

DESIGNING & FUNDING A NEW EOC IN THE 21ST CENTURY

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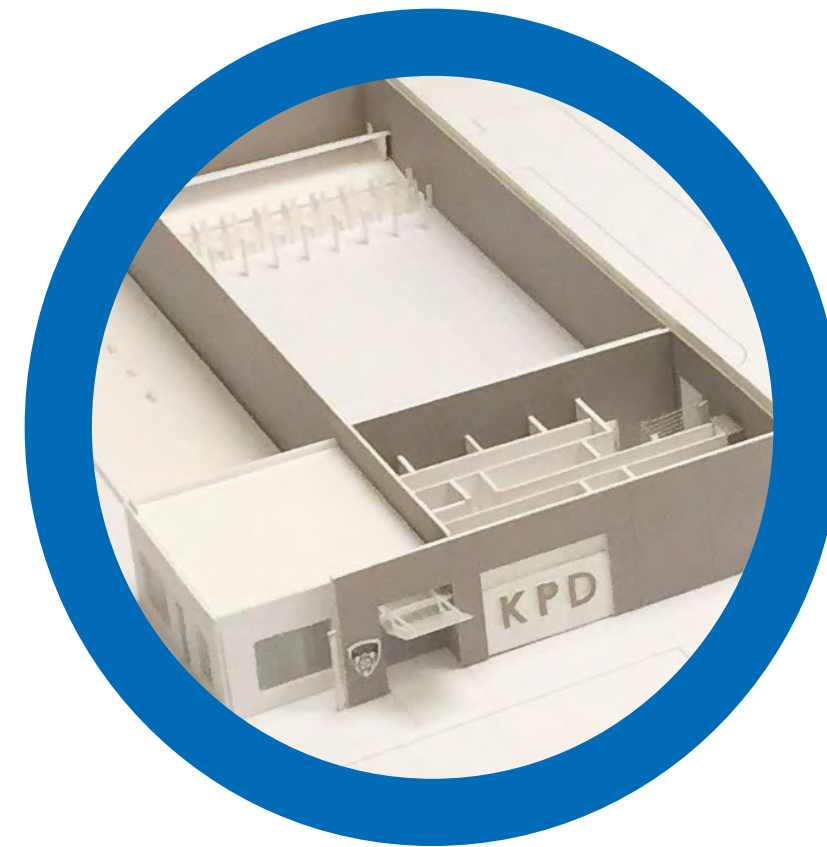


Architects Design Group

AGENDA



EOC Guidance Publication



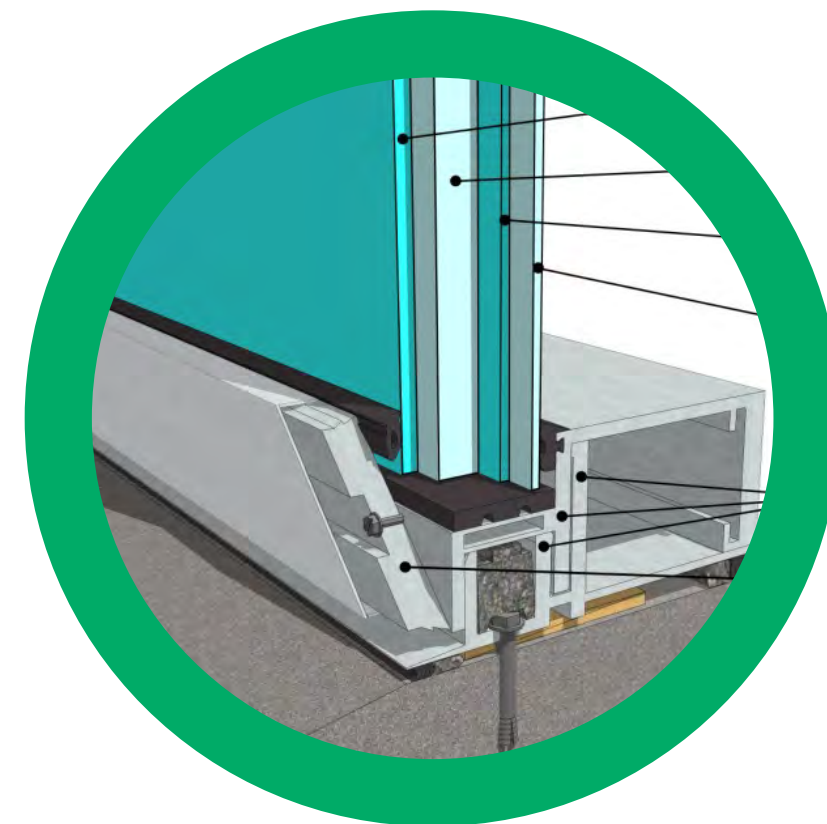
EOC Design Process



Environmental & Manmade Threats



Lessons Learned



Design Considerations



Emerging Trends

EOC GUIDANCE PUBLICATION

- Historical context, research sources, database
- Planning for EOC development
- Hazard identification and risk management
- Programming/ establishing facility spatial need
- Architectural/ engineering guidelines for EOC facilities
- Criteria for redundant facility systems
- Communications capability
- EOC security concepts and requirements
- Evaluation of existing eoc facility
- Development options: "new, remodel, or adaptive reuse"
- Delivery options: "how facilities can be constructed"
- Human factors
- Funding operations and facility costs
- How to obtain professional services
- "Standards" and accreditation
- Existing facilities/ floor plans

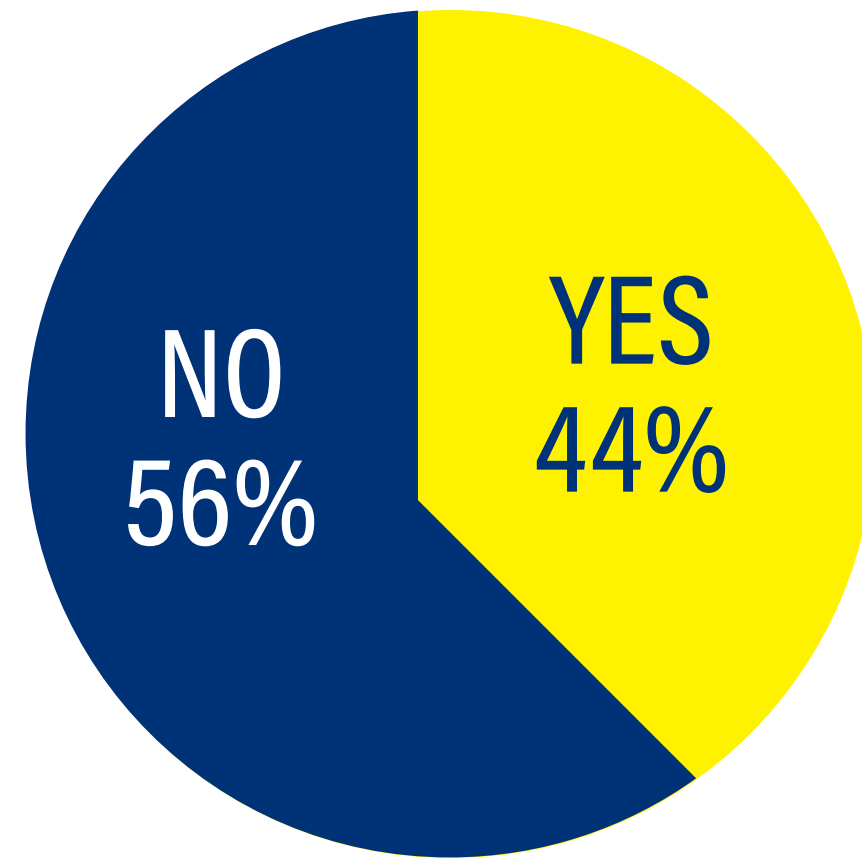


EOC GUIDANCE PUBLICATION

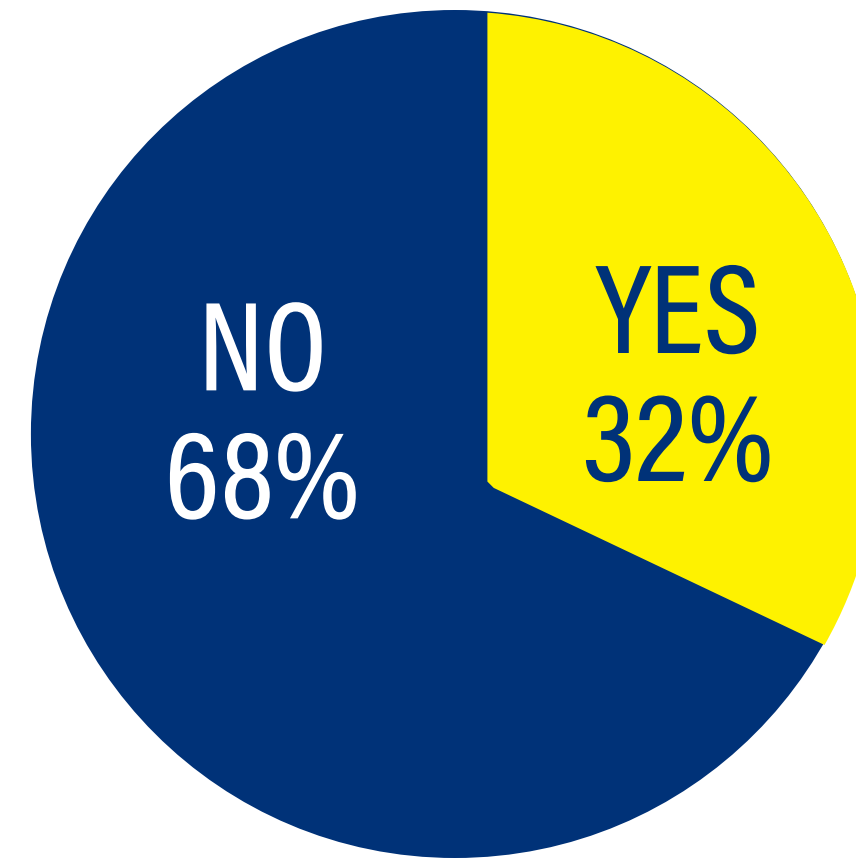
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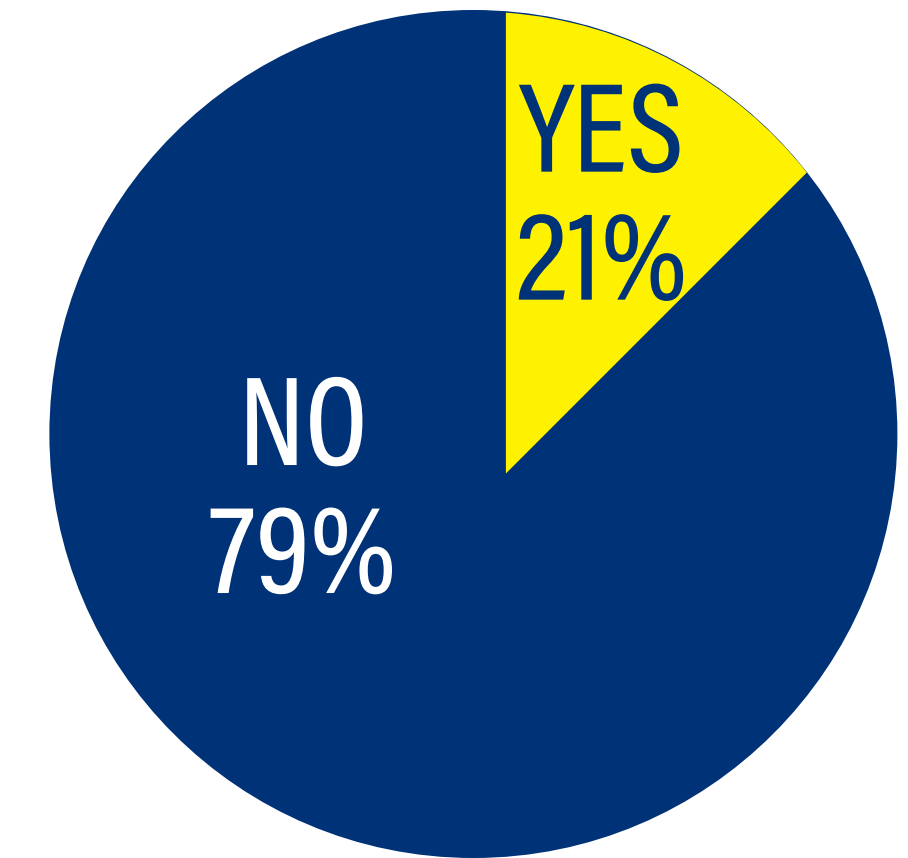
EOC GUIDANCE PUBLICATION



