NATIONAL CAPITAL PLANNING COMMISSION

Master Planning Training Workshop

After-Action Report

January 23, 2020 • 401 9th Street, NW, Suite 500, Washington, DC 20004

National Capital Planning Commission

Workshop Instructional Support and After-Action Report by:
The Urban Collaborative, LLC
Eugene, Oregon
www.urbancollaborative.com

Mark L. Gillem, PhD, FAIA, FAICP, Principal
mark@urbancollaborative.com
510.551.8065

Holly Workman, AICP, Planner & Director of Training
holly@urbancollaborative.com
925.389.6177

Cover Image: Rendering provided by The Urban Collaborative

The UrbanCollaborative
Master Planning + Urban Design + Architecture

NCPC

Table of Contents

4 Workshop Description
5 Workshop Schedule
6 Workshop Attendees
8 Workshop Images
10 Concept Maps
14 Next Steps
15 Workshop Slides

Workshop Description

In this one-day training workshop, participants learned about best practices in preparing Federal Master Plans through practical, hands-on exercises, small group discussion, and short lectures. Attendees gained an understanding of Federal master planning policies and the master planning process and products used by the Department of Defense (DoD) and other Federal agencies. Through interactive sessions, participants helped to develop a clear and concise planning vision statement and apply it to the development of an Area Development Plan (ADP). Participants learned by doing and gained knowledge of workshop techniques and methods, including how to prepare and draw an Illustrative and Regulating Plan consistent with their planning vision.

Key topics included: The National Capital Planning Commission's (NCPC) role in installation planning and collaboration with the DoD; Processes and products of Unified Facilities Criteria 2-100-01 on Installation Master Planning; The future of planning in the DoD; Creating Master Plans with limited resources; Developing a vision; Assessing existing conditions; Evaluating plan proposals; and creating a useful regulating plan.

This course is accredited by the American Institute of Certified Planners and the American Institute of Architects.

Course Instructors

Dr. Mark Gillem, PhD, FAIA, FAICP, Principal, The Urban Collaborative, LLC & Professor, The University of Oregon

Ms. Holly Workman, AICP, Planner, Director of Training, The Urban Collaborative, LLC

Dr. Paula Loomis, PhD, FAIA, FSAME, AICP, LEED AP, GGP, Director of Research, Senior Architect, Senior Planner, The Urban Collaborative, LLC

Ms. Charlene Dwin Vaughn, AICP, Planner, The Urban Collaborative, LLC

Ms. Virginia Bailey, CPHC, Architectural Designer, Junior Planner, The Urban Collaborative, LLC

Workshop Schedule

		THURSDAY 23 JANUARY 2020
Time	**Agenda**	**Speaker(s)**
0800 – 0830	Welcome & Registration	All
0830 – 0840	Welcome & Introductions	Marcel Acosta, Executive Director, NCPC & Dr. Mark Gillem
	Part I NCPC's Role in Installation Planning	
0840 – 0855	NCPC Background	Michael Weil, Urban Planner, NCPC
0855 – 0900	Working Collaboratively (Part I)	Group Exercise
	Part II The DoD's Planning Model	
0900 – 1000	DoD's Process & Products The Problems The Costs The Solution 10 UFC Planning Strategies Visual Preference Survey	Dr. Mark Gillem
1000 – 1015	*Break*	-
1015 – 1115	Various Perspectives of DoD Branch Planning	Services
1115 – 1145	Planning's Future in the DoD	Dr. Mark Gillem
1145 – 1200	Working Collaboratively (Part II)	Dr. Paula Loomis & Charlene Dwin Vaughn
1200 – 1300	Lunch	-
	Part III Making Good Plans	
1300 – 1315	NCPC Review	Michael Weil, Urban Planner, NCPC
1315 – 1330	Learning from Regional Case Studies	Dr. Mark Gillem
1330 – 1345	Preparing IDPs/ADPs with Limited Resources	Dr. Mark Gillem
1345 – 1400	Developing a Clear Vision	Dr. Mark Gillem
1400 – 1445	Assessing Existing Conditions	Group Exercise
1445 – 1500	*Break*	-
1500 – 1600	Making Better Bases	Group Exercise
1600 – 1630	Evaluating Plan Proposals	Group Exercise
1630 – 1715	Creating a Useful Regulating Plan	Group Exercise
1715 – 1730	Conclusion	All
1730	**End**	

Workshop Attendees

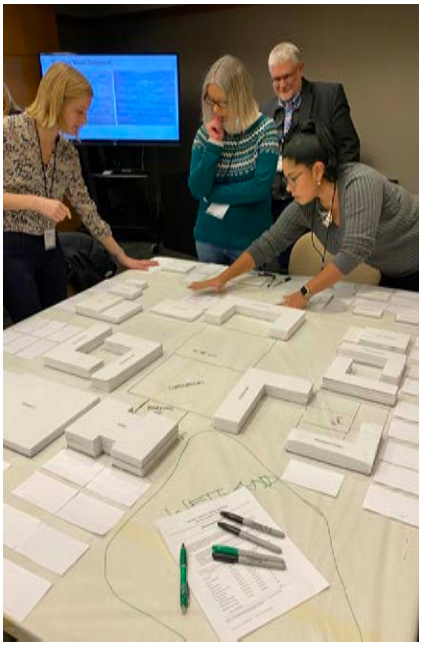
54 representatives from numerous installations and design agents within the National Capital Region attended the workshop. Their names, organization, and email are listed below alphabetically by last name.

Last Name	First Name	Organization	Email
Behbahany	Natasha	Navy	natasha.behbahany@navy.mil
Blair	Tim	Marine Corps Base Quantico	timothy.blair@usmc.mil
Cleven	Brian	NAVFAC Washington	brian.cleven@navy.mil
Close	Aaron	Joint Force Headquarters - National Capital Region / Military District of Washington (JF-HQ-NCR/MDW)	aaron.p.close.civ@mail.mil
Crespo	Jennybelle	Marine Corps University	Jennybelle.Crespo@usmcu.edu
D'Ornellas	Paul	NAVFAC Washington	paul.dornellas@navy.mil
DeLancey	Cameron	WHS	cameron.d.delancey.civ@mail.mil
Dindyal	Roger	DoD: NavFac PWD Washington	roger.t.dindyal@navy.mil
Dunn	Charlton	Virginia Army National Guard / Department of Military Affairs	charlton.t.dunn.civ@mail.mil
Dunn	Clifton	AFCEC/CPPD	clifton.dunn.l@us.af.mil
Eidsmore	Alan	U.S. Army Corps of Engineers, Baltimore District	-
Ford	Rhonda	NAVFAC Washington PWD	rhonda.a.ford@navy.mil
Griffin	Darryl	United Stated Marine Corps (MCICOM)	darryl.r.griffin@usmc.mil
Hall	Derrick	Department of Military Affairs	derrick.s.hall3.nfg@mail.mil
Harris	Curtis	NAVFAC Washington	curtis.e.harris@navy.mil
Haught	Kathryn	Army, G-9	Kathryn.j.haught.civ@mail.mil
Hogan	Chelsea	DoD WHS	chelsea.r.hogan.ctr@mail.mil
Humphreys	David	Joint Base Andrews	david.k.humphreys2.civ@mail.mil
Jordan	Malik	Aberdeen Proving Ground Master Planning and Real Property	malik.m.jordan3.ctr@mail.mil
Keller-Kratzer	Kat	NAVFAC Washington - PWD JBAB	katherine.kellerkrat@navy.mil
King	Brian	DOD Washington Headquarters Services	brian.r.king.civ@mail.mil
Kuriger	Jarrod	Military District of Washington G4	jarrod.c.kuriger.civ@mail.mil
Lewis	Alex	Joint Base Andrews	daniel.a.lewis66.civ@mail.mil
Lipscomb	Gregory	NAVFAC Washington - Joint Base Anacostia-Bolling	Gregory.Lipscomb@navy.mil
Mercado	Robert	Aberdeen Proving Ground DPW Master Planning	robert.j.mercado1.civ@mail.mil

Nunez	Jennifer	NAVFAC Washington - PWD Joint Base Anacostia-Bolling	jennifer.l.nunez@navy.mil
Osborne	Nathan	Department of the Army	nicco.osborne.civ@mail.mil
Palmore	Wilson	Virginia Army National Guard	robert.w.palmore2.nfg@mail.mil
Parr	Christopher	Virginia Department of Military Affairs-Virginia Army National Guard	christopher.j.parr.nfg@mail.mil
Pipe	Jennifer	NAVFAC Washington	Jennifer.l.pipe@navy.mil
Price	Vanessa	NAVFAC Washington	vanessa.price@navy.mil
Rovira	Emilio	MCB Quantico / Planning	emilio.rovira@usmc.mil
Ruegger	Emily	Joint Base Myer - Henderson Hall - DPW	emily.ruegger@gmail.com
Saldana	Rosil	NAVFAC	rosil.saldana@navy.mil
Santos	Elizabeth	IMCOM Aberdeen Proving Ground	elizabeth.m.santos.civ@mail.mil
Sellers	Kimisha	NAVFAC	kimisha.sellers@navy.mil
Snyder	Jeff	Army Corps of Engineers, Baltimore District	jeff.snyder@usace.army.mil
Sperber	Samantha	Navy JBAB	samantha.sperber@navy.mil
Springer, PE, AICP	Jeff	Office of Assistant Secretary of Defense for Sustainment	jeffery.c.springer.ctr@mail.mil
Stephenson	Chris	Gordon	cstephenson@gordon.us.com
Strasser	Joseph	HQ Air Force	joseph.b.strasser.civ@mail.mil
Swan	Takira	DPW- Master Planning & Real Property Division	takiraswan@gmail.com
Tompkins-Flagg	Nik	NAVFAC Washington	nicole.tompkins-flag@navy.mil
Vandeveer	Amy	Air Force Civil Engineer Center	amy.vandeveer.2@us.af.mil
Walker	Rebecca	U.S. Army Corps of Engineers, Baltimore District	-
Ward	Joan	APG Directorate of Public Works, Master Planning & Real Property Division	joan.m.ward13.ctr@mail.mil
Weil	Michael	NCPC	michael.weil@ncpc.gov
Welton	Katherine	USACE Baltimore District	katherine.welton@usace.army.mil
Winterer	Joseph	MCB Quantico	joseph.winterer@usmc.mil
Whitton	Kelly	Joint Base Myer-Henderson Hall/Fort McNair	kelly.a.whitton2.civ@mail.mil
Wise	Jennifer	NAVFAC Washington	jennifer.h.wise@navy.mil
Yates	Laura	AF/A4CP	laura.e.yates4.civ@mail.mil
Yesmant	Christopher	US Army Garrison Fort Belvoir	christopher.k.yesmant.civ@mail.mil
Young	Frances	United States Army Corps of Engineers	frances.l.young@verizon.net

Workshop Images

The morning session included a brief powerpoint presentation from NCPC and The Urban Collaborative. After a short Concept Map Exercise, called Working Collaboratively Part I & II, participants spent the afternoon creating an ADP using foam-core models and detailing a Regulating Plan.

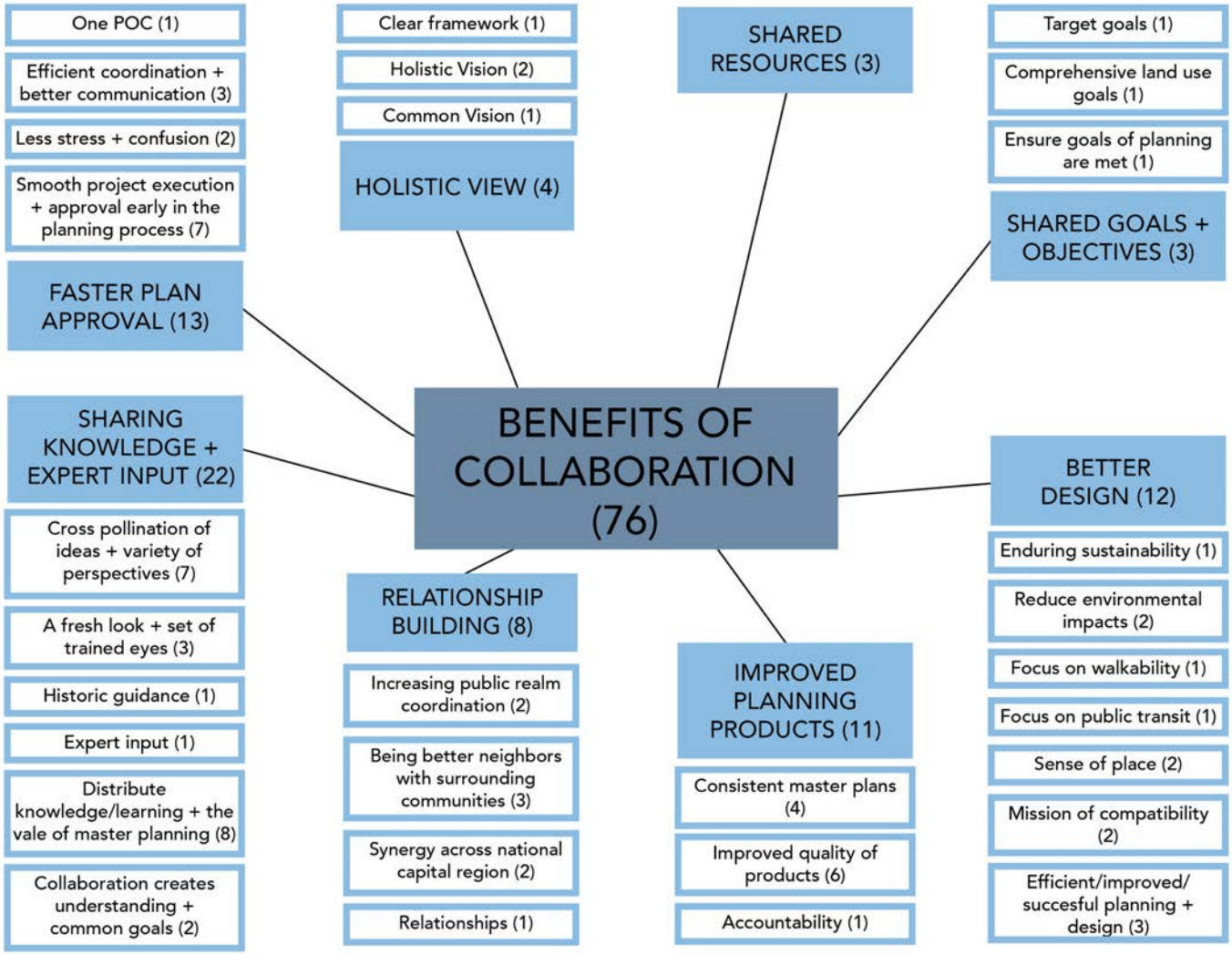


Concept Maps

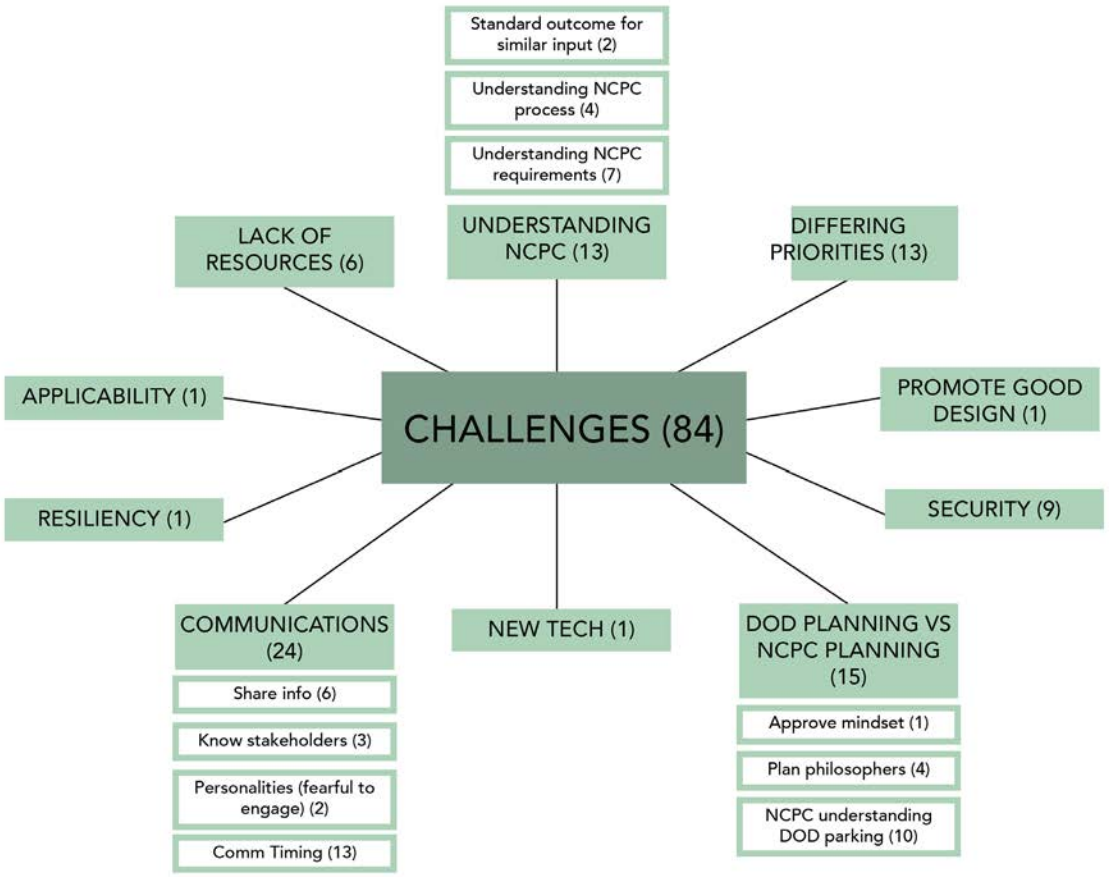
Using a technique called the Crawford Slip Method, participants responded to a series of questions to help NCPC and DoD Stakeholders understand respective roles, responsibilities, and opportunities for collaboration. Stakeholders responded to these six questions:

What are the benefits of DoD and NCPC collaboration?
What are the challenges to DoD and NCPC collaboration currently?
How do we improve DoD and NCPC collaboration?
How can NCPC's mission be institutionalized amongst new base commanders?
How can national planning function(s) be made aware of NCPC?
How can DoD master plans be developed to enable easier exclusion of FOUO information during NCPC's review process?

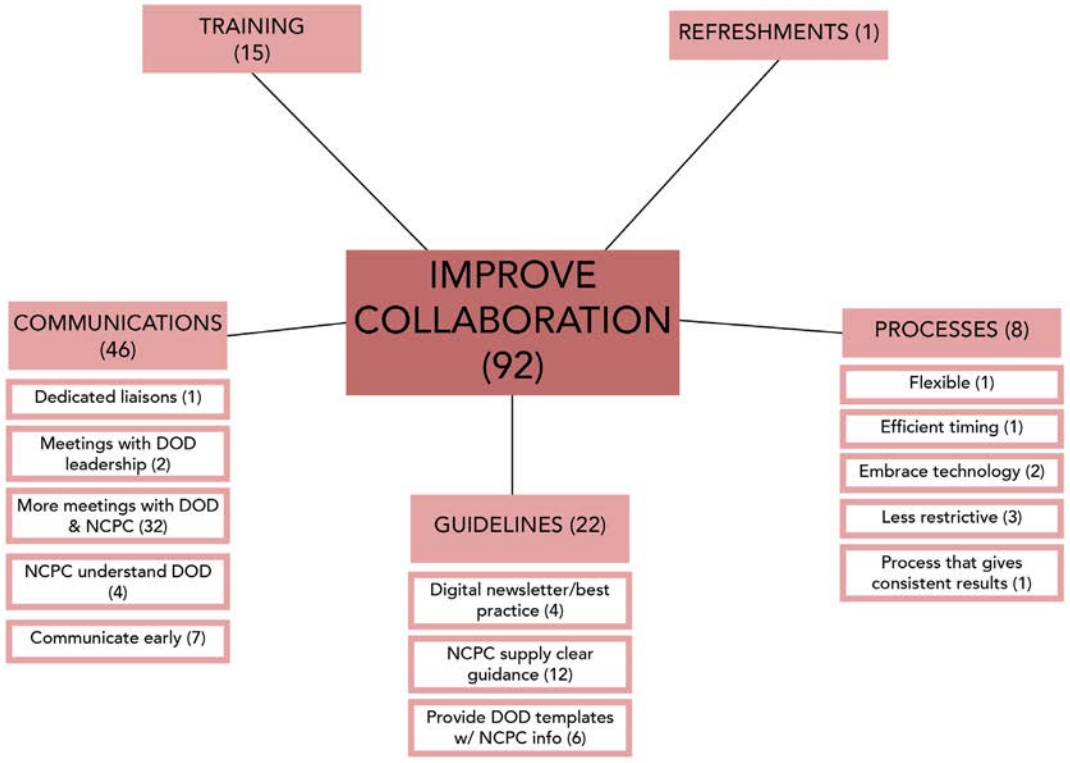
Participants had three minutes for each question to come up with as many answers as possible, each written on separate pieces of paper called Crawford Slips. Responses to each question were collected and then compiled, later to be assembled in concept maps. Numbers in parenthesis indicate how many times each idea appeared. This qualitative analysis shows the collective importance of the category. The Crawford Slip method allows for anonymous and equal input.



What are the benefits of DoD and NCPC Collaboration?



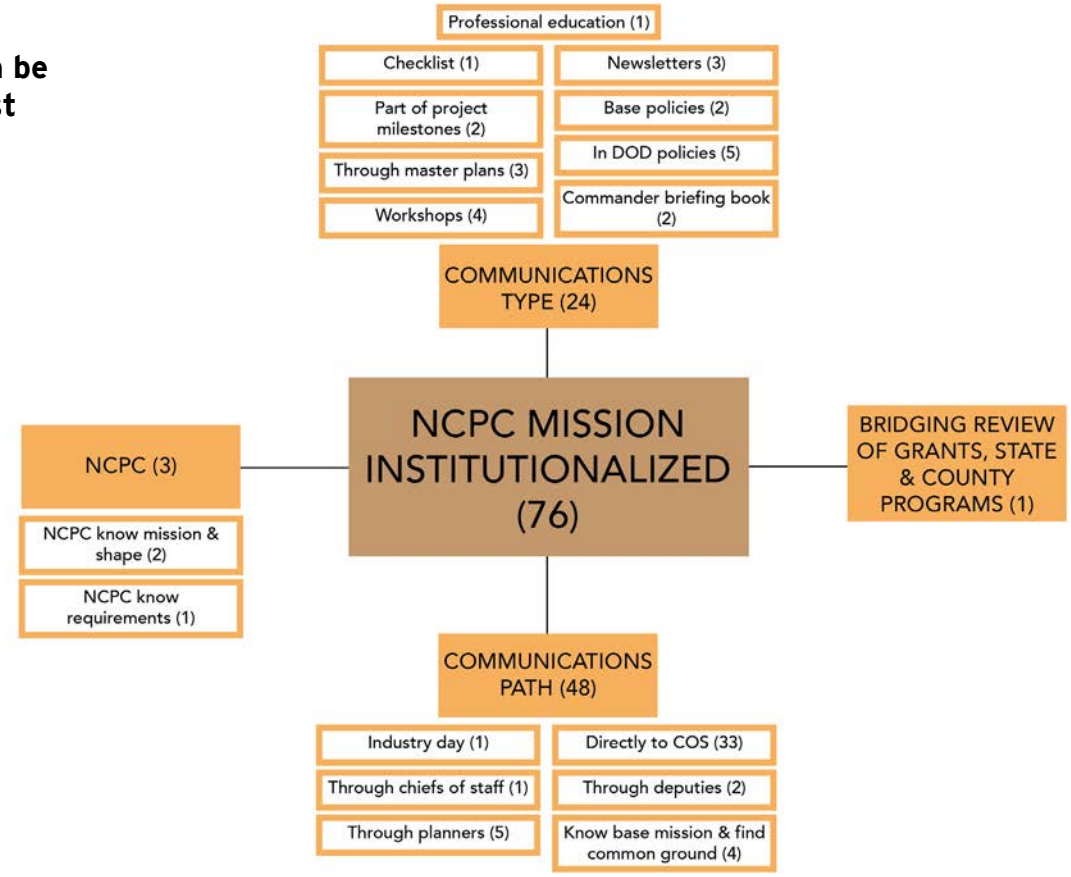
What are the challenges to DoD and NCPC collaboration currently?



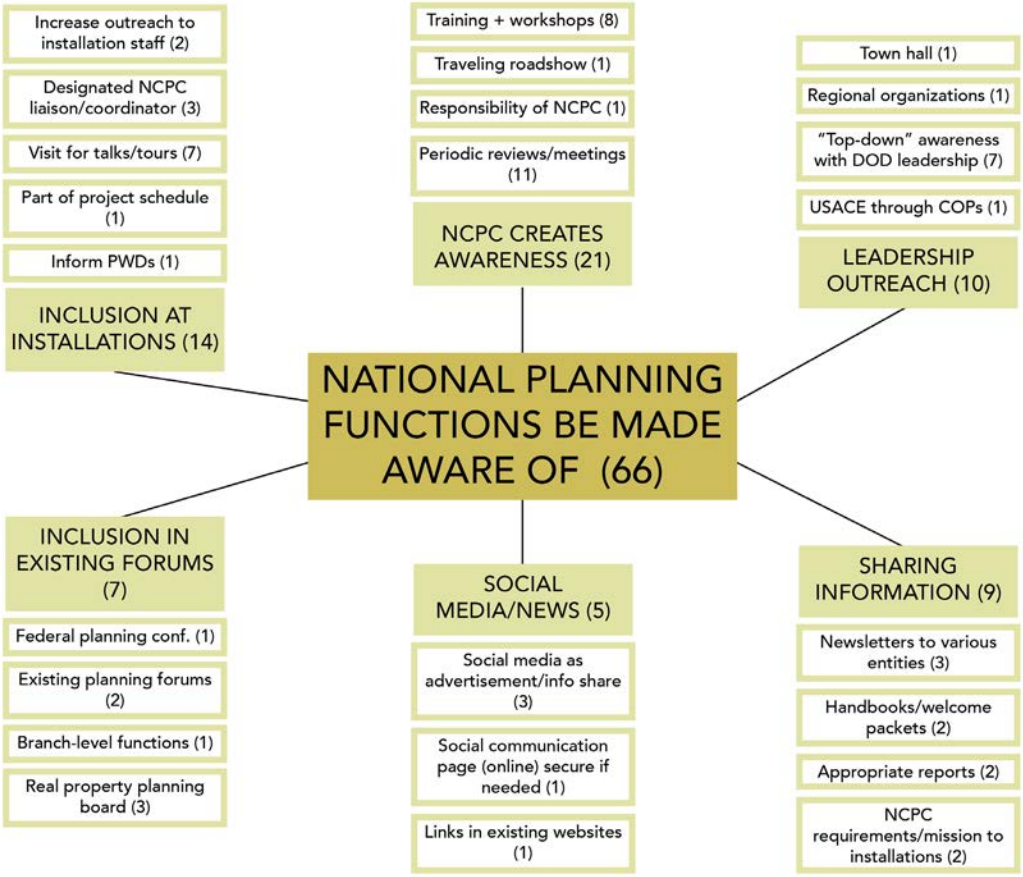
How do we improve DoD and NCPC collaboration?

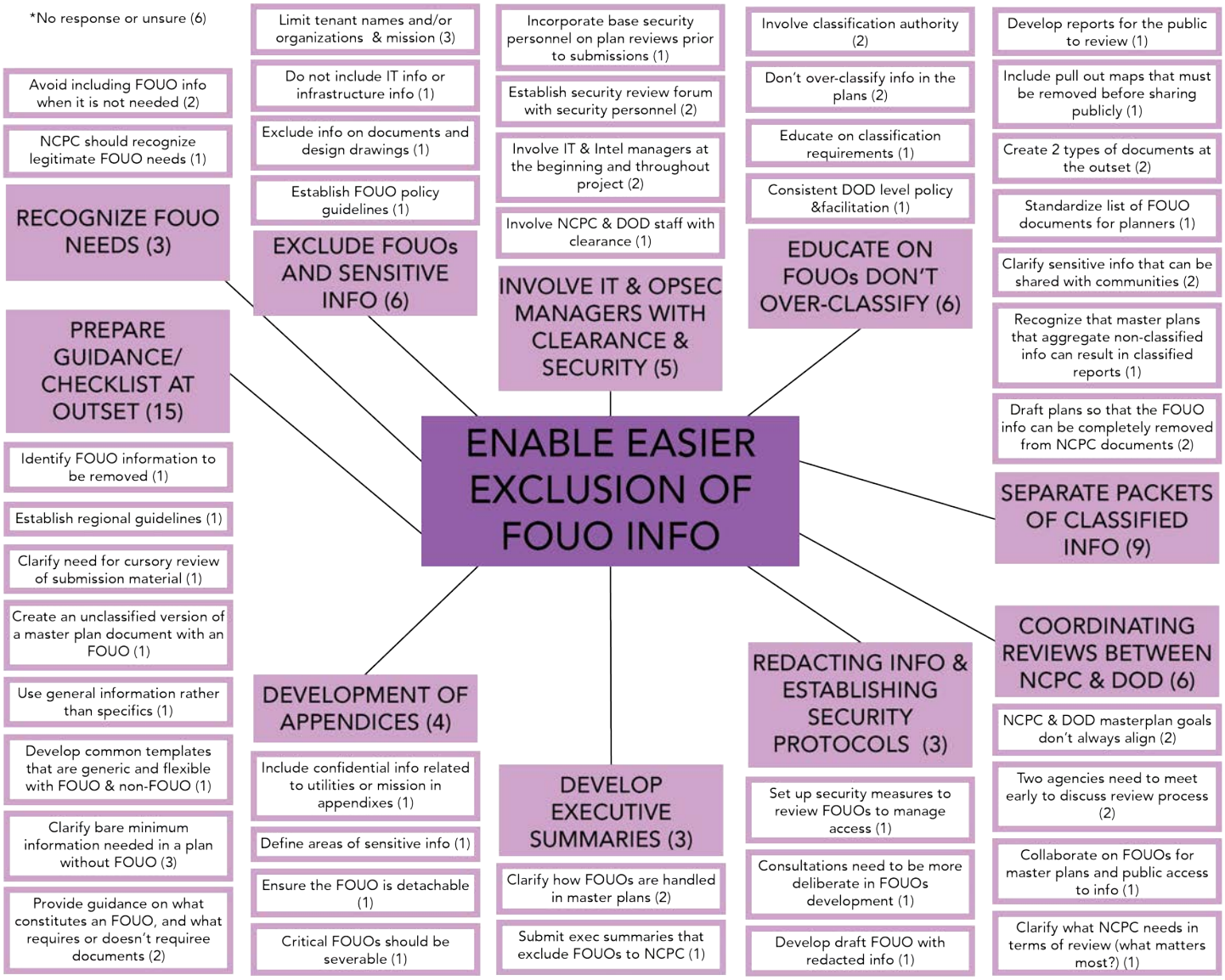
Concept Maps

How can NCPC's mission be institutionalized amongst new base commanders?



How can national planning function(s) be made aware of NCPC?



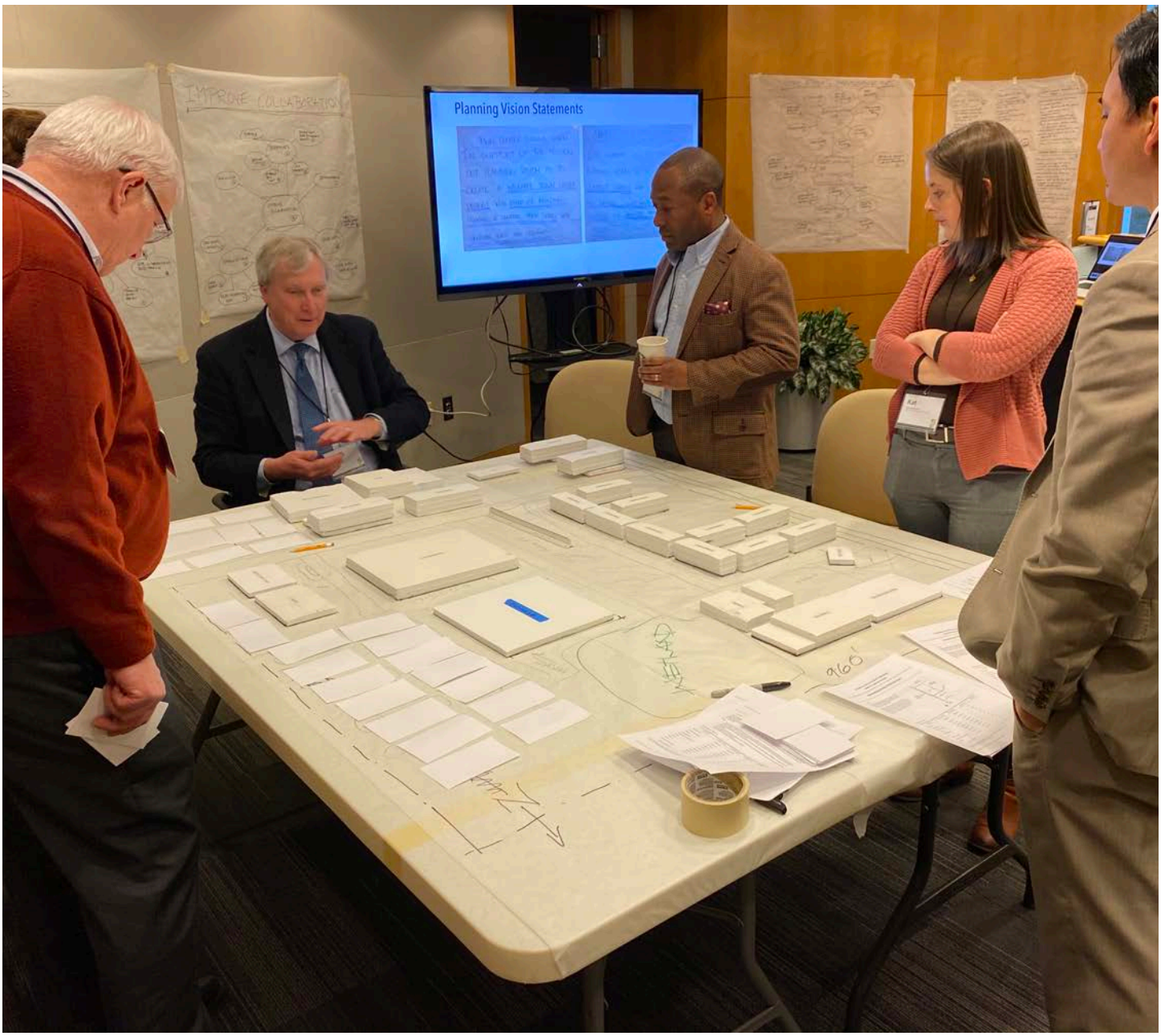


How can DoD master plans be developed to enable easier exclusion of FOUO information during NCPC's review process?

Next Steps

NCPC will continue to work with federal agencies as it seeks to preserve and enhance the extraordinary historical, cultural, and natural resources and federal assets of the National Capital Region. In order to better current and future collaboration with DoD agencies, next steps for NCPC and the DoD include:

- Streamline communication by dedicating a DoD and NCPC liaison(s)
- Clarify information by providing a packet of critical master planning documents/maps for review
- Understand local challenges by conducting annual or biannual on-site visits with all Federal locations in the Capital Region
- Create awareness and share information by publishing a quarterly or annual newsletter
- Conduct an independent gap analysis of master plans in NCPCs AOR to determine informants to UFC 2-100-01
- Increase education by hosting annual or biannual training workshop focused on improving communication and best planning practices



Workshop Slides

The following slides were prepared by The Urban Collaborative and its content should not be reused or reformatted for any presentation purpose.

NCPC Master Planning Training

National Capital Planning Commission

The Urban Collaborative, LLC

Facilitator: Mark L. Gillem, PhD, FAIA, FAICP

Principal, The Urban Collaborative, LLC
Professor of Architecture and Landscape Architecture, The University of Oregon
LtCol (ret), USAF Reserves

Objective: Help NCPC and DoD Stakeholders understand **respective roles**, **responsibilities**, and **opportunities for collaboration**.

Agenda

0800-0830	Coffee & Registration
0830-0840	Welcome & Introductions
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1630-1715	Creating a Useful Regulating Plan
1715-1730	Conclusion

PART I
NCPC's Role in Installation Planning

NCPC Background

Welcome

Department of Defense
Master Plan Training Workshop

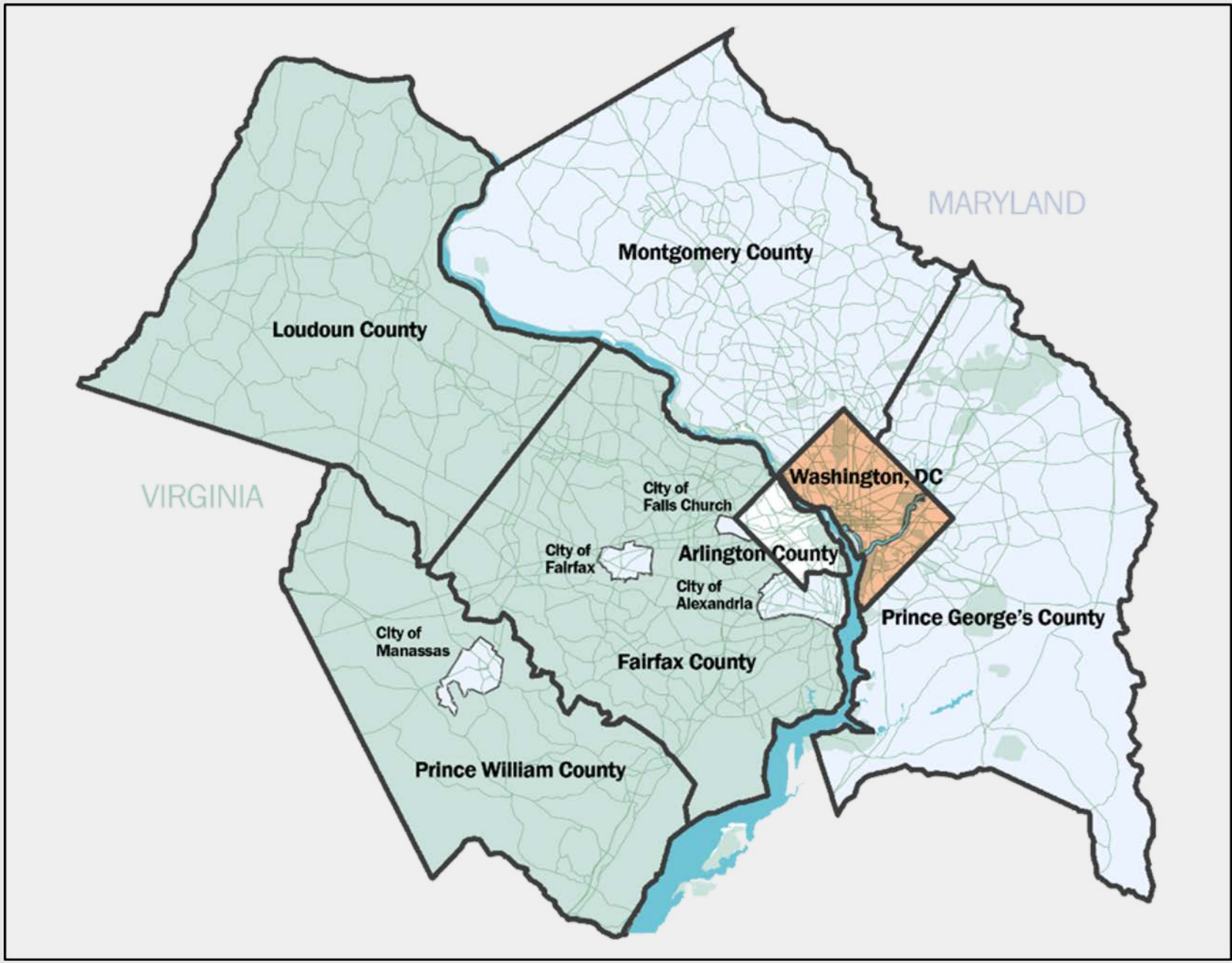
Thursday, January 23, 2020

08:00-17:30

National Capital Planning Commission

NCPC's Mission

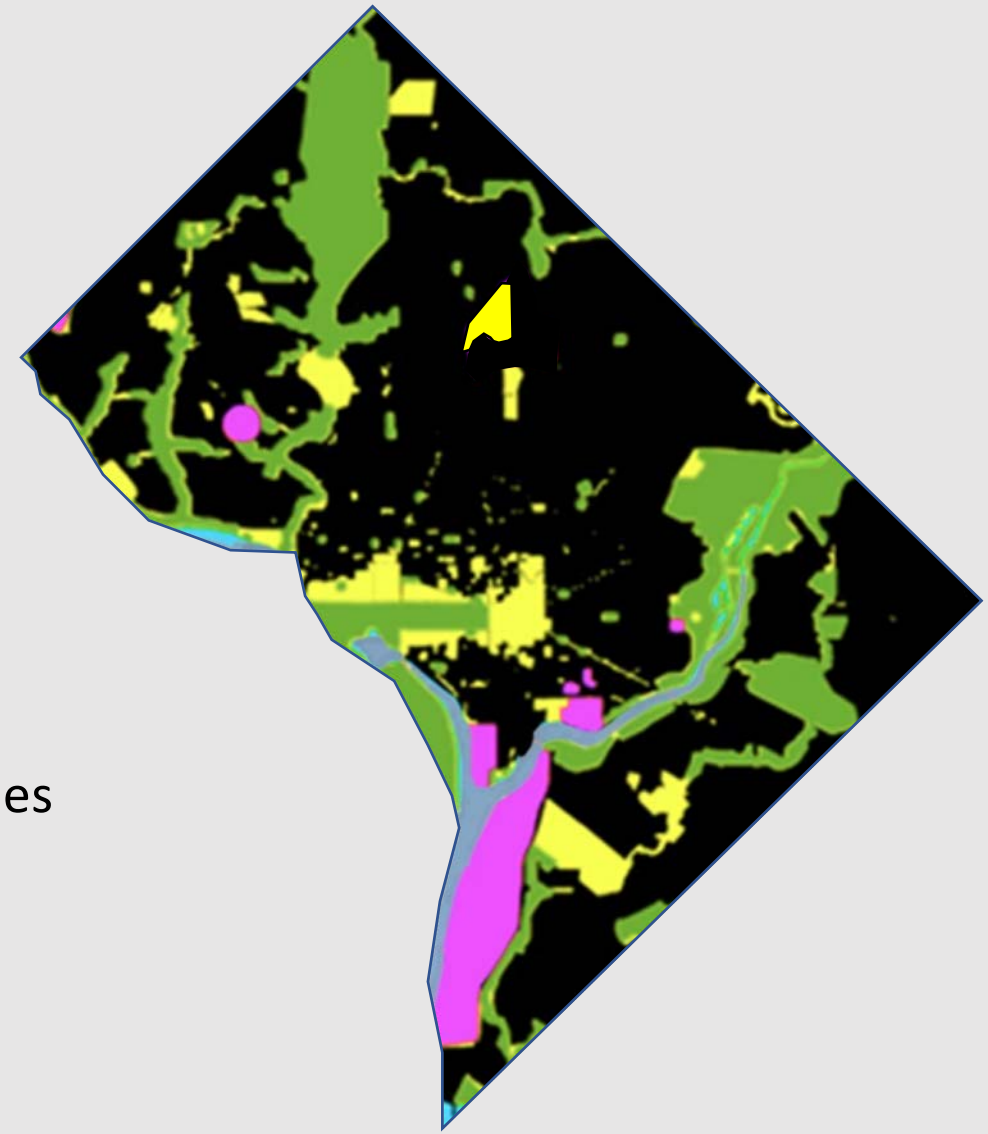
….to preserve and enhance the extraordinary historical, cultural, and natural resources and federal assets of the National Capital Region; to support the needs of the federal government; and enrich the lives of the region's visitors, workers, and residents.



Washington, DC

Federal presence in Washington, DC:

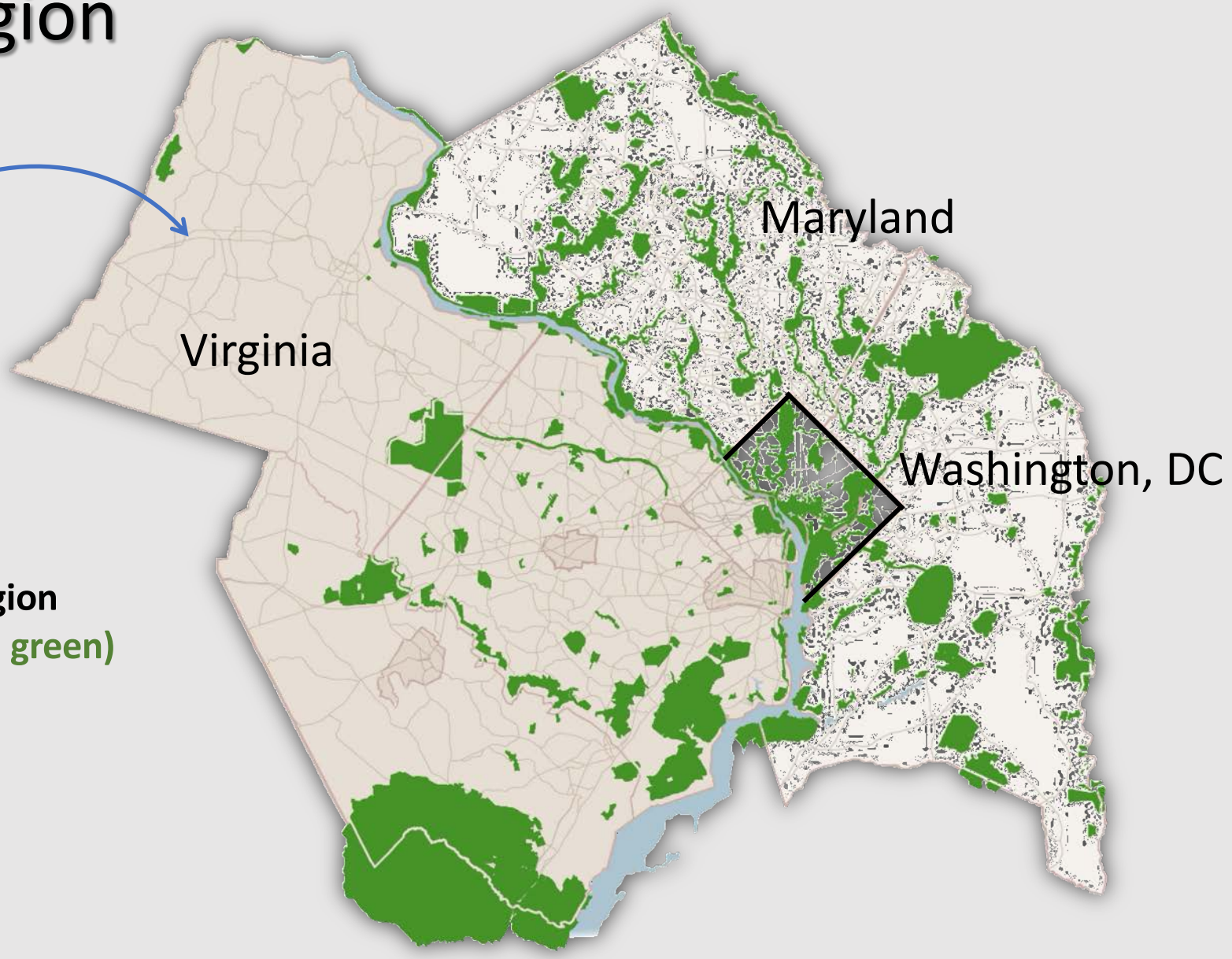
29%



Federal holdings

- Open Space + Parkland
- Department of Defense Facilities
- Federal Buildings and Land

National Capital Region



Federal holdings in the region

14% **(shown in green)**

National Capital Planning Commission

Meets monthly to adopt, approve, or provide advice on plans and projects.

Federal Representatives

- Presidential Appointee (Maryland)
- U.S. Department of Defense
- U.S. Senate
- Presidential Appointee (Virginia)
- U.S. Department of Interior
- U.S. House of Representatives
- Presidential Appointee (At-Large)
- General Services Administration

District Representatives

- Mayor, District of Columbia
- Mayoral Appointee
- Chairman, Council of the District of Columbia
- Mayoral Appointee

National Capital Planning Commission

Authorities

- National Capital Planning Act
- Other Congressional legislation (such as the Commemorative Works Act)

Responsibilities

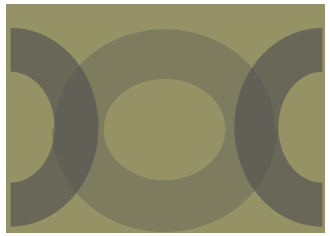
- National Environmental Policy Act
- Section 106 – National Historic Preservation Act
- EISA, Section 438

NCPC Commission Meeting

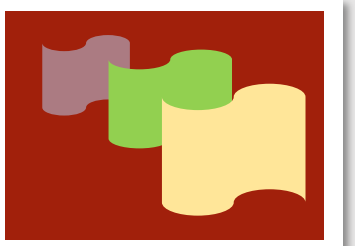
Comprehensive Plan for the National Capital: Federal Elements

Federal Workplace

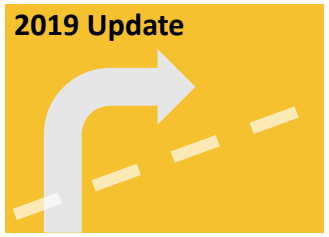
Parks & Open Space



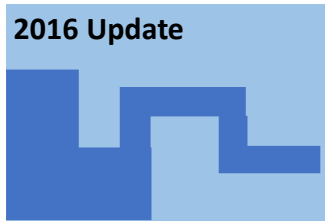
Historic Preservation



Foreign Missions & International Organizations



Transportation



Urban Design

Federal Environment

Visitors & Commemoration

Core Programs

Urban Design & Plan Review

Multi-step review of federal development projects, master plans, and commemorative works.

Concept | **Preliminary** | **Final**

National Museum of African American History and Culture

Master Plan Review

The Pentagon

- Originally completed in 1943
- 238 acres
- 23,000 employees
- 8,494 employee parking spaces

Core Programs

Federal Capital Improvements Program

Core Programs

Outreach

National Capital Planning Commission

www.ncpc.gov

Working Collaboratively (Part I)

What are the challenges to DoD and NCPC collaboration currently?

What are the benefits of DoD and NCPC collaboration?

How do we improve DoD and NCPC collaboration?

How can national planning function(s) be made aware of NCPC?

How can NCPC's mission be institutionalized amongst new base commanders?

How can DoD master plans be developed to enable easier exclusion of FOUO information during NCPC's review process?

PART II
The DoD's Planning Model

The DoD's Process & Products

THE PROBLEMS

INEFFICIENT DEVELOPMENT

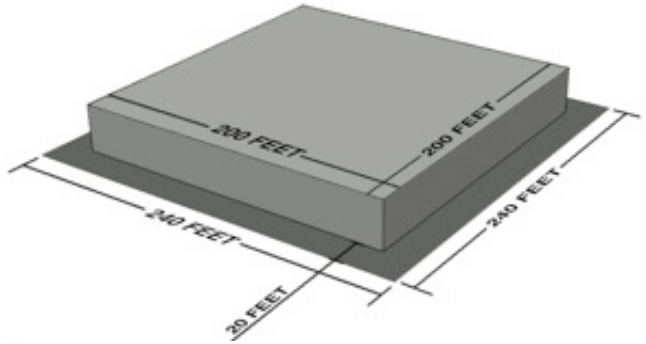
Auto-focused

Abundantly Paved

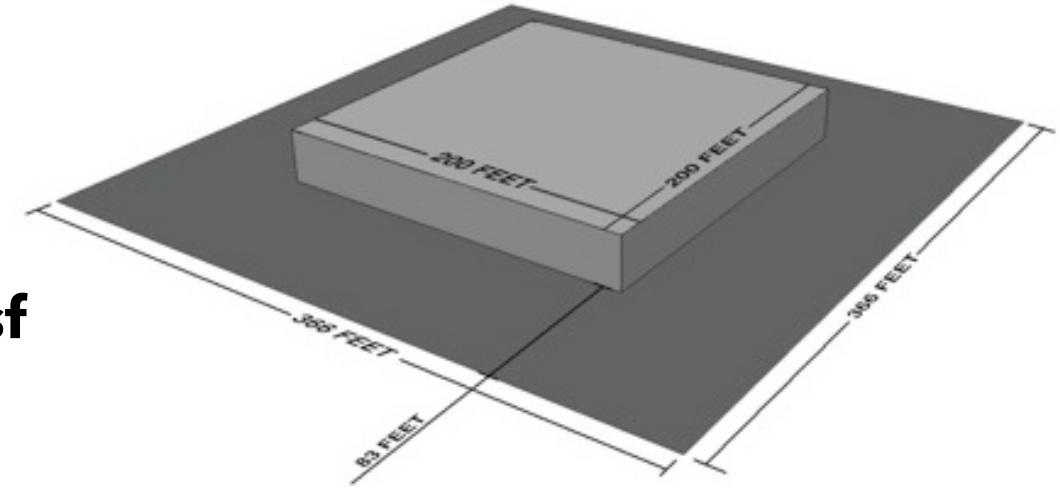
Widely Spaced

Increasingly Franchised

Impacts of AT/FP Setbacks

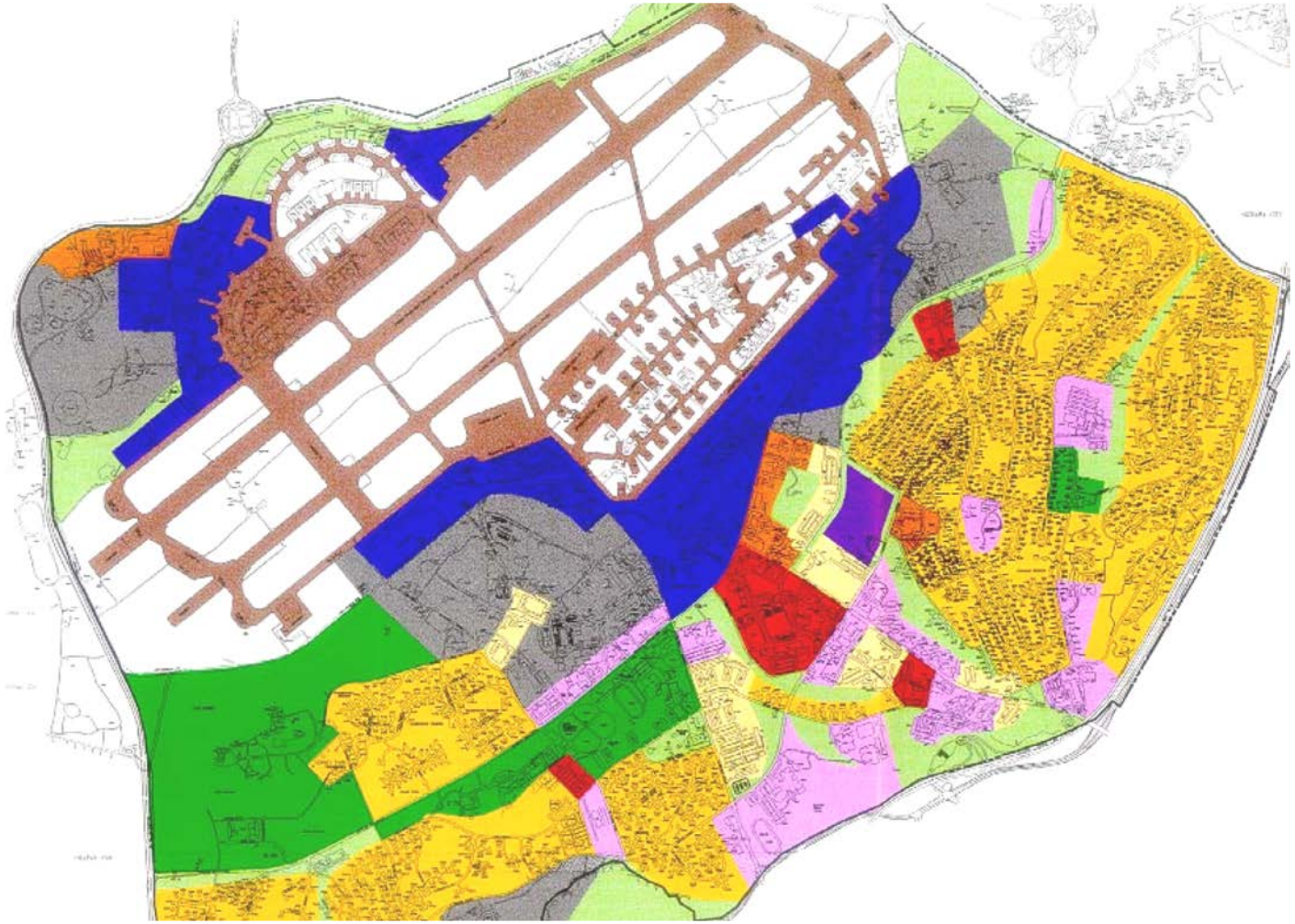


57,600 sf



133,956 sf

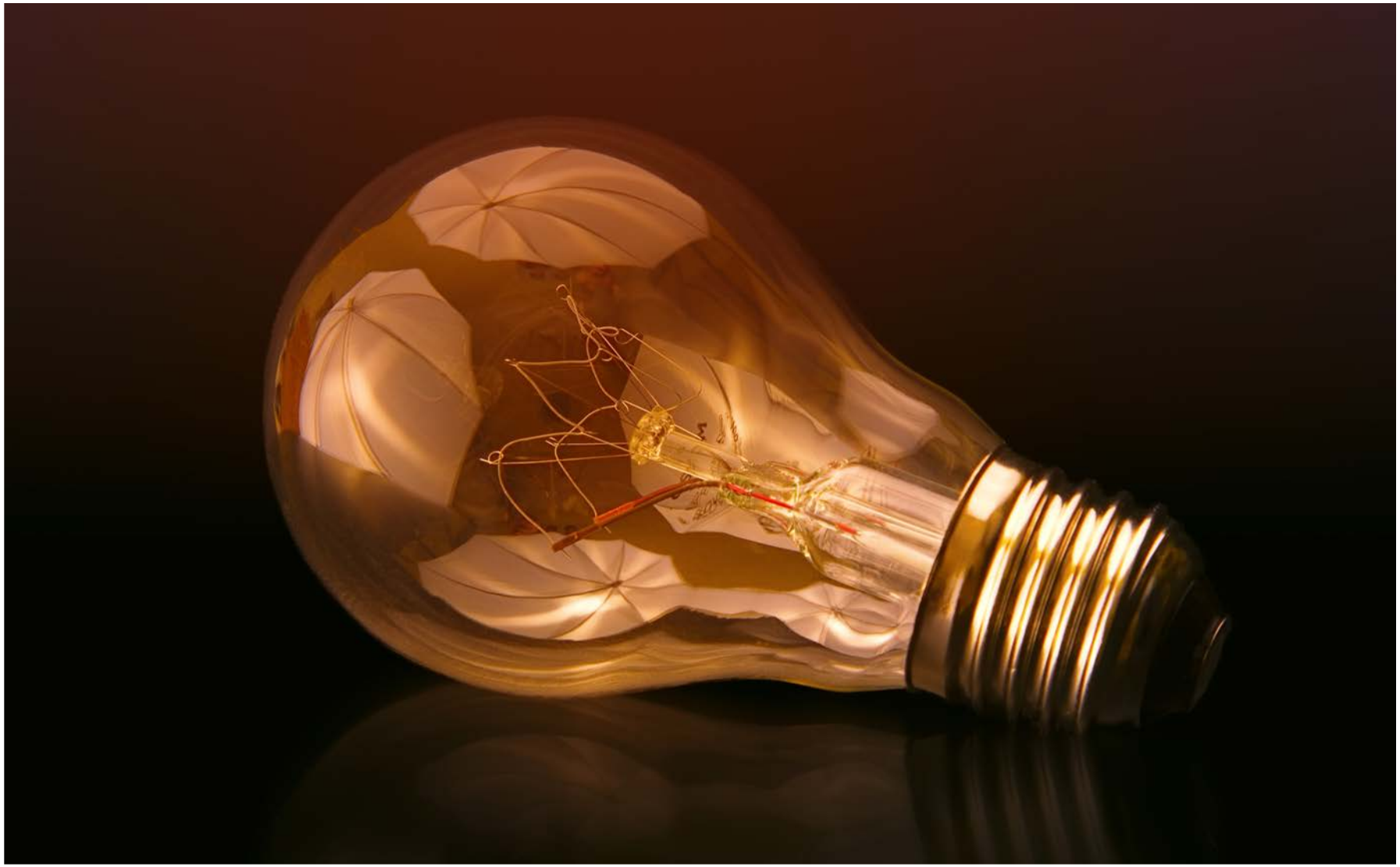
Clearly Segregated



Just look at any base and you'll see the same land use pattern.

