

U.S. ARMY CORPS OF ENGINEERS RESPONSE TO COVID-19

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July 2020



US Army Corps
of Engineers®





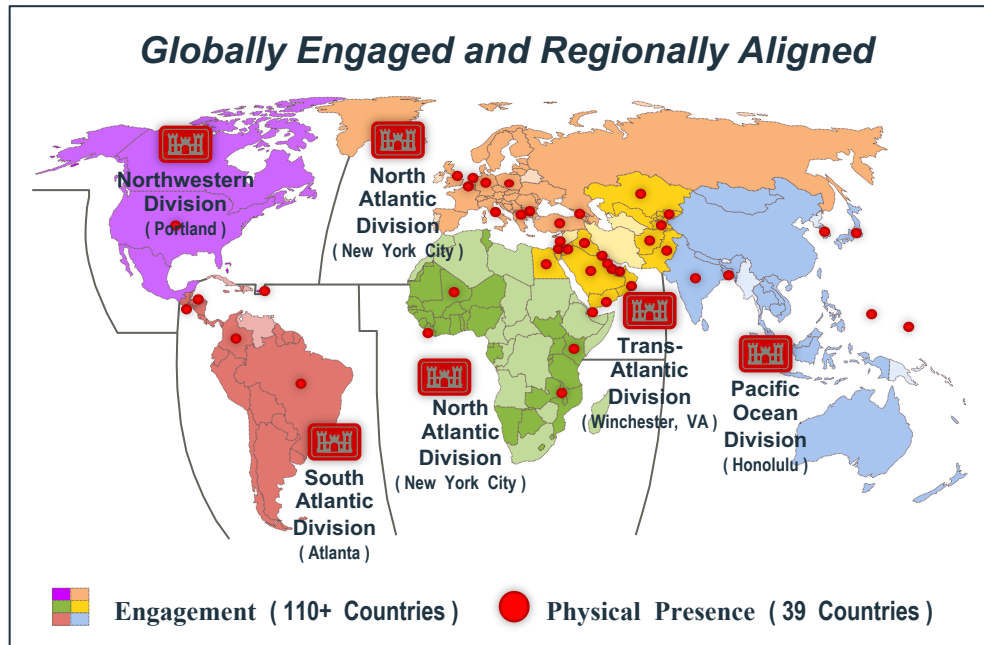
AGENDA



- USACE Overview
- USACE Response to COVID-19
 - Outcomes
 - Concept of Operations
 - Acquisition Strategy
 - Conversion Concepts
 - Best Practices
 - Key Challenges and Considerations for the AEC Community
- Q&A

USACE Vision

Engineering solutions for the Nation's toughest challenges.

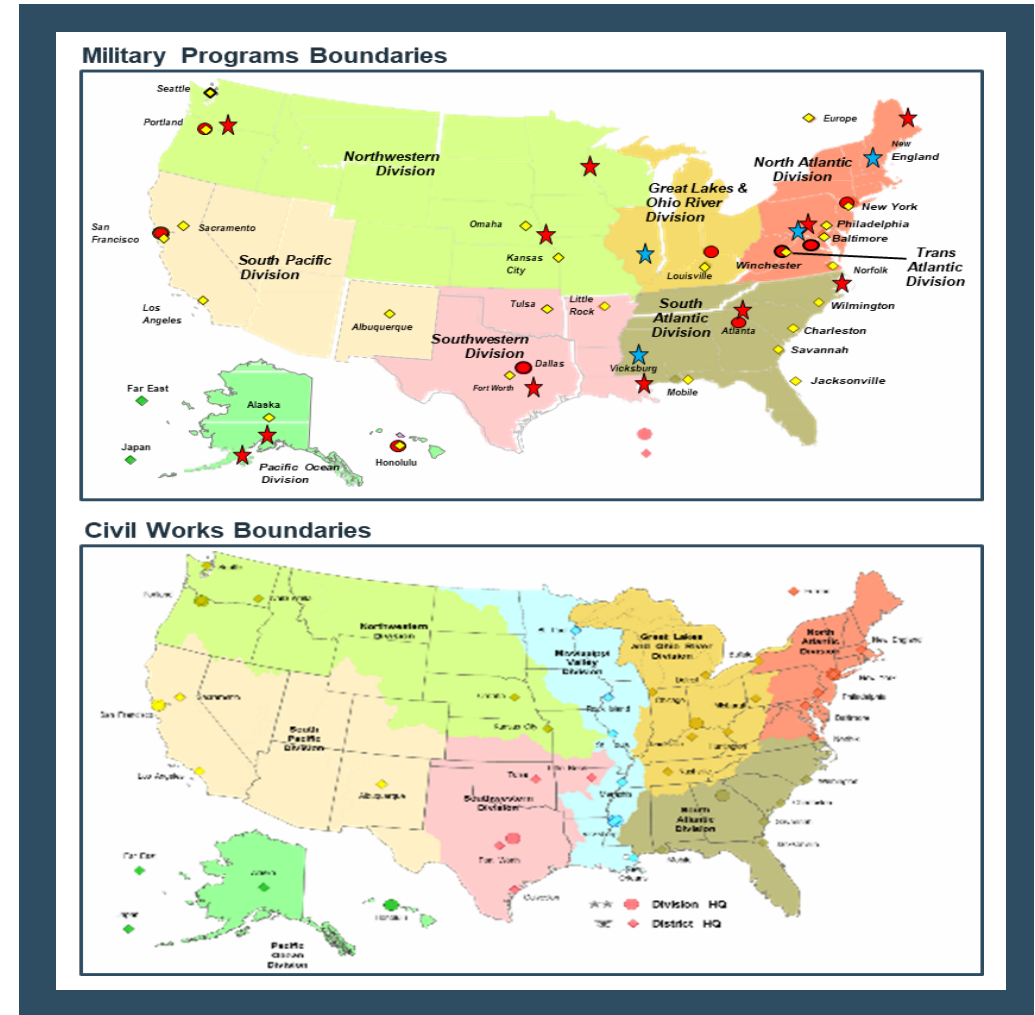


Headquarters

- 9 Regionally Aligned Divisions
- 43 Geographic Districts
- 9 Centers and Laboratories
- 40+ Centers of Expertise
- 1 Active Duty Unit
249th Prime Power Battalion
- 2 Army Reserve Theater Engineer Commands – 412th & 416th
- 8 Centers of Standardization

USACE Mission

Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce risk from disaster.





USACE MISSION AREAS

Military Programs



DoD Construction Agent

CCMD Support, Overseas
Contingency Operations (OCO)

Installation Support, Environmental,
Energy and Sustainability

Federal / State / Local Agency Construction &
Technical Support

“Whole of USACE” Capabilities
Capacity Development



International and Interagency

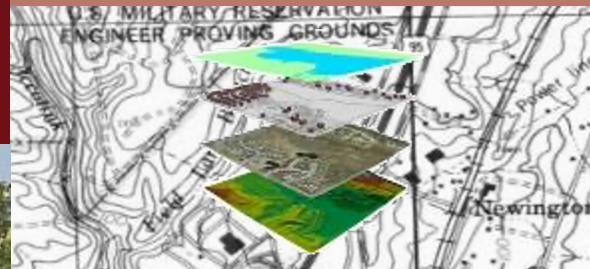
Real Estate — Acquire, Manage and Dispose / DoD Recruiting Facilities / Contingency Operations

Navigation, Flood Control,
Disaster Response, Shore Protection,
Hydropower, Water Supply,
Regulatory, Recreation,
Environmental Restoration



Civil Works

Geospatial Support



Army Common Operating Picture / Mission
Command

Civil Works Programs

Military & IIS Programs

Emergency and Contingency Operations

Contingency Operations



ESF-3 FEMA “Whole of Government”
Disaster Response and Recovery

Life-Cycle Flood Risk Management

Critical Infrastructure

Support to Warfighter Readiness

Force Protection, Installations & Resilience

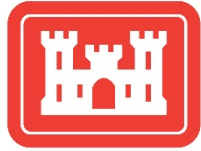
Environment

Water Resource Modeling



Research and Development

PARTNERING WITH INDUSTRY



**US Army Corps
of Engineers®**



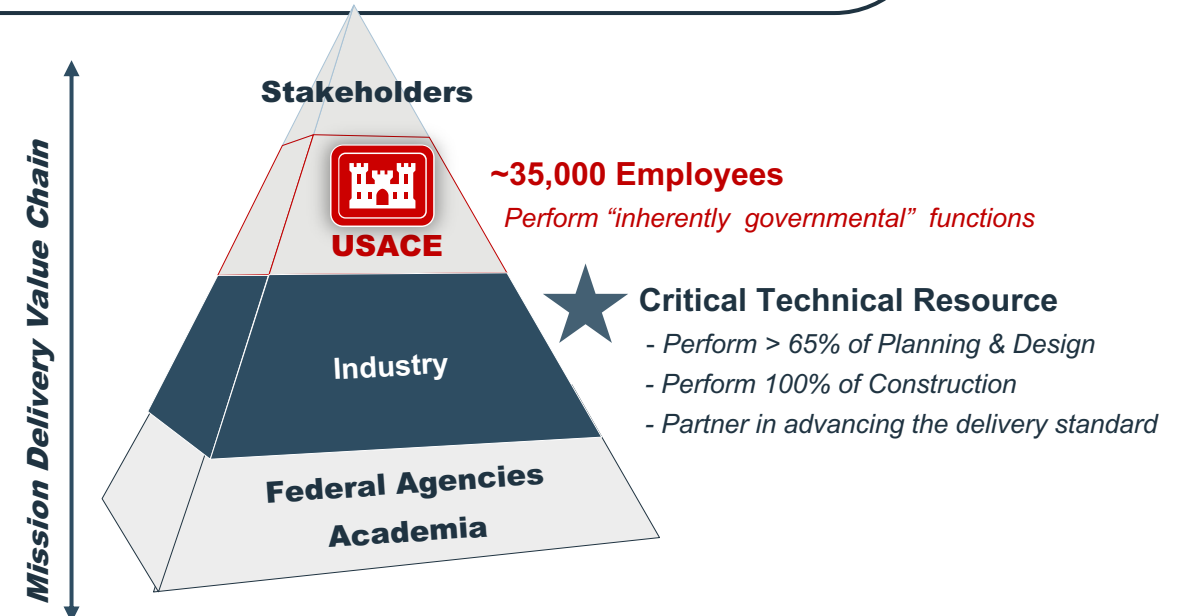
NATIONAL ACADEMY
OF CONSTRUCTION



An enduring commitment towards achieving shared objectives by jointly managing performance, risk, and relationships in a manner that builds and sustains mutual trust and transparency