Originally
constructed
as an EOC



Size of facility
appropriate for
the function



Facility located
in a known flood
hazard area



EOC DESIGN PROCESS

- Retain a knowledgeable consultant
- Review all potential grant and funding opportunities
- Create a professional: “spatial needs assessment”
- EOC personnel and the professional: “co-authorship”
- Involve your staff in “participatory planning”

EOC DESIGN PROCESS

Phase 1: Create a Professional “Spatial Needs Assessment”



EOC DESIGN PROCESS

Phase 1: Create a Professional “Spatial Needs Assessment”

SPACE DESIGNATION		SPACE REQUIREMENTS (SF)		
No.	Space Function	Option “A”	Option “B”	Option “C”
1.0	Public Access Area	869	869	869
2.0	Emergency Management	10,707	11,690	12,178
3.0	Public Safety Communications	9,456	10,481	11,297
4.0	Facility Support Areas	8,002	8,002	8,290
5.0	Facility Services	1,534	1,534	2,028
6.0	Total	30,567	32,576	34,663
7.0	Fire Administration	1,960	2,064	2,064
8.0	Constitutional Officers Area	1,893	1,893	1,893

EOC DESIGN PROCESS

Phase 1: Create a Professional “Spatial Needs Assessment”

GENERAL NOTES		SPACE DESIGNATION		SPACE REQUIREMENTS (SF)		
		No.	Space Function	Phase 1 2021	Phase II 2031	Phase III 2041
		2.35	Media Briefing Room	400		
2.36	Locate in proximity to EOC	2.36	Joint Information Center	400		
2.37	PSN: People with Special Needs	2.37	PSM Coordinator		120	
		2.38	Communications Unit @ 36 S. F.	(8) 288		
		2.39	Communications Equipment	445		
2.39	Includes ACS and I.T. Techs. Six (6) people	2.40	Subtotal	8,236	15%	15%
			Efficiency Factor @ 30%	2,471	15%	15%
		2.42	Total	10,707	983	489
		2.43	Cumulative Total		11,690	12,178

EOC DESIGN PROCESS

General “Rules of Thumb”



- Per 1000 Population.....105 - 110 GSF*
- Per Staff Position.....175 - 225 GSF*
(Activated)
- Smaller Jurisdiction.....3,000 - 5,000
Minimum GSF*
- CPG-120.....50 - 85 GSF*
- State of Florida.....85 GSF* / Person

*GSF = Gross Square Feet

EOC DESIGN PROCESS

Representative Areas

- Incident Command Center.....1,800 - 2,400 SF
- Break Out Rooms.....220 SF / Each
- Elected Official / Decision Room.....400 SF
- Food Service.....1,000 SF
- Dormitories.....300 SF / Each
- Press Briefing.....800 SF
- Medical Triage.....600 SF
- Technology Rooms900 SF
- Drone & Video Observation Rooms.....250 SF
- MEP Spaces1,200 SF
- Emergency Generator / Fuel Tank.....1,000 SF
- **Optional Spaces:**
 - Data Room.....1,000 SF
 - Traffic Management Center.....1,500 SF
 - Training / Meeting Room.....1,000 - 1,500 SF



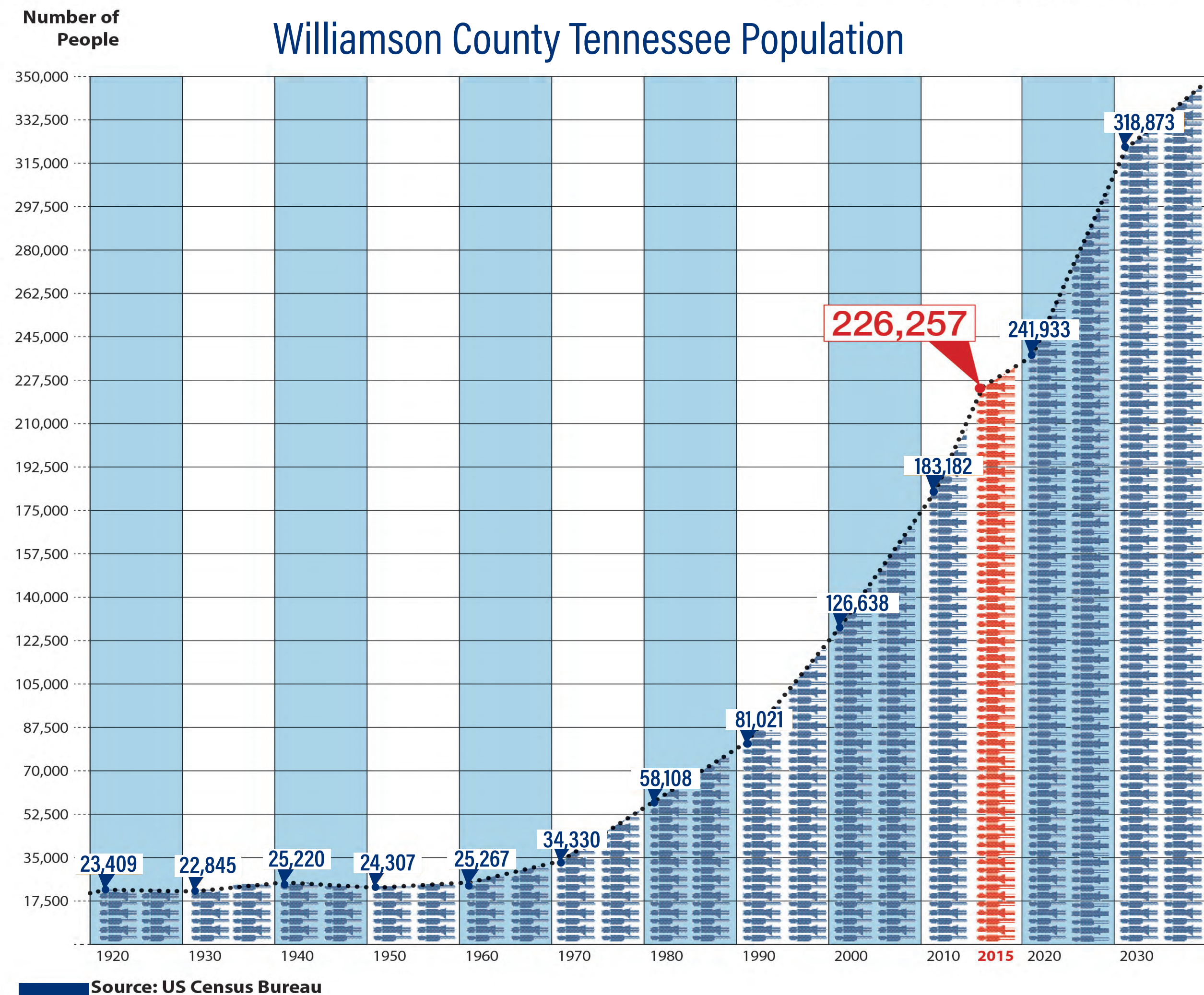
EOC DESIGN PROCESS

Documentation of Deficiencies



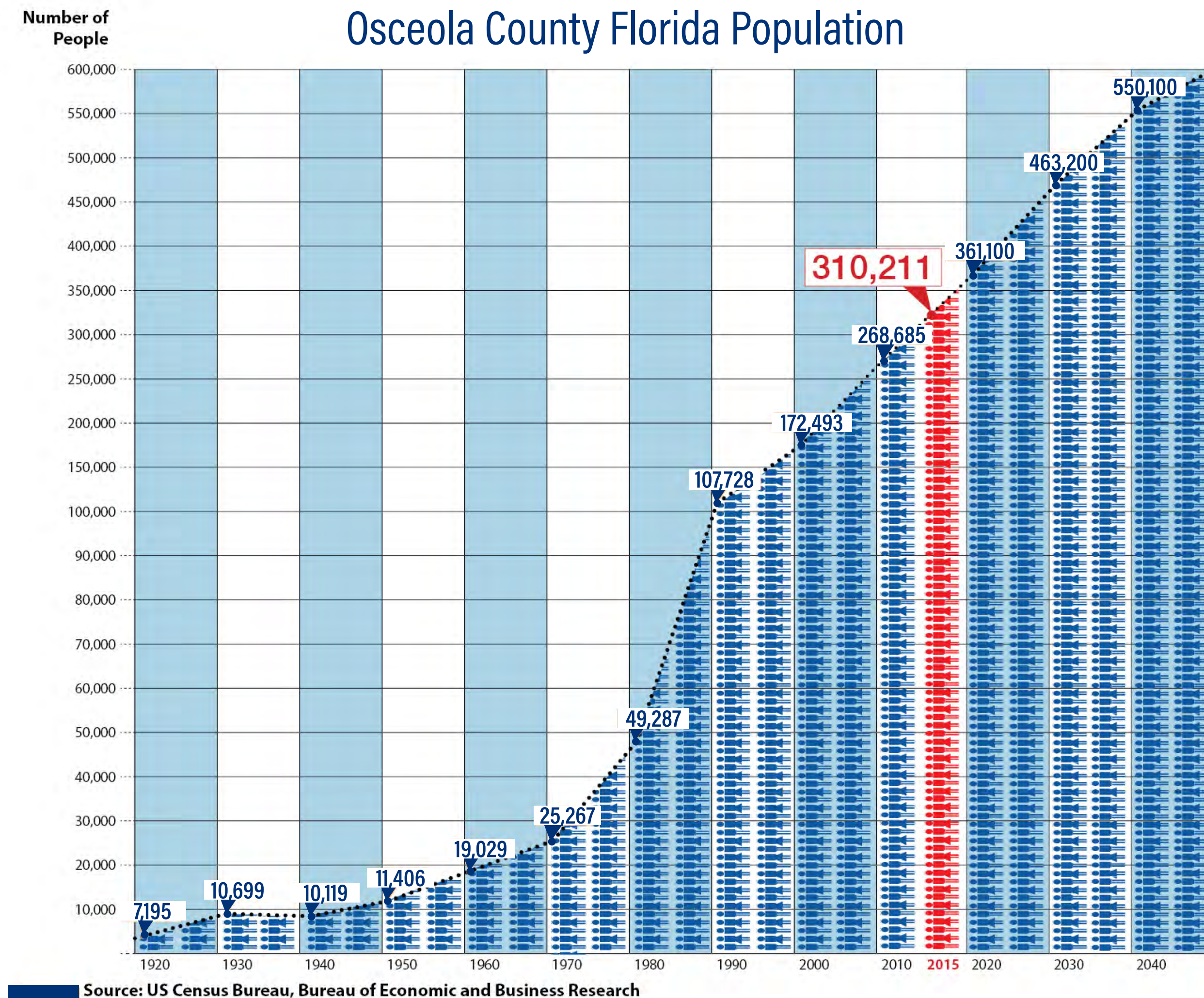
EOC DESIGN PROCESS

Data Collection: Population and Demographics



EOC DESIGN PROCESS

Data Collection: Population and Demographics



EOC DESIGN PROCESS

Prepare Options

ALTERNATIVE	ELEMENTS	EST. DEVELOPMENT COSTS
E-1	Re-use of existing facility	\$7,870,000
E-2	New EOC Facility at City Owned Property	\$6,464,995
E-3	New EOC Facility at Boulevard St. Site	\$6,805,995



EOC DESIGN PROCESS

Avoid the “Taj Mahal Syndrome”



- Understand the political approval process
- **Consider joint-use facilities – multiple users equates to multiple support**
- **Include systems, furniture and technology costs**
- Explain why EOC's cost more than other project types
- **Include all turnkey development costs**

EOC DESIGN PROCESS

Avoid the “Taj Mahal Syndrome”

Atwater: Taj Mahal courthouse 'far worse' than a pricey building

Article Courtesy of The St. Petersburg Times
By Lucy Morgan
Published January 12, 2010

TALLAHASSEE — State auditors are questioning more than \$1 million in bills submitted for the new \$50 million courthouse built by the 1st District Court of Appeal.

