

d. IRFs will be requested and approved via the FI Web site to maintain consistency and visibility of all IRFs approved within the Marine Corps. If the website cannot be accessed, the IRF can be approved by paper or e-mail, but the package must be uploaded into the system as soon as possible. At a minimum, an IRF package will include the following:

- (1) Facility function and unit/installation supported.
- (2) Number of buildings requested and their total square footage.
- (3) Date facility is required.
- (4) Length of time relocatable facility will be used for the function.
- (5) Estimated costs and proposed source of funding for the procurement or lease, to include delivery, set-up, teardown, packaging, and transportation, all of which should be included in the acquisition.
- (6) Estimated costs and proposed source of funding for site preparation, foundations, utilities, and other construction.
- (7) Estimated life-cycle costs and proposed source of funding for sustainment, to include utilities, facilities services, maintenance, and repair.
- (8) Number and type of personnel (military, civilian, contractor) to use the facility.
- (9) Proposed disposition of facility upon termination of requirement.
- (10) Plans for replacement with permanent facilities if applicable, including project number, title, and program year.
- (11) Economic Analysis to compare procurement to leasing costs.
- (12) BFR documentation when IRFs are being used pending construction of a permanent facility solution.
- (13) Facility Planning Documentation (FPD).
- (14) Site approval form NAVMC 11069.
- (15) An aerial picture depicting existing structures with proposed IRFs superimposed. Scale, labeling, north arrow, depiction of all applicable structures, parking spaces, sidewalks, and streets are required.
- (16) Brochure or other pictures (external and internal) of proposed IRF.
- (17) NEPA documentation.
- (18) Signed endorsement from the installation Commander and intermediate commands when applicable.

6. Coordinating Instructions

a. Funding. There is no centralized funding for IRFs within the Marine Corps. Normally, the IRF will be funded through locally available Operations & Maintenance, Marine Corps (O&MMC) funds. However, if procurement is more cost effective, and if the purchased cost exceeds the investment threshold as set forth in reference (bg),

the proposed IRF must compete with all other Marine Corps un-programmed requirements for available PMC funds. The unit or activity requesting the IRF must seek funding through their chain of command. The approving authority (HQMC) will not approve an IRF request until proper funding is secured.

b. Procurement Agent. In accordance with subpart 1.6 of reference (c), the NAVFAC is the designated procurement agent for all IRFs unless otherwise specified. Regional commands will coordinate with their Facilities Engineering Command (FEC) to determine the appropriate contract administration fee for IRF procurement and/or lease.

c. Accountability. As stated in reference (a), IRFs shall be properly regarded as personal property; however, all IRFs shall be entered into the Internet Navy Facility Assets Data Store (iNFADS) as a Class III record and will be identified as a Facility Type Code "5" (Relocatable), and Construction Type Code "R" (Relocatable) for reporting purposes by the installations. Temporary facilities acquired through construction procedures will be accounted for as Class II real property and entered into iNFADS with the appropriate Facility Type Code (but cannot be "5" which only applies to Class III) and Construction Type Code "T" (Temporary).

d. Design Standards. IRFs shall be designed to comply with local building codes and references (d) and (e) to ensure the protection of life, mission, and property. Per reference (f), IRFs shall be designed to maximize energy efficiency. Energy and water consumed in IRFs are counted against installation intensity reduction mandates. All component equipment of the IRF shall be Energy Star rated.

e. Sustainment. For IRFs occupied by reimbursable tenant activities, the tenant is responsible for funding sustainment. For IRFs occupied by Marine Corps tenant activities, sustainment may be funded either through installation BOS funds or tenant O&M funds, as determined by the approval authority. Facilities Sustainment, Restoration and Modernization (FSRM) may not be used to fund maintenance or repair of IRFs.

f. Minor Construction Site Preparation. Site preparation is typically O&MMC funded minor construction. Procedures in reference (g) are to be followed for approval of the minor construction projects prior to the approval of the IRF.

7. Responsibilities

a. ADC I&L (LF)/COMMCICOM is responsible for approving or disapproving all MCI regional and subordinate installation IRF request.

b. HQMC will be responsible for approving and funding IRFs supporting Presidential, Congressional, OSD or Marine Corps initiatives, such as the "Grow the Force" initiative of 2007. This authority may be delegated to the MCI regions via e-mail or formal message.

c. MCI regional Commanders and installations which report directly to HQMC are required to maintain records of all approved IRFs within their command until the IRF is disposed of, the lease terminated, or it is no longer in use by the installation.

d. MCI regional Commanders and installations which report directly to HQMC will provide HQMC an annual summary of all IRFs approved. A sample template is included at the end of this policy. The summary is due to ADC I&L (LF)/COMMCICOM no earlier than 1 September and no later than 30 September of each year. The

summary must be endorsed by the MCI regional Commanding General or personnel with "by direction" authority.

e. Installation Commanders are responsible for disposing of IRFs when they are no longer required or are deemed unfit for service. Re-use of the IRF for another purpose must be reauthorized by MCI regions and ADC, I&L (LF)/COMMCICOM

f. Installation Commanders will maintain current records of all IRFs emplaced on their installation, to include their exact location, size, and purpose. Records of IRFs that have been disposed of or whose leases have been terminated will be kept on file for two years.

g. Installation Commanders are responsible for entering IRFs into iNFADS and updating the property status in the system as required.

h. MARCORSYSCOM and affiliated PEOs are responsible for informing the MCI regions and ADC I&L (LF)/COMMCICOM via formal message of any relocatable facilities or shelters that will be provided to the installations to support newly fielded equipment or MARCORSYSCOM programs. This includes but is not limited to Corrosion Prevention and Control (CPAC) and simulators. MCI regions shall ensure that proper liaison is made with NAVFAC.

Appendix H
Facilities Planning Document (FPD)

FACILITY PLANNING DOCUMENT

Report run on: July 13, 2009 10:32 AM

Installation M62204 MCLB BARSTOW CA
Planning Area BA NEBO AREA
Tenant UIC M62204 MCLB BARSTOW CA
Category Code 44110 GENERAL PURPOSE WAREHOUSE

Rqmt Appr Requirement Chg 05-MAY-06 Allowance Chg 03-JUL-09 Latest Chg 23-SEP-07

	Requirement	Allowance	UM	Adequate	Substandard	Inadequate	Total	Delta (Assets-Rqmt)
Area	46,912.00	321,448.00	SF	191,621.00	129,827.00	0.00	321,448.00	274,536.00
Other	59,485.00	3,239,380.00	TC	1,941,110.00	1,298,270.00	0.00	3,239,380.00	3,179,895.00
Alternate	10.00	70.01	SH	50.01	20.00	0.00	70.01	60.01
Total Proposed Assets				73,356.00	Result of Proposed Action			26,444.00

Standard Notes 1) PENDING CMC APPROVAL
2)

FACILITY DETAIL							SATISFACTION OF DEFICIENCY/SURPLUS				
Facility NO	SA	Multi	EE	Const	Condition	Measurement	Def Codes	Action ID	Action	Scope	Note
1A	BA	Y	2005	SEMI	ADEQUATE	22,934.00		USE	+	3,042.00	
2	BA	N	2005	SEMI	ADEQUATE	124,715.00		OUTG-C	-	124,715.00	01
233	BA	N	2005	TEMP	ADEQUATE	2,400.00		USE	+	2,400.00	
3	BA	Y	2005	SEMI	ADEQUATE	39,664.00		USE	+	36,406.00	
4	BA	Y	2005	SEMI	SUBSTANDARD	118,838.00	X33Z53	OUTG-C	-	117,884.00	03
63	BA	Y	2005	PERM	ADEQUATE	1,908.00		USE	+	1,908.00	
8	BA	Y	2005	SEMI	SUBSTANDARD	10,989.00	Z53Z83	USE	+	24,600.00	

ACQUISITIONS

PLANNING ACTIONS FOR CONVERSIONS AND REASSIGNMENTS				
Facility NO	Referenced FPD	Action ID	Action	Scope Note
368	BA / M62204 / 73010	CONVFR	+	5,000.00

FPD GENERAL/ACTION NOTES

GENERAL NOTE: None

- 01 HQMC comment:
Building 3 is used by other organizations for organizational storage. Their Basic Facility Requirements are included in other category codes. The space in building 3 should be recategorized to those CCNs.
- 02 Used for temporary storage of deliveries, construction materials, etc.
- 03 Warehouses 2 & 4 is NASA

Activity Identification - FPD Activity Section

FACILITY PLANNING DOCUMENT

Report run on: July 13, 2009 10:32 AM

Installation	M62204	MCLB BARSTOW CA				
Planning Area	BA	NEBO AREA				
Tenant UIC	M62204	MCLB BARSTOW CA				
Category Code	44110	GENERAL PURPOSE WAREHOUSE				
Rqmt Appr	Requirement Chg	05-MAY-06	Allowance Chg	03-JUL-09	Latest Chg	23-SEP-07