Key Partnering Objectives:

- Posture and respond rapidly to national emergency and supplemental workload
- Promote effective federal procurement processes and practices
- Advance the standard through application of innovative practices, processes, and materials (e.g., Pre-Fab, collaborative delivery methods)



COVID-19 IMPACTS TO USACE MISSION DELIVERY

Potential COVID-19 Impacts to Projects Across the Military Programs

Program	Total Active Projects	Projects with Potential Impacts				
		Total	%	Pre-Award	Construction	Other
Installation Readiness (SRM)	6120	486	8%	275	192	19
Environmental	3290	131	4%	84	10	37
MILCON	1950	288	15%	85	181	22
Interagency & International Services	1230	175	14%	87	78	10
Real Estate	166	0	1%	0	1	0
Total	12756	1081	42%	531	462	86

* P2 data as of 06 July 2020





USACE SUPPORT TO CONTINGENCIES

7



Public Law 84-99
(Flood Control Act
of 1941)



Flood Control and Waterways

- Disaster Preparation
- Water Assistance
- Rehabilitation
- Emergency Operations
- Advance Measures
- Hazard Mitigation

Stafford Act
(National Response
Framework)
**(EO 10480, 12656, and
other acts)**



Domestic Disaster Preparedness & Response

- Emergency Support Function (ESF) #3: Public Works & Engineering (USACE Lead)
- ESF #6: Mass Care, Temp Housing & Human Svcs (DHS/FEMA Lead, USACE Spt)
- ESF #8: Public Health & Medical Services (HHS Lead, USACE Spt)
- ESF #12: Energy (DoE Lead, USACE Spt)
- National Emergency Preparedness Program

PPD #8
(National Disaster
Recovery / National
Mitigation Frameworks)



Domestic Recovery Operations

- Infrastructure Systems Recovery Support Function: Coordinating Agency

**Support
to FEMA**

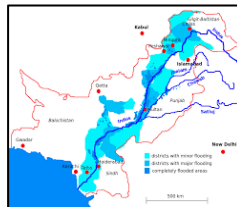
**Request for Forces
/ Request for
Assistance**



Support to Deployed US Forces

- Expeditionary Engineering, Environmental, Real Estate, Base Camp Development & Logistics Support Teams
- Embedded LNOs
- Deployable communications & reconnaissance tools
- Technical Reachback
- Army Facilities Component System
- 249th Prime Power
- Contingency Engineer Districts

**Economy Act,
Foreign Assistance
Act, Title XX**



International Humanitarian Assistance/Disaster Response

- Ituango Hydroelectric Dam (Colombia)
- Ebola Crisis
- Nepal Earthquake
- Haiti Earthquake
- Pakistan Landslide

END STATE:
Nation is
Provided
Responsive
Technical
Engineering
and
Construction
Support



U.S. ARMY CORPS OF ENGINEERS (AS OF: 12-JUN 0700)

COVID-19 CORONAVIRUS

COVID-19
RESPONSE DAY



USACE

ENGAGEMENT 50/5
States / Territories

ADMINISTRATIVE

MISSION ASSIGNMENTS **64** OPEN: 3
CLOSED: 61

CUMULATIVE FUNDING **\$1.8B** MA: \$1.8B
NEPP FUNDING: \$21.6M

ENGAGED PERSONNEL / DEPLOYED: 75
SUPPORTING: 253

ASSESSMENTS



ALTERNATE CARE FACILITY TOTAL BED COUNT

15,074

ALTERNATE CARE FACILITY CONSTRUCTION

ARENA TO HEALTHCARE (A2HC)
603 Assess Complete 21 Sites Selected 12,184 Beds 0 Pending Contracts **21 Contracts Awarded**

HOTEL/DORMS TO HEALTHCARE (H2HC)
552 Assess Complete 17 Sites Selected 2,890 Beds 0 Pending Contracts **17 Contracts Awarded**

ARENA TO HEALTHCARE (A2HC)

603/603
Assessments Complete
12,184 Potential Beds

HOTELS/DORMS TO HEALTHCARE (H2HC)

552/552
Assessments Complete
2,890 Potential Beds



ENGINEERED SOLUTION PLANS

Approved site adaptations must be accomplished in as little as 5 days and at most 2 weeks to align with state projected virus infection peaks.

4 STANDARD DESIGNS



College Dorm



Hotel



Sports Arena



Convention Center

All 4 designs can be adapted to serve COVID and NON-COVID patients.

PROJECT COMPLETION



38 OF 38
COMPLETE



U.S. Army Corps
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BUILDING STRONG®

SIMPLE SOLUTIONS FOR A COMPLEX PROBLEM

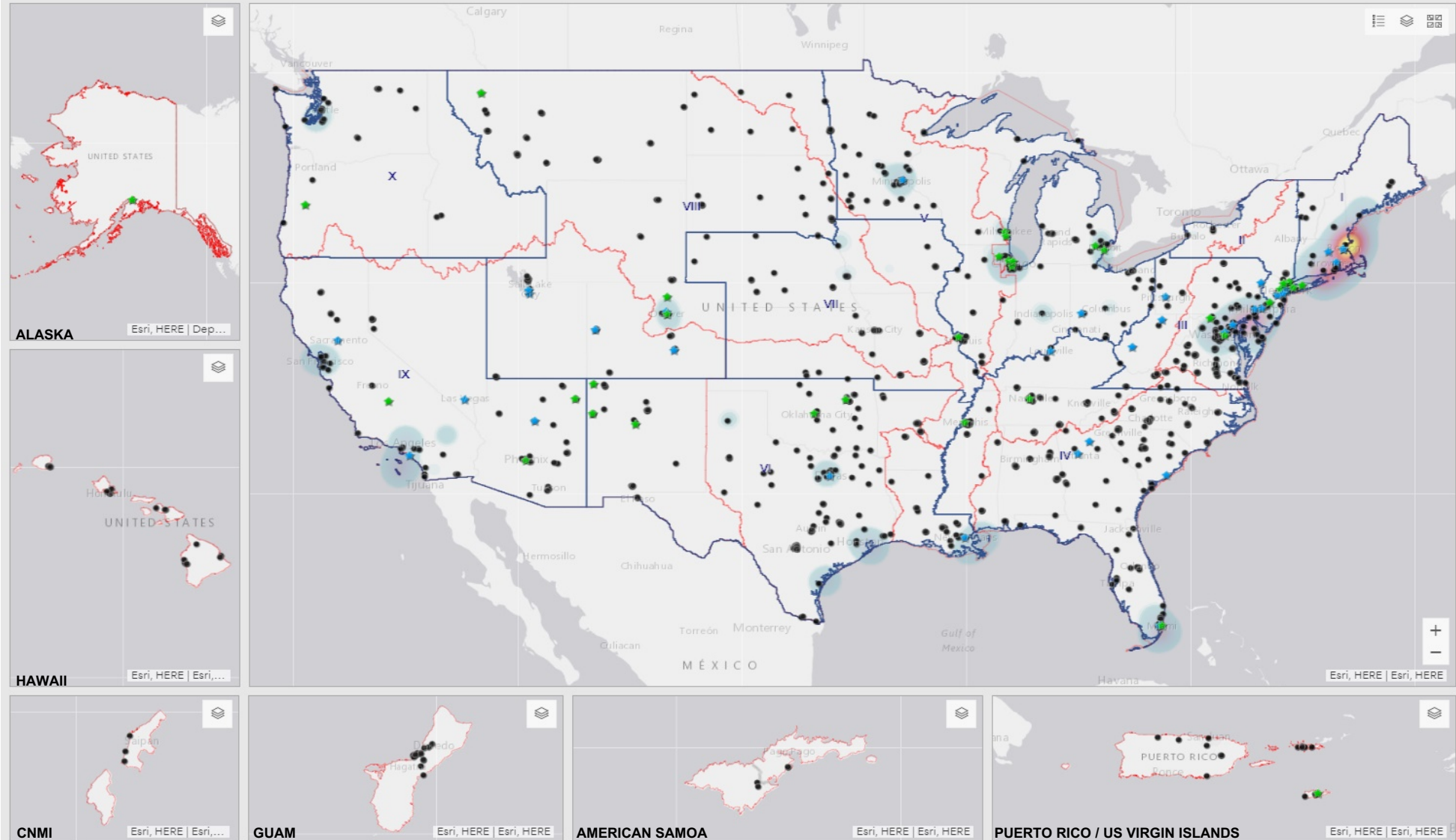
For more information about what the Corps is doing in response to COVID-19 visit: <https://www.usace.army.mil/coronavirus/>

USACE works in conjunction with the entire federal eco-system during responses like COVID-19 through FEMA learn more about their mission here: <https://www.fema.gov/coronavirus>



USACE COVID-19 SUPPORT MISSIONS: COMMON OPERATING PICTURE

9



FEMA Reg.	MSC	STATE/Territory Alignment (COVID-19 RESPONSE)	Major Disaster Declar.
I	NAD	CT, ME, MA, NH, RI, VT	6
II	NAD SAD	NJ, NY PR, USVI	4
III	NAD	DC, DE, MD, PA, VA, WV	6
IV	SAD MVD	AL, FL, GA, KY, NC, SC, TN MS	8
V	LRD MVD	IL, IN, MI, OH MN, WI	6
VI	SWD MVD SPD	AR, OK, TX LA NM	5
VII	NWD MVD	KS, MO, NE IA	4
VIII	NWD SPD	MT, ND, SD, WY CO, UT	6
IX	SPD POD	AZ, CA, NV HI, Guam, CNMI, AS	7
X	NWD POD	ID, OR, WA AK	4
TOTAL Major Disaster Declarations			56

LEGEND		
★	38	USACE AWARDED ACF Contract
★	0	USACE PENDING ACF Contract
★	36	USACE Design --> State Execution
●		USACE Assessment Areas
—		USACE Division Boundary
—		FEMA Region Boundary
●		COVID Hot Spots from 14-21 JUN



Attribution: COP Base Layer: Center Army Analysis SEIR Model 21-28 JUN 20 / Data: 01 JUN 20 / Extraction as of 01 2000 JUN 20 / Data Expiration: 05 JUN 20

UNCLASSIFIED// FOUO



CONCEPT OF OPERATION



Site

Lead:
State / Municipality

- ✓ Identify existing available facilities
- ✓ Assess for suitability
- ✓ USACE provides technical advice/assistance under FEMA Mission Assignment (MA) – Critical Public Facilities PRT
- ✓ Existing utilities and infrastructure (electric, power, water, HVAC, IT,...)
- ✓ Obtain rights / ownership (i.e. Lease facility)
- ✓ Determine construction agent

Build

Lead:
USACE (w/ MA) /
State / Municipalities

- ✓ Criteria and Design
- ✓ Convert/retro-fit existing structure
 - Hotel, dorm, or apartment building
 - Arena or convention center
- ✓ Enable conversion of facility to support identified facility type
- ✓ Main Functions - supply & auxiliary power, washable floors & walls, negative pressure HVAC, nurse's station, IT infrastructure
- ✓ Stafford Act – emergency contracting authorities, utilizing local, capable business(es); Construction contracts.

