square feet.

Property Size

The question of minimum property size for a new downtown fire station was posed to two different architectural firms. One firm indicated that one acre would be the absolute minimum and the other stated that two acres would be required. The two acre minimum was due to an anticipated construction of a single-story station versus a two-story station. The current half-acre lot does not allow for adequate parking for employees who work out of this station and public parking on-site is significantly lacking. The parking lot has room for about 20 vehicles and should be roughly doubled in size with a new facility in order to meet our needs. Our target has been to locate property between 1.25 and 2 acres to build a new downtown fire station.

Location

The footprint for potential property locations for a new downtown fire station is limited due to the requirement of maintaining appropriate response times into all portions of the city. A number of potential sites for a new downtown fire station have been considered by a formal committee. A number of these sites were rejected for reasons such as increasing current response times, poor access to emergency travel routes, excessive cost, negative community impact, inability to meet community and Department needs, and proximity to hazards.

An example of a potentially hazardous location that was rejected was property in close proximity to railroad lines. The Albany Police Department Feasibility Study (July 2003) stated, "Because of the potential for toxic spills, fires, and explosions, and the possibility of sabotage from a moving train or from a partially concealed right-of-way, the facility, or at the very least the building, should not be located adjacent to a railroad line." This same thing applies to a fire station, and for these reasons, the new downtown fire station should not be located next to a major rail line in our community.

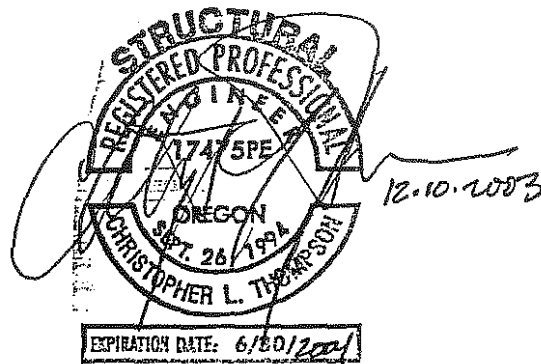
I presented information to the Council on several viable sites that were identified through a process by the Station 11 Replacement Committee. The Council discussed these sites along with other potential property locations and is awaiting the information in this report before moving forward.

Conclusion

Overall the current Fire Station 11 structure is inadequate. The services required of the Fire Department and the resources necessary to address them have grown well beyond the capabilities of the original structure. We are limited to where staff, emergency vehicles, equipment, and specific operations can be located because of the limitations of the building. The structure is in need of significant improvements in order to ensure that it will remain standing and able to sustain emergency operations during and after a significant weather or seismic event. Rehabilitation of the current facility is not financially prudent. Following a large investment in the structure for the necessary improvements, the community would still be left with an old building that does not meet the needs of the Fire Department and the community.

JB:ljh

CITY OF ALBANY
FIRE STATIONS 11 AND 12
BUILDING EVALUATIONS



December 10, 2003

Degenkolb Job Number A3289036.00

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1. EXECUTIVE SUMMARY

The seismic performance of Albany Fire Stations 11 and 12 was evaluated using ASCE 31-02. These evaluations indicate that neither Fire Station 11 nor 12 meet the Immediate Occupancy Performance Objective. The estimated cost of rehabilitation for Albany Fire Stations 11 and 12 is \$573,000 and \$242,000, respectively.

Fire stations need to be designed so that they can remain in operation after a major earthquake. It is not sufficient for such a structure to just remain standing. Fire personnel and their equipment must be able to respond to the needs of the public after a major disaster. Therefore, the Immediate Occupancy Performance Objective was used to evaluate these fire stations.

Fire Station 11 is a 13,000 square foot concrete shear wall building with concrete floors constructed in 1948. It has a weak first story ^{have} and a torsional irregularity due to the large apparatus bay openings. Also, the walls do not have the reinforcing required for ductile behavior. Finally, the roof diaphragm is not strong enough to transfer the seismic forces to the walls. These deficiencies can be rehabilitated by adding new concrete shear walls, new connections, and replacing the roof diaphragm.

Given the extent of deficiencies, we recommend further study of Fire Station 11 to refine the potential construction costs. Additional studies including an ASCE 31-02 Tier 2 analysis would more specifically identify the deficiencies and the corresponding solutions, and thus refine our cost estimate.