Requirements vs. Total Proposed Assets - FPD Requirements Section

	Requirement	Allowance	UM	Adequate	Substandard	Inadequate	Total	Delta (Assets-Rqmt)
Area	46,912.00	321,448.00	SF	191,621.00	129,827.00	0.00	321,448.00	274,536.00
Other	59,485.00	3,239,380.00	TC	1,941,110.00	1,298,270.00	0.00	3,239,380.00	3,179,895.00
Alternate	10.00	70.01	SH	50.01	20.00	0.00	70.01	60.01
				Total Proposed Assets	73,356.00		Result of Proposed Action	26,444.00

Utilizing Existing Inventory - FPD Utilization of Inventory Section

FACILITY DETAIL							SATISFACTION OF DEFICIENCY/SURPLUS				
Facility NO	SA	Multi	EE	Const	Condition	Measurement	Def Codes	Action ID	Action	Scope	Note
1A	BA	Y	2005	SEMI	ADEQUATE	22,934.00		USE	+	3,042.00	
2	BA	N	2005	SEMI	ADEQUATE	124,715.00		OUTG-C	-	124,715.00	01
233	BA	N	2005	TEMP	ADEQUATE	2,400.00		USE	+	2,400.00	
3	BA	Y	2005	SEMI	ADEQUATE	39,664.00		USE	+	36,406.00	
4	BA	Y	2005	SEMI	SUBSTANDARD	118,838.00	X33Z53	OUTG-C	-	117,884.00	03
63	BA	Y	2005	PERM	ADEQUATE	1,908.00		USE	+	1,908.00	
8	BA	Y	2005	SEMI	SUBSTANDARD	10,989.00	Z53Z83	USE	+	24,600.00	

ACQUISITIONS

PLANNING ACTIONS FOR CONVERSIONS AND REASSIGNMENTS					
Facility NO	Referenced FPD	Action ID	Action	Scope	Note
368	BA / M62204 / 73010	CONVFR	+	5,000.00	

Planning Actions - FPD Notes

	Requirement	Allowance	UM	Adequate	Substandard	Inadequate	Total	Delta (Assets-Rqmt)
Area	46,912.00	321,448.00	SF	191,621.00	129,827.00	0.00	321,448.00	274,536.00
Other	59,485.00	3,239,380.00	TC	1,941,110.00	1,298,270.00	0.00	3,239,380.00	3,179,895.00
Alternate	10.00	70.01	SH	50.01	20.00	0.00	70.01	60.01
Total Proposed Assets				73,356.00	Result of Proposed Action		26,444.00	

Total Proposed Assets				73,356.00	Result of Proposed Action		26,444.00	
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Standard Notes
1) PENDING CMC APPROVAL
2)

FACILITY DETAIL						SATISFACTION OF DEFICIENCY/SURPLUS					
Facility NO	SA	Multi	EE	Const	Condition	Measurement	Def Codes	Action ID	Action	Scope	Note

OUTG-C	-	124,715.00	01
USE	+	2,400.00	
USE	+	36,406.00	
OUTG-C	-	117,884.00	03
USE	+	1,908.00	
USE	+	24,600.00	

FPD GENERAL ACTION NOTES

GENERAL NOTE: None

- 01 HQMC comment:
Building 3 is used by other organizations for organizational storage. Their Basic Facility Requirements are included in other category codes. The space in building 3 should be recategorized to those CCNs.
- 02 Used for temporary storage of deliveries, construction materials, etc.
- 03 Warehouses 2 & 4 is NASA

Appendix I

Recommended Outline for Comprehensive Plan

Section 1.0 Installation Vision

- 1.1 Installation Mission
- 1.2 Planning Vision, Goals & End State
- 1.3 Vision Statement
- 1.4 Installation Framework
 - Map
 - Districts
 - Network
 - Land Use and Developable Land
 - Constraints, Opportunities

Section 2.0 Installation Development Summary

- 2.1 Executive Summary
- 2.2 Installation Network Plan
 - Illustrative Plan
 - Regulating Plan
 - Street and Transit Plan
 - Sidewalk and Bikeway Plan
 - Green Infrastructure Plan
 - Primary Utility Plan
- 2.3 Installation Land Use Plan
- 2.4 Installation Development Standards Summary
- 2.5 Project Listing
- 2.6 Program Development
 - Five Year Development Plan (FYDP)
 - Integrated Priority List (IPL)
 - Phasing
 - Build Out to Growth Boundary

Section 3.0 Crosswalk with Other Installation Plans

- 3.1 Integrated Natural Resources Management Plan (INRMP)
 - Executive Summary
 - Mission/Vision Integration - How INRMP Supports the Installation Mission and Vision
 - Constraints, Opportunities
- 3.2 Integrated Cultural Resources Management Plan (ICRMP)
 - Executive Summary
 - Mission/Vision Integration - How ICRMP Supports the Installation Mission and Vision
 - Constraints, Opportunities
- 3.3 Encroachment Control Plan (ECP)
 - Executive Summary
 - Mission/Vision Integration - How ECP Supports the Installation Mission and Vision
 - Constraints, Opportunities
- 3.4 Integrated Land Use Plan (ILUP) and Joint Land Use Study (JLUS)
 - Executive Summary
 - Mission/Vision Integration - How ILUP/JLUS Support the Installation Mission and Vision
 - Constraints, Opportunities
- 3.5 Range Management Plan (RMP)
 - Executive Summary
 - How RMP Supports the Installation Mission (Project List)
 - Constraints, Opportunities

Section 4.0 Regulating Plan and Vision End State
4.1 Summary of Regulating Plan
 Installation Planning Board
 Installation Environmental Impacts Review Board
4.2 Vision End State

Appendices

Appendix A Maps
Appendix B Five Year Plan and IPL

APPENDIX C: MAP LIST

Map List for Comprehensive Plan

A-3 Management Areas
A-4 Environmental Regulatory Issues
A-4 Environmental Emission Sources
B-1 Base Layout
C-1A Existing Land Use
C-1B Future Land Use
C-1E Vicinity Existing Land Use
A-1 Areas of Critical Concern
C-2 Composite Constraints/Opportunities
D Airfield Operations
F-4 On-Base Noise Contours
F2 Compatible Use Districts
G Composite Utilities
H-1 Base Wide Communications
I-1 Community Network and Access to Base
I-2 On-Base Network
I-3 Communications and NAVAID Systems
I-3 Transportation Plan
K Architectural Compatibility
L Landscape Development
M-2 Short Range Development Plan
M-3 Long Range Development Plan
N Fire Protection

**Government Furnished Material Baseline for
Comprehensive Plan, Master Plan and Area Development Plans**

Joint Land Use Study (JLUP)
Encroachment Control Plan (ECP)
Region and Installation Sustainability Plans
Range Comprehensive Master Plans
Storm Water Protection Plan
Spill Prevention and Control Plan
Bird Airstrike Safety Hazard (BASH) Plan
Facility Space Utilization Report
Air Emissions Study
Air Installation Compatible Use Zone (AICUZ) Study
Airfield Obstructions Study
Central Heating Plant Study
Communications-Computer Systems Architecture
Integrated Cultural Resources Management Plan
Electrical System Upgrade
Facilities Excellence Plan
Housing Community Plan

Integrated Natural Resources Management Plan
Surface Development and Distribution Command Traffic Studies (SDDC-TEA)
Natural Gas Distribution System Study
Real Property Inventory
Installation Restoration Program Study
Sanitary Sewer System Capacity and Condition Study
Water Distribution System Study

Appendix J

MASTER PLAN FORMAT

- 1.0 Vision Plan
 - 1.0.1 Commander's Letter and Guidance
 - 1.0.1 Project Scope
 - 1.0.2 Planning Process and Assumptions
 - 1.0.2.1 DoD Policy & UFC
 - 1.0.2.2 Planning Design References
 - 1.0.3 Installation Overview and History
- 1.1 Installation and Community Profiles and Stakeholders
 - 1.1.1 Installation Development Profile
 - 1.1.1.1 Installation Mission Profile and Trends
 - 1.1.1.1.1 Current and Future Mission Requirements [FSR]
 - 1.1.1.1.2 Installation Workforce & Residents [FSR]
 - 1.1.1.1.3 Mission Limiting Factors and Assets
 - 1.1.1.1.1.1 Existing Real Estate
 - 1.1.1.1.1.1.1 Real Estate and Land Utilization
 - 1.1.1.1.1.1.2 Land Use Restrictions Summary
 - 1.1.1.1.1.2 Real Property Inventory
 - 1.1.1.1.1.2.1 Facility and Infrastructure Condition
 - 1.1.1.1.1.2.1 CORRS
 - 1.1.1.1.1.2.2 Property Record/Maximo Report
 - 1.1.1.1.1.3 MCI COM Plans, Policies and Facility Allowances
 - 1.1.1.1.1.4 Resources & Assets (architecture, greenbelts, etc)
 - 1.1.1.1.4 Installation Maps (Baseline Map Index)
 - 1.1.1.1 Region and Local Area Governance/Liaison and Trends
 - 1.1.1.1.1 Federal Agencies
 - 1.1.1.1.2 State and County Departments
 - 1.1.1.1.3 Local Governments
 - 1.1.1.1.4 Local Separate Operating Agencies, Authorities and COG/MSA
 - 1.1.1.1.5 Installation Activities with Local Governments
 - 1.1.1.1.6 Region and Local Area Maps
 - 1.1.1.1 Challenges and Opportunities
 - 1.1.2 Region & Local Area Development Profile and Trends
 - 1.1.2.1 Off-Installation Workforce & Clientele [FSR]
 - 1.1.2.1.1 Demographic Needs for Services
 - 1.1.2.1.1 Transportation and Installation Accessibility
 - 1.1.2.2 Changing External Environmental Conditions and Trends [Census]
 - 1.1.2.2.1 Land Use
 - 1.1.2.2.2 Population Density
 - 1.1.2.2.3 Environmental Change
 - 1.1.2.2.4 Transportation Systems
 - 1.1.2.3 Challenges & Opportunities