- Military Planner

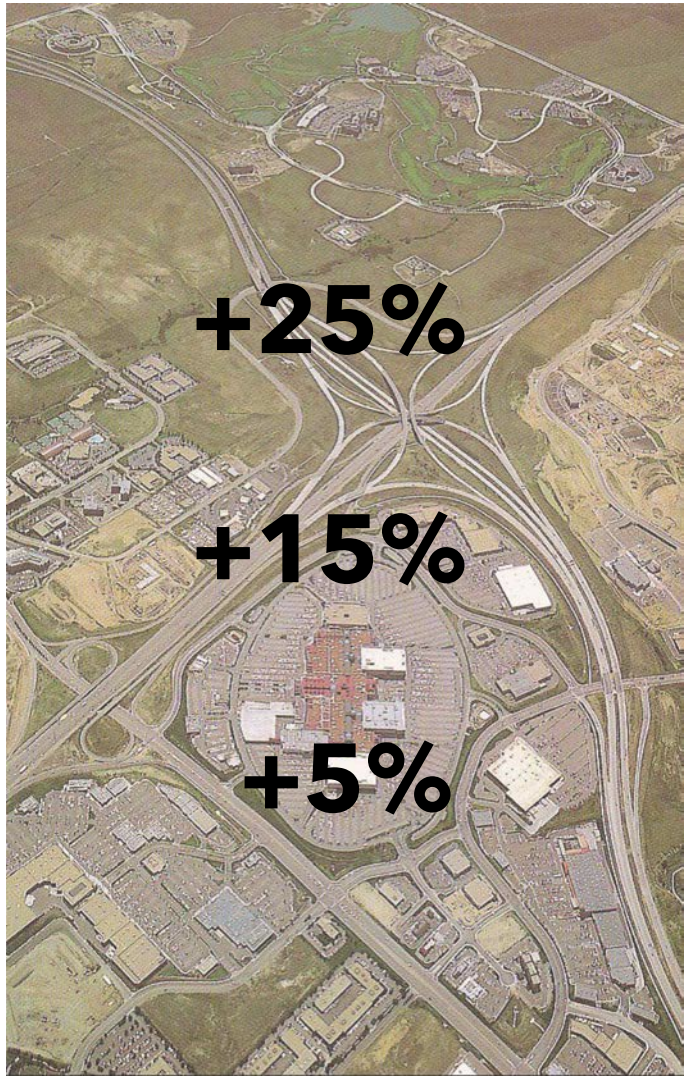
Energy Inefficient



THE COSTS

INEFFICIENT DEVELOPMENT

Excess Costs to the Installation



Source: *Economic and Fiscal Impacts of Alternative Land Use Patterns*, by Robert Burchell, Rutgers University

Increased Pollution

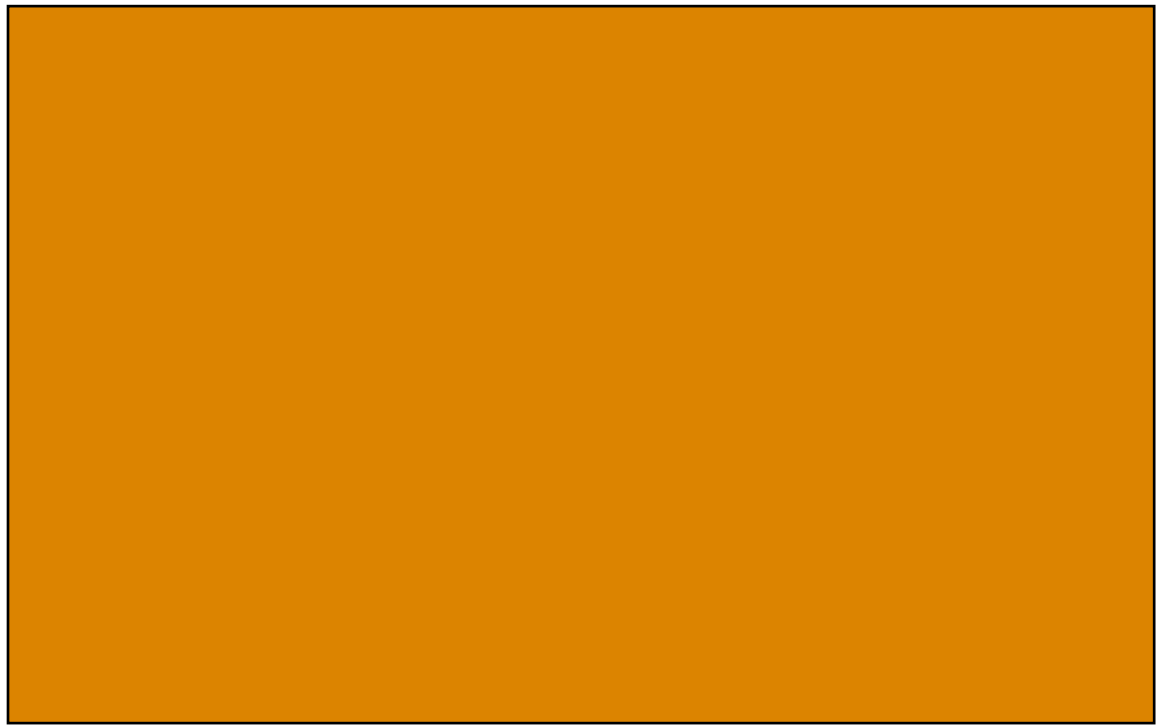
Driving a car is probably a typical citizen's most polluting daily activity.

- EPA

Personal Economics

Land-use

Area for a Pedestrian (4sf)



Area for a Car (1400sf)

THE SOLUTION

IMPLEMENTING UFC 2-100-01 INSTALLATION MASTER PLANNING

Overarching Guidance

Unified Facilities Criteria 2-100-01: Installation Master Planning (15 May 2012)

- Created with active input from all services
- Establishes 10 key strategies
- Outlines common process and set of products
- Describes evaluation and training approach

FY 2014 National Defense Authorization Act (NDAA)

- Compact and infill development
- Horizontal and vertical mixed-use development
- Full lifecycle costs of planning decisions
- Capacity planning
- Growth boundaries

Installation Energy Plans OSD Memorandum (31 March 2016)

- The Installation Energy Plan should be an integral part of the planning effort

Clear DOD Guidance

UFC 2-100-01
15 May 2012

UNIFIED FACILITIES CRITERIA (UFC)

INSTALLATION MASTER PLANNING

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

10 UFC PLANNING STRATEGIES

1. Sustainable Planning

8 UFC SUSTAINABLE PLANNING TACTICS

1

Compact Development.

Installations must conserve their land resources. This can be achieved through…patterns that support an **appropriate mix of uses**, **encourage walking** and other alternative modes of transportation, accommodate appropriate…**densities**, and incorporate a more integrated grid network of streets and sidewalks. Installations may have to **reconfigure current land use patterns and transportation systems**…to create opportunities for future development.

NSA Monterey

JBSA Fort Sam Houston

2

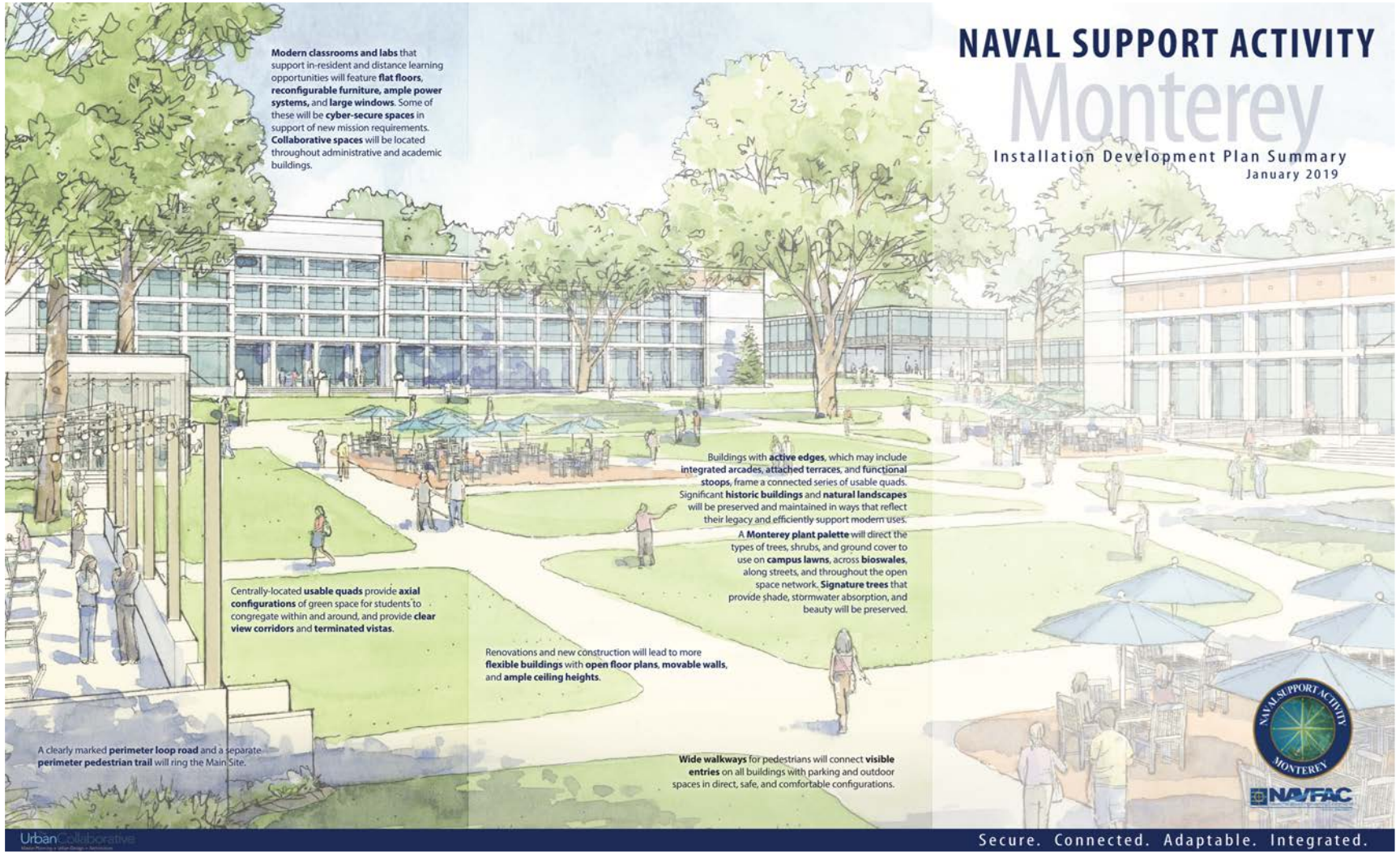
Infill Development. To conserve limited land resources, planners will, to the maximum extent possible, **plan development within the installation core** (existing cantonment area) and on previously developed land. **Place buildings or designated open spaces in gaps** between existing developed areas and buildings, while taking care to ensure preservation or addition of greenspace.

Fort Hunter Liggett Town Square

3

Low Impact Development.

Required by law and include **bioswales, car parks, and on-street parking**.



NSA Monterey Installation Development Plan

4

Transit-Oriented Development. Development intensity and **density shall be greatest along transit corridors and around the transit stops**. On military bases, such development will typically take the form of **3-5 story buildings for administrative**, commercial, and residential uses.

Buckley AFB Mission Campus Plan

5

Horizontal Mixed Use Development. Planners should consider integrating uses into horizontal mixed-use districts so that people can **walk or bike** from one use to another. Ideally, uses within these districts will be within a **10-minute walking radius** (roughly 2,500 feet). Where appropriate, planners should also **create a campus** or town-like **atmosphere** since these places are tested examples of horizontal mixed-use districts.

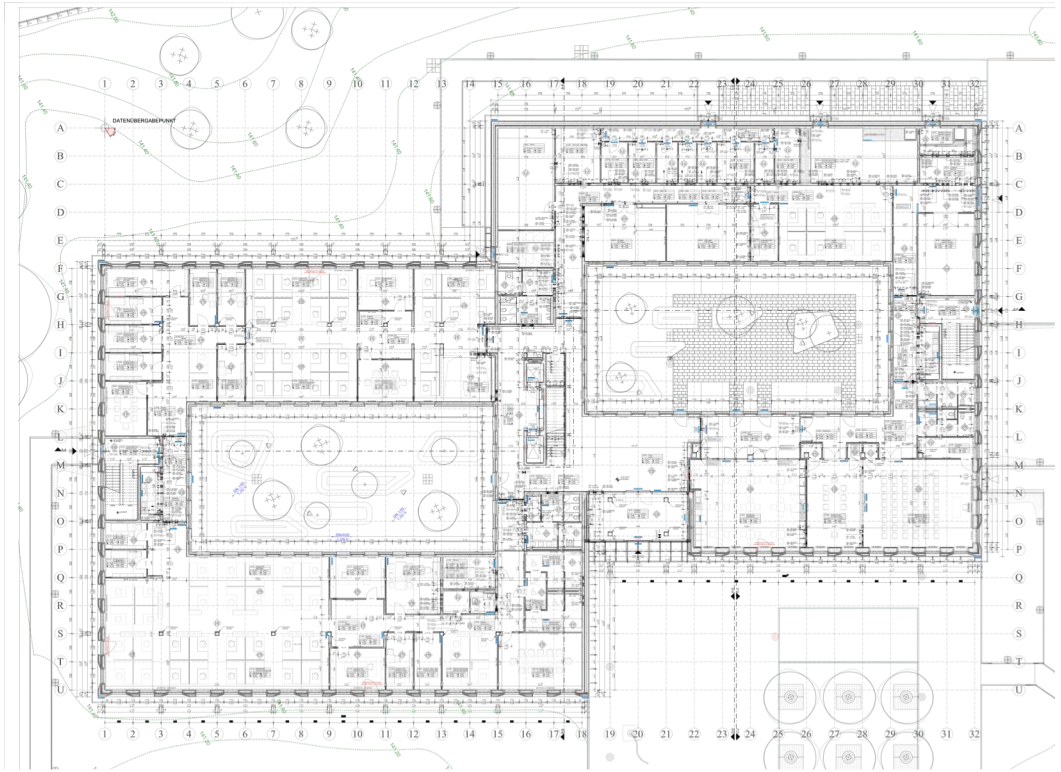
6

Multi-Story Buildings. Planners will specify and designers will plan for multi-story buildings whenever possible. Land efficiency improves with multi-story construction and can be justified, even with progressive collapse requirements, when balanced against the cost of land and utilities required to serve multiple buildings. If needed, planners and programmers should **combine multiple users into multi-story buildings**.

Joint Base Langley-Eustis ISR Campus

7

Building Orientation and Configuration. Buildings…with footprint elements of approximately 50 feet or less (wings, central courtyards, etc.) can allow natural light deep into the building, which…reduces energy consumption. Narrow buildings with operable windows also allow natural ventilation to effectively flow through the interiors, which can reduce energy costs associated with air conditioning. When laying out building footprints on Illustrative Plans, planners should generally use **building footprints no wider than 50 feet.**



USAG Weisbaden USACE Building

8

Sustainable Landscape Elements. Planners will ensure that plans incorporate appropriate use of **street trees, shrubs and ground cover**. Regularly spaced street trees shall be incorporated (25'-30' on center) on roadways to improve pedestrian safety by slowing vehicle traffic; provide shade for paving, vehicles, and pedestrians; and shade buildings, which can reduce energy consumption.

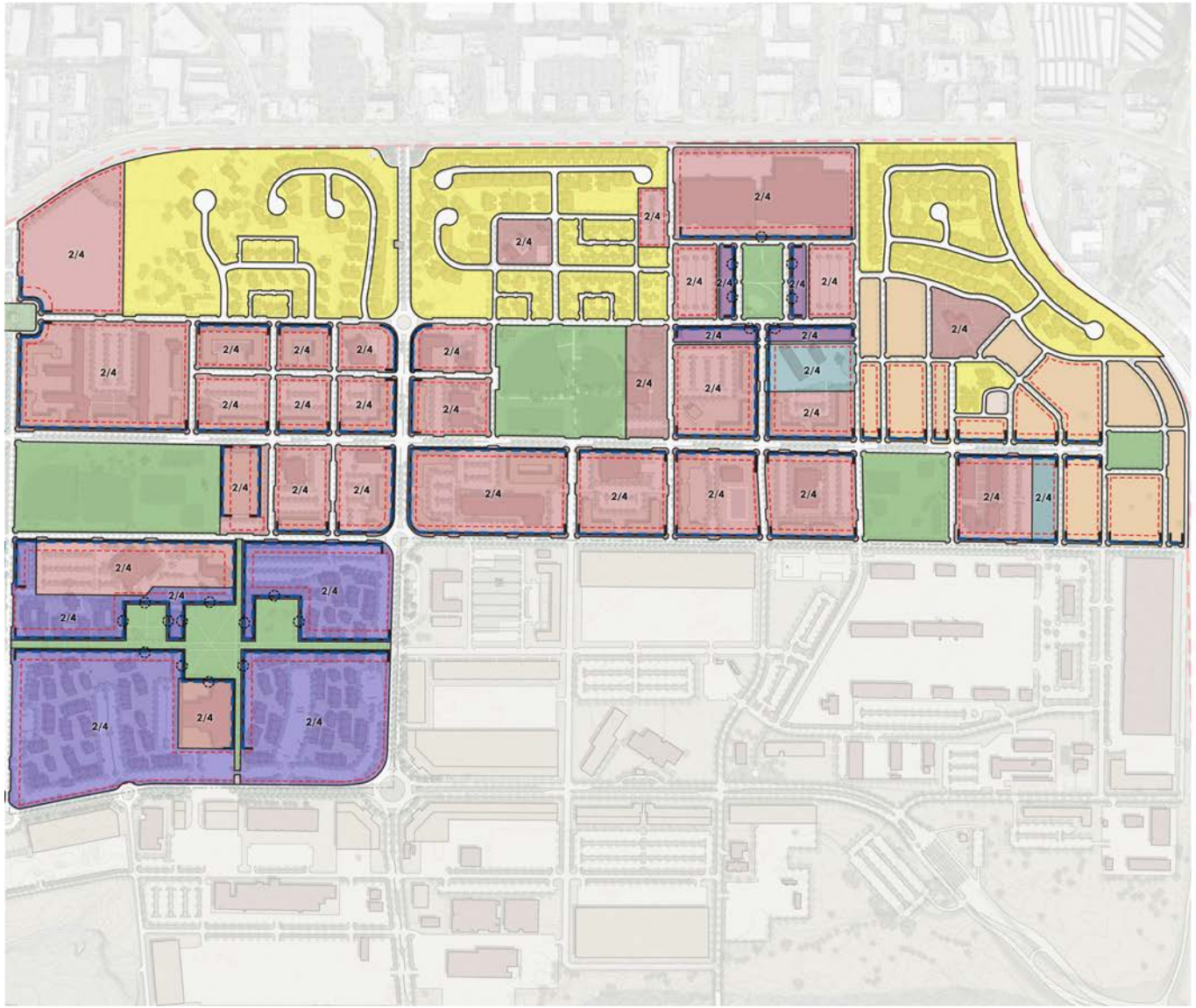
2. Resource Preservation

3. Defensible Planning

4. Healthy Community Planning

5. Area Development Planning

6. Form-Based Planning



Legend

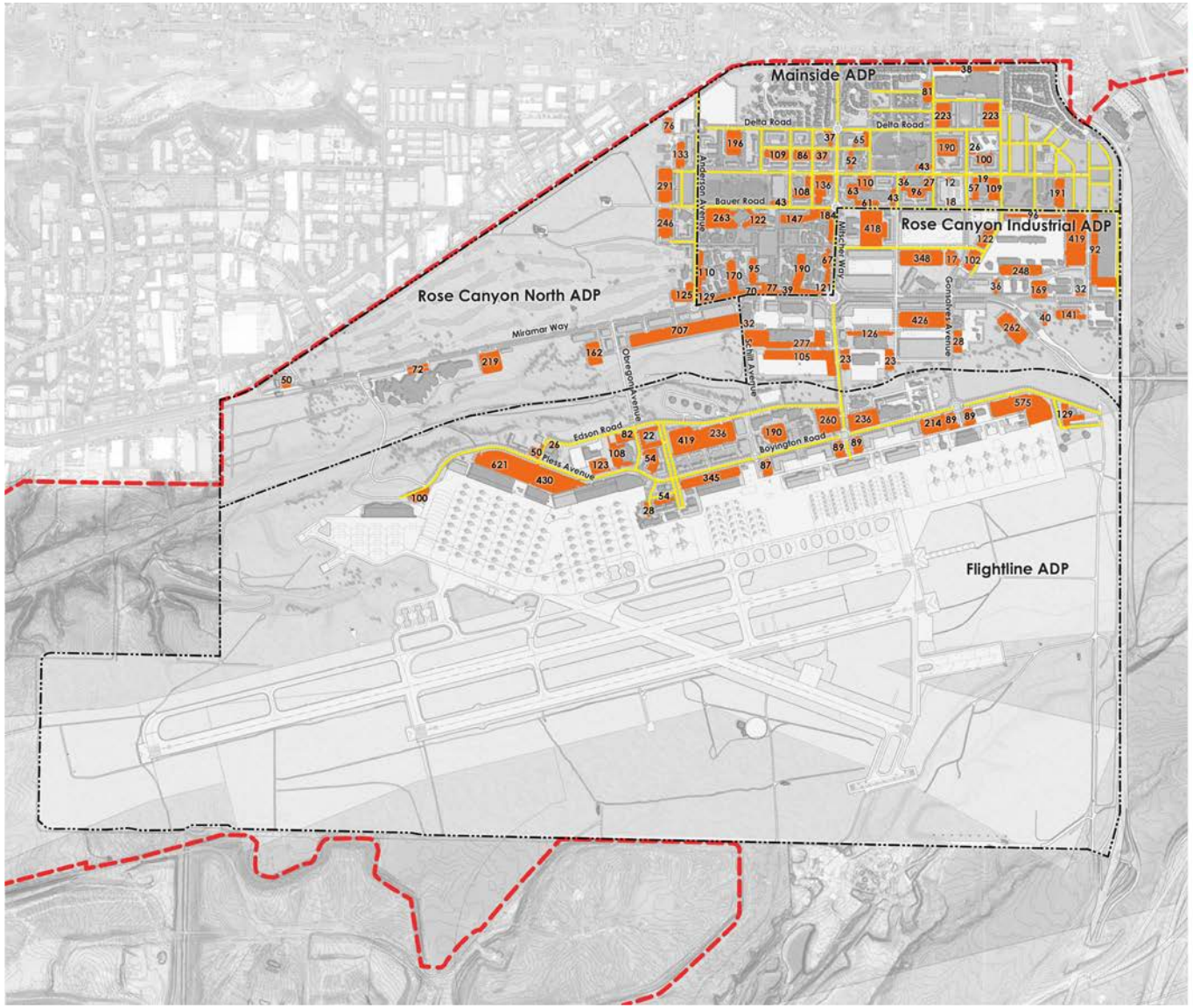
- Industrial Building Standard
- Campus Building Standard
- Mixed-Use Building Standard
- Barracks Standard
- Family Housing Standard
- Flexible Use Standard
- Parks / Open Space Areas
- Buildable Area Boundary
- Required Build-To Line (RBL)
- Parking Zone
- Required Entry Zone
- Required Entry Location
- 1/2 Minimum/Maximum Building Heights

Notes:

1. Refer to the **Street Standards** for detailed street information. (Reference Area Development Plans.)
2. Refer to the **Building Standards** for detailed building information. (Reference Area Development Plans.)
3. Recreation areas shall be used solely for programmed recreation activities, shared quads, or parks.
4. Unregulated areas shall be permanently designated as open space.
5. Numerical designation in each buildable area refers to minimum and maximum allowable number of floors.
6. Building heights must comply with regulation for airfield Imaginary surfaces.
7. Flex use standards will be 2-4 levels.

250' 250' 250'
The Urban Collaborative, LLC

7. Network Planning



Legend

- Installation Boundary
- ADP Boundary
- Car Parks
- On Street Parking

Mainside District:
New Car Park Spaces: 4,419 spaces
Existing Car Park Spaces: 292 spaces
New On-Street Parking: 2,430 spaces
Existing On-Street Parking: N/A
Total Parking: 7,141 spaces

Rose Canyon North:
New Car Park Spaces: 2,081 spaces
Existing Car Park Spaces: N/A
New On-Street Parking: 222 spaces
Existing On-Street Parking: N/A
Total Parking: 2,303 spaces

Rose Canyon Industrial:
New Car Park Spaces: 3,522 spaces
Existing Car Park Spaces: 281 spaces
New On-Street Parking: 860 spaces
Existing On-Street Parking: N/A
Total Parking: 4,663 spaces

Flightline:
New Car Park Spaces: 4,741 spaces
Existing Car Park Spaces: 914 spaces
On-Street Parking: 1,500 spaces
Existing On-Street Parking: N/A
Total Parking: 7,155 spaces

Total Parking Calculations:
New Car Park Spaces: 14,763 spaces
Existing Car Park Spaces: 1,487 spaces
New On-Street Parking: 5,012 spaces
Total Parking: 21,262 spaces

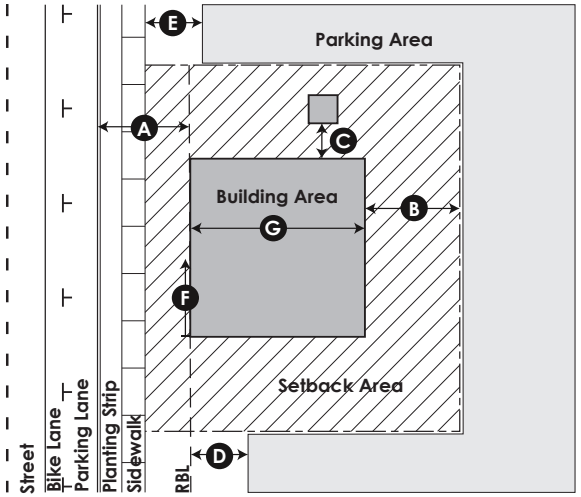
700' 700' 700'
MCAS Miramar Parking Network

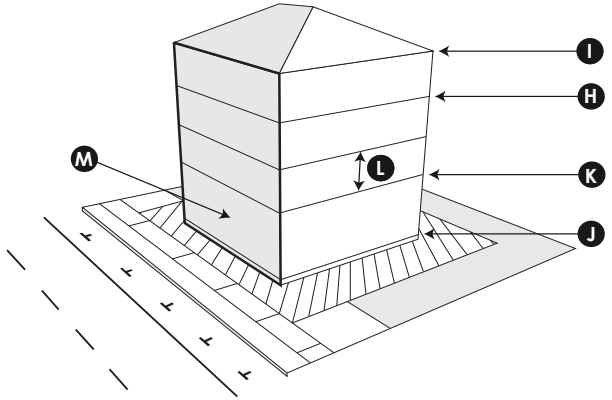
8. Capacity Planning

Envisioning a Pedestrian Oriented Lifestyle Center:
Replace parking with a lifestyle center green surrounded by nearby housing and mixed-use buildings lays the foundation for a new lifestyle center. The introduction of trees, shade trees and community amenities will support a variety activities within the lifestyle center.

Existing Conditions

9. Facility Standardization





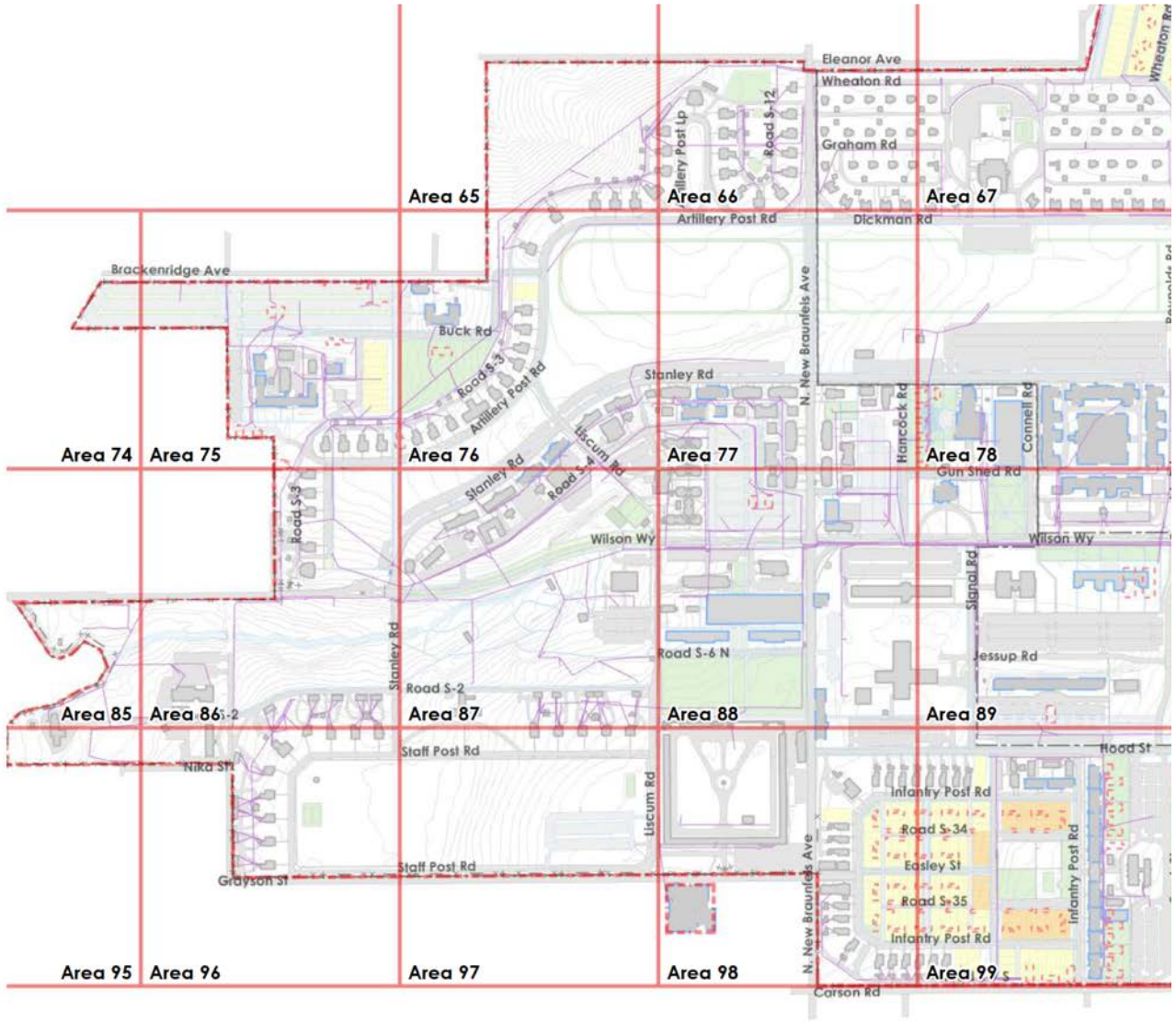
Parking
Max. 3 spaces per 1,000sf of floor space
Trees shall be planted such that 70% of parking area will be shaded within 15 years
If access is controlled, government vehicle parking is not subject to setbacks
Parking drive width shall be a maximum of 15' per lane

Use		
Ground Floor	Admin, Laboratory, Commercial	
Upper Floor(s)	Admin, Laboratory, Commercial	
Placement		
RBL setback from roads/parking	11 m	A
Setback from roads/parking	11 m	B
Setback from other buildings	any	C
Parking setback from RBL	15 m	D
Parking setback no RBL	7 m	E
Shape		
Primary street built to RBL	70% min.	F
Building width	50' max.	G
Height		
Minimum number of floors	Refer to regulating plan	H
Maximum number of floors	Refer to regulating plan	I
Finish ground floor level	18" min. above sidewalk	J
First floor ceiling height	12' min. clear, 20' max.	K
Floor-to-floor height	14' max.	L
Fenestration		
Percent of facade area	40%-90%	M

Notes

- Corner lot street facades must be built to RBL within 30' of street corner
- Setback from roadways and other buildings must conform to minimum current anti-terrorism/force protection guidance
- Where no RBL is designated, a building may occupy any portion of the site within the buildable area boundary
- Primary entries must occur where designated on the regulating plan
- Loading docks, overhead doors, and other service entries may not be located on RBLs
- Buildings shall be divided into bays not exceeding 50' in length: bays may be articulated using plane changes (+/-6" min.), material changes, window rhythm, etc.
- Double-loaded corridors shall not exceed 200' in length
- Blank lengths of wall exceeding 15' are prohibited on RBLs
- All windows shall be operable, with the exception of clerestory and storefront
- Balconies, bay windows, arcades, etc. can encroach up to 2' beyond RBL
- Roof pitches of 4:12 to 8:12 are allowable
- South-facing windows shall be shaded from summer sun (overhangs, recesses, etc.)
- Designer shall incorporate sustainability strategies to include light shelves, clerestory windows, and maximum glazing areas

10. Plan-Based Programming



Visual Preference Survey

Rate each image on a scale of
+10 (something to emulate) to
-10 (something to avoid)

1


2


3

4

5

6

7

8


Cleveland Clinic
Florida
Egil and Pauline
Braathen Center

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Various Perspectives of DoD Branch Planning

Kathryn Haught

Army, Deputy Chief of Staff
Installations, G-9

Master Planning Policy for the Army

Kathryn Haught
Office of the DCS, G-9

10 U.S. CODE § 2864 – MASTER PLANS FOR MILITARY INSTALLATIONS

- The 2013 National Defense Authorization Act (NDAA) required that major military installations maintain an installation Master Plan that addresses:
  - environmental planning,
  - sustainable design and development,
  - sustainable range planning,
  - real property master planning,
  - and transportation planning including a transportation component.

- The 2014 NDAA amended this language to require that installations address UFC 2-100-01 planning strategies, including:
  - planning for compact and infill development;
  - horizontal and vertical mixed-use development
  - the full lifecycle costs of real property planning decisions
  - capacity planning through the establishment of growth boundaries around cantonment

- The 2018 NDAA amended the language to include consideration for climate effects.

Other Federal Level Statutes and Guidance

10 USC 2802, Flood Risk Disclosure for Military Construction

National Environmental Policy Act

National Capital Planning Act

32 Code of Federal Regulations 651

Energy and Information Security Act (EISA), 2007

EO 11988, Floodplain Management

OSD Guidance

Memorandum, 28 May 13, OSD states:

- Incorporate sustainability, resource management, transportation alternatives, defensibility, area and network planning, form based planning and local and regional coordination.

- All land use, development and real estate actions on an installation shall conform to its master plan

- Establish installation planning boards to review and endorse master plans, which shall be approved by a command above the installation level no less frequently than every 5 years.

- Maintain a comprehensive list of all installation master plans and completion dates.

- Key personnel should have 32 hours of training biannally and installation commanders should have at least 4 hours.

- All master plans should be IAW this policy NLT 1 Oct 18

- DUSD I&E shall establish metrics.

Army Facility Investment Strategy

Provide sufficient facilities to meet mission requirements at the least cost with acceptable quality and quantity

- Sustain Required Facilities
- Dispose of Excess Facilities
- Improve Existing Facility Quality
- Build-out Critical Facility Shortfalls

- Must adjust the mindset:
  - Contraction rather than expansion
  - Fix existing rather than build new

Facility Investment Objectives

•Effect more efficient space management to Army standards

•Fix worst enduring facilities first as priority O&M R&M projects

•Maximize facility sustainment funding with a focus on preventive maintenance

• Dispose/mothball excess facilities and infrastructure

• Improve reliability and reduce costs of energy/utilities systems

• Eliminate World War II wood facilities

• Reduce costly property, facility, and housing leases

• Reduce temporary and relocatable facilities

• Build out only the most critical facility shortfalls as MILCON projects

• Update analysis to reflect importance of optimizing installation real property resources and capabilities.

• Use Master Planning process (including NEPA compliance) to assess possible impact from Army force management actions.

• Analyze existing capacity on installations to determine true excess and identify repurposing opportunities.

Contact Information

Kathryn Haught

Department of the Army
Office of the Assistant Chief of Staff for Installation Management
ATTN: DAIM-ODR
600 Army Pentagon
Washington, DC 20310

Phone: 571-256-1183

Email: Kathryn.j.haught.civ@mail.mil

Amy Vandeveer

Air Force Civil Engineer Center

NCPC and DoD Master Planning Workshop

AF Update

23 Jan 19

U.S. AIR FORCE

U.S. AIR FORCE

Overview

- *I2S* and *Integrated Installation Planning* AFI Update
- Comprehensive Planning Platform
  - District Plans
  - Installation Energy Plans
- Interim Severe Weather and Climate Hazard Screening and Risk Assessment Playbook
- Career Field Education and Training Plan for 0020s

U.S. AIR FORCE

Infrastructure Investment Strategy (I2S)

CURRENT STATE

- Reduced Readiness
- Degrading Infrastructure
- Unsupportable Infrastructure
- Limited Capacity

LINE OF EFFORT 1
Restore Readiness to Power Projection Platforms

1. Ensure Airbase Resiliency
2. Prioritize Repair of Mission-Critical Infrastructure
3. Enhance Strategic Basing Posture
4. Strengthen Installation Planning

LINE OF EFFORT 2
Cost Effective Modernization of Infrastructure

1. Pursue Proactive Infrastructure Investment
2. Implement Standard Designs
3. Improve (Front-End) Acquisition and Programming

LINE OF EFFORT 3
Drive Innovation in Installation Management

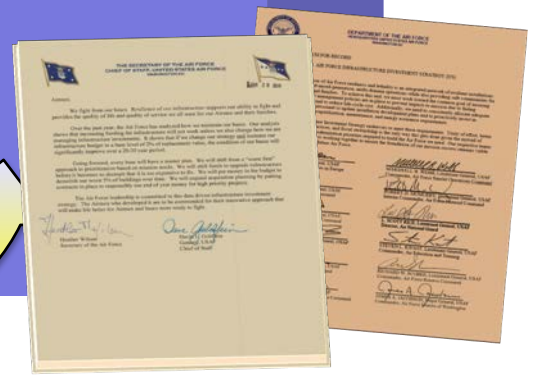
1. Employ Partnership and Third Party Finance
2. Utilize Facilities Management Technologies
3. Exploit Category Management
4. Leverage New Authorities

Four Imperatives

1) Adequate, stable funding
2) Smart infrastructure business management
3) Unified efforts across the enterprise
4) Revitalized Squadron

END STATE

- Ready Power Projection Platforms
- Sustainable Infrastructure
- Resilient Infrastructure
- Diversified/ Agile Basing
- Updated Capabilities with New Technology



"The Air Force leadership is committed to this data driven infrastructure investment strategy" which drives changes in approach to leverage the required increase in resourcing

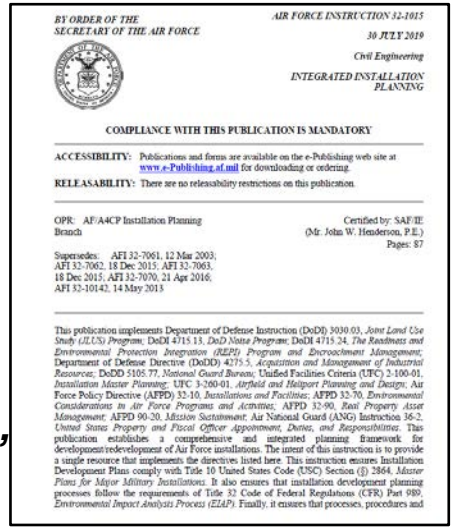
U.S. AIR FORCE

AFI 32-1015

Integrated Installation Planning

<u>SecAF Publications Reduction Initiative</u>: Planning AFIs combined into AFI 32-1015 (published Jul 19):

- AFI 32-7061, *Environmental Impact Analysis Process*
- AFI 32-7062, *Comprehensive Planning*
- AFI 32-7063, *Air Installation Compatible Use Zone Program*
- AFI 32-7070, *Air Force Noise Program*
- AFI 32-10142, *Facilities Board*



BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 32-1015

30 JULY 2019

Civil Engineering

INTEGRATED INSTALLATION PLANNING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing web site at www.e-Publishing.af.mil for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AF/A4CP Installation Planning Branch

Certified by: SAF/IE (Mr. John W. Henderson, P.E.)

Pages: 87

Supersedes: AFI 32-7061, 12 Mar 2003; AFI 32-7062, 18 Dec 2015; AFI 32-7063, 18 Dec 2015; AFI 32-7070, 21 Apr 2016; AFI 32-10142, 14 May 2013

This publication implements Department of Defense Instruction (DoDI) 3030.03, *Joint Land Use Study (JLUS) Program*; DoDI 4715.13, *DoD Noise Program*; DoDI 4715.24, *The Readiness and Environmental Protection Integration (REPI) Program and Encroachment Management*; Department of Defense Directive (DoDD) 4275.5, *Acquisition and Management of Industrial Resources*; DoDD 5105.77, *National Guard Bureau*; Unified Facilities Criteria (UFC) 2-100-01, *Installation Master Planning*; UFC 3-260-01, *Airfield and Heliport Planning and Design*; Air Force Policy Directive (AFPD) 32-10, *Installations and Facilities*; AFPD 32-70, *Environmental Considerations in Air Force Programs and Activities*; AFPD 32-90, *Real Property Asset Management*; AFPD 90-20, *Mission Sustainment*; Air National Guard (ANG) Instruction 36-2, *United States Property and Fiscal Officer Appointment, Duties, and Responsibilities*. This publication establishes a comprehensive and integrated planning framework for development/redevelopment of Air Force installations. The intent of this instruction is to provide a single resource that implements the directives listed here. This instruction ensures Installation Development Plans comply with Title 10 United States Code (USC) Section (§) 2864, *Master Plans for Major Military Installations*. It also ensures that installation development planning processes follow the requirements of Title 32 Code of Federal Regulations (CFR) Part 989, *Environmental Impact Analysis Process (EIAP)*. Finally, it ensures that processes, procedures and

- Vision: ***"Adaptive, resilient, right-sized and fiscally sustainable installations that are defensible, sustainable, healthy, innovative, cost-effective, and provide world-class warfighting capability"***
- Updates roles and responsibilities for AF planners – to include previously "invisible tasks"
- Updates AF IDP requirements for consistency with current law and clarifies requirements – updates in CPP for consistency pending
  - Comprehensive Planning Platform is host for the AF's future "living" IDPs

U.S. AIR FORCE

Comprehensive Planning Platform

Vision: Bridge the gap between the plan and execution

Mission: The CPP is a CE Enterprise solution that enables installations to make investment decisions based on asset management principles, strategic guidance, and data through a repeatable planning process

- Digitally integrates the IDP, Component Plans, & AMPs – **strengthens installation planning & operationalizes asset management**
- Responsive to changes at the installation and enterprise by allowing for continuous update - **strengthens installation planning**

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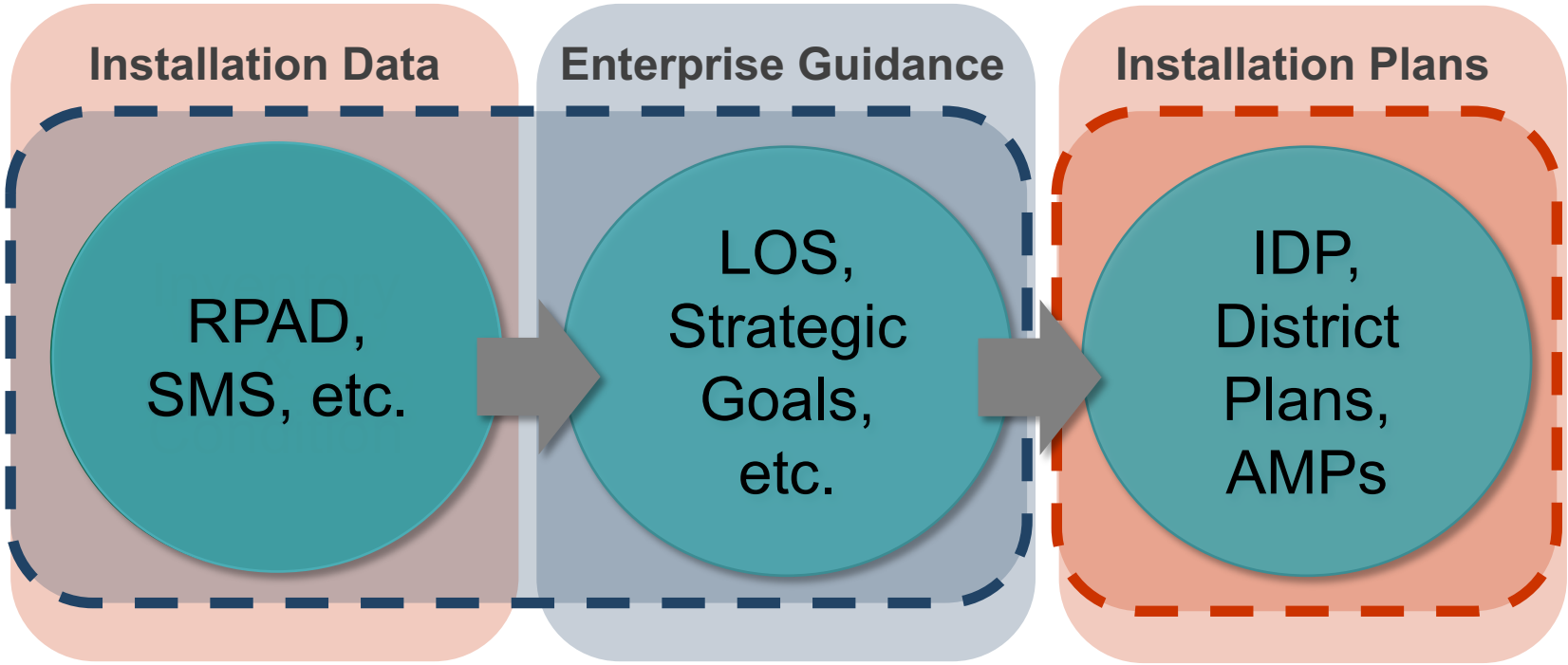
Planning and Asset Management



What do you have? → What do you need? → What are you going to do about it?

