

— — — NEW WORK UNDERFLOOR OR UNDERGROUND BY THIS CONTRACTOR

- NEW WORK BY OTHERS AND/OR EXISTING TO REMAIN

'TAG'-E TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

CONTRACTOR ABBREVIATION KEY

(DARK LONG DASHED LINE)

---- EXISTING TO BE REMOVED BY THIS CONTRACTOR

ASBESTOS ABATEMENT CONTRACTOR

CONTRACTING OFFICER'S REPRESENTATIVE

TEMPERATURE CONTROLS CONTRACTOR

FIRE PROTECTION COVERSHEET

CONTACT PERSONS:

ERIC HENDERSON, PE

KRISTEN SPINA, PE

FIRE PROTECTION SHEET INDEX

BASEMENT DEMOLITION PLAN - FIRE PROTECTION

FIRST LEVEL DEMOLITION PLAN - FIRE PROTECTION

BASEMENT FLOOR PLAN - FIRE PROTECTION

FIRST LEVEL FLOOR PLAN - FIRE PROTECTION

THIRD LEVEL FLOOR PLAN - FIRE PROTECTION

FOURTH LEVEL FLOOR PLAN - FIRE PROTECTION

FIFTH LEVEL FLOOR PLAN - FIRE PROTECTION

SIXTH LEVEL FLOOR PLAN - FIRE PROTECTION

SEVENTH LEVEL FLOOR PLAN - FIRE PROTECTION EIGHTH LEVEL FLOOR PLAN - FIRE PROTECTION

SECOND LEVEL FLOOR PLAN - FIRE PROTECTION

DELLAN LLEWELLYN, EIT

ALEX CARNAHAN, SE, PE

(DARK SHORT DASHED LINE)

(LIGHT SOLID LINE)

DESCRIPTION:

CIVIL CONTRACTOR

ELECTRICAL CONTRACTOR

GENERAL CONTRACTOR

MECHANICAL CONTRACTOR

TECHNOLOGY CONTRACTOR

PLUMBING CONTRACTOR

FIRE PROTECTION CONTRACTOR

ABBR:

C.O.R.

F.P.C.

G.C.

M.C.

P.C.

T.C.C.

MECHANICAL

ELECTRICAL

STRUCTURAL

GRAND TOTAL: 12

DESCRIPTION:

PROJECT MANAGER

N	NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS				
SYMBOL: DESCRIPTION:					
NO HATCH	LIGHT HAZARD AND/OR EXISTING TO REMAIN (WHERE OUTSIDE PROJECT BOUNDARIES)				
ORDINARY GROUP 1					
DEMOLITION					

FIRE PROTECTION ABBREVIATION KEY				
ABBR:	DESCRIPTION:			
AD	ACCESS DOOR			
AFF	ABOVE FINISHED FLOOR			
BFP	BACKFLOW PREVENTER			
I.E.	INVERT ELEVATION			
NC	NEW CONNECTION			
N.C.	NORMALLY CLOSED			
NIC	NOT IN CONTRACT			
N.O.	NORMALLY OPEN			
SCCR	SHORT CIRCUIT CURRENT RATING			
TYP	TYPICAL			
UNO	UNLESS NOTED OTHERWISE			

<u>FIRE</u>	PUMP FLOW TEST DATA
ΓEST DATE:	OCTOBER 26, 2020
RATED FLOW: RATED HEAD PRESSURE: RATED MOTOR SPEED: MOTOR HORSEPOWER:	500 GPM 75 PSI 1,770 RPM 50 HP
CHURN HEAD PRESSURE:	153 PSI
TEST FLOW: TEST SUCTION PRESSURE: TEST HEAD PRESSURE:	503 GPM 61 PSI 145 PSI
TEST MAXIMUM FLOW: TEST SUCTION PRESSURE: TEST HEAD PRESSURE:	

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, MECHANICAL, FIRE PROTECTION, AND PLUMBING.

- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING
- CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT. 2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR
- PHYSICALLY AT SITE, REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES. 3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- 4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER 5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO
- COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR 6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
- 8. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE. 9. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL,
- PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS. 10. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
- 11. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC 12. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
- 13. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS. 14. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
- 15. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES. INCLUDING BUT NOT LIMITED TO, MECHANICAL, FIRE PROTECTION, AND PLUMBING.

- 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND
- REPORT ANY CONFLICTS BEFORE PROCEEDING. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS
- BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD
- CONDITIONS. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS/HER WORK AND SHALL NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO BIDDING IF
- OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS/HER AREA OF WORK. 5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF

ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS.

- CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO
- NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH

- 8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT
- 9. OBTAIN PERMISSION FROM THE CONTRACTING OFFICER'S REPRESENTATIVE BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
- 10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.

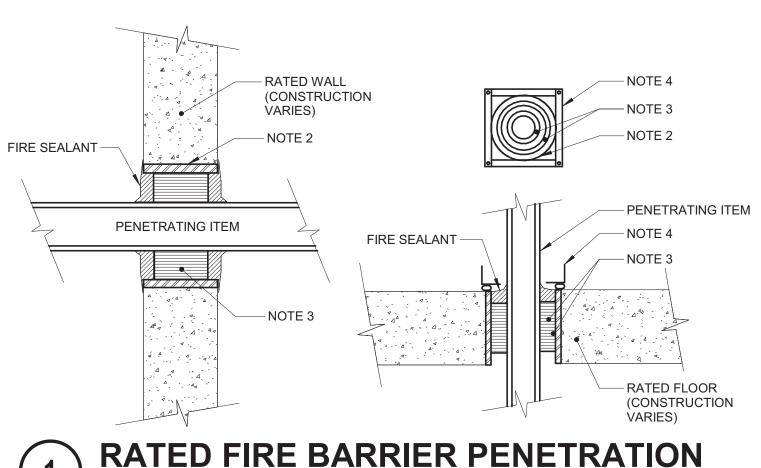
FIRE PROTECTION GENERAL NOTES:

- 1. REFER TO F000 FOR FIRE SPRINKLER USAGE SCHEDULE. 2. REFER TO 1/F000 FOR RATED FIRE BARRIER PENETRATIONS. REFER TO ARCHITECTURAL PLANS FOR FIRE BARRIER LOCATIONS.
- 3. REFER TO 2/F000 FOR PIPE THROUGH NON-RATED WALL DETAIL. 4. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- 5. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS OF
- 6. FIRE PROTECTION PIPE ROUTING IS SHOWN TO INDICATE DESIGN INTENT. FIRE PROTECTION CONTRACTOR SHALL DETERMINE EXACT NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING BASED ON HYDRAULIC CALCULATIONS AND DETAILED WORKING
- DRAWINGS REQUIRED IN NFPA 13. 7. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF
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- 10. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER
- 11. CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2'X4' CEILING TILES, CENTERING USING A 2'X2' CEILING PATTERN IS ACCEPTABLE. 12. PROVIDE SPRINKLER COVERAGE ABOVE AND BELOW ALL DUCTWORK GREATER THAN 48"
- 13. PROVIDE SPRINKLER COVERAGE ABOVE AND BELOW ALL CLOUD CEILINGS. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS.

FIRE SPRINKLER USAGE SCHEDULE

- SEE FLOOR PLANS FOR ZONING REQUIREMENTS.
- SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.
- ALL SPRINKLERS SHALL BE UL AND FM LISTED. CONTRACTOR TO VERIFY SPRINKLER REQUIREMENTS BASED ON ACTUAL INSTALLATION, USAGE, ARCHITECTURAL CEILING PLAN AND NFPA 13
- TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS.
- CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED. AREAS ARE GENERAL IN NATURE. CONTRACTOR TO MATCH UNSCHEDULED AREAS TO SIMILAR SPACES. NON-FERROUS SPRINKLER FOR USE IN MAGNETIC AND CORROSIVE ENVIROMENTS.
- SPRINKLERS SHALL HAVE A 3mm QUICK RESPONSE BULB. SPRINKLERS SPECIFIED WITHIN FIRE SPRINKLER USAGE SCHEDULE ARE STANDARD COVERAGE TYPE. EXTENDED COVERAGE SPRINKLERS ARE PERMITTED PROVIDED SPRINKLERS MEET THE REQUIREMENTS OF UL AND FM.

			SPRINKLER					
AREA TYPE (NOTE 1 & 6)	AREA HAZARD	TAG NAME (NOTE 4 & 5)	SPRINKLER TYPE	RESPONSE CATEGORY	FINISH	TEMPERATURE RATING	MANUFACTURER & MODEL	NOTES
AREAS WITH EXPOSED STRUCTURE	SEE PLANS	SPR-1	UPRIGHT	QUICK	ROUGH BRASS	PER NFPA	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2704	NOTES 2, 3, 7, 8, & 9
AREAS WITH LAY-IN CEILINGS	SEE PLANS	SPR-2	CONCEALED	QUICK	WHITE		VIKING VK, RELIABLE G4A, TYCO RFII, VICTAULIC V3802	NOTES 2, 3, 7, 8, & 9



1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR

THROUGH PENETRATION FIRE STOPPING.

WITHOUT MOVEMENT OF FIRE BARRIER.

PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.

SELECTED FIRE STOP SYSTEM.

FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL

MOVEMENT. REFER TO SPECIFICATION SECTION 07840 (07 84 00) (SECTION 21 05 03 - FIRE

2. SCHEDULE 5 PIPE SLEEVE EMBEDDED IN WALL OR FLOOR, OR SMOOTH CORE DRILL. EACH

DEBURS SLEEVE. G.C. BUILDS SLEEVE INTO WALL OR FLOOR ALLOWING NO GAP AROUND

SHALL INSTALL SLEEVE. SLEEVE SIZE SHALL ALLOW ANNULAR SPACE REQUIRED BY THE

STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING.

FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP, PLACE A BEAD OF

WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO

SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM

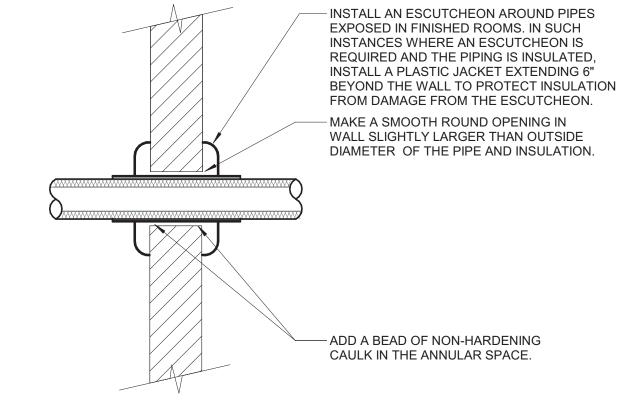
CONTRACTOR FURNISHES SLEEVE TO G.C., COORDINATES SLEEVE LOCATIONS AND

SLEEVE. IF SLEEVE IS NOT PROVIDED WHEN WALL OR FLOOR IS BUILT, CONTRACTOR

3. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE

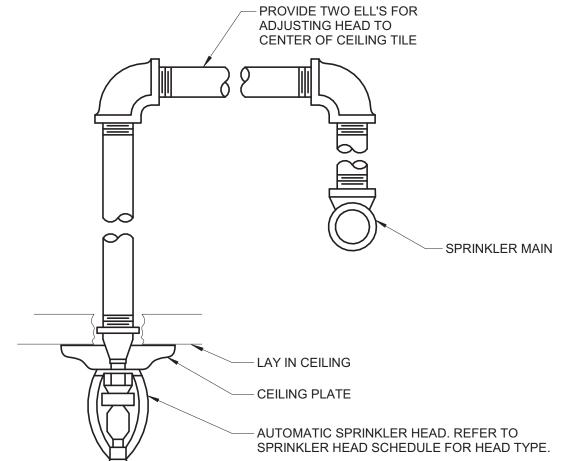
4. WATERTIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE

PROTECTION, SECTION 22 05 03 - PLUMBING, SECTION 23 05 03 - HVAC) FOR SELECTION OF

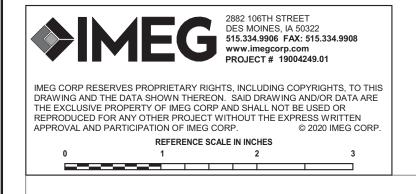


PIPE THROUGH NON-FIRE RATED WALL

- 1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS. PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION. AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.
- 2. FLOOR OPENINGS ARE SIMILAR SEE SPECIFICATION SECTION 23 05 29 FOR DIFFERENCES BETWEEN FLOOR AND WALL PENETRATIONS. 3. SEE SPECIFICATION SECTION 23 05 03 AND SECTION 23 05 29 FOR ADDITIONAL
- FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE



SPRINKLER HEAD MOUNTING DETAIL

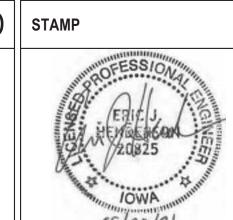


CONSULTANT

ARCHITECT/ENGINEER OF RECORD | STAMP

ANDERSON

13605 1st Ave. N. #100 Plymouth, MN 55441 P 763.412.4000 | F 763.412.4090 | ae-mn.com Anderson Engineering of Minnesota, LLC | Proj # 15744



Office of

Construction and Facilities Management

of Veterans

| U.S. Department

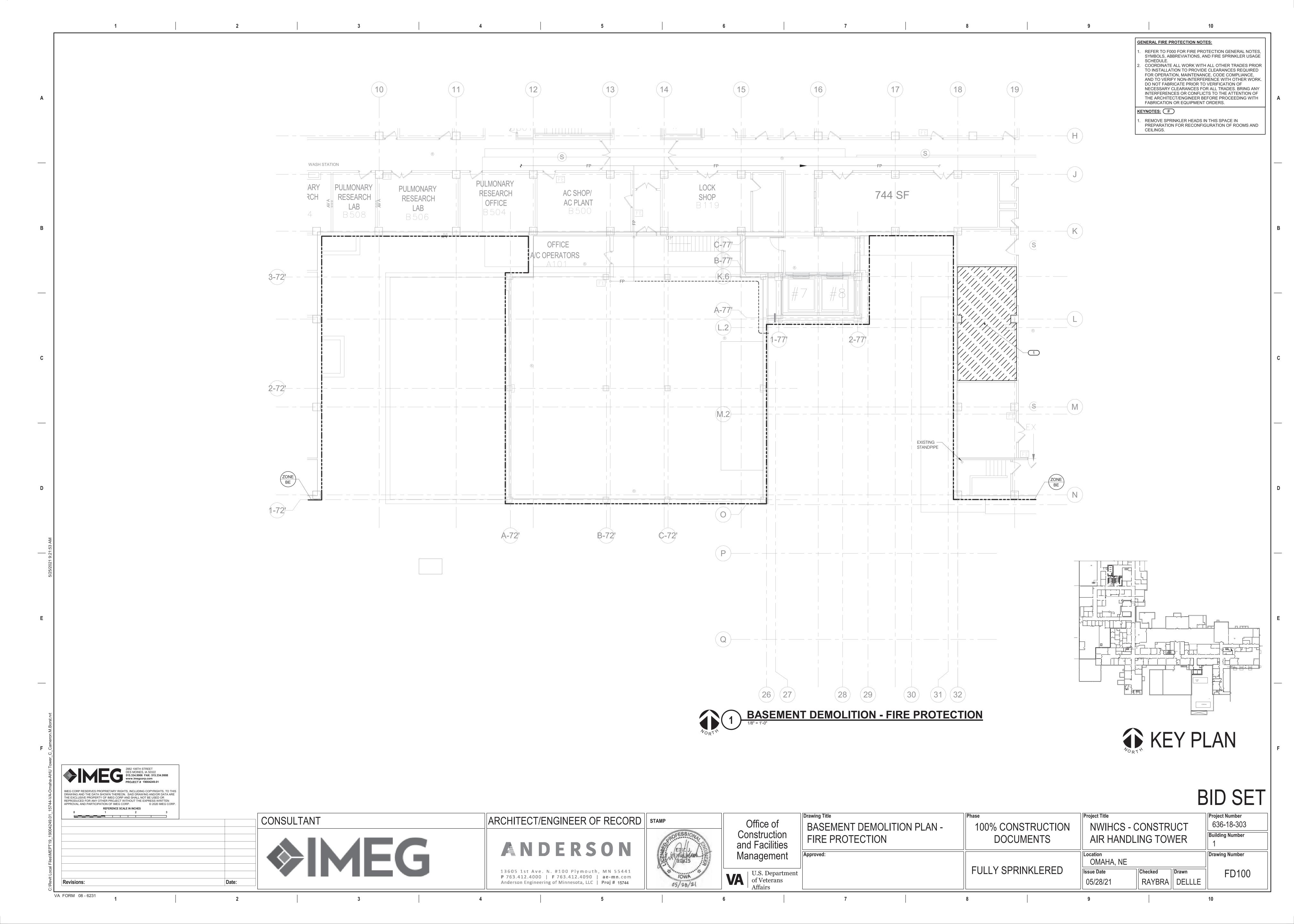
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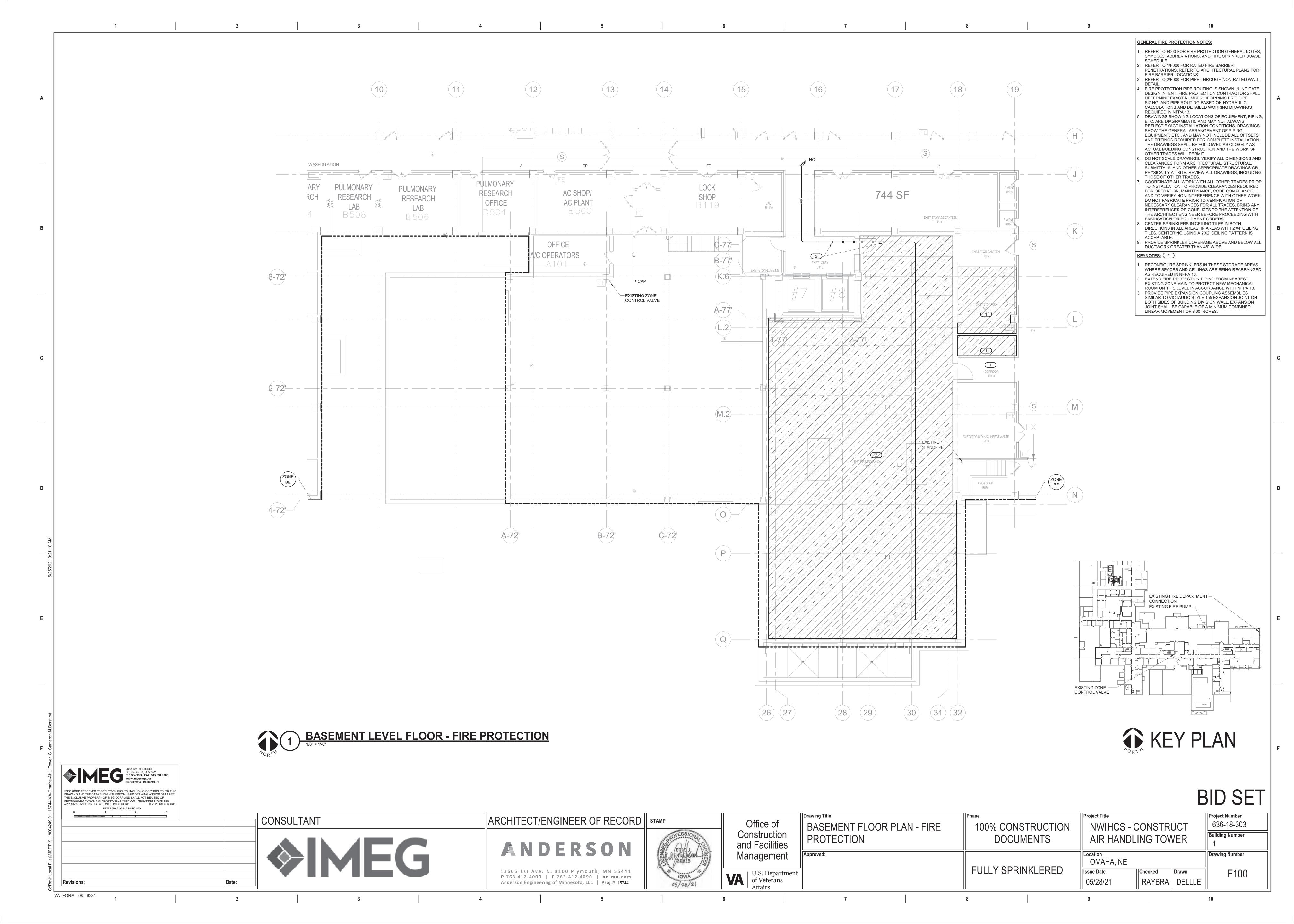
FIRE PROTECTION COVERSHEET