- 1.2 Project Scoping
 - 1.2.1 Stakeholder Interviews
 - 1.2.2 GIS Analyses
 - 1.2.3 Field Visits
- 1.3 Installation Visioning Charette: New Oregon Model
 - 1.3.1 Visual Preference Survey
 - 1.3.2 SWOT
 - 1.3.3 Vision Statement
 - 1.3.3.1 Alternative Visions
 - 1.3.3.2 Vision Statement
 - 1.3.4 Goals
 - 1.3.5 Measurable, Actionable Objectives
 - 1.3.6 Action Plan & Installation Planning Board
- 1.4 Developable Land
 - 1.4.1 Utilized\Built Out
 - 1.4.2 Greyfield
 - 1.4.3 Greenfield
 - 1.4.4 Brownfield/Superfund
- 1.5 Installation Framework Plan
 - 1.5.1 District Framing Criteria
 - 1.5.1.2 Paths
 - 1.5.1.2 Edges
 - 1.5.1.3 Districts
 - 1.5.1.4 Nodes
 - 1.5.1.5 Landmarks
 - 1.5.2 Existing Conditions
 - 1.5.3 Installation Districting and Development
 - 1.5.3.1 Subdivided & Prioritized for Development/Redevelopment
 - 1.5.3.2 Historic Preservation/Historic District
 - 1.5.3.3 Open Space
 - 1.5.3.3.1 Conservation/Preservation
 - 1.5.3.3.2 Health & Safety
 - 1.5.3.3.3 Security
 - 1.5.3.3.4 Recreation
 - 1.5.3.4.4 Criteria Applied
 - 1.5.4 Significant Features Influencing Development
 - 1.5.5 Planning Strategies, General Requirements and Concepts Used
 - 1.5.6 Current and Future ADP Projects
- 1.6 Summary Future Development Plan
 - 1.6.1 Infrastructure
 - 1.6.2 Notional Facility Footprints and build out/BRAC
 - 1.6.3 Conservation/Preservation and Development Limits
 - 1.6.3.1 Concentrate Sustainable Development Inside Growth Boundary
 - 1.6.3.2 Conserve and Preserve Land Outside Growth Boundary
- 2.0 Installation Development Plan
 - 2.0.1 Executive Summary Integrating Area Planning with Network Plan
 - 2.0.1.1 Executive Summary APD, Engineering Studies & Site Surveys
 - 2.0.1.2 Integration of Existing Functional Area and Centrally Managed Plans
 - 2.0.1.2.1 National Environmental Policy Act (NEPA) Documents
 - 2.0.1.2.2 Integrated Natural Resources Management Plan

- 2.0.1.2.3 Integrated Cultural Resources Management Plan
- 2.0.1.2.4 Range Control Management Plan/Airfield Plan/Harbor Plan
- 2.0.1.2.5 DLA-E
- 2.0.1.2.6 DDESB Explosives Safety Site Plans
- 2.0.1.2.7 DODEA
- 2.0.1.2.8 Other
- 2.0.1.3 Engineering Studies & Site Surveys
 - 2.0.1.2.1 Intermodal Transportation Plan/SDDC Traffic Engineering Agency
- 2.0.2 Installation Network Plan
 - 2.0.2.1 Installation Illustrative Plan: ADPs and Studies
 - 2.0.2.2 Installation Street and Transit Plan
 - 2.0.2.3 Installation Non-vehicular Plan
 - 2.0.2.3.1 Sidewalks & Jogging Baths
 - 2.0.2.3.2 Bikeways & paths
 - 2.0.2.3.3 Equestrian paths (Camp Pendleton only)
 - 2.0.2.4 Installation Green Infrastructure Plan
 - 2.0.2.5 Installation Primary Utility Plan
 - 2.0.2.5.1 Water
 - 2.0.2.5.1.1 Distribution System
 - 2.0.2.5.1.2 Fire Protection
 - 2.0.2.6 Wastewater/Industrial Wastewater & Storm Water
 - 2.0.2.7 Communications
 - 2.0.2.8 Electrical & Cathodic Protection
 - 2.0.2.9 Central Heating and Cooling
 - 2.0.2.10 Fuels
 - 2.0.2.11 Solid Waste/Recycling
 - 2.0.2.12 Security
 - 2.0.2.13 Quality-of-Life
 - 2.0.2.14 High Performance Facilities & Sustainability Appendix E/LEED Practices
 - 2.0.2.14.1 LEED-New Construction
 - 2.0.2.14.2 LEED-Existing Building
 - 2.0.2.14.3 LEED-Neighborhood Design
 - 2.0.2.14.4 LEED-Health Care
 - 2.0.2.14.5 LEED-Schools
 - 2.0.2.14.6 LEED-Retail
 - 2.0.2.14.7 LEED-Commercial Interiors
 - 2.0.2.14.8 LEED Retail Interiors
 - 2.0.2.15 Existing Plans
 - 2.0.2.15.1 National Environmental Policy Act (NEPA) Documents
 - 2.0.2.15.2 Integrated Natural Resources Management Plan
 - 2.0.2.15.3 Integrated Cultural Resources Management Plan
 - 2.0.2.15.4 Range Control Management Plan/Airfield Plan/Harbor Plan
- 3.0 Installation Development Standards
 - 3.1 Installation Regulating Plan
 - 3.1.1 Street Envelop Standards
 - 3.3.1 Building Envelop Standards
 - 3.1.3 Architectural Standards

- 3.1.4 Landscaping Standards
- 3.2 Multi-modal Transportation, Accessibility and Circulation
- 3.3 Utility Accessibility & Capacity
- 3.4 Growth Boundary
- 4.0 Installation Development Program
 - 4.1 Executive Summary
 - 4.2 Program Elements
 - 4.2.1 Requirements Analysis
 - 4.2.2 Five Year Development Plan (FYDP)
 - 4.2.3 Integrated Priority List (IPL)
 - 4.3 Program Development
 - 4.3.1 Phasing, Move and Contractor Mobilization Plans
 - 4.3.2 Build Out to Growth Boundary
- 5.0 Plan Summary
 - 5.1 Vision Action Plan
 - 5.1.1 Vision End State and Quality-of-Life POA&M
 - 5.1.2 Return on Investment/Savings POA&M
 - 5.2 Area Development Summaries
 - 5.3. Network Plans
 - 5.4 Development Program Summary
 - 5.5 Plan Administration: Installation Planning Board
 - 5.5.1 POA&M management and execution
 - 5.5.2 Siting/Standards Variances
 - 5.5.3 Space Utilization
 - 5.5.4 iNFADS Update
 - 5.5.5 Traffic Management: Facility & Multi-modal Transportation Integration
 - 5.5.6 Changes/New Master Plan

Appendix K

AREA DEVELOPMENT PLAN (ADP) FORMAT

Phase I: Identification:

- 1.0 Goals, Objects & Vision End State
- 2.0 Objectives
- 3.0 Facility Requirements and Land
 - 3.0.1 Area Force Loading
 - 3.0.2 Area Equipment Loading
 - 3.0.3 Developable Real Estate
 - 3.0.3 Re-developable Real Property
 - 3.0.4 Assets (Architecture, Greenbelt, etc)
- 4.0 Functional Relationships
 - 4.0.1 Functional Relationship Diagrams
 - 4.0.2 Functional Relationships
- 5.0 Base Maps
 - 5.0.1 Area Map
 - 5.0.2 Vicinity Map
 - 5.0.3 Location Map
 - 5.0.4 Other Maps
- 6.0 Site Analysis and Data Collection
 - 6.0.1 Master Plan, design guide, installation reports and user information
 - 6.0.2 Environmental Features
 - 6.0.3 Tree Survey
 - 6.0.4 Physical features: buildings, utilities, pavement, fences and easements

Phase II: Evaluation

- 7.0.0 ADP Area Analysis
 - 7.0.1 Off-Site Conditions
 - 7.0.1.1. Land Use
 - 7.0.1.2. Transportation
 - 7.0.1.3. Utilities
 - 7.0.1.3.1. Water System
 - 7.0.1.3.2. Sanitary Sewer
 - 7.0.1.3.3. Storm Drainage System
 - 7.0.1.3.4. Electrical, Gas and Steam Systems
 - 7.0.1.3.5. Telephone System
 - 7.0.1.3.6. Other Types of Communication and DCIP
 - 7.0.1.3.7.0. Environmental Conditions and Hazards**
 - 7.0.1.3.7.0.1 Drainage Pattern i.e. watershed and flow direction
 - 7.0.1.3.7.0.2. Storm Water Management Areas
 - 7.0.1.3.7.0.3. Flood Plain
 - 7.0.1.3.7.0.4. Wetland
 - 7.0.1.3.7.0.5. Wildlife Habitat
 - 7.0.1.3.7.0.6. UST, IRP
 - 7.0.1.3.7.0.7.0. Other Hazards
 - 7.0.1.3.8. Historical, Cultural and Archeological Resources
 - 7.0.1.3.9. Safety Hazards
 - 7.0.1.3.10. AT/FP Physical Security
 - 7.0.1.3.11. Sources of Air, Noise and Light Pollution
 - 7.0.1.3.12. Visual Enclosure [views]
 - 7.0.2. On-site Conditions
 - 7.0.2.1. Geology
 - 7.0.2.2. Topography
 - 7.0.2.3. Hydrology
 - 7.0.2.3.1. Subsurface
 - 7.0.2.3.2. Surface