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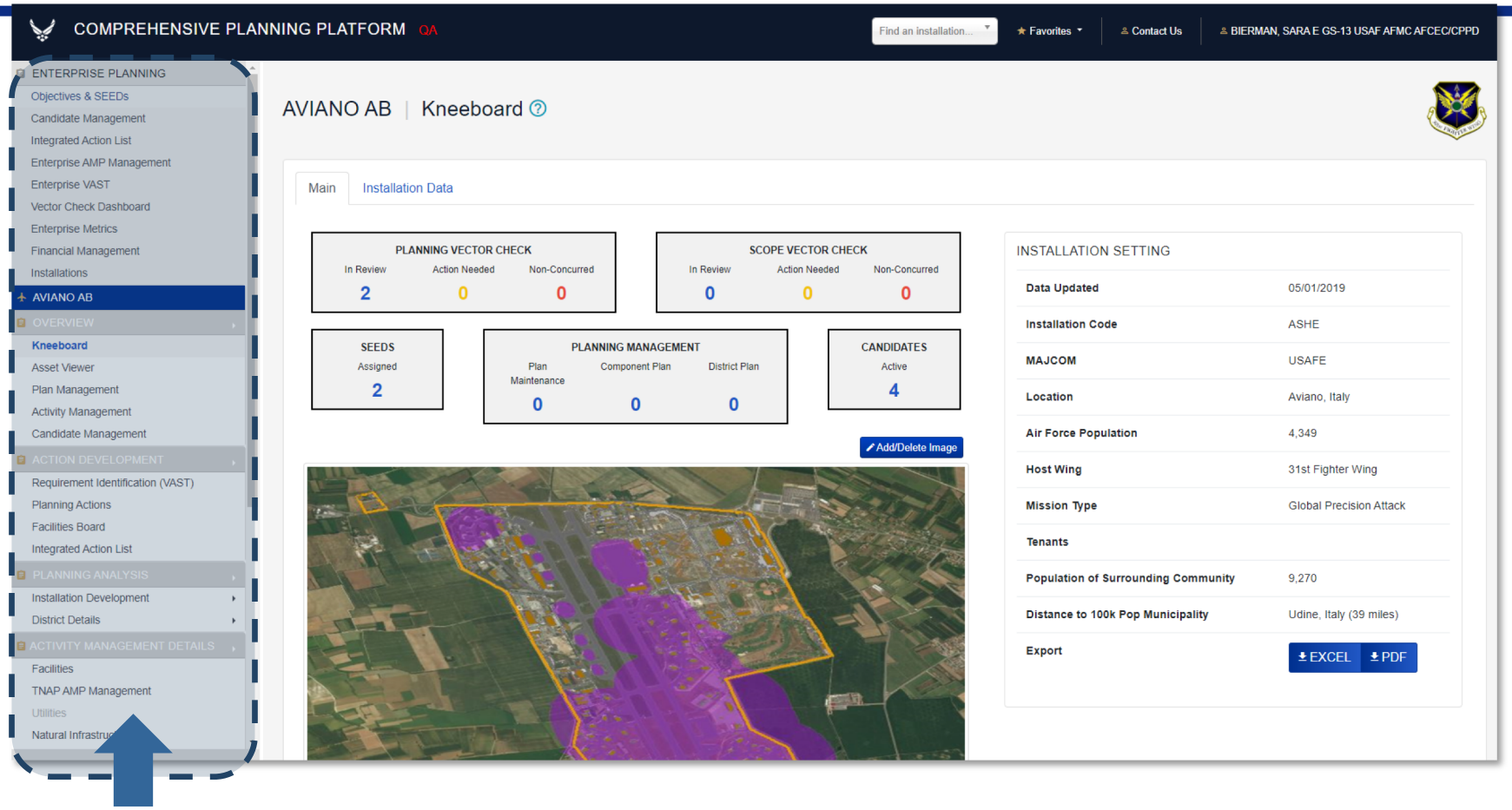
Digitally Integrated Plans



Includes Enterprise and Installation-specific pages

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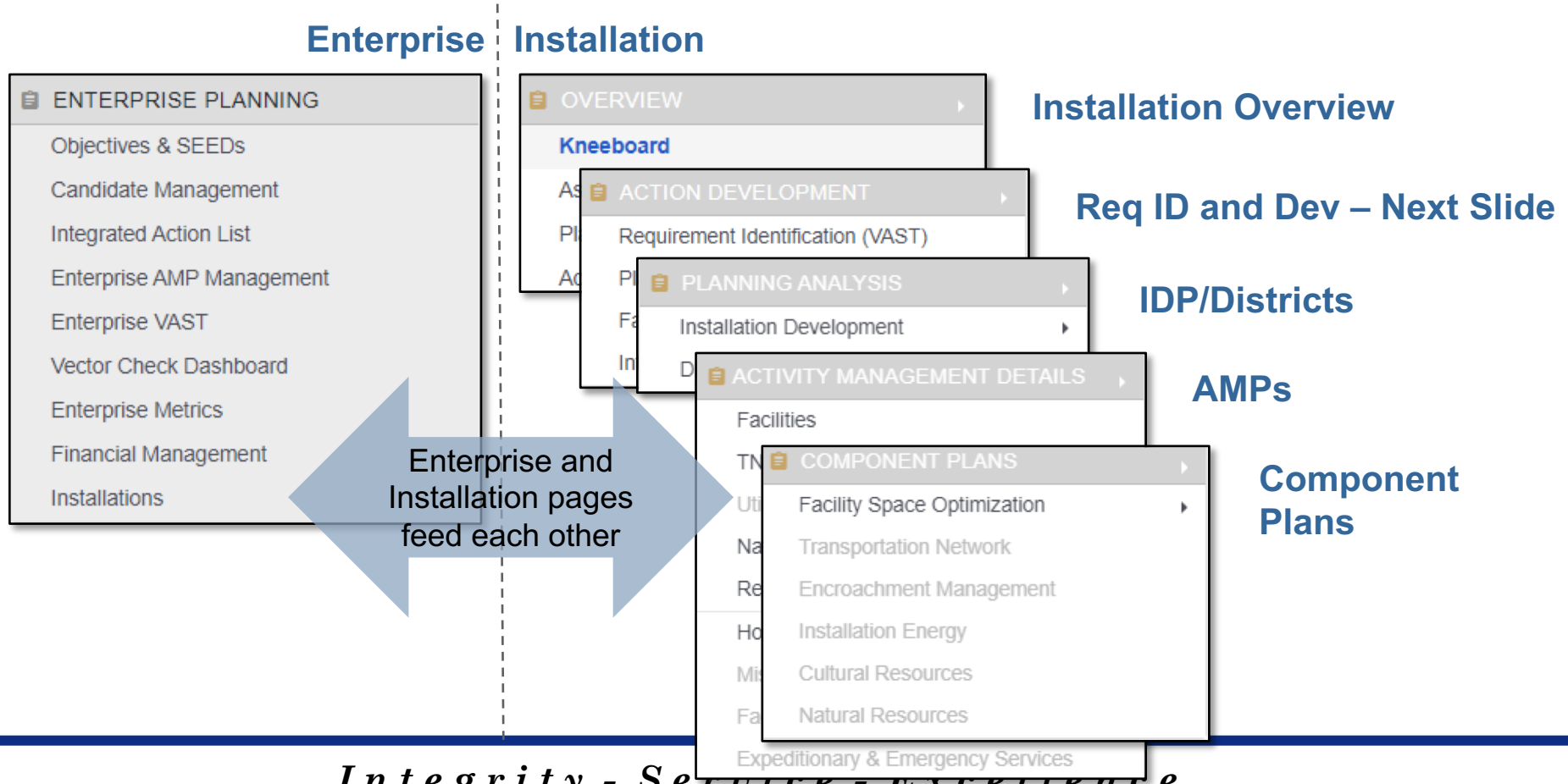
Digitally Integrated Plans

Organization

- One set of Enterprise pages
- Each installation has same set of pages updated with their unique info/plan
- Black text is developed; grey is not yet built in the CPP



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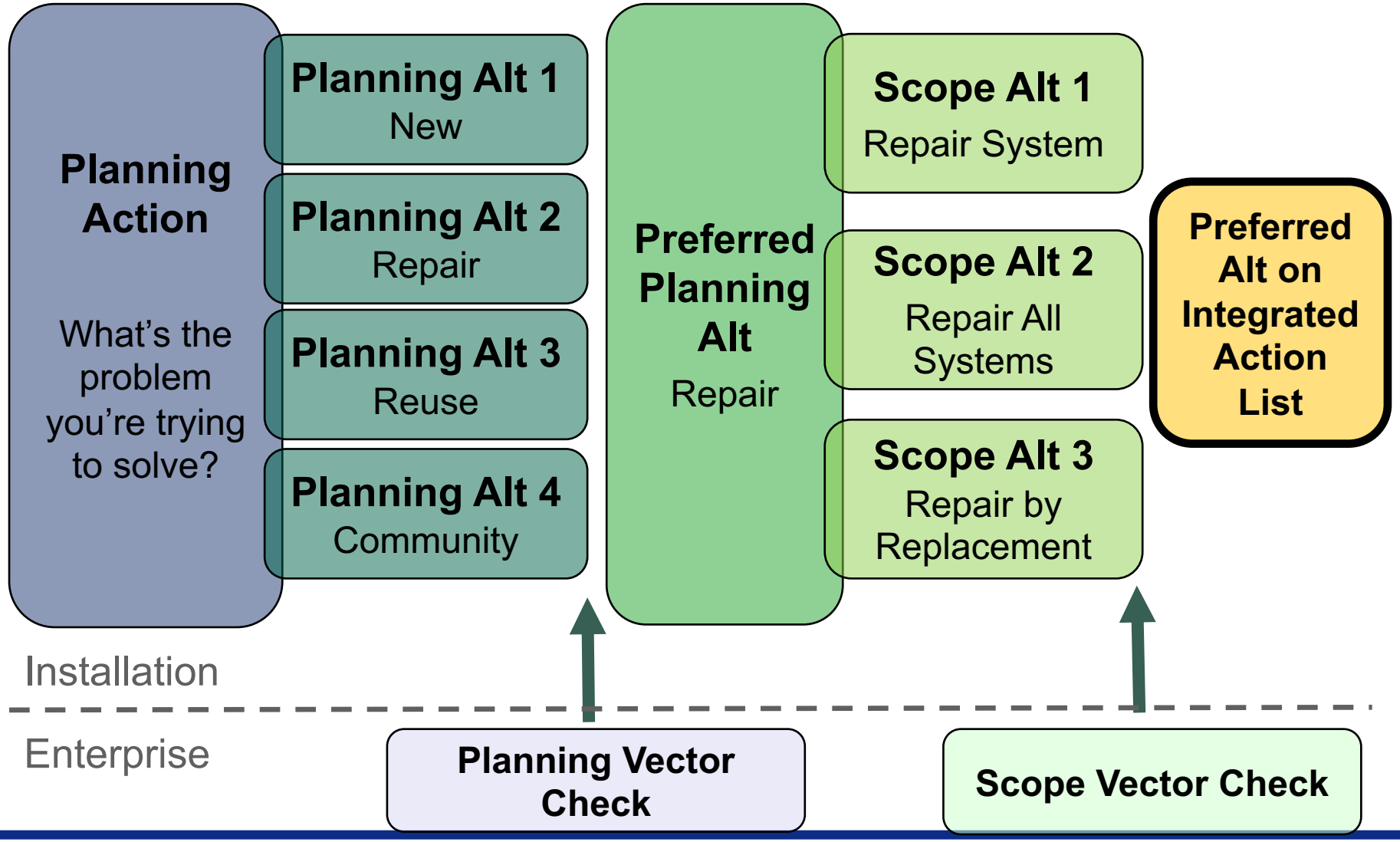
Repeatable Planning Process



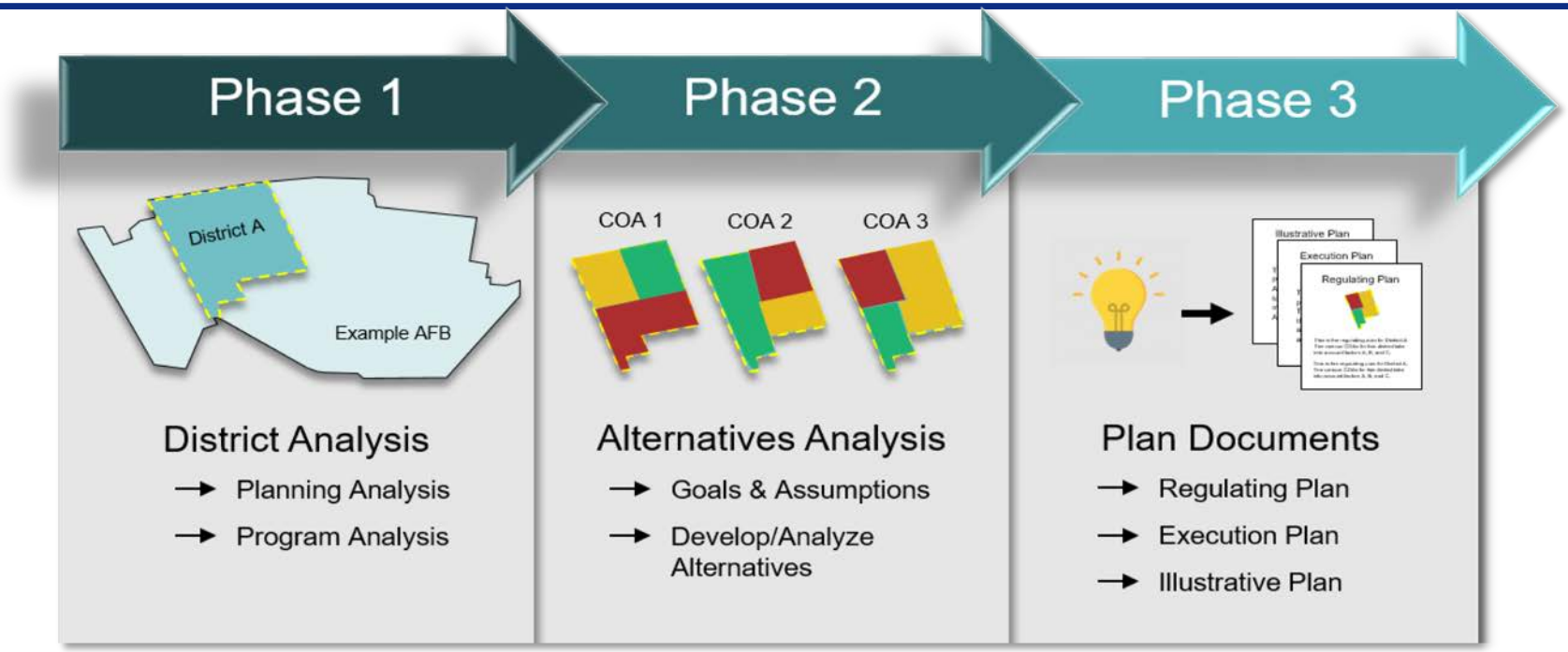
U.S. AIR FORCE

District Plans

- Installation Development planning foundation
  - Planning in detail at a manageable scale
  - Detail not repeated in installation-level plan
- Starts with Asset Management and validated customer requirements
  - Leverages existing inventory for best life-cycle decisions
- Develops framework for continued plan implementation
  - Recognition of continuous requirement identification
  - Strengthens review of alternatives for NEPA/Econ Analysis
- Incorporated into to Comprehensive Planning Platform
  - Planning Actions: Bridge gap from plan to reality
  - Leverage information in Component Plans; no double tap

U.S. AIR FORCE

District Plan



- **Planning Analysis: Collect, analyze, & document data into a complete framework to control & future development within the District**
- **Program Analysis: Mission owners & asset managers identify & prioritize facility requirements for future investments**
- **Alternatives Analysis: Includes analysis of Status Quo**

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District Plan

COMPREHENSIVE PLANNING PLATFORM

Find an installation... | ★ Favorites | Contact Us | VANDEVEER, AMY R GS-14 USAF AFMC AFCEC/CPPD

- Enterprise Metrics
- Financial Management
- Installations
- SEYMOUR JOHNSON AFB
- OVERVIEW
  - Kneeboard
  - Asset Viewer
  - Plan Management
  - Activity Management
  - Candidate Management
- ACTION DEVELOPMENT
- PLANNING ANALYSIS
  - Installation Development
  - District Details
- ACTIVITY MANAGEMENT DETAILS
  - Facilities
  - TNAP AMP Management
  - Utilities
  - Natural Infrastructure
  - Real Estate
  - Housing & Dorm Operations
  - Mission & Energy Assurance
  - Facility Ops & Services
  - Expeditionary & Emergency Services
- COMPONENT PLANS
  - Facility Space Optimization
  - Transportation Network
  - Encroachment Management
  - Installation Energy
  - Cultural Resources

SEYMOUR JOHNSON AFB - 1. NEUSE PLANNING | District Overview

RETURN TO FUTURE DEVELOPMENT PAGE

EDIT

District Summary:

Future development in this planning district must support a secure and functionally effective environment for airfield operations, while remaining accessible to base support, living facilities, and training operations. Retention, repurposing, modernization, and sustainment of flightline facilities must be balanced with demolition and construction of new buildings as existing facilities become obsolete. The character of this district will remain utilitarian, with a mixture of large- and small-scale facilities. At the same time, new construction should seek to maintain consistent design and siting of buildings to create a harmonious development pattern, while reducing operating and maintenance costs and improving operational/unit effectiveness. Immediate

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1. Neuse Planning
2. Ammo Planning
3. Stoney Creek Planning
4. Housing Planning

- Overview
- Analysis
- Constraints
- Planning Actions

FY 2019. The last projects will be fu
two-bay hangar is complete or the KC-135R Stratotanker aircraft has departed. The Neuse Planning District is poised to be one of the busiest areas at SJAFB for future development. However, development areas are limited and any future development should be restricted to facilities directly supporting airfield operations. Future planning should create distinctive reference points within the sub-districts and carefully consider both vehicle parking and pedestrian access to/from the flightline.1

District Goals & Objectives:

916th Air Refueling Wing ADP Goals & Objectives
The 916 ARW Campus Goals and Objectives are structured to follow the IDP Goals and Objectives, and include the following:
♦ Goal 1 – Support the 916 ARW mission with safe, secure, efficient and resilient campus
- Objective 1.1: Consolidate related functions into expanded/grouped buildings to improve unit cohesion
- Objective 1.2: Replace facilities that become ineffective due to size, location, age or

District Images:

ADD/DELETE IMAGE

916 ARW Campus ARW Prefered Development Plan
Airfield Facility Identifier

Recommendations:

- Implement funded MILCON project for the ATCT, Radar Approach Control System (RAPCON), Base Operations, and ATCALS facility to be sited between the new Maintenance Training Hangar and the Fire Station.
- Develop MILCON project to relocate and construct a new indoor firing range outside of the CZ and meet set back requirements from populated areas.
- Complete multiple-phase renovation of the Transient Ramp.
- Construct the proposed flightline access road to improve normal and emergency access into and out of the F-15E ramp area from Jabara Avenue to Godfrey Road.
- Implement a project to expand Building 4536, the LRS Complex, to provide required storage space for the Combat Operations Support Flight's functions on the flightline.
- Construct planned consolidated Armament Complex to support training and weapons load function.
- Provide electrical support to aircraft shelters to provide the most efficient working environment for aircraft maintenance 24 hours a day.
- Construct a new Maintenance Training Hangar east of Building 4538 and west of the

U.S. AIR FORCE

Installation Energy Plans

- Develop a standardized framework for all AF installations
  - 7 pilot installations
- Goal: Meet current & future demands to achieve mission assurance through energy assurance while integrating cybersecurity requirements into planning strategies by asking the following:
  - Where are you now? (Baseline)
  - What do you need to protect? (Requirements)
  - How do you protect the mission? (Strategies)
  - What are alternatives? (scenario development)
  - How to make that happen? (the road map)
  - How do you communicate the plan? - integration with the Installation Development Plan (IDP)
- Priority installations for Mission Assurance completed first – FY22
- IEPs for all bases – FY24

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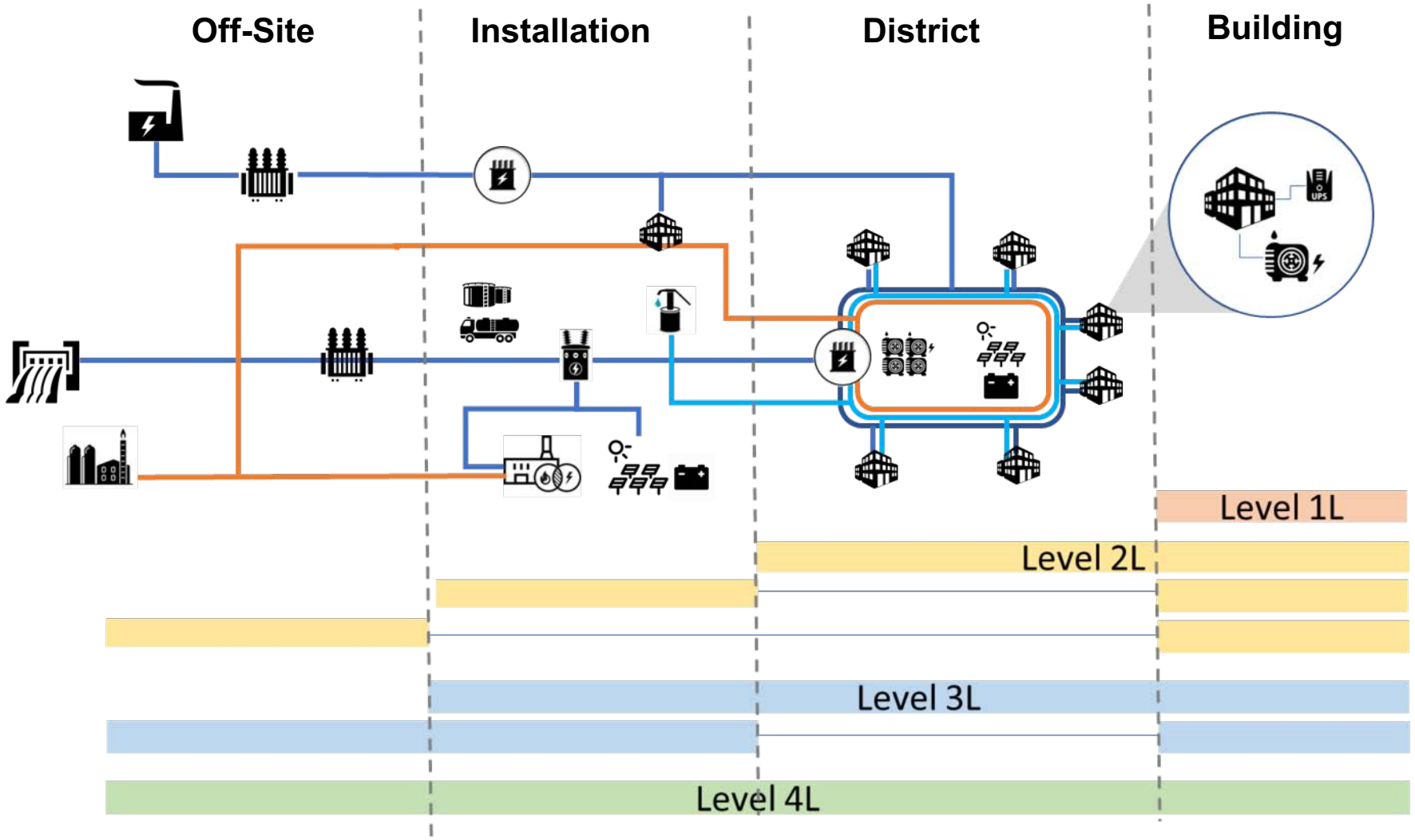
Layers of Resiliency



Installation Energy Resiliency Dashboard

INSTALLATION ENERGY RESILIENCY DASHBOARD

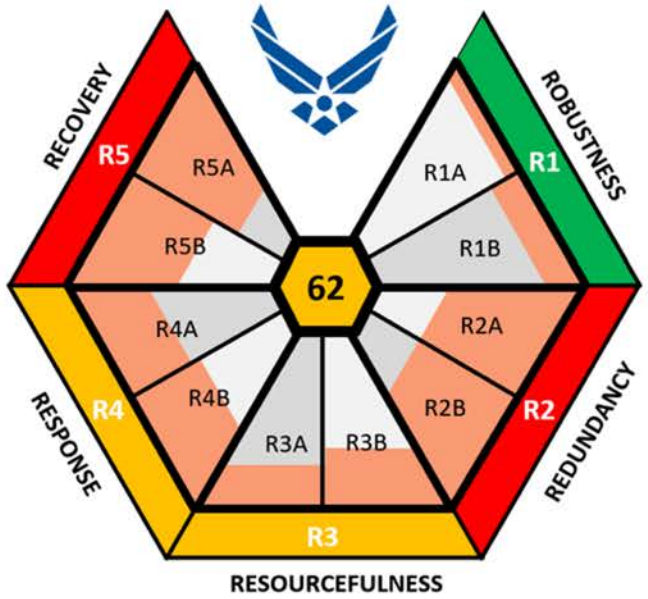
EXAMPLE AIR FORCE INSTALLATION

Existing Conditions

Installation Threat Probability

- Fire
- Cyber-Attack
- Flood
- Hurricane
- Earthquake
- Utility Blackout

Low
Medium
High



Rating Scale

RESILIENT ENERGY + WATER PERFORMANCE

R1 ROBUSTNESS
How robust are the energy+water systems on installation?
R1A Cybersecurity of Energy Systems
R1B Physical Hardening / Protection of Critical Assets

R2 REDUNDANCY
Are there redundant systems and alternate sources to avoid single points of failure?
R2A Single Points of Failure in Energy + Water Systems
R2B Energy & Water Source Diversity

R3 RESOURCEFULNESS
Is energy efficiently managed and delivered?
R3A Energy & Water Intensity (Demand) Reduction
R3B Energy & Water O&M Manpower & Skillsets

R4 RESPONSE
Is the Installation prepared to respond to emergency/disruptive event?
R4A Emergency Management Protocols for Energy+Water Systems
R4B Critical Loads with Island / Backup Mode Operations

R5 RECOVERY
How long can critical mission functions be sustained in emergency mode?
R5A Critical Loads Sustainment Capacity (Fuel/Energy+Water Storage)
R5B Reliability of Emergency Energy & Water Systems & Operations

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Interim Severe Weather and Climate Hazard Screening and Risk Assessment Playbook

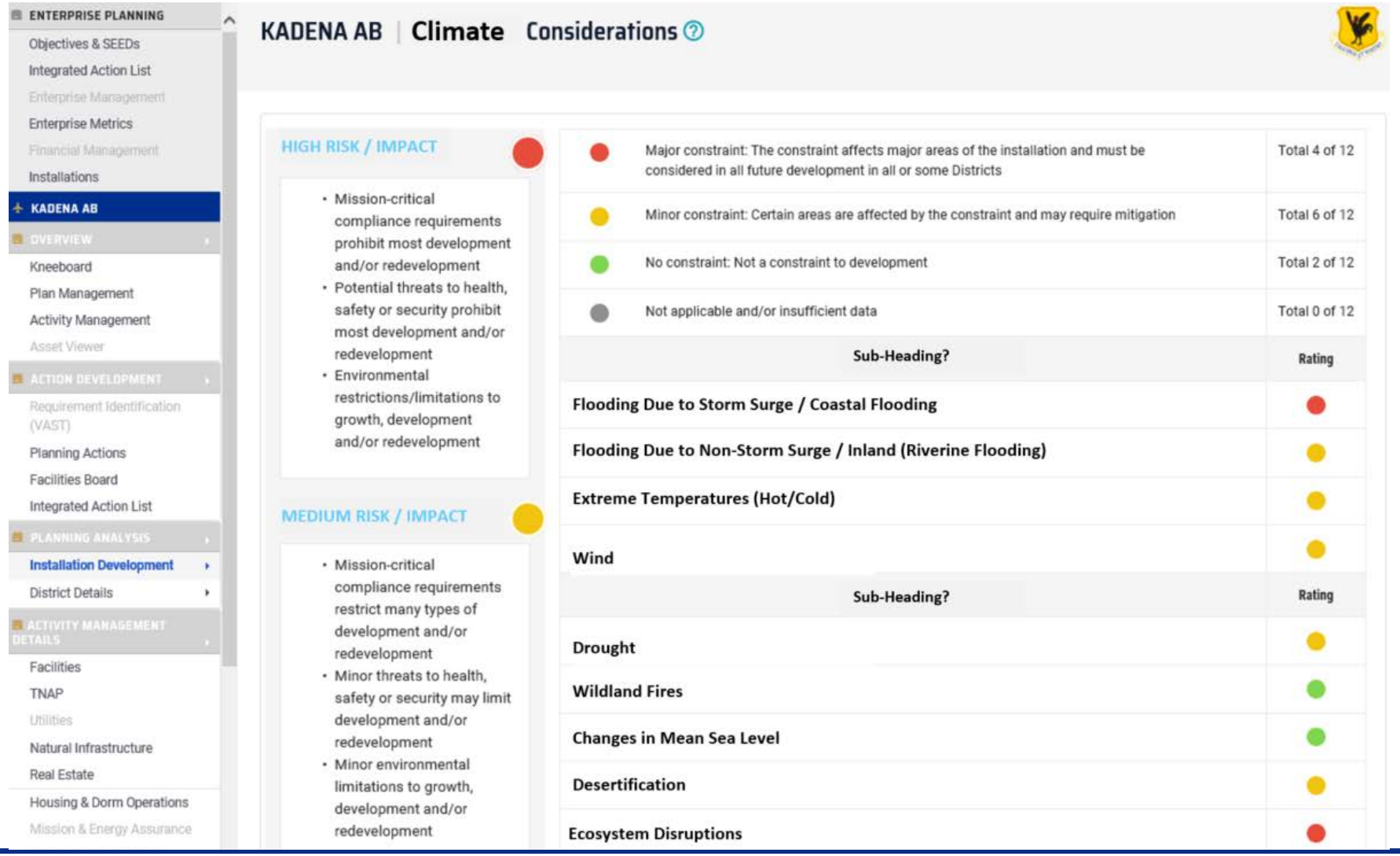
- FY20 NDAA language requires Military Installation Resilience Plans
- Developing interim guidance for bases to screen for/assess current and future risk
  - Weather/Climate Phenomenon: Storm/non-storm surge flooding, Hurricane/Typhoons, High Winds/Tornados, Extreme cold/heat, wildfires etc.
  - Climate Projections: Sea level, precipitation, temperature change projections
- Interim Playbook will explain "how to" complete the screening/assessments, using the existing AF Risk Matrix, and suggest follow-on actions
- Longer term action needed for full implementation: build on IEPs or separate Installation Resiliency Component Plan?

AFI 90-802 Risk Matrix

Risk Assessment Matrix			Probability: Frequency of Occurrence Over Time				
			Frequent (Continuously experienced)	Likely (Will occur frequently)	Occasional (Will occur several times)	Seldom (Unlikely; can be expected to occur)	Unlikely (Improbable, but possible to occur)
Severity	Effect of Hazard	Catastrophic (Death, Loss of Asset, Mission Capability, or Unit Readiness)	EH	EH	H	H	M
		Critical (Severe Injury or Damage, Significantly Degraded Mission Capability or Unit Readiness)	EH	H	H	M	L
		Moderate (Minor Injury or Damage, Degraded Mission Capability or Unit Readiness)	H	M	M	L	L
		Negligible (Minimal Injury or Damage, Little or No Impact to Mission Capability or Unit Readiness)	M	L	L	L	L
			Risk Assessment Levels:				
			EH – Extremely High	H – High	M – Medium	L – Low	

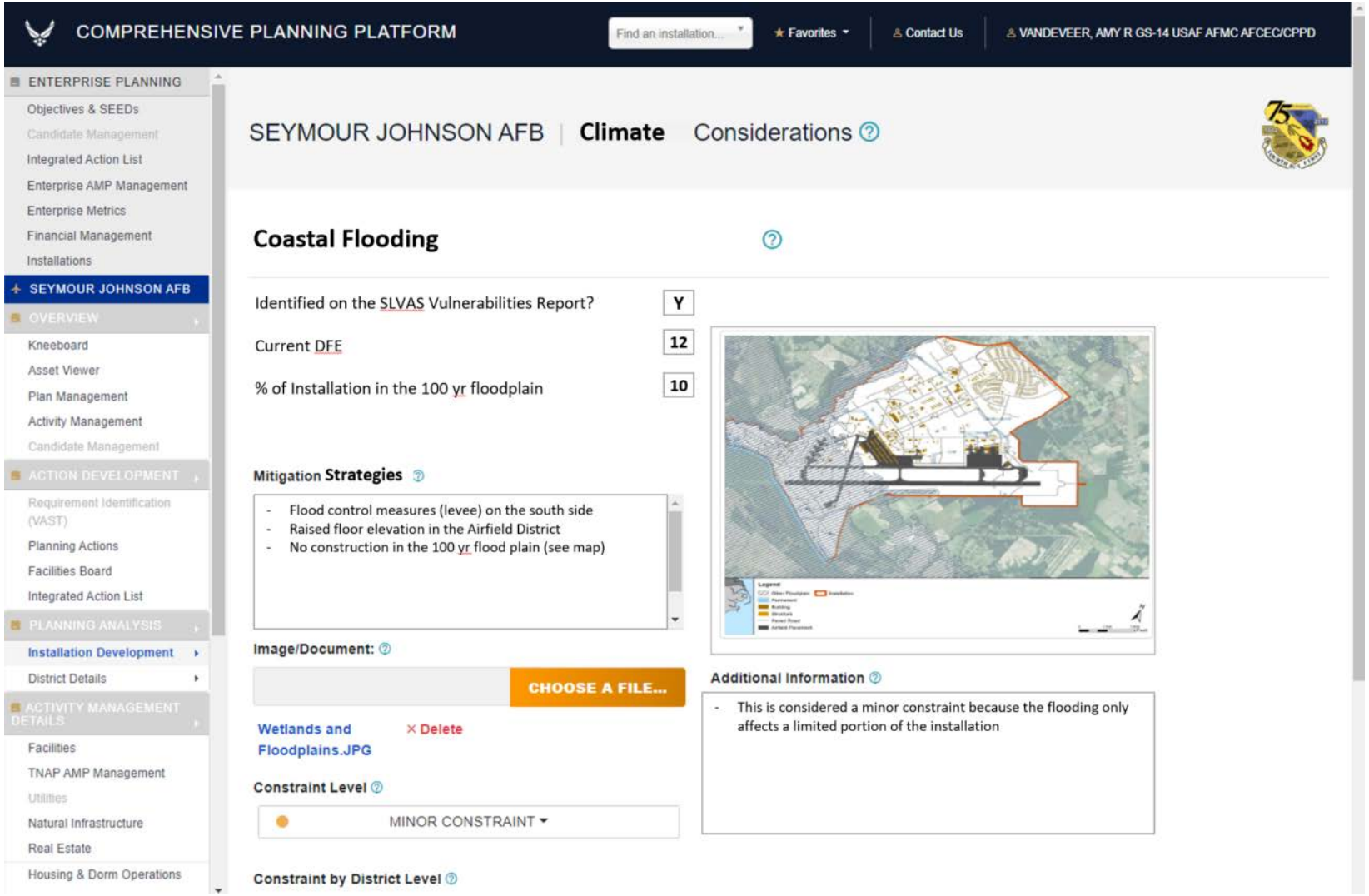
U.S. AIR FORCE

Interim Severe Weather and Climate Hazard Screening and Risk Assessment Playbook



U.S. AIR FORCE

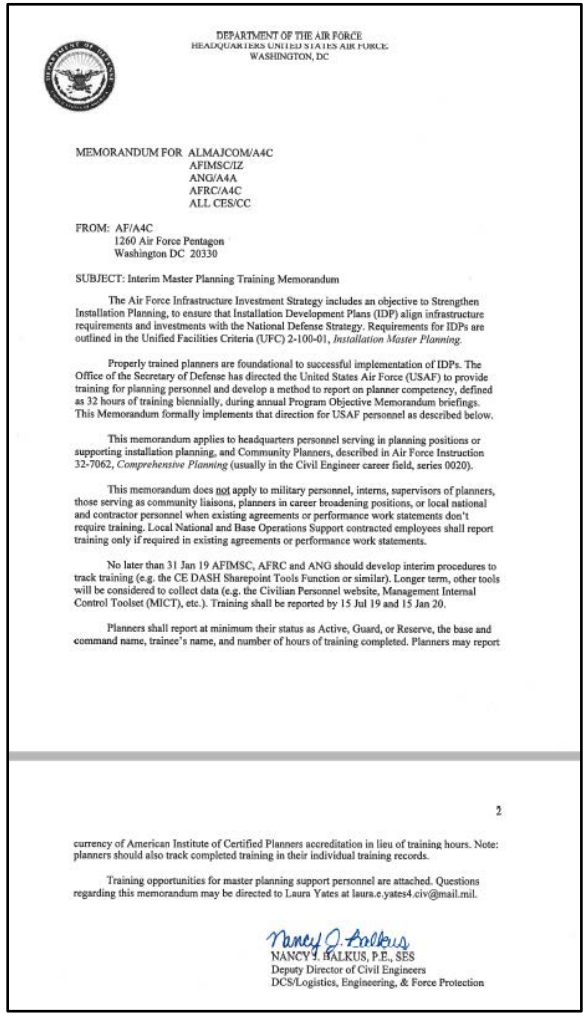
Interim Severe Weather and Climate Hazard Screening and Risk Assessment Playbook



U.S. AIR FORCE

Career Field Education and Training Plan

- Master Planning Training Memo – signed by A4C-2 Feb 2019
- Why: In 2018 OSD directed the USAF to report on AF planner competency (32 hours of training biennially) at annual Program Objective Memorandum briefing
- Infrastructure Investment Strategy Objective to "Strengthen Installation Planning"
  - Properly trained planners "foundational to successful implementation of Installation Development Plans"
  - Planners report training 2x a year on sharepoint site
- Goal to publish Career Field Education and Training Plan for 0020s in Feb 20
  - Clearly defined career development plan for 0020s – competencies and job opportunities
  - Defines education and training opportunities



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC

MEMORANDUM FOR ALMAJCOM/A4C
AFIMSC/IZ
ANG/A4A
AFRC/A4C
ALL CES/CC

FROM: AF/A4C
1260 Air Force Pentagon
Washington DC 20330

SUBJECT: Interim Master Planning Training Memorandum

The Air Force Infrastructure Investment Strategy includes an objective to Strengthen Installation Planning, to ensure that Installation Development Plans (IDP) align infrastructure requirements and investments with the National Defense Strategy. Requirements for IDPs are outlined in the Unified Facilities Criteria (UFC) 2-100-01, *Installation Master Planning*.

Properly trained planners are foundational to successful implementation of IDPs. The Office of the Secretary of Defense has directed the United States Air Force (USAF) to provide training for planning personnel and develop a method to report on planner competency, defined as 32 hours of training biennially, during annual Program Objective Memorandum briefings. This Memorandum formally implements that direction for USAF personnel as described below.

This memorandum applies to headquarters personnel serving in planning positions or supporting installation planning, and Community Planners, described in Air Force Instruction 32-7062, *Comprehensive Planning* (usually in the Civil Engineer career field, series 0020).

This memorandum does not apply to military personnel, interns, supervisors of planners, those serving as community liaisons, planners in career broadening positions, or local national and contractor personnel when existing agreements or performance work statements don't require training. Local National and Base Operations Support contracted employees shall report training only if required in existing agreements or performance work statements.

No later than 31 Jan 19 AFIMSC, AFRC and ANG should develop interim procedures to track training (e.g. the CE DASH Sharepoint Tools Function or similar). Longer term, other tools will be considered to collect data (e.g. the Civilian Personnel website, Management Internal Control Toolset (MICT), etc.). Training shall be reported by 15 Jul 19 and 15 Jan 20.

Planners shall report at minimum their status as Active, Guard, or Reserve, the base and command name, trainee's name, and number of hours of training completed. Planners may report

2

currency of American Institute of Certified Planners accreditation in lieu of training hours. Note: planners should also track completed training in their individual training records.

Training opportunities for master planning support personnel are attached. Questions regarding this memorandum may be directed to Laura Yates at laura.e.yates4.civ@mail.mil.

Nancy J. Halkus
NANCY J. HALKUS, P.E., SES
Deputy Director of Civil Engineers
DCS/Logistics, Engineering, & Force Protection

Questions?

U.S. AIR FORCE

I2S for Planners

- Strengthen Installation Planning
  - Align infrastructure requirements & investments with the National Defense Strategy (NDS)
  - Optimize use/re-use of existing facilities
  - Offset new construction growth
  - Divest failing & underutilized facilities
- Planning Adjacent
  - Ensure Airbase Resiliency – Installations are able to protect, respond, and recover from disruptions that degrade operations – survivability, resiliency, and redundancy
- End-state: Adaptive, resilient, right-sized and fiscally sustainable infrastructure to assure combat readiness, lethality, and Airmen resilience

Planning's Future in the DoD

2018 CORVETTE STINGRAY RWD Coupe 1LT

$56,590 Net Price

Configuration (2)

MSRP from $56,590‡

✓ Coupe

MSRP from $60,590‡

Convertible

Drive Type (1)

MSRP from $56,590‡

✓ RWD

Engine (1)

✓ 6.2L V8 DI engine

2018 CORVETTE STINGRAY RWD Coupe 3LT with Z51 Performance Package

$71,335 Net Price

The 3LT trim level provides the ultimate sport experience and luxury, featuring a leather-wrapped color-keyed interior. 3LT includes everything found in the 2LT plus:

- Custom leather-wrapped interior (information panel, door panels, center console cover and seats)
- Sueded microfiber upper interior trim
- Performance Data Recorder (optional on 1LT/2LT)
- Napa leather seating surfaces

More

MSRP from $71,335‡

3LT WITH Z51 PERFORMANCE PACKAGE

The Z51 3LT includes all the features of the 3LT plus the Z51 Performance Package:

- Dry sump oil system
- Electronic Limited-Slip Differential
- Larger front brakes (13.6 inch vs. 12.6 inch) with black calipers
- Specific shocks, springs and stabilizer bars

More

Compare Trims

Next Step: Colors

2018 CORVETTE STINGRAY RWD Coupe 3LT with Z51 Performance Package

$71,335 Net Price

Exterior Color (10)

- Admiral Blue Metallic
- Arctic White
- Black
- Blade Silver Metallic
- Ceramic Matrix Gray Metallic
- ✓ Torch Red
- Watkins Glen Gray Metallic

Premium

- Corvette Racing Yellow Tintcoat
  $995
- Long Beach Red Metallic Tintcoat
  $995
- Sebring Orange Tintcoat
  $995

2018 CORVETTE STINGRAY RWD Coupe 3LT with Z51 Performance Package

$74,475 Net Price

19" front/20" rear, 5-split spoke, Black-painted machined aluminum, Z51-style wheels with summer-only tires
$1,495

19" front/20" rear, 5-split spoke, Black-painted with Yellow stripe, aluminum, Z51-style wheels with summer-only tires
$1,495

19" front/20" rear, 5-split spoke, Satin Black-painted with Red stripe, aluminum, Z51-style wheels with summer-only tires
$1,495

19" front/20" rear, Torque directional Silver-painted aluminum wheels with summer-only tires
$1,495

19" front/20" rear, Torque directional chrome aluminum wheels with summer-only tires
$2,495

19" front/20" rear, Motorsports polished aluminum wheels with summer-only tires
$1,995

19" front/20" rear, Motorsports Black-painted aluminum wheels with summer-only tires
$1,495

Mechanical Options (6)

7-speed manual transmission with Active Rev Matching

2018 CORVETTE STINGRAY RWD Coupe 3LT with Z51 Performance Package

$79,865 Net Price

Body-Color Dual Roof Package
$1,995

Carbon Flash-painted rear spoiler and outside mirrors
$100

Z06®-style body-color rear spoiler, Genuine Corvette® Accessory
$895

Body-color wing rear spoiler, Genuine Corvette® Accessory

Z06®-style Carbon Flash spoiler, Genuine Corvette® Accessory
$1,095

Wicker bill, Genuine Corvette® Accessory

Carbon Flash-Painted Ground Effects Package
$2,995

Body-Color Carbon Fiber Ground Effects, Genuine Corvette® Accessory
$3,295

Visible Carbon Fiber Ground Effects, Genuine Corvette® Accessory
$4,295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The future of planning, while hard to predict, will include a conflict between all that we need and want and what little we can afford.

So what do we **truly need**?

And what do we **ideally want**?

But what can we **realistically afford**?