Supply

Lead:
FEMA / HHS / State /
Municipality / Other

- ✓ Federal or State Stocks
- ✓ Procure, Install, and Configure medically unique equipment
- ✓ Meets end-state requirements
- ✓ FEMA would task to either HHS or DLA to procure and install

Staff

Lead:
State / Municipality

- ✓ Identify and draw upon from existing and augmented resources
- ✓ National Guard
- ✓ NORTHCOM
- ✓ Anticipated to be most significant challenge



ACQUISITION STRATEGY



The Requirement:

- Address medical facility needs across the nation in response to the COVID-19 pandemic
- Ensure no person would lack care due to facility capacity limitations by creating Alternate Care Facilities (ACFs)

The Challenge:

- COVID-19 care projected to overwhelm existing medical facilities
- Sufficient National facility capacity required to ensure necessary provision of care for all in need
- No known standard designs for contingency hospital for infectious diseases
 - Existing military and civil emergency medical facilities designed primarily for trauma care
 - Limited Department of Health and Human Services (HHS) criteria for "Alternate Care Sites"

The Objective:

Plan and develop Alternate Care Facility (ACF) standards and criteria capable of rapid application at any community level in suitable existing structures with minimal alterations using readily available materials and skills.



ACQUISITION STRATEGY CONT'D



The Strategy:

- Develop Technical and Clinic Requirements
 - Collaborative effort between USACE Medical Design Center of Expertise and HHS medical experts
 - Included technical evaluation guidelines for assessment and selection of existing buildings and engineering and clinical guidelines for ACF design/construction
 - Objective to use existing operational facilities in good condition, but currently underutilized due to COVID-19 restrictions with focus on hotels, college dormitories, and arenas/gymnasiums
- Publish Standards and Criteria
 - Suitable for implementation in any community by State/local authorities or USACE
- Assign Roles and Responsibilities
 - Project management, engineering application of criteria, and execution (including contract procurement and management) for work assigned to USACE via FEMA delegated to District with geographic responsibility
 - State/local authorities responsible for site identification, real estate leases, and site disposition post COVID-19



ACQUISITION STRATEGY CONT'D



The Strategy:

- Solicit and Issue Contracts
 - Design-Build rapid reaction/rapid performance under emergency authority allowing work initiation within 72 hours (or less) of walking site and/or contract award
 - When necessary, contracts awarded with undefinitized scope and cost
 - Selections based on factors such as experience, capability, local/regional familiarity, and established sub/supplier/labor/building authority relationships
 - Objective to marshal strength and commitment of local/regional businesses and communities
- Share Lessons and Provide Advice
 - Teams of USACE and Public Health Service subject matter experts established to coach and advise Districts, states, or local authorities
 - Feedback loop and Lessons Learned website developed to share lessons / best practices and evolve criteria
- Establish A Communications Battle Rhythm
 - Conducted daily National-level Operations Command and Control briefings
 - Maintained senior level communications with FEMA, HHS, State, and local officials to advance response times



PERFORMANCE WORK STATEMENTS



- Tools available for State, Municipality and AEC community use
- Provides means for a quick contractual start
- Conversion Concepts
 - Hotel Room to Healthcare Room (H2HC) – COVID Non - ACUTE
 - Hotel Room to Healthcare Room (H2HC) – COVID ACUTE (Negative Pressure, Ventilator use)
 - Arena to Healthcare Room (A2HC) – COVID Non - ACUTE
 - Arena to Healthcare Room (A2HC) – COVID ACUTE (Negative Pressure, Ventilator use)
 - Containerized Option

Non - ACUTE Care IAW NFPA 99 Standard for Health Care Facilities, Patient Care Category 3; failure of systems or equipment is likely to cause discomfort to Patient, Staff or Visitor discomfort .

ACUTE Care IAW NFPA 99 Standard of Health Care Facilities, Patient Care Category 2; failure of systems or equipment is likely to cause minor injury to Patient, Staff or Visitors.



Build

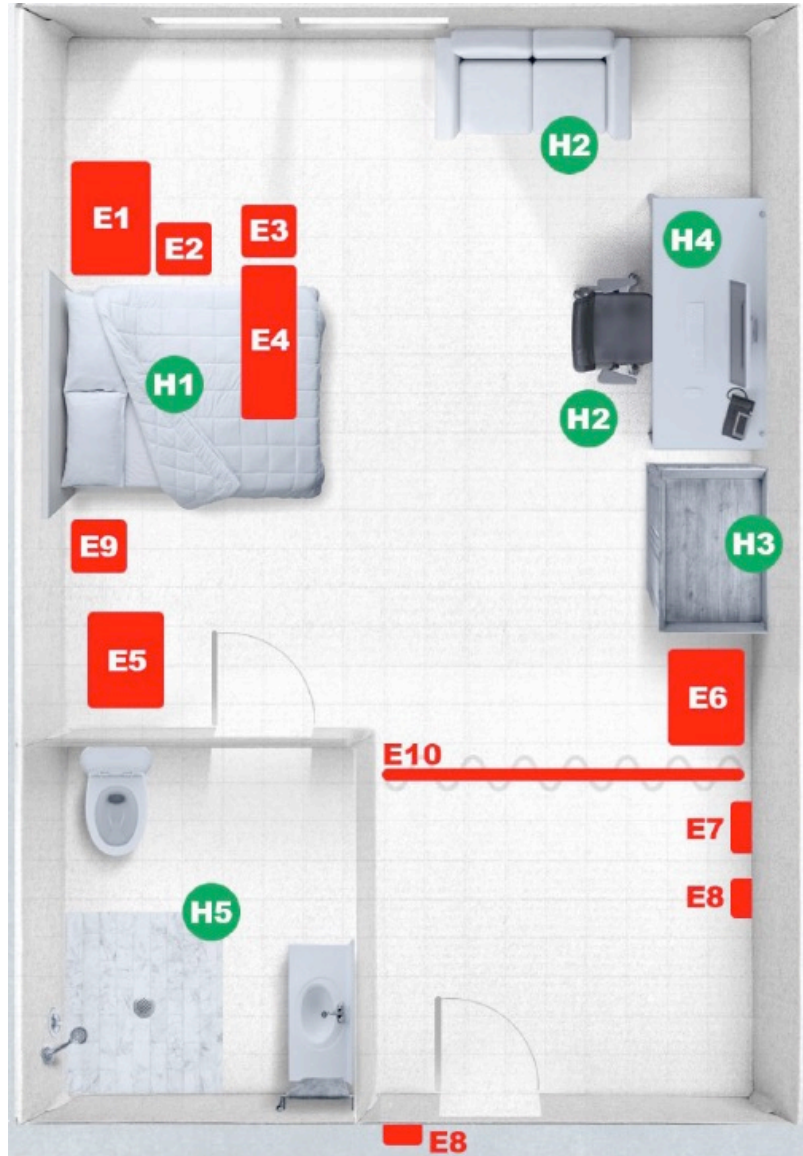
Lead:

USACE (w/ MA) /
State / Municipalities

CONVERSION CONCEPTS:

H2HC - HOTEL ROOM to HEALTHCARE ROOM

15



Hotel PROVIDED

- H1. HOTEL BED
*WITH MEDICAL LINENS
- H2. HOTEL RECLINING CHAIR/DESK CHAIR
- H3. HOTEL WARDROBE
- H4. HOTEL DESK
- H5. HOTEL PLUMBING FIXTURES

ENGINEERING CHANGES

- REMOVE CARPET
- INSTALL VINYL FLOORING OR EPOXY
- *REVISE HVAC DUCTING AND HEPA FILTERING
- ADD EMERGENCY BACK-UP POWER & UPS
- ADD ELECTRICAL OUTLETS
- ADD PRIVACY CURTAIN

SPECIAL MEDICAL EQUIPMENT – TO BE PROVIDED BY OTHERS (NON-USACE)

- E1. VENTILATOR CAPABLE; STORAGE CABINET
- E2. TELEMTRY/PUMP ON IV STAND
- E3. STOOL
- E4. OVER BED TABLE
- E5. MOBILE WORK STATION
- E6. LINEN HAMPER
- E7. SHARPS/GLOVES
- E8. HAND SANITIZER STATION
- E9. INFECTIOUS WASTE
- E10. CUBICLE CURTAIN

PHASES

1. SITE (State)
2. BUILD (USACE)
3. SUPPLY (FEMA)
4. STAFF (State)

STANDARD DESIGN

*COVID
Non - COVID
Scalable, Tailorable,
Site Adaptable



EXAMPLE: MISSOURI ACF AT FLORISSANT– FLORISSANT, MO

HOTEL TO HEALTHCARE (H2HC)



Alternate Care Facility Overview

Location: Florissant, MO
MSC: Northwest Division (NW D)
FEMA Region: VII
Contractor: Tarlton
Type: Hotel (H2HC)
Patient Type: COVID
Facility Size: 45,000 SF
Bed Capacity: 118
Address: 55 Dunn Rd., Florissant, MO 63031



Timeline

Assessment MA received	06 APR 20
Construction MA received	06 APR 20
Contract Awarded	08 APR 20
Construction Start	08 APR 20
Contractual Completion	12 APR 20
Estimated Completion	11 APR 20
Actual Completion	11 APR 20
Total Construction Duration	4 Days

Notes: 100% Complete; First patient admitted 15 APR.