Fire Station 12 is a 7,400 square foot wood shear wall building with a wood truss and plywood roof constructed from 1973 to 1991. The existing shear walls do not have hold down anchors at the shear wall ends. Also, the connections between the various roof levels are not strong enough to transfer the seismic loads. Finally, the very short shear walls on the ends of the apparatus bay are not strong enough to resist seismic loads. These deficiencies can be rehabilitated by adding new wood shear walls, adding shear wall hold downs, strengthening diaphragm connections, and adding steel moment frames.

2. INTRODUCTION

In August of 2003, Degenkolb Engineers was contracted to assist the City of Albany in seismically evaluating Fire Stations 11 and 12. We performed site visits to verify that the as-built structure matches the design documents, to review the current condition of the structure, and to document nonstructural hazards. We performed evaluations using American Society of Civil Engineers (ASCE) 31-02 *Seismic Evaluation of Existing Buildings*.

Over the past 60 years, the seismic design forces for buildings in Oregon have increased significantly. This increase is due to the increased knowledge of seismic hazards (such as the Juan De Fuca subduction zone) present in Oregon. We know there is a potential for great earthquakes, as they have happened here in the past. Figure 1, below, shows how the seismic design forces in Oregon have increased since 1945.

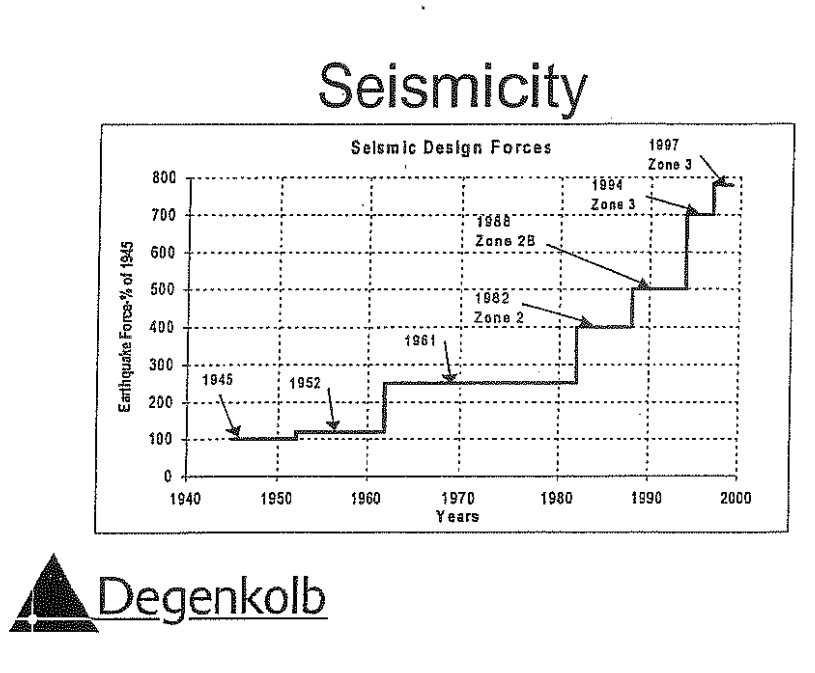


Figure 1: Oregon seismicity over time.

During the 1980's, the detailing requirements of the Uniform Building Code changed significantly. These changes were driven by observations of previous building performances in seismic events and require that all elements of the structure be interconnected. The intent of these code changes are to protect building occupants by ensuring that the building can withstand damage due to earthquake without collapsing.

Fire stations need to be designed so that they can remain in operation after a major earthquake. It is not sufficient for such a structure to just remain standing. Fire personnel and their equipment must be able to respond to the needs of the public after a major disaster.

The definition of "essential" is included in Title 24 of the State of Oregon Building Code. This code, however, only addresses the structural design of new buildings. To better address these existing essential facilities, we have used ASCE 31-02 requirements for the Immediate Occupancy performance level.

ASCE 31-02 has three different levels of evaluation (Tier 1, 2, and 3). We performed a "Tier 1" evaluation for each fire station. Tier 1 is the most basic level of study that includes the completion of checklists of evaluation statements that identify potential deficiencies in a building based on performance of similar buildings in past earthquakes. Further investigation can be conducted using the procedures of Tier 2 and Tier 3. Tiers 2 and 3 will either confirm or eliminate potential deficiencies identified in the Tier 1 evaluation.