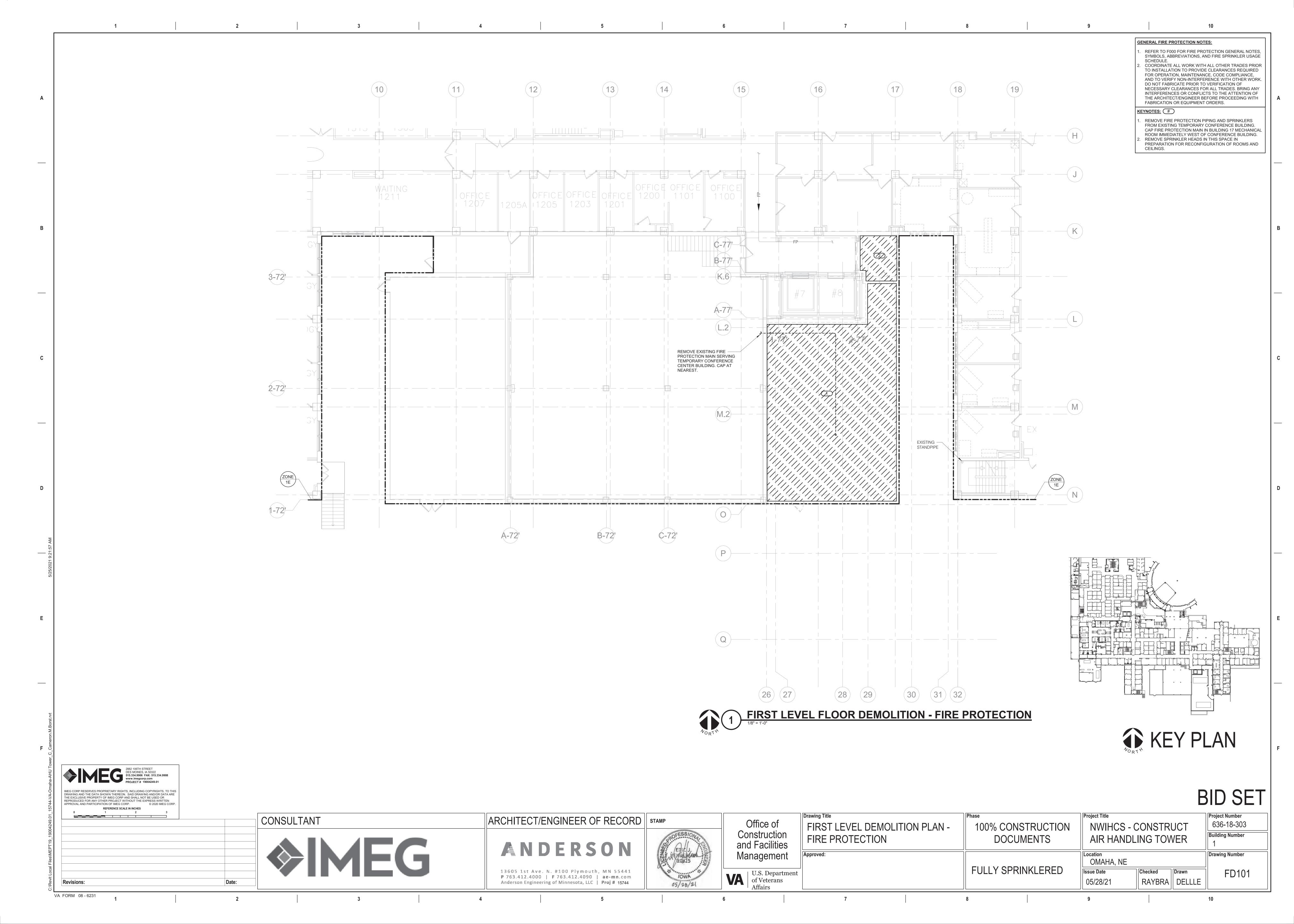
BID SET **Project Title Project Number** 636-18-303 100% CONSTRUCTION NWIHCS - CONSTRUCT **Building Number** DOCUMENTS AIR HANDLING TOWER **Drawing Number** OMAHA, NE **FULLY SPRINKLERED** Checked 05/28/2 | RAYBRA || DELLLE

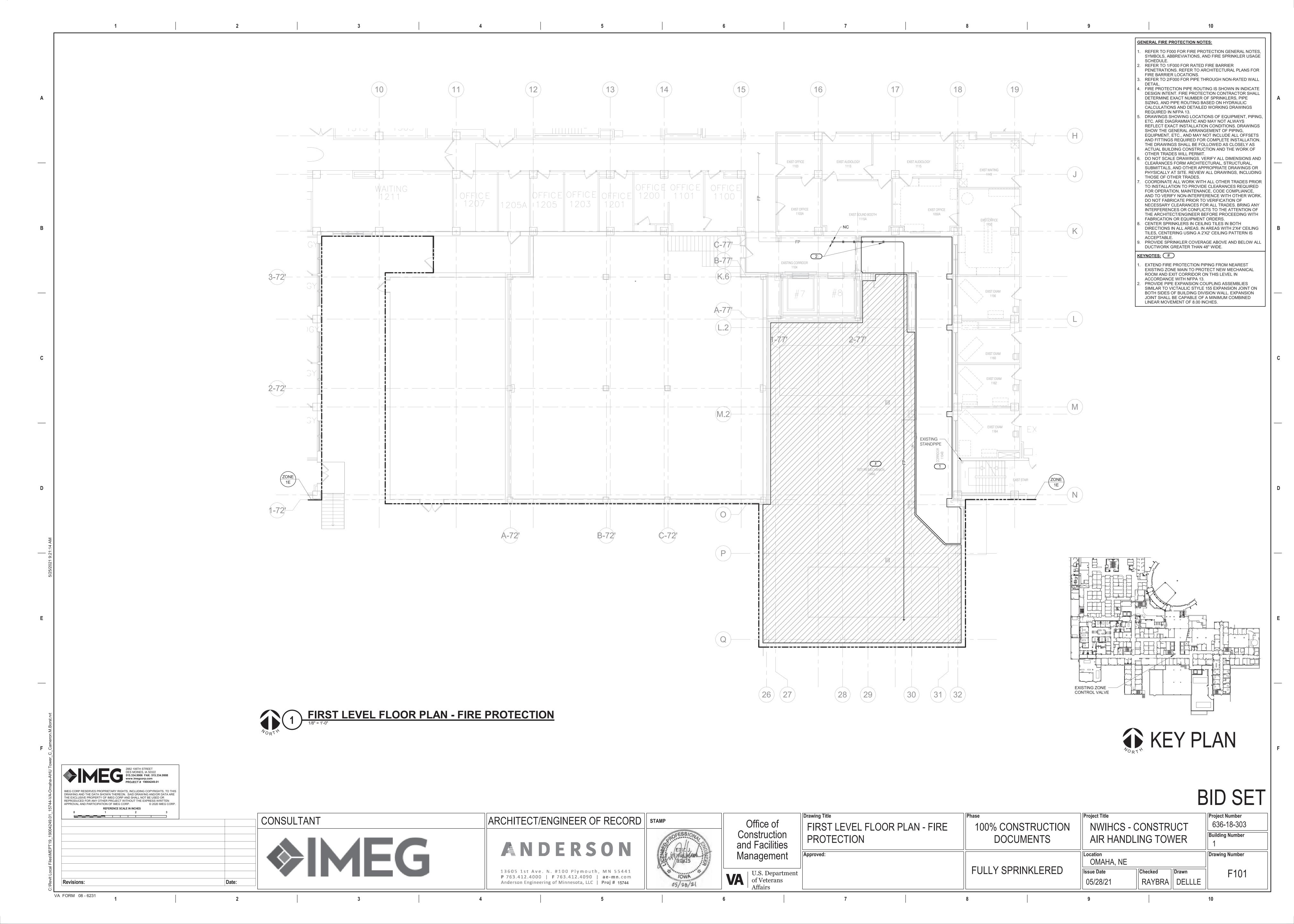
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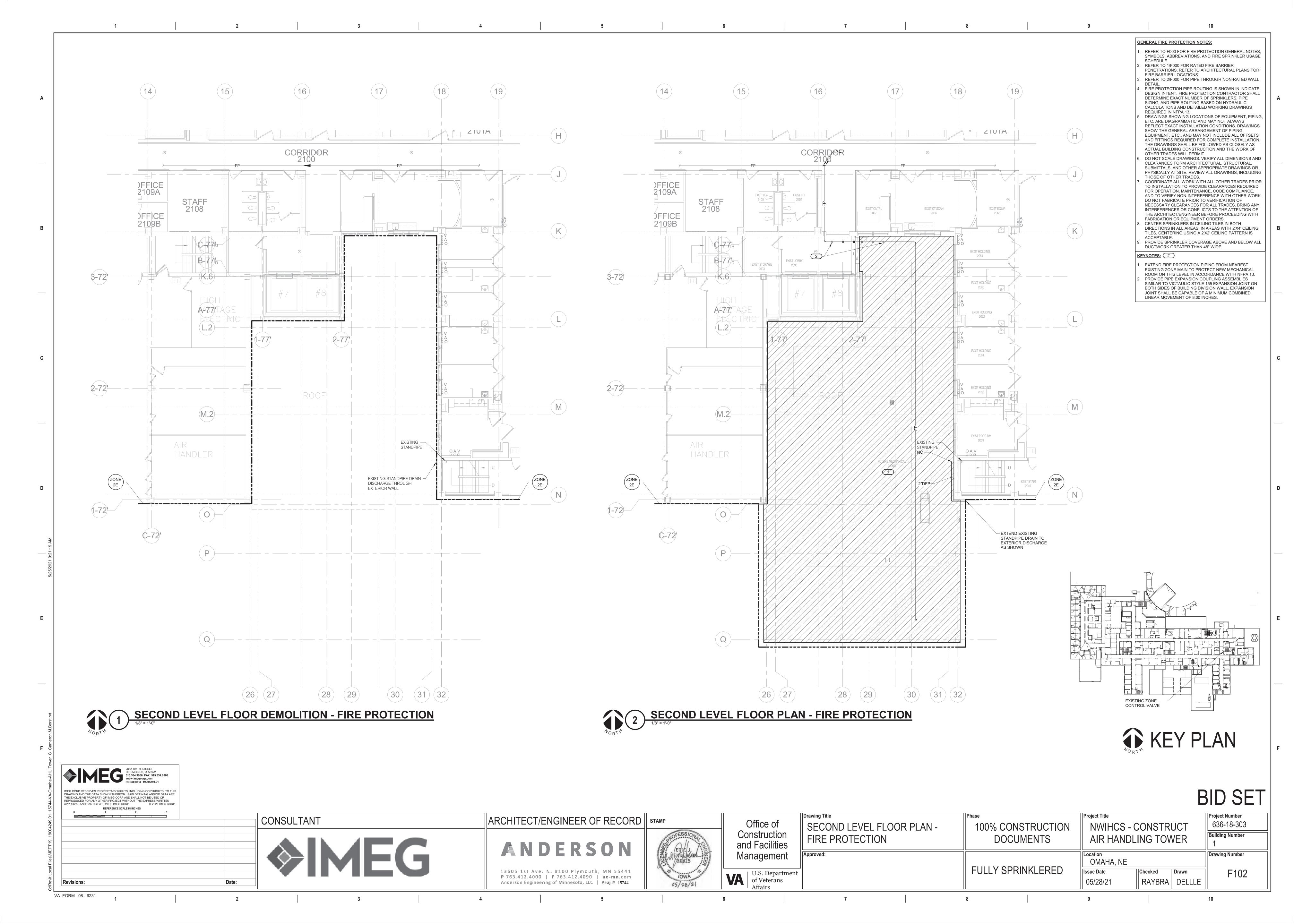
Revisions:

