

University Medical Center of El Paso Thomason Tower 8th Floor Observation Unit

Project Narratives 50% Preliminary Design

February 15, 2024

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Thomason Tower 8th Floor Observation Unit

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SECTION 1 – NARRATIVES

**PROJECT
SCOPE
STRUCTURAL
FIRE
PROTECTION
PLUMBING
MECHANICAL
ELECTRICAL
LOW VOLTAGE**

SECTION 2 – APPENDICES

**Appendix 1 – Cost Estimate
Appendix 2 – Program for Design
Appendix 3 – Specification Index**

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PROJECT DESCRIPTION

The 8th Floor is the uppermost level of Thomason Tower where UMC Administration is currently located. UMC intends to move the current occupants to an alternate location and convert the vacated floor to an Observation Unit. The Observation Unit will have 25 private Observation rooms. For purposes of this project, the definition of an Observation Unit is a specialized unit designed for efficient, ongoing medical treatment, assessment, and reassessment of patients before the appropriate decision can be made to either discharge or admit. The Occupancy for the Eighth Floor will change from Business to Institutional to accommodate the new Observation Unit. The existing service elevators will be extended to serve the 8th floor.

Reference Appendix 2 for the Program for Design developed with UMC and users.

The project deliverables schedule is as follows:

- 50% Preliminary Design Package February 19, 2024
- 100% Preliminary Design Package June 6, 2024
- Issue for Construction December 19, 2024
- Construction Administration duration 10 months

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STRUCTURAL

S-1.0 Basis of Design - General

1. Reinforcement of existing k-style roof joists and beams for two (2) new Outdoor Air Handling Units (AHU) on the roof of the 8th Floor Thomason Tower Hospital. Reinforcement to top and bottom chords and web of existing joists to support the additional load from the new AHUs.
2. Reinforcement of existing roof deck of the 8th Floor Thomason Tower Hospital for new air duct openings. Edge of metal roof deck to be supported by steel angles. Patch existing metal roof deck as needed.
3. Structural members to be added to brace fire sprinkler systems and other life-safety components.
4. Reinforcement of floor slab where new mechanical, electrical, and plumbing systems penetrate. Penetrations will be reinforced with structural steel angles and epoxy anchors as needed to transfer loads. Existing 8th Floor deck is 9-inch-thick reinforced concrete.
5. Extension of two (2) elevator shafts from the 7th Floor to the 8th Floor to be accomplished with structural steel square tubing and wide flange shapes. New structural support for the hoist motor and hoist beam in the penthouse the elevator penthouse on the 8th Floor roof.
6. Seismic and gravity brace support for new chilled/hot water supply lines, fire sprinklers, exhaust fans and humidifiers.

S-2.0 Applicable Codes and References

- International Building Code IBC 2021
- ASCE 7-16
- ACI 318-19
- AISC 15th Edition
- AISI S100-16

S-3.0 Design Criteria

Gravity Loads

Floor Live Loads

Patient Rooms – 40 PSF*

Hospital Corridors above First Floor - 80 PSF

Lobbies - 100 PSF

Mechanical Rooms - 150 PSF**

Storage (Light) – 125 PSF

*All floors will be designed for minimum 100 PSF Live Load to provide future flexibility to the building space use.

** Use weight of actual equipment when greater

Roof Live Load

20 PSF - Typical

Snow Load

Ground snow load = 5 PSF

Lateral Loads

Wind Loads

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Wind Speed = 117 mph Exposure Category C Occupancy Risk Category IV
Internal Pressure Coefficient, G_{Pi} = +/-0.18

Seismic Loads

S_s = 0.331g

S_1 = 0.107

SDS = 0.339

SD1 = 0.171

Site Classification = D (As indicated in the geotechnical report)

Occupancy Category = IV

Importance Factor, I = 1.5

Seismic Design Category, SDC = D

Because the Seismic Design Category of the structure is 'D', seismic bracing requirements of ASCE 7-16 Chapter 13 will be required for all components necessary for life-safety purposes (fire sprinkler systems, egress stairways). Because this is a Risk Category IV building, all systems required for continued operation of the facility will need to be seismically braced as well.

S-4.0 Materials

Structural Steel

Member Properties

Structural Steel Wide Flange Shapes: ASTM A992, grade 50

Structural Steel Hollow Structural Shapes: ASTM A500, Grade C, with 50,000 psi yield strength

Plates, Angles, Rods, and Channels: ASTM A36, with 36,000 psi yield, Unless Noted Otherwise

Fire Ratings

Columns: 3 hour

Roof Construction: 1-1/2 hour Floor Construction: 2 hour Beams: 3 hour

Load Bearing Walls: 3 hour

Metal Deck

All metal deck shall satisfy ASTM A653 and be continuous over a minimum of 3 spans.

Shoring of metal deck is not anticipated.

All metal deck shall be anchored to supports to resist uplift due to wind and provide diaphragm action in all areas with welding pattern (or mechanical fasteners) as required.

Metal deck sidelaps will be fastened with mechanical fasteners or welding as required.

Post Installed Anchors

Material Properties

Bolts and Studs: ASTM A307; ASTM A449 where "high strength" is indicated on the

Drawings.

Carbon and Alloy Steel Nuts: ASTM A563.

Carbon Steel Washers: ASTM F436.

Carbon Steel Threaded Rod: ASTM F1554 Grade 36, or ASTM F1554 Grade 55, or ASTM F1554 Grade 105.

Wedge Anchors: ASTM A510; or ASTM A108.

Welds

Material Properties

Electrodes E70XX

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S-5.0 Superstructure

- Existing superstructure for the floor is 9-inch-thick reinforced concrete with wide flange steel columns.
- Superstructure for the roof above the 8th floor is structural steel with metal deck.
- Extension of two (2) elevator shafts from the 7th Floor to the 8th Floor to be accomplished with structural steel square tubing and wide flange shapes. New structural support for the hoist motor and hoist beam in the penthouse the elevator penthouse on the 8th Floor roof.
- Reinforcement of floor slab where new mechanical, electrical, and plumbing systems penetrate. Penetrations will be reinforced with structural steel angles and epoxy anchors as needed to transfer loads. Existing 8th Floor deck is 9-inch-thick reinforced concrete.
- Reinforcement of existing k-style roof joists and beams for two (2) new Outdoor Air Handling Units (AHU) on the roof of the 8th Floor Thomason Tower Hospital. Reinforcement to top and bottom chords and web of existing joists to support the additional load from the new AHUs.
- Seismic and gravity brace support for new chilled/hot water supply lines, fire sprinklers, exhaust fans and humidifiers.

S-6.0 Special Inspections

- Adhesive post installed anchors shall be inspected per IBC Table 1705.3.
- Material testing for concrete should be conducted per ACI 318 Chapters 19 and 20
- Welding shall be inspected per requirements of AISC 360 and AWS D1.4
- Structural observations shall be performed by a registered design professional per IBC Section 1704.6.1

END OF STRUCTURAL

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FIRE PROTECTION

F-1.0 Basis of Design

1. The 8th Floor renovation shall be protected with an extension of the existing wet-pipe fire sprinkler system throughout.
2. New fire protection piping shall be Schedule 40/10, ASTM A53 or A135 black steel with threaded, flanged, or grooved connections.
3. A new fire protection supply pipe shall be extended from the existing building. The exact point of connection and hydraulic calculation will need to be determined and calculated by a Certified Fire Protection Engineer.

F-1.1 Applicable Codes and References

2021 IFPC

F-1.3 Site Considerations

XXX

F-1.4 Occupancy Classification

The 8th Floor Occupancy and use is defined in accordance with IBC and will include:

- Institutional (Group I-2)

F-1.5 Type of Construction, Building Height and Area

The building is fully sprinklered and construction Type 1A allowing for unlimited building height and area. Fire resistive construction will be per IBC Table 601 and §403 while combustible material used in construction will meet IBC §603. Interior finishes will comply with IBC Chapter 8 and table 803.13.