3. ALBANY FIRE STATION 11

3.1 Building Description

Fire Station 11 is a concrete shear wall building, located at 110 6th Avenue, Albany, Oregon that was constructed in 1948 with no significant additions. Station 11 is a two-story 13,000 square foot structure with a small basement structure covering approximately 1,800 square feet and a three-story stair well.

Station 11 is approximately square in plan with concrete diaphragms and perforated concrete shear walls. Approximately two thirds of the first floor consists of an apparatus bay with the remainder of the first floor occupied with office spaces and general equipment storage. There are no immediately adjacent structures to Fire Station 11. The second floor incorporates living quarters, meeting areas, and office space. The first floor height is approximately 16 feet, while the second floor height is approximately 12 feet.

The structural drawings show that the second floor gravity system is a concrete deck over open web steel joists, but our observation during our preliminary site visit appeared to indicate that the second floor was actually a flat concrete slab with concrete beams. The roof is a Zonolite deck over open web steel joists.

The building's lateral force resisting system consists of stiff concrete diaphragms and concrete shear walls throughout.

3.2 Structural Deficiencies

Based on the procedures of ASCE 31-02, some deficiencies in the building's lateral force resisting system have been identified. The deficiencies found include:

- A weak story exists in the 1st floor because of the large openings at the apparatus bays.
- A torsional irregularity exists at the 1st floor because of the large openings at the apparatus bays on two sides of the building.
- The amount of reinforcement in the walls is below the minimum amount required.
- There is not a positive (i.e. with reinforcement) connection between the shear walls and diaphragm.
- The shear walls are not adequately doweled into the foundation.
- Slender shear walls do not have boundary elements.
- No trim steel is located around openings in the shear walls.

- The roof consists of built up roofing and a 3" Zonolite slab. The Zonolite slab has inadequate strength to transfer the diaphragm forces to the shear walls. (Zonolite products from this time period have been known to have asbestos contamination. Abatement of asbestos from this building was not considered in the cost estimate.)

3.3 Nonstructural Deficiencies

The following nonstructural deficiencies were found:

- Suspended lights in the apparatus bay appear not to have lens covers.
- Mechanical units on the roof appear not to be braced.

3.4 Adjacency Hazards

No adjacency hazards were observed.

3.5 Geologic and Site Hazards

No geologic evaluation was performed.

3.6 Expected Building Performance

Because of the deficiencies listed above, Albany Fire Station 11 does not meet the Immediate Occupancy Performance Objective of ASCE 31-02. We recommend that the building be strengthened to the Immediate Occupancy Performance level.

3.7 Proposed Structural Strengthening Scheme

Because of these deficiencies, Fire Station 11 does not meet the Immediate Occupancy objective of ASCE 31-02. To bring the building to an Immediate Occupancy performance level, the following scope of work is proposed:

- Add shotcrete shear walls to all four sides of the building from the foundation to the roof as shown in the sketches. Each shear wall will require a new concrete footing and connection to the existing concrete diaphragm at the second floor and a connection to the existing concrete walls.
- Add a bent plate connection between the existing 2nd floor and the existing concrete shear wall.
- Remove and replace the existing Zonolite roof slab and built up roofing. Replace roof with 18 gauge metal deck with angle connections to the existing concrete walls.

These proposed solutions would likely cause significant disturbance to the existing operations in the fire station. Therefore, we recommend further study to refine structural strengthening scheme and construction costs. Additional evaluation of the building using

Tier 2 procedures could reveal a solution with less impact on the current function of the building while still maintaining the Immediate Occupancy Performance Objective.

3.8 Proposed Nonstructural Strengthening Scheme

Provide new seismic bracing for all inadequately braced nonstructural items including but not limited to:

- Add lens covers to the suspended lights in the apparatus bay and tie covers to light frame to prevent light or bulbs from falling.
- Mechanical units on the roof should be secured to the roof.

3.9 Cost Estimate

The following cost estimate outlines the projected costs for Structural and Nonstructural work. They are based on the above seismic strengthening scope of work. A detailed breakdown is included at the end of this section. The estimates are shown in 2003 U.S. dollars.

Structural	\$512,421
Nonstructural	\$8,596
Construction Contingency	<u>\$52,102</u>
Total Construction	\$573,120

The total construction cost for Albany Fire Station 11 is \$44.09 per gross square foot.