"This is one of the great embarrassments for Florida government," new Chief Financial Officer Jeff Atwater said of the building derided as Florida's Taj Mahal. "The audacity and arrogance that was displayed in doing this and their continuing effort to hide the ball has been a complete disservice to hardworking Floridians who deserve better from public officials."

The day after Atwater was sworn into office this week, he was briefed by auditors who now work for him. He said he will personally inspect every outstanding bill and will allow no payment until he can determine what was purchased. His auditors are continuing an investigation that started under former CFO Alex Sink.

"I now believe it is far worse than just an expensive building," Atwater said.

Some of Atwater's questions surround apparent attempts by the court to buy big screen television sets and furnishings for the courthouse with the proceeds of a \$33.5 million bond issue that taxpayers will repay over the next 30 years.

"I cannot imagine financing equipment for 30 years that will depreciate over the next three to five years," Atwater said.

A former Senate president, Atwater said he has completely lost confidence in the Department of Management Services, the state agency responsible for overseeing construction of the courthouse. Officials at DMS signed off on the questionable purchases the judges requested.

"I do not believe they (DMS) have been straight with the people of Florida, certainly not with our department," he said. "They have been disguising what they were trying to get us to sign off on — and I have only been here a day."



The 110,000-square-foot courthouse building in Tallahassee houses the 1st District Court of Appeal's 114 employees.



New courthouse: Hall of justice or the Taj Mahal?

By Barbara Hijek

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AUGUST 10, 2010, 3:37 AM

Since when have our halls of justice become Taj Mahals?

The 1st District Court of Appeal in Tallahassee is building a 112,000-square-foot courthouse that some call a "Taj Mahal."

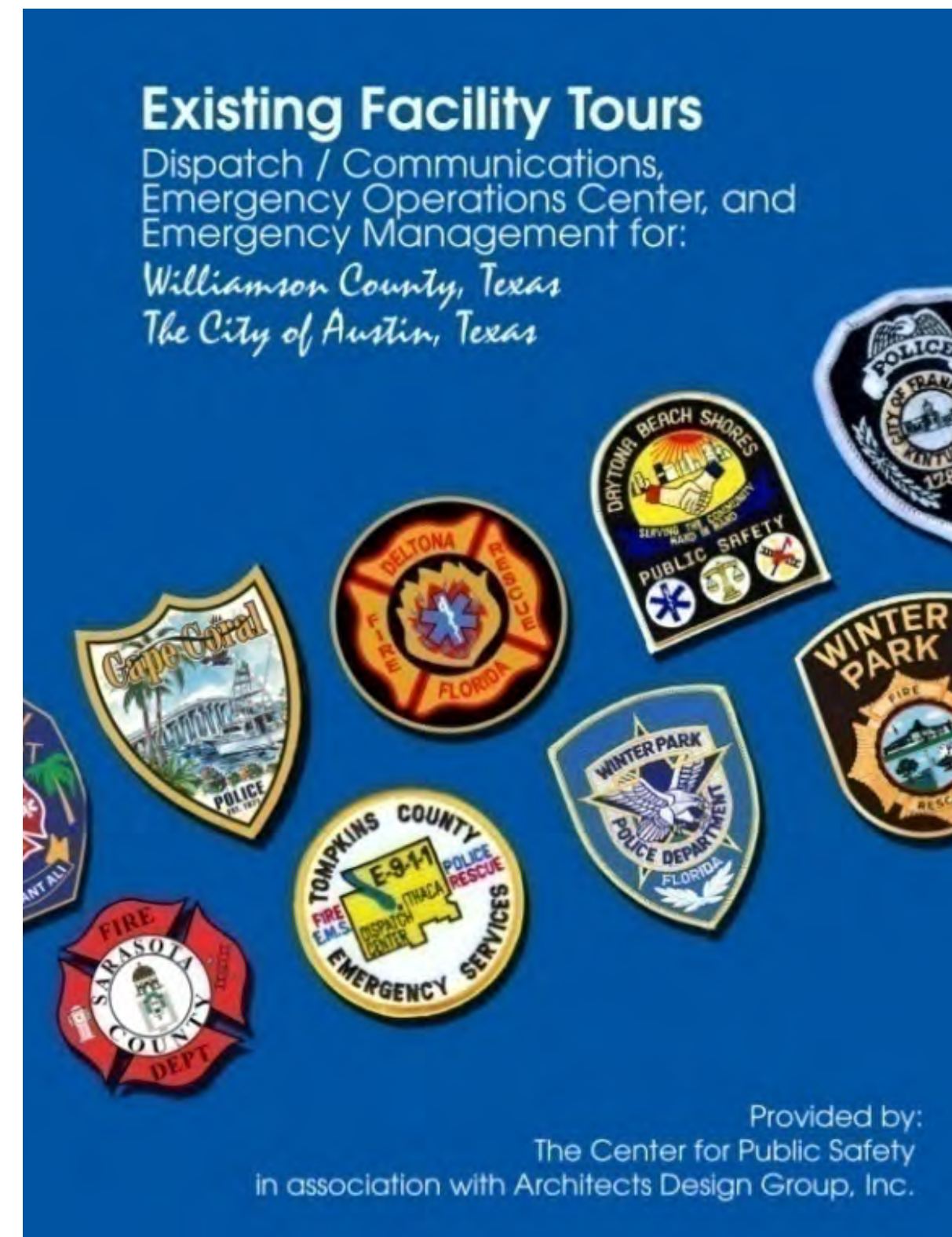
Scheduled to be completed in November, it's a \$48 million behemoth in which each judge will get a 60-inch LCD flat-screen television in chambers (trimmed in mahogany), a private bathroom (featuring granite countertops) and a kitchen (complete with microwave and refrigerator), reports the St. Petersburg Times.



ADVERTISEMENT

EOC DESIGN PROCESS

- Facility tours
- Lessons learned
- Talk with your counterparts



EOC DESIGN PROCESS

Community Advisory Committee: “Educate, Not Advocate”



METHODOLOGY

3-4 Months		12-14 Months (includes reviews)			1-2 Months	14-18 Months	1 Month	11 Months
PRE-DESIGN PLANNING		DESIGN OF PUBLIC SAFETY FACILITY			BIDDING / GMP COORDINATION	CONSTRUCTION PHASE SERVICES	BUILDING COMMISSIONING	POST-CONSTRUCTION SERVICES
Notice to Proceed	Site Plan Alternatives <ul style="list-style-type: none">Access/Egress AnalysisSecurity Concerns	Participatory Design Process		Quality Control Team Review	Release for Bidding to Subconsultants	Pre-Construction Conference	<ul style="list-style-type: none">Technology IntegrationFurniture InstallationBuilding Computer GraphicsTraining	Warranty Inspection 11 Months after Substantial Completion with Design Team, City, and CMAR/GC
Kick Off Meeting <ul style="list-style-type: none">Review Project ScopeReview Schedule		Schematic Design	Design Development	Construction Documents	GMP Delivered	Commence Construction		
Document Review <ul style="list-style-type: none">Update Initial Programming (2 weeks)Site InformationVehicle AccessCirculationReview and Confirm Regulatory Requirements	<ul style="list-style-type: none">Environmental ConstraintsFuture Space Needs/Expansion		<ul style="list-style-type: none">Refine MaterialsSelect MEP SystemsConstructibility ReviewSecurity SystemsFinishes / FurnishingValue Engineering / ManagementEnergy Efficiency for Operation Cost SavingsCost Estimate / Budget					
Site Identification & Analysis	Conceptual Design <ul style="list-style-type: none">Refine Site PlanOperational Adjacency Diagrams	Schematic Review & Approval <ul style="list-style-type: none">Conceptual Plans RefinedElevations / MaterialsCost Estimate / BudgetFeedback from Community and StakeholdersOwner/Permit Agencies Review	<ul style="list-style-type: none">Prepare Drawings and Specifications30%, 60%, 90% ReviewsUpdate Cost Estimate / BudgetSubmit for Site Permitting	<ul style="list-style-type: none">Owner/Permit Agencies Review	Monitor Permit Applications/ Acquire Permits Necessary to Start Construction	Monitor Construction Activities <ul style="list-style-type: none">Contract Documents ComplianceSchedule ComplianceCompliance with Schedule of ValuesCertify Payment ApplicationsShop Drawing ReviewPrepare Punch ListsCertify Site Work / PermitsFurnishings Bid PackageMove-Management	Construction Close-Out <ul style="list-style-type: none">Ensure "Punch List" CompletionObtain Materials & Systems WarrantiesAssemble Finished Construction PhotosMonitor Warranty Items	
Identify Potential Grant Opportunities	Final Site Master Plan		<ul style="list-style-type: none">Energy Efficiency for Operation Cost SavingsCost Estimate / BudgetOwner/Permit Agencies Review				FINAL COMPLETION	
	Update Project Schedule & Budget					SUBSTANTIAL COMPLETION		
	Community Outreach Program (if desired)							