F-1.6 Interior Separations, Penetrations and Openings

Where required for separation, fire barrier, fire partitions, smoke barriers and smoke partitions are provided as discussed in this section and are constructed in conformance with their respective sections:

- Fire Barriers IBC §707
- Fire Partitions IBC §708
- Smoke Barriers IBC §709

Vertical Openings: Exit Enclosures

Openings through floor assemblies for such items as stairways, elevator hoistways, and equipment for ventilation or building services are generally enclosed with fire barrier walls and configured to meet the shaft requirements specified in IBC §713. Enclosures for shafts connecting four or more stories are configured as 2-hour fire barriers, and enclosures connecting less than four stories are configured as 1-hour barriers.

Smoke Compartmentation

In accordance with IBC §407.5, stories in buildings containing Group I-2 occupancies are subdivided into smoke compartments by smoke barriers with 1-hour fire resistance ratings. Smoke compartments are configured such that no single compartment exceeds an area of 22,500 ft² and the travel distance from any point to reach a door in the smoke compartment boundary does not exceed 200 ft. Smoke compartments are allowed up to an

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area of 40,000 ft² where all patient sleeping rooms are configured for only one patient or where the smoke compartment contains no patient sleeping rooms. The travel distance of 200 ft to reach an adjacent smoke compartment still applies to smoke compartments in excess of 22,500 ft². Within Group I-2 occupancies, not less than 30 ft² per patient is provided within the aggregate area of corridors, patient rooms, treatment rooms, lounges or dining areas, and other low hazard areas in adjoining compartments, and not less than 6 ft² per occupant in ambulatory occupancies.

Opening and Penetration Protection

Openings in fire rated barriers are provided in accordance with IBC §716 as well as NFPA 80 and 90A. Doors in such openings are generally protected with normally closed, rated doors; however, where operation and function necessitate, electromagnetic door hold open devices or automatic fire shutters are provided to automatically shut upon detection of smoke alarms.

Health Care Corridor Separation

Within Group I-2 occupancies, corridors are separated from all other areas in accordance with IBC §407.3 requiring smoke partitions that limit the transfer of smoke, although no fire resistance rating is required for corridor walls. Corridor walls are permitted to terminate at ceilings where the ceiling is constructed to limit the transfer of smoke.

Doors protecting corridor openings are required to resist the passage of smoke, although they are not required to have a fire resistance rating and are not required to comply with NFPA 80. Corridor doors are required to be self-latching and provided with positive latching hardware. Doors to toilet rooms, bathrooms, showers rooms, sink closets, and similar auxiliary spaces that do not contain flammable or combustible material are not required to resist the passage of smoke and are not required to be self-latching or have positive latching hardware.

F-1.7 Means of Egress

Means of egress is provided in accordance with IBC Chapter 10 as discussed in this section.

Means of Egress Components

Primary means of egress components provided for the 8th Floor include doors in accordance with §1010 and stairs in accordance with §1011. Minimum door leaf width is 32 in. as permitted by §1011.1.1. Door leaves swing in the direction of egress travel when said door serves an occupant load of 50 or more persons, opens into an exit enclosure, and/or serves a high hazard area. Stairs comply with dimensional criteria established in §1011. Stairs serving an occupant load of less than 50 persons have a minimum clear width of 36 in. and stairs that serve areas with occupant loads of 50 or more persons have a minimum clear width of 44 in. Interior exit stairs are enclosed with shafts as discussed in Section F-1.2 above. Doors and stairs which serve as exit components are indicated on life safety plans along with component clear widths.

Occupant Loading

Means of egress systems within the 8th Floor are sized to accommodate calculated occupant loads in accordance with the criteria in IBC §1004. Occupant loads are determined by dividing the floor area of the area in consideration by the appropriate occupant load factor from IBC Table 1004.5. Occupant load factors are applied to building spaces based on use, rather than occupancy group.

F-1.8 Water Supply for Fire Protection

XXX

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F-1.9 Fire Pumps
XXX

F-1.10 Fire Extinguishing Systems
XXX

F-1.11 Fire Alarm and Detection Systems
XXX

END OF FIRE PROTECTION

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HEATING, VENTILATING, AND AIR CONDITIONING

M-1.0 Basis of Design

1. Two (2) new Outdoor Air Handling Unit (AHU) will be located on the roof of the 8th Story Thomason Tower Hospital. The AHU manufacturer shall be Trane or equal, to match the other outdoor AHU's installed in the existing hospital. See AHU section below for additional details.
2. Several new Variable Air Volume (VAV) air terminal units with hot water reheat coil shall be installed throughout the new Observation patient suite. The VAV manufacturer shall be Trane or equal, to match the other VAV's installed in the existing hospital. See VAV section below for additional details.
3. Two (2) new steam to steam humidifiers shall be installed to serve the new AHU's supply air. The new humidifier shall be manufactured by Carel or Armstrong and shall be an indoor type, installed in the new ductwork. See humidifier section below for additional details.
4. Two (2) new general exhaust fans shall be provided for general exhaust located on the roof at least 25 feet away from air handlers outside air intake. Fans shall be manufactured by Cook or Greenheck. See exhaust fan section below for additional details.
5. One (1) new isolation exhaust fan shall be provided for isolation room exhaust. Fan shall be manufactured by Cook or Greenheck. See exhaust fan section below for additional details.
6. A new Building Automation System (BAS) shall be provided and integrated the existing UMC system to control and monitor all new equipment.
7. New chilled water supply and return piping will need to be extended from the main lines located in the elevator shaft. Piping shall be Copper type L with pro press fittings. New lines sizes will be 3" and will need to route approximately 200 feet, one way. All new chilled water piping shall be externally insulated with a cellular-glass insulation with all-service jacket. All piping outside the building envelope shall have Aluminum jacket.
8. New heating water supply and return piping will need to be extended from the main lines located in the elevator shaft. Piping shall be Copper type L with propress fittings. New line sizes will be 1-1/2" and will need to route approximately 200 feet, one way. All new heating water piping shall be externally insulated with a fiberglass insulation with all-service jacket. All piping outside the building envelope shall have Aluminum jacket.

M-1.1 Applicable Codes and Standards

- International Mechanical Code IMC 2021
- International Energy Conservation Code IECC 2021
- ASHRAE 90.1 2016
- The Facility Guideline Institute FGI 2021
- ASHRAE Standard 170 2021

M-1.2 Site Utilities

- Chilled water supply and return (1) set of 3" mains from existing main adjacent to service elevators.
- Hydronic hot water heating supply and return (1) set of 1-1/2" mains adjacent to service elevators.
- Steam (1) 2" main to serve steam to hot water heat exchanger. Riser located adjacent to service elevators.

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- Steam Pumped Condensate (1) 1" extended down to the 2nd floor mechanical room.

M-1.3 Energy Efficiency and Conservation

- Air handlers selected to include an Economizer module in compliance with 2021 international energy conservation code.

M-1.4 HVAC Systems

New Air Handling Unit

Two (2) new outdoor air handling unit, equal to Trane Performance Climate Changer, will be installed on the roof.

Air Handling Unit will be as follows:

- a. Supply Air maximum capacity of 11,500 CFM.
- b. Supply Air will be balanced to approximately 9,000 CFM.
- c. Two (2) Supply Air fans, in an array.
- d. Two (2) Return Air fans, in an array.
- e. Modulating return air damper.
- f. Modulating outside air damper.
- g. Modulating relief air damper.
- h. Mixing Section.
- i. Economizer module.
- j. MERV 8, 30% Pre-Filter section with Magnehelic differential pressure gauge.
- k. MERV 14, 90% Final-Filter section with Magnehelic differential pressure gauge.
- l. Pre-Heat Heating Water Coil.
- m. Chilled Water-Cooling Coil.
- n. UV Light, in cooling coil section.

New Variable Air Volume (Vav) Air Terminal Units

Approximately 45 VAV air terminal units with hot water reheat coils will be installed and supplied with conditioned air by the new AHU to serve individual zones within the new observation patient suite.

VAV's shall have Double-Wall construction, with liner constructed of metal and eliminate exposure of insulation in the air stream. Internal insulation to comply with UL 181 and NFPA 90A.

VAV's shall have hot water re-heat coils with two-way heating water control valves.

VAV's shall have hot water coil assembly support brackets, shop-installed to the VAV's and connected in the field with stainless steel flexible heating water connectors.

VAV's shall have DDC controls connected to the building automation system.