Projected Bed Shortfall 07 JUN – 14JUN



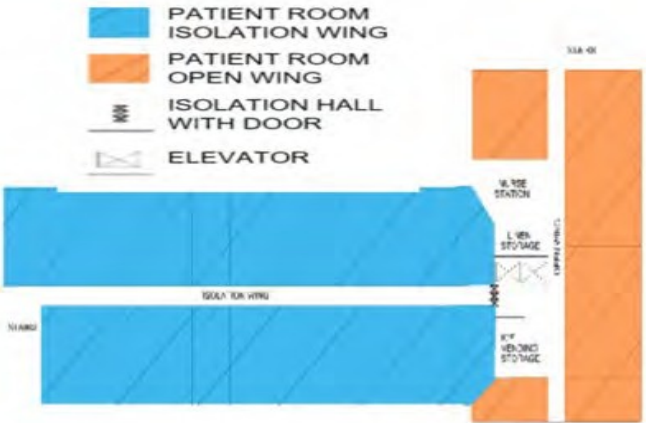
Plans

Plans Key:

Layout of 3rd Floor
Total of 4 floors with similar layout.

Notes:

118 Patient Units
4 Nurse Stations
12 Support Areas



In Progress Photos



COVID Convalescent Patient Room



MG Toy Meets with Contractors



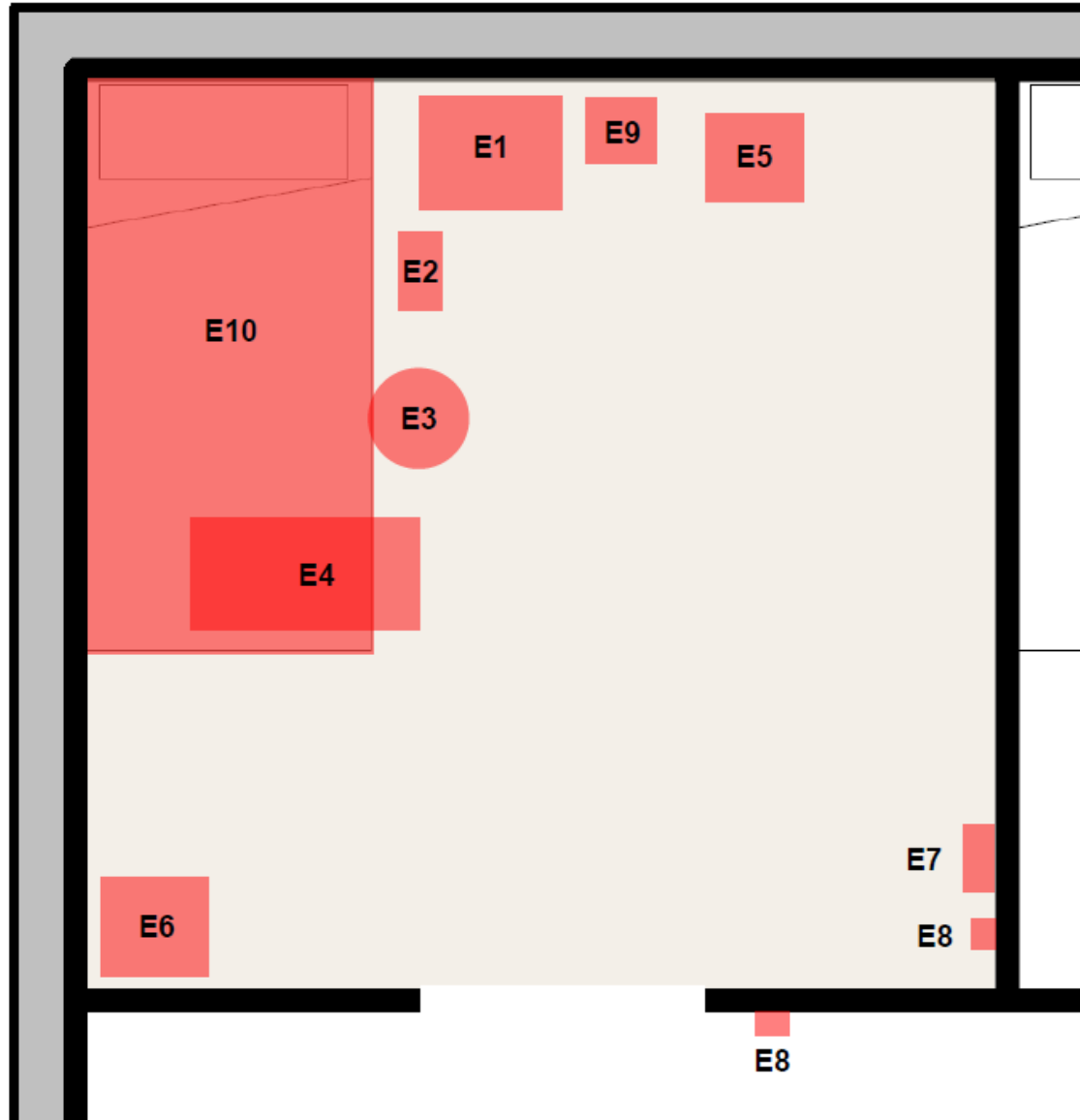
Build

Lead:

USACE (w/ MA) /
State / Municipalities

CONVERSION CONCEPTS: A2HC TYPICAL POP-UP CARE SPACES

17



ENGINEERING CHANGES

1. ADD HVAC DUCTING AND HEPA FILTERING
2. ADD EMERGENCY BACK-UP POWER
3. ADD ELECTRICAL OUTLETS
4. ADD DATA OUTLETS
5. ADD PLUMBING

NEW EQUIPMENT

- E1. VENTILATOR CAPABLE; STORAGE CABINET
- E2. TELEMETRY/PUMP ON IV STAND
- E3. STOOL
- E4. OVER BED TABLE
- E5. MOBILE WORK STATION
- E6. LINEN HAMPER
- E7. SHARPS/GLOVES
- E8. HAND SANITIZER STATION
- E9. INFECTIOUS WASTE
- E10. PATIENT BED



Build

Lead:

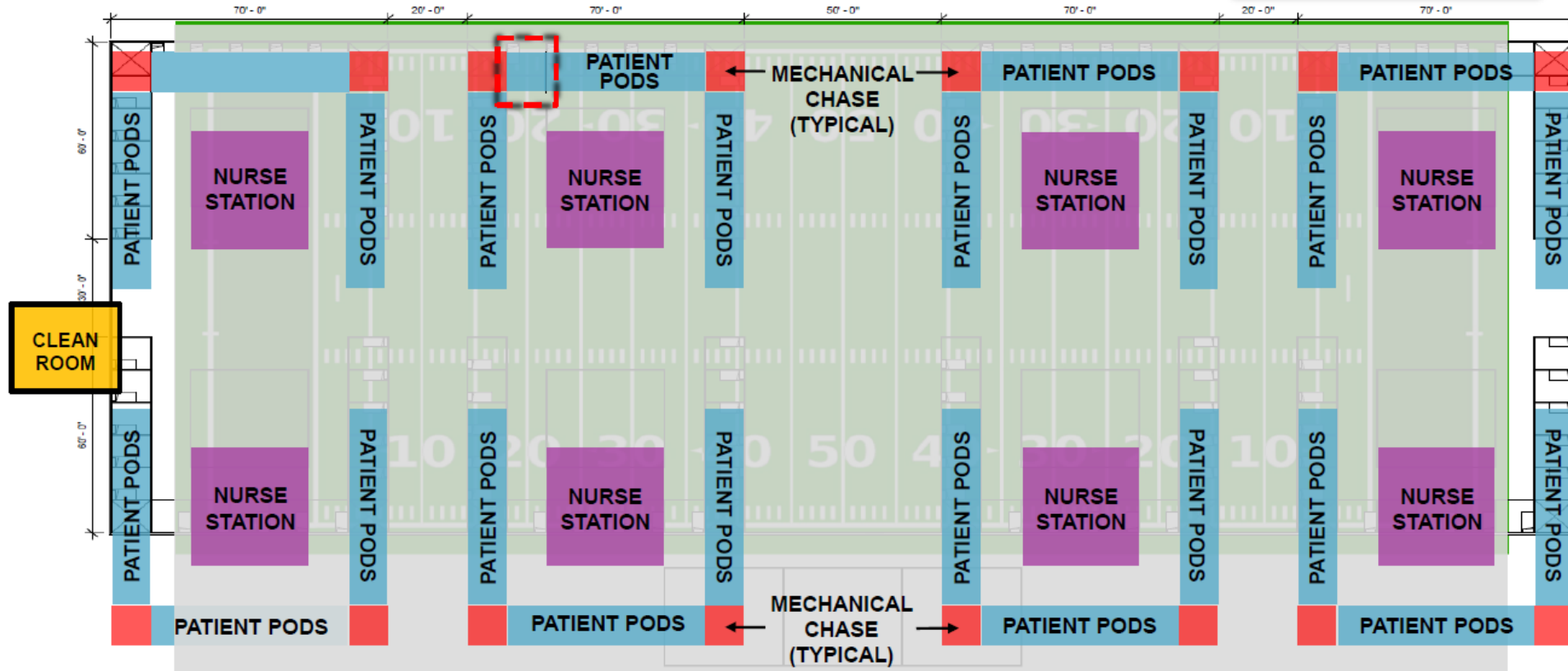
USACE (w/ MA) /
State / Municipalities

CONVERSION CONCEPTS: A2HC TYPICAL LAYOUT

18



- 1 NURSE STATION FOR EACH 15 PATIENTS
- TOTAL OF 120 PODS



FACILITY PROVIDED

- FIELD HOUSE ICE MACHINE

ENGINEERING CHANGES

- ALL TYPICAL FLOOR PLAN ADDITIONS
- ADD GENERATOR

MEDICAL EQUIPMENT

- ALL TYPICAL FLOOR PLAN ADDITIONS
- NURSE CALL
- STORAGE
- WORKSTATIONS
- MED DISPENSING UNITS



EXAMPLE: COLORADO CONVENTION CENTER – DENVER, COLORADO

ARENA TO HEALTHCARE (A2HC)