Three Areas of Focus

1 Visualization

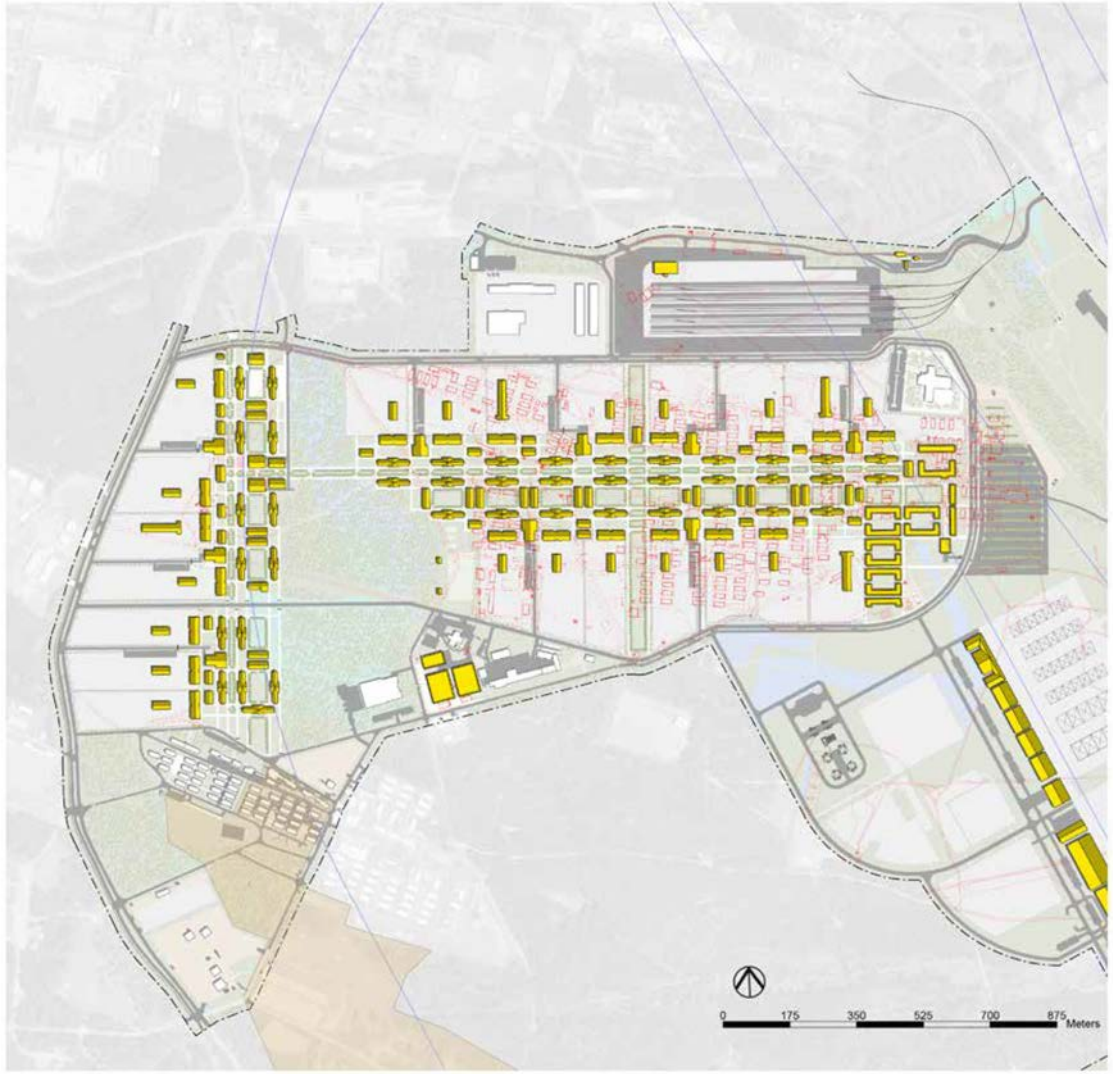
2 Execution

3 Management

1. The increasing importance of visualization

2. The need to focus on execution.

Area Development Execution Plans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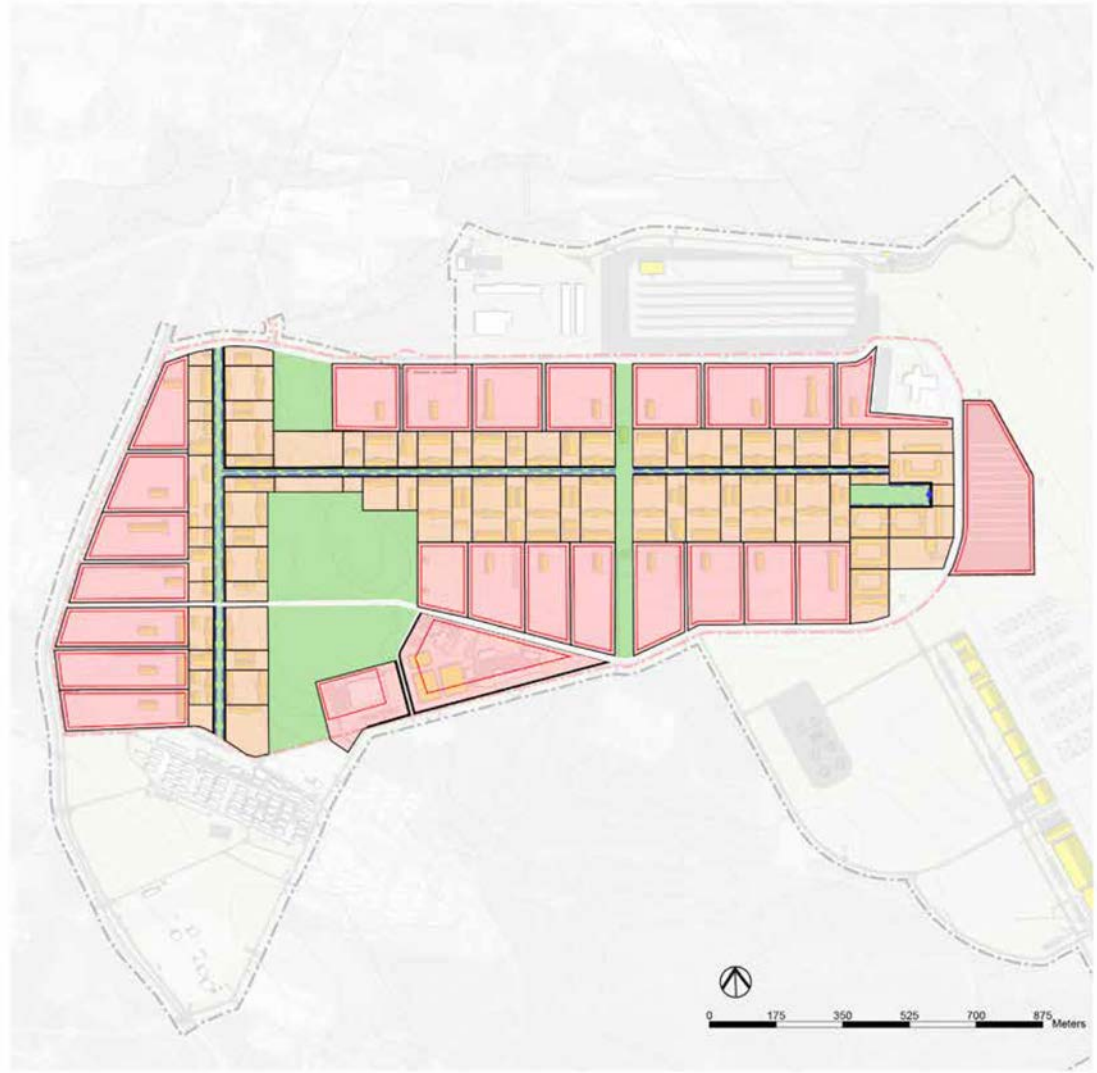
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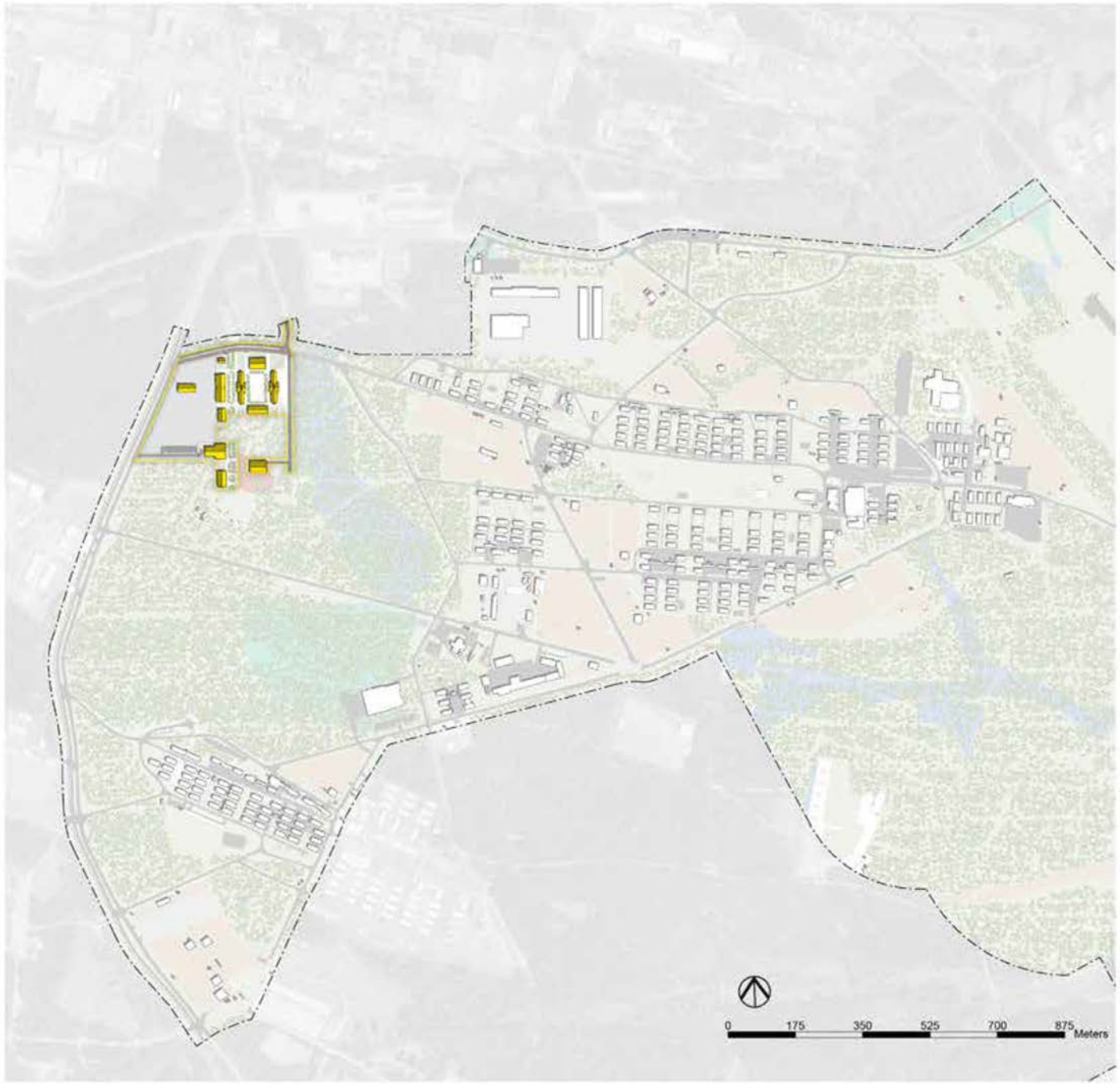
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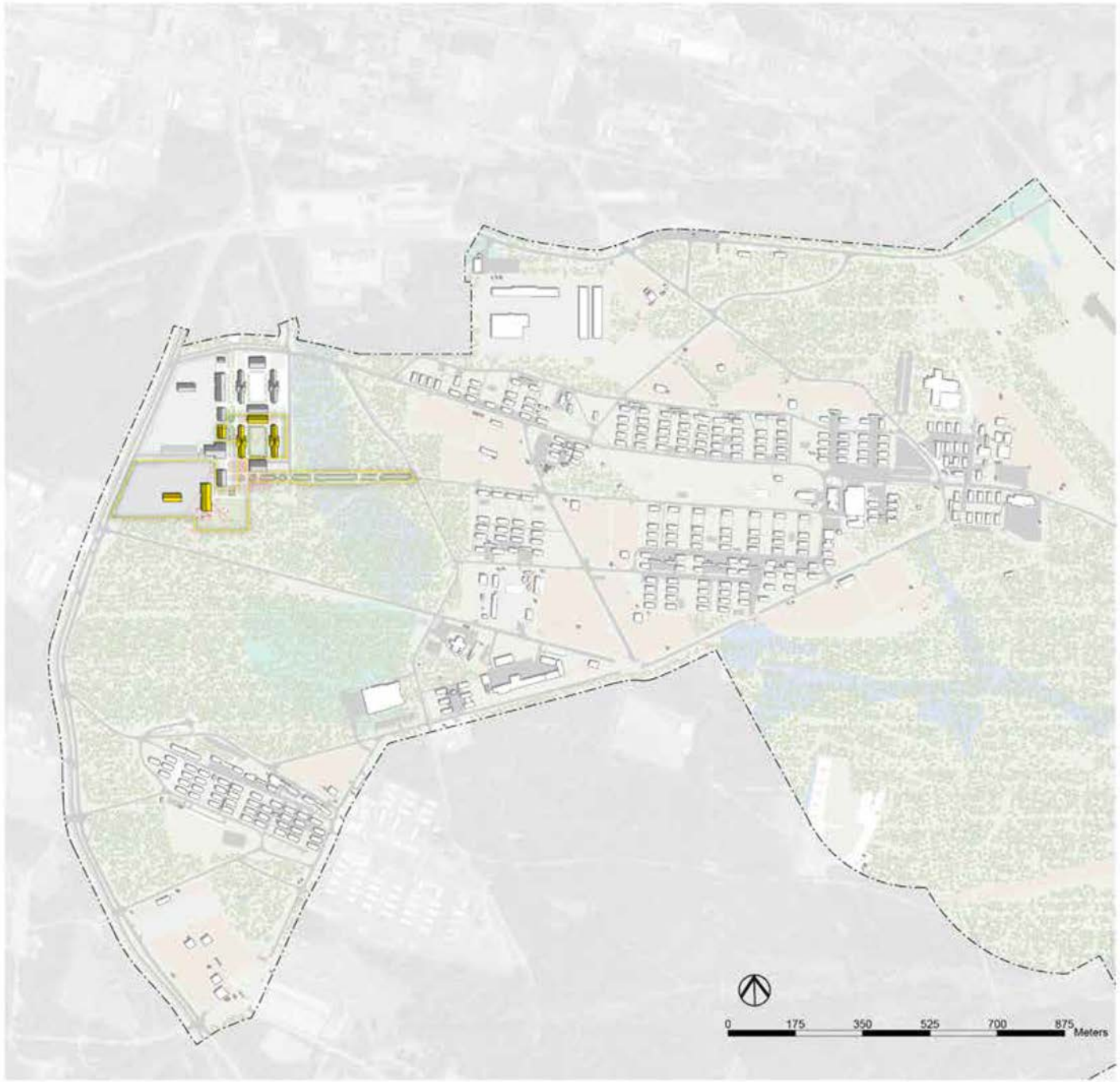
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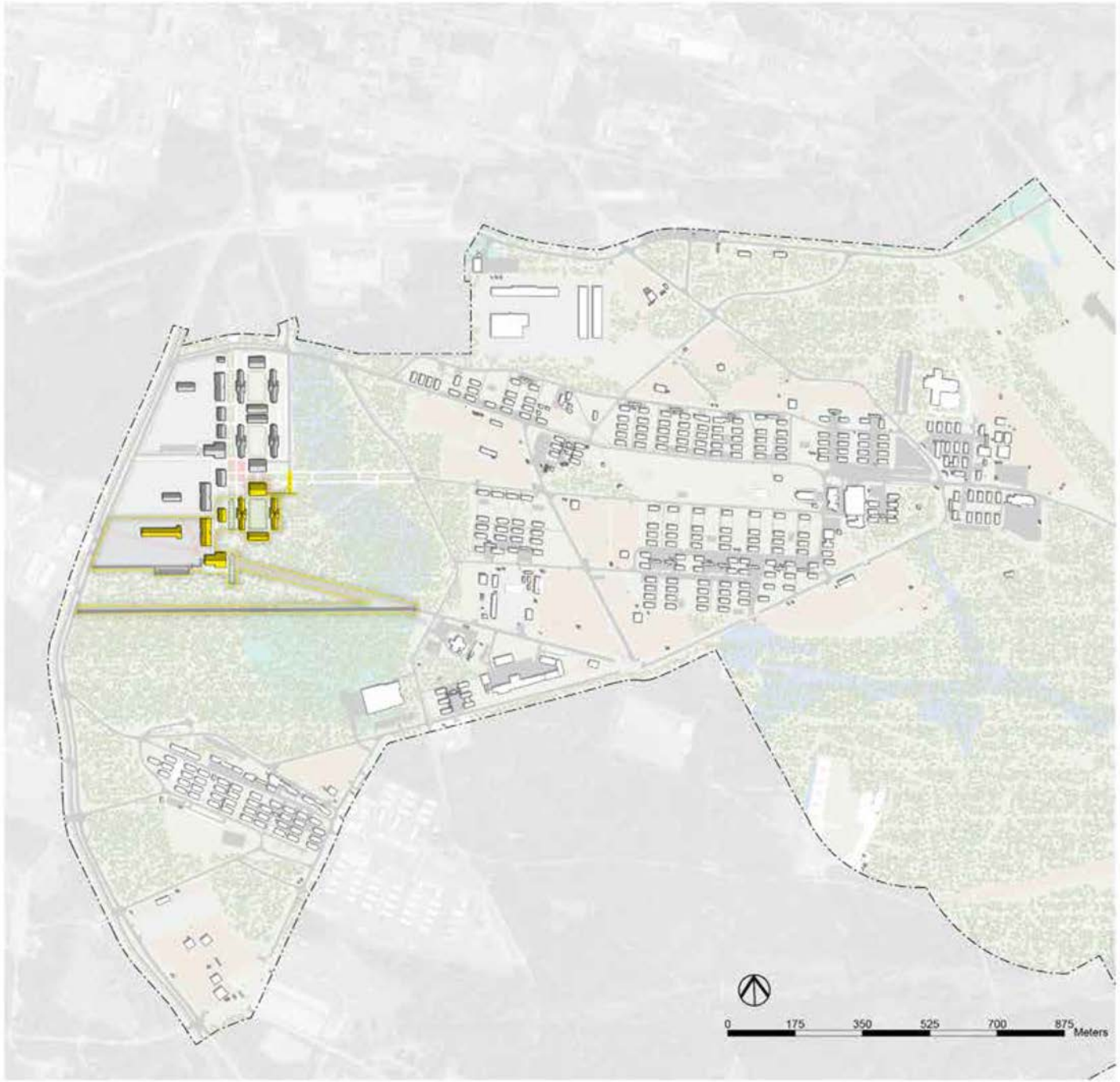
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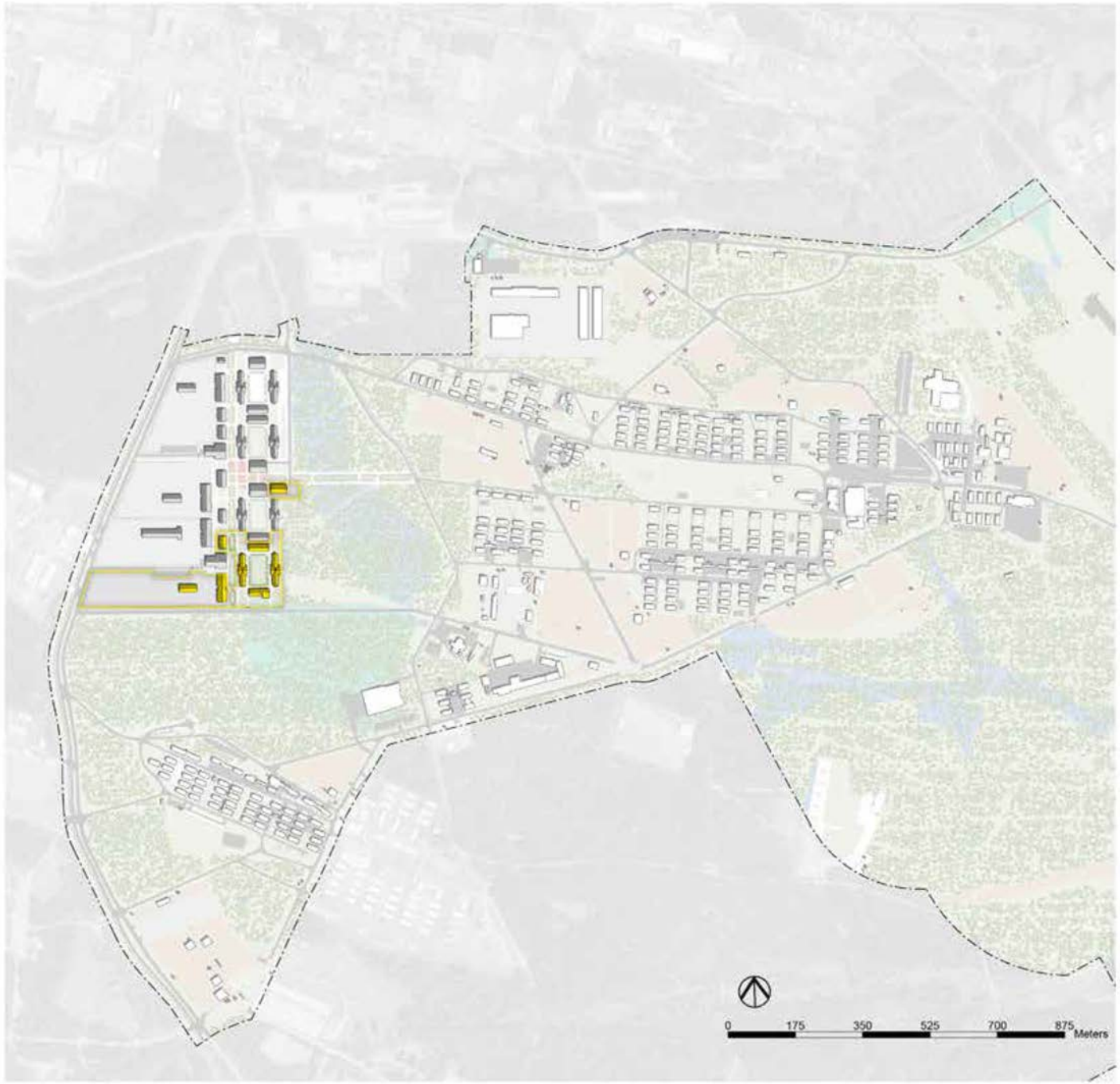
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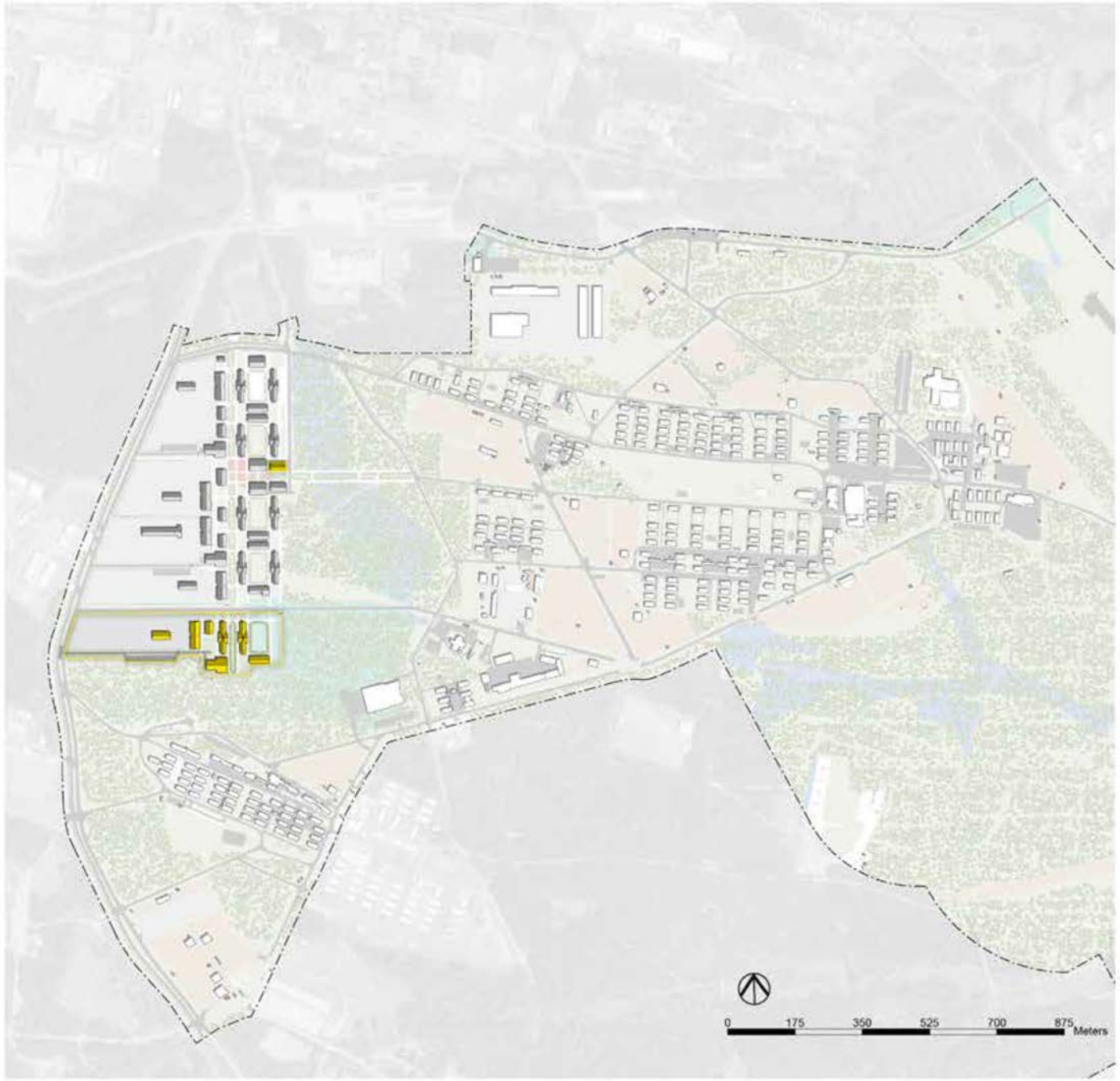
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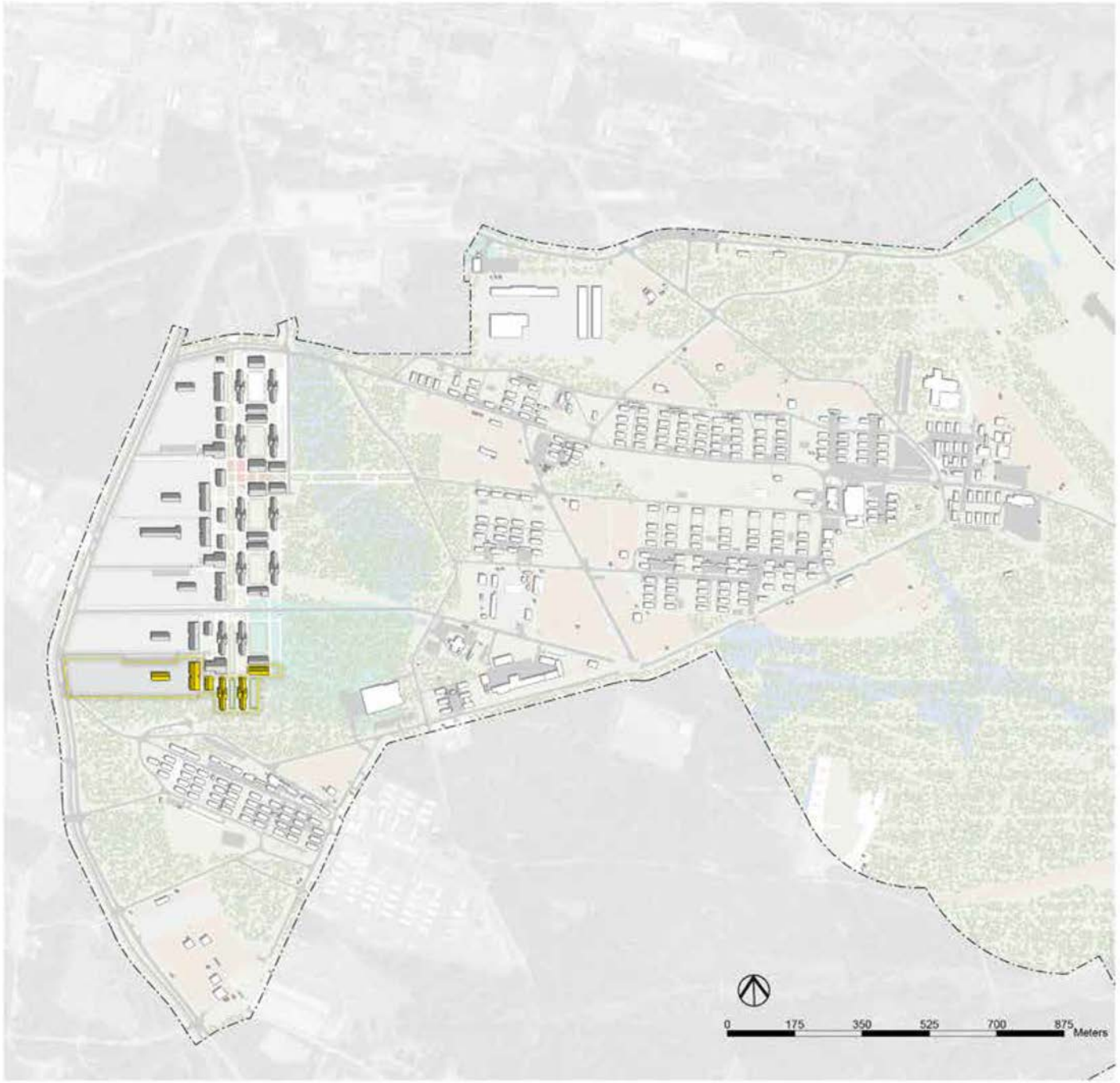
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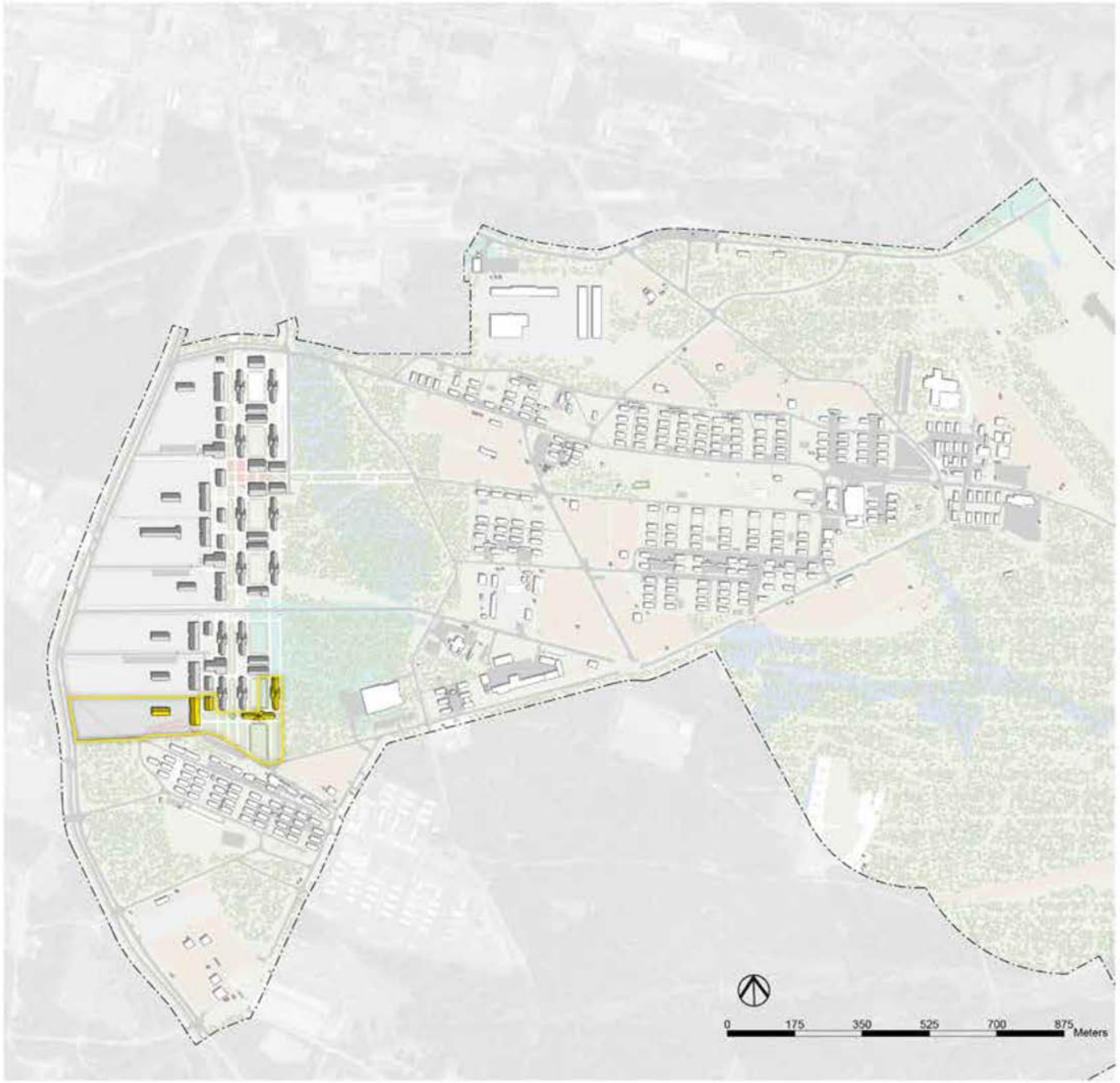
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GRAPHIC LEGEND

- Boundary - ADP
- Step Boundary
- Active AT/FP Barrier
- 25m AT/FP Setback
- Demolition
- Proposed Building
- Building in Previous Phase
- Existing Building
- Demolished Building
- Asphalt
- Concrete
- Gravel
- Sidewalk
- Contaminated Soil
- Floodplain
- Wetlands
- Fence
- Proposed Tree Location

PROJECT LOCATOR

GRAPHIC LEGEND

- Utility - Communications
- Utility - Electrical
- Utility - Heat
- Utility - Potable Water / Fire Suppression
- Utility - Wastewater
- Utility - Stormwater
- Utility - Gas

Thin, solid lines represent existing utilities/utilities installed in a previous step. Thick, solid lines represent utilities proposed in this step. Broken lines represent utilities to be demolished in this step.

PROJECT LOCATOR

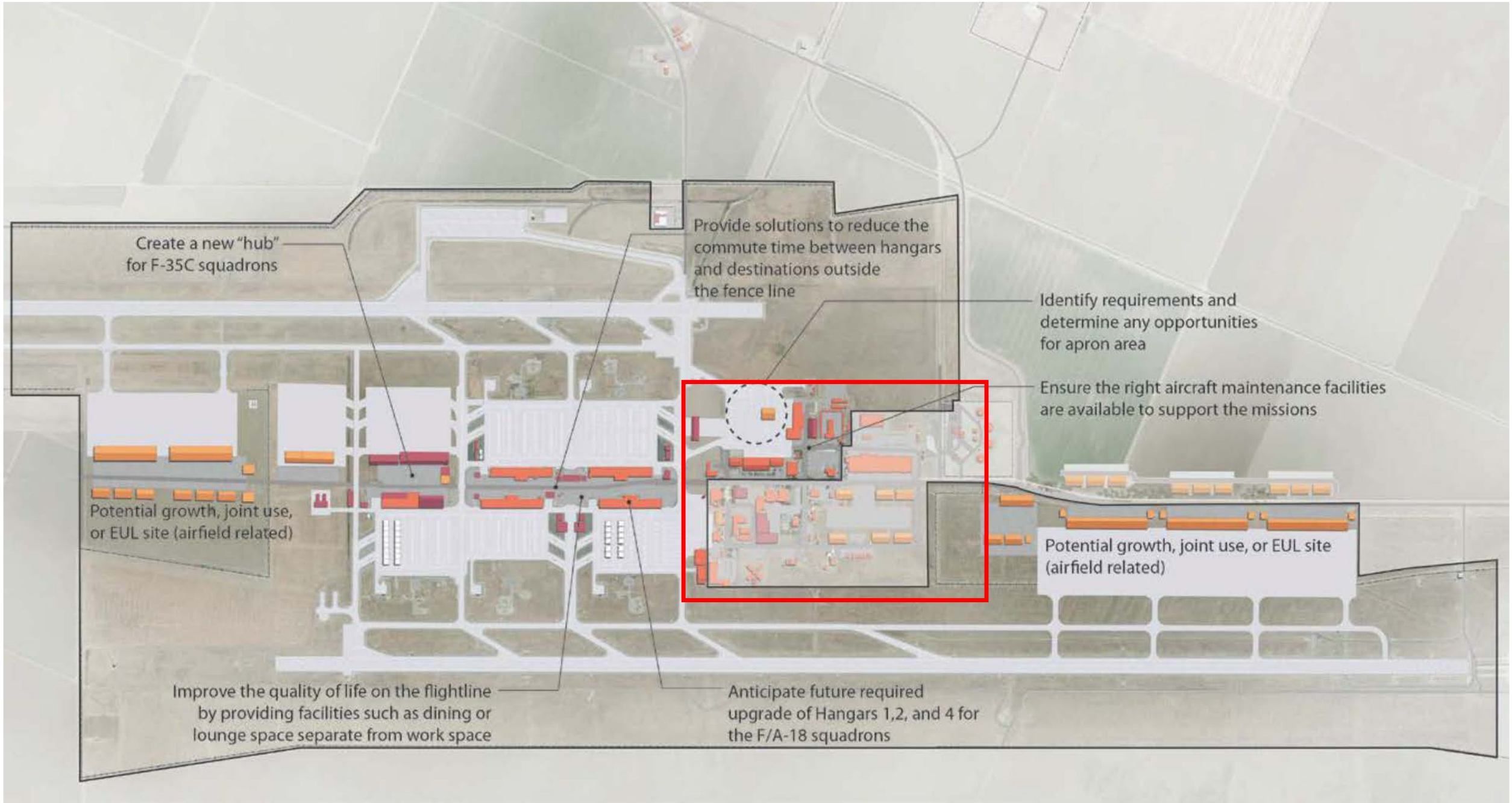
IMPLEMENTATION SEQUENCE
STEP 1.1 - QUANTITIES

							BUILDINGS				SUPPORTING FACILITIES					DEMOLITION				
PHASE	FY	M-P	FUNDING	CATCODE	PROJECT TITLE	QTY	STORIES	GSF	G m2	FOOTPRINT (SQ FT)	SY	m2	LF	EA	m	LF	m	SF	SY	m2
PHASE 1.1 (1) - 23.1 acres (93,526 sqm)																				
Demolition																				
1.1	FY22	2024	FSRM	93310	Asphalt													36,874	4,097	3,425
1.1	FY22	2024	FSRM	93310	Dirt (Contaminated)													33,411	3,712	3,104
1.1	FY22	2024	FSRM	93310	Gravel													4,268	474	396
Primary Facilities																				
1.1	FY22	2024	EDI		UXO (Cost Allowance)															
1.1	FY22	2024	EDI	82130	Heating Plant (Heating Plant Building, 89121)		1	12,486	1,160	12,486										
1.1	FY22	2024	EDI	13252	ADN		1	2,658	247	2,658										
1.1	FY22	2024	EDI	72212	Dining Facility - Large		1	19,620	1,823	19,620										
1.1	FY22	2024	EDI	72114	Barracks 1		4	61,328	5,697	15,332										
1.1	FY22	2024	EDI	72114	Barracks 2		4	61,328	5,697	15,332										
1.1	FY22	2024	EDI	14186	Company Operations Facility 1		1	19,193	1,783	19,193										
1.1	FY22	2024	EDI	72412	Officers Quarters 1		2	22,189	2,061	11,095										
1.1	FY22	2024	EDI	14184	Battalion Headquarters 1		1	7,092	659	7,092										
1.1	FY22	2024	EDI	14187	Brigade Headquarters 1		1	10,193	947	10,193										
1.1	FY22	2024	EDI	74028	Physical Fitness		1	14,910	1,385	14,910										
1.1	FY22	2024	EDI	21406	Vehicle Maintenance Shop - Small 1		1	10,032	932	10,032										
1.1	FY22	2024	EDI	85210	Organizational Parking 1						35,730	29,875								
Supporting Facilities																				
1.1	FY22	2024	EDI	13510	Communication - Branch								1616		493					
1.1	FY22	2024	EDI	13510	Communication - Concrete Duct and Cable Main								5250		1,600					
1.1	FY22	2024	EDI	89340	Gas								2342							
1.1	FY22	2024	EDI	81242	Electrical - Branch								1652		504					
1.1	FY22	2024	EDI	81242	Electrical - Underground Concrete Duct Bank 4 way, 4" RGS and Cable Main								2920		890					
1.1	FY22	2024	EDI	84330	Water - (Fire Protection) - Branch								1380		421					
1.1	FY22	2024	EDI	84330	Water - 8" DIP (Fire Protection) - Main								3929		1,198					
1.1	FY22	2024	EDI	82210	Heat (Return) - Branch								1442		440					
1.1	FY22	2024	EDI	82210	Heat (Supply) - Branch								1442		440					
1.1	FY22	2024	EDI	82210	Heat - 6" Stainless Pipe (Return) - Main								2304		702					
1.1	FY22	2024	EDI	82210	Heat - 6" Stainless Pipe (Supply) - Main								2304		702					
1.1	FY22	2024	EDI	84215	Water (Potable) - Branch								1380		421					
1.1	FY22	2024	EDI	84210	Water - 8" DIP (Potable) - Main								3929		1,198					
1.1	FY22	2024	EDI	83210	Wastewater - Branch								1794		547					
1.1	FY22	2024	EDI	83210	Wastewater - 8" CMP - Main								4298		1,310					
1.1	FY22	2024	EDI	87150	Stormwater Detention Source Area (Buildings)						15,327	12,815								
1.1	FY22	2024	EDI	87150	Stormwater Detention Source Area (Hardstand)						35,730	29,875								
1.1	FY22	2024	EDI	87150	Stormwater Detention Source Area (Pavers)						13,515	11,300								
1.1	FY22	2024	EDI	87150	Stormwater Detention Source Area (Parking)						2,060	1,722								
1.1	FY22	2024	EDI		Communication Manholes									15						
1.1	FY22	2024	EDI		Wastewater Manholes									22						
1.1	FY22	2024	EDI		Pavers						13,515	11,300								
1.1	FY22	2024	EDI	85215	Car Park						2,060	1,722								
1.1	FY22	2024	EDI	85110	Access Road								1,804		550					
1.1	FY22	2024	EDI	85110	Construct POV and Tank Road Assembly (69' wide)								1,017		310					
1.1	FY22	2024	EDI	81230	Car Park Lighting (25m on center)									2						
1.1	FY22	2024	EDI	81230	Street Lighting (30m on center)									29						
1.1	FY22	2024	EDI	81230	Organizational Parking Lighting									20						
1.1	FY22	2024	EDI	81230	Pedestrian Lighting (25m on center)									24						
1.1	FY22	2024	EDI	93220	Trees									29						
1.1	FY22	2024	EDI	87210	Fencing (2.5m high, anti-climb, welded wire mesh, outriggers, barbed wire)								2,443		745					
1.1	FY22	2024	EDI		Removable Bollards (or similar Active AT/FP Barrier)								75	19	23					
1.1	FY22	2024	EDI		Miscellaneous Supporting Facilities not included above (5% of Primary Facilities)															
1.1	FY22	2024	EDI		AT/FP (1% of total costs above)															
1.1	FY22	2024	EDI		Environmental Compensation (Based on Data Provided by USACE)															
1.1	FY22	2024	EDI		Sustainability (2% of total costs above)															
1.1	FY22	2024	EDI		CyberSecurity (ESS, LFS, UMCS $250K x 3)															
					PHASE TOTALS	**0**	**18**	**241,029**	**22,392**	**137,942**	**117,937**	**98,610**	**40,803**		**11,723**	**0**	**0**	**74,553**	**8,283**	**6,926**

IMPLEMENTATION SEQUENCE
STEP 1.1 - COSTS

	UNIT COST (per SF) (Avg from 1391, EA and PAX Historical Costs)	Primary Facilities	Supporting Facilities (Site Infrastructure)	Subtotal Primary and Supp. Facilities	Estimate / Design Contingency @ 10%	Subtotal Primary and Supp. Facilities incl. Est Contingency	Germany Factor @ 20%	Subtotal incl. Germany Factor	Project Contingency @ 5%	Total Contract Cost	SIOH @ 6.5%	Design-Build Design Cost @ 4%	TOTAL ESTIMATE	Escalation @ 2.0% per Year to Estimated Mid Point of Construction	TOTAL ESTIMATE (ESCALATED) Rounded, in 000's
PHASE 1.1 (1) - 23.1 acres (93,526 sqm)		**$ 74,898,109**	**$ 18,429,316**	**$ 98,970,247**	**$ 9,822,025**	**$ 108,042,272**	**$ 21,608,454**	**$ 129,650,726**	**$ 6,482,536**	**$ 136,133,262**	**$ 8,848,662**	**$ 5,445,330**	**$ 150,427,255**	**$ 9,207,351**	**$ 161,662**
Demolition															
Asphalt	$ 6.90	$ 28,267		$ 28,267	$ 2,827	$ 31,094	$ 6,219	$ 37,313	$ 1,866	$ 39,178	$ 2,547	$ 1,567	$ 43,292	$ 2,650	$ 46
Dirt (Contaminated)	$ 203.50	$ 755,384		$ 755,384	$ 75,538	$ 830,923	$ 166,185	$ 997,107	$ 49,855	$ 1,046,963	$ 68,053	$ 41,879	$ 1,156,894	$ 70,811	$ 1,228
Gravel	$ 5.50	$ 2,608		$ 2,608	$ 261	$ 2,869	$ 574	$ 3,443	$ 172	$ 3,615	$ 235	$ 145	$ 3,994	$ 244	$ 4
														Total Demolition	**$ 1,278**
Primary Facilities															
UXO (Cost Allowance)				$ 100,000	$ 10,000	$ 110,000	$ 22,000	$ 132,000	$ 6,600	$ 138,600	$ 9,009	$ 5,544	$ 153,153	$ 9,374	$ 163
Heating Plant (Heating Plant Building, 89121)	$ 880.30	$ 10,991,376		$ 10,991,376	$ 1,099,138	$ 12,090,513	$ 2,418,103	$ 14,508,616	$ 725,431	$ 15,234,047	$ 990,213	$ 609,362	$ 16,833,622	$ 1,030,352	$ 17,864
ADN	$ 280.00	$ 744,240	$ 148,848	$ 893,088	$ 89,309	$ 982,397	$ 196,479	$ 1,178,876	$ 58,944	$ 1,237,820	$ 80,458	$ 49,513	$ 1,367,791	$ 83,720	$ 1,452
Dining Facility - Large	$ 427.74	$ 8,392,201		$ 8,392,201	$ 839,220	$ 9,231,421	$ 1,846,284	$ 11,077,705	$ 553,885	$ 11,631,590	$ 756,053	$ 465,264	$ 12,852,907	$ 786,701	$ 13,640
Barracks 1	$ 222.11	$ 13,621,614		$ 13,621,614	$ 1,362,161	$ 14,983,776	$ 2,996,755	$ 17,980,531	$ 899,027	$ 18,879,558	$ 1,227,171	$ 755,182	$ 20,861,911	$ 1,276,916	$ 22,139
Barracks 2	$ 222.11	$ 13,621,614		$ 13,621,614	$ 1,362,161	$ 14,983,776	$ 2,996,755	$ 17,980,531	$ 899,027	$ 18,879,558	$ 1,227,171	$ 755,182	$ 20,861,911	$ 1,276,916	$ 22,139
Company Operations Facility 1	$ 246.27	$ 4,726,640		$ 4,726,640	$ 472,664	$ 5,199,304	$ 1,039,861	$ 6,239,165	$ 311,958	$ 6,551,123	$ 425,823	$ 262,045	$ 7,238,991	$ 443,084	$ 7,682
Officers Quarters 1	$ 321.13	$ 7,125,636		$ 7,125,636	$ 712,564	$ 7,838,199	$ 1,567,640	$ 9,405,839	$ 470,292	$ 9,876,131	$ 641,949	$ 395,045	$ 10,913,125	$ 667,971	$ 11,581
Battalion Headquarters 1	$ 274.43	$ 1,946,266		$ 1,946,266	$ 194,627	$ 2,140,893	$ 428,179	$ 2,569,071	$ 128,454	$ 2,697,525	$ 175,339	$ 107,901	$ 2,980,765	$ 182,447	$ 3,163
Brigade Headquarters 1	$ 271.59	$ 2,768,273		$ 2,768,273	$ 276,827	$ 3,045,101	$ 609,020	$ 3,654,121	$ 182,706	$ 3,836,827	$ 249,394	$ 153,473	$ 4,239,694	$ 259,503	$ 4,499
Physical Fitness	$ 271.21	$ 4,043,791		$ 4,043,791	$ 404,379	$ 4,448,170	$ 889,634	$ 5,337,804	$ 266,890	$ 5,604,694	$ 364,305	$ 224,188	$ 6,193,187	$ 379,073	$ 6,572
Vehicle Maintenance Shop - Small 1	$ 342.39	$ 3,434,812		$ 3,434,812	$ 343,481	$ 3,778,293	$ 755,659	$ 4,533,952	$ 226,698	$ 4,760,649	$ 309,442	$ 190,426	$ 5,260,518	$ 321,986	$ 5,583
Organizational Parking 1	$ 97.44	$ 3,481,645		$ 3,481,645	$ 348,165	$ 3,829,810	$ 765,962	$ 4,595,772	$ 229,789	$ 4,825,560	$ 313,661	$ 193,022	$ 5,332,244	$ 326,376	$ 5,659
														Total Primary Facilities	**$ 122,134**
Supporting Facilities															
Communication - Branch	$ 22.10		$ 35,714	$ 35,714	$ 3,571	$ 39,285	$ 7,857	$ 47,142	$ 2,357	$ 49,499	$ 3,217	$ 1,980	$ 54,696	$ 3,348	$ 58
Communication - Concrete Duct and Cable Main	$ 56.50		$ 296,625	$ 296,625	$ 29,663	$ 326,288	$ 65,258	$ 391,545	$ 19,577	$ 411,122	$ 26,723	$ 16,445	$ 454,290	$ 27,806	$ 482
Electrical - Branch	$ 92.00		$ 151,984	$ 151,984	$ 15,198	$ 167,182	$ 33,436	$ 200,619	$ 10,031	$ 210,650	$ 13,692	$ 8,426	$ 232,768	$ 14,247	$ 247
Electrical - Underground Concrete Duct Bank 4 way, 4" RGS and Cable Main	$ 297.00		$ 867,240	$ 867,240	$ 86,724	$ 953,964	$ 190,793	$ 1,144,757	$ 57,238	$ 1,201,995	$ 78,130	$ 48,080	$ 1,328,204	$ 81,297	$ 1,410
Water - (Fire Protection) - Branch	$ 57.00		$ 78,660	$ 78,660	$ 7,866	$ 86,526	$ 17,305	$ 103,831	$ 5,192	$ 109,023	$ 7,086	$ 4,361	$ 120,470	$ 7,374	$ 128
Water - 8" DIP (Fire Protection) - Main	$ 75.00		$ 294,675	$ 294,675	$ 29,468	$ 324,143	$ 64,829	$ 388,971	$ 19,449	$ 408,420	$ 26,547	$ 16,337	$ 451,304	$ 27,623	$ 479
Heat (Return) - Branch	$ 153.00		$ 220,626	$ 220,626	$ 22,063	$ 242,689	$ 48,538	$ 291,226	$ 14,561	$ 305,788	$ 19,876	$ 12,232	$ 337,895	$ 20,682	$ 359
Heat (Supply) - Branch	$ 153.00		$ 220,626	$ 220,626	$ 22,063	$ 242,689	$ 48,538	$ 291,226	$ 14,561	$ 305,788	$ 19,876	$ 12,232	$ 337,895	$ 20,682	$ 359
Heat - 6" Stainless Pipe (Return) - Main	$ 218.00		$ 502,272	$ 502,272	$ 50,227	$ 552,499	$ 110,500	$ 662,999	$ 33,150	$ 696,149	$ 45,250	$ 27,846	$ 769,245	$ 47,084	$ 816
Heat - 6" Stainless Pipe (Supply) - Main	$ 218.00		$ 502,272	$ 502,272	$ 50,227	$ 552,499	$ 110,500	$ 662,999	$ 33,150	$ 696,149	$ 45,250	$ 27,846	$ 769,245	$ 47,084	$ 816
Water (Potable) - Branch	$ 40.30		$ 55,614	$ 55,614	$ 5,561	$ 61,175	$ 12,235	$ 73,410	$ 3,671	$ 77,081	$ 5,010	$ 3,083	$ 85,175	$ 5,213	$ 90
Water - 8" DIP (Potable) - Main	$ 75.00		$ 294,675	$ 294,675	$ 29,468	$ 324,143	$ 64,829	$ 388,971	$ 19,449	$ 408,420	$ 26,547	$ 16,337	$ 451,304	$ 27,623	$ 479
Wastewater - Branch	$ 10.00		$ 17,940	$ 17,940	$ 1,794	$ 19,734	$ 3,947	$ 23,681	$ 1,184	$ 24,865	$ 1,616	$ 995	$ 27,476	$ 1,682	$ 29
Wastewater - 8" CMP - Main	$ 26.90		$ 115,616	$ 115,616	$ 11,562	$ 127,178	$ 25,436	$ 152,613	$ 7,631	$ 160,244	$ 10,416	$ 6,410	$ 177,070	$ 10,838	$ 188
Stormwater Detention Source Area (Buildings)	$ 40.00		$ 613,076	$ 613,076	$ 61,308	$ 674,384	$ 134,877	$ 809,261	$ 40,463	$ 849,724	$ 55,232	$ 33,989	$ 938,945	$ 57,471	$ 996
Stormwater Detention Source Area (Hardstand)	$ 40.00		$ 1,429,193	$ 1,429,193	$ 142,919	$ 1,572,112	$ 314,422	$ 1,886,534	$ 94,327	$ 1,980,861	$ 128,756	$ 79,234	$ 2,188,851	$ 133,975	$ 2,323
Stormwater Detention Source Area (Pavers)	$ 40.00		$ 540,600	$ 540,600	$ 54,060	$ 594,660	$ 118,932	$ 713,592	$ 35,680	$ 749,272	$ 48,703	$ 29,971	$ 827,945	$ 50,677	$ 879
Stormwater Detention Source Area (Parking)	$ 40.00		$ 82,400	$ 82,400	$ 8,240	$ 90,640	$ 18,128	$ 108,768	$ 5,438	$ 114,206	$ 7,423	$ 4,568	$ 126,198	$ 7,724	$ 134
Communication Manholes	$ 12,790.00		$ 191,850	$ 191,850	$ 19,185	$ 211,035	$ 42,207	$ 253,242	$ 12,662	$ 265,904	$ 17,284	$ 10,636	$ 293,824	$ 17,984	$ 312
Wastewater Manholes	$ 10,150.00		$ 225,249	$ 225,249	$ 22,525	$ 247,774	$ 49,555	$ 297,328	$ 14,866	$ 312,195	$ 20,293	$ 12,488	$ 344,975	$ 21,115	$ 366
Pavers	$ 282.00		$ 3,811,230	$ 3,811,230	$ 381,123	$ 4,192,353	$ 838,471	$ 5,030,824	$ 251,541	$ 5,282,365	$ 343,354	$ 211,295	$ 5,837,013	$ 357,272	$ 6,194
Car Park	$ 195.00		$ 401,700	$ 401,700	$ 40,170	$ 441,870	$ 88,374	$ 530,244	$ 26,512	$ 556,756	$ 36,189	$ 22,270	$ 615,216	$ 37,656	$ 653
Access Road	$ 709.00		$ 1,279,036	$ 1,279,036	$ 127,904	$ 1,406,940	$ 281,388	$ 1,688,328	$ 84,416	$ 1,772,744	$ 115,228	$ 70,910	$ 1,958,882	$ 119,899	$ 2,079
Construct POV and Tank Road Assembly (69' wide)	$ 873.00		$ 887,666	$ 887,666	$ 88,767	$ 976,433	$ 195,287	$ 1,171,720	$ 58,586	$ 1,230,306	$ 79,970	$ 49,212	$ 1,359,488	$ 83,212	$ 1,443
Car Park Lighting (25m on center)	$ 8,935.00		$ 17,870	$ 17,870	$ 1,787	$ 19,657	$ 3,931	$ 23,588	$ 1,179	$ 24,768	$ 1,610	$ 991	$ 27,368	$ 1,675	$ 29
Street Lighting (30m on center)	$ 8,935.00		$ 256,137	$ 256,137	$ 25,614	$ 281,750	$ 56,350	$ 338,100	$ 16,905	$ 355,005	$ 23,075	$ 14,200	$ 392,281	$ 24,011	$ 416
Organizational Parking Lighting	$ 8,935.00		$ 178,700	$ 178,700	$ 17,870	$ 196,570	$ 39,314	$ 235,884	$ 11,794	$ 247,678	$ 16,099	$ 9,907	$ 273,684	$ 16,752	$ 290
Pedestrian Lighting (25m on center)	$ 6,177.00		$ 145,777	$ 145,777	$ 14,578	$ 160,355	$ 32,071	$ 192,426	$ 9,621	$ 202,047	$ 13,133	$ 8,082	$ 223,262	$ 13,665	$ 237
Trees	$ 331.00		$ 9,599	$ 9,599	$ 960	$ 10,559	$ 2,112	$ 12,671	$ 634	$ 13,304	$ 865	$ 532	$ 14,701	$ 900	$ 16
Fencing (2.5m high, anti-climb, welded wire mesh, outriggers, barbed wire)	$ 321.13		$ 784,530	$ 784,530	$ 78,453	$ 862,983	$ 172,597	$ 1,035,579	$ 51,779	$ 1,087,358	$ 70,678	$ 43,494	$ 1,201,531	$ 73,543	$ 1,275
Removable Bollards (or similar Active AT/FP Barrier)	$ 1,400.00		$ 26,411	$ 26,411	$ 2,641	$ 29,052	$ 5,810	$ 34,862	$ 1,743	$ 36,605	$ 2,379	$ 1,464	$ 40,449	$ 2,476	$ 43
Miscellaneous Supporting Facilities not included above (5% of Primary Facilities)			$ 3,744,905	$ 3,744,905	$ 374,491	$ 4,119,396	$ 823,879	$ 4,943,275	$ 247,164	$ 5,190,439	$ 337,379	$ 207,618	$ 5,735,435	$ 351,055	$ 6,086
AT/FP (1% of total costs above)				$ 933,274	$ 93,327	$ 1,026,602	$ 205,320	$ 1,231,922	$ 61,596	$ 1,293,518	$ 84,079	$ 51,741	$ 1,429,338	$ 87,487	$ 1,517
Environmental Compensation (Based on Data Provided by USACE)				$ 1,993,000	$ 199,300	$ 2,192,300	$ 438,460	$ 2,630,760	$ 131,538	$ 2,762,298	$ 179,549	$ 110,492	$ 3,052,339	$ 186,828	$ 3,239
Sustainability (2% of total costs above)				$ 1,866,548	$ 186,655	$ 2,053,203	$ 410,641	$ 2,463,844	$ 123,192	$ 2,587,036	$ 168,157	$ 103,481	$ 2,858,675	$ 174,974	$ 3,034
CyberSecurity (ESS, LFS, UMCS $250K x 3)				$ 750,000											$ 750
														Total Supporting Facilities	**$ 38,250**

Nodal Development Plans


Create a new "hub" for F-35C squadrons
Provide solutions to reduce the commute time between hangars and destinations outside the fence line
Identify requirements and determine any opportunities for apron area
Ensure the right aircraft maintenance facilities are available to support the missions
Potential growth, joint use, or EUL site (airfield related)
Potential growth, joint use, or EUL site (airfield related)
Improve the quality of life on the flightline by providing facilities such as dining or lounge space separate from work space
Anticipate future required upgrade of Hangars 1,2, and 4 for the F/A-18 squadrons

FUNCTIONAL PROGRAM COST ANALYSIS

PROJECT	CAT-CODE	CAT DESCRIPTION	SM	SF	FY '20 TOTAL ($/SF)	COST
D	610-70	WING HQ	6750	72,657	$911.05	$66,194,160
E	171-10	ACADEMIC INSTRUCTION	315	3,391	$911.05	$3,089,371
	610-72	BATTALION HQ	5907	63,582	$911.05	$57,926,381
C	-	ADMIN PARKING GARAGE	18952	204,000	$136.66	$27,878,640
*	143-45	ARMORY ADDITION	774	8,326	$1,184.36	$9,860,981
TOTAL FUNCTIONAL COST: $164,949,532.86						

Customer Concept Documents


CAT
CAT
CAT

44

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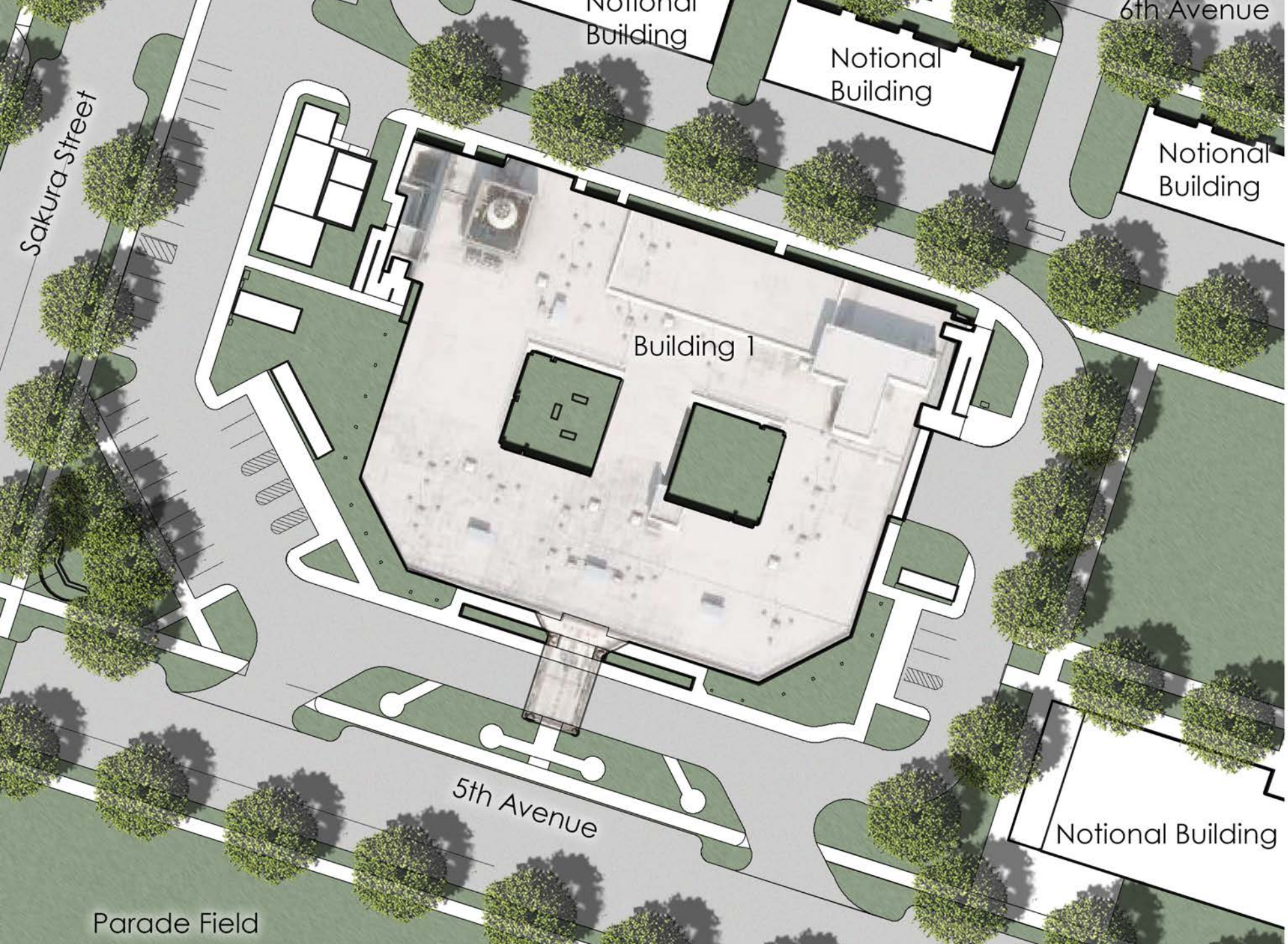
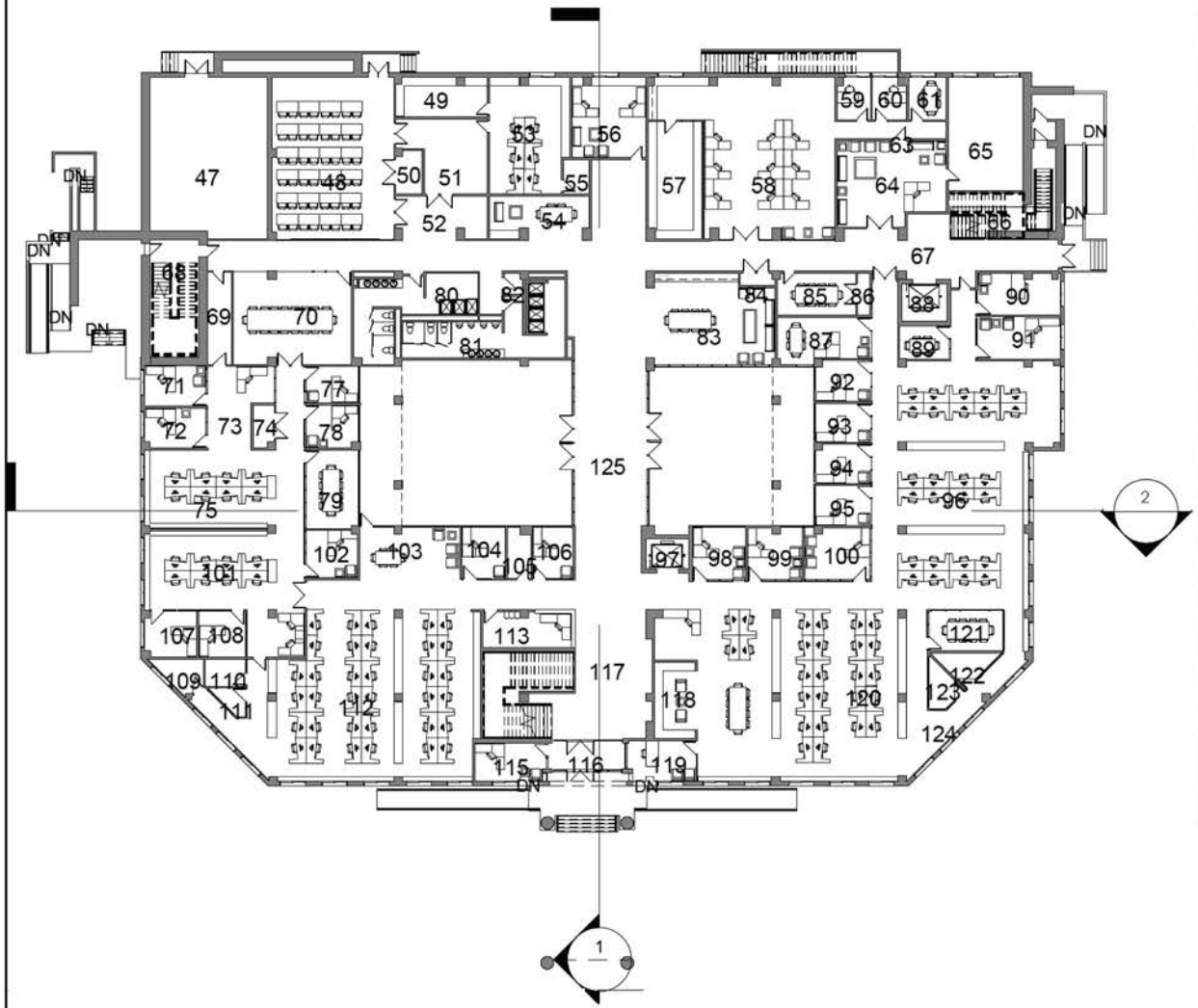

Notional Building
Notional Building
6th Avenue
Notional Building
Sakura Street
Building 1
5th Avenue
Notional Building
Parade Field



Room Schedule Level 1			
Number	Name	Area	Level
47	MECHANICAL ROOM	1024 SF	Level 1
48	SHARED CLASSROOM	1085 SF	Level 1
49	NCOA STORAGE	193 SF	Level 1
50	CLOSET	60 SF	Level 1
51	NCOA CLASSROOM LOBBY	308 SF	Level 1
52	NCOA ENTRY	211 SF	Level 1
53	NCOA ADMINISTRATION	497 SF	Level 1
54	LOUNGE	229 SF	Level 1
55	NCOA CLOSET	48 SF	Level 1
56	FAMILY READINESS OFFICE	323 SF	Level 1
57	ARCHIVE	346 SF	Level 1
58	COMMUNICATIONS, OPERATIONS, & SAFETY STUDIO	1276 SF	Level 1
59	SOUND BOOTH	75 SF	Level 1
60	AV BOOTH	76 SF	Level 1
61	MEETING ROOM	87 SF	Level 1
63	CO&S CORRIDOR	102 SF	Level 1
64	WAITING ROOM	483 SF	Level 1
65	PHOTO STUDIO	470 SF	Level 1
66	STAIR CORRIDOR	301 SF	Level 1
67	ELEVATOR	1876 SF	Level 1
68	STAIRS	316 SF	Level 1
69	CORRIDOR	121 SF	Level 1
70	CONFERENCE ROOM	597 SF	Level 1
71	CHRO DIRECTOR OFFICE	139 SF	Level 1
72	CHRO OFFICE	134 SF	Level 1
73	RECEPTION	253 SF	Level 1
74	EPS	48 SF	Level 1
75	CIVILIAN HUMAN RESOURCES OFFICER	565 SF	Level 1
77	CHRO OFFICE	107 SF	Level 1
78	CHRO OFFICE	126 SF	Level 1
79	CHRO CONSULTING ROOM	232 SF	Level 1
80	WOMEN'S RESTROOM	352 SF	Level 1
81	MEN'S RESTROOM	418 SF	Level 1
82	CLOSET	20 SF	Level 1
83	BREAK ROOM	621 SF	Level 1
84	CLOSET	23 SF	Level 1
85	H & HS MEETING ROOM	181 SF	Level 1
86	CLOSET	28 SF	Level 1
87	CAREER PLANNING	225 SF	Level 1
88	ELEVATOR	99 SF	Level 1
89	MEETING ROOM	92 SF	Level 1
90	COMMUNICATIONS, OPERATIONS, & SAFETY OFFICE	187 SF	Level 1

Room Schedule Level 1			
91	COMMUNICATIONS, OPERATIONS, & SAFETY OFFICE	193 SF	Level 1
92	S4 OFFICE	124 SF	Level 1
93	S3 OFFICE	120 SF	Level 1
94	S1 OFFICE	118 SF	Level 1
95	PERFORMANCE & INNOVATION OFFICE	124 SF	Level 1
96	COMMUNICATIONS, OPERATIONS, & SAFETY ADMIN.	2024 SF	Level 1
97	ELEVATOR	75 SF	Level 1
98	H & HS OFFICE	156 SF	Level 1
99	H & HS OFFICE	157 SF	Level 1
100	H & HS OFFICE	191 SF	Level 1
101	CIVILIAN HUMAN RESOURCES OFFICER	1110 SF	Level 1
102	CHRO OFFICE	135 SF	Level 1
103	COLLABORATIVE SPACE	285 SF	Level 1
104	COMPTROLLER PRIVATE OFFICE	126 SF	Level 1
105	EPS	60 SF	Level 1
106	COMPTROLLER PRIVATE OFFICE	116 SF	Level 1
107	CHRO OFFICE	129 SF	Level 1
108	CHRO OFFICE	121 SF	Level 1
109	TELEPHONE ROOM	72 SF	Level 1
110	TELEPHONE ROOM	62 SF	Level 1
111	TELEPHONE ROOM	40 SF	Level 1
112	COMPTROLLER	2084 SF	Level 1
113	RECEPTION	183 SF	Level 1
115	DUTY OFFICER	147 SF	Level 1
116	VESTIBULE	124 SF	Level 1
117	FOYER	607 SF	Level 1
118	HQ AND HQ SQUADRON COLLABORATION SPACE	180 SF	Level 1
119	GEA (G7)	150 SF	Level 1
120	HQ AND HQ SQUADRON	2075 SF	Level 1
121	COMMUNICATIONS, OPERATIONS, & SAFETY MEETING ROOM	169 SF	Level 1
122	TELEPHONE ROOM	73 SF	Level 1
123	TELEPHONE ROOM	66 SF	Level 1
124	CORRIDOR	417 SF	Level 1
125	CORRIDOR	2675 SF	Level 1

US Army Corps of Engineers®

Prepared By:
The Urban Collaborative, LLC

As a Subcontractor to:
Leidos

Under Contract With:
U.S. Army Corps of Engineers
Fort Worth District

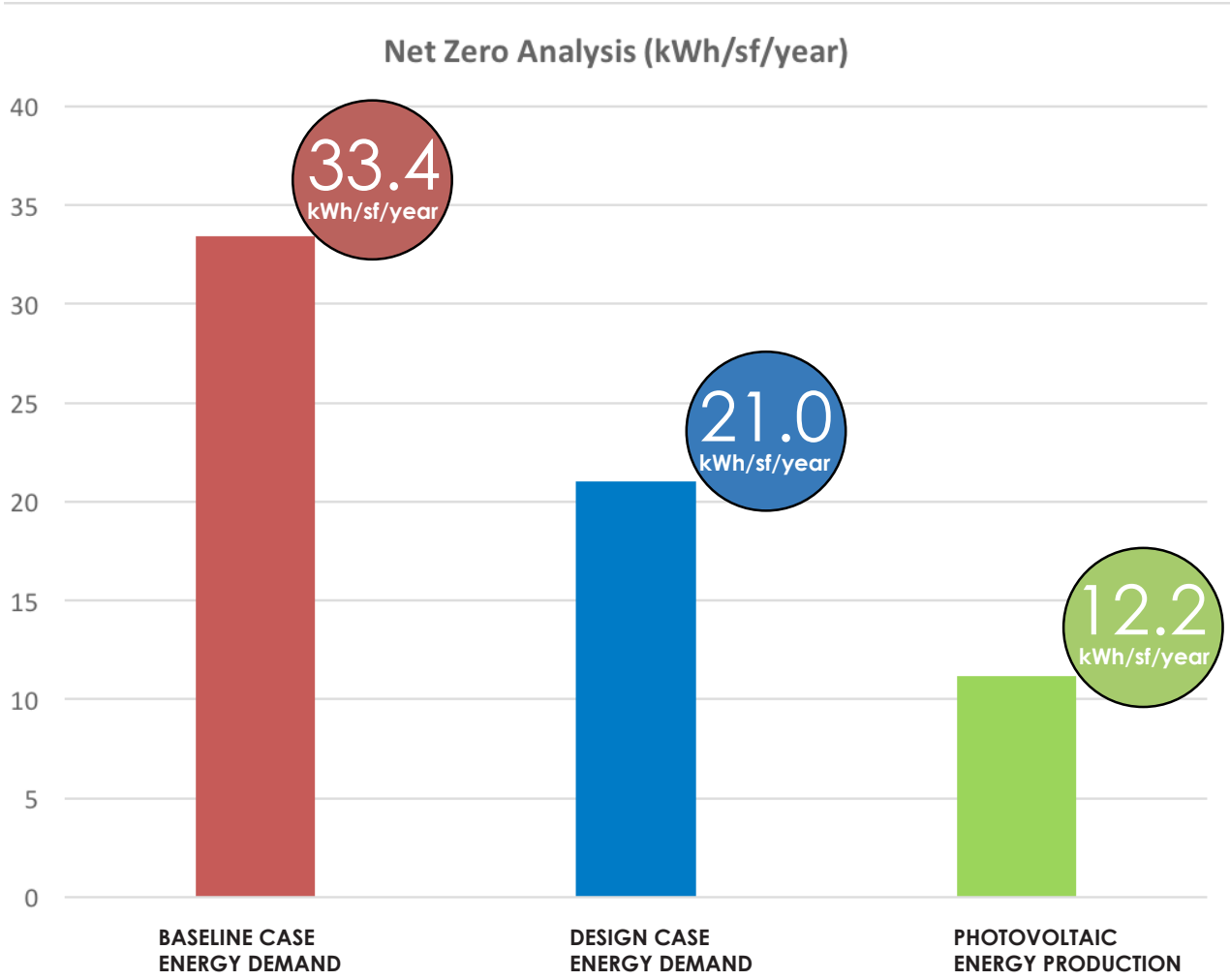
MARINE CORPS AIR STATION IWAKUNI

BUILDING ONE RENOVATION

1ST FLOOR PLAN

3.6

0' 15' 30' 45'


Net Zero Analysis (kWh/sf/year)
40
35
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25
20
15
10
5
0
33.4
kWh/sf/year
21.0
kWh/sf/year
12.2
kWh/sf/year
BASELINE CASE
ENERGY DEMAND
DESIGN CASE
ENERGY DEMAND
PHOTOVOLTAIC
ENERGY PRODUCTION

HOST NATION FUNDED PROJECT DOCUMENTATION 受入国負担計画

☑ FIP 施設整備計画
☐ RP 移設計画

1. DATE 日付	2A. PROJECT # 計画番号	2B. CAT 類別	3. PROJECT TITLE 計画名
20180201	92897		Fire Station

4. INSTALLATION 施設名	5. CATEGORY CODE(S) 類別符号	6. PROJECT SCOPE (METRIC) 計画規模（メートル法単位）
Marine Corps Air Station Iwakuni, Japan	73010	13,119 SF / 1,219 m2

7. USFJ APPROVAL STAMP 在日米軍承認料

8. PROJECT TYPE(FIP) 計画の種類
☑ NEW CONSTRUCTION 新築
☐ RECONSTRUCTION 改築
☐ SITE CLEARANCE 更地化工事

RELATED PROJECT 関連計画 ____________

9. ITEMS 事項	U/M METRIC メートル法単位	QUANTITY 数量
PRIMARY FACILITY: 主要施設		
Fire Station - Two Company Satellite		13,119
Sustainability / Energy Measures		
SUPPORT FACILITIES: 附帯施設		
81242 Underground Electric Lines, #1/0-3/C, 600		35
81242 Electric Underground Manholes, 6'x8'x7		1
81230 Site Lighting, 20' Aluminum Pole, 400 Watt		6
84210 Water Distribution Lines, Plastic Pipe, PV		46
83220 Combined Sewer		46
89240 Fire Hydrant, 6' Depth		1
85215 Non Organizational Vehicle Parking, Paved		900
85110 Road Pavement, Asphalt Concrete Surface 3"		444
85220 Sidewalks & Walkways 4" Thick Cast in Place		120
87110 Storm Water Drainage Sewer/Piping CMP 10"		45
93210 Site Clearing & Grading, Fine Grading		3,678

10. DESCRIPTION OF PROPOSED CONSTRUCTION: LIST FACILITY FUNCTIONS, NUMBER OF STORIES, TYPE OF CONSTRUCTION, DEMOLITION, SUPPORT SYSTEMS (HEATING, FIRE PROTECTION, ETC.), SITE CLEARANCE CONSTRUCTION REQUIRED, AND OTHER SPECIAL REQUIREMENTS.
工事計画の概要、施設の用途、階数、工事方法、取り壊し方法、附帯設備（暖房、防火設備等）、現場処理工事、その他特に必要な事項。

Construct a standard design two company satellite fire station. This facility will include apparatus bays: residential areas: administration areas: training areas: information systems: fire protection and alarm systems: and Energy Monitoring Control Systems (EMCS) connection. Sustainability and energy enhancement measures are included. Supporting facilities include site development, utilities and connections, lighting, paving, parking, walks, curbs and gutters, storm drainage, information systems, landscaping and signage. Heating and air conditioning will be provided by [self contained system OR connection to the existing energy plant OR etc.]. Measures in accordance with the Department of Defense (DoD) Minimum Antiterrorism for Buildings standards will be provided. Comprehensive building and furnishings related interior design services are required. Access for individuals with disabilities will be provided. Facilities will be designed to a minimum life of 50 years in accordance with DoD's Unified Facilities Code (UFC 1-200-02) including energy efficiencies, building envelope and integrated building systems performance. Facilities will be designed to a minimum life of 40 years in accordance with DoD's Unified Facilities Criteria (UFC 1-200-02) including energy efficiencies, building envelope and integrated building systems performance.