- 7.0.2.4. Soils
- 7.0.2.5. Climate
- 7.0.2.6. Vegetation
- 7.0.2.7.0. Wildlife Habitat
- 7.0.2.8. Archeological, Cultural and Historical Resources
- 7.0.2.9. Visual Survey
 - 7.0.2.9.1 General geologic, topographic and vegetative character
 - 7.0.2.9.2. Visual Character
 - 7.0.2.9.3. Sensory information -- noise, odor, confined space
 - 7.0.2.9.4. Micro-climate
- 7.0.2.10. Opportunities and Constraints
 - 7.0.2.10.1 Map
 - 7.0.2.10.1.1. Natural Features to Preserve
 - 7.0.2.10.1.2. Natural Features to Conserve
 - 7.0.2.10.1.3. Climatic Impacts
 - 7.0.2.10.1.4. Existing Structures of Historic, Architectural or other Significance to Preserve/Conserve
 - 7.0.2.10.1.5. Existing Structures/Landmarks Relationships Related to Development
 - 7.0.2.10.1.6. Existing Structures/Features with Negative impacts
 - 7.0.2.10.1.7.0. Vehicular/No-vehicular conflicts and opportunity
 - 7.0.2.10.1.8. All Utilities in Area or Impacted by Development
 - 7.0.2.10.1.9. Required buffers, setbacks, hazard zones, easements, ROW
 - 7.0.2.10.1.10. Important Visual Nodes
 - 7.0.2.10.1.11. Desirable/Undesirable Visual Impact enhancement/screening
 - 7.0.2.10.1.12. Significant Vegetation i.e. Trees & Shrubs
 - 7.0.2.10.2. Opportunities and Constraints Evaluation
 - 7.0.2.10.3. Limited or Confined Area Adjustments
 - 7.0.2.10.3.1. User Requirements
 - 7.0.2.10.3.2. Land
- 7.0.3. Alternate Site Development
 - 7.0.3.1. Number of Alternatives and Facility Types (UFC)
 - 7.0.3.2. Delineation of Area Boundary
 - 7.0.3.3. Vehicular Circulation in Area
 - 7.0.3.4. Delineation of Existing and Proposed Development Sites
 - 7.0.3.5. Site Access Points including Service Areas
 - 7.0.3.6. Pedestrian Access and Potential Linkage
 - 7.0.3.7.0. Significant Features and Proposed Landmarks
- 7.0.4. Alternate Plan Evaluation
 - 7.0.4.1. Review--Design Team, Customer, User
 - 7.0.4.2 Development Alternatives
 - 7.0.4.3 Impact on Other ADP
 - 7.0.4.4 Impact on Installation Network
 - 7.0.4.5 Review of Alternative and Selection of Preferred Alternative
- 7.0.5 Final Area Development Plan
 - 7.0.5.1. Preliminary ADP
 - 7.0.5.2. Final ADP
 - 7.0.5.2.1 Requirements
 - 7.0.5.2.2 Illustrative Plan
 - 7.0.5.2.2.1. Existing and Proposed Roads and Driveways; Parking Lots with Spaces
 - 7.0.5.2.2.2. Existing and Proposed Pedestrian Walkways
 - 7.0.5.2.2.3. Areas for Plazas and Outdoor Displays
 - 7.0.5.2.2.4. Areas with Special Paving or Street Furnishings
 - 7.0.5.2.2.5. Large Scale Open Space e.g. Parade Grounds, Ball Fields, etc.
 - 7.0.5.2.2.6. Service Areas with Screening

- 7.0.5.2.2.7.0. Areas for Future Expansion, Planned or Potential
 - 7.0.5.2.2.8. Major Utility Corridors
 - 7.0.5.2.3. Regulating Plan
 - 7.0.5.2.2.1. Building Envelopes
 - 7.0.5.2.2.2. Street Envelopes
 - 7.0.5.2.2.3. Landscaping Standards
 - 7.0.5.2.2.3. Architectural Standards
 - 7.0.5.2.2.4. Restricted Building Line (RBL)
 - 7.0.5.2.2.5. Area Growth Boundary
 - 7.0.5.2.4 Implementation Plan
 - 7.0.5.2.5 Capacity Analysis
 - 7.0.5.2.6 Supported Sketches and Renderings
- Phase III: Area Development Execution Plan

Appendix L

Master Planning Training Resources

1. DoD Master Planning Institute (DODMPI): UFC-Compliant Master Plan Training through the USACE. The new Installation Master Planning UFC outlines a more energy efficient and sustainable model for planning military installations. It outlines 10 key planning strategies that all installations must incorporate into their master plans. It describes a minimum set of planning products and processes that all installations must adopt as they prepare their master plans. It also outlines recommended training for installation planners and commanders. Our training baseline consists of the following three courses (with USACE Course equivalent) to create a UFC-compliant Master Plan:
 - a. Curriculum (4 Hours of Training): An Introduction to Military Master Planning: The Unified Facilities Criteria (UFC): lecture (1.5 hours). Applying the UFC - creating a vision, analyzing a site, preparing alternatives, evaluating alternatives: exercise (2.5 hours).
 - b. Deliverable: Workshop Report documenting schedule, participation, and example images from student work.
3. Basic Training: Master Planning Principles Class (PROSPECT 241). In this 2.5 day course, participants will learn the basics of master planning for Marine Corps installations. On day one, they will develop an understanding of the planning processes and products required by the Installation Master Planning UFC and Marine Corps guidance. They will gain knowledge about the 10 planning strategies in the UFC and how to apply those strategies at their installations. This includes training on sustainable planning, area development planning, healthy community planning, network planning, form based planning, resource conservation (including NEPA), and plan-based programming (including functional planning). They will also learn about key planning and urban design principles - from the making of great streets to the planning of appropriate parking. On day two, they will learn how to plan within current AT/FP regulations and how to accommodate parking and transit. Using planning metrics, they will also learn how to evaluate planning products. On day three, they will learn about specific Marine Corps/Navy planning procedures and they will be able to evaluate actual planning products that are consistent with the UFC. This course will be supported by three faculty members (Headquarters, USACE lead and two planning instructors from the Urban Collaborative).

a. Curriculum (20 Hours of Training)

(1) Day 1. Introduction: Logistics, registration, pretest (1 hour). An Introduction to Military Master Planning: The UFC: Lecture (2 hours) Creating a Master Planning Vision: Lecture and exercise (1 hour) Principles of Urban Design: Lecture and exercise (3 hours). The Planning Process: lecture (1 hour).

(2) Day 2. Planning for Energy-Efficient Net Zero Installations: Lecture and exercise (3 hours) Planning for Antiterrorism/Force Protection: Lecture and exercise (1 hour). Measuring Excellence in Planning - Planning Metrics: Lecture and exercise (4 hours).

(3) Day 3. Marine Corps Planning - AEs, FPDs, and BFRs: Lecture (1 hour) DoD Planning Products: Lecture and exercise (2 hours) Conclusion: Wrap-up, next steps, post-test (1 hour).

b. Deliverable. Course Report documenting schedule, participation, and example images from student work

4. Master Planning Advanced Techniques (PROSPECT 952A). In this 4.5 day studio-based course, planners will prepare a conceptual ADP from the development of a vision to the preparation of Illustrative and Regulating Plans. Students will gain an understanding how design shapes and is shaped by physical, economic, political, social, environmental, and cultural considerations. Students will be introduced to additional graphic and technical tools to aid in their presentation of planning products. They will learn how to prepare a program for short and long-term development based on their plan. The course includes field surveys and design review sessions. This course will be supported by USACE faculty staff of both government and representatives from the Urban Collaborative.

a. Curriculum (36 Hours of Training)

(1) Day 1. Introduction: Logistics, registration, pretest (1 hour). An Introduction to Military Master Planning: The UFC: Lecture (2 hours) Planning Forum: exercise (1 hour). Planning for Complete Streets: Exercise (2 hours). Precedent Study: Field exercise (2 hours).

(2) Day 2. Guest Speaker - Marine Corps Planning: Lecture (1 hour) Document Review - learning from history: Exercise (1 hour) Planning Patterns: lecture and exercise (2 hours). District Analysis - existing condition assessments: Field exercise (3 hours) Analysis Mapping: Exercise (1 hour).

(3) Day 3. AT/FP Planning: Lecture (0.5 hours). Strengths, Weaknesses, Opportunities, and Threats, Vision and Principles (SWOT-VP): Exercise (2 hours). Functional Relationships and Requirements: Exercise (1.5 hours). Alternative Development: Exercise (4 hours).