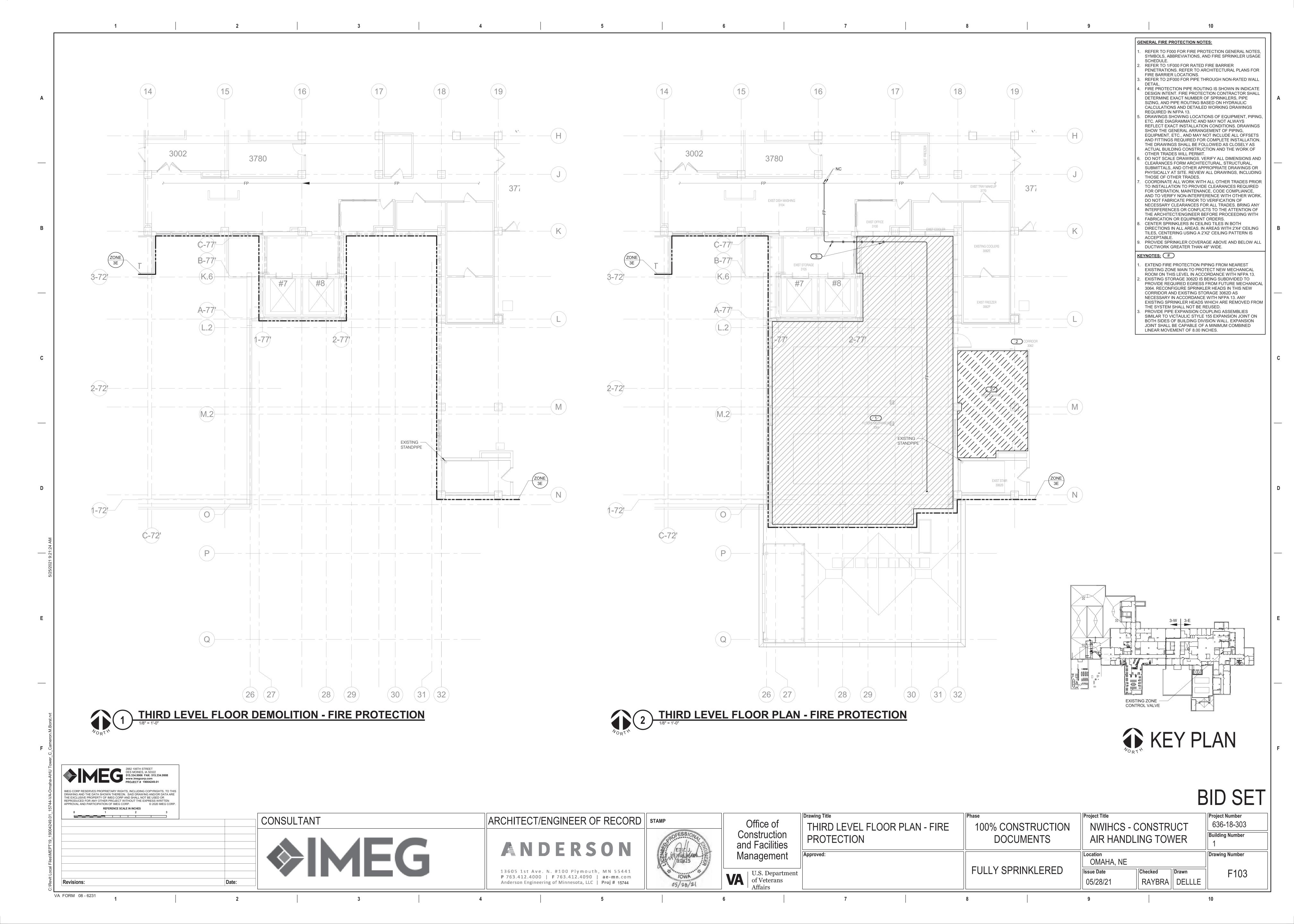


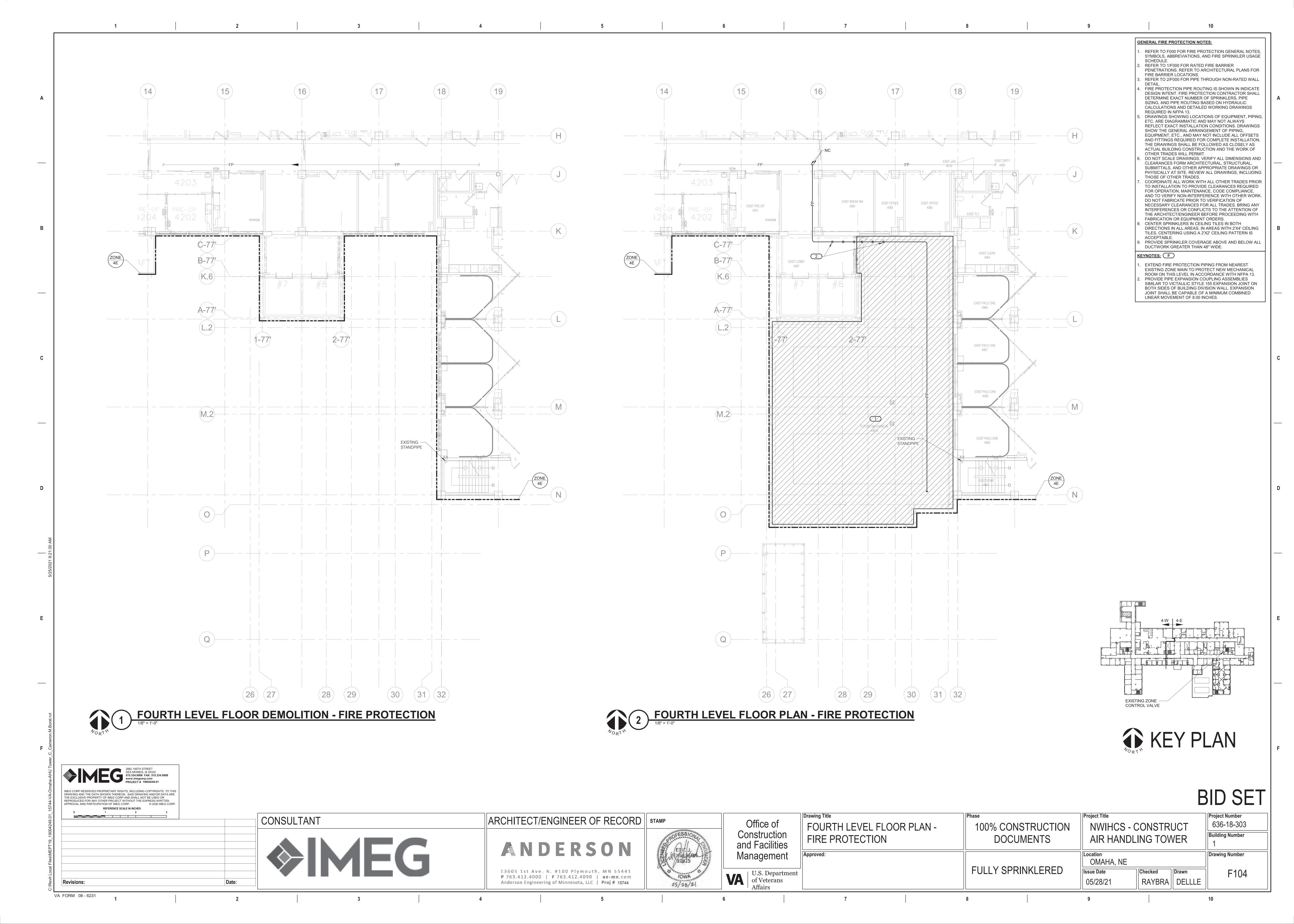


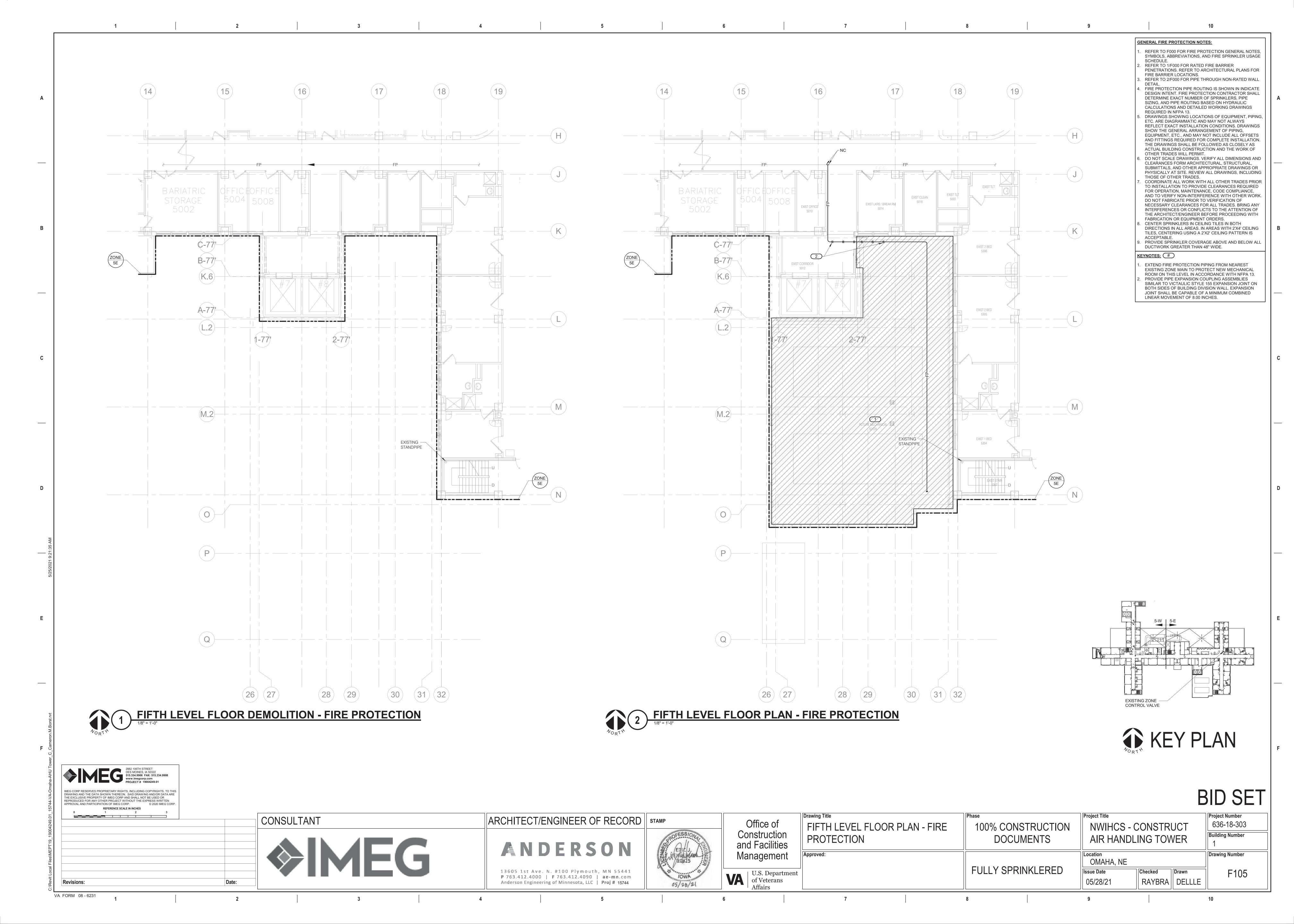


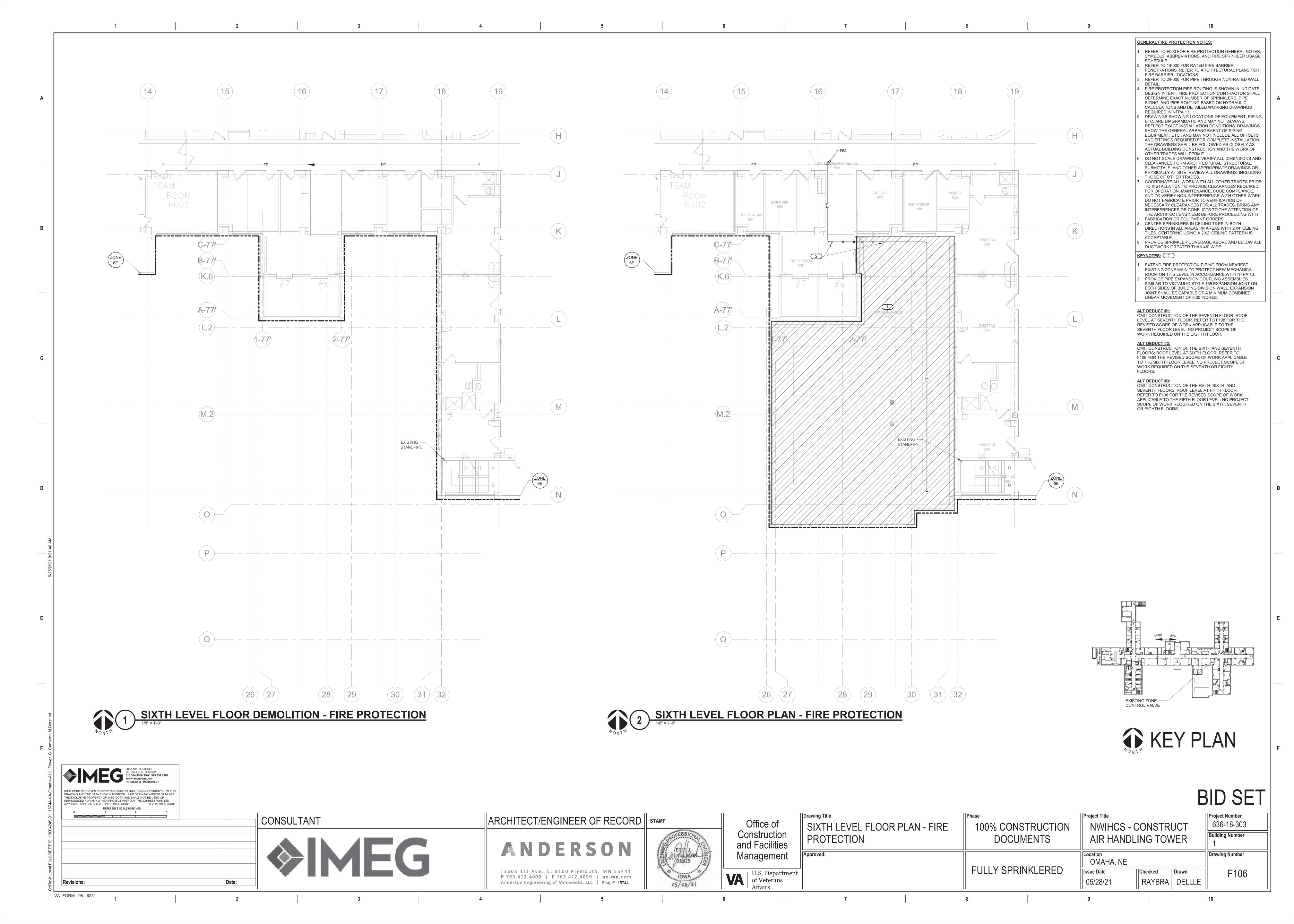


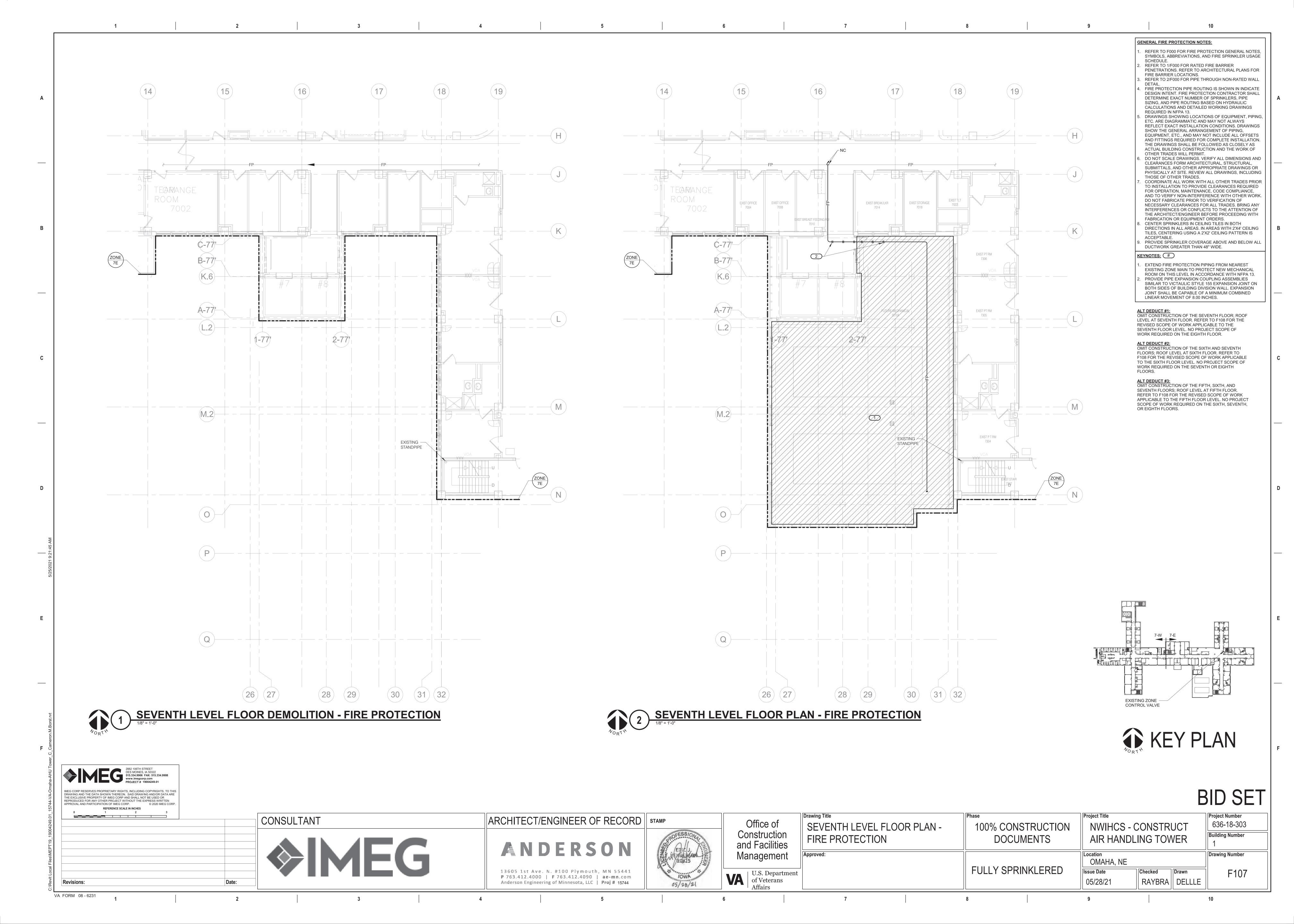


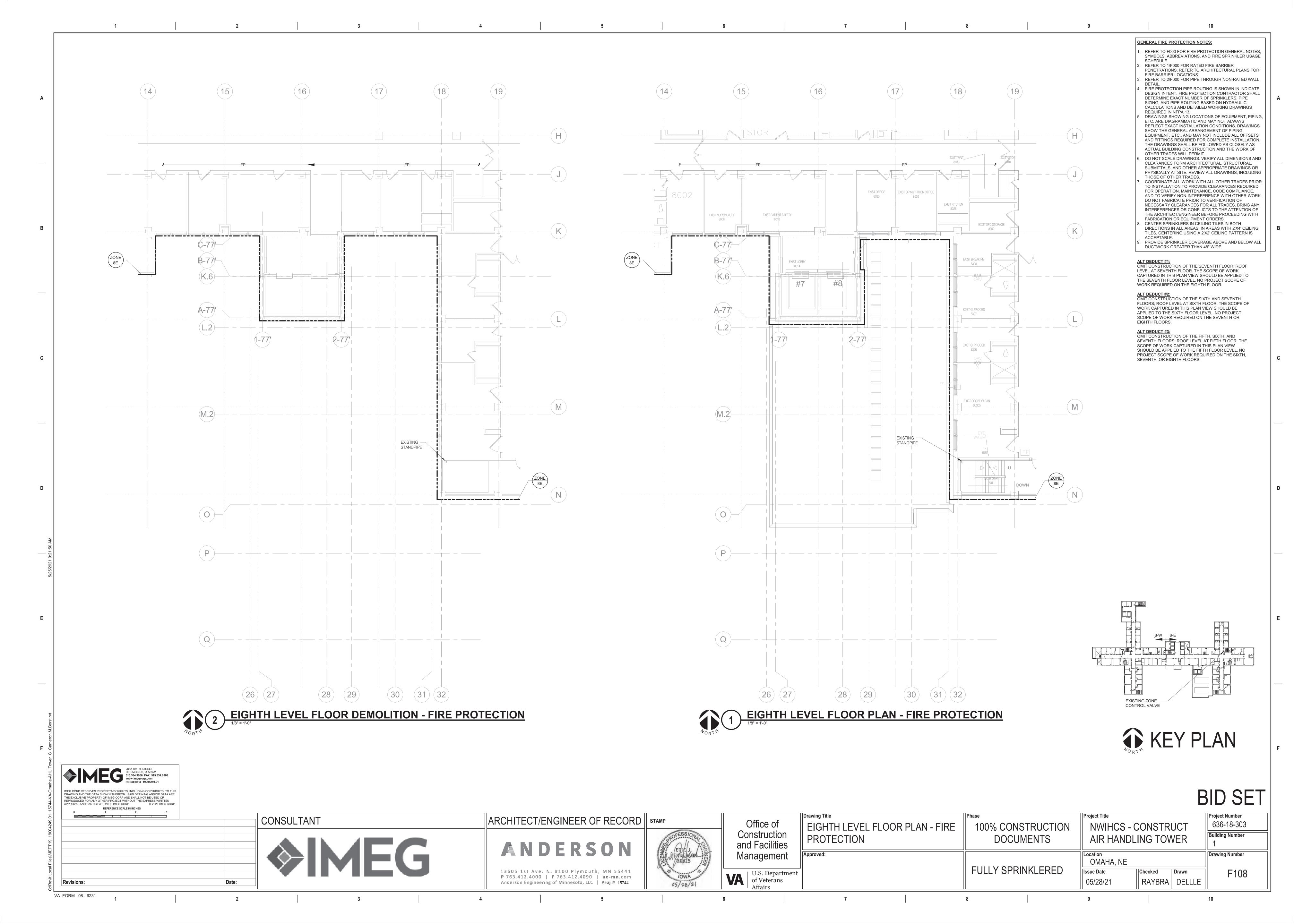


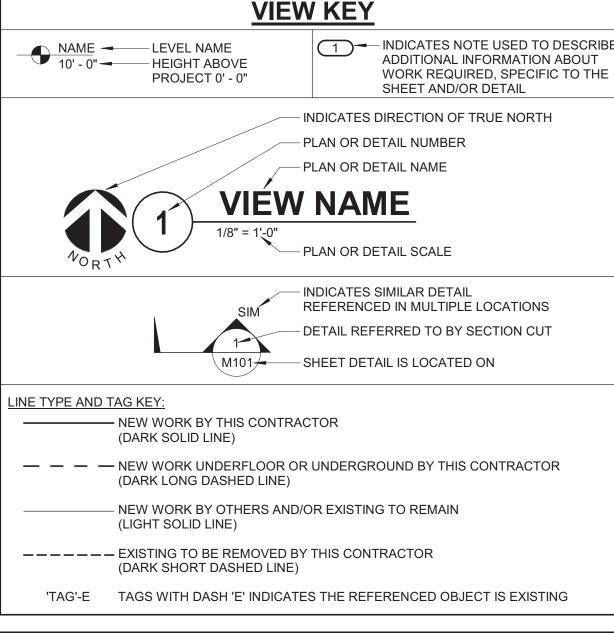












	CONTRACTOR ABBREVIATION KEY				
ABBR:	DESCRIPTION:				
A.C.	ASBESTOS ABATEMENT CONTRACTOR				
C.C.	CIVIL CONTRACTOR				
C.O.R.	CONTRACTING OFFICER'S REPRESENTATIVE				
E.C.	ELECTRICAL CONTRACTOR				
F.P.C.	FIRE PROTECTION CONTRACTOR				
G.C.	GENERAL CONTRACTOR				
M.C.	MECHANICAL CONTRACTOR				
P.C.	PLUMBING CONTRACTOR				
T.C.	TECHNOLOGY CONTRACTOR				
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR				
	<u> </u>				

CONTACT PERSONS:				
PERSON:				
ERIC HENDERSON, PE				
DELLAN LLEWELLYN, EIT				
KRISTEN SPINA, PE				
ALEX CARNAHAN, SE, PE				

PLUMBING ABBREVIATION KEY R: DESCRIPTION: ACCESS DOOR ABOVE FINISHED FLOOR BACKFLOW PREVENTER CLEANOUT EXISTING FLOOR CLEANOUT FLOOR DRAIN FLOOR SINK HOSE BIBB INVERT ELEVATION (FOR REFERENCE ONLY)
ABOVE FINISHED FLOOR BACKFLOW PREVENTER CLEANOUT EXISTING FLOOR CLEANOUT FLOOR DRAIN FLOOR SINK HOSE BIBB INVERT ELEVATION (FOR REFERENCE ONLY)
BACKFLOW PREVENTER CLEANOUT EXISTING FLOOR CLEANOUT FLOOR DRAIN FLOOR SINK HOSE BIBB INVERT ELEVATION (FOR REFERENCE ONLY)
CLEANOUT EXISTING FLOOR CLEANOUT FLOOR DRAIN FLOOR SINK HOSE BIBB INVERT ELEVATION (FOR REFERENCE ONLY)