19

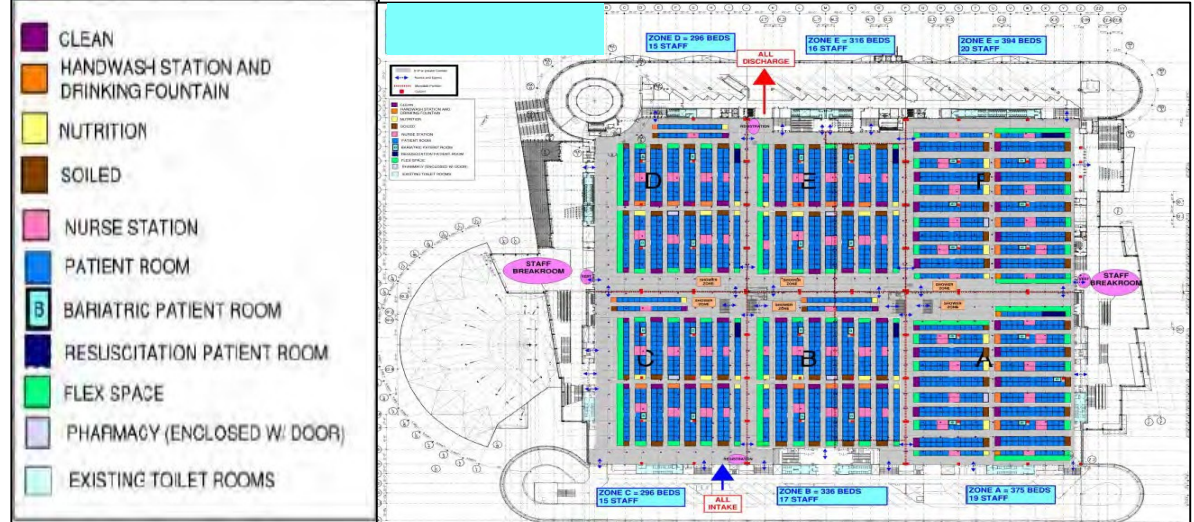


Alternate Care Facility Overview

Location: Denver, CO
MSC: South Pacific Division (SPD)
FEMA Region: VIII
Contractor: ECC Environmental LLC.
Type: Arena (A2HC)
Patient Type: COVID
Facility Size: 584,000 SF
Bed Capacity: 1,243
Address: 700 14 th St., Denver, CO 80202



Plans



Timeline

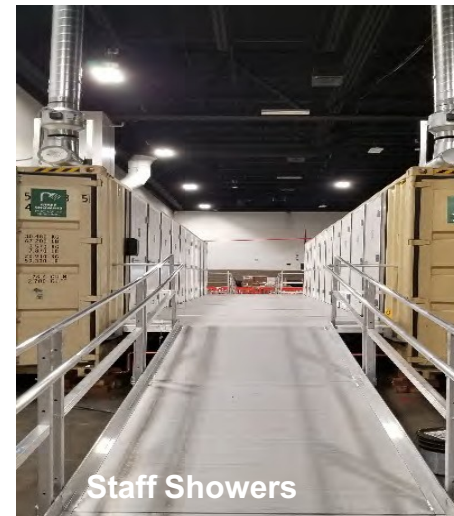
Assessment MA received	19 MAR 20
Construction MA received	01 APR 20
Contract Awarded	05 APR 20
Construction Start	09 APR 20
Contractual Completion	27 APR 20
Estimated Completion	27 APR 20
Actual Completion	24 APR 20
Total Construction Duration	16 Days

Notes: 100% Complete;

Projected Bed Shortfall 07 JUN – 14JUN



Completed Photos



Staff Showers





MCCORMICK PLACE – CHICAGO IL

ARENA TO HEALTH CARE (A2HC)



- Facility size 1.5M SF
- Target Patient Areas – 3,000
- Three Halls
 - Hall “A” – 1750 Low Acuity Patient Spaces
 - Hall “B” – 750 Medium Acuity Patient Spaces
 - Hall “C” – 500 Low Acuity Patient Spaces

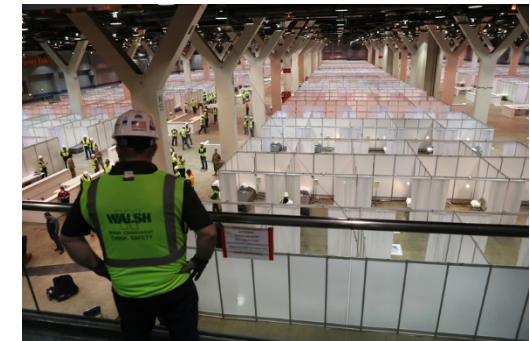
Total Construction Duration – 26 Days

Hall “B” Narrated by COL Reisinger, Chicago District Commander

<https://usace.dps.mil/sites/KMP/LessonsLearnedVideos/Forms/AllItems.aspx?id=%2Fsites%2FKMP%2FLessonsLearnedVideos%2FA2HC%20Lessons%20Learned%20%2D%20McCormick%20%28Part%20%29%2Emp4&parent=%2Fsites%2FKMP%2FLessonsLearnedVideos&p=true&originalPath=aHR0cHM6Ly91c2FjZS5kcHMubWIsLzpzOj9zL0tNUC9FYTBfZkhJTnRUbEptMjN3OEhUdG1pd0JCTThKbTlnSUxseURKVlhuYTU1REJRP3J0aW1IPU9hZG92WEIqMkVn>



MCCORMICK PLACE Chicago IL.



INSIDE LOOK, MCCORMICK PLACE ACF



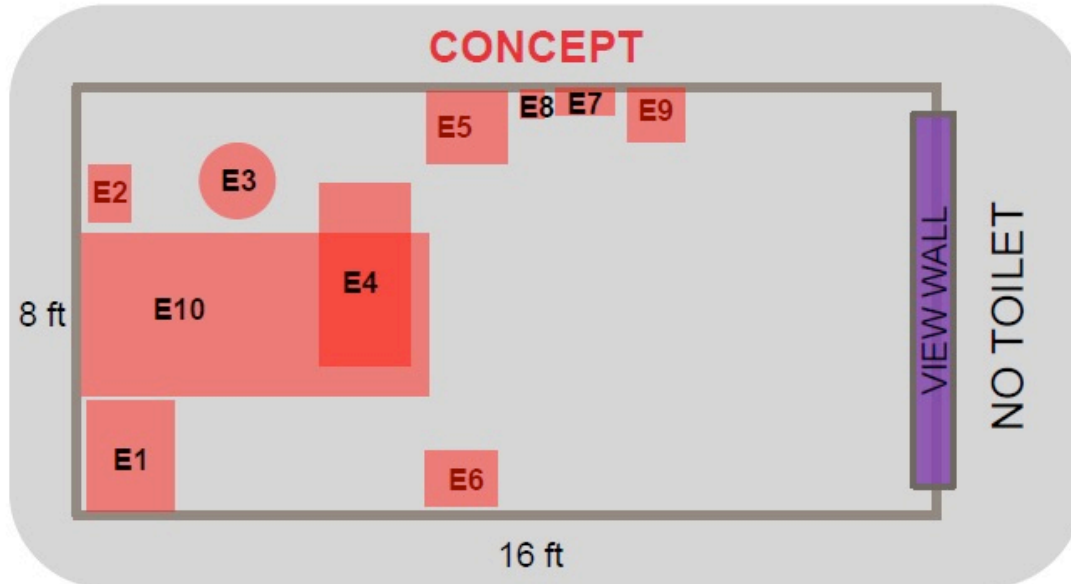
Build

Lead:

USACE (w/ MA) /
State / Municipalities

CONVERSION CONCEPTS: A2HC CONTAINERIZED OPTION

21

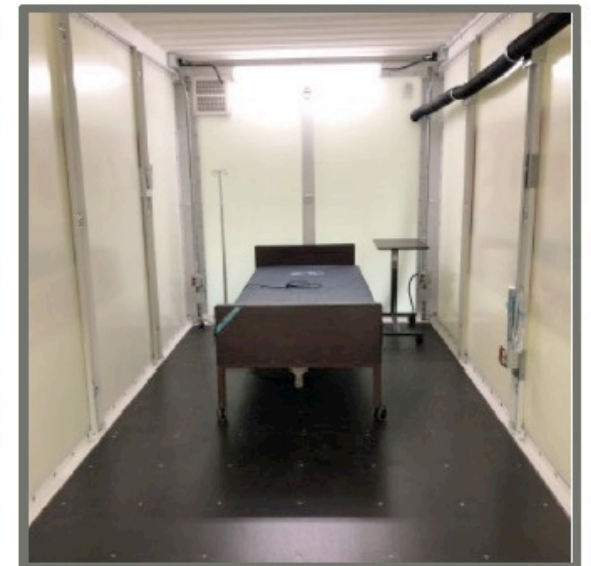


ENGINEERING CHANGES

- Field modified isolation room entry door
- Add louver with gravity damper and balancing damper
- Add exhaust fan with HEPA filtering
- Add mounted lighting
- Add emergency back-up power
- Add electrical and data outlets
- Add washable wall and floor covering

MEDICAL EQUIPMENT

- E1. Ventilator capable: Storage Cabinet
- E2. Telemetry/Pump on IV Stand
- E3. Stool
- E4. Over bed table
- E5. Mobile work station
- E6. Linen hamper
- E7. Sharps/Gloves
- E8. Hand sanitizer station
- E9. Infectious waste
- E10. Patient bed