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                 2020                 92833 W          REVISION DATE:  08 JAN 2018
     USMC               M&R (AS OF 01/08/2018 AT 03:46:09)             05 JAN 2018
                              ACF=2.16        UM=E

Iwakuni MC Air Station
Japan                                     MAINT, REP
                                          Renovation of Command Headquarters Bldg
                                          1

                            610 10        92833                      25,000

1.0000 U.S. Dollar/US$

PRIMARY FACILITY                                                            21,421
  Administrative Fac, General Purpose            SF      67,954  315.23   (21,421)

ESTIMATED CONTRACT COST                                                    21,421
CONTINGENCY (10.00%)                                                        2,142
SUBTOTAL                                                                   23,563
SUPERVISION, INSPECTION & OVERHEAD (7.50%)                                  1,767
TOTAL REQUEST                                                              25,330
TOTAL REQUEST (ROUNDED)                                                    25,000
ASSOCIATED CONSTRUCTION COST                                                  (0)
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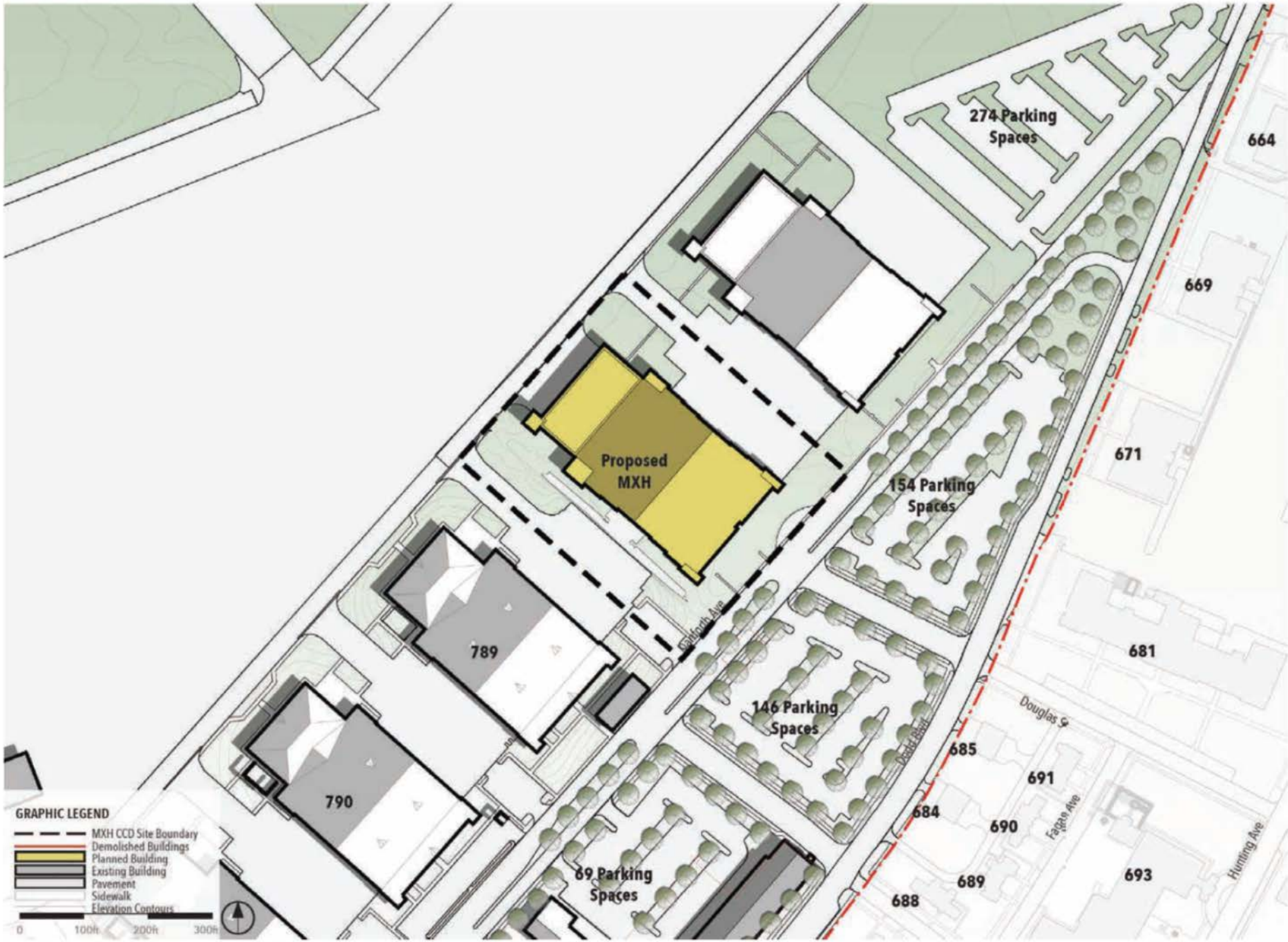
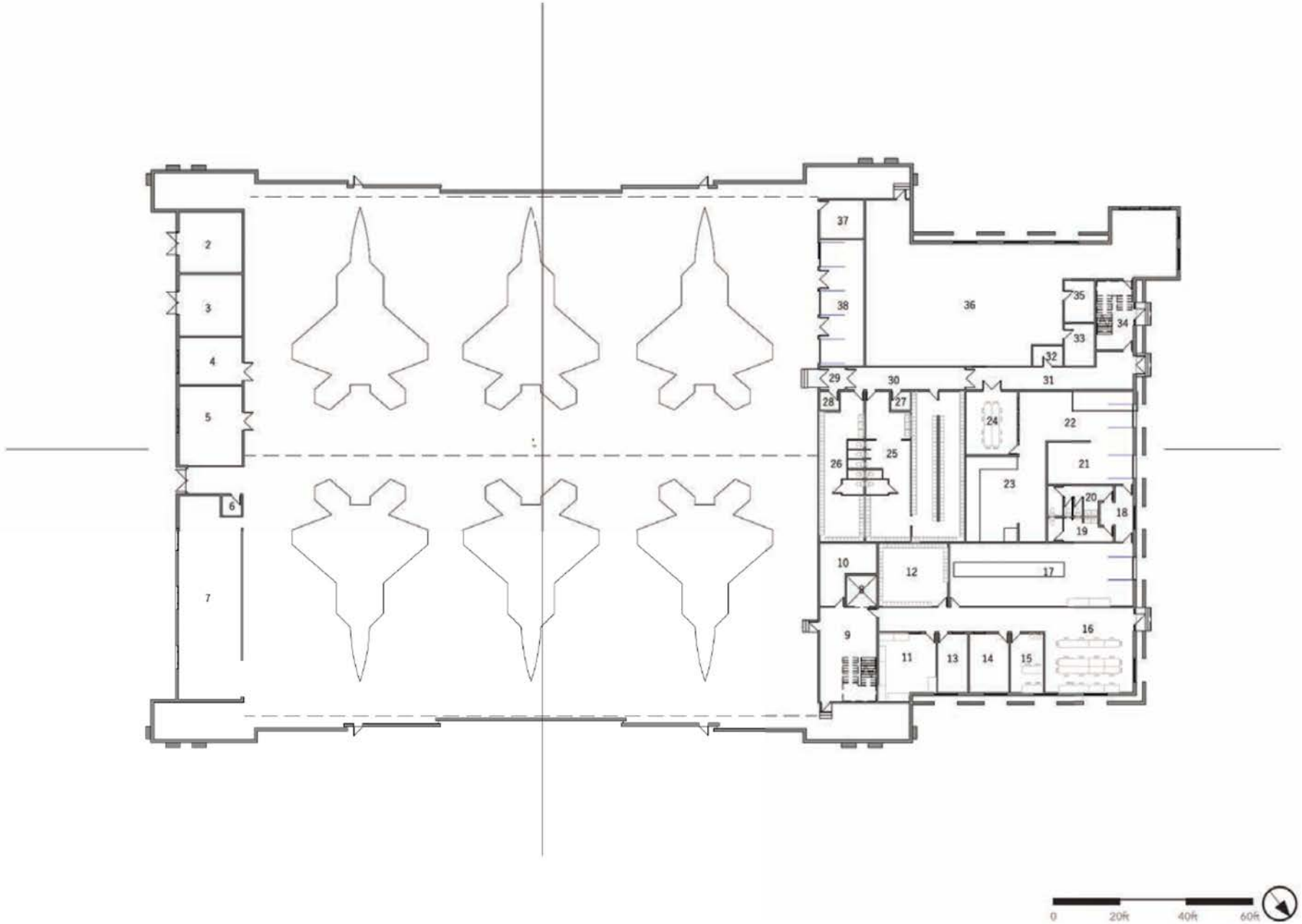
Repair Building One. Building One is a 76,028 sf command headquarters administrative building constructed in 2003. This Building is currently in good condition, however due to Defense Policy Restructuring Initiative (DPRI) most of the building tenants are moving out of their designated spaces and into new spaces or buildings by FY 19. Thus Building One requires extensive remodeling and renovation in order to accommodate planned unit/tenant movements. Architectural work includes interior wall relocations, paint, wall coverings, flooring, trim, and doors. Civil work includes changes directly related to building code/safety compliance and space requirements for each tenant. Electrical work includes, fixtures, receptacles, lighting, wiring and panels to meet the electrical requirements of each designated space. This project will be planned and programed in phases to allow for tenant occupancy during construction. Areas affected by new construction will be made in compliance with applicable ATFP, Fire Suppression, Seismic, Accessibility, ASHRAE, LEED, codes, and standards (as required) upon completion of the project.

11. REQ: 77,304 SF ADQT: 9,350 SF SUBSTD: 67,954 SF

PROJECT JUSTIFICATION:

Building One operates as the Headquarters of MCAS Iwakuni with many tenants working in disconnected, inefficient spaces that do not meet requirements for size and layout, leading to higher labor costs, increased total lifecycle costs, and reduced quality of life for personnel. To support the backfill plan, many existing units and tenants will be moving into new locations upon completion of DPRI in 2019. The inefficient layout of the building leads makes functional arrangements


274 Parking Spaces
664
669
Proposed MXH
154 Parking Spaces
671
789
681
146 Parking Spaces
Douglas St
685
691
790
684
690
Fatgate Ave
Hunting Ave
69 Parking Spaces
689
693
688
GRAPHIC LEGEND
MXH CCD Site Boundary
Demolished Buildings
Planned Building
Existing Building
Pavement
Sidewalk
Elevation Contours
0
100ft
200ft
300ft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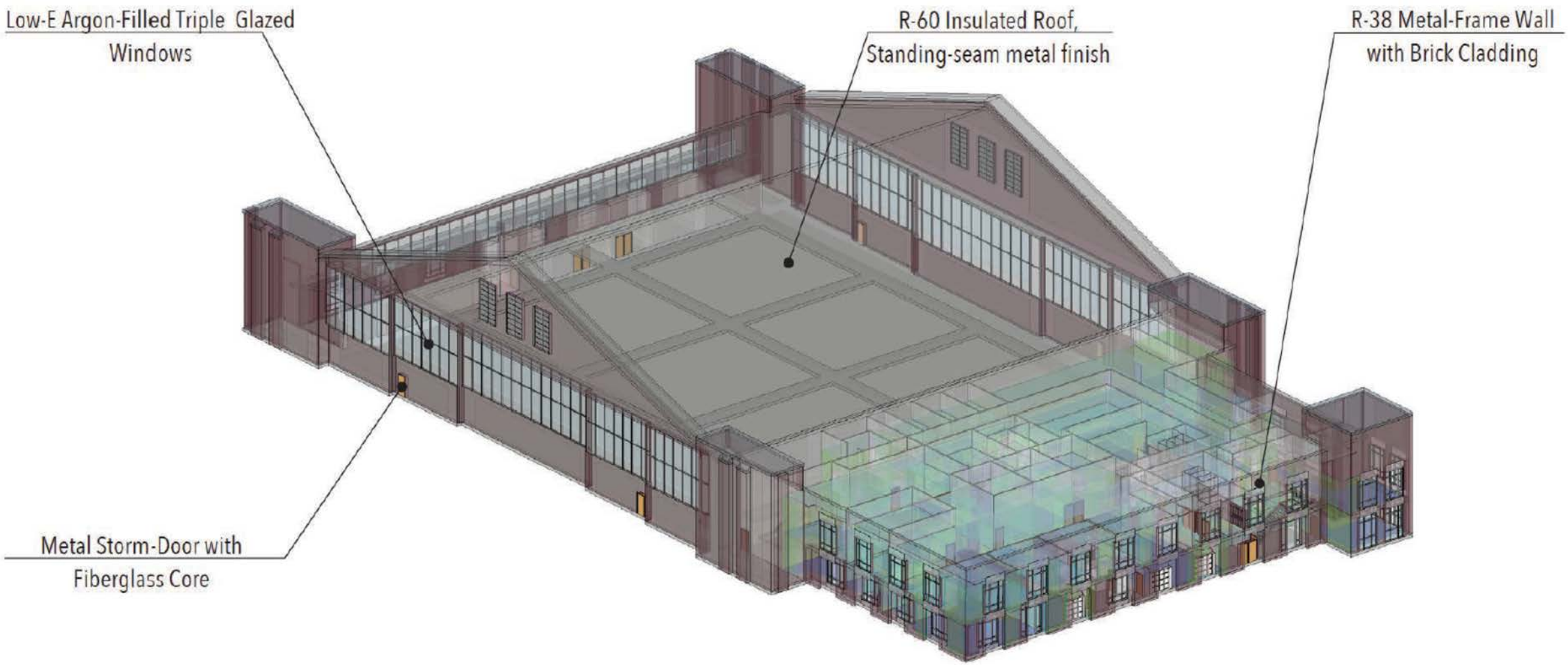
27
24
22
26
25
23
21
20
18
19
10
12
17
9
16
11
13
14
15
0
20ft
40ft
60ft

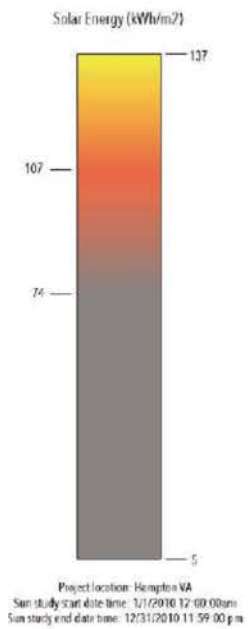
East Elevation

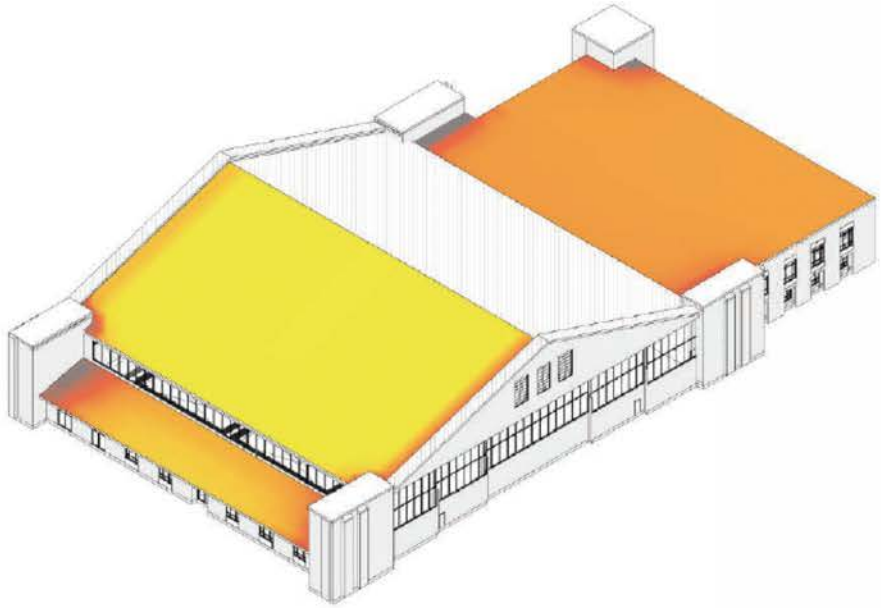
West Elevation

0 20ft 40ft 60ft


Low-E Argon-Filled Triple Glazed Windows
R-60 Insulated Roof, Standing-seam metal finish
R-38 Metal-Frame Wall with Brick Cladding
Metal Storm-Door with Fiberglass Core


Less Energy Efficient
More Energy Efficient
EUI Mean
32.1
kWH / ft² / yr
MIN
MAX
Energy Star U.S. National Median Reference Value for Assembly Building
EUI Mean
22.7
kWH / ft² / yr
MIN
MAX
ASHRAE 90.1 Design Standard
EUI Mean
15.2
kWH / ft² / yr
MIN
MAX
As-modeled design case for JBLE TRSS Academic Facility





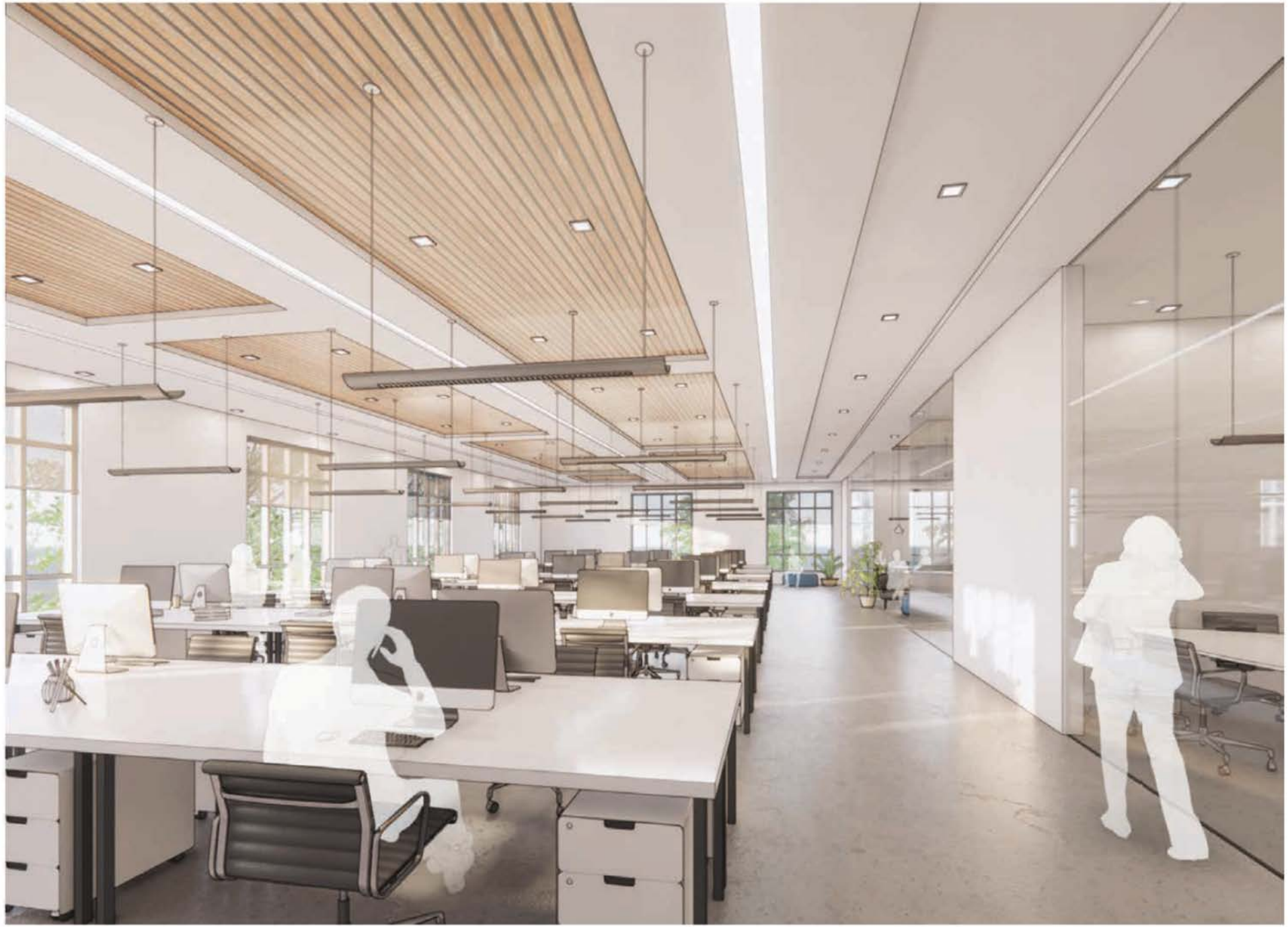
Solar Resource Heat Map

0 50ft 100ft 150ft

Roof Plan

Solar Energy Resources Analysis

PV Panel Area (ft2)	39,708
PV Energy Production (kWh/yr)	786.327
Years Payback	13.7 yrs
Energy Savings	$117,949
Projected Energy Consumption (kWh/yr)	1,072,801
On-site Generated Energy (kWh/yr)	786.327
Percentage Reduction	73%



3. The ability to manage data.

Managing Data


» DATA «


iCAMPS
Installation Comprehensive Asset Management Portfolio Stores


Data
ACQUISITION
Data
MANAGEMENT
Data
ANALYTICS
Data
VISUALIZATION

AUGMENTED REALITY

AR is a live direct view of a physical, real-world environment whose elements are augmented by computer-generated content.

Significant opportunities exist at our federal facilities to not only view data, but to improve the accuracy of source data.

E & E, Inc. Sean Ebersold and Kyle Wheaton

iCAMPS
Installation Comprehensive Asset Management Portfolio Stores

Home Support Admin My Account

Installation: MCAS Iwakuni

Buildings/Facilities Tenants/Major Orgs Projects Advanced Search Mapping

ADP

Select Floor: 1 Zoom to Region: --Choose Region--

Space Utilization

Add to Selection
Remove from Selection

Enable Future Floor Plans
Current Floor: 1
View BFR

Major Org: M00012 Marine Air Grou Tenant: MAG-12 1ST MAW

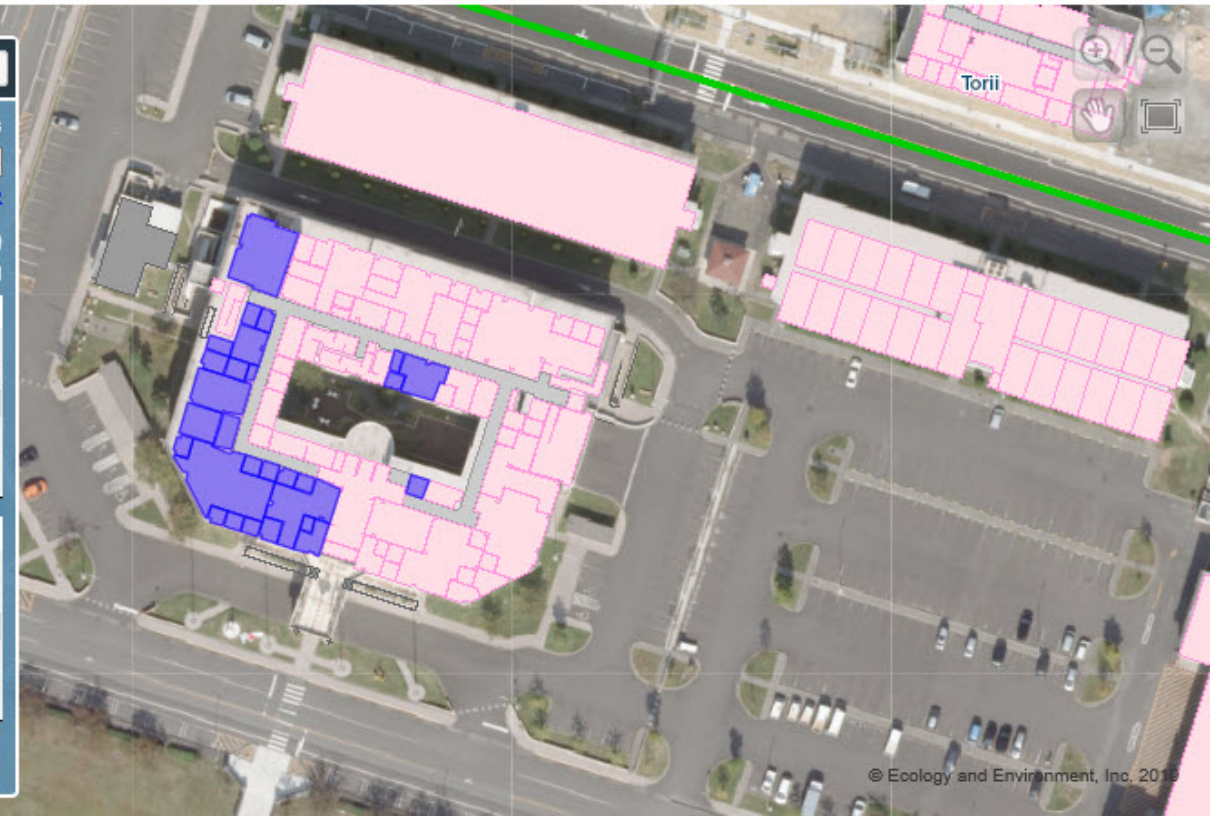
Show summary by CCN | Show summary by Building

Render Occupied Spaces (hatched)
95 spaces selected

CCN	CCN Description	BFR (SF)	Occupied (SF)	% Met	Adj Occ (SF)	Adj % Met
14141	MARINE AIR TRAFFIC CONTROL UNIT (MATCU) OPERATIONS BLDG	0	12,193	N/A	12,193	N/A
17110	ACADEMIC INSTRUCTION BUILDING	3,398	0	0% (-3,398)	0	0% (-3,398)
17120	APPLIED INSTRUCTION BUILDING	6,000	2,989	49% (-3,011)	2,989	49% (-3,011)
17125	GENERAL PURPOSE AUDITORIUM	3,000	0	0%	0	0% (-3,000)

Building	Floor	Room	CCN	Occ. (SF)	Area (SF)	Current Occupants
1	1	107	61071	1,076	1,076	MAG-12 1ST MAW
1	1	A041	61071	78	78	MAG-12 1ST MAW
1	1	A042	61071	438	438	MAG-12 1ST MAW
1	1	A043	61071	60	60	MAG-12 1ST MAW
1	1	B013	61071	212	212	MAG-12 1ST MAW

Set Occupancy | Building Info | CCN Summary | Generate Report



Three Areas of Focus

Visualization

Execution

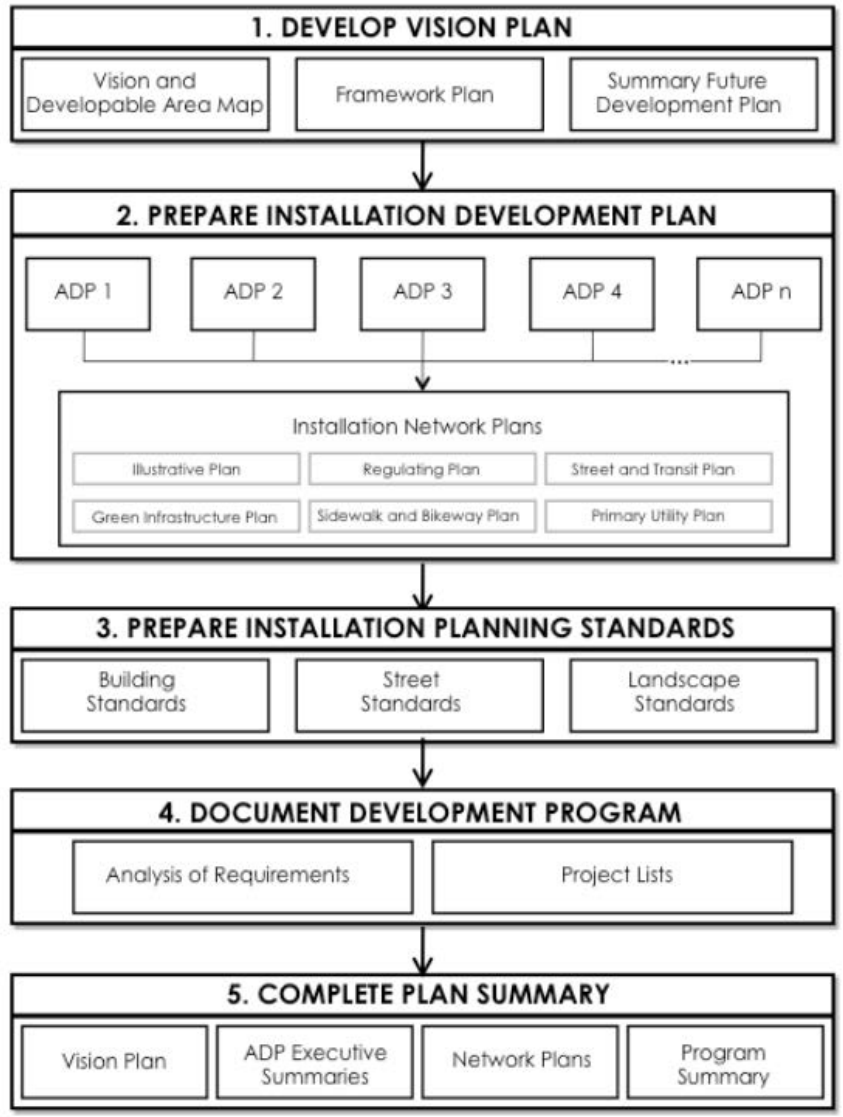
Area Development Execution Plans
Nodal Development Plans
Customer Concept Documents

Management

Data
Processes

Managing Processes

Figure 3-1. Planning Process and Product Graphic



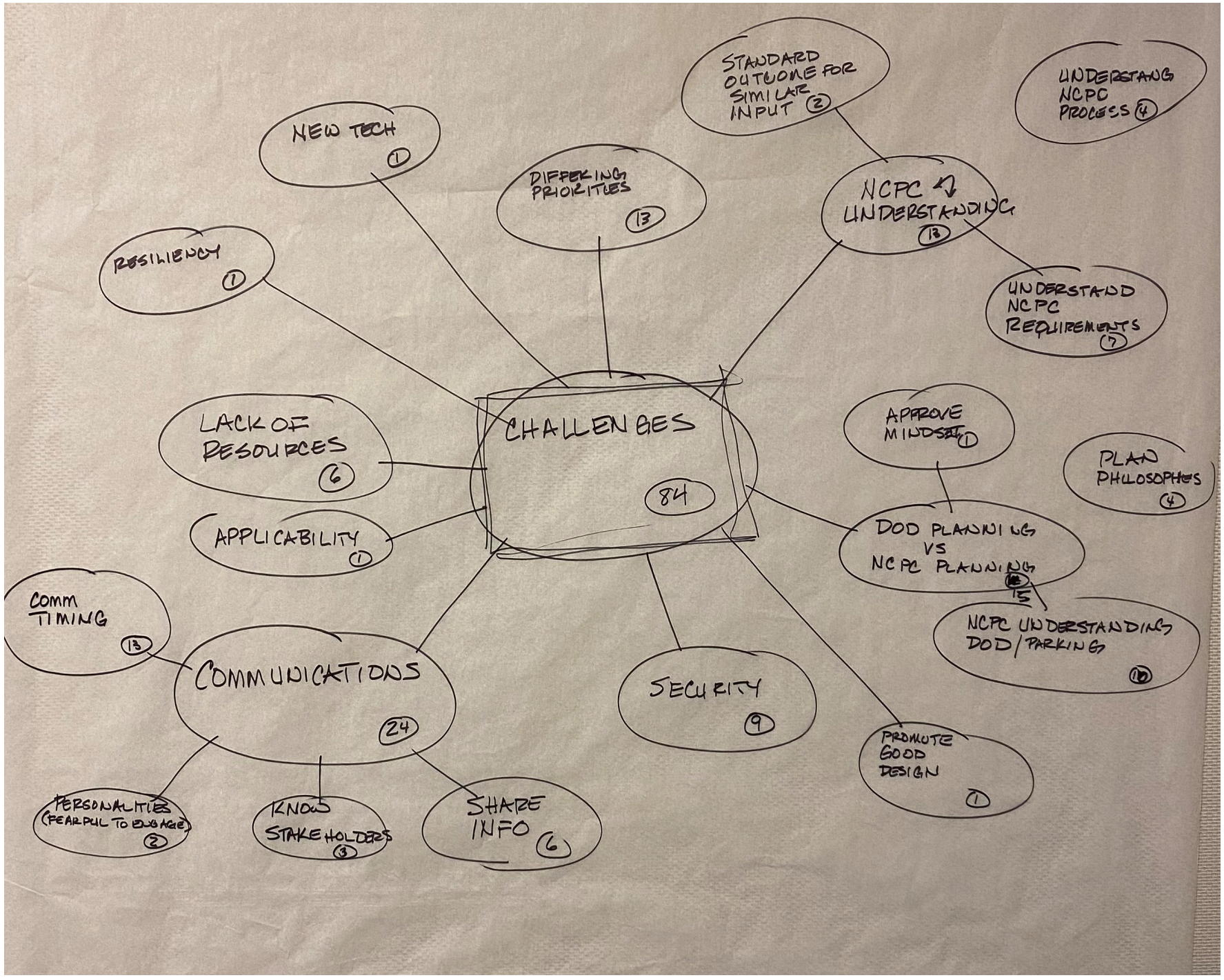
Note: The number of ADPs is set by the Framework Plan and may be as few as one or as many as a dozen or more.

PART III
Making Good Plans

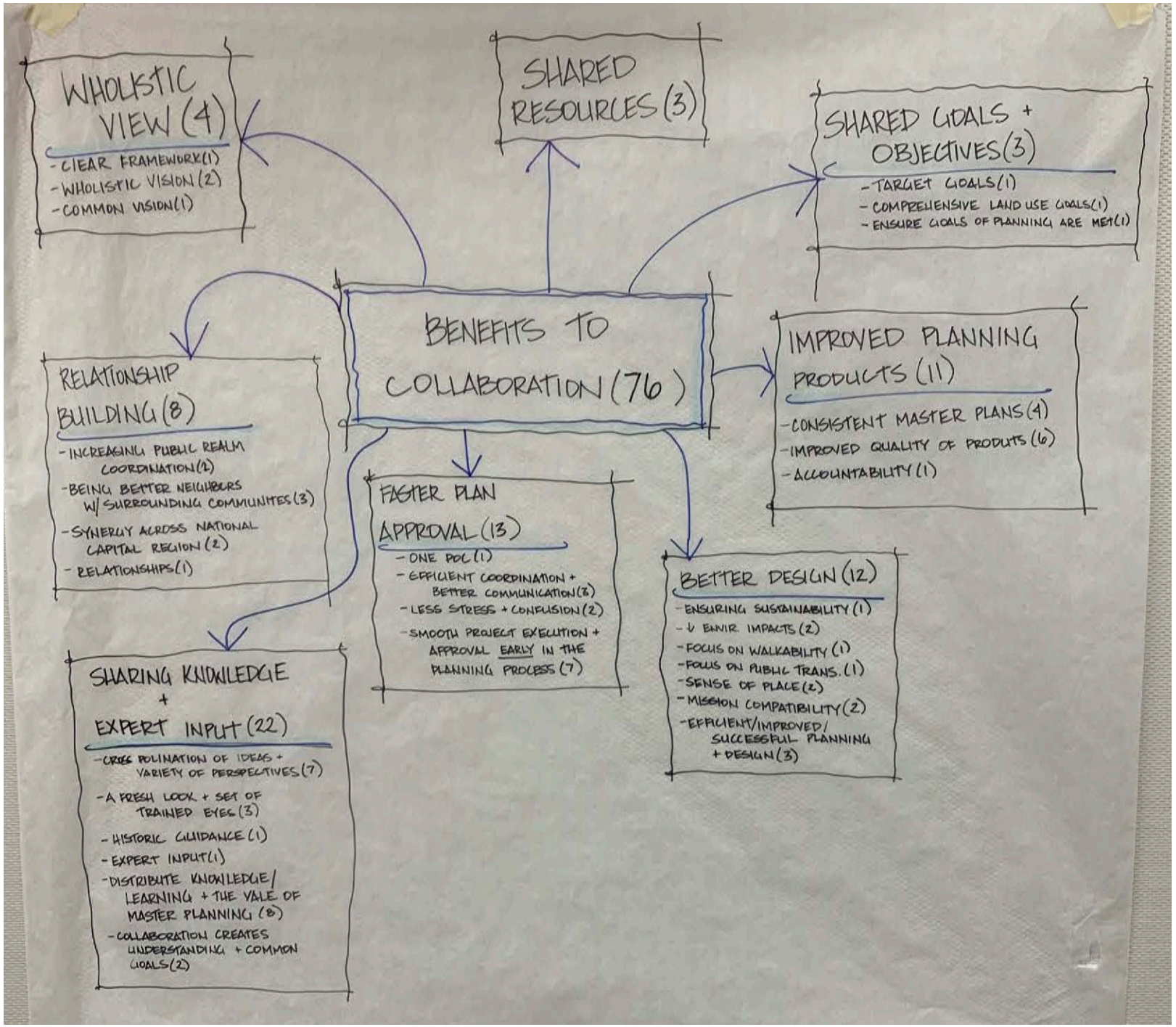
Working Collaboratively (Part II)

Working Collaboratively (Part II)

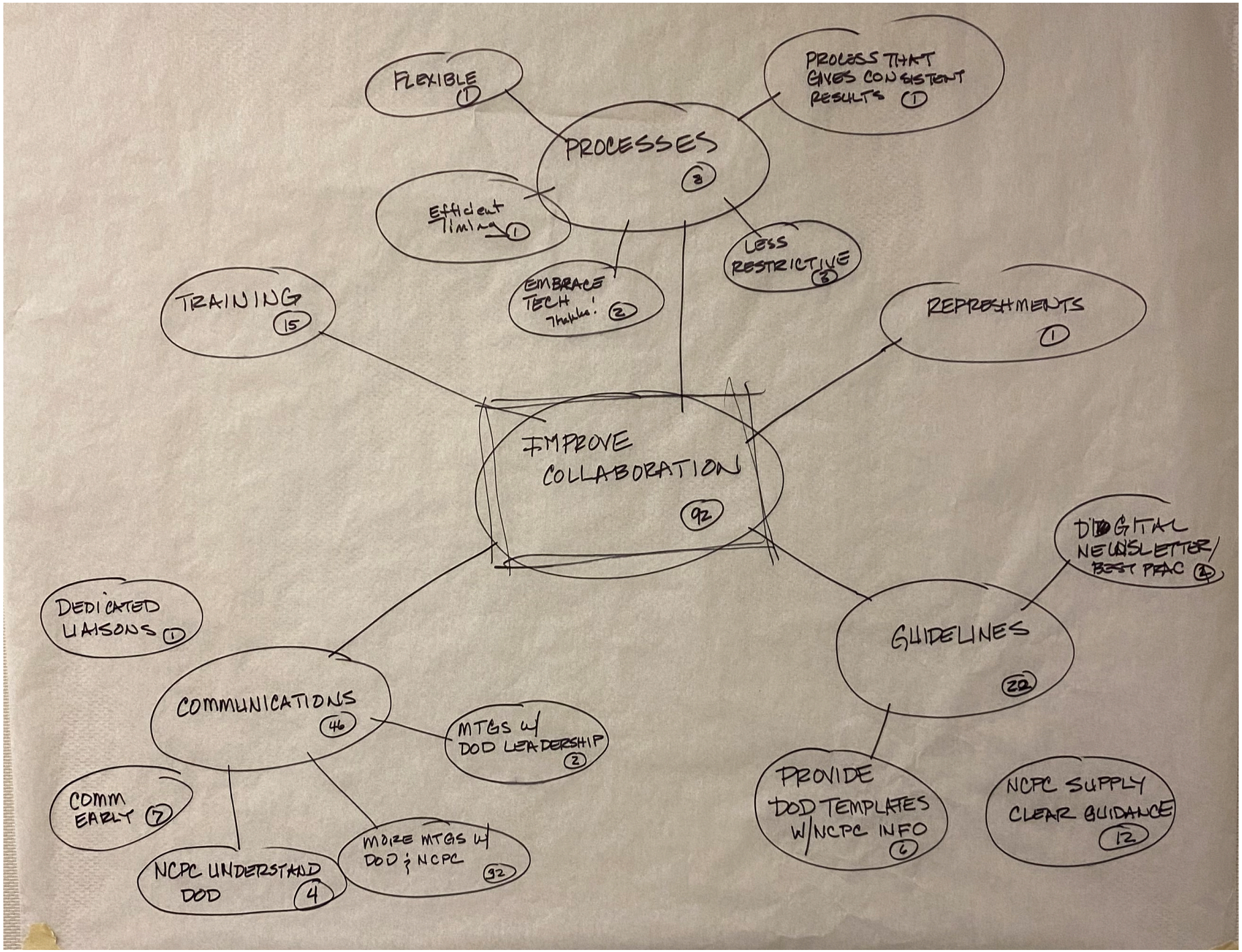
What are the challenges to DoD and NCPC collaboration currently?


CHALLENGES
84
NEW TECH
1
DIFFERING PRIORITIES
13
STANDARD OUTCOME FOR SIMILAR INPUT
2
NCPC UNDERSTANDING
13
UNDERSTAND NCPC PROCESS
4
UNDERSTAND NCPC REQUIREMENTS
7
RESILIENCY
1
LACK OF RESOURCES
6
APPLICABILITY
1
COMM TIMING
13
COMMUNICATIONS
24
PERSONALITIES (FEARFUL TO ENGAGE)
2
KNOW STAKEHOLDERS
3
SHARE INFO
6
SECURITY
9
APPROVE MINDSET
1
DOD PLANNING VS NCPC PLANNING
15
PLAN PHILOSOPHIES
4
NCPC UNDERSTANDING DOD/PARKING
10
PROMOTE GOOD DESIGN
1

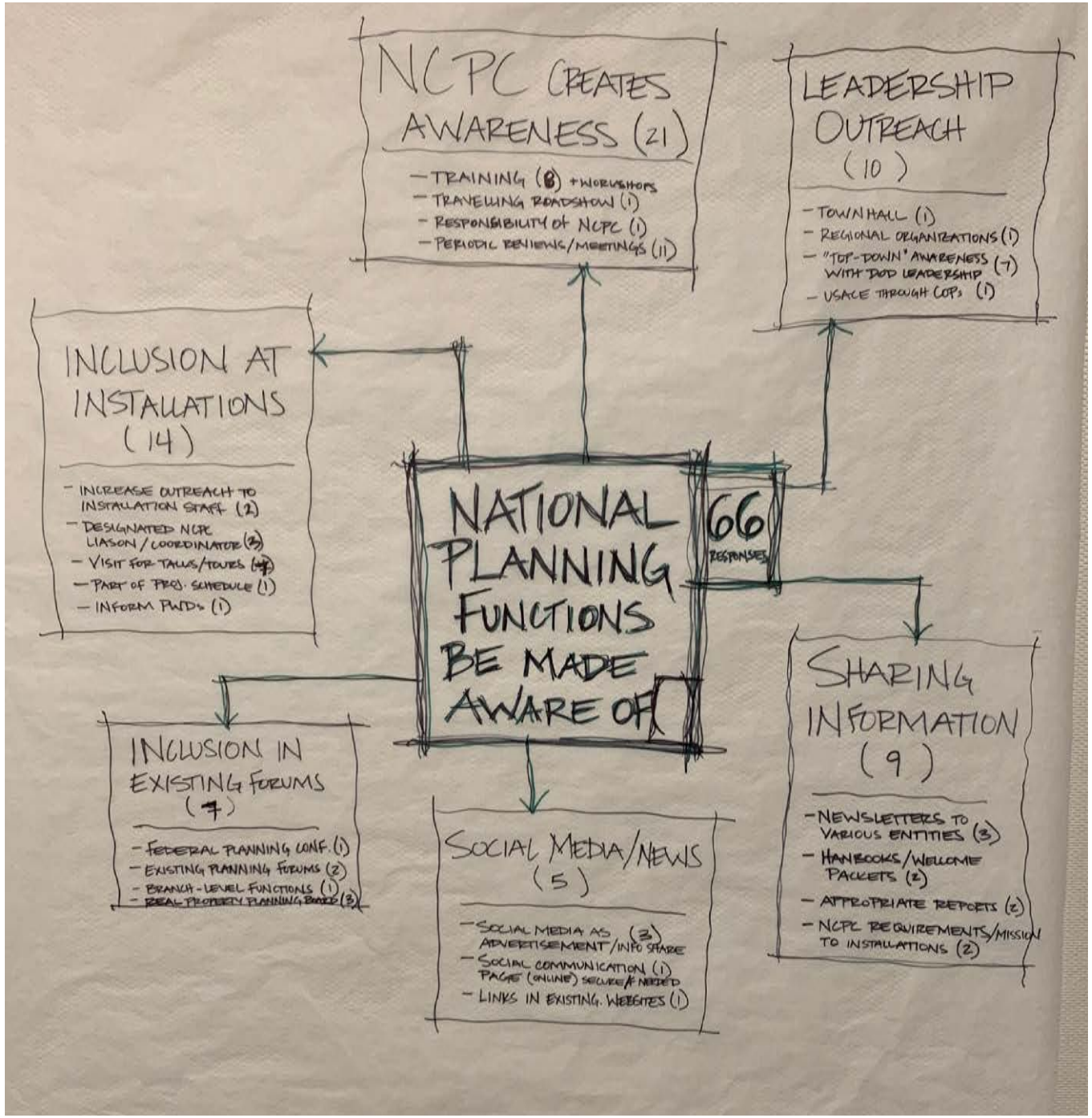
What are the benefits of DoD and NCPC collaboration?