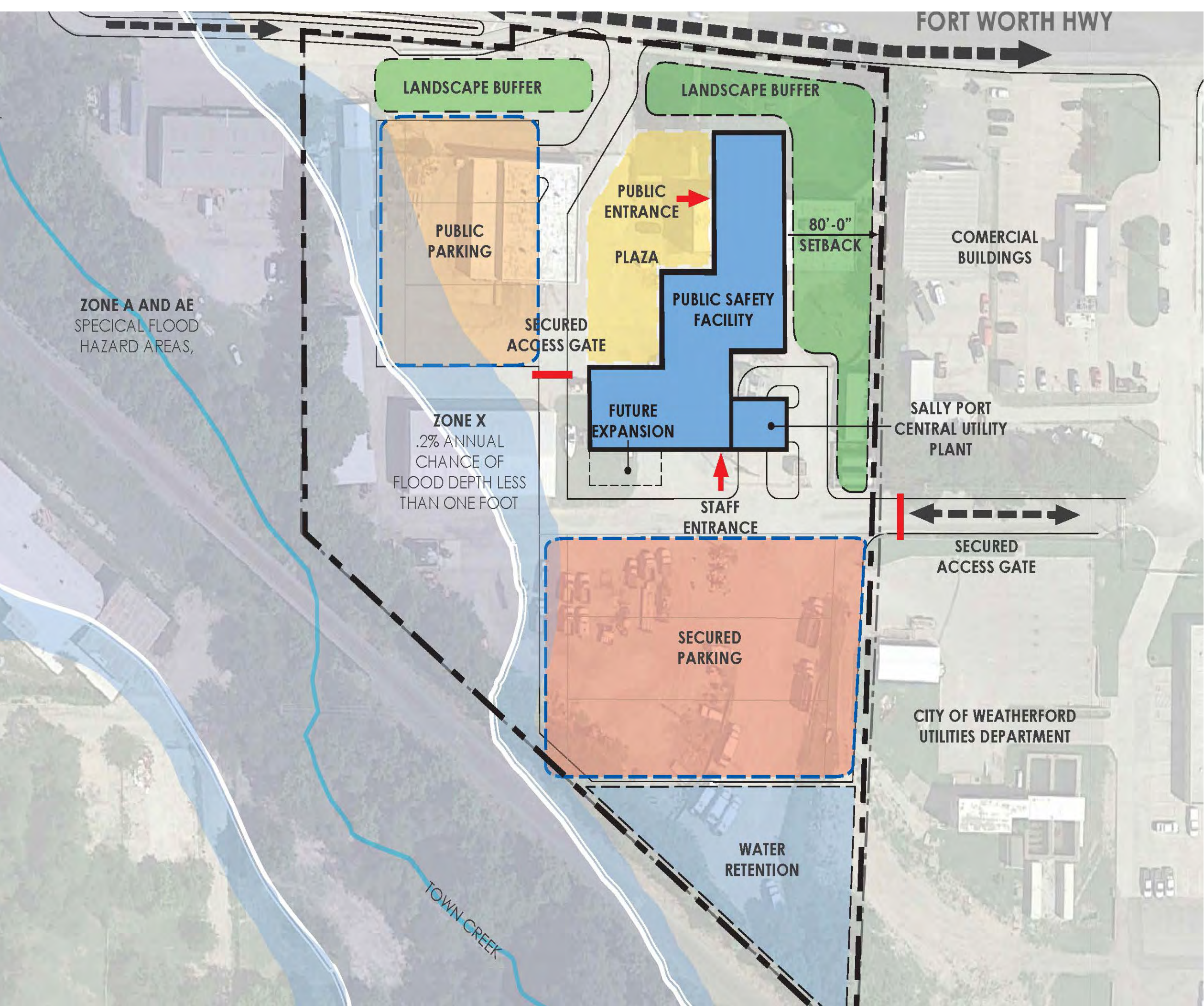
MASTER PLANNING

Site Evaluation | Data Collection

Site Selection Matrix						
No.	Evaluation Criteria	Criteria Value	Site I	Site II	Site III	Site IV
1	Appropriate Surrounding Land Use	7				
2	Proximity to other Municipal Facilities / Functions	6				
3	Site Size: Ease of Future Expansion	10				
4	Zoning	6				
5	Site Development: Relocation/Demolition/etc.	9				
6	Access: Vehicular/Pedestrian/Public Transportation	8				
7	Impact on Redevelopment	6				
8	Proximity to Potential Hazards	9				
9	Land Acquisition Costs	7				
10	Adequacy of Infrastructure	8				
	Total					
		Rank				