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HOSE BIBB INVERT ELEVATION (FOR REFERENCE ONLY)
INVERT ELEVATION (FOR REFERENCE ONLY)
· · · · · · · · · · · · · · · · · · ·
NEW CONNECTION
NOT IN CONTRACT
ROOF DRAIN
TYPICAL
VENT THROUGH ROOF

PLUMBING SYMBOL LIST					
NOT ALL SYMBOLS MAY APPLY.					
SYMBOL:	DESCRIPTION:				
CW	COLD WATER - POTABLE				
D	DRAIN				
——DT——	DRAIN TILE				
——HW——	HOT WATER - POTABLE				
—HWC—	HOT WATER CIRCULATING - POTABLE				
——SAN—— —ST(1,000)—	SANITARY DRAINAGE STORM DRAINAGE (ROOF SQUARE FOOTAGE)				
—STS—	STORM DRAINAGE (SECONDARY)				
V	VENT				
W	SERVICE WATER - POTABLE				
	PIPE CONTINUATION				
	PIPE CAP				
	PIPE DOWN				
o	PIPE UP OR UP/DOWN				
——o _{FD}	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)				
FD	PITCH PIPE IN DIRECTION				
	DIRECTION OF FLOW IN PIPE				
7	ROUTE TO DRAIN				
<u>RD-1</u> 6"(1000)	ROOF DRAIN PROPERTIES SYMBOL SIZE (ROOF SQ. FT.)				
——————————————————————————————————————	NEW CONNECTION				
II	DIELECTRIC CONNECTION				
	UNION/FLANGE				
──	SHUTOFF VALVE NORMALLY OPEN				
—	SHUTOFF VALVE NORMALLY CLOSED				
<u></u> GPM	BALANCING VALVE (NUMBER INDICATES GPM)				
1\	CHECK VALVE				
MÄÄM	BACKFLOW PREVENTER				
<u></u>					
	SOLENOID VALVE				
**	SAFETY/RELIEF VALVE				
Ŷ	VACUUM BREAKER				
— ∞ —®	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)				
— <mark>≫</mark> -P	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)				
	TEMPERATURE SENSOR WITH WELL				
<u> </u>	THERMOMETER WITH WELL (DIAL TYPE)				
<u>[]</u>	THERMOMETER WITH WELL (FILLED TYPE)				
b	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB				
8-	PRESSURE REDUCING VALVE (LIQUID/GAS)				
—(D)—	PUMP				
<u> </u>	METER				
	ALIGNMENT GUIDE				
×	PIPE ANCHOR				

MECHANICAL GENERAL NOTES:

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- 1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- 2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- 3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING
- WITH FABRICATION OR EQUIPMENT ORDERS. 4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE
- 5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO

REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER

- COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR
- 6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF
- 7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS. 8. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING. AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER
- 9. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
- 10. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT. 11. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS,
- PIPING, DUCTWORK, ETC. 12. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES. 13. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR

CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

FOR OUTDOOR USE.