WHOLISTIC VIEW (4)
- CLEAR FRAMEWORK (1)
- WHOLISTIC VISION (2)
- COMMON VISION (1)
SHARED RESOURCES (3)
SHARED GOALS + OBJECTIVES (3)
- TARGET GOALS (1)
- COMPREHENSIVE LAND USE GOALS (1)
- ENSURE GOALS OF PLANNING ARE MET (1)
BENEFITS TO COLLABORATION (76)
RELATIONSHIP BUILDING (8)
- INCREASING PUBLIC REALM COORDINATION (2)
- BEING BETTER NEIGHBORS W/ SURROUNDING COMMUNITES (3)
- SYNERGY ACROSS NATIONAL CAPITAL REGION (2)
- RELATIONSHIPS (1)
IMPROVED PLANNING PRODUCTS (11)
- CONSISTENT MASTER PLANS (4)
- IMPROVED QUALITY OF PRODUTS (6)
- ACCOUNTABILITY (1)
FASTER PLAN APPROVAL (13)
- ONE POC (1)
- EFFICIENT COORDINATION + BETTER COMMUNICATION (3)
- LESS STRESS + CONFUSION (2)
- SMOOTH PROJECT EXECUTION + APPROVAL EARLY IN THE PLANNING PROCESS (7)
BETTER DESIGN (12)
- ENSURING SUSTAINABILITY (1)
- ↓ ENVIR IMPACTS (2)
- FOCUS ON WALKABILITY (1)
- FOCUS ON PUBLIC TRANS. (1)
- SENSE OF PLACE (2)
- MISSION COMPATIBILITY (2)
- EFFICIENT/IMPROVED/ SUCCESSFUL PLANNING + DESIGN (3)
SHARING KNOWLEDGE + EXPERT INPUT (22)
- CROSS POLINATION OF IDEAS + VARIETY OF PERSPECTIVES (7)
- A FRESH LOOK + SET OF TRAINED EYES (3)
- HISTORIC GUIDANCE (1)
- EXPERT INPUT (1)
- DISTRIBUTE KNOWLEDGE/ LEARNING + THE VALE OF MASTER PLANNING (8)
- COLLABORATION CREATES UNDERSTANDING + COMMON GOALS (2)

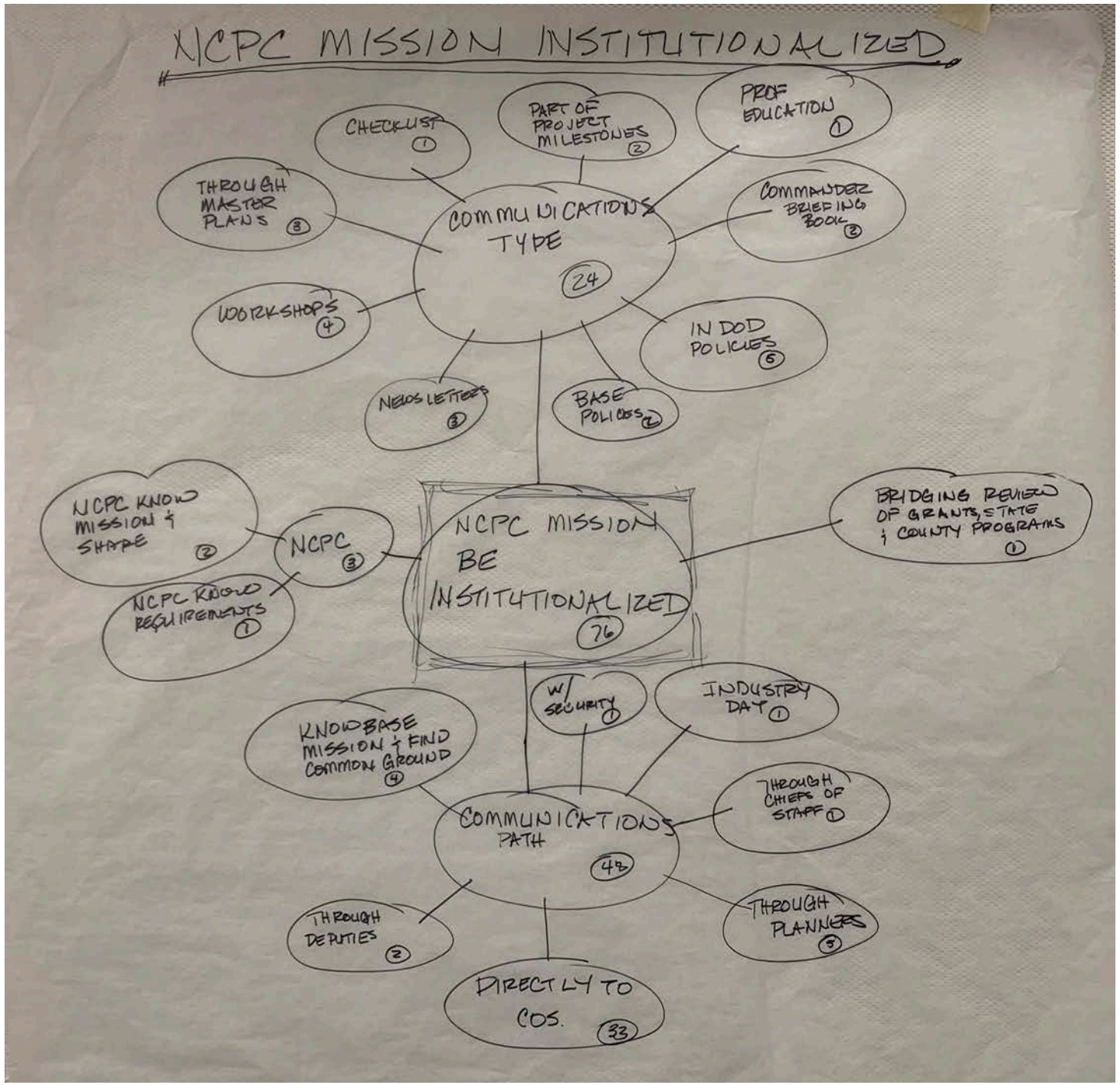
How do we improve DoD and NCPC collaboration?


FLEXIBLE 1
PROCESS THAT GIVES CONSISTENT RESULTS 1
PROCESSES 3
Efficient Timing 1
LESS RESTRICTIVE 3
EMBRACE TECH 2
TRAINING 15
REFRESHMENTS 1
IMPROVE COLLABORATION 92
DIGITAL NEWSLETTER/ BEST PRAC 1
DEDICATED LIAISONS 1
GUIDELINES 22
COMMUNICATIONS 46
MTGS W/ DOD LEADERSHIP 2
PROVIDE DOD TEMPLATES W/NCPC INFO 6
NCPC SUPPLY CLEAR GUIDANCE 12
COMM EARLY 7
NCPC UNDERSTAND DOD 4
MORE MTGS W/ DOD & NCPC 92

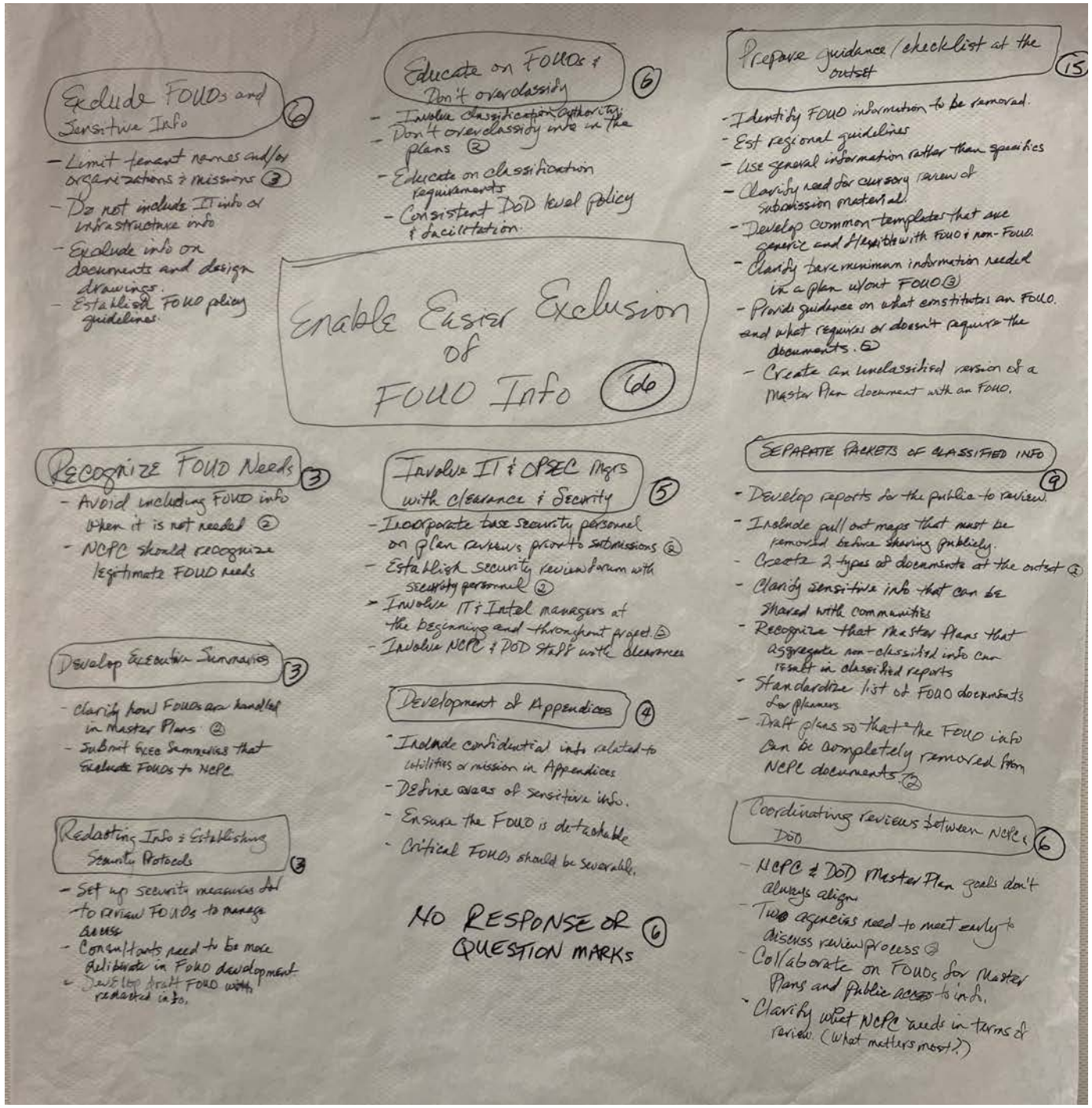
How can national planning function(s) be made aware of NCPC?


NCPC CREATES AWARENESS (21)
- TRAINING (8) +WORKSHOPS
- TRAVELING ROADSHOW (1)
- RESPONSIBILITY OF NCPC (1)
- PERIODIC REVIEWS/MEETINGS (11)
LEADERSHIP OUTREACH (10)
- TOWN HALL (1)
- REGIONAL ORGANIZATIONS (1)
- "TOP-DOWN" AWARENESS WITH DOD LEADERSHIP (7)
- USACE THROUGH COPs (1)
INCLUSION AT INSTALLATIONS (14)
- INCREASE OUTREACH TO INSTALLATION STAFF (2)
- DESIGNATED NCPC LIASON / COORDINATOR (3)
- VISIT FOR TALKS/TOURS (4)
- PART OF PROJ. SCHEDULE (1)
- INFORM PWDs (1)
NATIONAL PLANNING FUNCTIONS BE MADE AWARE OF
66 RESPONSES
INCLUSION IN EXISTING FORUMS (7)
- FEDERAL PLANNING CONF. (1)
- EXISTING PLANNING FORUMS (2)
- BRANCH-LEVEL FUNCTIONS (1)
- REAL PROPERTY PLANNING BOARD (3)
SOCIAL MEDIA/NEWS (5)
- SOCIAL MEDIA AS ADVERTISEMENT/INFO SHARE (3)
- SOCIAL COMMUNICATION (1) PAGE (ONLINE) SECURE IF NEEDED
- LINKS IN EXISTING WEBSITES (1)
SHARING INFORMATION (9)
- NEWSLETTERS TO VARIOUS ENTITIES (3)
- HANDBOOKS/WELCOME PACKETS (2)
- APPROPRIATE REPORTS (2)
- NCPC REQUIREMENTS/MISSION TO INSTALLATIONS (2)

How can NCPC's mission be institutionalized amongst new base commanders?

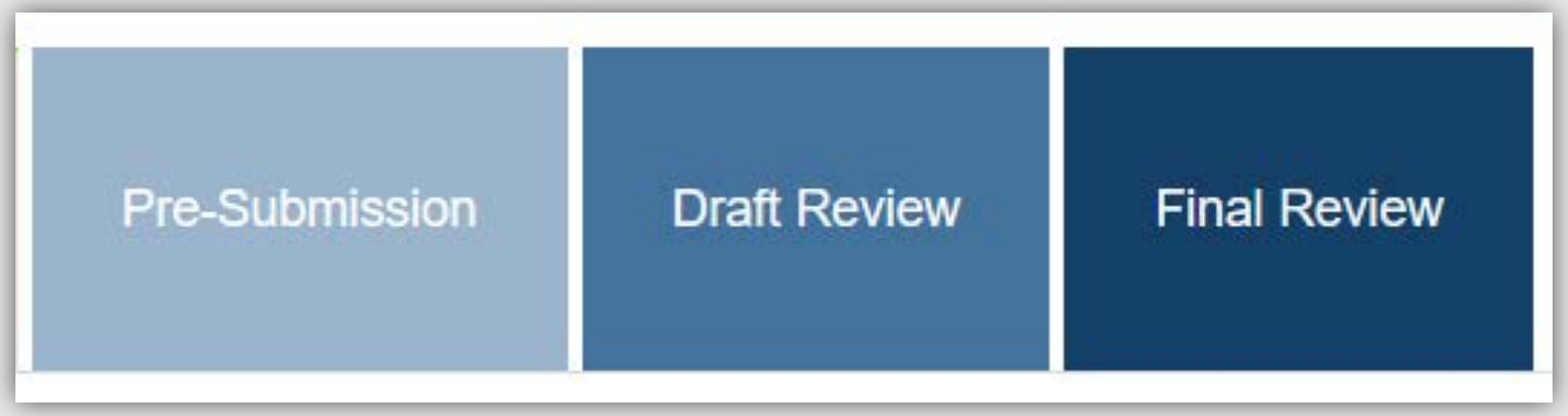

NCPC MISSION INSTITUTIONALIZED
CHECKLIST 1
PART OF PROJECT MILESTONES 2
PROF EDUCATION 1
THROUGH MASTER PLANS 8
COMMUNICATIONS TYPE 24
COMMANDER BRIEFING BOOK 2
WORKSHOPS 4
IN DOD POLICIES 6
NEWSLETTERS 3
BASE POLICIES 2
NCPC KNOW MISSION & SHAPE 2
NCPC 3
NCPC MISSION BE INSTITUTIONALIZED 76
BRIDGING REVIEW OF GRANTS, STATE & COUNTY PROGRAMS 1
NCPC KNOW REQUIREMENTS 1
W/ SECURITY 1
INDUSTRY DAY 1
KNOWBASE MISSION & FIND COMMON GROUND 4
THROUGH CHIEFS OF STAFF 1
COMMUNICATIONS PATH 43
THROUGH DEPUTIES 2
THROUGH PLANNERS 3
DIRECTLY TO COS. 33

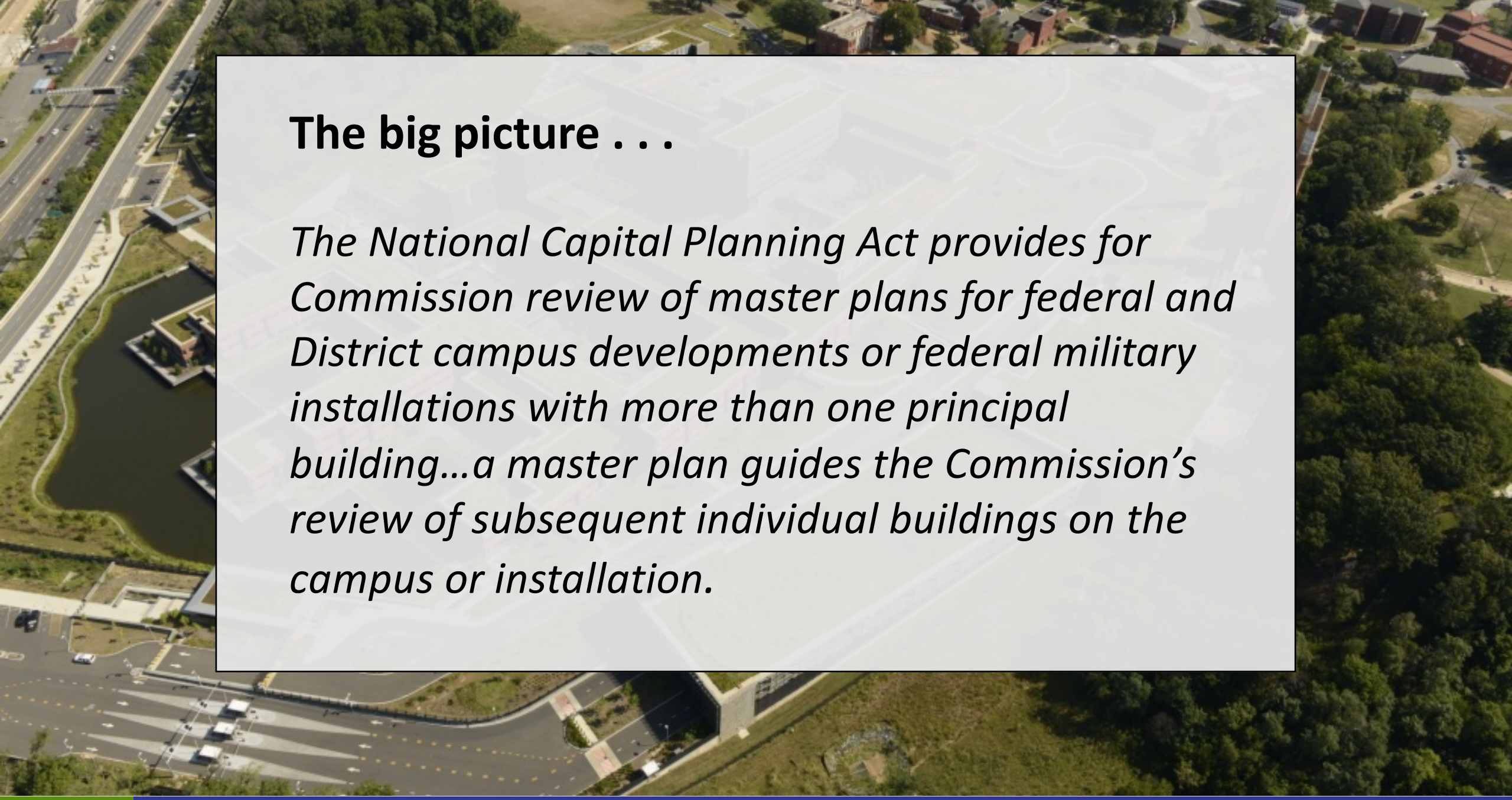
How can DoD master plans be developed to enable easier exclusion of FOUO information during NCPC's review process?


Enable Easier Exclusion of FOUO Info (26)
Exclude FOUOs and Sensitive Info (6)
- Limit tenant names and/or organizations & missions (3)
- Do not include IT info or infrastructure info
- Exclude info on documents and design drawings.
- Establish FOUO policy guidelines
Educate on FOUOs & Don't overclassify (6)
- Involve classification authority
- Don't overclassify info in the plans (2)
- Educate on classification requirements
- Consistent DOD level policy & facilitation
Prepare guidance / checklist at the outset (15)
- Identify FOUO information to be removed.
- Est regional guidelines
- Use general information rather than specifics
- Clarify need for cursory review of submission material
- Develop common templates that are generic and flexible with FOUO & non-FOUO.
- Clarify bare minimum information needed in a plan w/out FOUO (3)
- Provide guidance on what constitutes an FOUO. and what requires or doesn't require the documents. (5)
- Create an unclassified version of a Master Plan document with an FOUO.
Recognize FOUO Needs (3)
- Avoid including FOUO info when it is not needed (2)
- NCPC should recognize legitimate FOUO needs
Involve IT & OPSEC Mgrs with clearance & Security (5)
- Incorporate base security personnel on plan reviews prior to submissions (2)
- Establish security review team with security personnel (2)
- Involve IT & Intel managers at the beginning and throughout project (2)
- Involve NCPC & DOD staff with clearances
SEPARATE PACKETS OF CLASSIFIED INFO (9)
- Develop reports for the public to review.
- Include pull out maps that must be removed before sharing publicly.
- Create 2 types of documents at the outset (2)
- Clarify sensitive info that can be shared with communities
- Recognize that Master Plans that aggregate non-classified info can result in classified reports
- Standardize list of FOUO documents for planners
- Draft plans so that the FOUO info can be completely removed from NCPC documents. (2)
Develop Executive Summaries (3)
- Clarify how FOUOs are handled in Master Plans (2)
- Submit Exec Summaries that Exclude FOUOs to NCPC
Development of Appendices (4)
- Include confidential info related to activities or mission in Appendices
- Define areas of sensitive info.
- Ensure the FOUO is detachable
- Critical FOUOs should be severable.
Redacting Info & Establishing Security Protocols (3)
- Set up security measures def to review FOUOs to manage access
- Consultants need to be more deliberate in FOUO development
- Develop draft FOUO with redacted info.
NO RESPONSE OR QUESTION MARKS (6)
Coordinating reviews between NCPC & DOD (6)
- NCPC & DOD Master Plan goals don't always align
- Two agencies need to meet early to discuss review process (2)
- Collaborate on FOUOs for Master Plans and public access to info.
- Clarify what NCPC needs in terms of review. (what matters most?)

NCPC Review

MASTER PLAN REVIEW 101

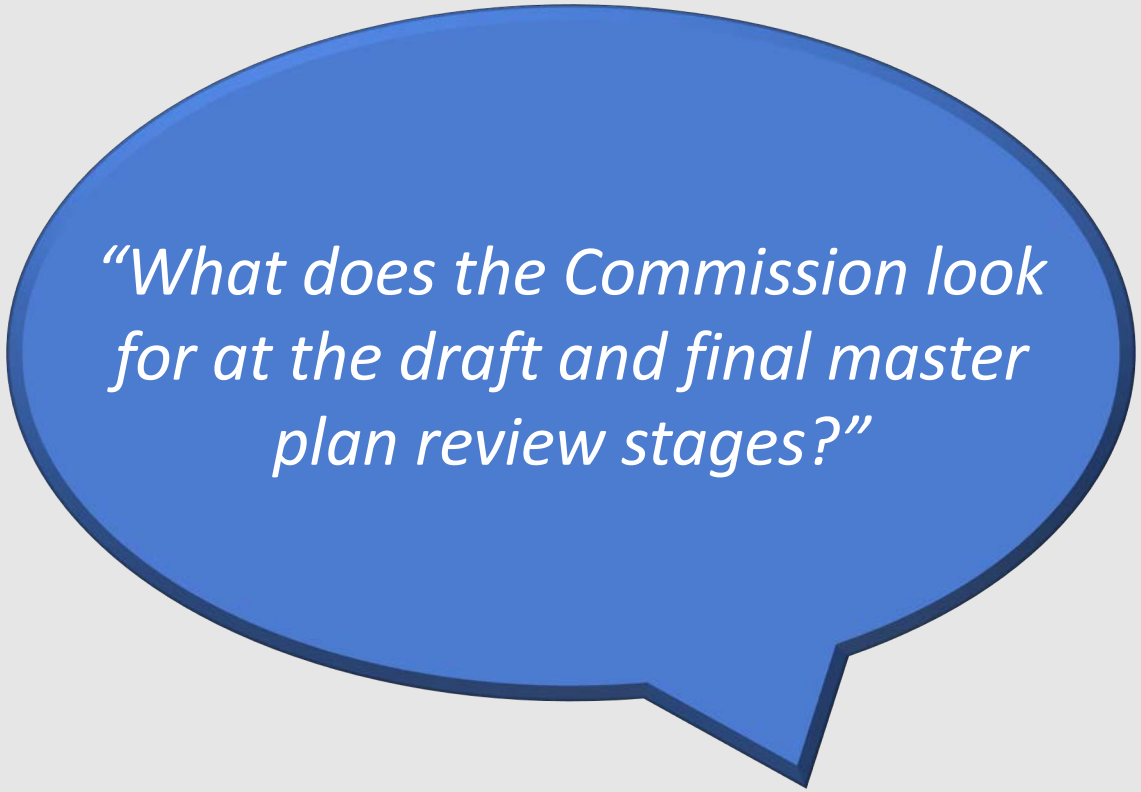




The big picture . . .

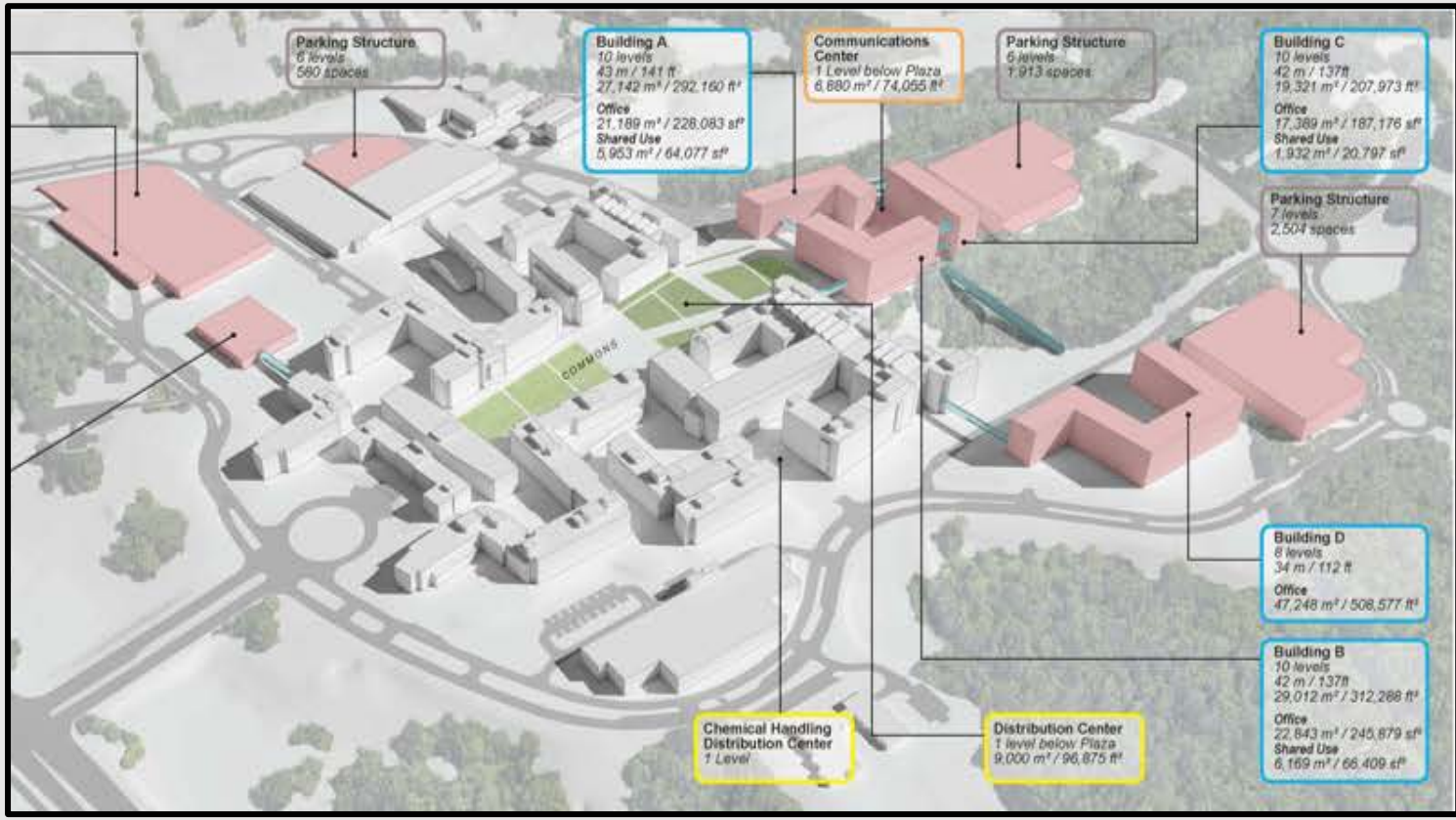
The National Capital Planning Act provides for Commission review of master plans for federal and District campus developments or federal military installations with more than one principal building…a master plan guides the Commission's review of subsequent individual buildings on the campus or installation.

Master Plans: Two Stages of Review



Draft Master Plan Review

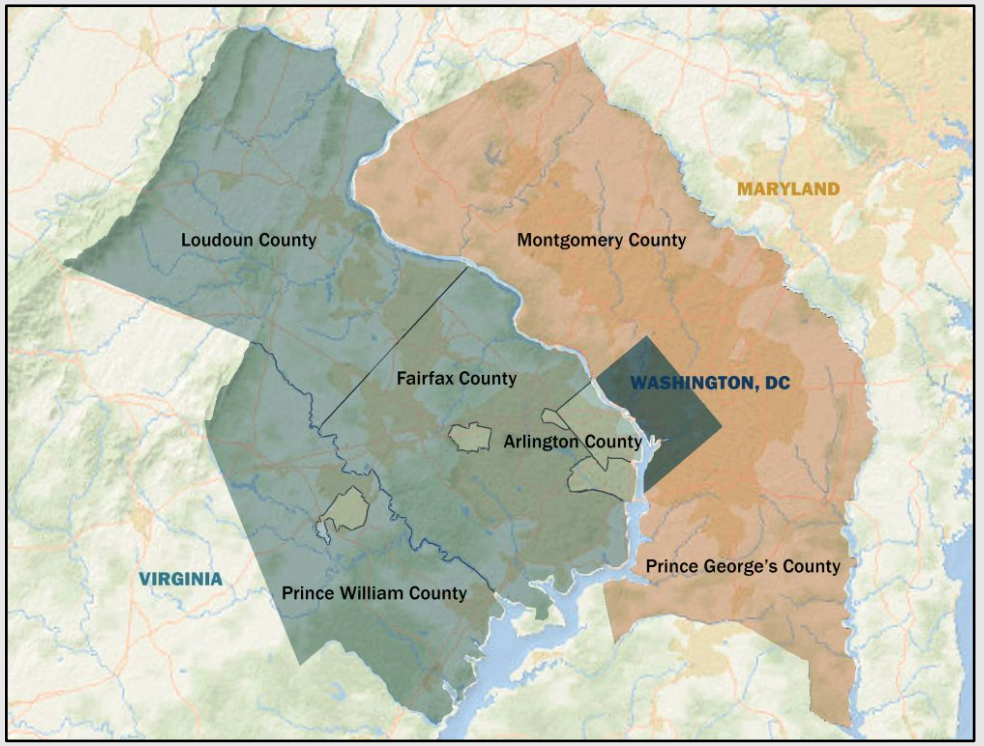
Basic Commission Questions
Preferred alternative?
Site layout?
Circulation?
Campus form/architecture?
Planned programming?
Historic/environmental impacts?
Transportation Management Plan?
Parking ratio?
Stakeholder interests?



Example: FDA White Oak Draft Master Plan

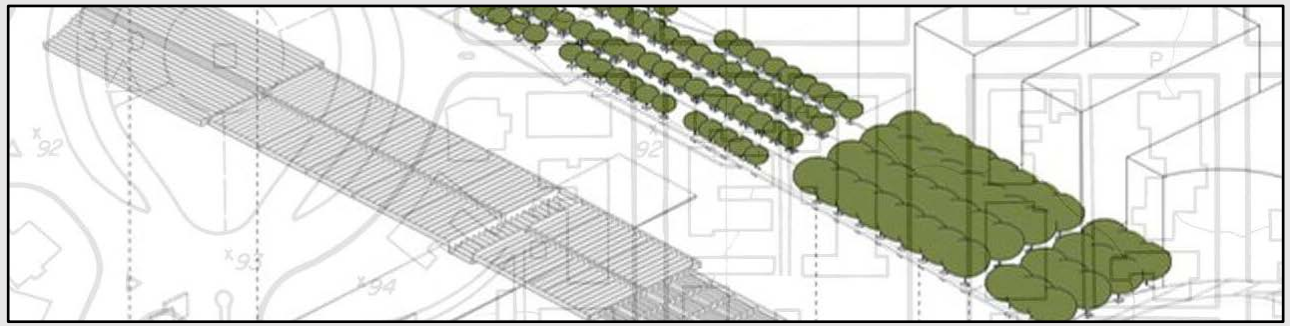
Master Plan Intergovernmental Referral

Master Plan are always referred out to local jurisdictions for a review period of 60 days.



Final Master Plan Review

- Has the applicant addressed previous Commission comments?
- Are there any unresolved issues with the final plan?
- Has the Transportation Management Plan been finalized?
- Are there any off-site impacts?
- What is the phasing of the master plan?
- Are the landscape/stormwater plans complete?



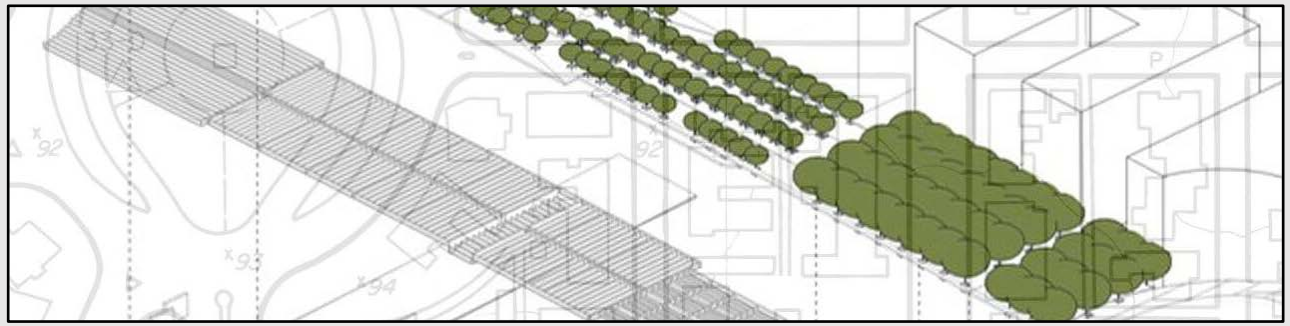
Controlled Unclassified Information

- Reviewed only by NCPC project officer, Plan Review director, executive director, and Commission members in closed Executive Session.
- Hardcopy CUI is stored in a locked drawer and electronic information only stored on the project officer's secure laptop.
- Staff report/presentation for public dissemination includes no CUI – more general information substituted.
- After review, all hardcopy information is destroyed, and all electronic information is deleted from the project officer's laptop.

Controlled Unclassified Information

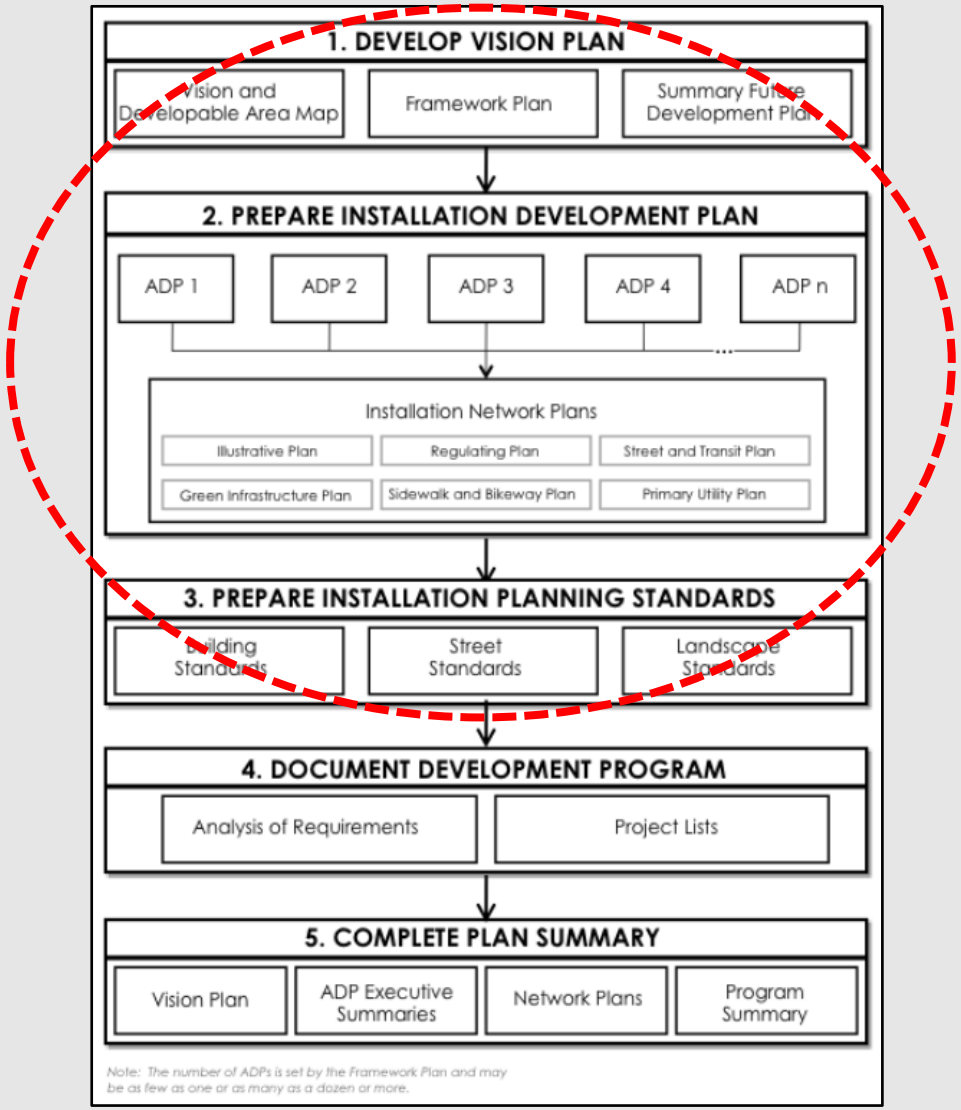
Strategy # 1: Consult with NCPC staff early in the process during a "kick-off" meeting.

Strategy # 2: Require the contractor to prepare two versions – one complete version (with CUI) and one public version.

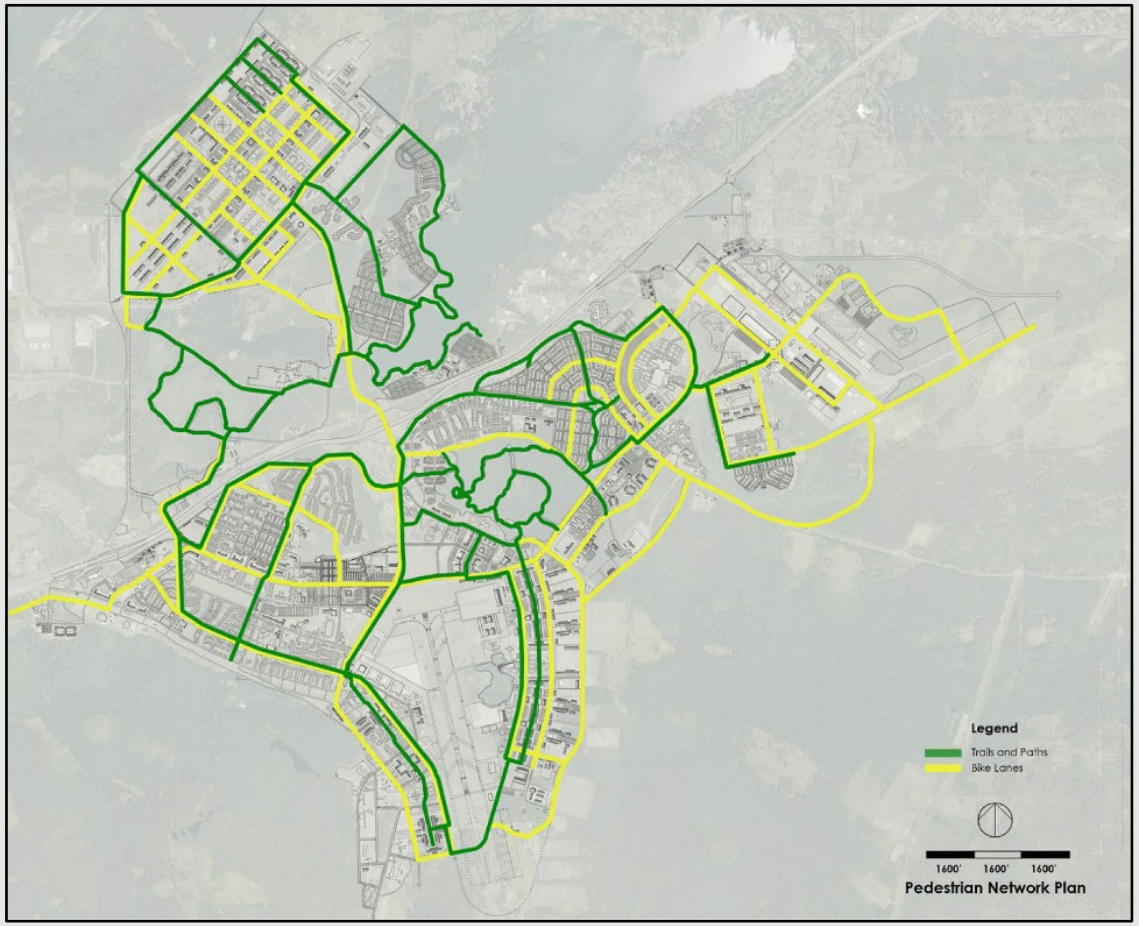


Necessary Master Plan Information

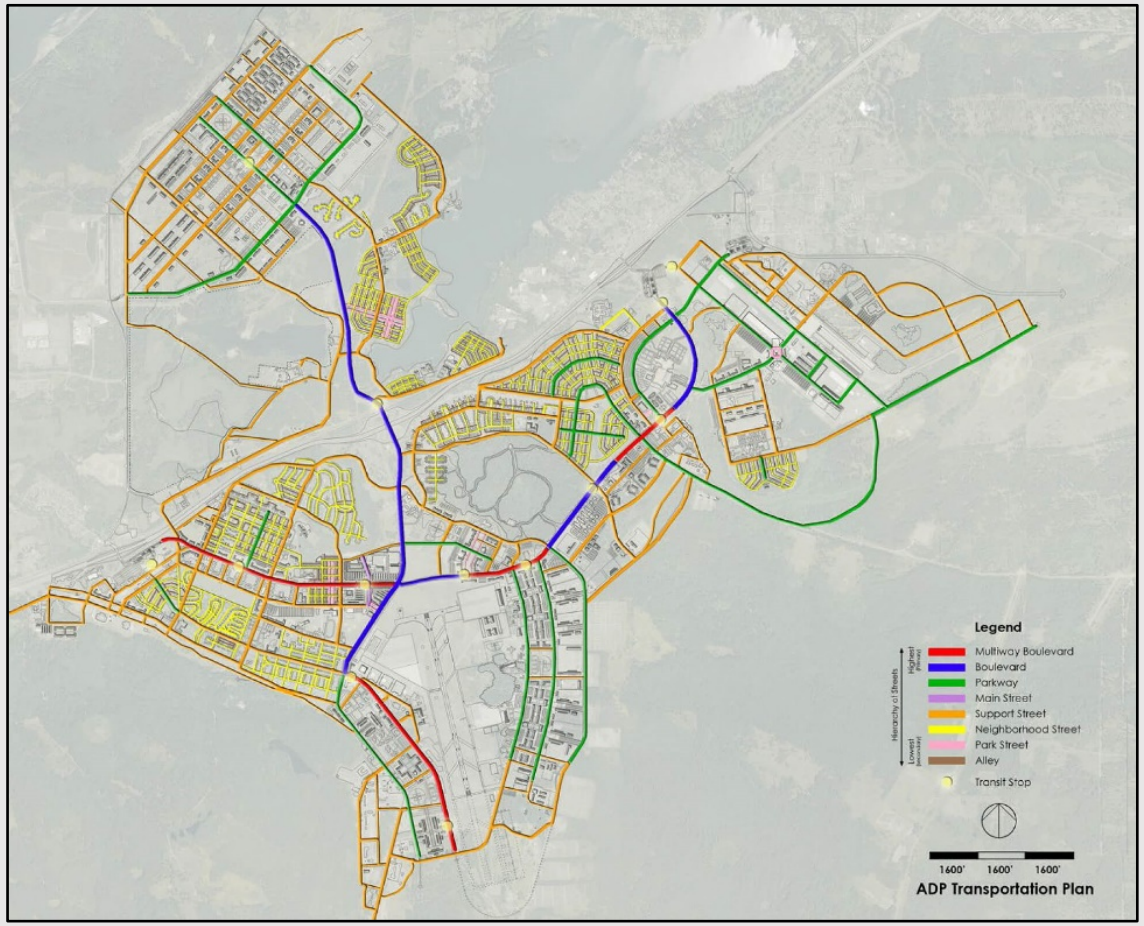
- General block patterns
- General land uses
- Building footprints/massing
- Transportation networks
- Tree/vegetation mitigation – regrowth areas
- Stormwater management networks
- Open space-recreational networks



Necessary Master Plan Information



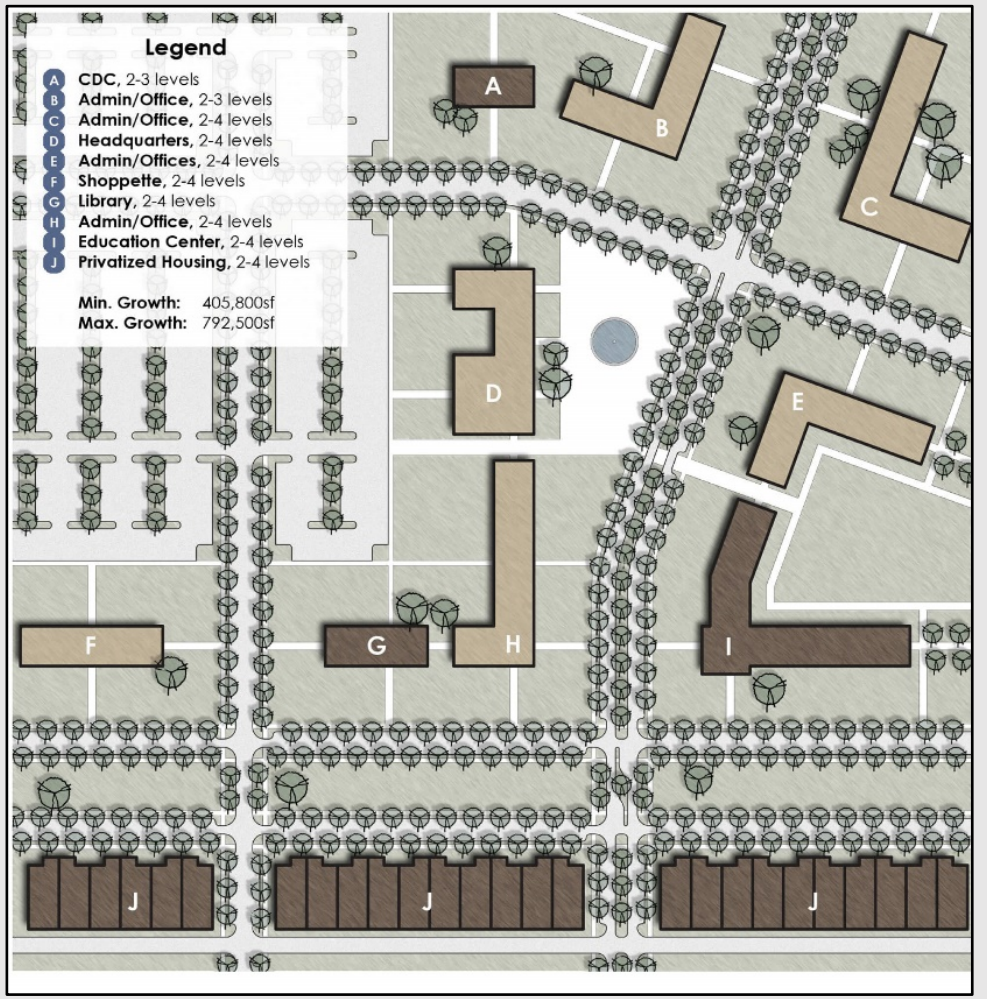
Pedestrian and Bikeway Plan



Transportation Plan

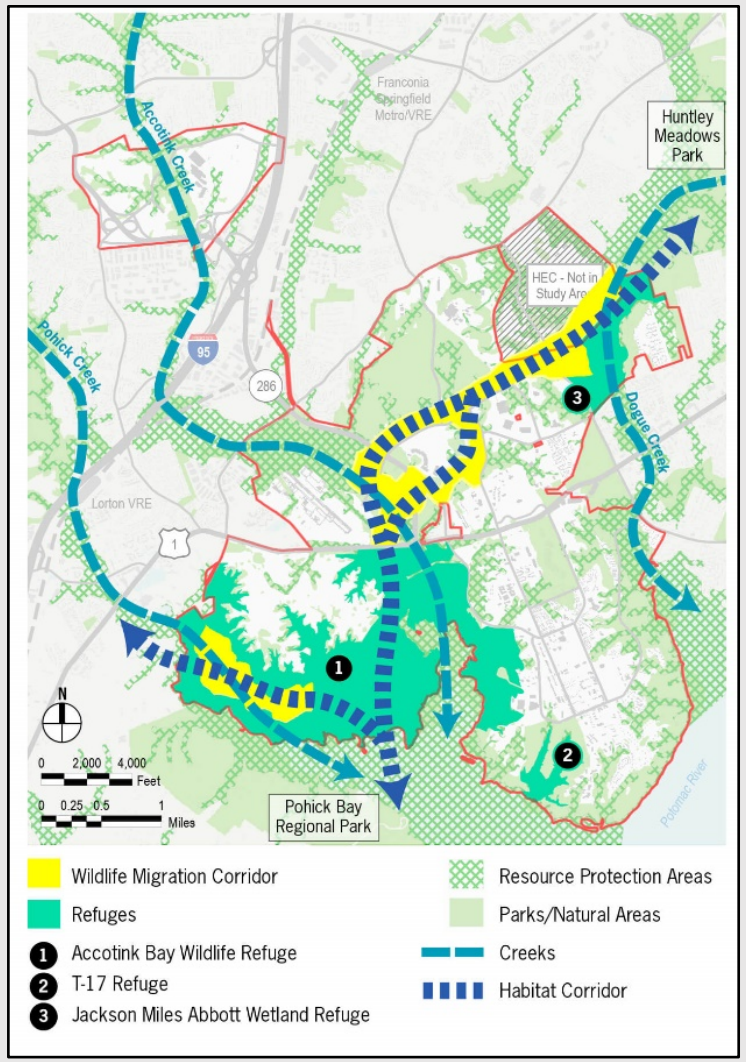
Necessary Master Plan Information

Land Use Plan

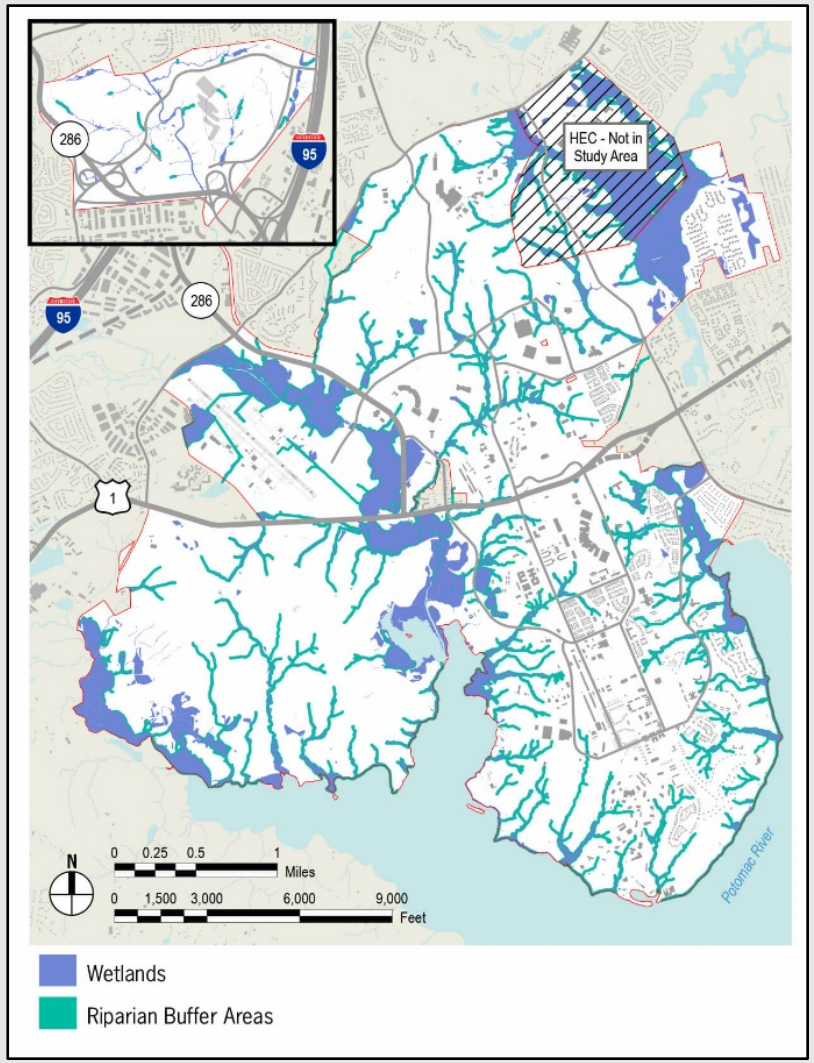


Illustrative Plan

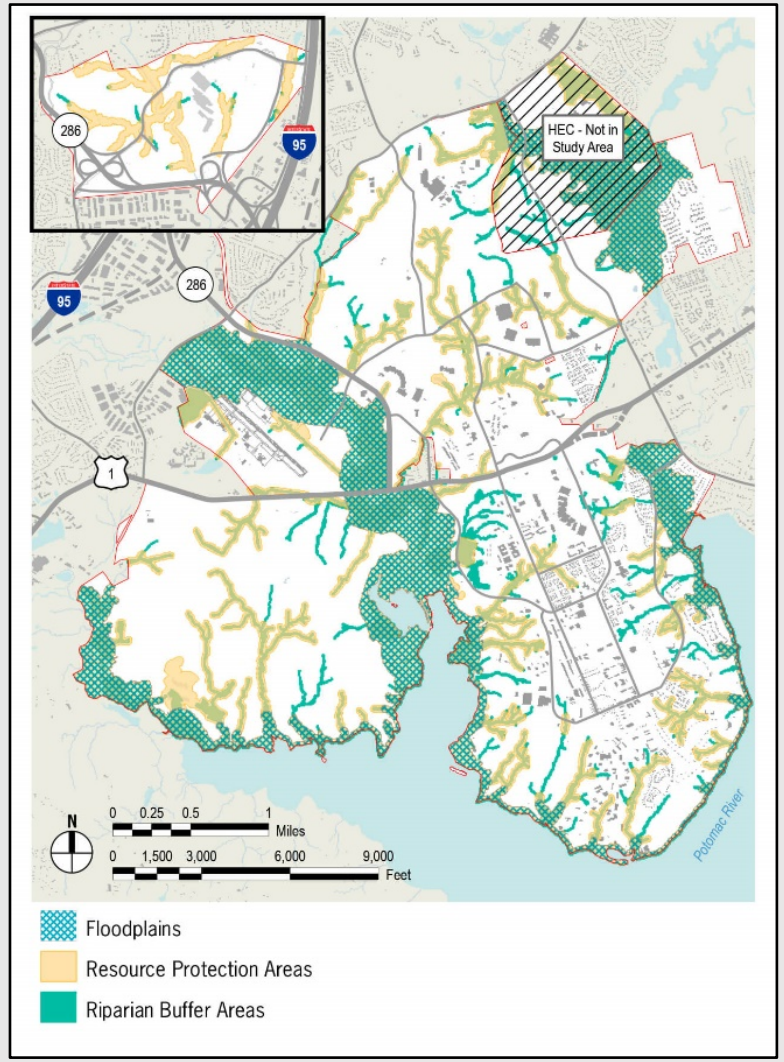
Necessary Master Plan Information



Regional Environmentally Sensitive Areas

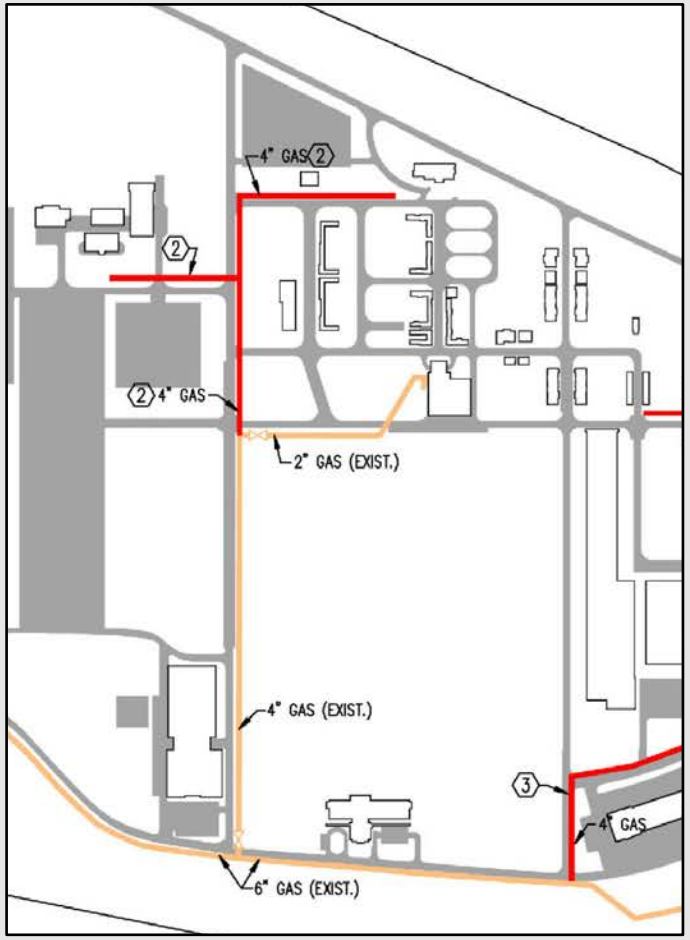


Riparian Buffer / Wetlands Area



Water Resources

UNNECESSARY Master Plan Information

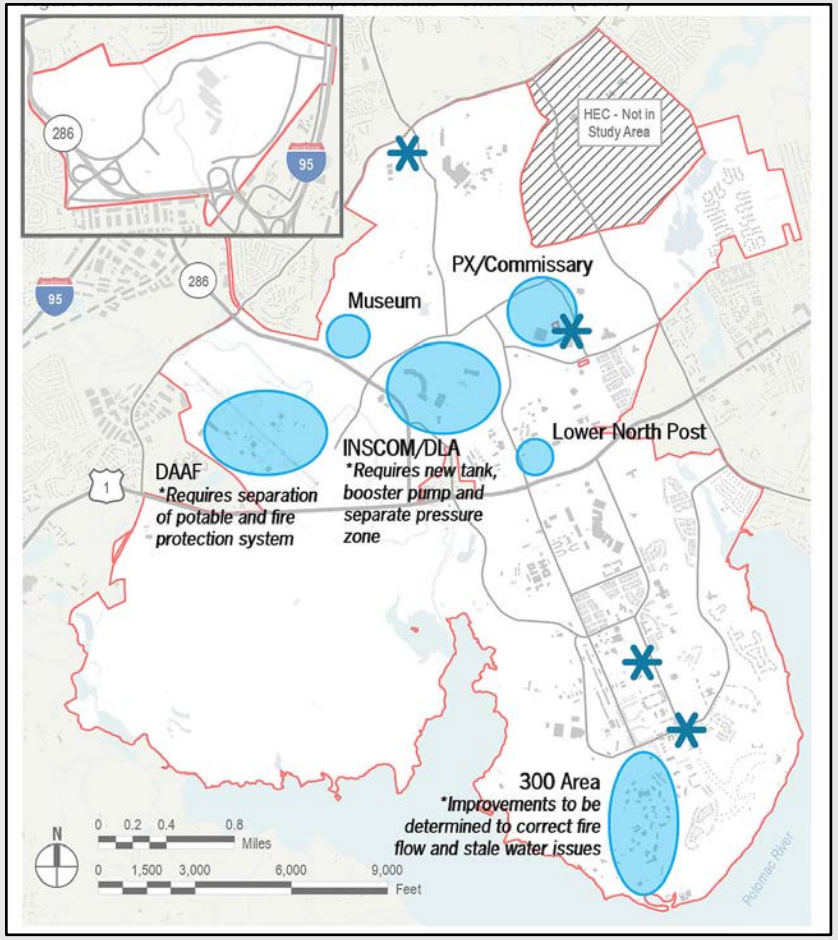


Underground Utilities

Tactical Training Facility	47	Live-Fire Training	
Maintenance Yard	48	Building and Site Maintenance	
Bowron Administrative Building	49	General Office	
Vehicle Storage Building	50	Vehicle Storage	
Tactical Village	51	Tactical Training Venue	
Bell Raid House	52	Tactical Training Venue	
Munitions Bunkers	53	Secure Munitions Storage	Photo Not Available