(4) Day 4. Selling the Plan: Lecture (0.5 hours) Participatory Design (0.5 hours). Pre-final Illustrative Plans and Sections: Exercise (3 hours). Final Illustrative Plans and Sections: Exercise (2 hours). Capacity Calculations and Program Development: Exercise (2 hours).

(5) Day 5. Making a Regulating Plan: Exercise (2 hours) Out-briefings:
Exercise (1.5 hours). Course Wrap-up (0.5 hours).

b. Deliverable: Course Report documenting schedule, participation, and example
images from student work.

Appendix M

Master Plan Map Data Layers

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
	1	Composite Installation Constraints and Opportunities	Natural resources constraints maps in combination with other constraints that have an effect on future sitings and facility development on the installation, using the base map. Show Clear & APZ, ESQD and AICUZ. Use maps for Areas of Critical Concern, Management Areas, Environmental Quality, Environmental Emissions, Flood Plan and Out grant.	Use All Environmental Maps and Base Map	Use All Environmental Maps and Base Map
	2	Historic Preservation	All districts, structures, sites and/or artifacts of historic, architectural, or cultural significance properties listed or eligible for listing on federal, state and local registers of historic places with reference (bh). This shall include all properties on the installation that may meet the criteria for eligibility for inclusion in the National Register of Historic Places.	Cultural, Cadastry	Historic District/Landscape/ Object, Native Affiliation, Traditional Cultural Resource
	3	Archaeology	All archaeological structures, sites and/or artifacts of historic, archaeological or cultural significance under the law. Any maps depicting the location of archeology sites must be restricted to prevent unauthorized access, damage to the sites and violations of the law.	Cultural	Archaeological Site, Cemetery or Burial Site, Cultural Restricted Area/Resource Potential Area/ Survey Area, Sacred Site
	4	Threatened and Endangered Species	Federally Listed Threatened and Endangered Species. Location, inventory, and delineation of all Federally listed Threatened and Endangered species and their habitat. Where applicable State listed species shall be included. Location of primary habitat as well as areas of potential habitat restoration efforts. Habitats are labeled for species found in each area. If the habitat has species in the range and is suitable for a threatened or endangered species the distinction should be made.	Fauna	Special Status Species, Species Range/Specific Habitat

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			Show species pictures of concern if applicable.		
	5	Wetlands & Floodplains	All floodplains and wetlands for installation to include the 100-year floodplain with contours, which is delineated by the limits of a flood that has a one percent chance of occurrence in any given year. Location of wetlands as defined by the US Fish and Wildlife Service's Classification of Wetlands and Deep-Water Habitats of the US National Wetland Inventory (NWI)). Use NWI classification system and general working definition of an area inundated by surface water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. Wetland areas less than one acre should be located on the map but do not require NWI designation.	Hydrography	Wetland
	6	Coastal Zone Management Act (CZMA)	CZMA For installations along the coast only, depicts the boundaries of the Coastal Zone Management Area on the installation and any pertinent information.	Hydrography, Ecology, Landform	Shoreline, Shore Management Zone, Shore Entry Location, Bathymetry
	7	Soil Borings & Soil Types	Locations and composition of soil types and borings depicting areas suitable and unsuitable for construction. Use Boring information for the entire base with greater coverage in the airfield pavement and intensive building areas. Use the best available existing data; new borings are not required from NAVFAC or the USACE District Office.	Geology	NO LAYER put samplings in Bore Hole and Survey Job
	8	Geology and Surface Features	Geology including surface, subsurface, and paleontology, using existing literature and other data to describe the geology of the area such as surveys and seismic	Geology	NO LAYER

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			studies. Depicts location of mineral and fossil fuel deposits and sources of geothermal energy on the installation. May depict potential for earthquakes and approximate depth of the water table and aquifer.		
	9	Topography & Physiography	Topography and physiography of the area using existing literature and other data with contours depicting 5-foot positive or negative elevation changes overlaid on a topographic map. DEM and LIDR may be used if available.	Landform	General Contour, Elevation Contour, Spot Elevation
	10	Hydrology	Existing hydrologic information and surface drainage patterns to model and map drainage basins. Field surveys can be performed to verify and update the surface drainage data. Data includes both perennial and intermittent streams. In case of no existing government hydrology data, USGS data, state water resources data, data collected in the field, or data obtained from other credible sources. Show the location of drainage systems	Hydrography, Improvement Flood control	Natural Water Body, Historic River Alignment
	11	Vegetation Types	Classifies, locates and delineates vegetative types and boundaries in the unimproved areas of each installation.	Flora	Vegetation, Land Cover
	12	Forest (Commercial Timber)	Wooded areas that are used for commercial timber harvest and that are larger than 5 acres. Urban forests are trees identified as unique, indigenous, or exotic and to be retained and maintained. Show the boundaries of wooded areas and urban forest trees and location of commercial timber operations and the location of large stands of trees. Future construction projects that require extensive removal of trees should be identified. Show hardwood stands, softwood or pine stand or mixed stands in accordance with the U.S. Forest Service definitions. Ages of tree stands and details regarding frequency of harvest and management practices such as periodic	Flora	Forest Compartment, Forest Product Harvest, Forest Stand, Land Management Zone

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			burning may be added and if a permit is needed for periodic burning activities and the permit expiration date.		
	13	Agriculture Grazing/Crops	Agricultural Out leasing areas i.e. grazing and cropland. Shows results of reports, studies, and plans on government/private lands leased to another party for agricultural purposes. Shows recommendations for the continuing out leasing, crop rotations or alternative agricultural uses for no-conflict mission activities.	Land Status	Agriculture Tracts
	14	Fish and Wildlife	Areas used for hunting and fishing i.e. reports, studies, and plans on hunting and fishing activities on the installation. Shows recommendations for management by natural resources specialist and other naturalists involved in Government lands and adjacent impacted areas.	Fauna	Fish Hatchery/Location/ Haven, Nuisance Species
	15	Prime & Unique Soils	Prime and Unique Soils including Agriculture Soils Classification i.e., reports, studies, and plans pertaining to soils and prime and unique farmlands on each installation. Develop land use management alternatives to avoid the elimination or removal of prime and unique soils from present or future agriculture use in consultation with guidance and studies from the government--USDA, or appropriate state and county agencies.	Soil	NO LAYER for prime soil use Agricultural Tract by inference
	16	Grounds Categories	From reports, studies, and plans on the installation grounds: improved, semi-improved, unimproved, pavements facilities, and permanent bodies of water. Classification from consultation with the community planner, installation landscape architect, natural resources planner, and/or agronomist.	Fauna, Hydrography,	Vegetation, Land Cover, Natural Water Body
	17	BASH	From reports, studies, and plans and consult with the installation Bird Animal Strike Hazard (BASH) office, to determine the prevalence and potential for bird and animal	Transportation Air, Fauna	Nuisance Species

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			aircraft strikes. Show recommendations for management of bird nesting areas, rookeries and bird attracting features or activities to control and assess impact on installation missions.		
	18	Outdoor Recreation	From reports, studies, and plans related to outdoor recreation areas on the installation, showing user capacity, identifying areas for future development and the making land use recommendations for the use of areas. Recommendations may include land or properties--public or private--available or potentially available, located outside the host installation and should include alternatives to maintain these areas in their natural state or employing conservation measures. Includes but is not limited to golf courses, stables, riding trails, jogging paths, hiking trails, picnic grounds, camp grounds (improved and primitive), water-based, and sports fields. Consultation with the MWR manager on the installation, local, state and federal offices for additional information on recreation assets within reasonable commuting distance of the installation for comprehensive planning	Improvements Recreation	Recreation Area, Recreational Feature, Recreational Trail, Recreational Trail Feature, Playground, Camp Ground, Golf Course, Golf Course Feature
	19	Environmental Regulatory	Overall road map for achieving and maintaining compliance with all environmental laws and regulations providing recommendations to maintain, and enhance the existing environmental quality of the installation. Recommendations that may require the installation to initiate the NEPA process and show any environmental impact findings for actions pending at the installation.	Environmental Hazard Characterization	Environmental Compliance Site/ Discharge Point/Remediation Site/Sample Location, DoD Formerly Used Defense
	20	HAZWASTE Generation	From relevant reports, studies and plans for hazardous waste generation, accumulation and satellite points. Tabular data can disposal methods, type of	Env Haz Hazmat Hazardous Waste, Env Haz Solid Waste	Environmental Regulated Facility, Munitions Waste Disposal