New Indoor Humidifier

Two (2) steam to steam humidifiers will be in the supply ductwork. The humidifier will be dedicated to each AHU discharge ductwork and will be piped to a steam dispersion grid within the associated supply duct.

Humidifier will produce clean steam to the dispersion array located in the supply ductwork.

New Exhaust Fans

Two (2) new general exhaust fans will be located on the roof to serve general restroom

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exhaust and other general exhaust needs of the building renovation.

Two (2) new Isolation Fan will be located on the roof to serve two (2) new Isolation Room (if the project program determines necessary).

HVAC Dampers in Rated Walls

Fire dampers and combination fire/smoke dampers will be installed at the ductwork penetrations of all new rated walls within the building addition.

Ductwork And Ductwork Insulation

All supply, return and exhaust duct systems will be galvanized sheet metal 24 ga.min.

Externally insulated supply and return metal ductwork is installed from the air handling units and throughout the ceiling space. Insulated flexible ductwork is installed at the connection to certain air devices.

HVAC Controls

The existing Building Automation System (BAS) shall be expanded to include new Direct Digital Controls for all new equipment, including, but not limited to:

- a) New Air Handling Unit – fan VFD's, control valves, airflow monitors, sensors, shutoff buttons, etc.
- b) New VAV air terminal units – modulating control damper, discharge temp, space temp, airflow, control valve.
- c) New Exhaust Fans – enable/disable and current sensing relays.
- d) New Humidifier - communication card.
- e) New isolation room differential monitors.
- f) Miscellaneous space high temperature and relative humidity sensors.
- g) New Medical gas Area Alarm Panel.

END OF MECHANICAL

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PLUMBING

P-1.0 Basis of Design

The plumbing demands for the new observation suite will be supported by connections to existing utilities, as described below:

1. A new 4" sanitary sewer (SS) line will connect to an existing 4" SS line approximately 30 feet away from elevator hoist way.
2. New sanitary vent piping and roof vents will be required.
3. A new 2" Domestic Cold Water (DCW) line will connect to the existing DCW main located in the elevator hoist way.
4. A new 1-1/2" Domestic Hot Water (DHW) line will be provided from a new steam to hot water heat exchanger to be located at the elevator service area.
5. A new 1/2" Domestic Hot Water Return (DHR) line will connect to the new hot water heat exchanger. Approximately 300 feet around the new suite.
6. A new 1-1/2" Medical Vacuum (MV) line will connect to the existing MV main located in the 2nd floor mechanical room, approximately 300 feet away from the 8th floor.
7. A new 1" Medical Air (MA) line will connect to the existing MA main located in the 2nd floor mechanical room, approximately 300 feet away from the 8th floor.
8. A new 1" Oxygen (O2) line will connect to the existing O2 main located in the 2nd floor mechanical room, approximately 300 feet away from the 8th floor.
9. All domestic cold and hot water piping shall be insulated with fiberglass insulation with an all-service jacket.

P-1.1 Applicable Codes and Standards

- International Plumbing Code IPC 2021
- International Fuel Gas Code IFGC 2021
- The Facility Guideline Institute FGI 2021

P-1.2 Sanitary Sewer, Sanitary Sewer Vent Piping

Sanitary waste, sanitary vent, shall be cast iron. All cast iron pipe and fittings shall bear the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) 301 Standard and be listed with NSF International.

P-1.3 Plumbing Fixtures

All new plumbing fixtures shall be Healthcare type, commercial-grade plumbing fixtures and shall match those installed in the existing facility.

P-1.4 Medical Gas

1. All new Medical Gas Piping shall be Type 'L' tubing listed for medical gas service.
2. Each observation patient room will be provided with a headwall unit. Plumbing Contractor shall

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provide and install within headwall one (1) oxygen, one (1) medical air, one (1) medical vacuum wall outlets.

3. There will be two (2) new Medical Gas Zone Valve Boxes (ZVB) installed in the main corridors. Each ZVB will house an isolation valve for each of the three gases.
4. There will be one (1) new Medical Gas Area Alarm Panel (AAP) installed at the Nurse's Station on the East side of the suite. The alarm panel will monitor the pressure of each of the 3 medical gases on the service side of each of the two medical gas zone valves. (6 monitoring points to be measured and displayed on the AAP).

END OF PLUMBING

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ELECTRICAL

E-1.0 Basis of Design

The 8th floor of the UMC main hospital will require extensive electrical updates to bring it up to the new code. New emergency power will be brought up from the basement level main electrical room to our new 8th floor electrical room. We will require 4 runs each for equipment, life safety, critical and normal power circuits to be used. New voice notification fire alarm system to be installed and a nurse call system based on owner's specifications.

Essential Power

Will need to extend power supply from main 2400A emergency switchboard 'ESB' and 2400A Normal switchboard 'MSA1' from basement to eighth floor.

Uninterruptible Power Supply (UPS) System

Power requirements will be provided for future UPS in new IT room to be installed by owner's IT personnel or contactor.

Interior Distribution System

The 8th floor primary power will consist of various new panels being fed from basement main electrical room. These panels will be for equipment emergency power, life safety emergency power, critical emergency power, and Normal non-emergency panel. Will accommodate any room requiring specialized equipment or power per the latest codes.

Lightning Protection

UMC main building currently lacks a lightning protection system. A lightning protection study must be conducted to determine if the neighboring children's hospital lightning protection system provides enough coverage protection to existing UMC building.

E-2.0 Applicable Codes and Standards

- NFPA 99-2021
- The Texas Administrative Code Title 25 Chapter 133
- NFPA 101-2018
- NFPA70 2021
- International building code 2021

E-3.0 Lighting

Lighting will consist of all new LED lighting that complies with UMC standards and the latest energy codes. New switches and sensors in all observation rooms and offices.

E-4.0 Low-Voltage Systems

The 8th floor will require a new fire alarm system that is voice evacuation for that complies with high rise buildings. The existing fire alarm panel is capable and has enough node spaces to serve the 8th floor. A full nurse call system and infrastructure of conduits for other low voltage future installations.