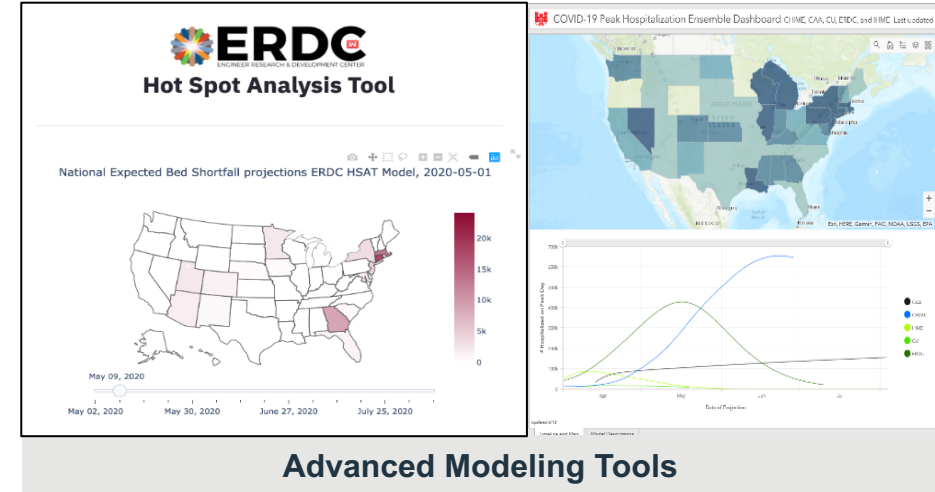
BEST PRACTICES - LEANING FORWARD TO ADVANCE DELIVERY

Rapid Fabrication & Assembly



Framing, Oxygen & Containerized Solutions

Forecasting Future Need



Technology-Enabled Collaboration Tools



Augmented Reality Technology

BEST PRACTICES – CREATING A NEGATIVE AIR PRESSURE ENVIRONMENT



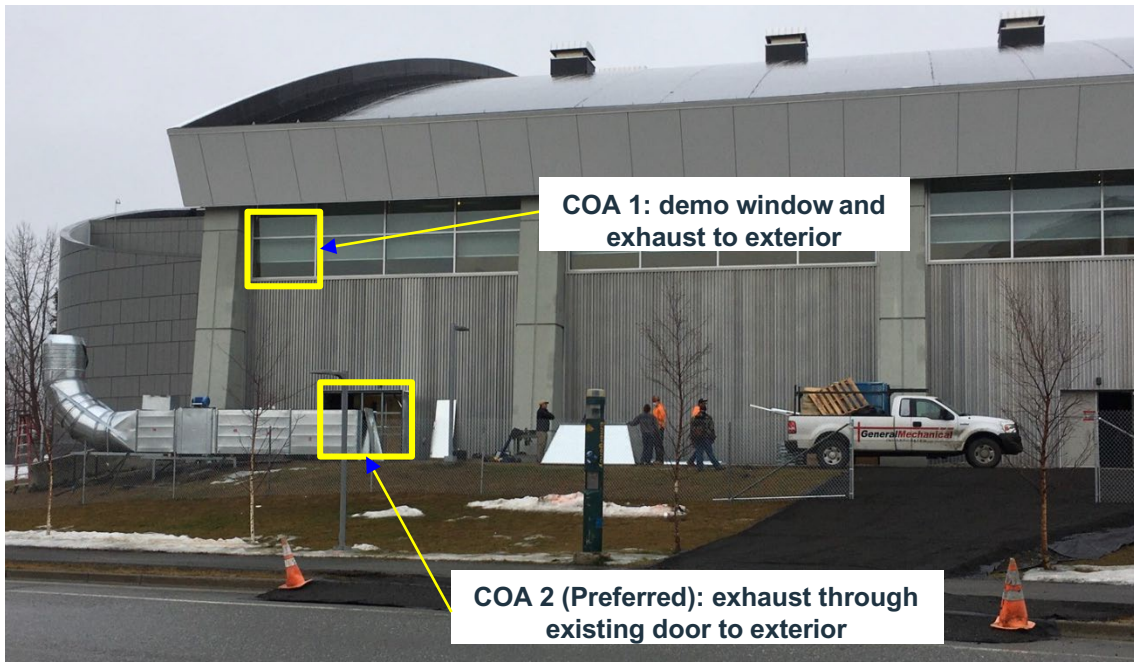
Variable Frequency Drive



Pressure Sensor
Requirement: -0.05" wc



Diff. Pressure Monitor,
tied to building BMS





CHALLENGES AND CONSIDERATIONS FOR OUR AEC COMMUNITY



Challenges

- Predicting Need Dates, accuracy of models
- Speed of Delivery
- Supply chains
- No common set of terminology
- State/local orders directing limitation to travel

Considerations for the AEC Community

- Hospital design, what percentage should be capable for isolation infectious disease?
- Modular market, capacity to deliver numbers of units with speed?
- Energy Performance versus need for fresh air exchange
- Convention Centers, design, provide exhibitor areas, wall panels for multi purpose use



QUESTIONS



USACE COVID-19 RESPONSE

ALTERNATE CARE FACILITY (ACF) ROLL UP (1/2)

Status	MSC	Facility Name	Location	COVID or NON-COVID	Type	Bed Capacity	Award Date	Start Date	Complete Date	Comp. %
A	LRD	TCF Center	Detroit, MI	COVID	A2HC	970	31-Mar-20	31-Mar-20	9-Apr-20	100%
A	NWD	Missouri ACF at Florissant	Florissant, MO	COVID	H2HC	118	8-Apr-20	8-Apr-20	11-Apr-20	100%
A	POD	Alaska Airlines Center	Anchorage, AK	COVID	A2HC	51	9-Apr-20	9-Apr-20	17-Apr-20	100%
A	MVD	Wisconsin State Fair Expo Center	West Allis, WI	COVID	A2HC	530	7-Apr-20	8-Apr-20	17-Apr-20	100%
A	SPD	Gibson Medical Center	Albuquerque, NM	COVID	H2HC	200	3-Apr-20	4-Apr-20	18-Apr-20	100%
A	SPD	Miyamura High School	Gallup, NM	COVID	A2HC	60	5-Apr-20	6-Apr-20	19-Apr-20	100%
A	SAD	Miami Beach Convention Ctr	Miami, FL	COVID	A2HC	450	6-Apr-20	8-Apr-20	20-Apr-20	100%
A	LRD	Suburban Collection Showplace	Novi, MI	COVID	A2HC	250	5-Apr-20	6-Apr-20	20-Apr-20	100%
A	SPD	Porterville Dev. Center	Porterville, CA	COVID	H2HC	246	5-Apr-20	8-Apr-20	21-Apr-20	100%
A	NAD	Westchester County Center	White Plains, NY	COVID	A2HC	110	27-Mar-20	27-Mar-20	22-Apr-20	100%
A	NAD	United Medical Center (UMC)	Washington, DC	COVID	A2HC	6	8-Apr-20	9-Apr-20	22-Apr-20	100%
A	NAD	New Bridge-Bergen Medical Center	Paramus, NJ	NON-COVID	A2HC	30	8-Apr-20	9-Apr-20	23-Apr-20	100%
A	LRD	Metro South Medical Center	Blue Island, IL	COVID	H2HC	585	29-Mar-20	30-Mar-20	23-Apr-20	100%
A	LRD	Sherman Hospital	Elgin, IL	COVID	H2HC	274	29-Mar-20	30-Mar-20	23-Apr-20	100%
A	LRD	McCormick Place	Chicago, IL	COVID	A2HC	3,000	28-Mar-20	29-Mar-20	24-Apr-20	100%
A	NAD	Hagerstown Correctional Facility	Hagerstown, MD	COVID	H2HC	0	10-Apr-20	13-Apr-20	24-Apr-20	100%
A	LRD	Westlake Hospital	Chicago, IL	COVID	H2HC	430	5-Apr-20	6-Apr-20	24-Apr-20	100%
A	NAD	SUNY Stony Brook	Stony Brook, NY	COVID	A2HC	1,028	29-Mar-20	29-Mar-20	26-Apr-20	100%
A	SPD	Colorado Convention Center	Denver, CO	COVID	A2HC	1,243	5-Apr-20	9-Apr-20	27-Apr-20	100%
A	NAD	SUNY Old Westbury	Westbury, NY	COVID	A2HC	1,024	29-Mar-20	31-Mar-20	27-Apr-20	100%
A	NAD	St Francis Hospital	Trenton, NJ	COVID	H2HC	37	13-Apr-20	14-Apr-20	27-Apr-20	100%
A	SPD	Atsa Biyaazh School - Navajo Nation	Shiprock, NM	NON-COVID	A2HC	40	17-Apr-20	18-Apr-20	29-Apr-20	100%
A	NAD	New Bridge-Bergen Med Ctr Parking Lot	Paramus, NJ	COVID	A2HC	100	14-Apr-20	15-Apr-20	29-Apr-20	100%
A	NAD	Javits Center	New York, NY	COVID	A2HC	2,106	25-Mar-20	30-Mar-20	30-Apr-20	100%
A	SPD	Chinle Community Ctr - Navajo Nation	Chinle, AZ	NON-COVID	A2HC	50	17-Apr-20	18-Apr-20	1-May-20	100%
A	SPD	The Ranch Events Complex	Loveland, CO	COVID	A2HC	192	8-Apr-20	11-Apr-20	1-May-20	100%
A	NAD	East Orange General Hospital	East Orange, NJ	COVID	H2HC	250	7-Apr-20	9-Apr-20	3-May-20	100%

ASSESSMENTS
1,155 REQUESTED 1,155 COMPLETED

TENTATIVE
0 FACILITIES 0 BEDS

PENDING
0 FACILITIES 0 BEDS

USACE DESIGN/STATE EXECUTED
36 FACILITIES 12,745 BEDS

USACE EXECUTED
38 FACILITIES 15,074 BEDS

COMPLETED PROJECTS: 14,681 Bed Spaces Currently Available ↑ 0 48 HOUR PROJECTION: 14,500 TOTAL Bed Spaces Available



USACE COVID-19 RESPONSE

ALTERNATE CARE FACILITY (ACF) ROLL UP (2/2)