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			permits, regulatory agency that issued each permit, and permit expiration date as well as state and federal laws governing generation, transporting, treatment, and storage requirements for the HAZWASTE management program. Show hazardous waste management plan is supported by spill prevention and response and waste minimization plans. Show how it reduces the rate of waste generation; and how recycling program minimizes waste.		
	20	Permitted Hazardous Facilities	Show relevant studies and reports for all permitted permanent and interim hazardous waste storage facilities on the installation and provides information on the hazardous materials stored.	Buildings	Buildings
	21	Solid Waste Disposal	Show relevant studies, reports, and plans for all solid waste disposal sites on the installation (e.g., landfills --closed and open, hard fill areas-- concrete and fill material, etc., recycling facilities e.g., central recycling facility, composting areas, mulching areas, etc., solid waste diversion procedures and provide information on operations and management.	Env Haz Solid Waste	Potential Environmental Site, Environmental Sample Location
	22	Resource Conservation Recovery Act (RCRA)	RCRA sites based on studies, reports, and plans for the installations with land use recommendations. Show current asbestos control efforts, which include the identification, quantity, and removal plan to achieve an asbestos-free environment. Tabular data may show buildings known to contain asbestos with a description of where asbestos was found and the risk of exposure along with a list of buildings suspected of containing asbestos and a list of buildings known to be asbestos-free. List date when information was compiled.	Env Haz Building Env	Pollution Area, Environmental Remediation Site
	23	Installation Restoration Program	IRP based on studies, reports and plans on all IRP sites, with land use recommendations. Location of test wells and planning and environmental	Env Haz Remediation, Env Site Management	Pollution Area, DoD Formerly Used Defense

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			recommendations for the following:		
	24	Environmental Emissions	Current environmental concerns and necessary data from installation environmental specialist or other appropriate sources. Shows alternatives and actions required to protect facility occupants and workers and the environment from hazardous exposure to and as a result of contaminants. List applicable federal, state, interstate, and local laws and regulations for contaminating activities, environmental protection, occupational health and safety policy.	Env Haz Pollution Control. Utilities Waste Water, Utilities Industrial, Utilities Storm, Water, Electrical, Communications, Env Haz Building Env	
	24	Air Emission	Clean Air Act emission requirements:	Env Haz Pollution Control	Environmental Compliance Site/ Sample Location
	25	Waste Water Non Point Discharge Elimination System	Constraints and operating parameters of the Wastewater NPDES under state environmental permit requirement for RCRA. Show different types of facilities that require the state NPDES water permit to operate, which include a list of all sanitary and industrial waste water treatment facilities requiring permits. List permit parameter of each permitted facility. Show all wastewater discharge sources e.g., industrial and domestic to include information regarding discharge permits, issuing regulatory agency and expiration date. Show data should specific permit parameters for each source for comparison with actual standards for compliance.	Utilities Waste Water, Utilities Industrial	Wastewater Utility Segment/Node, Environmental Discharge Point, Monitoring Location
	26	Storm Water Non Point Discharge Elimination System	Regulated storm water nonpoint source discharges and their analysis points on the installation, issuing regulatory agency and expiration date. Tabular information shall include specific permit parameters for each regulated source and show comparison with actual standards for compliance.	Utilities Storm	Wastewater Utility Segment/Node, Environmental Discharge Point, Monitoring Location
	27	Drinking Water Supply Sources	Water supply sources and sampling points on the installation. Tabular data includes drinking water permits, regulatory issuing agency, and permit	Utilities Water	Water Node/Segment

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			expiration date. It includes specific permit parameters for each sampling location, allowing for actual analysis information to be entered, accessed by user and modified. Comparison of analytical data with actual standards for compliance.		
	28	Electromagnetic and Radiation Sources	Sources of electromagnetic radiation of potential concern to humans and animals. The potential field of impact, including side lobes, shall be delineated for each source. Location of electromagnetic emission devices and the area of potential effect. Tabular data includes specific exposure limits for each source. Comparison between analytical data with actual standards for compliance.	Utilities Electrical, Communications	Emag Radiation Hazard
	29	Radon Sources	Locations of radon sources and sampling locations where radon sampling results exceed 30 picocuries/l. Tabular information includes specific exposure limits for each source and allow for actual analysis information to be entered, accessed by user, and modified. Show a comparison between analytical data with actual standards for compliance.	Env Haz Building Env	NO LAYER
	30	Imaginary Surface and Obstructions	Structures, overhead utility lines, trees and other obstacles that penetrate the approach surfaces are identified.	Buildings, Utilities Electrical, Transportation Air	Air Accident Zone, Airfield Imaginary Surface, Pavement Segments/Section
	31	Utility System	Overall layout of existing primary utility lines and their major connections for facilities on and off the installation. Show each utility system with a standard distinctive symbol, using the layers of the base map.	COMPOSITE	COMPOSITE
	32	Water Supply System	Existing sources of water supply, and shall show locations of wells, entrance on installation of other sources of supply, storage tanks, main distribution lines with pumping stations, hydrants, valves, metering points, and water treatment plants.	Utilities Water	Water Utility Segment, Water Utility Node, Well, Well Field, Pump Station, Station Line
	33	Sanitary Sewer System	Existing sanitary sewer system, including location of collection system,	Utilities Storm	Waste Water Utility System

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			manholes with their respective identification number, pumping stations, sewage treatment plants, outfall(s), capacities, cesspools, septic tanks, leaching fields, and independent systems. Record the type of treatment and effluent discharge and capacity of treatment plants and include outfall(s) and final destination of drainage, showing flow direction of receiving body of water.		
	34	Storm Drainage	Existing storm drainage system, including location of pipes, manholes with their respective identification number, catch basins, inlets, pumping stations, culverts, outfalls, French drains, and tile fields. Show Industrial waste disposal systems if industrial waste including aircraft cleaning fluid is handled through the storm drainage system. Indicate points of entry into the system, size of pipes, type of material, and direction of flow. Show general drainage features such as drainage divides, water courses, and major drainage ditches. Indicate the final destination of drainage (ocean, river, creek). Record special conditions such as snow storage, total rainfall for each month (average for a period of record), flood control facilities, and frost conditions.	Utilities Storm	Waste Water Utility System, Waste water segment/Node, Inundation, Monitoring Location, Environmental Discharge Point
	35	Electrical Distribution System	Sources of electrical power and the installation's primary distribution, street lighting systems, and apron maintenance lighting system.	Utilities Electrical	Electrical Utility Node/Segment
	36	Central Heating and Cooling System	Location of plant to include: type (HTW or STM), capacity, temperature, and pressures as applicable; type fuel; and number and size of boilers or generators expressing 1000 British thermal units (BTU) per hour or pounds of steam per hour rated capacity. Include fuel storage tanks, pipelines, manholes, heat	Utilities HCS	Thermal Utility Node/Segment

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			and cooling systems.		
	37	Natural Gas Distribution System	Existing natural gas system, including distribution system and storage.	Utilities Gas	Gas Utility Node
	38	Liquid Fuel System	Existing liquid fuel system with source of supply location and capacity of all facilities for the storage and distribution of AVGAS fuel, MOGAS fuel, jet fuel, diesel oil, and luboil at the installation including the name plate data on major equipment	Utilities Fuel	POLUtilityNode
	39	AST/BGT	Bulk storage below ground and aboveground (AVGAS, jet fuel, diesel, MOGAS)	Utilities Fuel	POLUtilityNode
	40	Cathodic Protection System	Consolidates all utilities systems, structures, and facilities that are subject to electrochemical corrosion within the confines of the installation or affecting those on the installation	Utilities Electrical	Electrical Utility Node
	41	Industrial Waste and Drain System	Constraints and operating parameters of the Wastewater NPDES under state environmental permit requirement for RCRA. Show different types of facilities that require the state NPDES water permit to operate, which include a list of all sanitary and industrial waste water treatment facilities requiring permits. List permit parameter of each permitted facility. Show all wastewater discharge sources e.g., industrial and domestic to include information regarding discharge permits, issuing regulatory agency and expiration date. Data should show specific permit parameters for each source for comparison with actual standards for compliance	Utilities Industrial	Wastewater Utility Segment, Wastewater Utility Node
	42	Other On Installations Communications Systems	All systems not under control of government and installation level communication units. Cable locations and supporting facilities related to leased telephone systems, energy monitoring and control systems, fire warning systems, non-mission related cable TV (such as for family housing and unaccompanied quarters) or any other systems dedicated to and installed by a commercial entity	Communications	Communication Utility Node/ Segment, Electrical Utility Node/ Segment

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			should be shown on this map		
	43	Communication and NAVAID Systems	Use maps with information prepared by installation level communication units or supporting engineering agency. Map H1 is reserved for the use of government and installation level communication units. Map H2 is provided to show all communications systems and equipment not owned and maintained by government and installation level communication units, as listed below. Map H3 is specific to Navigational Aids (NAVAIDS) and Weather Facilities, which are the responsibility of government and installation level communication units. Map H4 is a composite of all communications systems, including both government and installation level communication units owned and maintained and those owned and maintained by others, for use along with other infrastructure systems in inventorying and analyzing capacity for support of plan recommendations.	Communications	Communication Utility Node/ Segment, Electrical Utility Node/ Segment, Navigational Aid
	44	Fire Protection and Safety	Fire safety buffer distance, vehicle maneuverability areas, and any other graphic material required to support the Fire Protection Plan. Provide a graphic representation of any fire protection districts which provide mutual aid overlaid on base map. Maps should include fire protection for:	Military Operations, Utilities Water, Env Haz General	Buildings, Transpiration Routes, Road Path, Road Segment
	45	Layout and Vicinity Maps (Base Map)	Existing managed and maintained facilities on- and off- the installation (except utilities and landscape) and provides the basis for all other maps. Use imagery, photographs, maps and available as-built drawings. Determine the accuracy of information available and comply with GeoFidelis standards.	Buildings, Land Status, Land Form, Improvement General	Buildings, Administrative Boundary
	46	Installation	Existing facilities on the installation accurately depict boundaries, contours/LIDR, ESQD, aircraft barriers, installation streets, runways, taxiways, parking ramps, airfield special	Buildings, Land Status, Land Form, Improvement General, Cadastre	Buildings, Administrative Boundary