END OF ELECTRICAL

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APPENDICES

Appendix 1 – Cost Estimate

Appendix 2 – Program

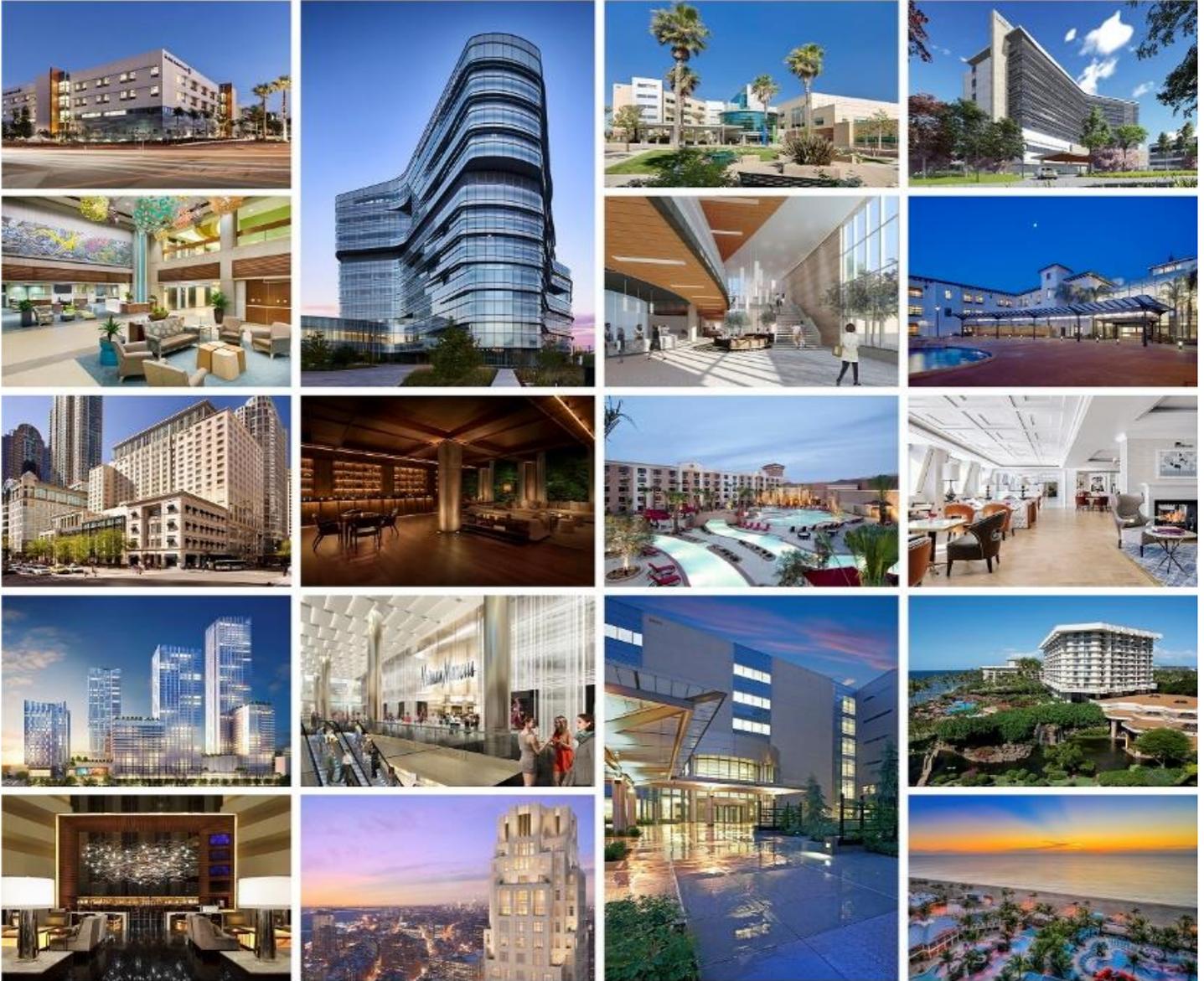
Appendix 3 – Specification Index

University Medical Center of El Paso 8th Floor Obs Unit

Rough Order of Magnitude

January 16, 2024

23-01667.00



Prepared for Leo A Daly

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EXECUTIVE SUMMARY

1.1 Introduction

This estimate has been prepared, pursuant to an agreement between Leo A Daly and Cumming, for the purpose of establishing a probable cost of construction at the rough order of magnitude stage.
 The project scope encompasses building out 25 private observation rooms along with associated space on the 8th floor at the University Medical Center of El Paso.

1.2 Project Schedule

	Start	Finish	Duration
Construction	Feb-25	Feb-26	12 months

1.3 Key Assumptions & Exclusions

This document should be read in association with appendix 1 which outline approach and cost management methodology. Key assumptions built into the estimate below are:

Key Assumptions

- CM@Risk
- Single Phase Construction
- Selective Demolition Anticipated of Existing Space
- 4 Pneumatic Tube Stops Anticipated
- Headwalls Are Pre-Manufactured

Key Exclusions

- Project Soft Costs
- Department Relocation
- Exterior Sitework Upgrades / Improvements
- Expanding The Existing Building Enclosure
- Patient Lifts
- Structural / Seismic Upgrades
- Upgrades To Additional Floors Below Unless Noted In Estimate

SUMMARY

Element	Area	Cost / SF	Total
University Medical Center of El Paso 8th Floor Obs Unit	12,547	\$470.96	\$5,909,164
Extend Elevator to 8th Floor			\$694,000
Total Estimated Construction Cost	12,547	\$526.27	\$6,603,164
Escalation to MOC, 08/02/25	9.34%		\$616,724
Total Estimated Construction Cost	12,547	\$575.43	\$7,219,887

SCHEDULE OF AREAS AND CONTROL QUANTITIES

Schedule of Areas

University Medical Center of El Paso 8th Floor Obs Unit

1. Enclosed Areas (x 100%)

Level 8	12,547
Total Enclosed	12,547

University Medical Center of El Paso 8th Floor Obs Unit

University Medical Center of El Paso 8th Floor Obs Unit

El Paso, TX
 Rough Order of Magnitude

Project # 23-01667.00
 01/16/24

SUMMARY - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Total	Cost / SF
01 General Requirements	\$212,219	\$16.91
02 Existing Conditions	\$106,235	\$8.47
03 Concrete	\$58,750	\$4.68
04 Masonry		
05 Metals	\$65,872	\$5.25
06 Wood, Plastics, And Composites	\$246,559	\$19.65
07 Thermal And Moisture Protection	\$17,547	\$1.40
08 Openings	\$149,385	\$11.91
09 Finishes	\$521,408	\$41.56
10 Specialties	\$114,025	\$9.09
11 Equipment	\$4,000	\$0.32
12 Furnishings	\$23,758	\$1.89
13 Special Construction		
14 Conveying Systems		
21 Fire Suppression	\$87,704	\$6.99
22 Plumbing	\$874,328	\$69.68
23 HVAC	\$964,092	\$76.84
25 Integrated Automation	\$174,260	\$13.89
26 Electrical	\$553,005	\$44.07
27 Communications	\$101,003	\$8.05
28 Electrical Safety And Security	\$143,412	\$11.43
31 Earthwork		
32 Exterior Improvements		
33 Utilities		
Subtotal	\$4,417,561	\$352.08
General Conditions	8.25% \$364,449	\$29.05
Subtotal	\$4,782,009	\$381.13
Bonds & Insurance	2.50% \$119,550	\$9.53
Subtotal	\$4,901,560	\$390.66
Contractor's Fee	3.50% \$171,555	\$13.67
Subtotal	\$5,073,114	\$404.33
Design Contingency	12.00% \$608,774	\$48.52
Subtotal	\$5,681,888	\$452.85
Construction Contingency	4.00% \$227,276	\$18.11
Subtotal	\$5,909,164	\$470.96
Escalation to MOC, 08/02/25	See Summary	See Summary

TOTAL ESTIMATED CONSTRUCTION COST	\$5,909,164	\$470.96
--	--------------------	-----------------

Total Area: 12,547 SF

DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
01 General Requirements				
Infection Control	12	mo	\$5,500.00	\$66,036
Interior Surveying	12,547	gsf	\$0.70	\$8,783
Temporary Barriers / Control	25	loc	\$1,000.00	\$25,000
Continuous Cleaning	2,080	mh	\$45.00	\$93,579
Final Cleaning	12,547	gsf	\$1.50	\$18,821

Total - General Requirements **\$212,219**

02 Existing Conditions

Exterior Demolition				<i>Existing To Remain</i>
Interior Demolition, Allowance - Assume Majority Of Area Demo'd	12,547	gsf	\$5.00	\$62,735
Structural Demolition				
Rebar scanning	1	ls	\$1,000.00	\$1,000
Core existing slab where applicable for new plumbing	25	ea	\$750.00	\$18,750
Create opening for new service elevators				<i>See Summary</i>
Miscellaneous Demolition at 7th Floor	25	loc	\$950.00	\$23,750

Total - Existing Conditions **\$106,235**

03 Concrete

Miscellaneous Concrete				
Concrete curbs, restrooms	200	lf	\$50.00	\$10,000
Patch and repair damaged concrete due to plumbing modifications, allowance	25	ea	\$1,950.00	\$48,750
Patch and repair concrete due to new service elevator				<i>See Summary</i>

Total - Concrete **\$58,750**

04 Masonry

No Work Anticipated

Total - Masonry

05 Metals

Structural Steel				
Structural upgrades				<i>No Work Anticipated</i>
Service elevator				<i>See Summary</i>
Unistrut, Allowance	12,547	gsf	\$4.25	\$53,325
Miscellaneous Metals, Allowance	12,547	gsf	\$1.00	\$12,547

Total - Metals **\$65,872**

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DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
06 Wood, Plastics, And Composites				
Rough Carpentry / Blocking / Backing, Allowance	12,547	gsf	\$1.85	\$23,212
Building Casework				
Patient room	25	loc	\$4,675.00	\$116,875
Nurse station	6	loc	\$12,750.00	\$76,500
Copy	1	loc	\$4,675.00	\$4,675
Staff lounge	1	loc	\$12,750.00	\$12,750
Miscellaneous casework, allowance	12,547	gsf	\$1.00	\$12,547

Total - Wood, Plastics, And Composites **\$246,559**

07 Thermal And Moisture Protection

Exterior Enclosure				<i>Existing To Remain</i>
Roofing - Patch and Repair Only	1	ls	\$5,000.00	\$5,000
Joint Sealants / Caulking, Allowance	12,547	gsf	\$1.00	\$12,547