MASTER PLANNING SITE EVALUATION

Simple Site

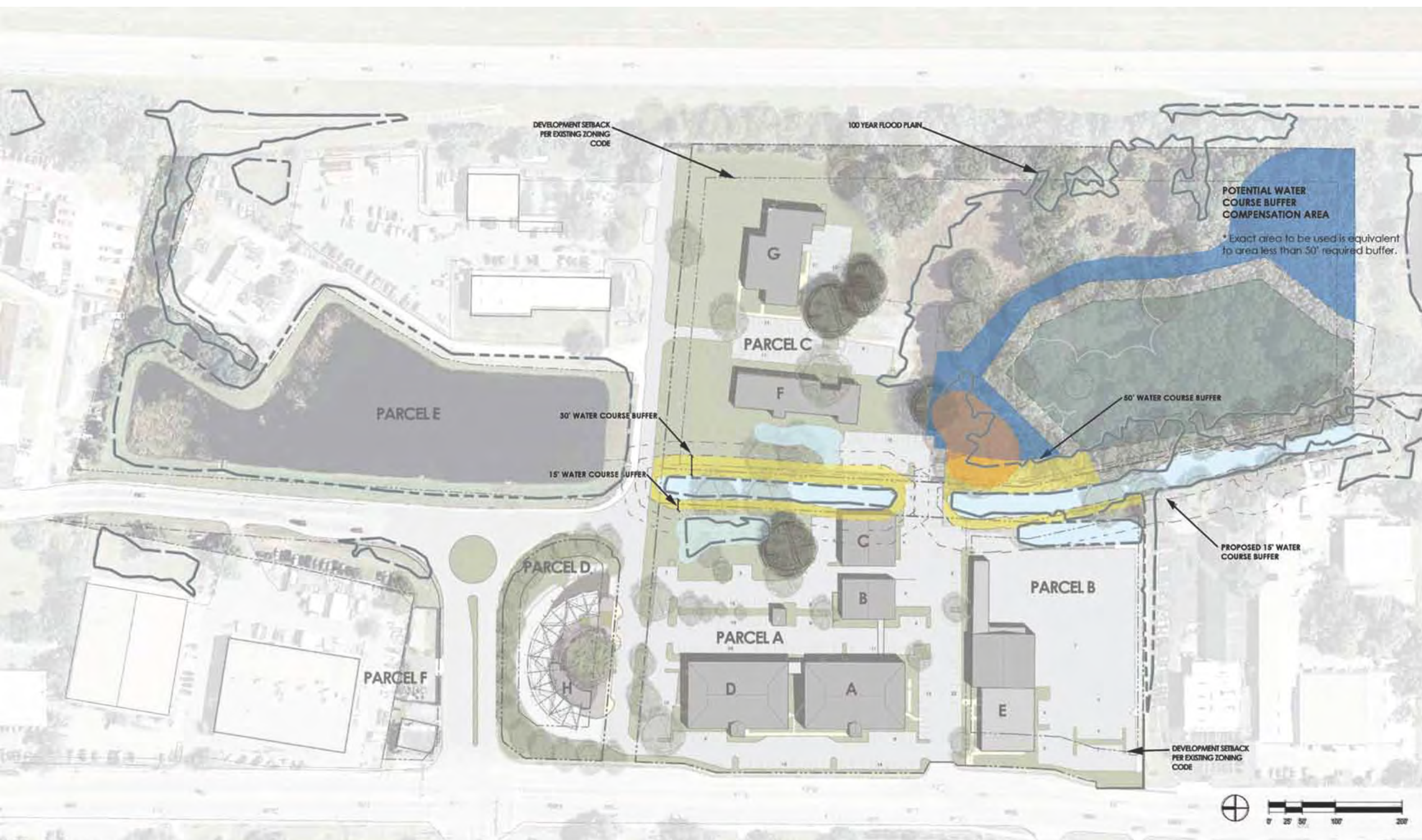


Complicated Site



MASTER PLANNING

Existing Conditions



Existing Utilities

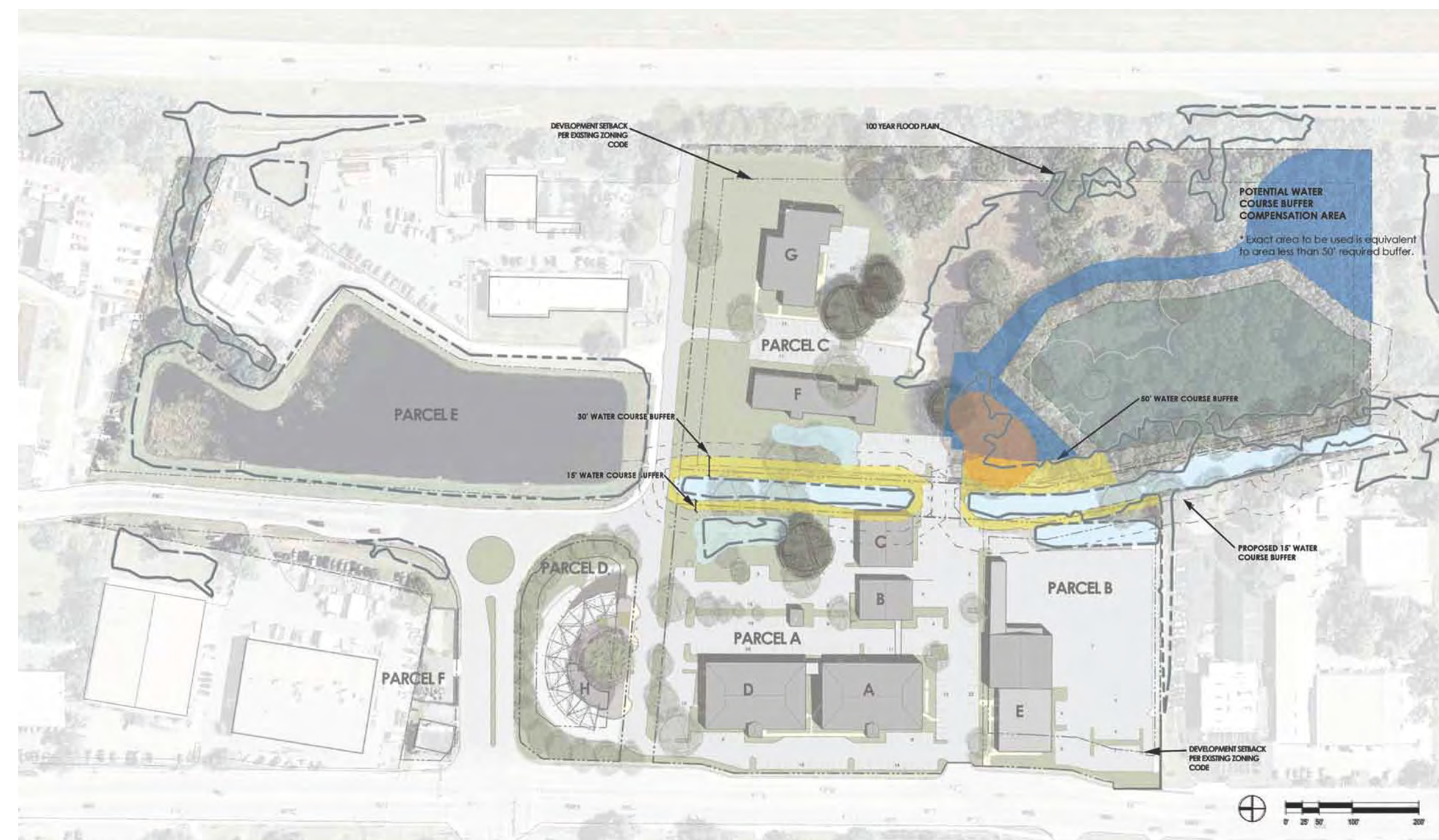


MASTER PLANNING

Vegetation / Ground Trees

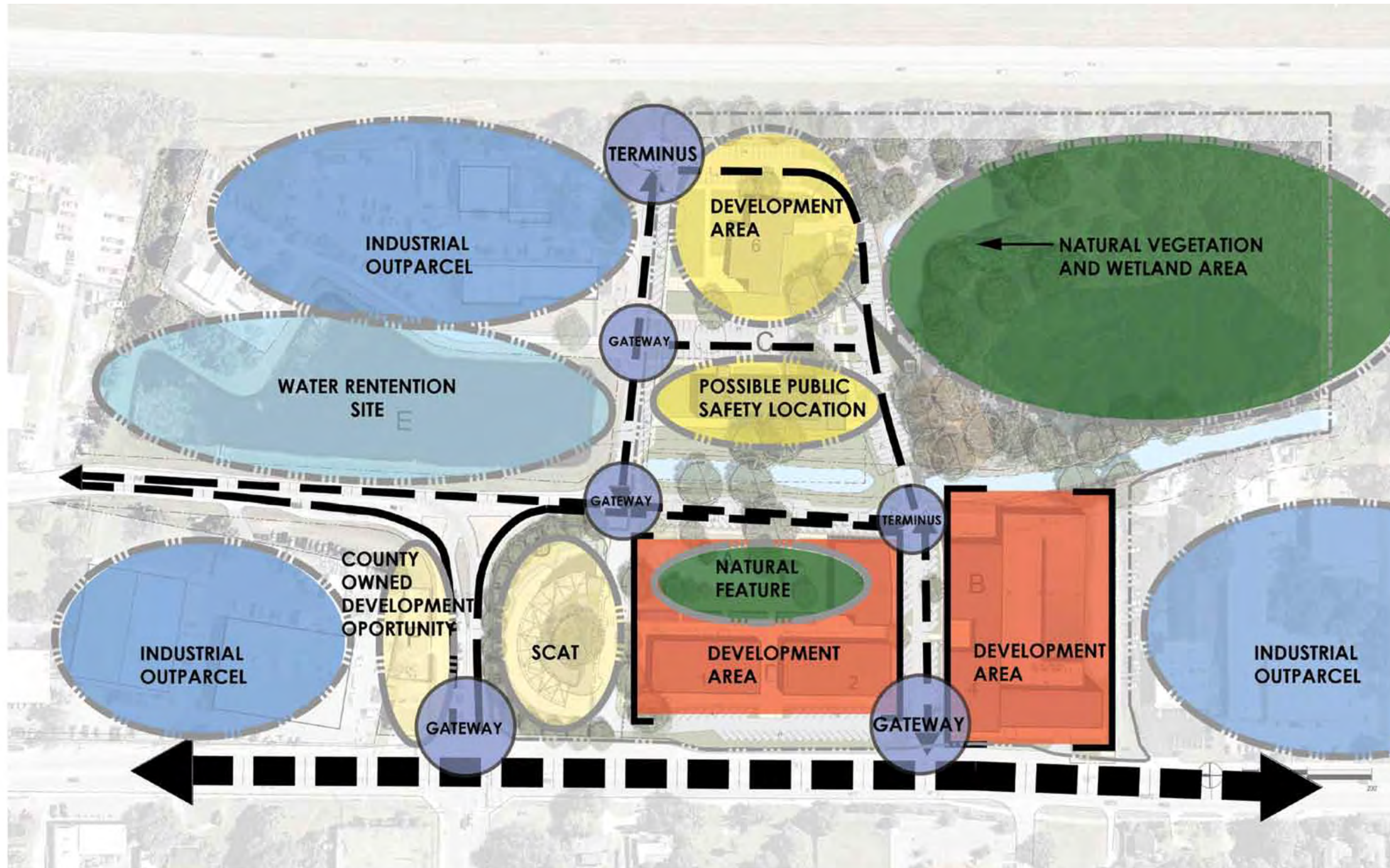


Wetland / Water Course

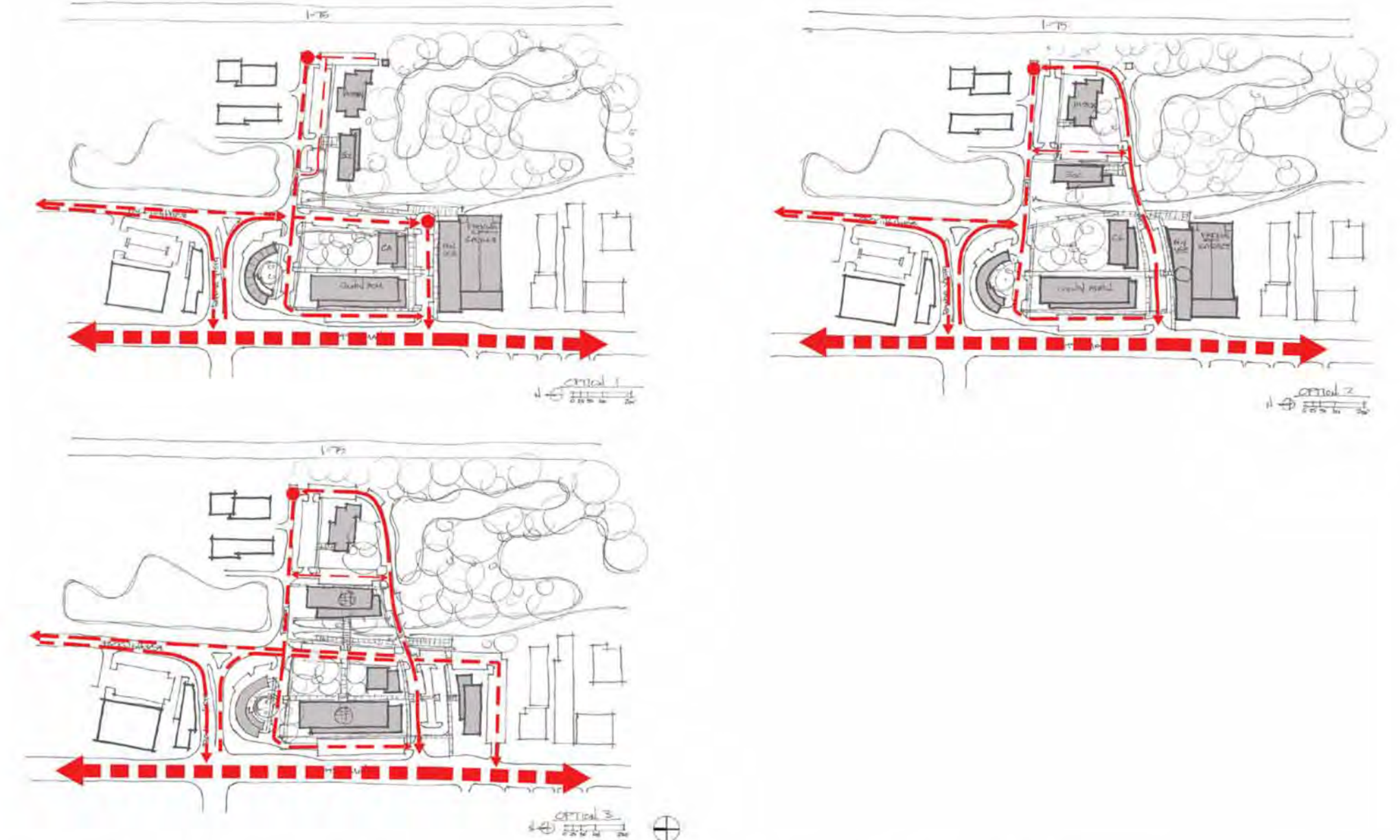


MASTER PLANNING

Site Zoning

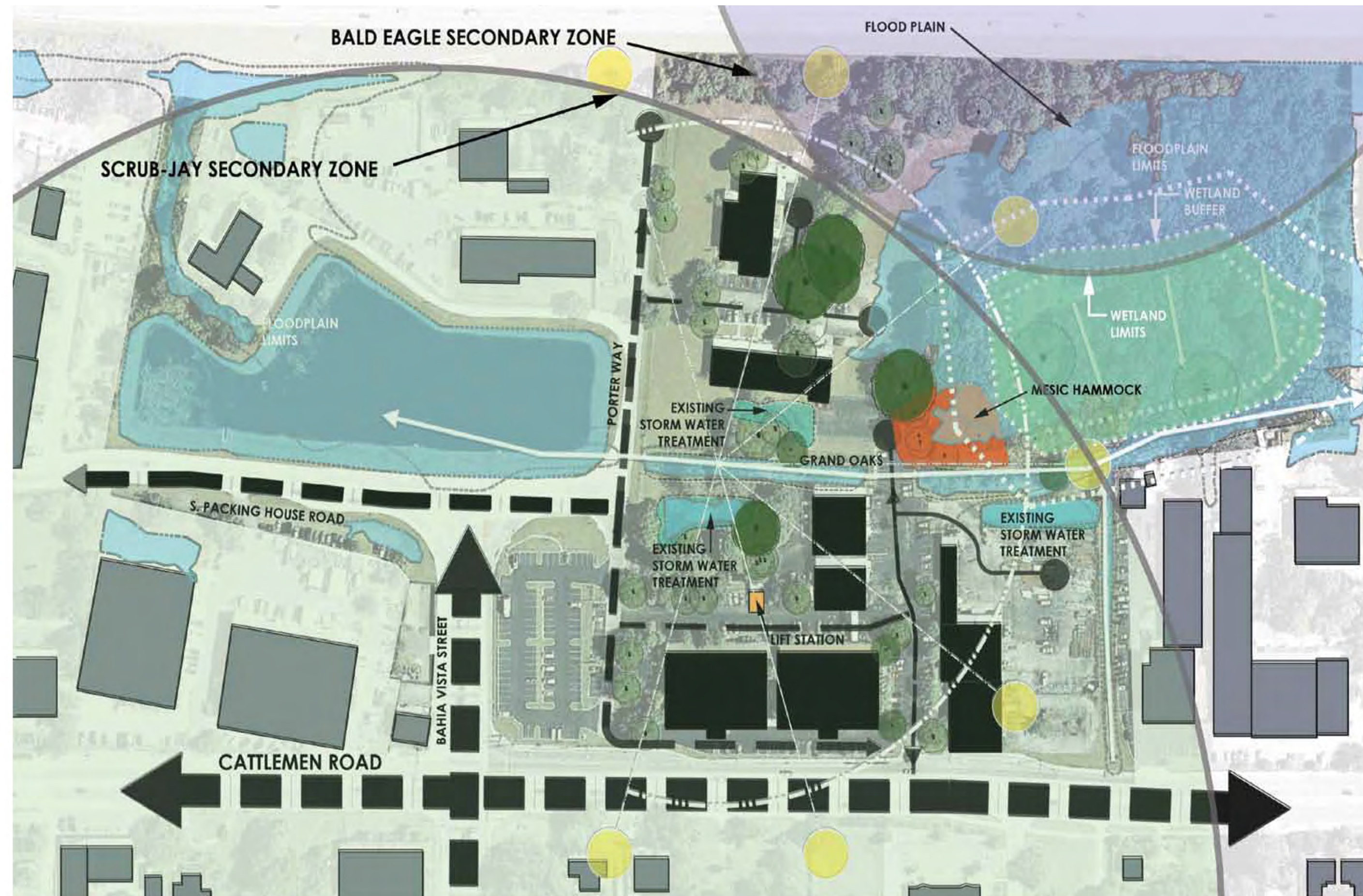


Site Studies / Circulation



MASTER PLANNING

Bringing It Together



CONCEPTUAL DESIGN

Existing Property

Zoning Worksheet

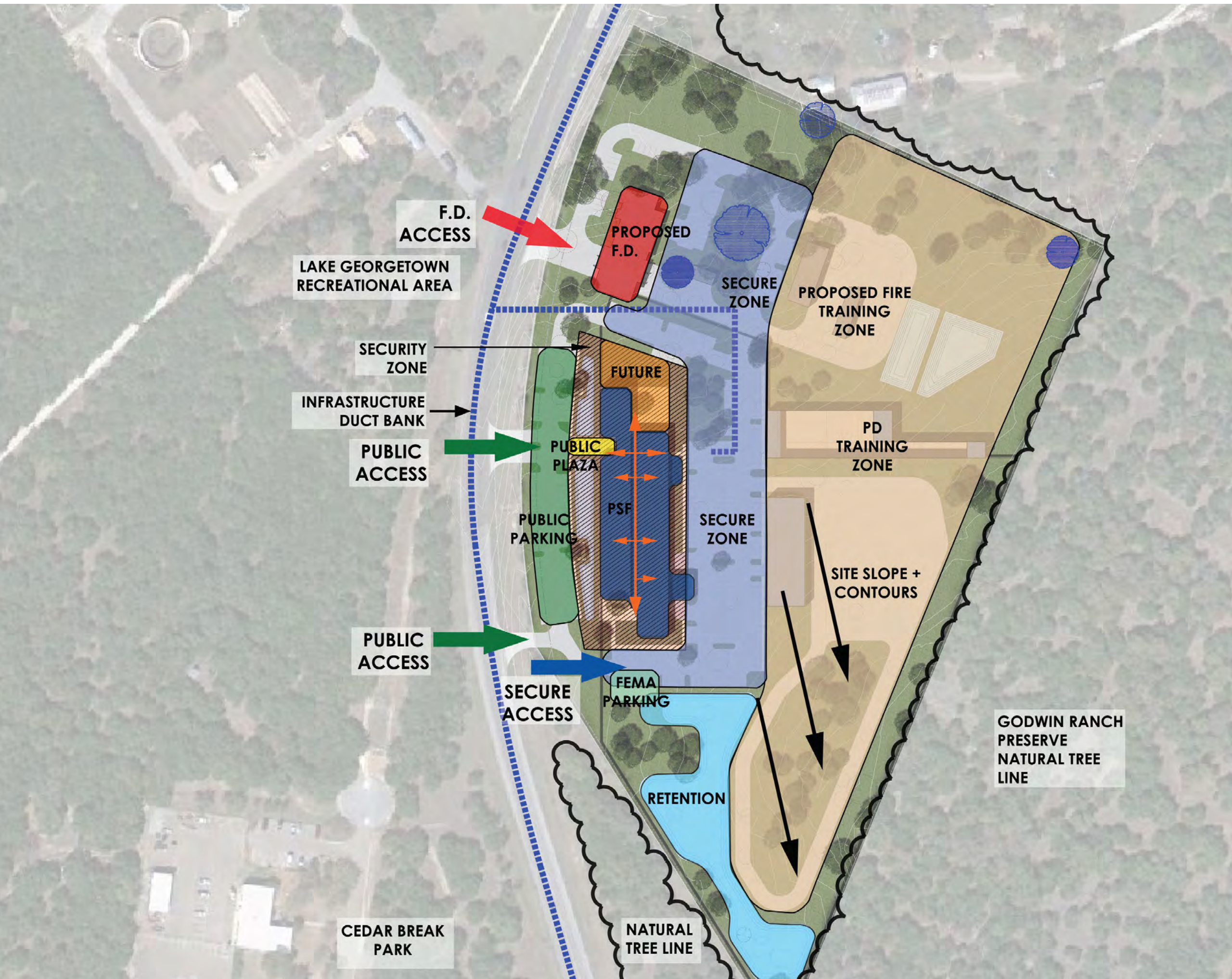


Preliminary Zoning Worksheet					04.17.2012	
Project: Georgetown Public Safety Operations and Training Facility			Full Build-out 80,000 s.f.		Code/Ordinance:	General Notes: The Public Facilities District (PFD) is intended to provide a location for government and other public or quasi-public facility operations. These may include schools, public parks, hospitals, airports, government offices, churches and other related uses, but would not include industrial facilities or storage yards. Some uses allowed in this District might generate heavy traffic volumes and high-intensity operations. (Full build-out assumes 2 story building plus associated structures)
Site Location: 3500 D.B Wood Road Georgetown TX 78628		Legal Description:			Official Zoning Map, Downloaded 04.10.12, Section 4.02, Ordinance 2003-15	
Zoning District:		(PF) Public Facilities District				
Permitted Uses:		Government and Community Facilities - Emergency Services Station, Gov. or P.O.				
Special Zoning Districts Explanation: (Over Edwards Aquifer)					Section 11.02 Section 11.02.010	If the property is located over the Edwards Aquifer Recharge or Contributing Zones, the maximum impervious coverage for the subdivision must follow the calc. described in subsections a, b, and c.
a Subdivisions Greater Than 5 Acres: For subdivisions greater than 5 acres, the impervious cover maximum allowance changes with the total acreage of the subdivision. The impervious cover maximum is 70% of the first acres and 55% of the remaining acreage, as shown below: b $\text{Impervious Cover \%} = \frac{[0.70 \times 5 \text{ acres}] + [0.55 \times (\text{Total Acreage} - 5 \text{ acres})]}{\text{Total Acreage} \times 100}$ c For properties over the Edwards Aquifer Recharge or Contributing Zones, waivers to the 55% limit may be granted in accordance with Section 11.02.020, but in no case shall the gross impervious cover exceed 70% including all waivers.						
Calculations:	S.F.	Acres	Allowable Impervious %	Designed Impervious %		