Status	MSC	Facility Name	Location	COVID or NON-COVID	Type	Bed Capacity	Award Date	Start Date	Complete Date	Comp. %
A	NAD	Walter Washington Convention Ctr	Washington, DC	COVID	A2HC	443	16-Apr-20	22-Apr-20	8-May-20	100%
A	SAD	210th ARNG Regional Training Institute	St. Croix, VI	COVID	H2HC	24	17-Apr-20	24-Apr-20	8-May-20	100%
A	SWD	Integrus Baptist Medical	Oklahoma City, OK	COVID	H2HC	110	26-Apr-20	27-Apr-20	8-May-20	100%
A	SWD	OSU Medical Center	Tulsa, OK	COVID	H2HC	125	26-Apr-20	27-Apr-20	10-May-20	100%
A	NWD	Eugene River Avenue Facility	Eugene, OR	COVID	H2HC	42	17-Apr-20	18-Apr-20	13-May-20	100%
A	MVD	Milwaukee County HOC Lotter House	Milwaukee, WI	COVID	H2HC	120	30-Apr-20	4-May-20	21-May-20	100%
A	NWD	Kalispell Regional Medical Center	Kalispell, MT	NON-COVID	A2HC	100	5-May-20	6-May-20	26-May-20	100%
A	LRD	Nashville General Hospital	Nashville, TN	COVID	H2HC	67	1-May-20	4-May-20	29-May-20	100%
A	SPD	St Luke's (Phoenix)	Phoenix, AZ	COVID	H2HC	254	11-Apr-20	12-Apr-20	1-Jun-20	100%
A	SWD	Memorial Hospital of Texas County	Guymon, OK	COVID	H2HC	8	24-May-20	26-May-20	5-Jun-20	100%
A	LRD	Commercial Appeal Building	Memphis, TN	COVID	A2HC	401	16-Apr-20	16-Apr-20	10-Jun-20	100%

ASSESSMENTS
1,155 REQUESTED 1,155 COMPLETED

TENTATIVE
0 FACILITIES 0 BEDS

PENDING
0 FACILITIES 0 BEDS

USACE DESIGN/STATE EXECUTED
36 FACILITIES 12,745 BEDS

USACE EXECUTED
38 FACILITIES 15,074 BEDS

COMPLETED PROJECTS: 14,374 Bed Spaces Currently Available ↑0 48 HOUR PROJECTION: 14,400 TOTAL Bed Spaces Available



USACE TERMINOLOGY:

COVID-19 PERFORMANCE WORK STATEMENTS (PWS)

28



Patient Diagnosis	Acuity **	Clinical Differentiation Impacting the Facility Design	NFPA 99 Space Category & NFPA 101 Classification	Recommended Facility Solution per PWS's	
				Hotel/Barracks	Arena
COVID Positive	Acute*	Airborne Infectious On Ventilator	Cat 2 Plus* (General/Critical Care) Non-Ambulatory	Single Patient Space Negative Pressure Room Line of Sight to Patient (vision panel / camera)	Single Patient Space Negative Pressure Pod Line of Sight to Patient (Vision panel)
COVID Positive or Presumed Positive (pending test)	Non-Acute	Airborne Infectious Not On Ventilator. May require supplemental oxygen	Cat 3 (Basic Care) Ambulatory	Single Patient Space No negative pressure Isolation by floor/room Line of sight not required (cameras to reduce contact)	Single Patient Space Negative Pressure Pod Line of sight not required
NON-COVID	Non-Acute	Not airborne infectious	Cat 3 (Basic Care) Ambulatory	No Special Requirements – No negative pressure. Multi-patient room permissible Line of sight not required	No Special Requirements – No negative pressure. Multi-patient bays permissible. Line of sight not require
NON-COVID	Acute	Not airborne infectious May require medical support spaces not in ACF.	Cat 2 (General Care) Non-Ambulatory	<i>Typical Med/Surg May not be appropriate for ACF*</i>	<i>Typical Med/Surg May not be appropriate for ACF*</i>
NON-COVID	Critical	Intense medical needs beyond Cat 2 Plus. Multiple Comorbidity	Cat 1 (Critical Care) Non-Ambulatory	<i>Hospital ICU/All/PE ACF not intended for full Category 1 Provisions.</i>	<i>Hospital ICU/All/PE ACF not intended for full Category 1 Provisions</i>

Applicable Performance Work Statement for Alternate Care Facility (ACF)

- H2HC Acute or B2HC Acute
- H2HC Non-Acute or B2HC Non-Acute
- A2HC Acute
- A2HC Non-Acute (NON-COVID)

NOTES

* Category 2 Plus applies NFPA 99 Category 2 considerations (General Care – risk of minor injury) plus additional Category 1 provisions (Critical Care – risk of major injury or death) as relates to the specific needs of a COVID-positive patient on a ventilator.

**This column is not intended to represent true clinically defined patient acuity but represents a general categorization (and terminology) used across the PWS's



OVERVIEW



Key Points

- We are looking to marshal the support and capability of the industry to help with this crisis
- Powering Down- Districts are empowered reach out to local leaders and help them to frame options

Alternate Care Site Documents

- Developed by USACE and HHS medical and construction experts to help States and municipalities address potential shortages in medical facilities during the 2020 COVID-19 pandemic
- Intended to assist in assessing and developing potential facilities for suitability as alternate care sites and to rapidly engage contractors to convert and prepare them for medical use.
- May not fit all circumstances
- Local & state governments must determine appropriate use of facilities

Execution

- Magnitude and required speed of effort requires Federal, State, and local agencies issue be able to contract work
- The decision is by the State and FEMA!
- Primarily via emergency contracting authorities to local/regional firms (large or small business) with capability to begin immediately and execute the work rapidly
 - Contracted either by USACE or to State and local authorities
 - Governor must request FEMA provide the mission assignment (MA) to USACE
 - FEMA must provide USACE the MA under our Emergency Support Functions (ESFs) to be the executing agent
 - Example: NY was a directive from FEMS



RECOMMENDED FACILITY CONSIDERATIONS



All Facilities

- Within 10 miles/30 min of permanent medical hospital, HazWaste disposal, linen/laundry, pharmacy
- ADA compliant only to current ADA compliance of existing facility
- Facility templates and standards are adapted from DoD UFC criteria.
- Municipality and Construction Agent must discuss and agreed upon use of local municipality/county/state standards
- State or City Owned Property Preferred.
- Cost estimates
 - Do not include real estate, lease acquisition, restoration costs post-medical use
 - Are minimum costs for renovation/construction and IO&T. Actual costs developed when site adapting each facility.

Hotel to Healthcare (H2HC) Specific

- Built/Renovated after 1990 (mitigate lead paint/asbestos)
- Single Room with attached Bathroom
- Install exhaust on Exterior walls if needed
- Sprinklered and meets Fire Code
- Modern Power 3-Phase, 3-Wire

Arena to Healthcare (A2HC) Specific

- Existing redundant power or emergency power
- Can be modified or supplemented to meet Fire Code.
- Stage temporary facilities on perimeter (including med waste, sanitary, soiled linen, hand washing, med supply/pharmacy)
- Modern Power 3-Phase, 3-Wire w/ temp power supplemented to patient care areas on floor



Build

Lead:

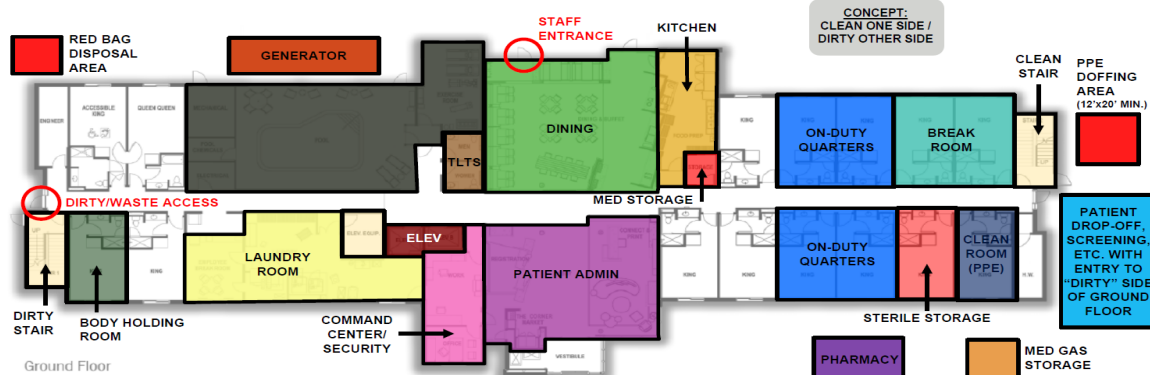
USACE (w/ MA) /
State / Municipalities

CONVERSION CONCEPTS: H2HC FLOOR PLANS

31



Ground Floor Plan



STANDARD DESIGN
*COVID
Non-COVID
Scalable, Tailorable,
Site Adaptable

ENGINEERING CHANGES

- ALL TYPICAL FLOOR PLAN ADDITIONS
- PLUS GENERATOR

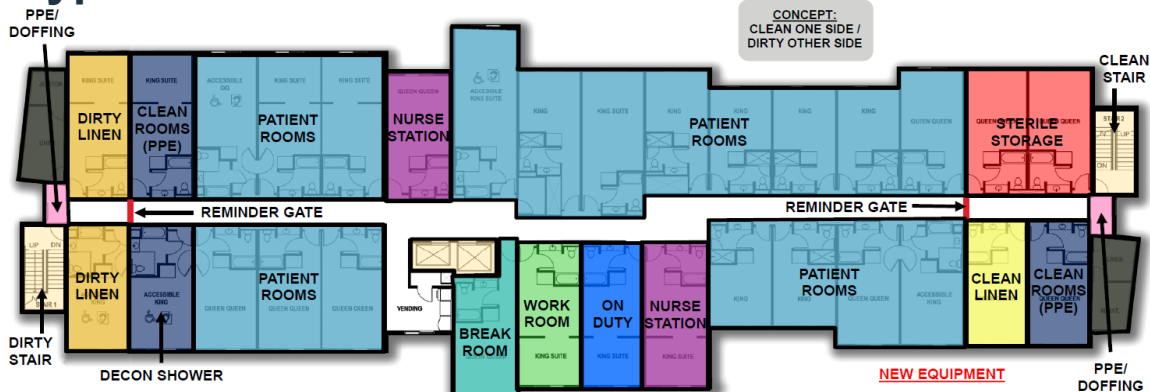
REUSE

- HOTEL FURNITURE FOR STAFF QUARTERS
- HOTEL KITCHEN
- HOTEL DINING
- HOTEL VESTIBULE
- HOTEL CCTV FOR SECURITY
- HOTEL CARD READERS

NEW EQUIPMENT

- METAL DETECTOR
- VTC FOR COMMAND CENTER
- CONTROLLED ACCESS
- INFECTIOUS/CLEAN
- REMINDER GATES
- EYE HANDWASH STATIONS