These costs have been prepared using brief narrative descriptions provided by Degenkolb Engineers. These describe the general size and construction of the building and itemize the work required to correct the seismic deficiencies. Small format drawings showing the general nature of the structural work have accompanied the descriptions. The costs contained in this report should be considered as order-of-magnitude costs, and are provided to enable the client to make preliminary budgeting decisions.

All of the costs of construction presented in this report are based upon the buildings being unoccupied and the contractor having full access to the site at all hours. In most cases this is not likely to be the case for the actual construction, and appropriate adjustments will have to be made to the project costs.

In addition to the above, the pricing is based on the following general conditions of construction: The general contract will be competitively bid with qualified general and main subcontractors. The contractor will be required to pay prevailing wages.

The costs of many aspects of this construction have been excluded. Costs related to ADA compliance, asbestos abatement, relocation of equipment/staff, Architectural and Engineering design fees, programmatic renovations, deferred maintenance, replacement of

glazing/finishes, and others have all been excluded from this report. The inclusion of these items could increase the overall cost of the project 3 to 5 times.

3.10 Photographs

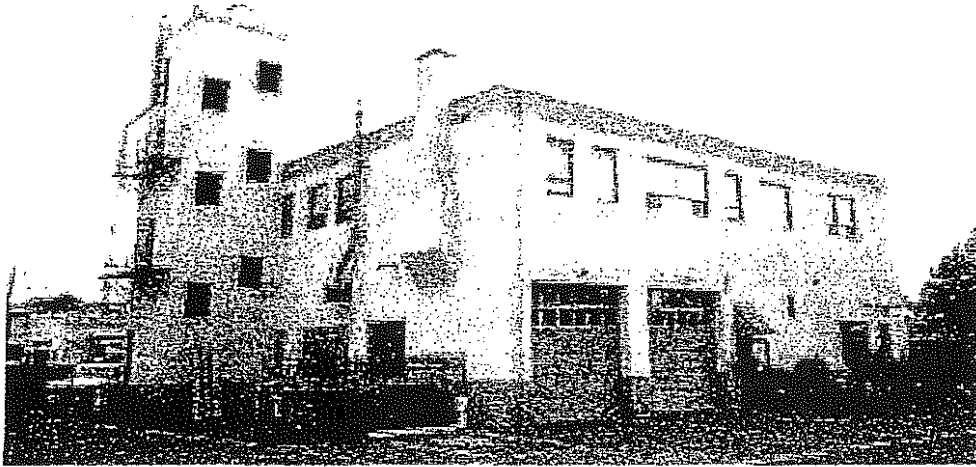


Photo 1: Building exterior



Photo 2: Apparatus bay doors



Photo 3: Equipment in the basement

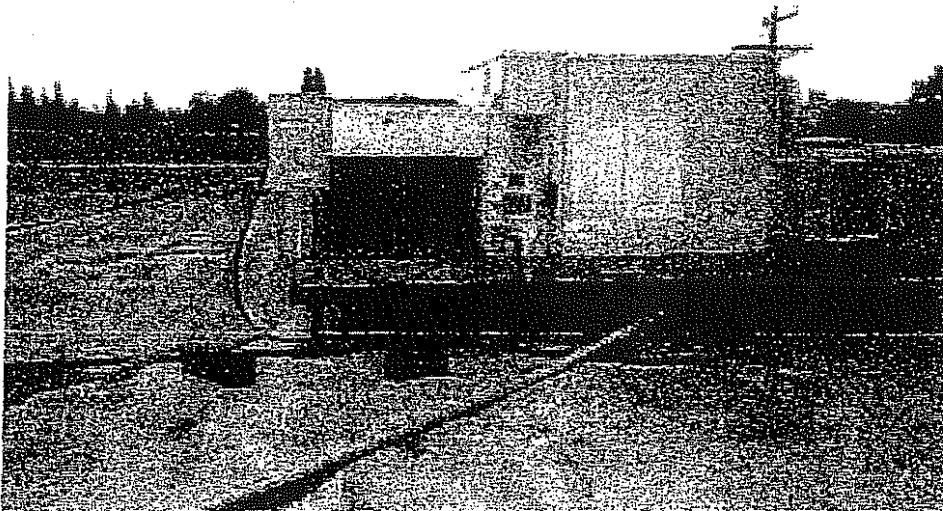


Photo 4: Unanchored mechanical unit on roof

3.11 ASCE 31-02 Check Sheets

Building Name: Albany Fire Station 11

Date: 11/10/03

Building Address: 110 6th Avenue Albany, Oregon

Page: 1 of 2

Job Number: A3289036.00

Job Name: City of Albany Fire Station Evaluations

By: MJR Checked: JSM

ASCE 31* BASIC CHECKLIST S4: STEEL FRAMES WITH CONCRETE SHEAR WALLS

C NC N/A

Comments

BUILDING SYSTEM

- | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|---------|--|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.1.1 | LOAD PATH: The structure shall contain a minimum of one complete load path for Life Safety and Immediate Occupancy for seismic force effects from any horizontal direction that serves to transfer the inertial forces from the mass to the foundation. | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.1.3 | MEZZANINES: Interior mezzanine levels shall be braced independently from the main structure, or shall be anchored to the lateral-force-resisting elements of the main structure. | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4.3.2.1 | WEAK STORY: The strength of the lateral-force-resisting system in any story shall not be less than 80% of the strength in an adjacent story above or below for Life-Safety and Immediate Occupancy. | Ratio (NS) = 0.75 < 0.8 NG
Ratio (EW) = 0.82 > 0.8 OK |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.2.2 | SOFT STORY: The stiffness of the lateral-force-resisting-system in any story shall not be less than 70% of the lateral-force-resisting system stiffness in an adjacent story above or below, or less than 80% of the average lateral-force-resisting system stiffness of the three stories above or below for Life Safety and Immediate Occupancy. | Ratio (NS) = 0.75 > 0.7 OK