Total - Thermal And Moisture Protection **\$17,547**

08 Openings

Exterior Doors				<i>No Work Anticipated</i>
Exterior Glazing				<i>Existing To Remain</i>
Interiors Door				
HM Door in HM frame including hardware				
Single	6	ea	\$2,082.50	\$12,495
SC Door in AL frame including hardware				
Single	6	ea	\$2,422.50	\$14,535
Observation door				
Single	25	ea	\$2,762.50	\$69,063
Smoke containment door	3	ea	\$6,630.00	\$19,890
Miscellaneous				
Paint finish, per leaf	37	ea	\$55.00	\$2,035
Miscellaneous vision glass / additional doors, allowance	12,547	gsf	\$2.00	\$25,094
Interior Glazing, Allowance	12,547	gsf	\$0.50	\$6,274

Total - Openings **\$149,385**

09 Finishes

Interior Partitions, Assume Height 9'-4"				
Metal studs				
Furring, building perimeter, 7/8"	4,870	sf	\$5.53	\$26,908
Standard, 3-5/8"	4,544	sf	\$6.04	\$27,421

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Element	Quantity	Unit	Unit Cost	Total
Observation, 4"	4,964	sf	\$6.76	\$33,541
Insulation	9,507	sf	\$0.98	\$9,293
Gypsum board				
5/8" thick, finished	18,903	sf	\$2.68	\$50,612
5/8" thick, unfinished, assume 15% of all walls	2,835	sf	\$2.13	\$6,025
Shaft liner	112	sf	\$3.40	\$381
Cementitious backerboard	2,088	sf	\$2.81	\$5,857
Miscellaneous				
Infill existing openings	8	ea	\$892.50	\$7,140
Service elevator				See Summary
Interior Finishes				
Floor prep / moisture barrier	12,547	sf	\$2.72	\$34,128
Floor				
VCT	10,359	sf	\$8.67	\$89,813
Sheet vinyl	956	sf	\$9.35	\$8,939
Carpet	355	sf	\$3.36	\$1,192
Ceramic tile	818	sf	\$16.58	\$13,558
Static-control resilient flooring, upgrade IT / electrical rooms	275	sf	\$12.75	\$3,506
Base				
Ceramic tile	348	lf	\$16.58	\$5,768
Rubber	338	lf	\$3.83	\$1,294
Resilient base	2,880	lf	\$6.38	\$18,358
Wall				
Paint	18,903	sf	\$0.68	\$12,854
Ceramic tile	2,088	sf	\$18.70	\$39,046
Wall coverings, allowance	12,547	gsf	\$1.00	\$12,547
FRP	784	sf	\$11.90	\$9,330
Elevator lobby wall finishes, allowance	1	ls	\$6,500.00	\$6,500
Ceiling				
ACT	9,203	sf	\$4.25	\$39,111
Gypsum board including framing	2,503	sf	\$6.38	\$15,955
Gypsum board ceiling, nurse station	621	sf	\$12.75	\$7,911
Gypsum board soffits, allowance	12,547	gsf	\$1.00	\$12,547
Paint gypsum board ceilings	3,123	sf	\$1.00	\$3,123
Miscellaneous				
Patch and repair damaged at level 7	25	loc	\$750.00	\$18,750

Total - Finishes **\$521,408**

10 Specialties

Building Specialties				
Visual display units	12,547	gsf	\$0.25	\$3,137
Interior signage	12,547	gsf	\$0.40	\$5,019
Fire extinguishers including cabinet	6	ea	\$327.25	\$1,964
Wall and Door protection				
Wall protection, corridor	3,300	sf	\$8.50	\$28,050
Corner guards	12,547	gsf	\$0.60	\$7,500
Miscellaneous wall and door protection	12,547	gsf	\$0.15	\$1,882

DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
Restroom Specialties				
Patient toilet	2	loc	\$950.00	\$1,900
Patient toilet / shower	3	loc	\$3,000.00	\$9,000
Staff	2	loc	\$950.00	\$1,900
Visitor	2	loc	\$1,200.00	\$2,400
Storage Specialties				
Lockers	1	ls	\$7,500.00	\$7,500
Shelving / storage	1	ls	\$2,500.00	\$2,500
Hospital / Observation Specialties				
Patient curtain track / curtain	25	loc	\$1,400.00	\$35,000
Miscellaneous specialties	12,547	gsf	\$0.50	\$6,274

Total - Specialties **\$114,025**

11 Equipment

Staff Lounge / Nourishment Equipment (Refrigerator / Microwave / Etc)	1	ls	\$4,000.00	\$4,000
Lab Equipment				<i>No Work Anticipated</i>
Head Walls, Assume Pre-Manufactured, Allowance				<i>See Plumbing Below</i>
Patient Lifts				<i>No Work Anticipated</i>

Total - Equipment **\$4,000**

12 Furnishings

Window Coverings	2,795	sf	\$8.50	\$23,758
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Total - Furnishings **\$23,758**

13 Special Construction

Radiation Protection / Lead Shielding				<i>No Work Anticipated</i>
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Total - Special Construction

14 Conveying Systems

Pneumatic Tube System	4	stop	\$22,000.00	\$88,000
Service Elevators				<i>See Summary</i>

Total - Conveying Systems

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DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
21 Fire Suppression				
Fire Suppression				
Design/engineering, rentals, tagging & identification	12,547	gsf	\$0.33	\$4,141
Supervision	12,547	gsf	\$0.82	\$10,289
Wet-pipe sprinklers / Renovation	12,547	gsf	\$5.84	\$73,274

Total - Fire Suppression				\$87,704
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22 Plumbing

Plumbing Demolition				
Cut & Make Safe Demo	80	hr	\$82.55	\$6,604
Sanitary Fixtures				
Water closet, WC-1, wall, patient, sensor FV	5	ea	\$1,497.00	\$7,485
Water closet, WC-2, wall, staff, sensor FV	2	ea	\$1,497.00	\$2,994
Water closet, WC-3, wall, public, sensor FV	2	ea	\$1,278.00	\$2,556
Lavatory, L-1, wall, patient, sensor faucet	5	ea	\$1,138.00	\$5,690
Lavatory, L-2, wall, staff, sensor faucet	2	ea	\$1,138.00	\$2,276
Lavatory, L-3, wall, public, sensor faucet	2	ea	\$1,138.00	\$2,276
Shower, SH-1, patient	2	ea	\$1,374.00	\$2,748
Shower, SH-1H, patient, tmxv	1	ea	\$1,856.00	\$1,856
Mop sink, MS-1, soiled	1	ea	\$681.40	\$681
Sink, S-1, nurse stations	6	ea	\$932.70	\$5,596
Sink, S-2, staff lounge	1	ea	\$1,215.00	\$1,215
Sink, S-3, family lounge	1	ea	\$1,273.00	\$1,273
Sink, S-4, nourish/meds	4	ea	\$1,273.00	\$5,092
Clinic sink, CS-1, patient	25	ea	\$904.50	\$22,613
Washer box, WB-1, soiled	1	ea	\$328.80	\$329
Ice maker box, IB-1	8	ea	\$169.30	\$1,354
Emergency shower, ES-1	1	ea	\$2,173.00	\$2,173
Floor drain, FD-1, toilet	9	ea	\$810.60	\$7,295
Floor drain, FD-2, soiled/equip	3	ea	\$810.60	\$2,432
Hose bibb, HB-1, toilet	9	ea	\$106.90	\$962
Hose bibb, HB-2, soiled/equip	3	ea	\$106.90	\$321
Trap primer valve	9	ea	\$82.82	\$745
Water hammer arrestor, 11 fixtures	33	ea	\$63.60	\$2,099
Rough-ins				
Complete rough-in per fixture	69	ea	\$2,066.00	\$142,554
Rough-in at floor sink or floor drain	12	ea	\$230.10	\$2,761
Rough-in to ice-maker	8	ea	\$79.78	\$638
Rough-in to coffee dispenser	4	ea	\$75.55	\$302
Domestic Cold Water Piping, SF Allowance With Insulation	12,547	gsf	\$3.95	\$49,561
Domestic Hot Water				
Domestic hot water piping	12,547	gsf	\$2.58	\$32,371
Waste Piping				
Waste piping	12,547	gsf	\$4.87	\$61,104

DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
Vent Piping				
Vent piping	12,547	gsf	\$2.58	\$32,371
Condensate Drainage				
Trap and equipment connect	45	ea	\$217.10	\$9,770
3/4" pipe, cu type M, in bldg	450	lf	\$19.27	\$8,672
2" pipe, cu type M, in bldg	450	lf	\$34.40	\$15,480
Pipe insulation, 3/4"	450	lf	\$6.52	\$2,934
Pipe insulation, 2"	450	lf	\$9.40	\$4,230
Natural Gas, Allowance	12,547	gsf	\$0.35	\$4,391
Medical Gases				
Air compressor allowance	1	ea	\$41,180.00	\$41,180
Patient headwall unit horz	25	ea	\$8,500.00	\$212,500
Certification of medical gas system	1	ls	\$1,650.00	\$1,650
Vacuum system	12,547	gsf	\$2.22	\$27,854
Med air system	12,547	gsf	\$1.44	\$18,068
O2 system	12,547	gsf	\$1.44	\$18,068
Medical gas master alarm	1	ea	\$4,880.00	\$4,880
Low pressure alarm 3 gas	2	ea	\$3,297.00	\$6,594
Zone valve box, 3 gas	2	ea	\$888.00	\$1,776
Additional Plumbing Requirements				
Test / clean plumbing	190	hr	\$38.44	\$7,304
Start-up/check-out	190	hr	\$46.13	\$8,765
Commissioning assist	120	hr	\$40.46	\$4,855
Access panels	42	ea	\$129.10	\$5,422
Piping identification	1	ls	\$11,740.00	\$11,740
Core drilling, x-ray/scan	1	ls	\$16,500.00	\$16,500
Seismic bracing	12,547	gsf	\$0.85	\$10,665
Penetrations and firestopping for plumbing	12,547	gsf	\$0.65	\$8,156
Miscellaneous plumbing, allowance	12,547	gsf	\$1.00	\$12,547

Total - Plumbing **\$874,328**

23 HVAC

HVAC Demolition				
Cut and make demo safe	12,547	gsf	\$1.15	\$14,429
Allowance to relocate existing fans from roof and duct	320	hr	\$82.55	\$26,416
Chilled Water Equipment				
CHW pump, end suction, 5 hp, 225 gpm	2	ea	\$4,421.00	\$8,842
VFD to CHW pump, 5 hp	2	ea	\$2,595.00	\$5,190
CHW expansion tank, steel, diaphragm, 31 gal	1	ea	\$4,356.00	\$4,356
CHW air separator, 4"	1	ea	\$4,232.00	\$4,232
CHW chemical treatment	1	ls	\$2,781.00	\$2,781
Heating Hot Water Equipment				
HW pump, end suction, 5 hp, 225 gpm	2	ea	\$4,421.00	\$8,842
VFD to HW pump, 5 hp	2	ea	\$2,595.00	\$5,190
HW expansion tank, steel, diaphragm, 31 gal	1	ea	\$4,356.00	\$4,356
HW air separator, 3"	1	ea	\$2,976.00	\$2,976

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Element	Quantity	Unit	Unit Cost	Total
HW chemical treatment	1	ls	\$2,500.00	\$2,500
Chilled Water Distribution				
Chilled Water Distribution, allowance	12,547	gsf	\$8.22	\$103,136
CHW coil connect, cu, 2-way, 1"	41	ea	\$2,108.00	\$86,428
CHW coil connect, weld, 3-way, 4"	1	ea	\$6,394.00	\$6,394
4" pipe, blk steel, schd 40, welded	180	lf	\$53.60	\$9,648
Pipe insulation, 4" pipe	180	lf	\$12.49	\$2,248
Hot Water Distribution				
HHW coil connect, cu, 2-way, 1"	41	ea	\$2,272.00	\$93,152
HHW coil connect, weld, 3-way, 3"	1	ea	\$5,865.00	\$5,865
HHW distribution	12,547	gsf	\$4.54	\$56,963
3" pipe, blk steel, schd 40, welded	180	lf	\$39.67	\$7,141
Pipe insulation, 3" pipe	180	lf	\$10.53	\$1,895
Air-Side Equipment				
VFDs to AHU	4,000	cfm	\$0.36	\$1,440
Air handlers, vav	4,000	cfm	\$6.58	\$26,320
Rooftop DX				
Add for iso curb, per cfm	4,000	cfm	\$0.60	\$2,400
DX Fancoils/splits				
Split AC, ductless, wall, 1 ton, 400 cfm	4	ea	\$3,161.00	\$12,644
Refrigerant line set for split system	4	ea	\$1,219.00	\$4,876
Hydronic fancoils				
Fan coil, 4-pipe, hor, 1 ton, 400 cfm	41	ea	\$2,747.00	\$112,627
Radiators				
Elec unit heater	2	ea	\$1,222.00	\$2,444
Fans				
Exhaust fans	5,096	cfm	\$1.88	\$9,580
Air Distribution				
Ductwork				
Ductwork, galv, purchased prefab'd	15,925	lbs	\$8.26	\$131,541
Duct insulation, wrap	11,944	sf	\$2.16	\$25,799
Flexible duct, insulated, various sizes	1,660	lf	\$11.32	\$18,791
Grilles and diffusers				
Supply grilles	102	ea	\$111.00	\$11,322
Return grilles	64	ea	\$100.60	\$6,438
Exhaust grilles	12	ea	\$88.58	\$1,063
Louvers	8	sf	\$150.60	\$1,205
Additional HVAC Requirements				
Pre-read and record - cfm, gpm	120	hr	\$47.22	\$5,666
Test / balance HVAC	477	hr	\$47.22	\$22,524
Start-up/check-out	477	hr	\$42.93	\$20,478
Commissioning assist	388	hr	\$42.93	\$16,657
Seismic bracing	12,547	gsf	\$0.90	\$11,292
Hoisting and rigging	1	ls	\$14,000.00	\$14,000
Penetrations and firestopping for HVAC	12,547	gsf	\$0.65	\$8,156
Access doors	41	ea	\$133.70	\$5,482

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DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
Piping identification	1	ls	\$15,820.00	\$15,820
Miscellaneous HVAC	12,547	gsf	\$1.00	\$12,547

Total - HVAC				\$964,092
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25 Integrated Automation

Integrated Automation				
DDC controls, air compressor	1	ea	\$2,800.00	\$2,800
DDC controls, pump wth vfd	4	ea	\$4,265.00	\$17,060
DDC controls, rooftop ac unit, vav	1	ea	\$11,200.00	\$11,200
DDC controls, split AC/HP	4	ea	\$2,400.00	\$9,600
DDC controls, fancoil, 4-pipe	41	ea	\$3,200.00	\$131,200
DDC controls, tie into existing controls workstation	1	ea	\$2,400.00	\$2,400

Total - Integrated Automation				\$174,260
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26 Electrical

Service and Distribution				
Distribution equipment				
Service and distribution, allowance, normal - includes main switchboards, distribution boards, panelboards, transformers, added breakers, conduit and wire to distribute power to the respective electrical closets throughout the building	12,547	gsf	\$0.50	\$6,274
Service and distribution, allowance, emergency - includes main switchboards, distribution boards, panelboards, transformers, added breakers, conduit and wire to distribute emergency backup power to the respective electrical closets throughout the building	12,547	gsf	\$0.40	\$5,019
HVAC and Equipment Connections				
HVAC and equipment - includes connections, conduit and wire to all mechanical and plumbing equipment such as pumps, air handler units, chillers, fan coil units, exhaust fans, etc. conduit and wire	12,547	gsf	\$4.00	\$50,188
Convenience Power				
Convenience power - includes duplex outlets, double duplex outlets, duplex GFI outlets, floor boxes, conduit and wire	12,547	gsf	\$8.75	\$109,786
Lighting and Lighting Control				
Lighting and lighting control - includes LED light fixtures, title 24 compliant lighting control, conduit and wire.	12,547	gsf	\$21.20	\$265,996
Demolition				
Electrical demolition	12,547	gsf	\$1.27	\$15,935
Additional Electrical Requirements				
Start-up, third party testing, commissioning assist, labels, firestopping, pipe penetrations, seismic and misc	1	ls	\$35,432.00	\$35,432