Existing Lot Area	603,995	13.86581726	60.40898517		Section 11.02.010	Lot area does not include portion of site north of the firing range which will be utilized by the fire station. (The fire station is not included in the overall building square footage).
Designed Impervious sf	221,056	5.074747475		36.59897847		
Approved Impervious Limitations Waivers:					Section 11.02.020	The Director shall increase the amount of impervious cover as specifically listed, upon verification by the Development Engineer that the development meets the waiver criteria. No combination of waivers may allow impervious cover to exceed the maximum provided. Partial credit of each of the following waivers may be granted.
1) Low Impact Site Design (7%): i dry well or infiltration trenches ii rainwater harvesting iii preserving stream buffers iv bio-retention facility v wet ponds vi grassed filter strips, vegetated vii swales in lieu of curb and gutter		2) Parking Lot Design (5%) 3) Preservation of natural areas (7%) 4) Over-provision of landscaping (3%) 5) Tree preservation (5%)				
Set Back Criteria: PF (Public Facility)		Maximum Height:		45'	Table 07.03.020	The front setback may be reduced to zero feet from the right-of-way line or any applicable public easement. If at least 28% of the street-facing building wall of the principal structure is built within 5 feet of the right-of-way line or applicable public or landscape easement on the primary street.
		Lot Width Min.		50'		
Front Setbacks		Front/Street Setback		25'		
		Front Setback Build-to Option		0'		
		Front Setback, Downtown Gateway Overlay		0'		
Side Setbacks		Side Setback, Minimum		5'		
		Side Setback, to Residential District		15'		
Rear Setbacks		Rear Setback, Min. ft.		0'		Parking shall be set back 10 feet from the right-of-way line and shall not be located in a public or landscape easement.
		Rear Setback to Residential, Min. ft.		25'		
Bufferyard Requirements		A Medium Level Bufferyard consists of the following: a. A 10' wide planting area b. 2 trees, 4 shrubs per 50 lineal ft. of bufferyard			Section 8.01.040 Table 8.01.060	A Medium Level Bufferyard is required when non-residential development is proposed adjacent to residential development.
Easements:	20' utility (water etc.) between lots	10' along street r.o.w.	24' emergency access		Section 12.04	Other Utility easements (not water, sewer, etc.) shall be min. 5'

CONCEPTUAL DESIGN

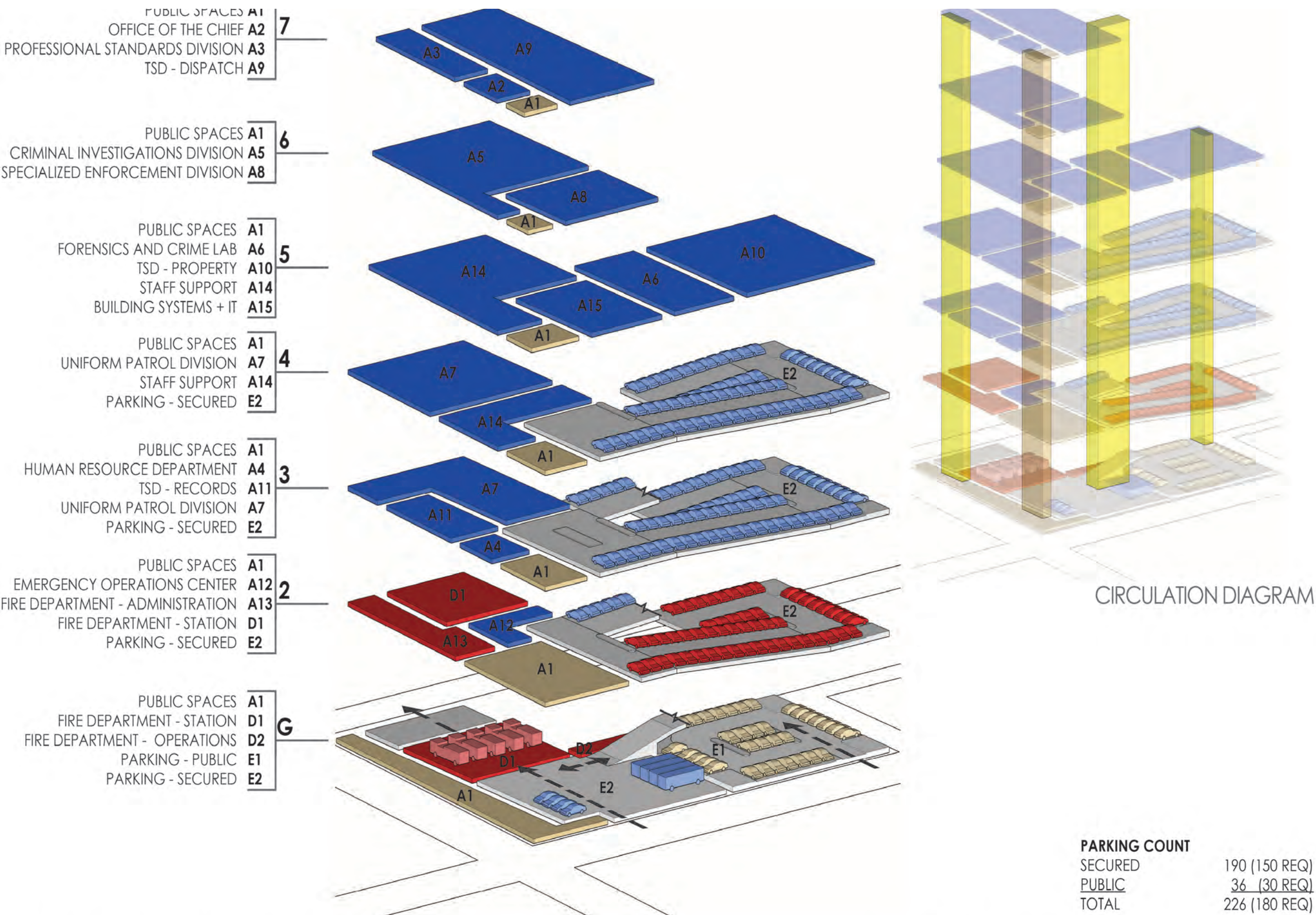
Design Charrette

Site Plan



CONCEPTUAL DESIGN

Operational Adjacency Diagrams

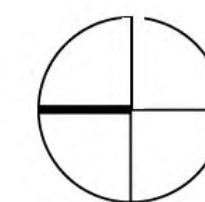


CONCEPTUAL DESIGN

Methodology - Phase II

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Floor Plans - Georgetown Upper Level