STARTERS, SWITCHES, AND DISCONNECTS. 14. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT. 15. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, MECHANICAL, FIRE PROTECTION, AND PLUMBING.

- 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING. 2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS
- BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK. 3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
- 4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS/HER WORK AND SHALL NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS/HER AREA OF WORK. 5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS.
- CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING. 6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO
- 7. WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL
- SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK. 8. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING
- CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE. 9. OBTAIN PERMISSION FROM THE CONTRACTING OFFICER'S REPRESENTATIVE BEFORE
- SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED. 10. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.

MECHANICAL PHASING NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, MECHANICAL, FIRE PROTECTION, AND PLUMBING.

- 1. REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL DESCRIPTION OF PHASES. REFER TO GENERAL CONTRACTOR'S INSTRUCTIONS FOR MORE DETAILS AND PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL, AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE
- REQUIREMENTS OF THE PHASING CRITERIA. 2. REVIEW PROJECT PHASING PLANS TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS.
- 3. PROVIDE TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ZONE VALVES, ZONE ALARMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF
- 4. INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP
- ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT 5. PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

PLUMBING GENERAL NOTES:

- 1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- 2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
- 3. CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
- 4. ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874 5. INVERT ELEVATIONS ARE FROM EXISTING DRAWINGS AND MAY NOT BE ACCURATE. VERIFY

ALL ELEVATIONS BEFORE BEGINNING WORK.

GRAND TOTAL: 15

- 6. VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK. 7. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO
- PLUMBING FIXTURES. 8. EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL
- SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
- 9. P.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL

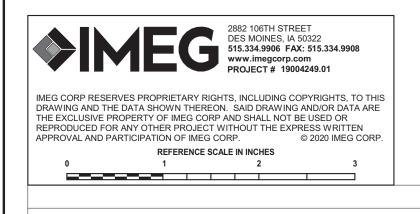
	PLUMBING SHEET INDEX				
P000	PLUMBING COVERSHEET				
P10U	BASEMENT UNDERFLOOR PLAN - PLUMBING				
PD100	BASEMENT DEMOLITION PLAN - PLUMBING				
P100	BASEMENT FLOOR PLAN - PLUMBING				
PD101	FIRST LEVEL DEMOLITION PLAN - PLUMBING				
P101	FIRST LEVEL FLOOR PLAN - PLUMBING				
P102	SECOND LEVEL FLOOR PLAN - PLUMBING				
P103	THIRD LEVEL FLOOR PLAN - PLUMBING				
P104	FOURTH LEVEL FLOOR PLAN - PLUMBING				
P105	FIFTH LEVEL FLOOR PLAN - PLUMBING				
P106	SIXTH LEVEL FLOOR PLAN - PLUMBING				
P107	SEVENTH LEVEL FLOOR PLAN - PLUMBING				
P108	EIGHTH LEVEL FLOOR PLAN - PLUMBING				
P300	PLUMBING DETAILS				
P400	PLUMBING FLOW DIAGRAMS				

PLUMBING ROUGH-IN SCHEDULE

NOTES: (APPLIES TO ALL PLUMBING FIXTURES LISTED BELOW) 1) SIZES SHOWN ARE MINIMUMS. LARGER SIZES SHOWN ON THE DRAWING SHALL DICTATE THE ROUGH-IN SIZE. 2) SANITARY RISERS UP IN WALL TO FIXTURES SHALL BE A MINUMUM OF 2". 3) DOMESTIC WATER BRANCH PIPING OUTSIDE OF THE WALL/CHASE SHALL BE A MINIMUM OF 3/4" UNLESS NOTED OTHERWISE. ONLY THE FINAL RISE-DROP SHALL BE SMALLER.

TAG NAME	DESCRIPTION	COLD WATER	HOT WATER	SANITARY	VENT
AD-1	FLOOR DRAIN	-	-	4"	2"
EWC-E	ELECTRIC WATER COOLER	1/2"	-	1 1/2"	1 1/4"
FD-E	FLOOR DRAIN	-	-	3"	1 1/2"
FS-1	FLOOR SINK			3"	1 1/2"
FS-2	FLOOR SINK			4"	2"
SK-E	SINK	1/2"	1/2"	1 1/2"	1 1/2"

TAG NAME	DESCRIPTION	MANUFACTURER AND MODE
AD-1	AREA DRAIN - CAST IRON BODY, 4" BOTTOM OUTLET, 10" CAST IRON DOME WITH STAINLESS STEEL MESH SCREEN, BRONZE FLASHING CLAMP.	ZURN (Z348), SMITH (2675), JOSAM (39600), MIFAB (F1820
AGF-1	AIR GAP FITTING - CAST IRON CONSTRUCTION, SET SCREW OR THREADED INLET, SELECT SIZE TO MATCH INDIRECT WASTE LINE INLET AND STANDPIPE OUTLET.	ZURN (Z1025), JOSAM (88900 SMITH (3955), WADE (W-2490
BFP-1	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, LEAD FREE BRONZE CONSTRUCTION, SIZE SAME AS PIPE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, BALL STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED.	APOLLO (RPLF4A), WATTS (LF919), WILKINS (975XL2)
	MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	
FS-1	FLOOR SINK - CAST IRON BODY, NICKEL BRONZE RIM AND GRATE, 8" SQUARE, 3" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH ALUMINUM DOME STRAINER, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP, DEEP SEAL TRAP.	ZURN (Z1910), SMITH (3101), WADE (W-9110), JOSAM (49300), WATTS (FS-710), SIOUX CHIEF (861-2xXFNWC) SUN (FS2300)
FS-2	FLOOR SINK - CAST IRON BODY, NICKEL BRONZE RIM AND GRATE, 12" SQUARE, 4" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH STAINLESS STEEL MESH SEDIMENT BUCKET, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP, DEEP SEAL TRAP.	ZURN (Z1901), SMITH (3151), WADE (9140), JOSAM (49340A WATTS (FS-740), SIOUX CHIE (861-2xXFNWC), SUN (FS2000
HB-1	HOSE BIBB - FOR INDOOR USE, BRASS CONSTRUCTION, STANDARD FINISH, VACUUM BREAKER, 3/4" MALE HOSE THREAD, METAL WHEEL HANDLE, ASSE 1011 LISTED AND APPROVED.	PRIER (C-155NP.75), WOODFORD (24), CHICAGO FAUCET (293), ACORN (8121)
	MOUNT AT 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON DRAWINGS.	T&S BRASS (B-0736), MIFAB (MHY-90)
PRV-2	PRESSURE REGULATING VALVE - SELF CONTAINED 3" TO 4" SIZE, DIAPHRAGM ACTUATED, EXTERNAL SPRING, LEAD FREE CAST COPPER-SILICON OR CAST IRON, STAINLESS STEEL SPRINGS, REMOVABLE STAINLESS STEEL SEATS, MAXIMUM OPERATING PRESSURE OF 175 PSIG GAUGE AND ADJUSTABLE FROM 25-100PSIG. NPT THREADED INLET/OUTLET ASSE 1003 LISTED.	PRESSURE REGULATING VALVE - FISHER 92W, MASONEILAN, TRERICE 921, WATTS LF127W.
	120 PSIG INLET PRESSURE 80 PSIG OUTLET PRESSURE 375 GPM 4"ø VALVE	
RD-1	ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 15" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE AS LISTED ON DRAWINGS.	ZURN (Z-100), SMITH (1010), WADE (3000), JOSAM (21500) WATTS (RD-300), MIFAB (R1200), SUN (RD4000), FROE (200C)
RD-2	ROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 15" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, 2" TALL INTERNAL STANDPIPE, OUTLET SIZE AS LISTED ON DRAWINGS.	ZURN (Z-100), SMITH (1070), WADE (3000), JOSAM (21500) WATTS (RD-300), MIFAB (R1200)
RDO-1	ROOF DRAIN OUTLET - DOWNSPOUT NOZZLE, ROUND STEEL FRAME WITH PERFORATED ALUMINUM HINGED STRAINER, ARCHITECT TO SELECT FROM STANDARD COLORS, OUTLET SIZE AS LISTED ON DRAWINGS.	FROET (LPS SERIES)
SP-1	SUMP PUMP - DUPLEX SUBMERSIBLE, SINGLE-STAGE, CENTRIFUGAL, END-SUCTION PUMPS, STAINLESS STEEL FASTENERS, GUARDS AND HANDLES, UL LISTED.	PUMP - ZOELLER (SERIES 160), WEIL (2443) BARNES (EH), HYDROMATIC (SPD), GOULDS (WE)
	CASING: CAST IRON, INTEGRAL SUPPORT FEET, MINIMUM 2" VERTICAL DISCHARGE. IMPELLER: CAST IRON STATICALLY AND DYNAMICALLY BALANCED, SEMIOPEN NONCLOG DESIGN, KEYED AND SECURED TO SHAFT, PASSES 1/2" SOLIDS	CONTROLS - SAME AS PUMF MANUFACTURER
	MINIMUM. SHAFT: STAINLESS STEEL WITH FACTORY SEALED, GREASE-LUBRICATED SLEEVE OR BALL BEARINGS, CARBON AND CERAMIC SEAL. MOTOR: 3450 RPM, OIL OR AIR-FILLED, HERMETICALLY SEALED WITH AUTO THERMAL OVERLOAD PROTECTION, THREE CONDUCTOR WATERPROOF POWER CABLE OF SUFFICIENT LENGTH.	BASIN - AK INDUSTRIES, FIBER BASIN INC., SAME AS PUMP MANUFACTURER
	CAPACITY (EACH PUMP): 50 GPM, 30 FEET OF HEAD.	
	ELECTRICAL REQUIREMENTS - 1/2 HP, 240 VOLTS, 1 PHASE	
	CONTROLS - WALL MOUNTED NEMA 1 ENCLOSURE, DUPLEX (4) FLOAT WITH AUTOMATIC ALTERNATOR TO LEAD-LAG PUMPS AND ALSO ALLOW BOTH PUMPS TO RUN DURING HIGH LOAD, RUN LIGHT, TEST-OFF-AUTO AND DISCONNECTING MEANS FOR EACH PUMP, HIGH WATER ALARM WITH HORN, STROBE, SILENCING BUTTON AND DRY CONTACTS FOR ALARM AND PUMP STATUS, UL LISTED. FLOATS SHALL BE MERCURY-FREE.	
	BASIN - FIBERGLASS CONSTRUCTION, 42" DIAMETER x 96" DEEP, ANCHOR FLANGE, PIPE INLET(S) AS SHOWN ON DRAWING, CAST IRON OR STEEL GASKETED SOLID COVER WITH OPENINGS FOR PUMP ACCESS, 2" DISCHARGE PIPE FLANGE(S), CONTROL AND POWER CORDS, INSPECTION PORT, STAINLESS STEEL LIFTING CABLE SECURED TO SIDE OF BASIN.	