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DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
General Conditions / General Requirements				
General Conditions / General Requirements - includes small tools, office staffing, indirect labor, consumables, equipment rental & general expenses	1	ls	\$64,375.00	\$64,375
Total - Electrical				\$553,005

27 Communications

Voice and Data System				
Voice and data system - includes cabling	12,547	gsf	\$5.75	\$72,145
Distributed Antenna System				
Distributed antenna system - emergency responder, allowance	12,547	gsf	\$0.25	\$3,137
Distributed antenna system - cellular, allowance	12,547	gsf	\$0.25	\$3,137
Audio-Video System				
Audio visual system, (rough-in only) - includes boxes, conduit and pull string to an accessible ceiling space, j-hooks to be installed to a corridor cable tray system. Sleeves will be installed at every fire rated wall. Cabling by others	12,547	gsf	\$0.89	\$11,167
Public Address System				
Clock/Bell/PA system, (rough-in only) - includes boxes, conduit, cabling, j-hooks to be installed to a corridor cable tray system. Sleeves will be installed at every fire rated wall	12,547	gsf	\$0.91	\$11,418

Total - Communications				\$101,003
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28 Electrical Safety And Security

Closed Circuit Television System				
Closed circuit television system, (rough-in only) - includes boxes, conduit and pull string to an accessible ceiling space, j-hooks to be installed to a corridor cable tray system. Sleeves will be installed at every fire rated wall. Cabling by others	12,547	gsf	\$1.21	\$15,182
Access Control System				
Access control system (rough-in only) - includes boxes, conduit and pull string to an accessible ceiling space, j-hooks to be installed to a corridor cable tray system. Sleeves will be installed at every fire rated wall. Cabling by others	12,547	gsf	\$1.17	\$14,680
Security System				
Security system (rough-in only) - includes boxes, conduit and pull string to an accessible ceiling space, j-hooks to be installed to a corridor cable tray system. Sleeves will be installed at every fire rated wall. Cabling by others	12,547	gsf	\$1.04	\$13,049
Fire Alarm System				
Fire alarm system, addressable - includes fire alarm panel, annunciator, terminal cabinets, speakers, strobes, horns, pull stations, control modules, relay modules tamper and flow switch's, conduit and wire	12,547	gsf	\$2.05	\$25,721
FA allowance for re-piping entire floor / system	1	ls	\$22,407.75	\$22,408
Conduit, 3/4" emt	35	lf	\$5.89	\$206
Fire alarm cable rated, 2C	21	lf	\$1.47	\$31
Fire alarm cable rated, 4C	42	lf	\$1.56	\$66

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DETAIL ELEMENTS - UNIVERSITY MEDICAL CENTER OF EL PASO 8TH FLOOR OBS UNIT

Element	Quantity	Unit	Unit Cost	Total
Nurse Call System				
Nurse call system - includes cabling	12,547	gsf	\$4.15	\$52,070

Total - Electrical Safety And Security				\$143,412
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APPENDIX 1 - APPROACH & METHODOLOGY

Basis of Estimate	<ul style="list-style-type: none">- 2024_0102 Observation Program-LVL 8- 2024_0103-plan for pricing to Cumming- UMC Thomason Tower 8th Floor Feasibility Study- UMC Existing Drawings
Estimate Format	A component cost classification format has been used for the preparation of this estimate. It classifies costs by building system / element.
Cost Mark Ups	<p>The following % mark ups have been included in each design option:</p> <ul style="list-style-type: none">- General Conditions (8.25% on direct costs)- Bonds & Insurance (2.50% compound)- Contractor's Fee (3.50% compound)- Design Contingency (12.00% compound)- Construction Contingency (4.00% compound)- Escalation to MOC, 08/02/25 (9.34% compound)
Escalation	All subcontract prices herein are reflective of current bid prices. Escalation has been included on the summary level to the stated mid point of construction.
Design Contingency	An allowance of 12.00% for undeveloped design details has been included in this estimate. As the design of each system is further developed, details which historically increase cost become apparent and must be incorporated into the estimate while decreasing the % burden.
Construction Contingency	It is prudent for all program budgets to include an allowance for change orders which occur during the construction phase. These change orders normally increase the cost of the project. It is recommended that a 5.00% construction contingency is carried in this respect.
Construction Schedule	Costs included herein have been based upon a construction period of 12 months. Any costs for excessive overtime to meet accelerated schedule milestone dates are not included in this estimate.
Method of Procurement	The estimate is based on a CM at Risk delivery model.
Bid Conditions	This estimate has been based upon competitive bid situations (minimum of 3 bidders) for all items of subcontracted work.
Basis For Quantities	Wherever possible, this estimate has been based upon the actual measurement of different items of work. For the remaining items, parametric measurements were used in conjunction with other projects of a similar nature.
Basis for Unit Costs	Unit costs as contained herein are based on current bid prices in El Paso, TX. Sub overheads and profit are included in each line item unit cost. Their overhead and profit covers each sub's cost for labor burden, materials, and equipment, sales taxes, field overhead, home office overhead, and profit. The general contractor's overhead is shown separately on the master summary.

APPENDIX 1 - APPROACH & METHODOLOGY

Sources for Pricing

This estimate was prepared by a team of qualified cost consultants experienced in estimating construction costs at all stages of design. These consultants have used pricing data from Cumming's database for interior hospital build-out construction, updated to reflect current conditions in El Paso, TX.

Key Exclusions

The following items have been excluded from our estimate:

- Project Soft Costs
- Department Relocation
- Exterior Sitework Upgrades / Improvements
- Expanding The Existing Building Enclosure
- Patient Lifts
- Structural / Seismic Upgrades
- Upgrades To Additional Floors Below Unless Noted In Estimate

Items Affecting Cost Estimate

Items which may change the estimated construction cost include, but are not limited to:

- Modifications to the scope of work included in this estimate.
- Unforeseen sub-surface conditions.
- Restrictive technical specifications or excessive contract conditions.
- Any specified item of material or product that cannot be obtained from 3 sources.
- Any other non-competitive bid situations.
- Bids delayed beyond the projected schedule.

Statement of Probable Cost

Cumming has no control over the cost of labor and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. This estimate is made on the basis of the experience, qualifications, and best judgement of a professional consultant familiar with the construction industry. Cumming, however, cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this or subsequent cost estimates.

Cumming's staff of professional cost consultants has prepared this estimate in accordance with generally accepted principles and practices. This staff is available to discuss its contents with any interested party.

Pricing reflects probable construction costs obtainable in the project locality on the target dates specified and is a determination of fair market value for the construction of this project. The estimate is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all sub and general contractors with a range of 3 - 4 bidders for all items of work. Experience and research indicates that a fewer number of bidders may result in higher bids. Conversely, an increased number of bidders may result in more competitive bid day responses.

APPENDIX 1 - APPROACH & METHODOLOGY

COVID-19 Disclosure

The outbreak of the novel Coronavirus (COVID-19), declared by the World Health Organization as a “Global Pandemic” on 11 March 2020, has impacted global financial markets.

Market activity is being impacted in many sectors and circumstances remain very fluid and variable in different jurisdictions. Accordingly, as of this date, we are concerned with the market related impacts on the deliverables we are furnishing to you as part of our Services including cost estimates, budgets, and schedules (“Deliverable(s)”). Indeed, the current response to this pandemic means that we are faced with an unprecedented set of circumstances on which to base a judgement of the effects on the availability of labor, materials, and access and other impacts, although we are monitoring those on a continuing basis. Particularly including productivity impacts as a result of the CDC directives regarding social distancing.

Our Deliverables must be regarded with a degree of ‘material uncertainty, – and a higher degree of caution – than would normally be the case. Given the unknown future impact that the COVID-19 pandemic might have on the construction and real estate markets, we recommend that you keep the Deliverables of this project under frequent review. For your information, we have not added or considered a COVID19 additional contingency within this Deliverable”

Recommendations

Cumming recommends that the Owner and the Architect carefully review this entire document to ensure it reflects their design intent. Requests for modifications of any apparent errors or omissions to this document must be made to Cumming within ten days of receipt of this estimate. Otherwise, it will be assumed that its contents have been reviewed and accepted. If the project is over budget or there are unresolved budget issues, alternate systems / schemes should be evaluated before proceeding into further design phases.