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			areas, aircraft maintenance facilities, rotary wing landing areas.		
	47	Off-base Sites	Sites identified by name and entity for clarity such as city, county, state or private along with prime installation and access route(s) to off-installation facilities.	Cadastre, Land Status	Administrative Boundaries, Installation
	48	Regional Location Map	Location of the installation relative to a region. Provides the basis for analyzing regional planning factors affecting the installation. The following information will be included:	Cadastre, Land Status	Administrative Boundaries, Installation
			A small outline map of the state shown as an insert on this map. Installation shown as a star. Major cities shown with black circles with names.		
	49	Vicinity Location Map	Provides basic data required to define and analyze planning factors in the immediate vicinity of the installation. Provides greater detail than the regional map, showing access road information denoting how the installation is linked to the surrounding transportation network, cities, etc.	Cadastre, Land Status, Transportation Air	Transportation Routes, Road Path, Installation
	50	Land Use Planning	Current use of land on the installation and local area such as industrial, administrative, residential, recreational, proposed annexations, etc. Show boundaries for state, county, city and installation(s). Shows specific/predominant facility functions by Category Code Number grouped into general land use categories in consultation with the Community Planner.	Cadastre, Buildings, Transportation Vehicle, Air, Water	Land Use, Buildings
	50	Current Land Use	Shows the current use of land on the installation according to the Master Plan and through the use of color the specific land use categories e.g. air/sea operations, industrial, administrative, residential, open space, mixed use, etc., to determine land use pattern.	Cadastre, Buildings, Transportation Vehicle, Air, Water	Land Use, Buildings
	51	Future Land Use Plan	Depict through use of color, proposed future land use functions. Developable land can be indicated by	Future Projects	Land Use, Buildings, Future Projects Land Use

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			another color identifying development within known constraints IAW with the Master Plan.		
	52	Vicinity Existing Land Use	Using the same land use categories show those land uses in the portions of the civilian community immediately adjacent to the boundaries of the installation. Where no development exists immediately adjacent to the installation, this map is not required.	Cadastre, Buildings, Transportation Vehicle, Air, Water, Military Operations	Land Use, Buildings
	53	Vicinity Existing Zoning	Zoning information from the appropriate civilian planning office staff and portray current zoning categories as delineated by the civilian community as a second overlay. Show any conflicts to present land use and pending rezonings that may affect the operation of the installation.	Cadastre, Buildings, Transportation Vehicle, Air, Water, Military Operations	Land Use, Buildings, Out grant
	54	AICUZ	Air Installation Compatibility Use Zone (AICUZ) DNL noise contours based on the most current released AICUZ study shall be shown and labeled.	Auditory, Cadastre, Boundaries	Pollution Area, Noise Abatement Feature, Noise Zone/Receiver/Source, Impact Area
	55	JLUS	Maps from the Joint Land Use Study grant to guide compatible development around an airfield.	JLUS Grant	JLUS Grant
	56	Transportation Systems	Multi-modal transportation from pedestrian, vehicle, massed transit, etc.		Transpiration Route, Rail Track/Station,
	57	Contingency Planning	Supports installation contingency planning. The following maps may be included and added to support the installation mission: mobilization planning, AT/FP security, emergencies, natural disasters and time of war.		
	58	Airfield Pavement Plan	Shows information on layout, type of pavement, and bearing capacities of existing airfield pavement. It is used as an aid in developing aircraft parking and air installation utilization studies. The Airfield Pavement Evaluation Program is the principal reference for this map with tabular data. Large-scale drawings and data associated with airfield pavements, such as cross sections and elevation profiles, to further explain information delineated on the Airfield	Utilities Electrical, Transportation Air, Communication	Pavement Section/Branch/ Stripping

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			Pavement Plan. Both maps will be aligned with requirements in current DoD airfield and heliport planning UFC, as well as the Airfield Pavement Evaluation Program.		
	59	Airfield Pavement Detail	Large-scale drawings and data associated with airfield pavements, such as cross sections and elevation profiles, to further explain information delineated on the Airfield Pavement Plan. Both maps will be aligned with requirements in current DoD airfield and heliport planning UFC, as well as the Airfield Pavement Evaluation Program.	Utilities Electrical, Transportation Air, Communication	Pavement Section/Branch/ Stripping, Distance Markers, Navigational Aid
	60	Aircraft Parking Plan	Uses portions of Map C-1. All existing aircraft parking positions in the operational and maintenance areas of all aircraft required to support the unit mission(s). The following information can be used: parking aprons, hangars, refueling outlets, parking spots, orientation, aircraft type, Operations Facility, Control Tower, Dining Hall, Billeting, Fire Station(s), hot cargo pad, wash rack, rinse facility, hush house, maintenance lights, security fence, aircraft revetments, Priority I & II areas, taxi lanes/lines and non-use areas e.g., FOD.	Transportation Air	SEE LAYERS
	61	Energy Plan	All Energy Plan requirements and data or for other facilities energy conservation programs and distribution system data as applicable. Show energy conservation features, such as building orientation, roof materials, solar panels, and related energy conservation features noted in the OSD sustainability Planning Guide.	Utilities EMCS	Future Projects (NO LAYER for Energy Projects)
	62	Architectural Compatibility	Summary of visual analyses, important architectural features, views, focal points, other opportunities to supplement text and sketch information for the installation's Architectural Compatibility Guide. Other information such as phasing of paint plans, or subdivisions of the installation for new	Buildings, Future Projects, Visual	Buildings

General Plan Maps & Map Series				V 2.6	V 3.0
Plan/ Program -A	Map -#	Plan/Program Map, Layer(s) and Details	Descriptions	Layer Groups	Layers
			particular architectural treatment may be included		
	63	Landscape Development	Installation landscape design and graphic representation of landscape architectural districts overlaid on base map.	Visual	Grounds Maintenance, Vegetation, Flora Planting or Seeding
	64	Current Plan	The funded and approved site locations for development (facilities, special use areas) needed to support the installation mission(s). Based on the approved funded project lists for 1-2 years.	Future Projects, Land Status	Future Projects, Land Use
	65	Short-Range Development Plan	All approved site locations for development of facilities, special use areas needed to support the installation mission(s) as reflected in the current FYDP for the next five years. Based on the development projected in the Current Development Plan and results of analysis performed for development pending funding in the next six years--MILCON and Special Projects.	Future Projects, Land Status	Future Projects, Land Use, External Property Interest
	66	Long-Range Development Plan	All proposed relocations of installation activities into new or renovated facilities, expected demolition and replacement of facilities beyond the current 5-year FYDP, and major new construction proposed for a long-range period.	Future Projects, Land Status	Future Projects, Future Projects Land Use, External Property Interest
	67	Quality of Life	Show locations with project information and illustrations to support the installation's Quality Of Life (QOL) planning. Show QOL districts and projects overlaid on base map.	Buildings	Buildings, Future Projects, Future Land Use

Appendix N

The Under Secretary of Defense Memorandum: Installation Mater Planning



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

MAY 28 2013

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
DIRECTOR, DEFENSE LOGISTICS AGENCY
DIRECTOR, WASHINGTON HEADQUARTERS SERVICES

SUBJECT: Installation Master Planning

Department of Defense (DoD) military installations are invaluable national defense resources that must be planned and developed in a sustainable manner that supports current missions and preserves long-term military capabilities. Fundamental to the effectiveness and sustainability of our installations is the master planning process, which establishes a clear and principled long-range vision for the development of installations that support the Department's defense mission and enrich the communities they serve.

With that goal, the Department recently updated its requirements for the design and content of installation master plans, as detailed in Unified Facilities Criteria (UFC) 2-100-01, "Installation Master Planning." This document reflects a comprehensive approach to developing installations across DoD using planning strategies that reinforce capabilities to support the defense mission, promote quality of life, and enhance sustainability and environmental viability.

The new UFC will accomplish its intended purpose only through clear guidance and strong senior leadership support. To that end, I am issuing the following policy to provide the foundation for effective installation master planning.

- The DoD Component exercising management responsibility over each installation shall develop a master plan that defines opportunities for site development and alternate land use and incorporates the following planning strategies:
 - **Sustainability** allows an installation to meet present mission requirements without compromising its ability to meet future requirements. Sustainability also conserves limited natural resources (including land and fossil fuels) through compact, mixed-use development.
 - **Resource management** preserves and enhances natural, historic, and cultural resources.
 - **Transportation alternatives** provide for pedestrian, bicycle, and transit-friendly communities that allow residents opportunities for regular physical activity and, consequently, healthier lifestyles while decreasing dependence on automobiles.
 - **Defensibility** protects critical infrastructure and incorporates appropriate safeguards to prevent mass casualties in the event of a terrorist attack.