Ratio (EW) = 0.82 > 0.7 OK |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.2.3 | GEOMETRY: There shall be no changes in horizontal dimension of the lateral-force-resisting system of more than 30% in a story relative to adjacent stories for Life Safety and Immediate Occupancy, excluding one-story penthouses and mezzanines. | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.2.4 | VERTICAL DISCONTINUITIES: All vertical elements in the lateral-force-resisting system shall be continuous to the foundation. | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.2.5 | MASS: There shall be no change in effective mass of more than 50% from one story to the next for Life Safety and Immediate Occupancy. Light roofs, penthouses and mezzanines need not be considered. | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4.3.2.6 | TORSION: The estimated distance between the story center of mass and the story center of rigidity shall be less than 20% of the building width in either plan dimension for Life Safety and Immediate Occupancy. | e = 16'
20% 75' = 15' (NG) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.3.3 | DETERIORATION OF STEEL: There shall be no visible rusting, corrosion, cracking, or other deterioration in any of the steel elements or connections in the vertical- or lateral-force-resisting systems. | No deterioration observed. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.3.4 | DETERIORATION OF CONCRETE: There shall be no visible deterioration of concrete or reinforcing steel in any of the vertical- or lateral-force-resisting elements. | No deterioration observed. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.3.3.9 | CONCRETE WALL CRACKS: All existing diagonal cracks in wall elements shall be less than 1/8" for Life Safety and 1/16" for Immediate Occupancy, shall not be concentrated in one location, and shall not form an X pattern. | No diagonal shear wall cracks greater than 1/16" observed |

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ASCE 31* BASIC CHECKLIST S4: STEEL FRAMES WITH CONCRETE SHEAR WALLS

C	NC	N/A		Comments
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LATERAL-FORCE-RESISTING SYSTEM

- | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|--|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.4.1.6.1 COMPLETE FRAMES: Steel or concrete frames classified as secondary components shall form a complete vertical load carrying system. | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.4.2.1.1 REDUNDANCY: The number of lines of shear walls in each principal direction shall be greater than or equal to 2 for Life Safety and Immediate Occupancy. | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.4.2.2.1 SHEAR STRESS CHECK: The shear stress in the concrete shear walls, calculated using the Quick Check procedure of Section 3.5.3.3, shall be less than 100 psi or $2\sqrt{f'_c}$ for Life Safety and Immediate Occupancy. | V max = 98 psi (OK) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4.4.2.2.2 REINFORCING STEEL: The ratio of reinforcing steel area to gross concrete area shall be not less than 0.0015 in the vertical direction and 0.0025 in the horizontal direction for Life Safety and Immediate Occupancy. The spacing of reinforcing steel shall be equal to or less than 18" for Life Safety and Immediate Occupancy. | Ratio = .2/(8"*18") = 0.0014 < 0.0015 (NG) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4.4.2.2.9 COLUMN SPLICES: Steel columns encased in shear wall boundary elements shall have splices that develop the tensile strength of the column. This statement shall apply to the Immediate Occupancy Performance Level only. | No steel columns in shear walls. |