Table 2-1 RTC Existing Structures

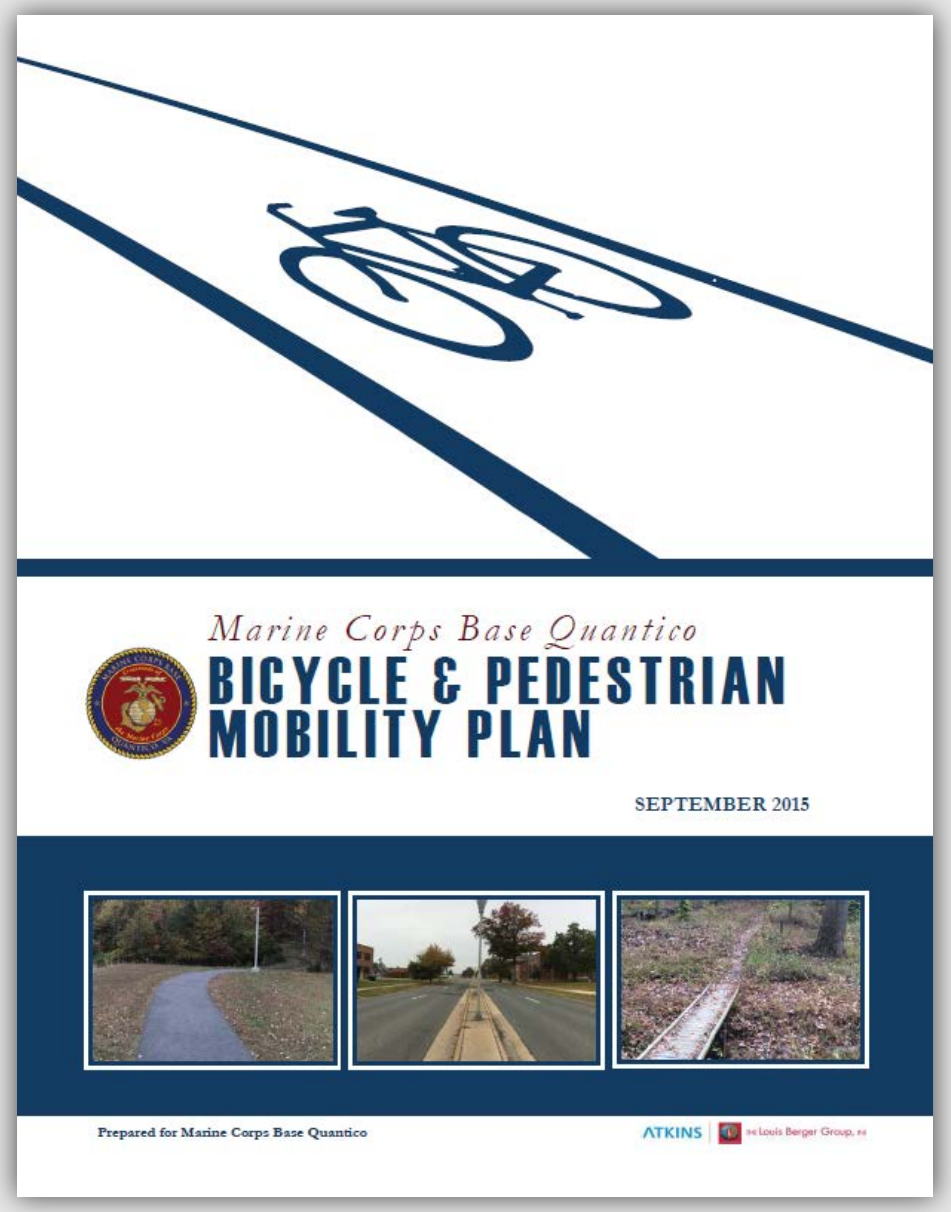
Specific Building Uses



Water Distribution Improvements

Good Example

Pedestrian/Bicycle Plan



Good Example In-House Area Development Plan

Good Example

Town Center Design Collaboration

Original Rendering

Improved Rendering

National Capital Planning Commission

www.ncpc.gov

Learning from Regional Case Studies

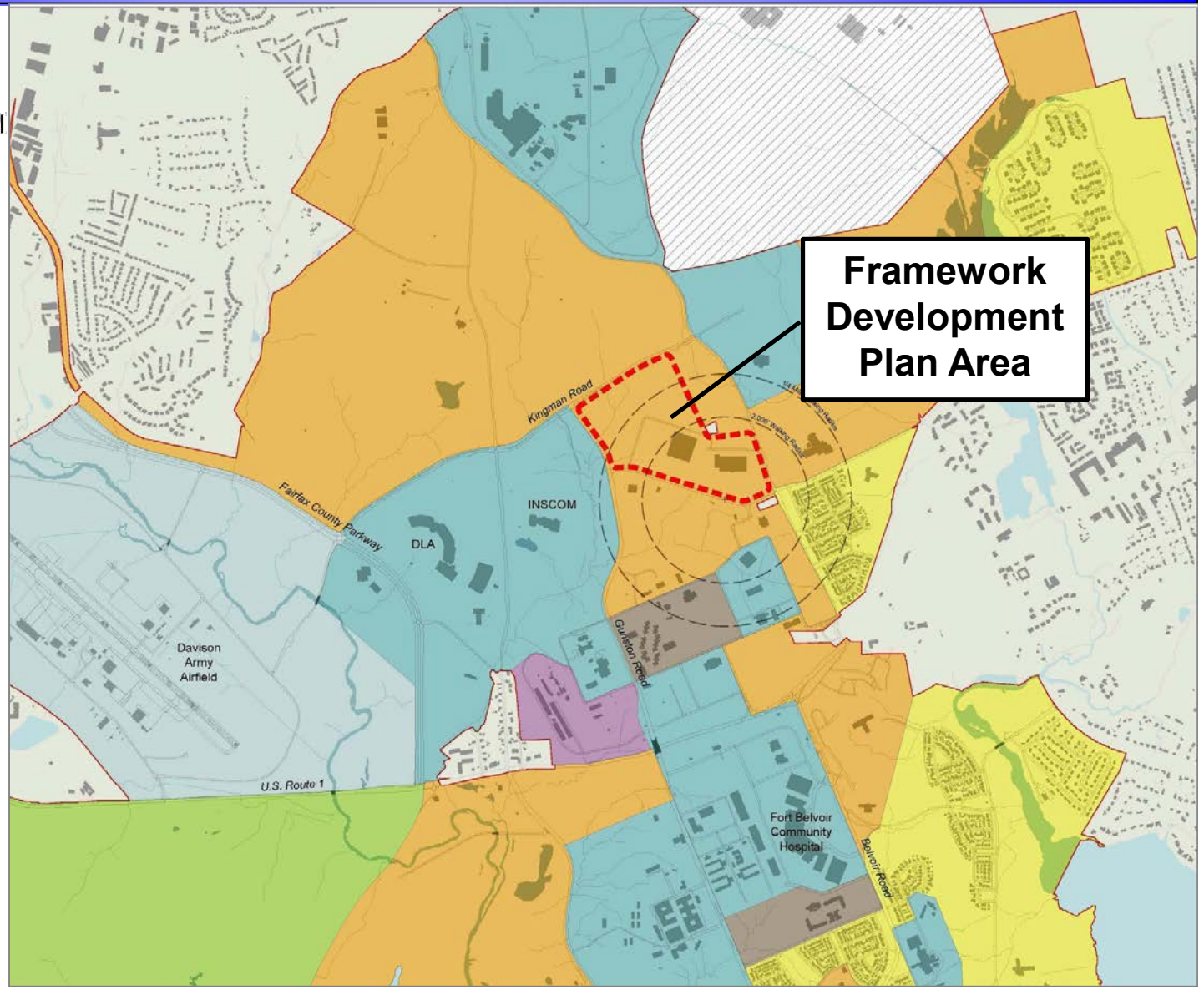
CASE STUDY 1

FORT BELVOIR

North Post Town Center – Master Plan Land Use

Legend

- Professional / Institutional
- Residential
- Troop
- Community
- Range / Training
- Airfield
- Industrial

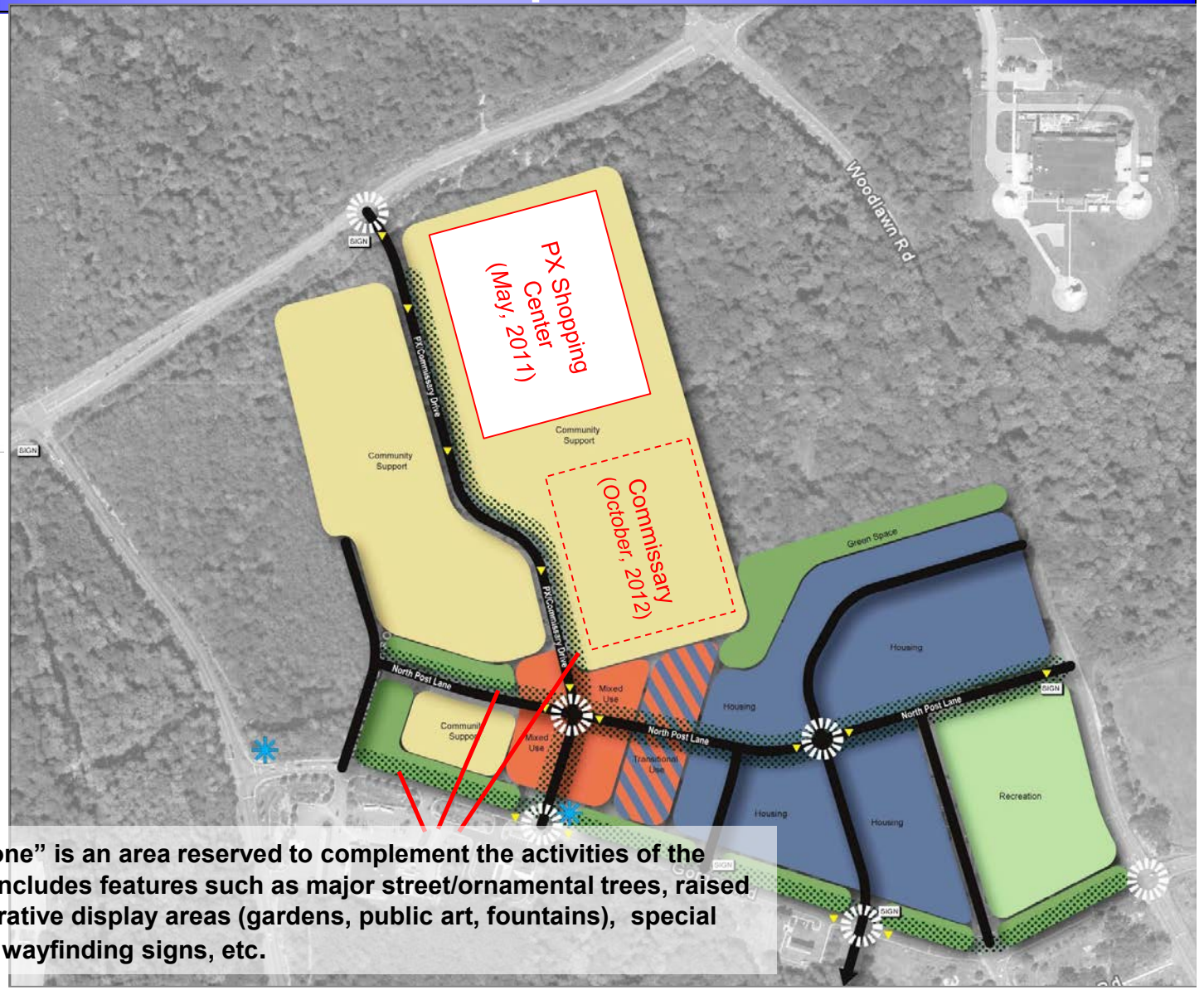


Chris Landgraf // (703) 806-0043 // christopher.w.landgraf.civ@mail.mil

Framework Development Plan

Legend

- Open Space/ Recreation
- RCI Housing
- Community Support
- Mixed Use
- Green Space
- Nodes
- Traffic Calming
- SIGN Entry Signage
- Entry Feature
- Framework Roads
- Enhanced Pedestrian Zone



"Enhanced Pedestrian Zone" is an area reserved to complement the activities of the Town Center. The zone includes features such as major street/ornamental trees, raised landscape planters, decorative display areas (gardens, public art, fountains), special pavement, seating areas, wayfinding signs, etc.

Chris Landgraf // (703) 806-0043 // christopher.w.landgraf.civ@mail.mil

NPTC Context Map – Future Uses

Legend

- Open Space/ Recreation
- RCI Housing
- Barracks
- Office
- Industrial/ Motorpool
- Community Support
- On-Post Shuttle
- Route 335 Fort Belvoir Eagle Express
- On-Street Bike Lanes
- Trail/ Walkway
- Mixed Use
- Nodes
- Traffic Calming
- Framework Roads
- Enhanced Pedestrian Zones

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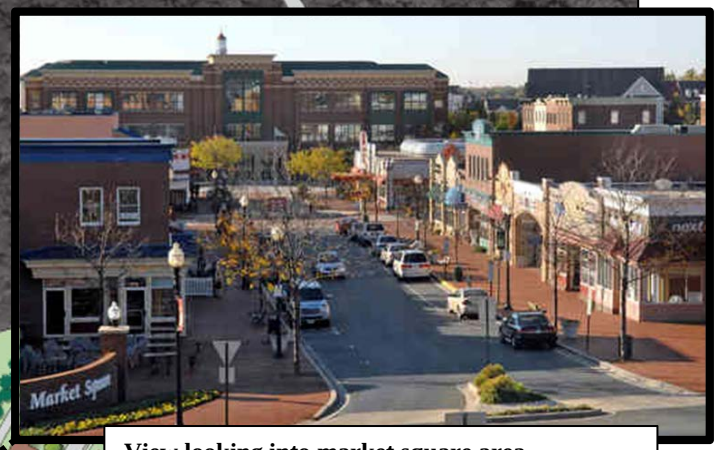
LARGER SCALE RECOMMENDATION # 4:
Create special "gateways" into the NPTC along Gorgas Road at selected key intersections.

Traffic circle located along Kentlands Boulevard (Kentlands in Gaithersburg, MD), at the entrance to the main market square (more walkable "neighborhood" commercial area.



View looking into market square area (Kentlands), with the tip of the traffic circle located in the foreground.

CASE STUDY 2

NIST

Exhibit 1: Existing Site Plan

Exhibit 2: Master Plan Concept

Exhibit 4: Master Plan Building Summary, 20-Year Program

Building	New GSF	Renovation GSF*	Description
Phase 1: Immediate Priorities	*Site: Courtyard activation, Gates A & F roadways, stormwater, landscaping, utility loop*		
Building 245 Addition/Renovation	106,000	207,921	Research/3 construction phases
Research Building I	300,000		Research
GPLs–Modernization/Office Additions	86,000	1,277,587	Modernize for research, offices
High Bay Lab Addition to 206	16,000	8,165	Research
Gate A Visitor Ctr. & security mods	3,000	2,460	Building expansion/roadway modernizations
Gate F Visitor Center	4,400		Visitor screening/vehicle inspection
Gate F Shipping/Receiving/Inspection	17,000		Truck screening/transfer warehouse
Electrical Substaion	5,400		Infrastructure replacement
Demo buildings 411 and 428	(20,185)		When space available in GPLs, 301
Subtotal	517,615	1,496,133	
Phase 2: Next Steps			*Site: Courtyard landscaping*
Building 101 Expansion	50,000		Conference facilities/offices
Building 101 Renovation		345,818	Public spaces/offices/infrastructure
Subtotal	50,000	345,818	
Phase 3 Program Expansion			*Site: Pedestrian way, courtyards, roadway modification*
Research Buildings II, III, IV	480,000		Research
Parking Structure			720 cars/4 levels (as needed)
Chilled Water Plant Expansion	6,200		Addition to 302/New cooling tower
Subtotal	486,200		
Independent Projects	*Site: East-west pedestrian way, trails, stormwater management, meadows, reforestation*		
Standard Reference Materials Building	54,000		Research
Strong Floor Building	15,000		Research
Fire/Wind Tunnel Building	15,000		Research
Building 207 Expansion-Robotics	17,000		Research
AML Addition	115,000		Research
NCNR Expansion	138,000		Research/Renovation tbd
Building 202 Renovation-Engineering Mechanics		78,575	Research
Building 230 Renovation-Fluid Mechanics		38,366	Research
Building 231 Renovation-Industrial		75,131	Research
Building 233 Renovation-Sound		42,881	Research
Building 237/238 Renovation-Non-magnetic		7,061	Research
Subtotal	354,000	242,014	
20-Year Totals	1,407,815	2,083,965	Gross Square Feet

*Renovation GSF is total building – Renovation scope has not been determined for any building except GPLs, which will undergo complete modernization.

Exhibit 7: Facility Condition Assessment

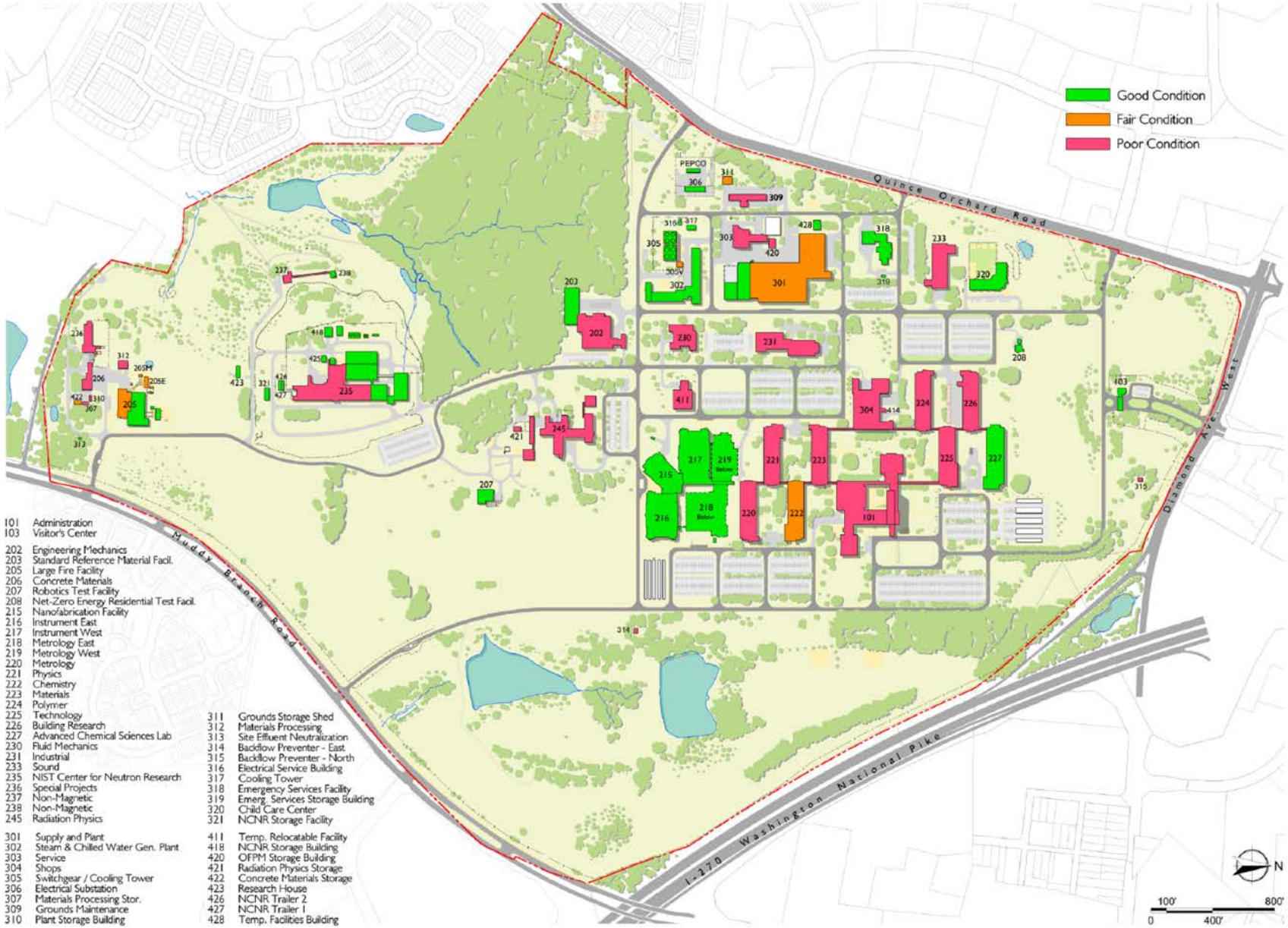


Exhibit 37: Landscape Plan

CASE STUDY 3

MCB Quantico

EST • 1917 Quantico Virginia

MCB QUANTICO

Installation Master Plan Update

"Crossroads of the Marine Corps"

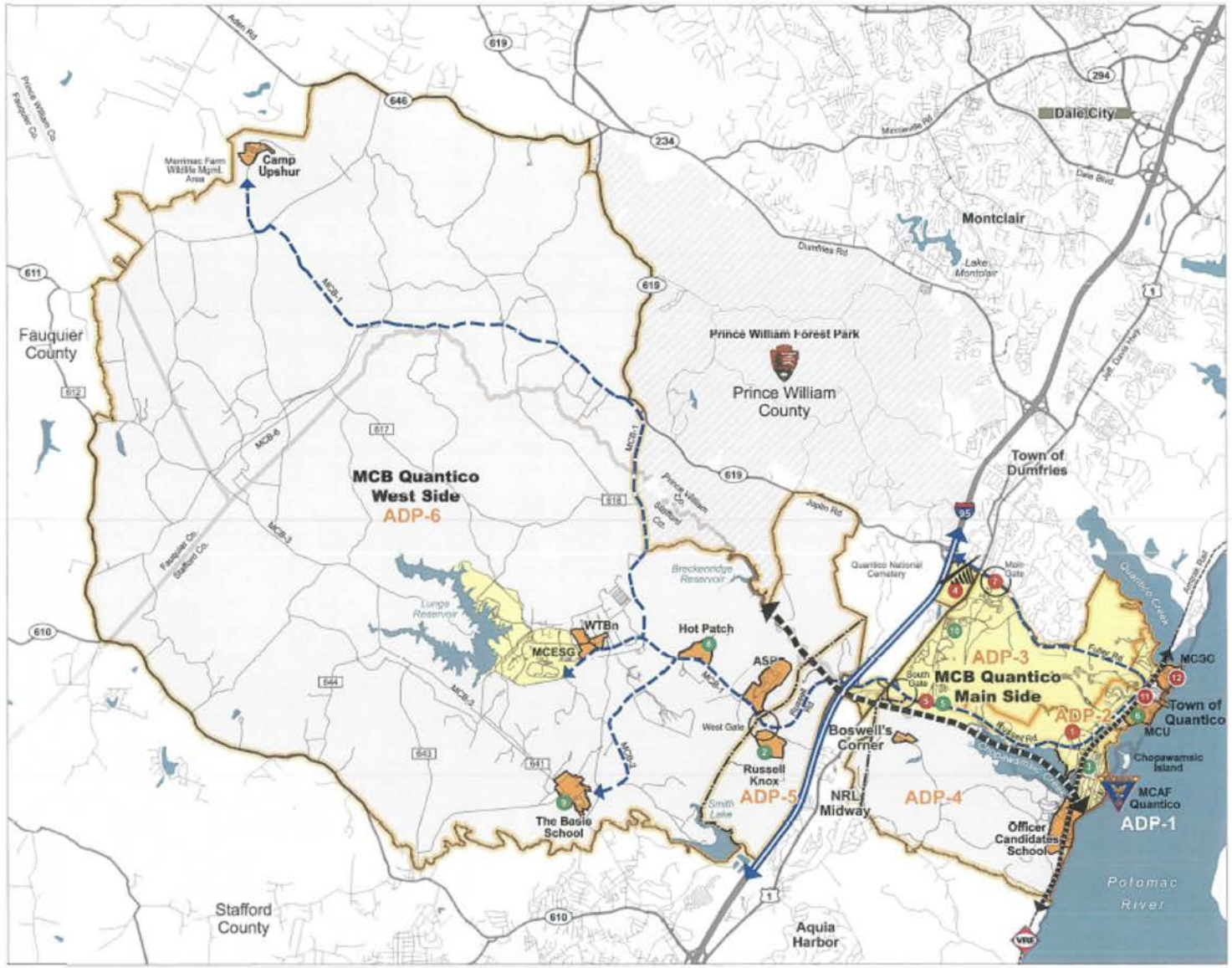
Prepared for
Marine Corps Base Quantico
Headquarters Marine Corps

FINAL REPORT | January 2019

FOUO Copy / For Official Use Only

As the Crossroads of the Marine Corps, MCB Quantico provides and enhances support of its tenant missions. We will continue to preserve and promote the operational environment, culture, and tenant "unity of effort" through implementation of compatible and mixed-uses, promoting sustainable and adaptable development practices, and enhancing the quality of life for all personnel in safe, secure facilities across an integrated community.

Figure 4-1 Installation Framework Map



Marine Corps Base Quantico

INSTALLATION FRAMEWORK PLAN

Key

Districts

- Area Development Plan Designation
- Marine Corps Base Quantico Boundary
- County Boundary
- Cantonment/Campus Area
- Training Area
- Non-Training Area

Edges

- Natural Barrier
- Rail Line
- Urban Growth Boundary
- Surface Water
- National Park Service

Paths

- Major Vehicle Route
- Major Interstate
- Primary Access Point

Focal Points

- Landmark (LM)
- Activity Note (AN)

	LM	AN	DESCRIPTION
1	X		Lejeune Hall / Parade Field
2		X	Russell Knox Bldg.
3		X	MCAF
4	X		National Museum of the Marine Corps
5	X	X	Marine Exchange & Commissary
6		X	Marine Corps University
7	X		Main Gate
8		X	Hot Patch
9		X	The Basic School
10		X	Family Housing / Schools
11	X		Quantico Train Station
12	X		Hospital Point (Bldg. 2200)

1 in = 1.5 miles

0 0.75 1.5 3 Miles

Figure 4-2 ADP Boundaries Map

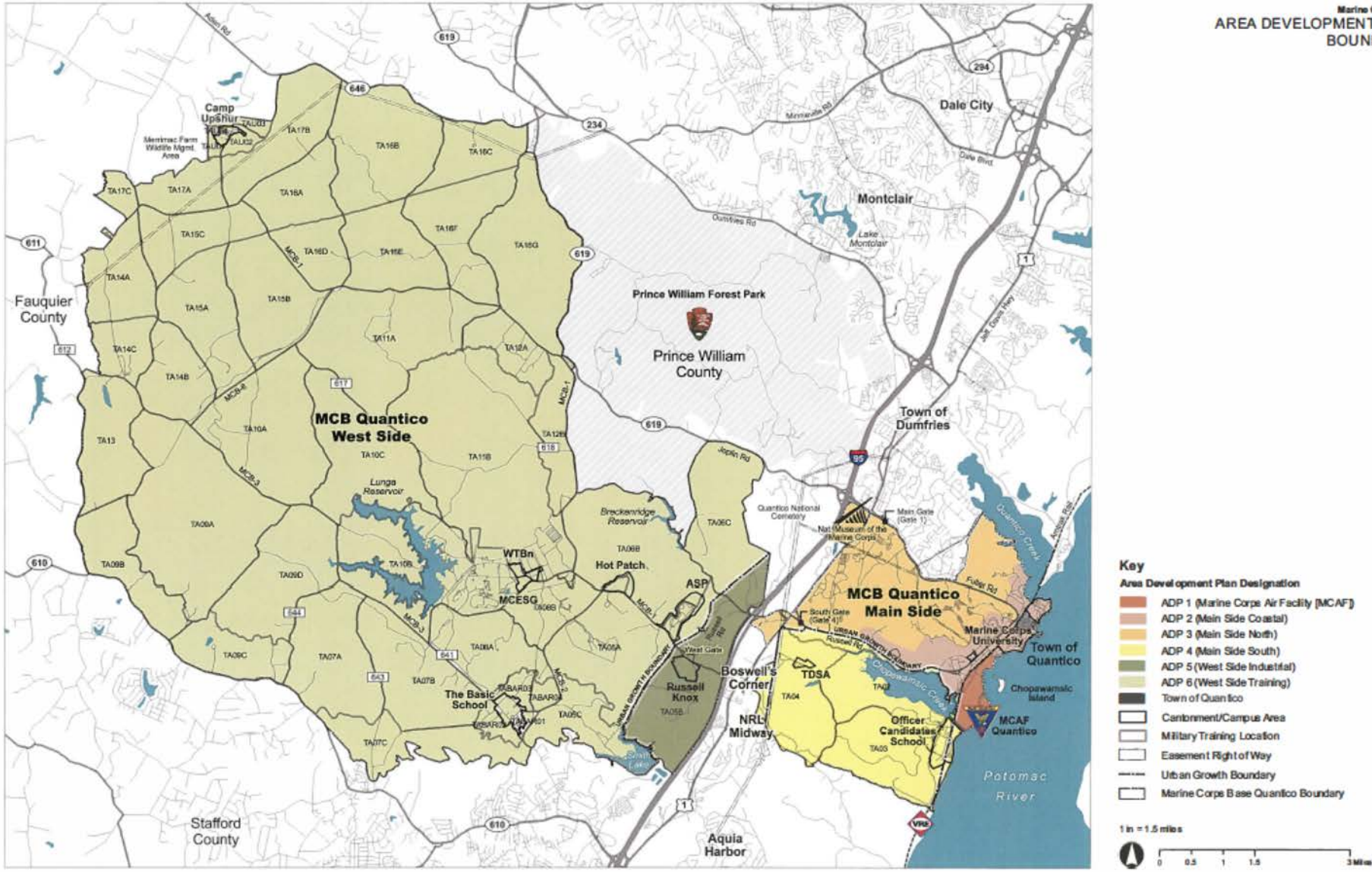
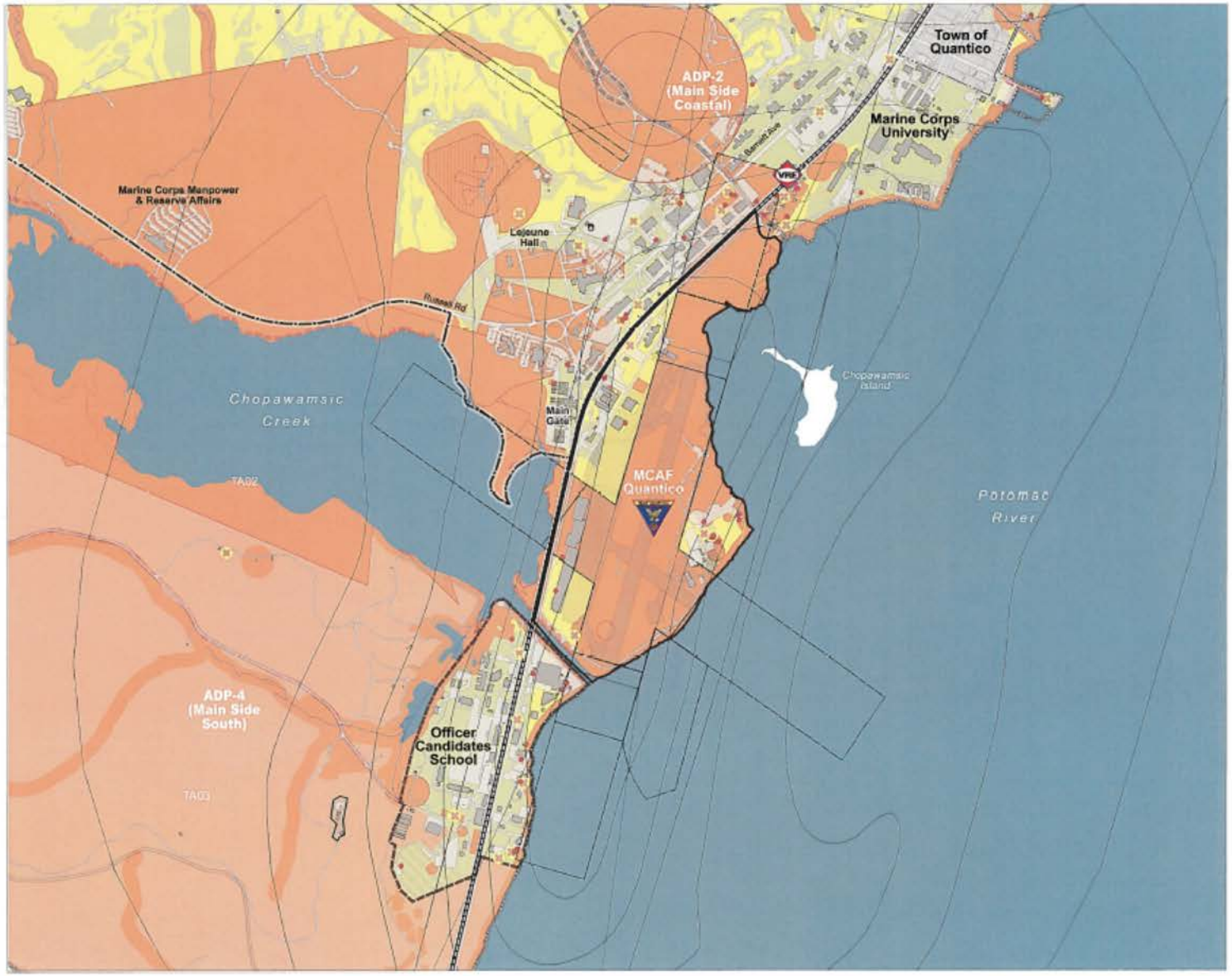


Figure 5-15 ADP-1 Composite Constraints Map



Marine Corps Base Quantico
COMPOSITE CONSTRAINTS MAP
ADP-1 (Marine Corps Air Facility)

Key

Development Constraints Rank

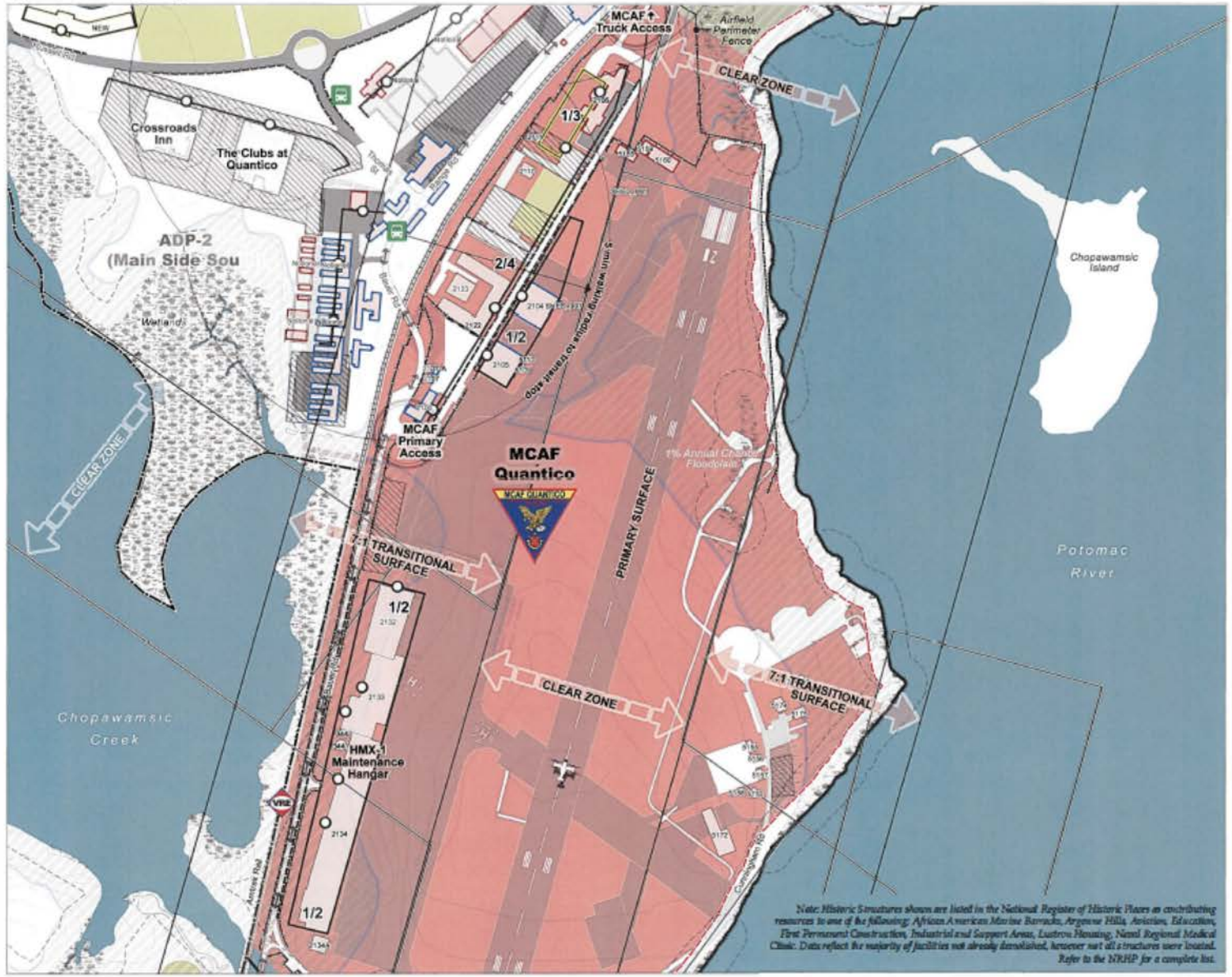
- High
- Moderate
- Low
- ADP 1 (MCAF Quantico)
- Urban Growth Boundary
- Marine Corps Base Quantico Boundary

1 in = 1,500 feet

0 500 1,000 1,500 Feet

0 0.25 0.5 Miles

Figure 5-25 ADP-1 Regulating Plan



Marine Corps Base Quantico
REGULATING PLAN
ADP-1 (Marine Corps Air Facility)

ADP-1

Key

- 2/5 Min/Max Building Heights
- Transit Route
- P Parking Garage
- Bus/Shuttle Stop (Green Shuttle)
- O Required Entry Location
- Required Entry Zone
- Build to Line (BTL)
- Parking Zone
- Perimeter AT/FP (86 FT)
- Clear Zone
- Historic District
- Flood Hazard (1% Annual Chance)
- Structure: Existing
- Structure: Renovation or New
- Structure: Notional Footprint
- Structure: Historic
- Structure: Proposed Demolition
- Roads & Parking: Proposed Improvements
- Roads & Parking: Existing
- ADP 1 (MCAF Quantico)
- Marine Corps Base Quantico Boundary

Future Building Type Classification

- MU Administrative/Support Campus
- MU Educational/Training/Research Campus
- Operations
- Industrial Warehouse
- Programmed Green Space
- Green Space

1 in = 500 feet

0 250 500 1,000 Feet

0 0.25 Miles

Figure 5-26 ADP-1 Illustrative Plan

Marine Corps Base Quantico
ILLUSTRATIVE PLAN
ADP-1 (Marine Corps Air Facility)

ADP-1

PROJ.	DESCRIPTION
LT1-01	Shoreline Stabilization Project
LT1-02	Warehouse
LT1-03	Northgate replacement
LT1-04	Runway improvements
LT1-05	P-733 MCAF ILS (not shown on map)

Note: LT (Long-Term), ST (Short-Term)
Refer to ADP Demolition Plan for associated ST and LT demolition

Key

Buildings
- Long-Term (LT) Renovation or New
- Short-Term (ST) Renovation or New
- Notional Footprint (N)
- Existing Building

Roads & Parking
- Bus/Shuttle Stop
- Proposed Roads & Parking
- Existing Roads & Parking
- Flood Hazard (1% Annual Chance)
- Perimeter AT/FP (86 FT)
- ADP-1 (MCAF Quantico)
- Marine Corps Base Quantico Boundary

1 in = 800 feet

0 250 500 1,000 Feet

0 0.25 Miles

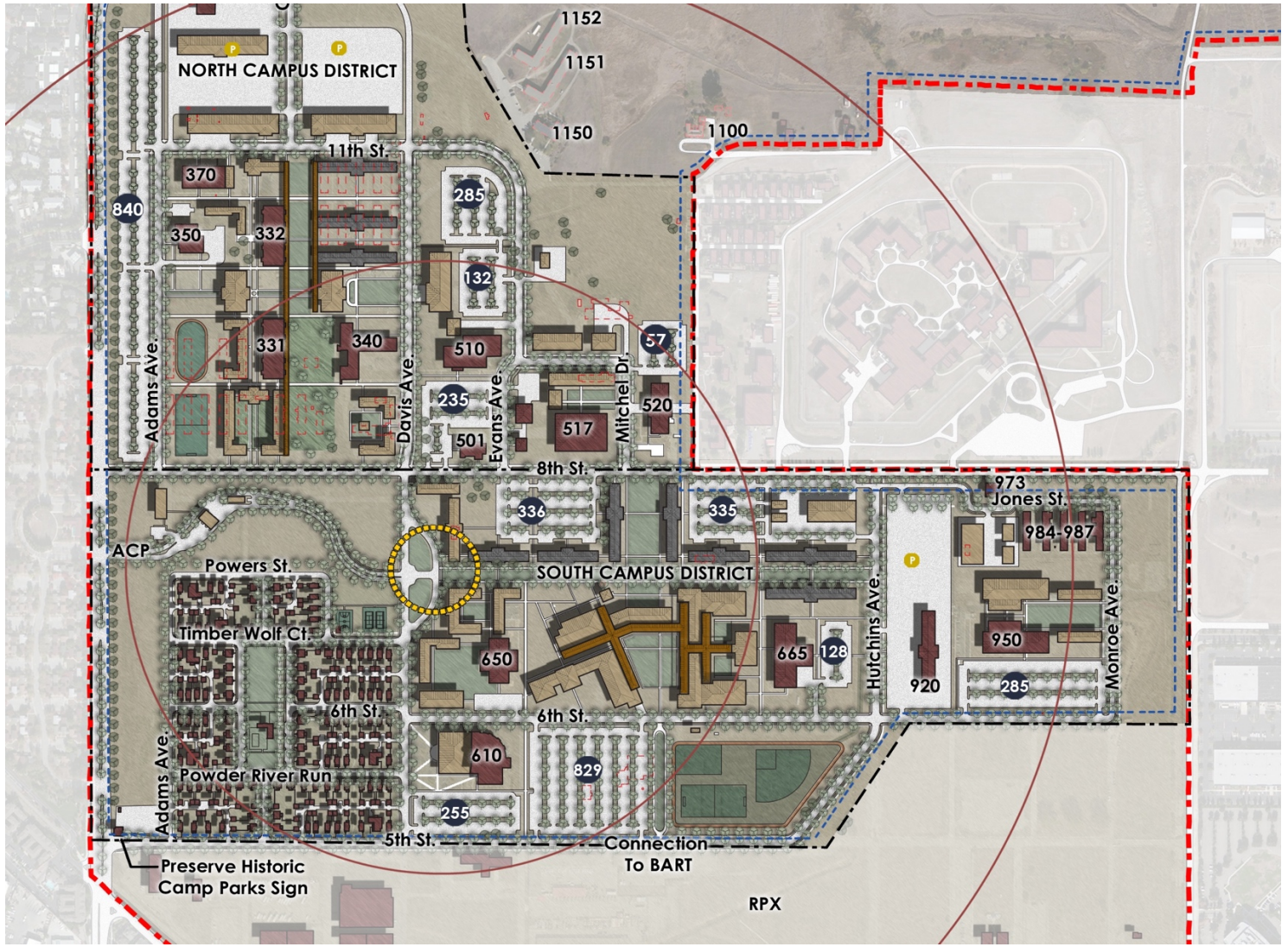
Preparing IDPs/ADPs with Limited Resources

If…..

You don't have a plan…

Then…..

Invest in ADPs.



Then…..

Invest in

ADPs.

Then…..

Invest in

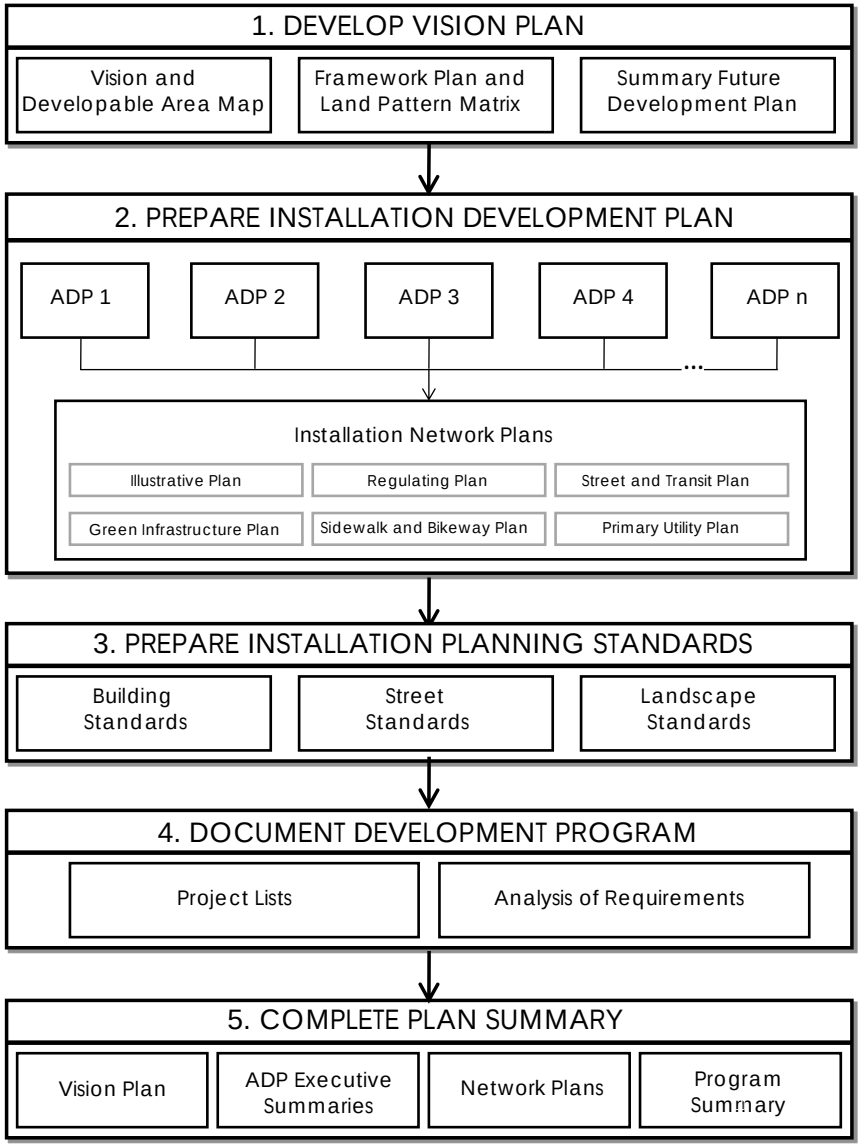
ADPs.

If…..

You have a plan…

Then.....

Know where you are in the process.



4 STRATEGIES FOR SUCCESS WITH LIMITED RESOURCES

1 Leverage Alternative Funding Sources

- Central Funding (AFCAC, IMCOM, CNIC)

- Local Funding

- Other People's Money (OPM)

    - MCCS/AAFES/MWR/Etc.

    - Mission Partners

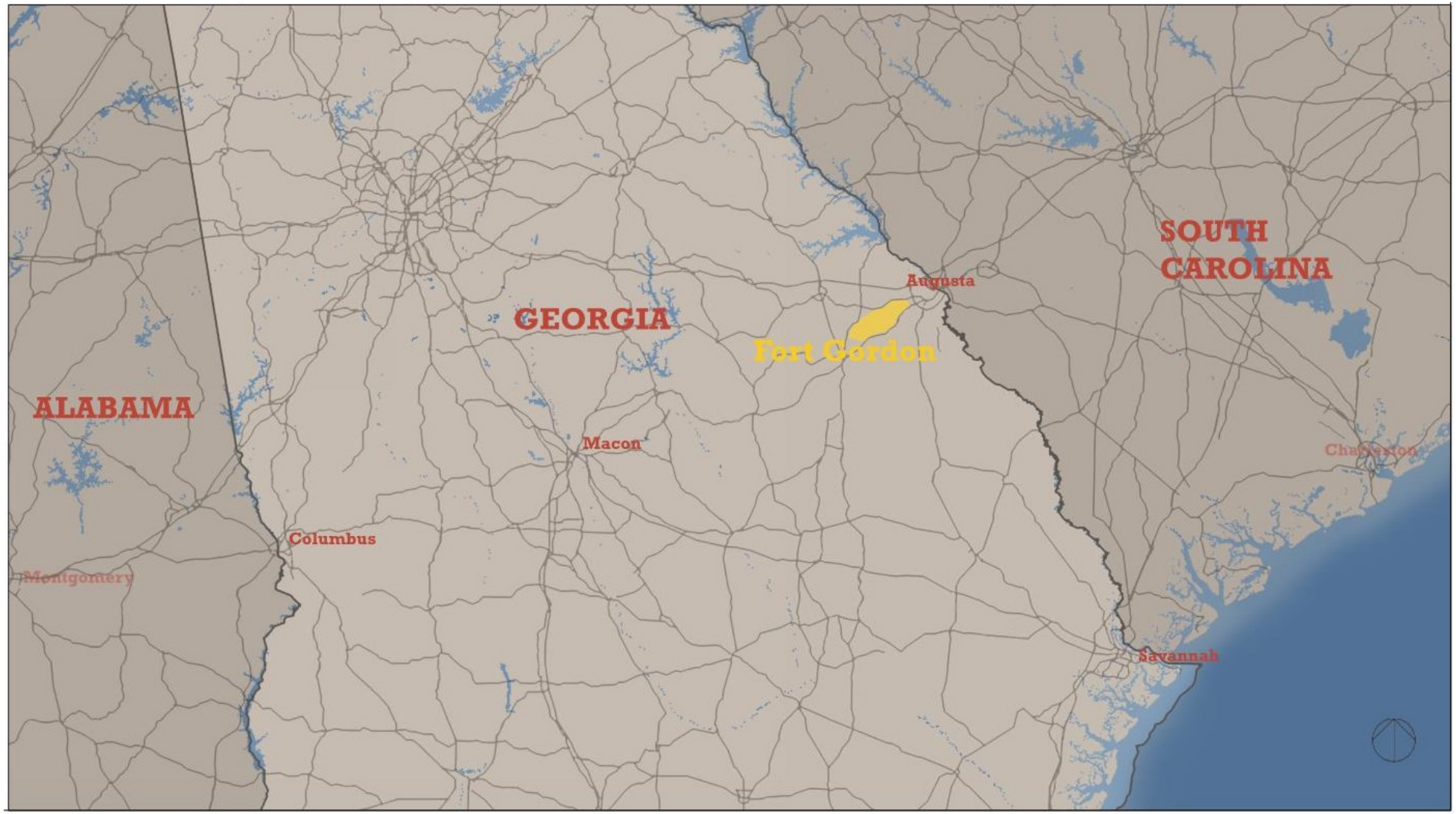
    - Other Tenants

Fort Gordon

THE WAY AHEAD

Leveraging Tenant Partnerships to Create Great Places at Fort Gordon

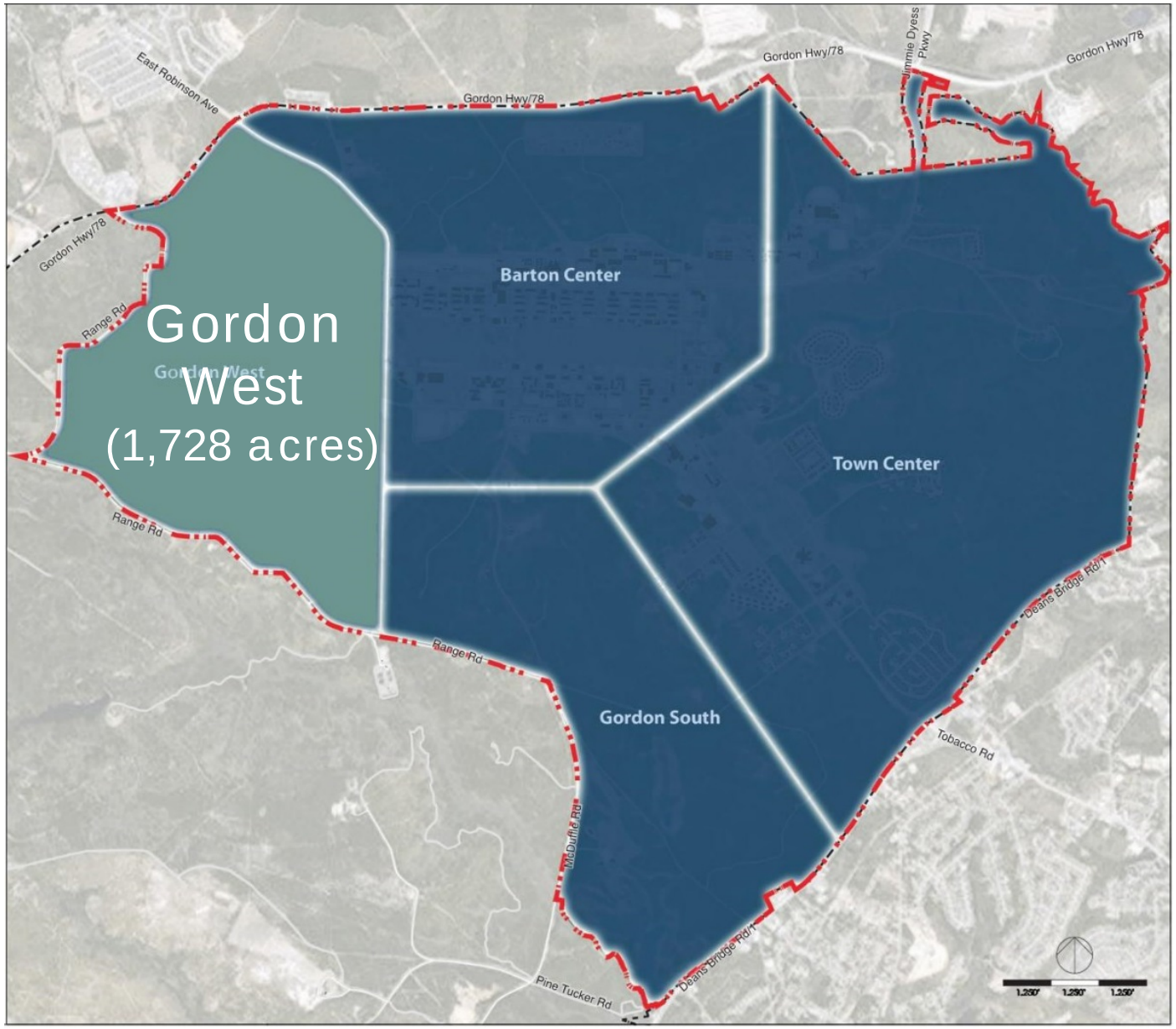
Fort Gordon Location



ADP Districts

District's Key Tenants

- NSA/CSS Georgia
- U.S. Army Cyber Command and Second Army
- U.S. Army Cyber Protection Brigade
- Navy Information Operations Command, Georgia (NAVIOCOM Georgia)
- 706th Military Intelligence Group
- 782nd Battalion
- 7th Signal Command
- 67th Signal Battalion (Expeditionary)
- 513th Military Intelligence (MI) Brigade
- 359th Signal Brigade
- Regional Training Site Medical (RTSMED) Medical Readiness Training Command
- 35th Signal Brigade Directorate of Public Works (DPW)
- Logistics Readiness Center (LRC)



Agency Campus & ADP Study Area

Planning Considerations

- Evaluate district's capacity
- Provide a secure compound
- Make it walkable
- Accommodate closure of two existing gates and opening of new Main Gate
- Consider utility and road improvements with additional capacity

Planning Charrette

- Participation of over 30 stakeholders from Army Garrison Fort Gordon and all primary tenants during a four day on-site planning charrette

- Participatory planning methods ensured that stakeholders made decisions ensuring plan's functionality and longevity

Mission Statement

(U) Provide multi-agency cyber and intelligence operations along with enabling support to the global mission.