SCALE = 1:20

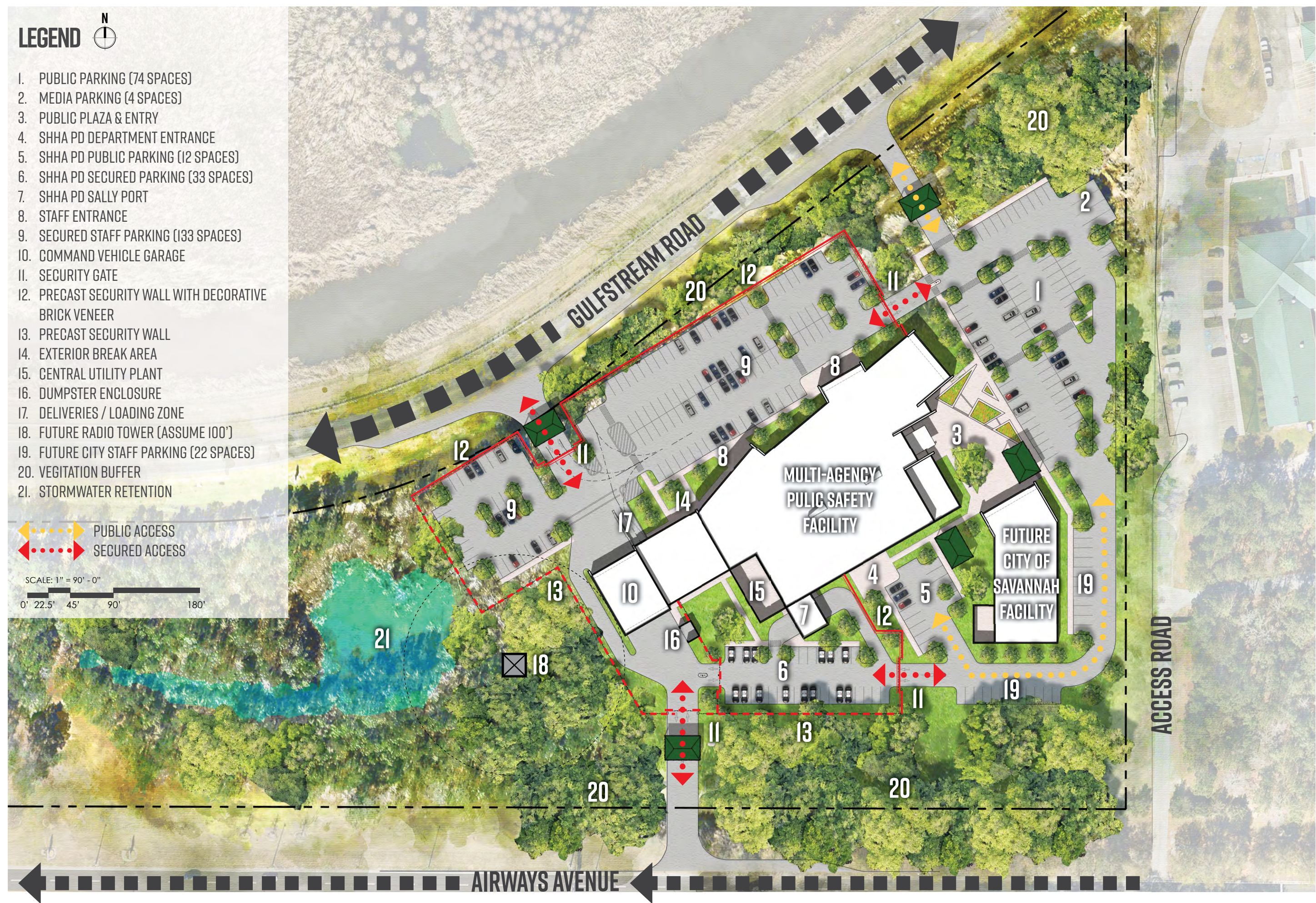


Floor Plans - Georgetown Lower Level



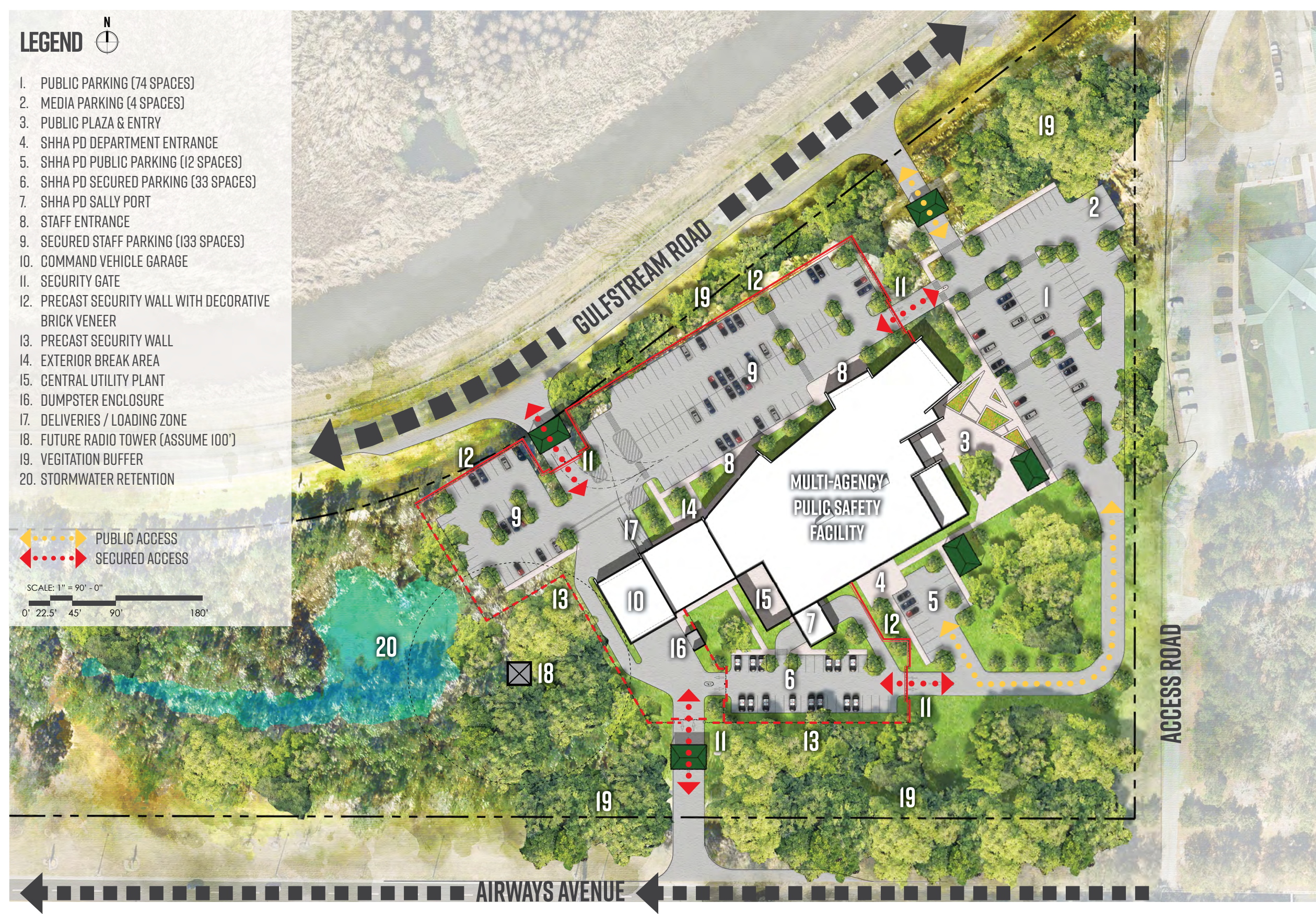
EOC DESIGN PROCESS

Explain the Potential Solutions with Visual Tools for Public Understanding

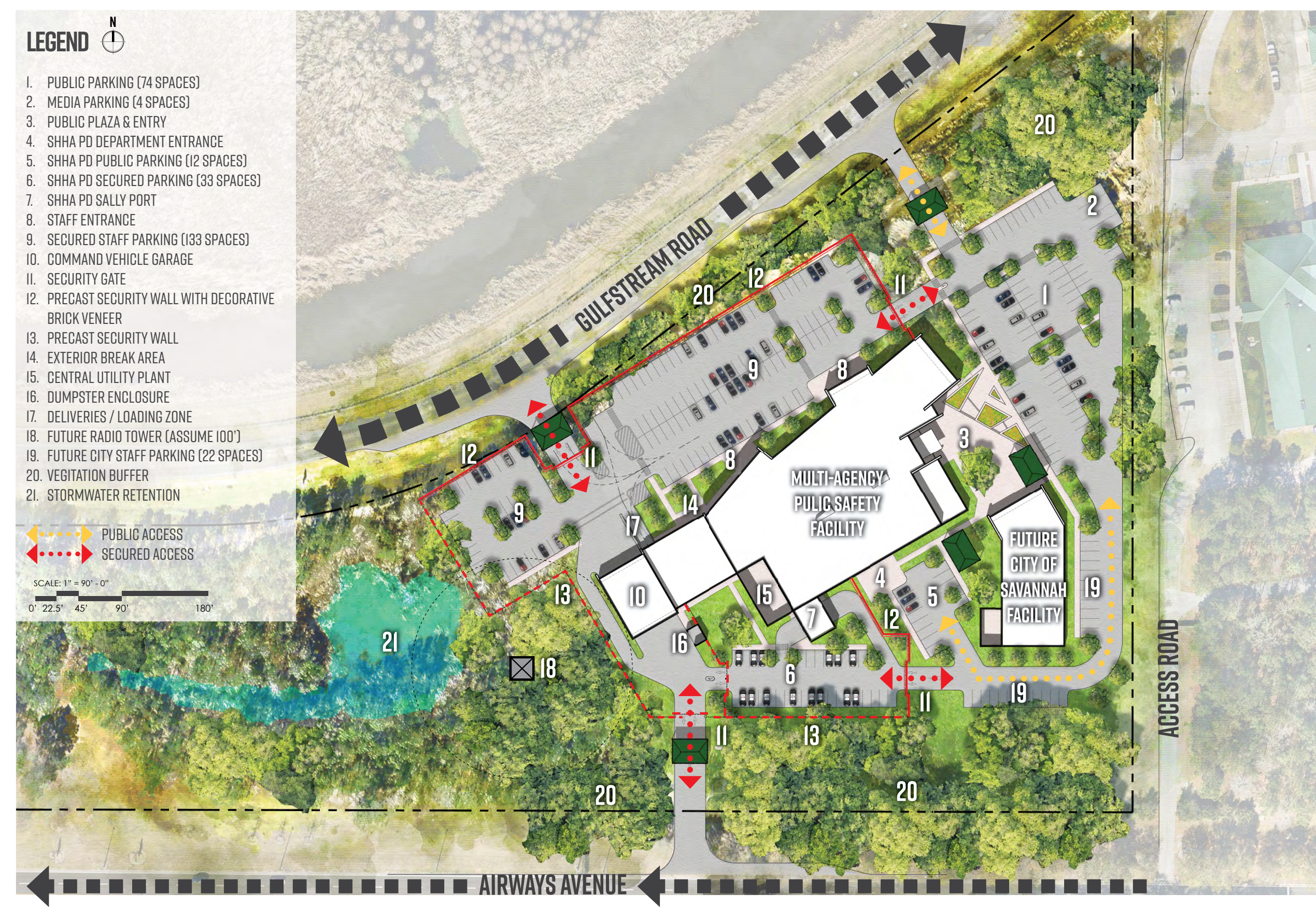


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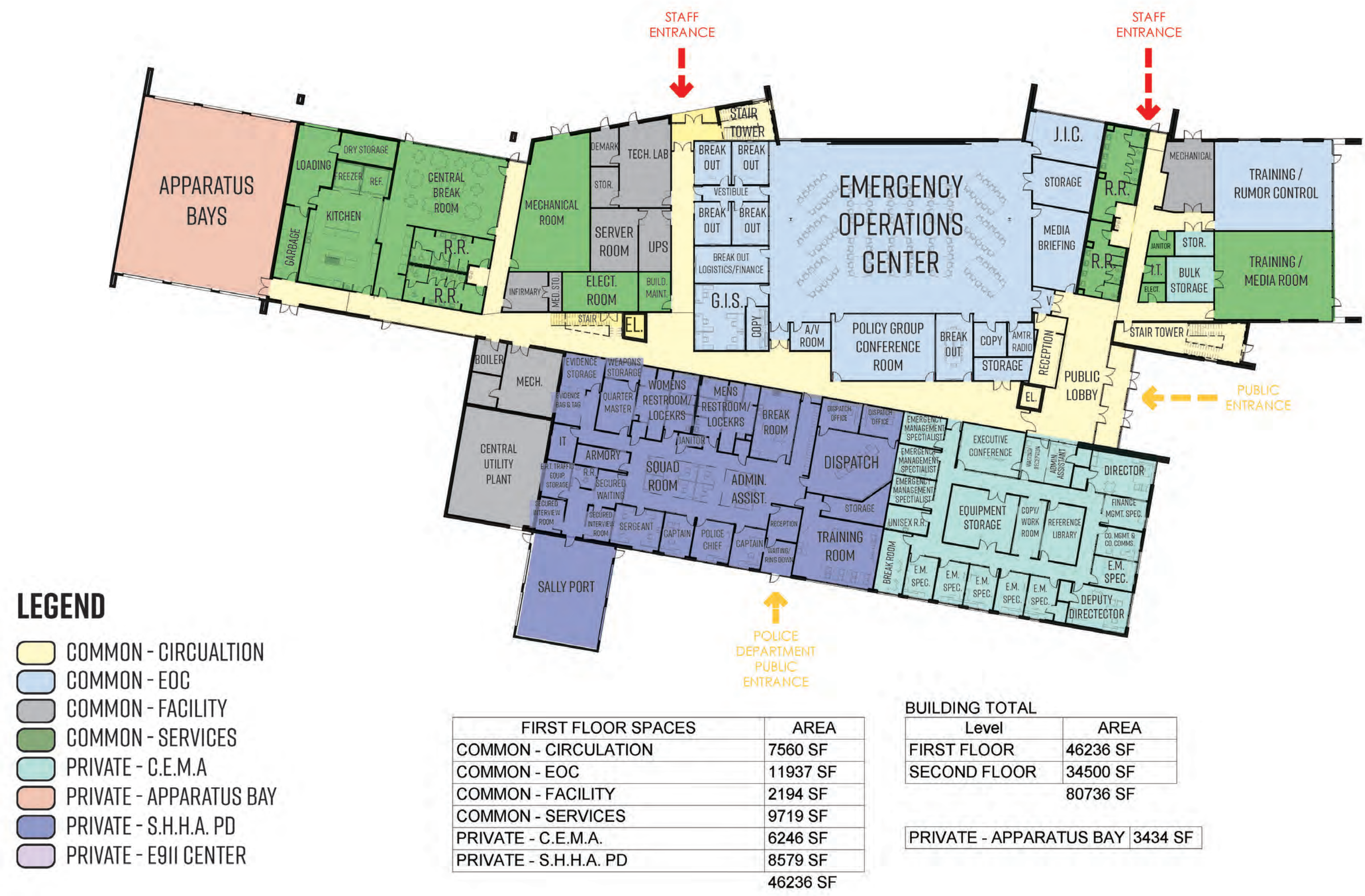
Phase One



Phase Two

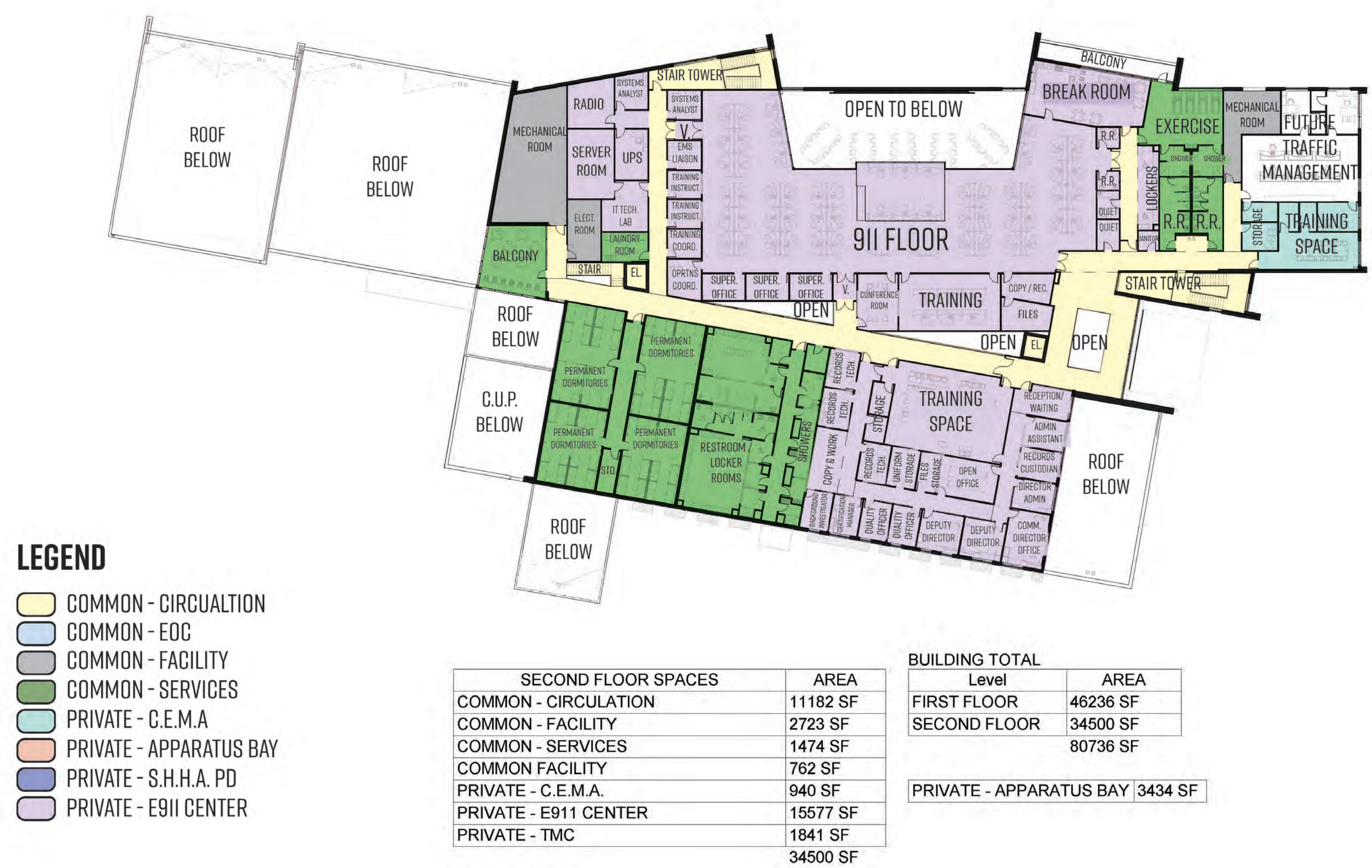
EOC DESIGN PROCESS

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EOC DESIGN PROCESS

Political Approval Process

- Not a rewarding process for the elected official...
“You want me to raise taxes?”
- Public perception different than for facilities: museums, libraries, etc.