It is recommended that there are preparations of further cost estimates throughout design by Cumming to determine overall cost changes since the preparation of this preliminary estimate. These future estimates will have detailed breakdowns indicating materials by type, kind, and size, priced by their respective units of measure.

UNIVERSITY MEDICAL CENTER

LEVEL 8 OBSERVATION

FUNCTIONAL AREA	NEW			COMMENTS
	QUANTITY	AREA	TOTAL NSF	
PUBLIC				
Reception / Check-in	0	56	-	
Consult	0	110	-	
Toilet	2	60	120	
Family Lounge	7	25	175	.5 people per patient station at 25 SF each
Subtotal			295	
PATIENT CARE				
Patient Care Station	23	120	2760	min clear floor area 120 sf, min clear dimension 10'; exam light, supply storage, documentation, visitors chair, hw sink; 8 single elec, (1) O, (1) V, soiled linen hampers
Patient Care Station, Negative pressure	2	120	240	1-2 negative pressure, no Ante rooms
Patient Toilet	2	60	120	min 1 per 6 patient station
Patient Shower (with toilet)	3	80	240	min 1 per 12 patient station
Exam Room	0	120	-	not required if all private rooms
Nurse Station / Nurse Work	0	52	-	6:1 ratio, see below for work station quantities, 2 nurse stations per floor
Physician touchdown	4	52	208	Divide equally between nurse stations
CNA work station	4	52	208	Divide equally between nurse stations
Handwashing Sink	2	15	30	one per nurse station
Soiled Workroom / Soiled Holding	1	120	120	Linen shelf (4) 6 x 2
Clean Workroom / Clean Supply	1	100	100	
Equipment and Supply Storage	1	120	120	8 x 2 floor space: gurneys, supplies, equipment, bladder scanner, IV poles, hover mat, 2 BP machines, shelving, SED (1) 6 x 2, no mobile xray, no mobile US
Meds Room	2	80	160	One per side
Nourishment	2	80	160	hw sink, work counter, ref, micro, storage, ice machine
Housekeeping	1	60	60	
Alcove, Supply	2	20	40	supply pyxis, blanket warmer
Alcove, Food	2	20	40	
Alcove, WC	1	20	20	
Meed Gas Storage	1	60	60	O2 tanks: 6 full 6 empty
Alcove, Crash Cart	2	30	60	One per nurse station
Toilet, Staff	2	60	120	min 1 rpd
Subtotal			4,866	



UNIVERSITY MEDICAL CENTER

2/15/2024

LEVEL 8 OBSERVATION

FUNCTIONAL AREA	NEW			COMMENTS
	QUANTITY	AREA	TOTAL NSF	
STAFF SUPPORT				
Office, Director	1	110	110	min 1 rqd
Office, Asst Director	1	110	110	
Work Stations	4	56	224	4 person office in cubicles, PI (Performance Improvement), Educator, Case Manager, Social Worker
Staff Lockers	12	5	60	.3 per Patient station (1/2 hieght lockers)
Conference room	1	240	240	6-8 people
Dictation Room	1	240	240	6-8 people
Staff Lounge	1	140	140	seats 4 people
Subtotal			1,124	
TOTAL DEPT NSF			6,285	
			1.50	
TOTAL DEPT GSF			9,428	
GENERAL INFORMATION				



50% Preliminary Design Specification Outline

00 01 01	Project Title Page
00 01 07	Seals Page
00 01 10	Table Of Contents
00 60 00	Project Forms
00 62 12	Submittal Transmittal Form
00 62 22	Construction Progress Schedule Form
00 63 13	Rfi Form
00 62 23	Substitution Form
00 72 00	Example Contract with General Conditions
01 10 00	Summary
01 21 00	Allowances
01 25 00	Substitution Procedures
01 26 00	Contract Modification Procedures
01 29 00	Payment Procedures
01 31 00	Project Management and Coordination
01 32 00	Construction Progress Documentation
01 33 00	Submittal Procedures
01 35 16	Alteration Project Procedures
01 40 00	Quality Requirements
01 43 39	Mockups
01 60 00	Product Requirements
01 77 00	Closeout Procedures
01 78 23	Operation And Maintenance Data
01 78 39	Project Record Documents
01 79 00	Demonstration And Training
01 91 13	General Commissioning Requirements (<i>By Owner's Cxa</i>)
02 41 19	Selective Demolition
02 41 19.16	Selective Interior Demolition
03 00 00	Concrete (as needed by structural engineer)
05 12 00	Structural Steel Framing (as needed for roof units/ elevators)
05 40 00	Cold-Formed Metal Framing
05 50 00	Metal Fabrications
06 10 00	Rough Carpentry
06 20 00	Finish Carpentry
06 22 00	Millwork
06 41 00	Architectural Wood Casework
07 84 13	Penetration Fire Stopping
07 84 43	Joint Fire Stopping
07 92 00	Joint Sealants
07 92 19	Acoustical Joint Sealants
08 11 16	Aluminum Doors and Frames
08 11 13	Hollow Metal Doors and Frames
08 11 13	Access Doors and Frames
08 14 00	Wood Doors

50% Preliminary Design Specification Outline

08 70 00	Hardware
08 71 13	Power Door Operators
08 81 26	Interior Glass Glazing
08 83 00	Mirrors
09 21 13	Plaster Assemblies
09 21 16	Gypsum Board Assemblies
09 21 16.23	Gypsum Board Shaft Wall Assemblies
09 22 13	Metal Furring
09 22 16	Non-Structural Metal Framing
09 30 00	Tiling
09 51 00	Acoustical Ceilings
09 60 00	Flooring
09 72 00	Wall Coverings
09 91 00	Painting
09 93 00	Staining and Transparent Finishing
10 11 00	Visual Display Boards
10 21 13	Toilet Compartments
10 26 00	Wall and Door Protection
10 28 00	Toilet, Bath, and Laundry Accessories
10 44 13	Fire Protection Cabinets
10 44 16	Fire Extinguishers
10 51 16	Wood Lockers
12 24 13	Roller Window Shades
12 36 61.16	Solid Surface Countertops
14 28 16	Elevator Controls
14 28 19.16	Elevator Hoistway Equipment
21 05 00	Common Work Results for Fire Protection
21 10 00	Water-Based Fire-Suppression Systems
22 05 00	Common Work Results For Plumbing
22 05 19	Meters And Gages For Plumbing Piping
22 05 23	General-Duty Valves For Plumbing Piping
22 05 29	Hangers And Supports For Plumbing Piping And Equipment
22 05 53	Identification For Plumbing Piping And Equipment
22 07 00	Plumbing Insulation
22 11 16	Domestic Water Piping
22 11 19	Domestic Water Piping Specialties
22 13 16	Sanitary Waste And Vent Piping
22 13 19	Sanitary Waste Piping Specialties
22 40 00	Plumbing Fixtures
22 43 00	Healthcare Plumbing Fixtures
22 62 13	Vacuum Piping for Laboratory And Healthcare Facilities
22 63 13	Medical Gas Piping for Healthcare Facilities
23 05 00	Common Work Results for Hvac
23 05 53	Identification For Hvac Piping and Equipment
23 05 93	Testing, Adjusting, And Balancing for Hvac

50% Preliminary Design Specification Outline

23 07 00	Hvac Insulation
23 31 13	Metal Ducts
23 33 00	Air Duct Accessories
23 37 13	Diffusers, Registers, And Grilles

**THOMASON TOWER
8TH FLOOR
OBSERVATION UNIT**

4815 Alameda Ave,
El Paso, TX 79905

**UNIVERSITY MEDICAL
CENTER OF EL PASO**

4815 Alameda Ave,
El Paso, TX 79905

PROJECT NO. 012-10596-000
Issue Date - 2.15.2024
50% PRELIMINARY DESIGN



PLANNING
ARCHITECTURE
ENGINEERING
INTERIORS



50% PRELIMINARY DESIGN SIGNOFF		
NAME	TITLE	DATE