- **Area and network planning** creates identifiable and connected districts based on geographical features, land use patterns, building types, and transportation networks.
- **Form-based planning** guides the scale and character of development, prescribing the size and form of buildings, the patterns of circulation between buildings, and the relationship between buildings and outdoor space.
- **Local and regional coordination** ensures that planning within the installation boundary considers constraints and opportunities beyond the boundary and promotes compatibility with local authorities.
- All land use, development, and real estate actions on an installation shall conform to its master plan.
- DoD Components shall establish installation planning boards to review and endorse installation master plans, which shall be approved by a command above the installation level no less frequently than every 5 years.
- For the purpose of keeping plans current and relevant, DoD Components shall maintain a comprehensive list of all installation master plans and their respective completion dates.
- DoD Components shall provide master planning training for key personnel using curricula developed either in-house or through the Army's Master Planning Institute, toward a goal of at least 4 hours of training for installation commanders and 32 hours of training biennially for installation master planners. This training goal comports with the requirement of the American Institute of Certified Planners.

DoD Components shall develop or update all installation master plans in accordance with this policy not later than October 1, 2018. The Deputy Under Secretary of Defense for Installations and Environment shall establish metrics to evaluate the implementation of this policy. This policy will be incorporated into DoD Instruction 4165.70, "Real Property Management."

I appreciate your support of our master planning process and commitment to improving our installations for the long term.



Frank Kendall

Appendix O

MILCON

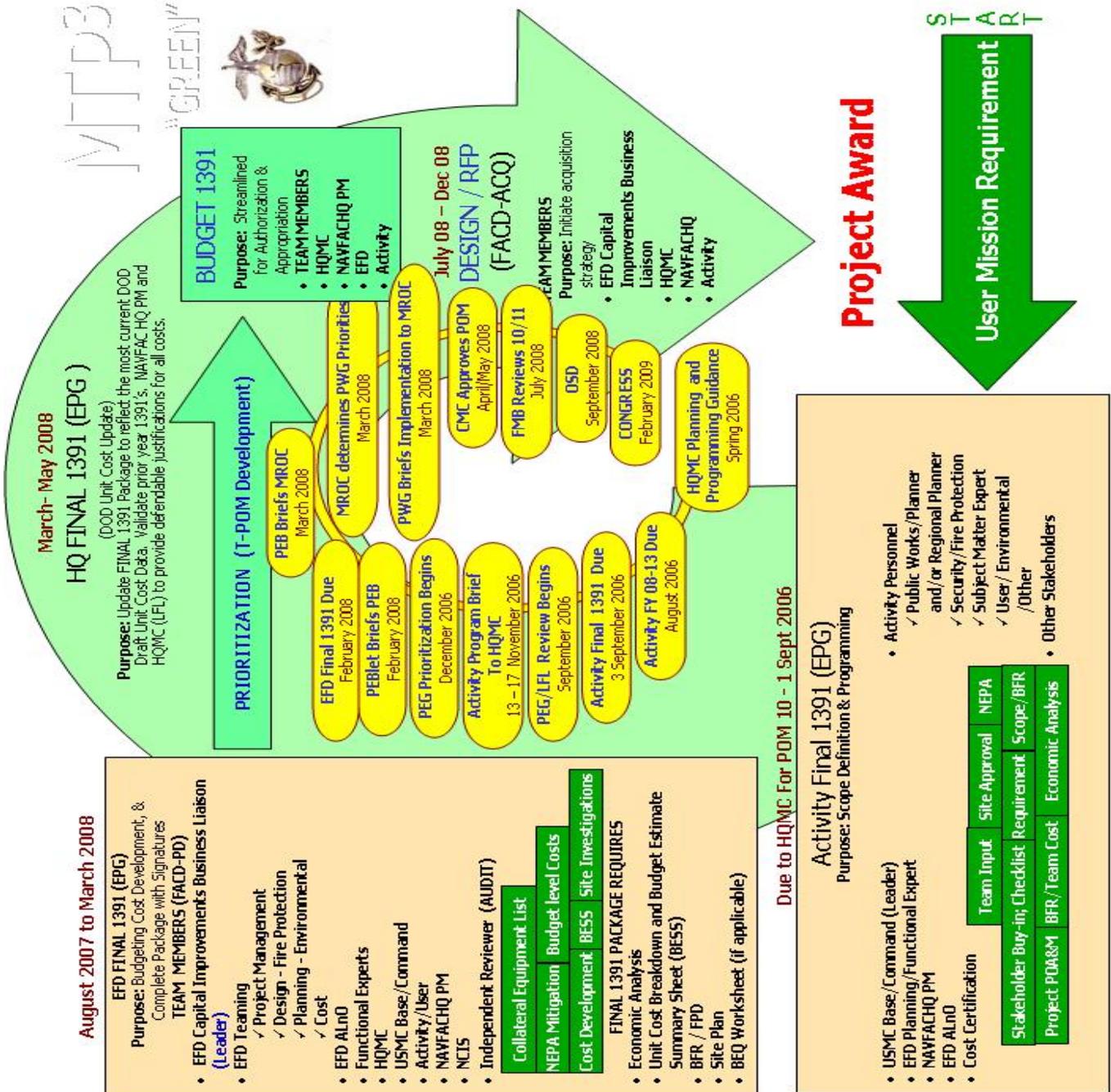


Figure O-1--MILCON Team Planning and Programming Process (MTP3).

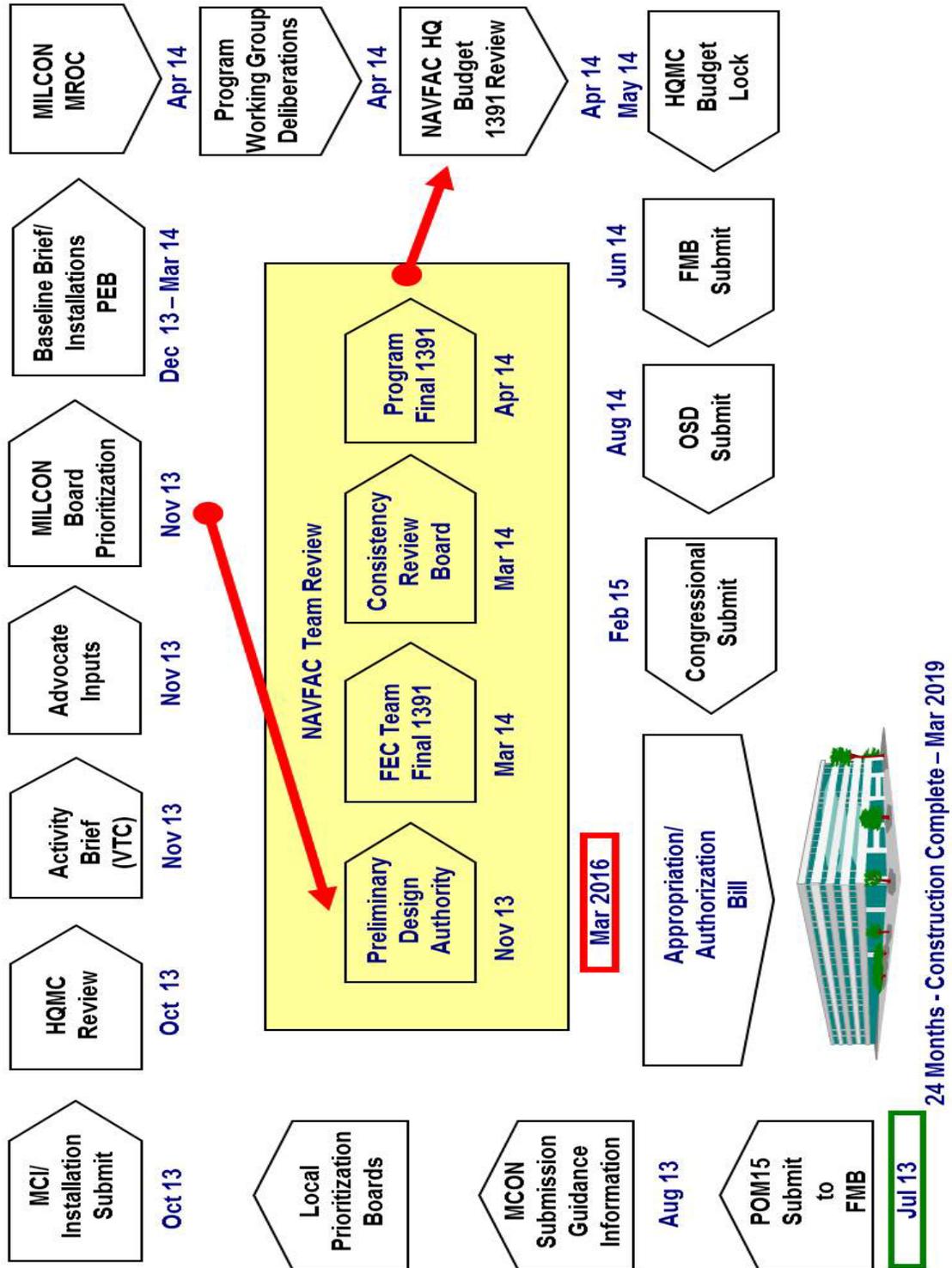


Figure O-2--Marine Corps - FY16 MILCON Calendar (Tentative).