- The window of opportunity
- Have a political advocate: “the motion maker”

“We are cutting services and staff and you want me to vote on a new building?”

EOC DESIGN PROCESS

Out of Sight Out of Mind

Only when there is an emergency will the issue of an appropriate facility come to mind.



TORNADO

JOPLIN, MISSOURI

EOC DESIGN PROCESS

Change in Attitude

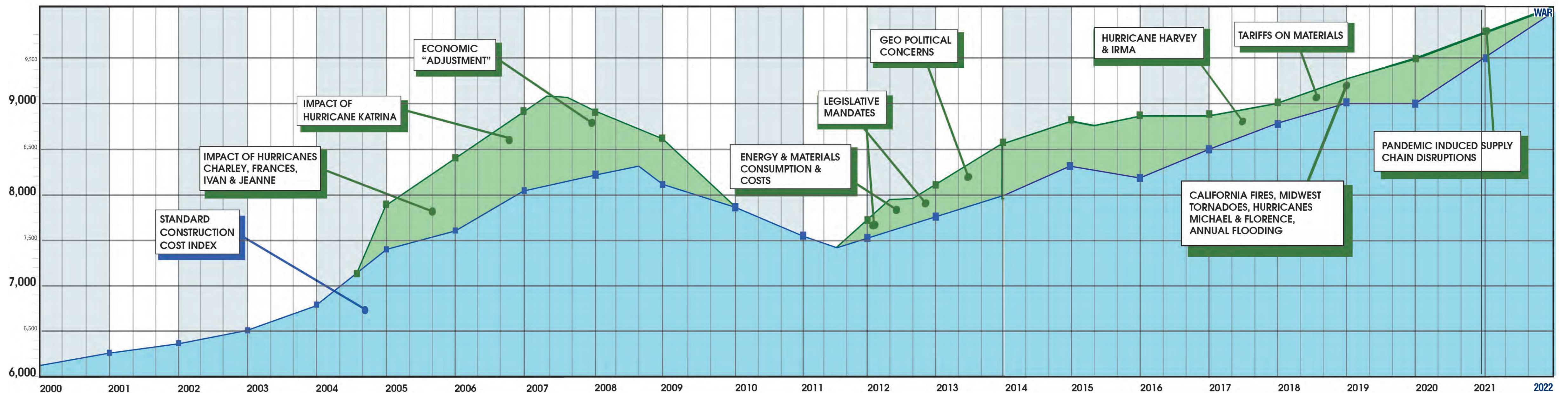
When elected officials have to
“hunker down”...

Elected officials attitudes toward
EOC facilities change.



DESIGN PROCESS

Construction Costs: Category 5 Construction



Construction Cost Index
Construction cost historical index based upon national reporting data by Engineering News-Record.