Vision Statement

In support of our mission, our vision is to create a cyber and intelligence campus with sustainable and modern facilities and infrastructure, adaptable to mission change and in support of our community culture.

Goals & Objectives

Sustainable & Modernized Facilities & Infrastructure

- Multi-story Development
- Low-Impact Development & Stormwater Handling
- Green Roofs
- Incorporate Energy-efficient Strategies

Adaptable to Mission Change

- Capacity Planning
- Security & Visibility
- AT/FP Focus

Support our Community Culture

- Walking, Running & Biking Paths
- Public Safety
- Maintain Natural Open Space
- Preserve Wetlands & Trees
- Stewardship of Resources
- Visible Entries

District Plan

District Regulating Plan

Key-takeaways

- **Garrison needed an ADP – major tenants had the funding** to make the plan come together – all were highly willing participants
- Stakeholder **team was multi-disciplinary**, and had at least a **moderate level of decision-making authority**
- Tenants' **senior leadership attended** workshop; helped to well-define parameters and roles
- No one let "Perfect" get in the way of "Good"
- Participants had singularity of focus, and **agreed to compromise** to attain the mission objective

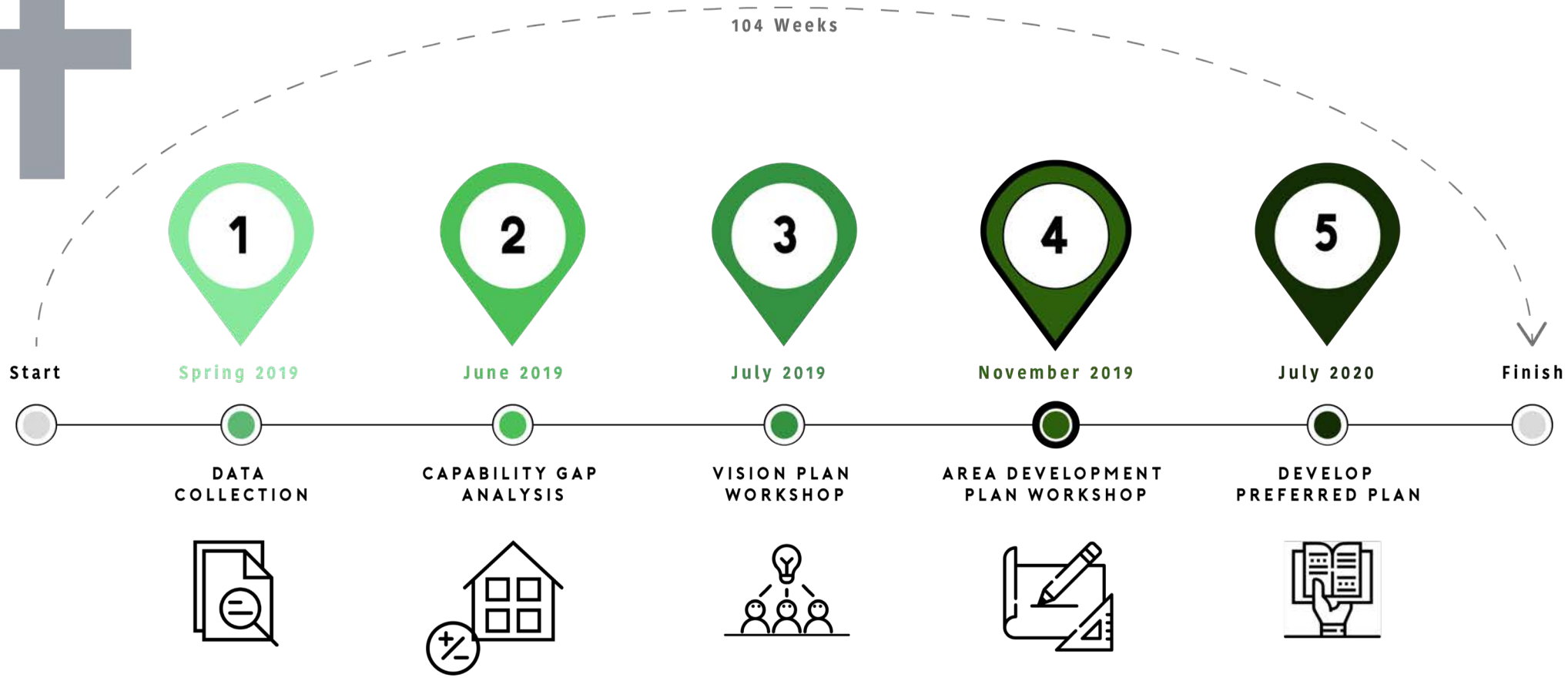
2

Involve Stakeholders from the Beginning

3

Leave the Charrette with the Approved Draft

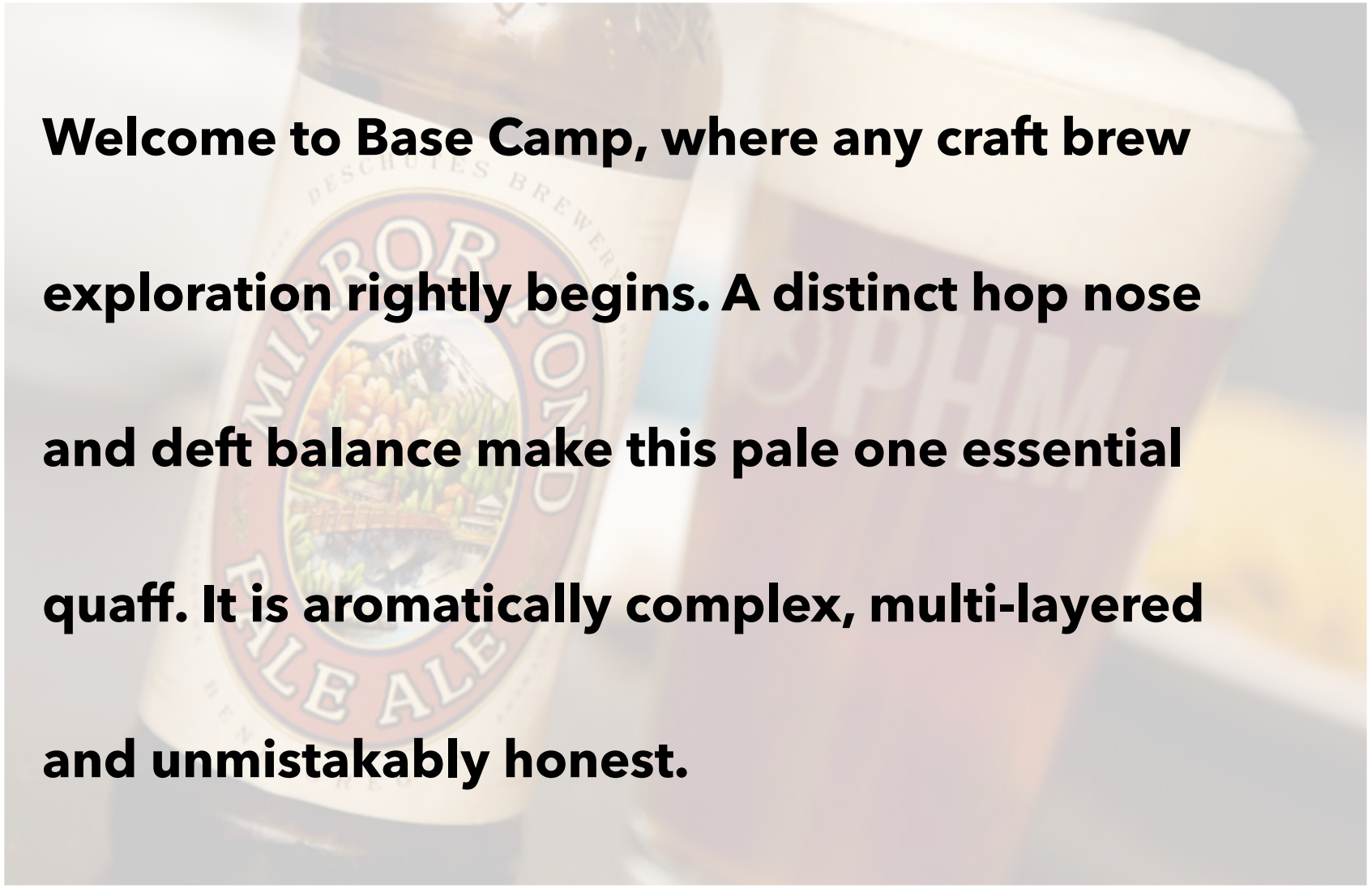
4 Stay within the Period of Performance



Developing a Clear Vision

Vision Statement

Vision Statement

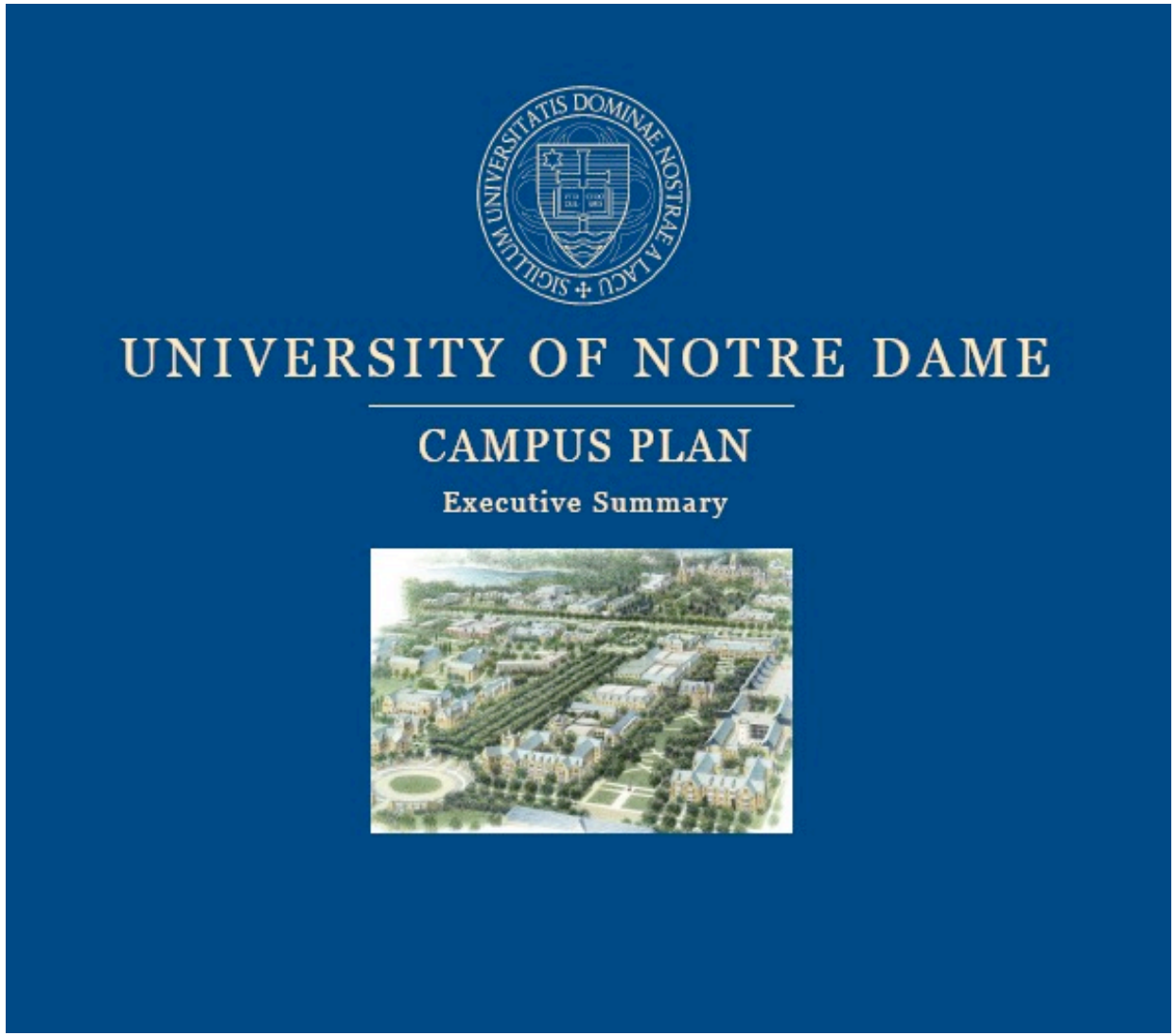


Welcome to Base Camp, where any craft brew exploration rightly begins. A distinct hop nose and deft balance make this pale one essential quaff. It is aromatically complex, multi-layered and unmistakably honest.

Elements of a Planning Vision Statement

- **Clear**
- **Concise**
- **Use familiar language**
- **Creates a strong mental picture**
- **Sets at least two goals**
- **Excludes language that describes the military mission**

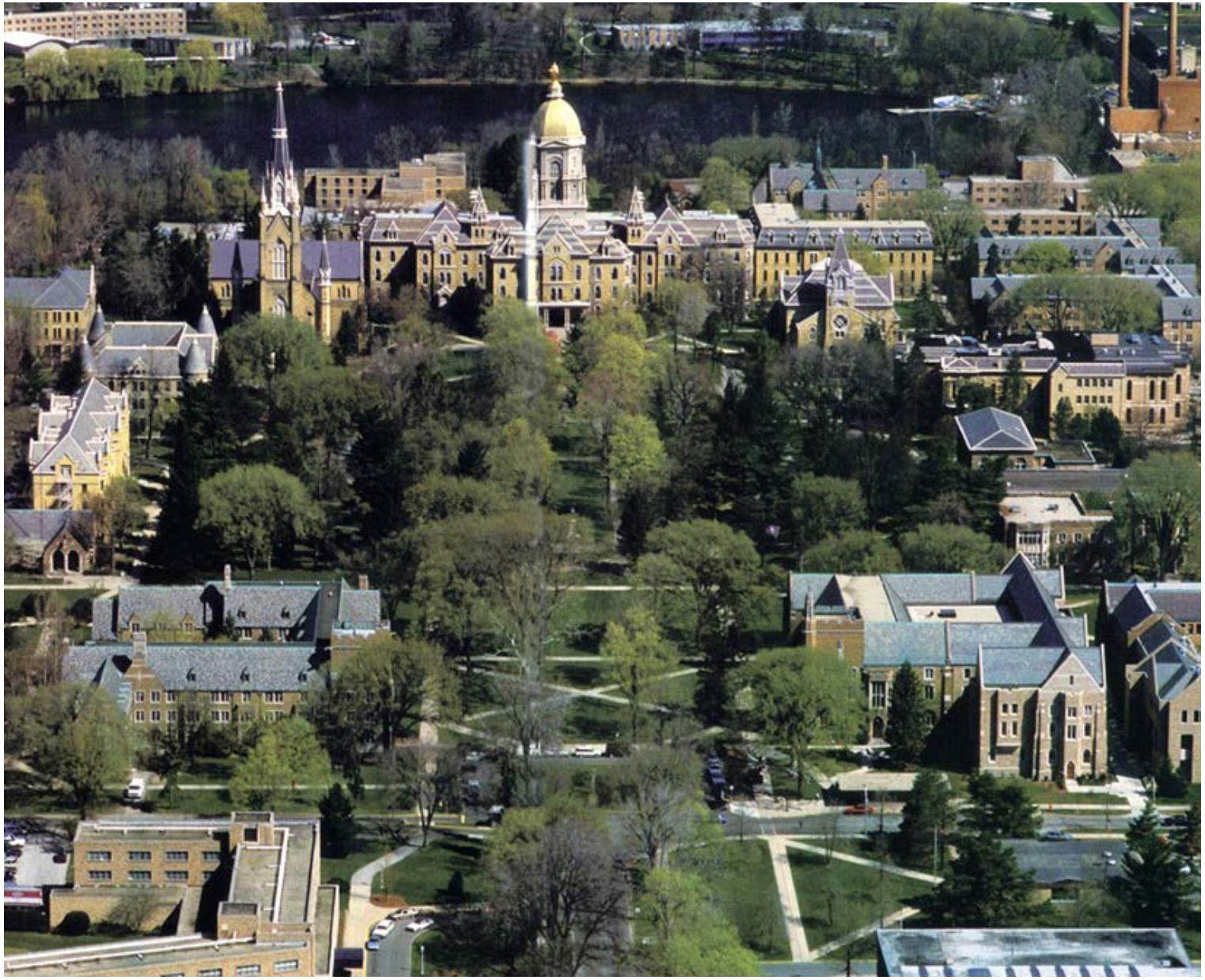
University of Notre Dame Campus Plan



Our vision is for Notre Dame to be a campus that serves as **home and academy** with **axes**, **focal points**, **and quads** designed to **protect and enhance the natural environment**.

Notre Dame

Notre Dame



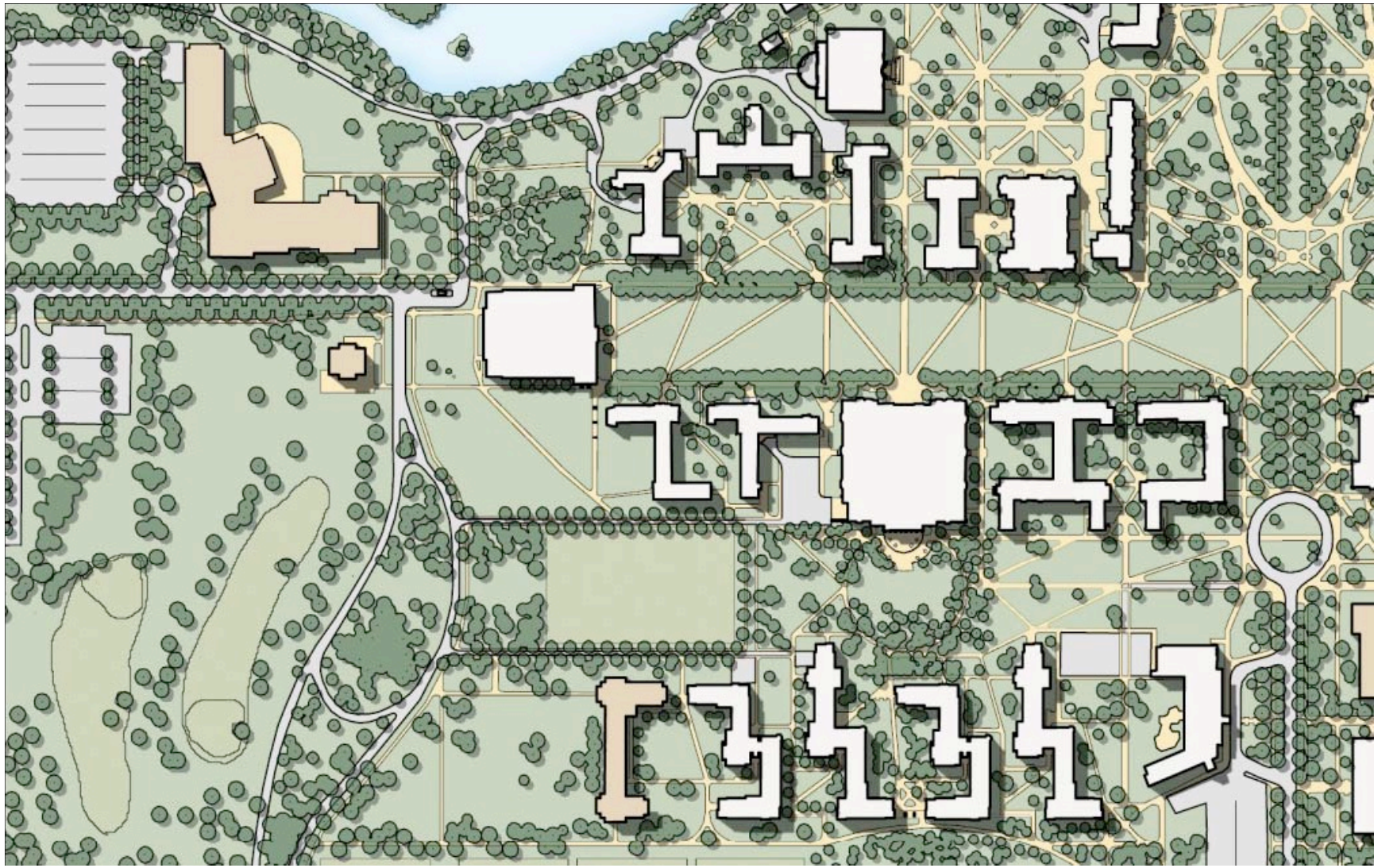
Campus as Home & Academy

Notre Dame is a locus of learning and of living, a national teaching and research university with a vital residential dimension.

PLANNING GUIDELINES
Land-use planning will strive for a compatible mixture of uses among campus neighborhoods so that residence halls are close to spiritual, academic and social settings.

Undergraduate residence halls will be clustered to create communities and located in such a way as to balance the campus around its historic core. Teaching, research, and administrative facilities within each College will be clustered to promote the collegial environment necessary for the vigorous exchange of ideas.

Notre Dame



Notre Dame

Notre Dame

Notre Dame

Notre Dame

Notre Dame

Axes, Focal Points, & Quads

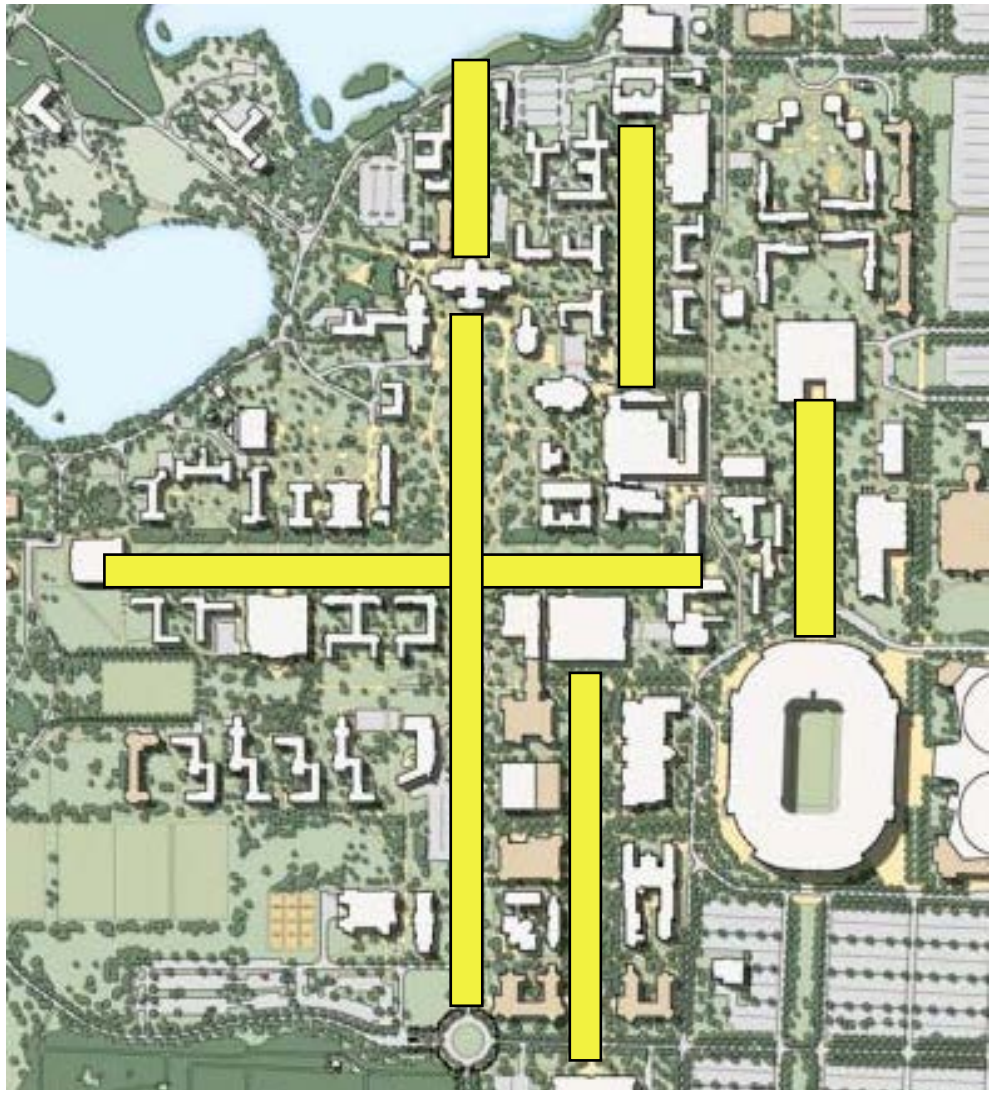
The organization of Notre Dame's exterior space by means of axes, focal points, and quadrangles should always serve as the structure for future growth of the campus.

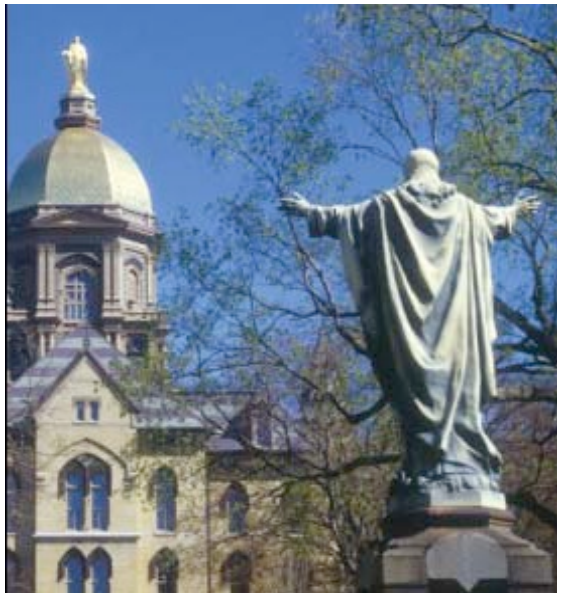
PLANNING GUIDELINES

Notre Dame will consist of a singular campus. Buildings will form a variety of outdoor spaces, such as quadrangles, courtyards, and allees that weave together the fabric of open space.

Existing quadrangles will be preserved and consist of buildings with multiple uses; in-fill sites should be considered before the development of new quadrangles. Future quadrangles will be limited in number and carefully proportioned, using the North Quad as a model.

Notre Dame





Notre Dame

Notre Dame

Notre Dame

Notre Dame

Notre Dame

Notre Dame

Notre Dame

Stewards of the Natural Environment

Notre Dame is blessed with abundant natural beauty, and its pastoral atmosphere must be preserved as the campus grows.

PLANNING GUIDELINES
The campus will remain predominantly wooded, with its stand of matured woodlands preserved and protected.

Surrounding the campus will be a natural greenbelt, a buffer of meadows, woodlands, lakes, and recreational spaces, such as golf courses and playing fields.

The greenbelt will serve as a transition from “town to gown,” and its natural beauty will be an asset to the campus and its neighbors.

Notre Dame

Notre Dame

Notre Dame

All-Hands Exercises

Assessing Existing Conditions

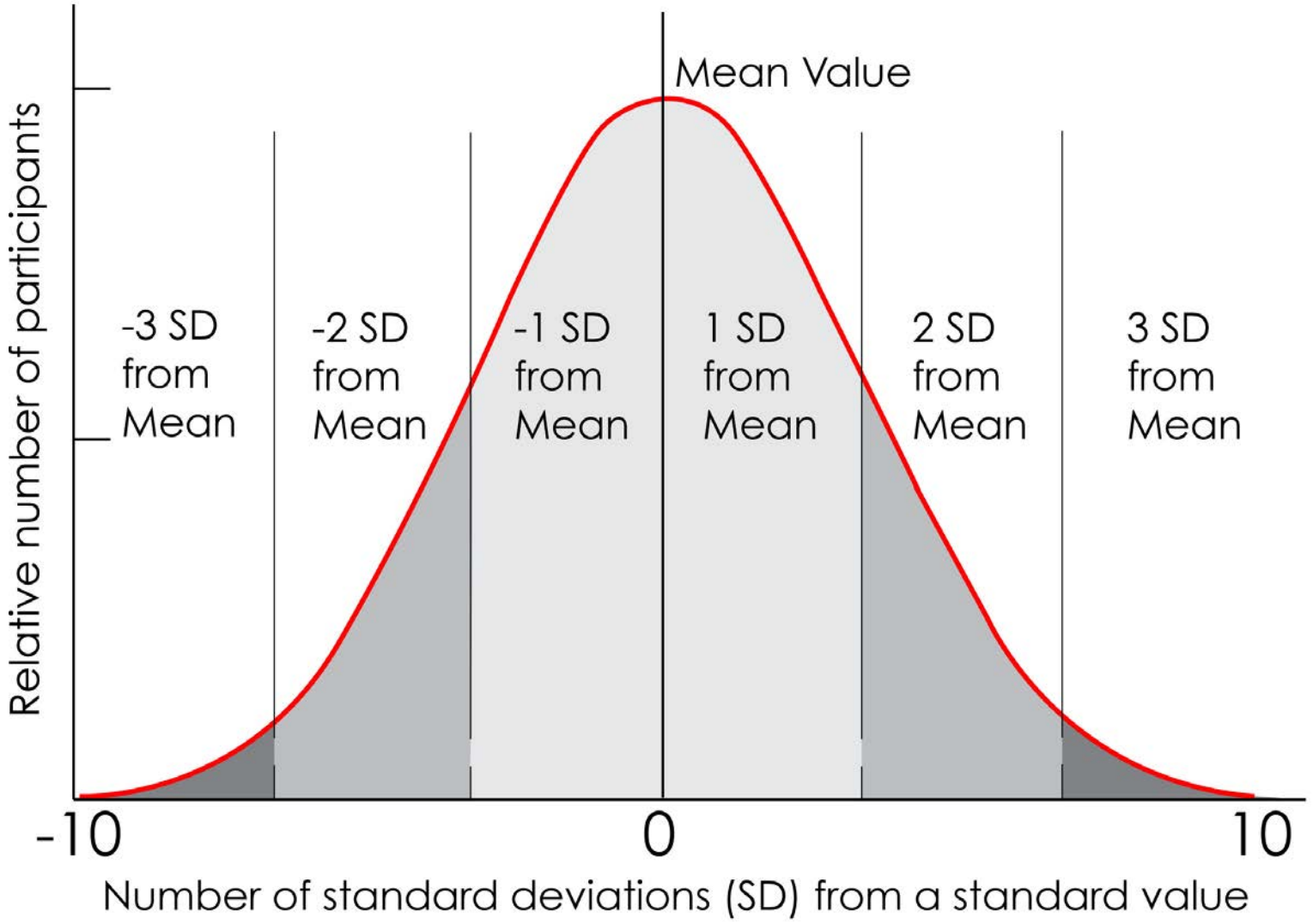
Making Better Bases

Evaluating Plan Proposals

Creating a Useful Regulating Plan

Visual Preference Survey Results

Scoring VPS


Mean Value
-3 SD from Mean
-2 SD from Mean
-1 SD from Mean
1 SD from Mean
2 SD from Mean
3 SD from Mean
Relative number of participants
-10
0
10
Number of standard deviations (SD) from a standard value

1 & 11

5.00 / 3.86

5.81 / 4.20

2 & 12

-5.67 / 3.90

5.44 / 3.68

3 & 13

6.06 / 2.78

-6.08 / 2.51

Lowest Rated Image

4 & 14

6.48 / 2.79

-3.52 / 3.83

Highest Rated Image

5 & 15

-1.77 / 4.66

3.56 / 5.01

6 & 16

4.71 / 4.37

-1.42 / 4.51

7 & 17

3.96 / 3.55

-0.85 / 4.11

8 & 18

5.35 / 4.24

1.52 / 4.18

9 & 19

5.00 / 3.54

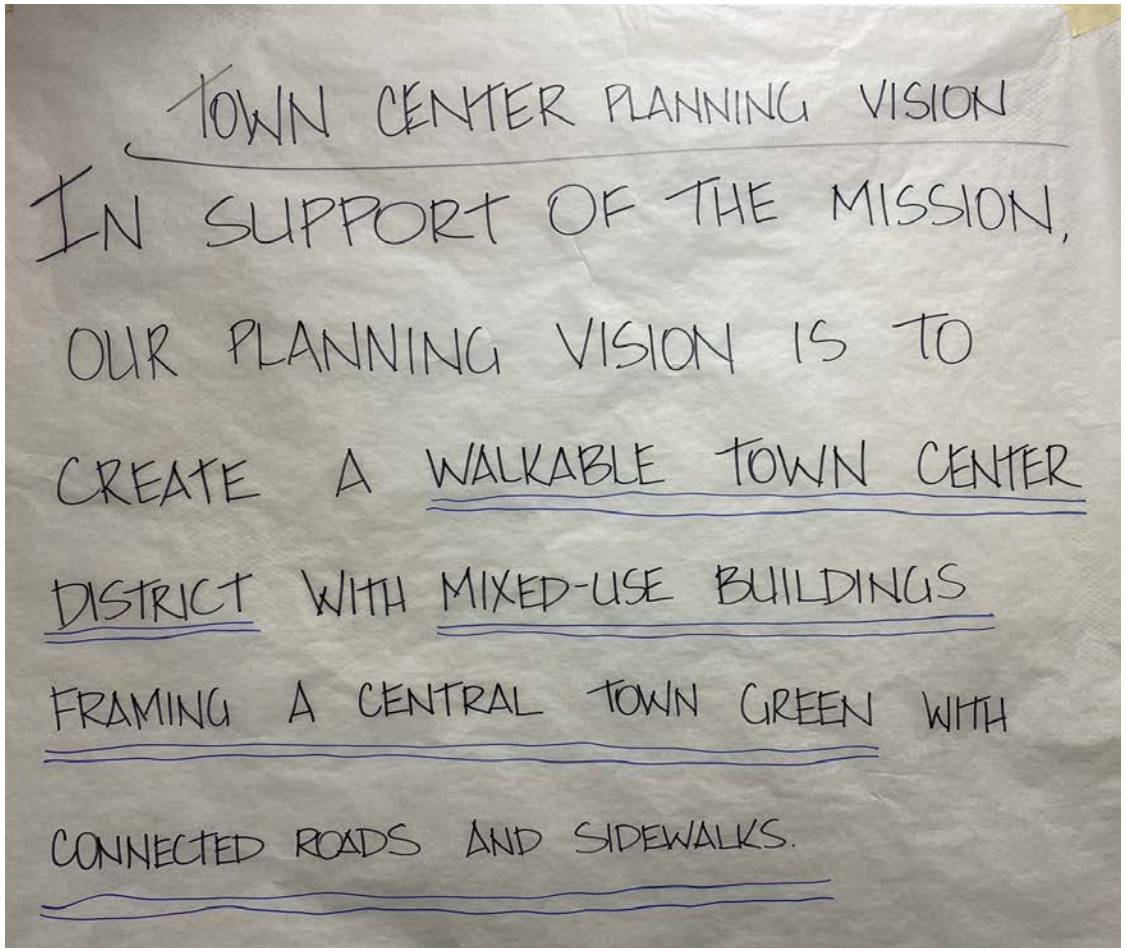
-4.17 / 3.68

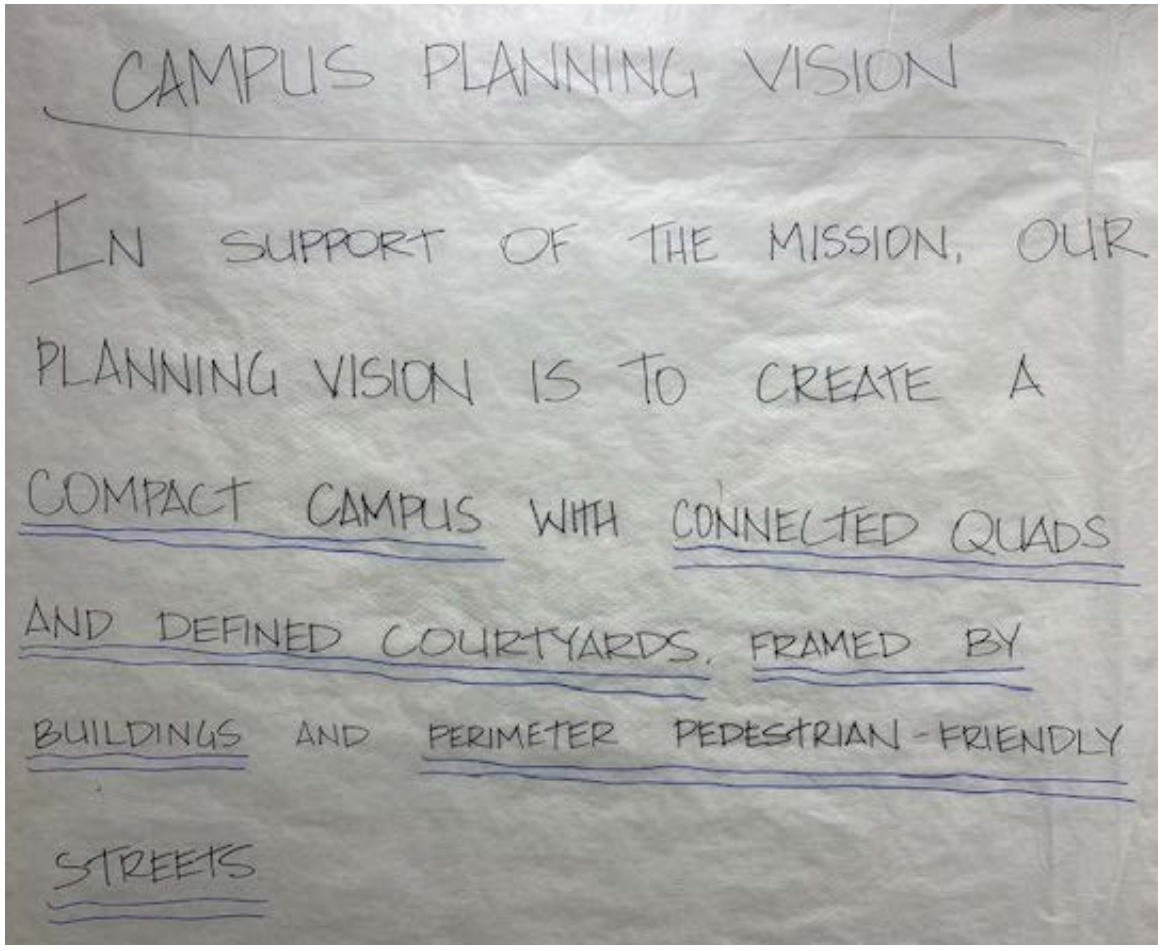
10 & 20

0.46 / 4.40

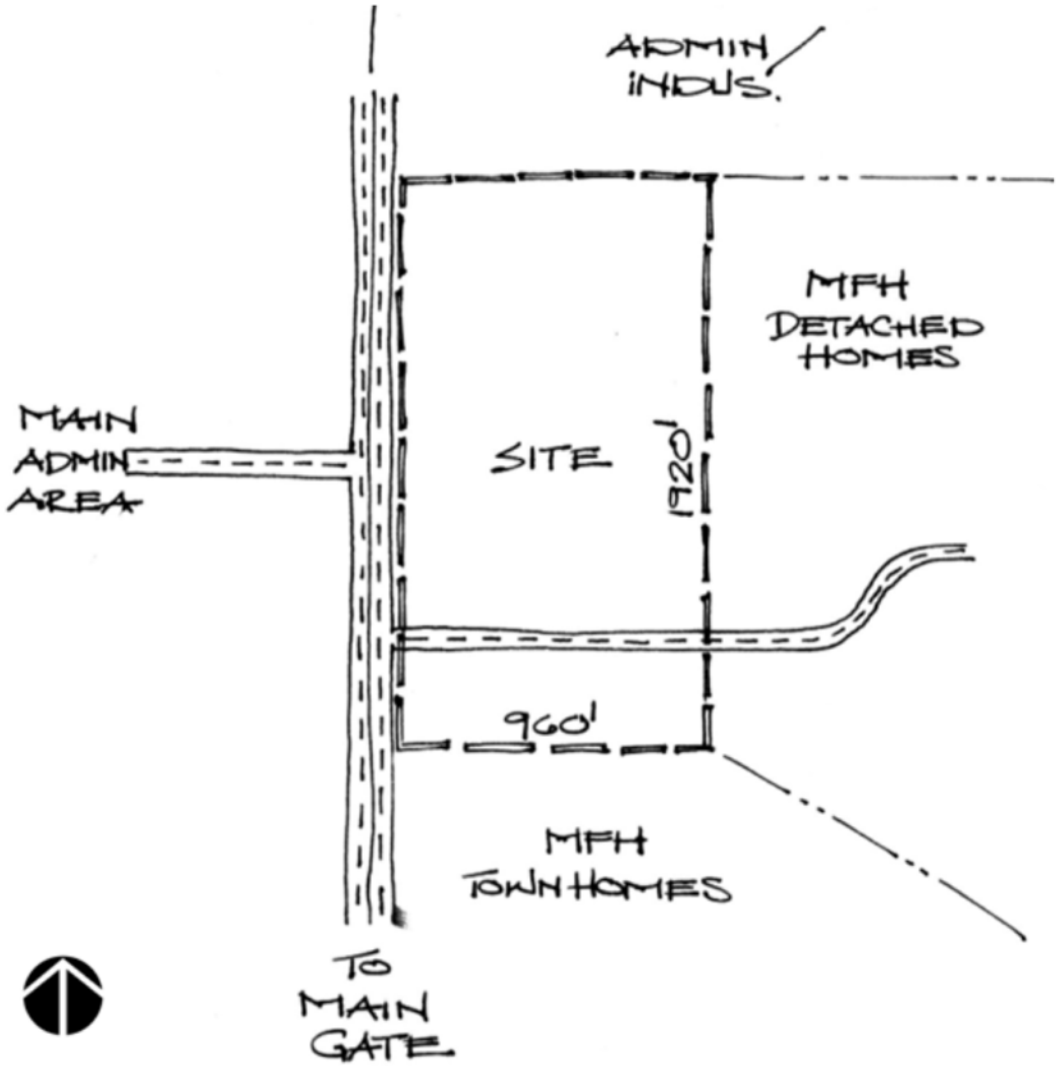
5.63 / 3.02

Planning Vision Statements

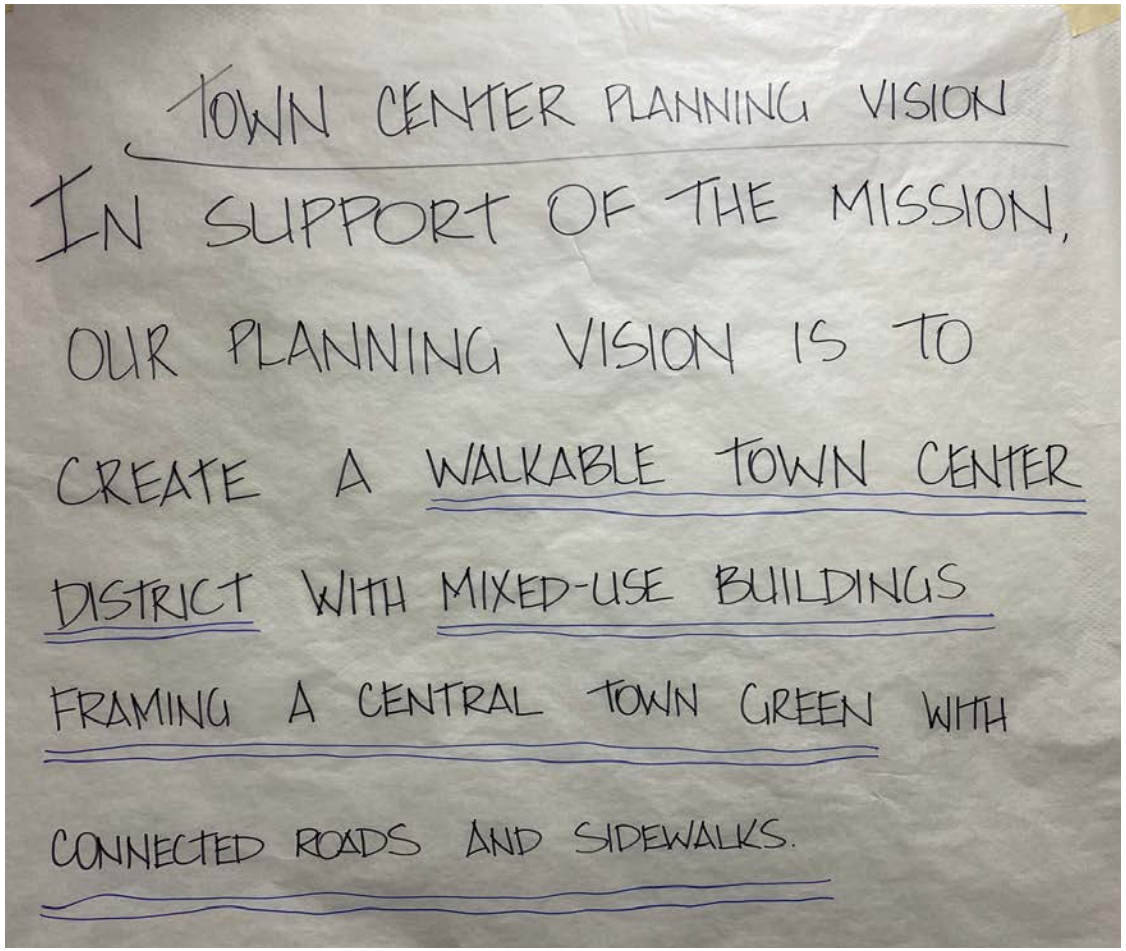


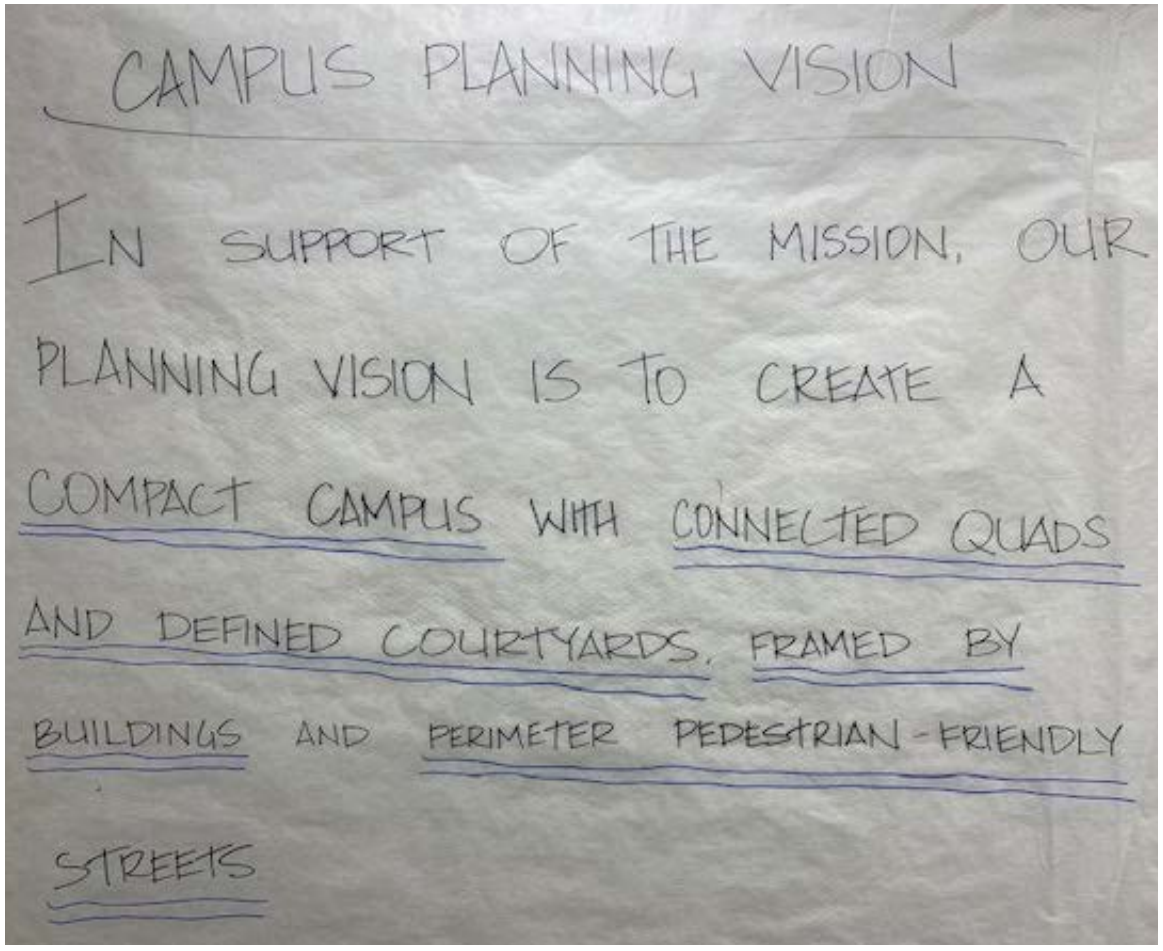


Site & Context



Planning Vision Statements





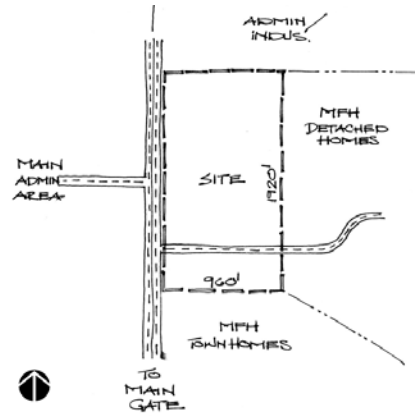
Campus Part I

Assessing Existing Conditions: Part I

Activity:

Use the building models provided to layout a typical sprawling military installation. The models are at a scale of 1" = 20'. You must include all the buildings and the required parking lots.

Your table is the study area/site. The diagram to the right shows the site's surrounding context. The two existing roads, one running north-south to the Main Gate and the other running east-west to MFH detached homes cannot be realigned. The site is flay and existing adjacent land-use areas will remain.



Existing Conditions:

FACILITY[1]	TOTAL AREA	FLOOR AREA	PARKING[2]	STORIES
Warehouse	40,000 sf	40,000 sf	20	1
Classroom	45,000 sf	45,000 sf	140	1
Bank with Drive Thru	5,250 sf	5,250 sf	20	1
Assembly Hall	14,750 sf	14,750 sf	20	1
Bowling Center	16,100 sf	16,100 sf	40	1
Gym	20,850 sf	20,850 sf	60	1
Child Care Center	9,100 sf	9,100 sf	20	1
Fast Food with Drive Thru	2,500 sf	2,500 sf	20	1
Library	10,500 sf	10,500 sf	40	1
Lab/Classroom (large)	50,000 sf	16,667 sf	140	3
Lab/Classroom (small)	30,000 sf	10,000 sf	80	3
TOTAL PARKING[2]			600	-

Note 1: Parking requirement based on industry guidance using 3-4 spaces for 1,000 GSF.
Note 2: One 3' x 5' cards equals 20 parking spaces.

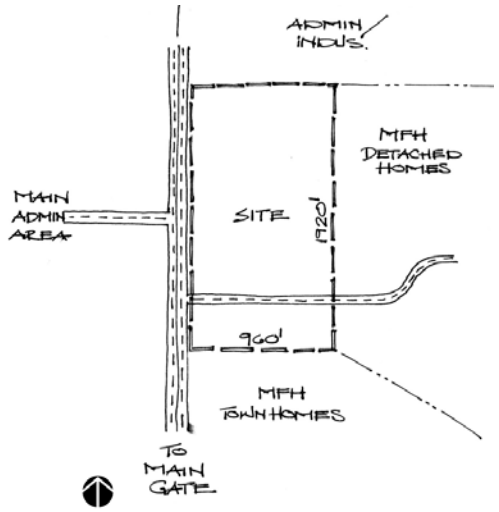
Town Center Part I

Assessing Existing Conditions: Part I

Activity:

Use the building models provided to layout a typical sprawling military installation. The models are at a scale of 1" = 20'. You must include all the buildings and the required parking lots.

Your table is the study area/site. The diagram to the right shows the site's surrounding context. The two existing roads, one running north-south to the Main Gate and the other running east-west to MFH detached homes cannot be realigned. The site is flay and existing adjacent land-use areas will remain.



Existing Conditions:

FACILITY[1]	TOTAL AREA	FLOOR AREA	PARKING[2]	STORIES
Exchange	40,000 sf	40,000 sf	120	1
Commissary	45,000 sf	45,000 sf	180	1
Bank with Drive Thru	5,250 sf	5,250 sf	20	1
Theater	14,750 sf	14,750 sf	40	1
Bowling Center	16,100 sf	16,100 sf	40	1
Gym	20,850 sf	20,850 sf	60	1
Child Care Center	9,100 sf	9,100 sf	20	1
Fast Food with Drive Thru	2,500 sf	2,500 sf	20	1
Library	10,500 sf	10,500 sf	40	1
TOTAL PARKING[2]			540	-

Note 1: Parking requirement based on industry guidance using 3-4 spaces for 1,000 GSF.
Note 2: One 3' x 5' cards equals 20 parking spaces.

Regulating Plan

1. Parcelize
2. Required build-to-lines
3. Allowable parking areas
4. Required entry locations
5. Min/Max building heights
6. Allowable uses
    1. Industrial (I)
    2. Administrative (A)
    3. Commercial (C)
    4. Public (library, chapel,…) (P)
    5. Residential (families) (R)
    6. Unaccopmanied (dorms) (U)

Conclusion

NCPC Master Planning Training

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