CONNECTIONS

- | | | | | |
|--------------------------|-------------------------------------|-------------------------------------|---|---|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4.6.2.1 TRANSFER TO SHEAR WALLS: Diaphragms shall be connected for transfer of loads to the shear walls for Life Safety and the connections shall be able to develop the lesser of the shear strength of the walls or diaphragms for Immediate Occupancy. | No connection observed in plan or site visit. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4.6.3.5 FOUNDATION DOWELS: Wall reinforcement shall be doweled into the foundation for Life Safety and the dowels shall be able to develop the lesser of the strength of the walls or the uplift capacity of the foundation for Immediate Occupancy. | No connection observed in plan or site visit. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4.6.3.6 SHEAR-WALL-BOUNDARY COLUMNS: The shear wall boundary columns shall be anchored to the building for Life Safety and the anchorage shall be able to develop the tensile capacity of the column for Immediate Occupancy. | No boundary columns. |

* - Checklist statements are based on the second public ballot version of ASCE 31. This checklist will be updated as revisions are made to ASCE 31.



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C NC N/A Comments

LATERAL-FORCE-RESISTING SYSTEM

- 4.4.2.2.3 COUPLING BEAMS: The stirrups in coupling beams over means of egress shall be spaced at or less than d/2 and shall be anchored into the confined core of the beam with hooks of 135° or more for Life Safety. All coupling beams shall comply with the requirements above and shall have the capacity in shear to develop the uplift capacity of the adjacent wall for Immediate Occupancy.
4.4.2.2.4 OVERTURNING: All shear walls shall have aspect ratios less than 4 to 1. Wall piers need not be considered. This statement shall apply to the Immediate Occupancy Performance Level only. Ratio max = 3.6
4.4.2.2.5 CONFINEMENT REINFORCING: For shear walls with aspect ratios greater than 2 to 1, the boundary elements shall be confined with spirals or ties with spacing less than 8db. This statement shall apply to the Immediate Occupancy Performance Level only. No boundary ties.
4.4.2.2.6 REINFORCING AT OPENINGS: There shall be added trim reinforcement around all wall openings greater than three times the thickness of the wall. This statement shall apply to the Immediate Occupancy Performance Level only. No trim reinforcing around openings.
4.4.2.2.7 WALL THICKNESS: Thickness of bearing walls shall not be less than 1/25 the unsupported height or length, whichever is shorter, nor less than 4". This statement shall apply to the Immediate Occupancy Performance Level only. 16'/25" = 7.68 < 8 (OK)
4.4.2.2.8 WALL CONNECTIONS: There shall be a positive connection between the shear walls and the steel beams and columns for Life Safety and the connection shall be able to develop the strength of the walls for Immediate Occupancy. No connection observed

DIAPHRAGMS

- 4.5.1.4 OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls shall be less than 25% of the wall length for Life Safety and 15% of the wall length for Immediate Occupancy.
4.5.1.7 PLAN IRREGULARITIES: There shall be tensile capacity to develop the strength of the diaphragm at re-entrant corners or other locations of plan irregularities. This statement shall apply to the Immediate Occupancy Performance Level only.
4.5.1.8 DIAPHRAGM REINFORCEMENT AT OPENINGS: There shall be reinforcing around all diaphragm openings larger than 50% of the building width in either major plan dimension. This statement shall apply to the Immediate Occupancy Performance Level only. No 50% openings in diaphragms.



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ASCE 31* SUPPLEMENTAL CHECKLIST S4: STEEL FRAMES WITH CONCRETE SHEAR WALLS

C NC N/A

Comments

CONNECTIONS

- 4.6.3.10 UPLIFT AT PILE CAPS: Pile caps shall have top reinforcement and piles shall be anchored to the pile caps for Life Safety, and the pile cap reinforcement and pile anchorage shall be able to develop the tensile capacity of the piles for Immediate Occupancy. No pile caps.

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