Typical Floor Plan



STANDARD DESIGN
*COVID
Non-COVID
Scalable, Tailorable,
Site Adaptable

ENGINEERING CHANGES

- INSTALL PRESSURE MONITORING
- MODIFY HVAC TO ACHIEVE NEGATIVE PRESSURE (BY FLOOR)
- MODIFIED ELEVATOR CONTROLS

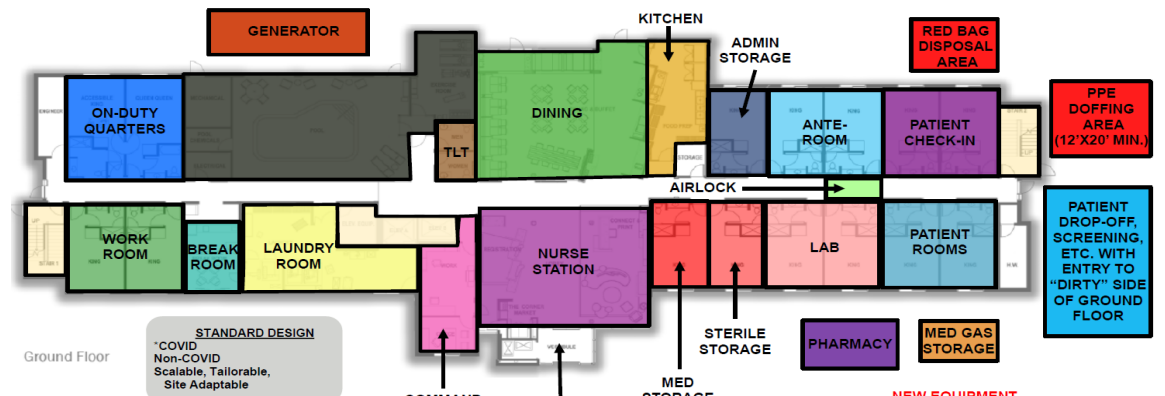
REUSE

- HOTEL WIFI
- HOTEL PHONE SYSTEM
- HOTEL INHOUSE NETWORK/TVS
- HOTEL ICE MACHINE/VENDING
- HOTEL PACKAGED HVAC

NEW EQUIPMENT

- NURSE CALL
- STORAGE SHELVING
- WORKSTATIONS
- MED DISPENSING UNITS
- #TBD VENTILATORS / FLOOR
- "CRASH" CART / FLOOR
- REMINDER GATES
- EYE HANDWASH STATIONS

Ground Floor Plan – Option 2



STANDARD DESIGN
*COVID
Non-COVID
Scalable, Tailorable,
Site Adaptable

ENGINEERING CHANGES

- ALL TYPICAL FLOOR PLAN ADDITIONS
- PLUS GENERATOR

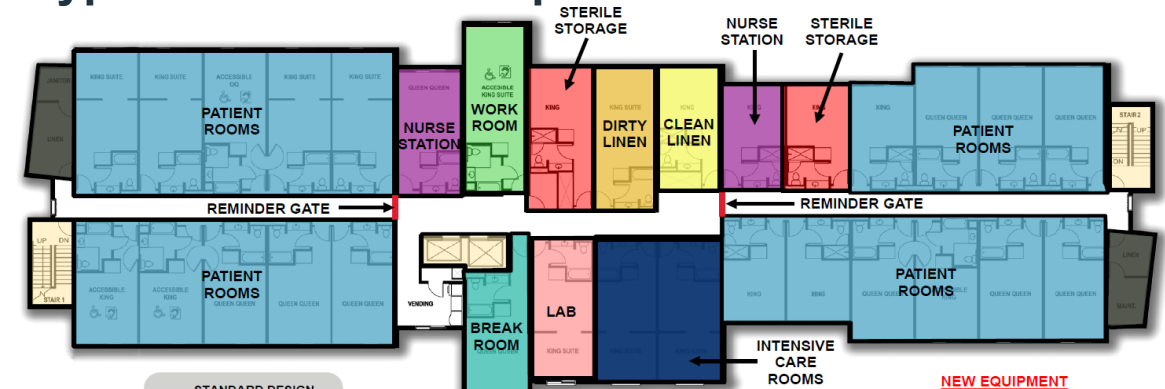
REUSE

- HOTEL FURNITURE FOR STAFF QUARTERS
- HOTEL KITCHEN
- HOTEL DINING
- HOTEL VESTIBULE
- HOTEL CCTV FOR SECURITY
- HOTEL CARD READERS

NEW EQUIPMENT

- METAL DETECTOR
- VTC FOR COMMAND CENTER
- CONTROLLED ACCESS
- INFECTIOUS/CLEAN
- REMINDER GATES
- EYE HANDWASH STATIONS

Typical Floor Plan – Option 2



STANDARD DESIGN
*COVID
Non-COVID
Scalable, Tailorable,
Site Adaptable

ENGINEERING CHANGES

- INSTALL PRESSURE MONITORING
- MODIFY HVAC TO ISOLATE BY FLOOR
- MODIFIED ELEVATOR CONTROLS

REUSE

- HOTEL WIFI
- HOTEL PHONE SYSTEM
- HOTEL INHOUSE NETWORK/TVS
- HOTEL ICE MACHINE/VENDING
- HOTEL PACKAGED HVAC

NEW EQUIPMENT

- NURSE CALL
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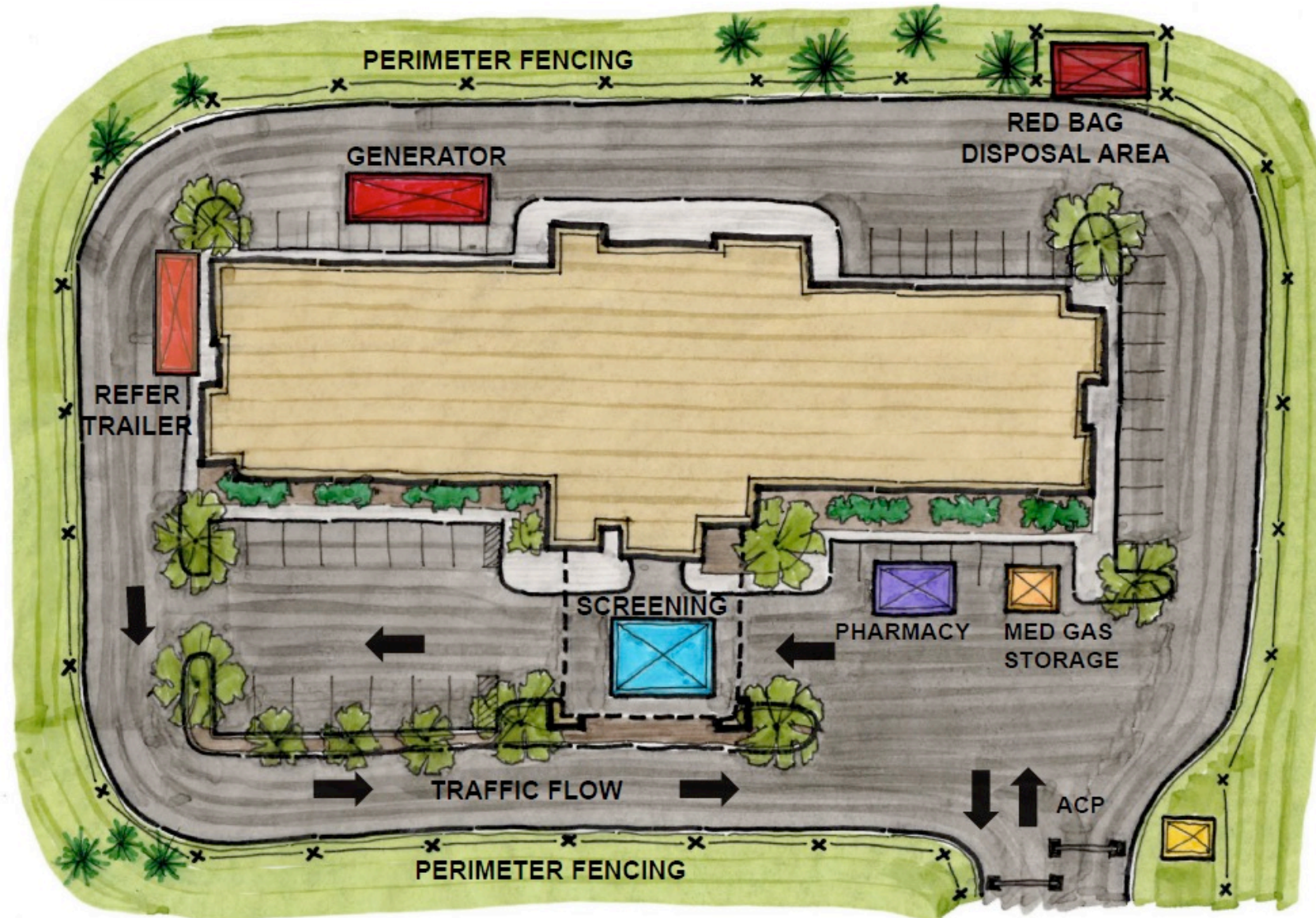
Build

Lead:

USACE (w/ MA) /
State / Municipalities

CONVERSION CONCEPTS: H2HC – SITE IMPROVEMENT PLAN

32



ENGINEERING CHANGES

- ADD PERIMETER FENCING
- ADD GENERATOR
- ADD PATIENT SCREENING TENT
- ADD EXTERIOR PHARMACY
- ADD MED GAS STORAGE
- ADD ACCESS CONTROL POINT (ACP)
- ADD RED BAG DISPOSAL AREA

BEST PRACTICES – CONTINUAL COMMUNICATION & COORDINATION



- Districts empowered to engage directly with FEMA, State, and local governments to assist as necessary
 - Engagement prior to facility assessment key to establishing common understanding of expectations and requirements
 - Early communication of risks enabled informed decision-making on appropriate facility selections
- Daily internal / external status meetings at multiple echelons to coordinate response efforts (includes Senior Commanders / Executives at HQs, Divisions, Districts, and Centers and within specific project delivery teams)
 - Maintained situational awareness across Command
 - Enabled timely communication and resolution of challenges/impacts to delivery
 - Allowed for sharing of best practices and lessons learned



Project Kick-Off / Goal Alignment – Memphis, TN