Revisions:

VA FORM 08 - 6231

CONSULTANT

ARCHITECT/ENGINEER OF RECORD | STAMP

ANDERSON

13605 1st Ave. N. #100 Plymouth, MN 55441

Office of Construction and Facilities Management

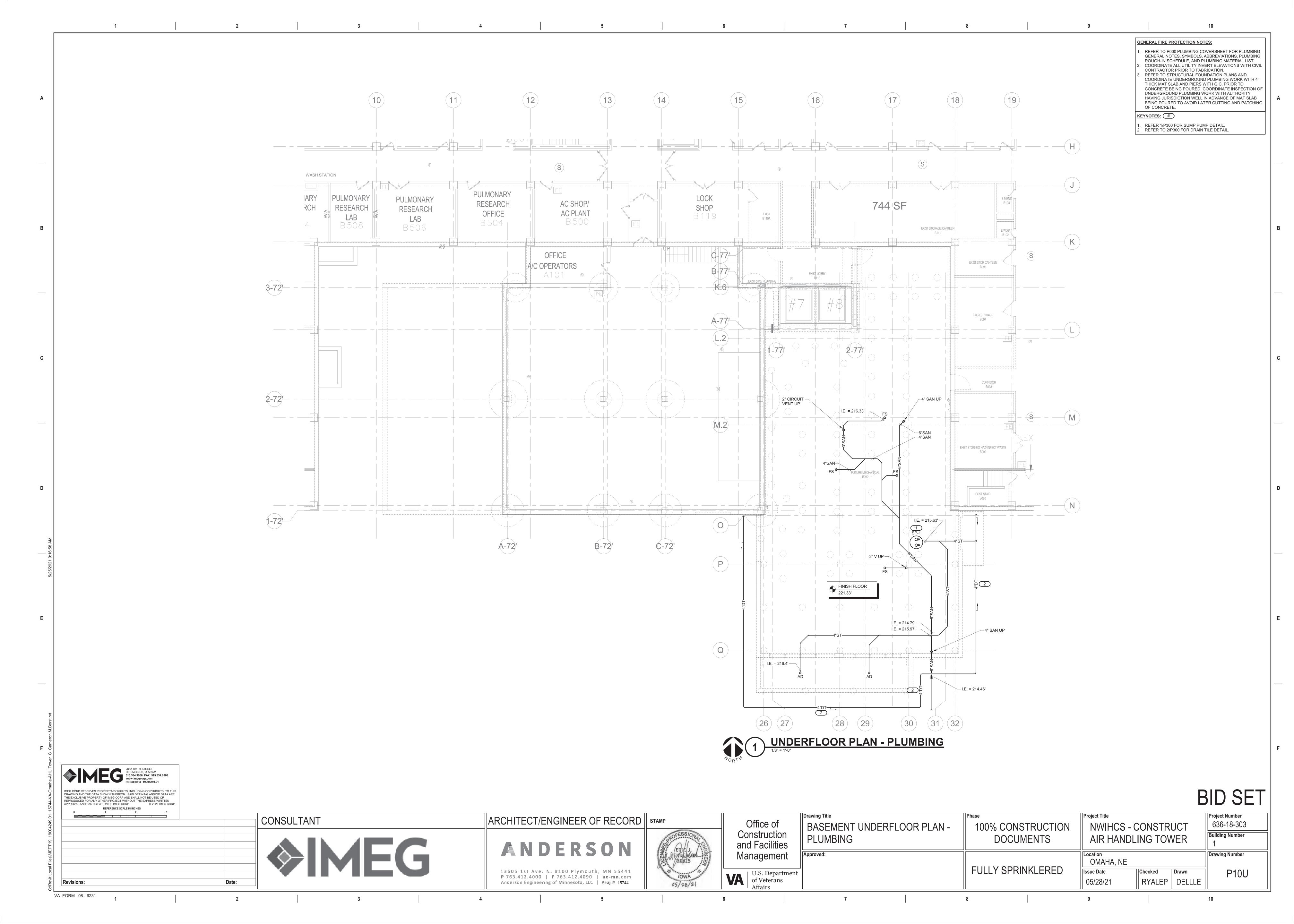
| U.S. Department of Veterans

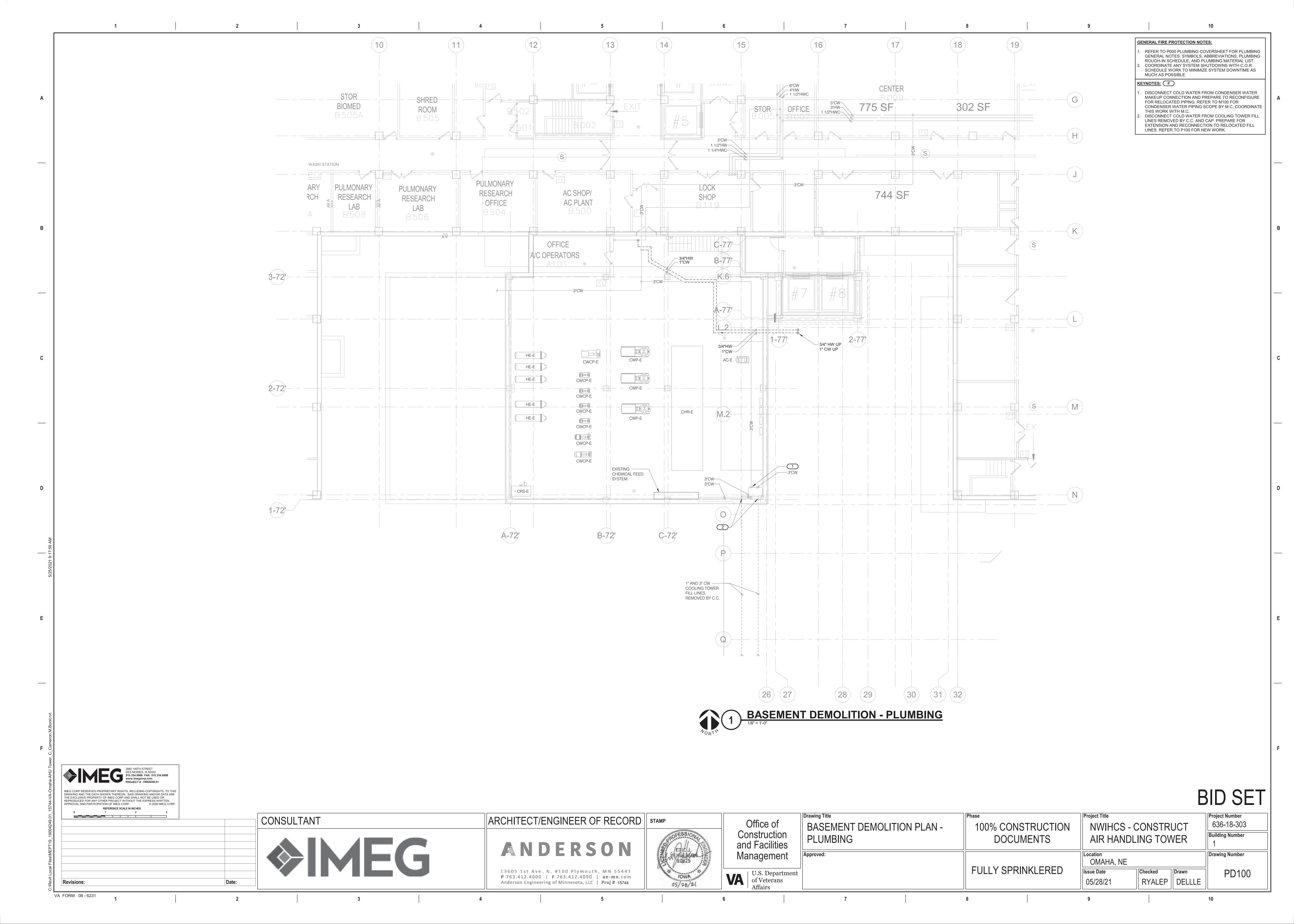
BID SET Drawing Title **Project Title Project Number** 636-18-303 PLUMBING COVERSHEET 100% CONSTRUCTION NWIHCS - CONSTRUCT **Building Number** DOCUMENTS AIR HANDLING TOWER Drawing Number OMAHA, NE **FULLY SPRINKLERED** Checked **Issue Date**

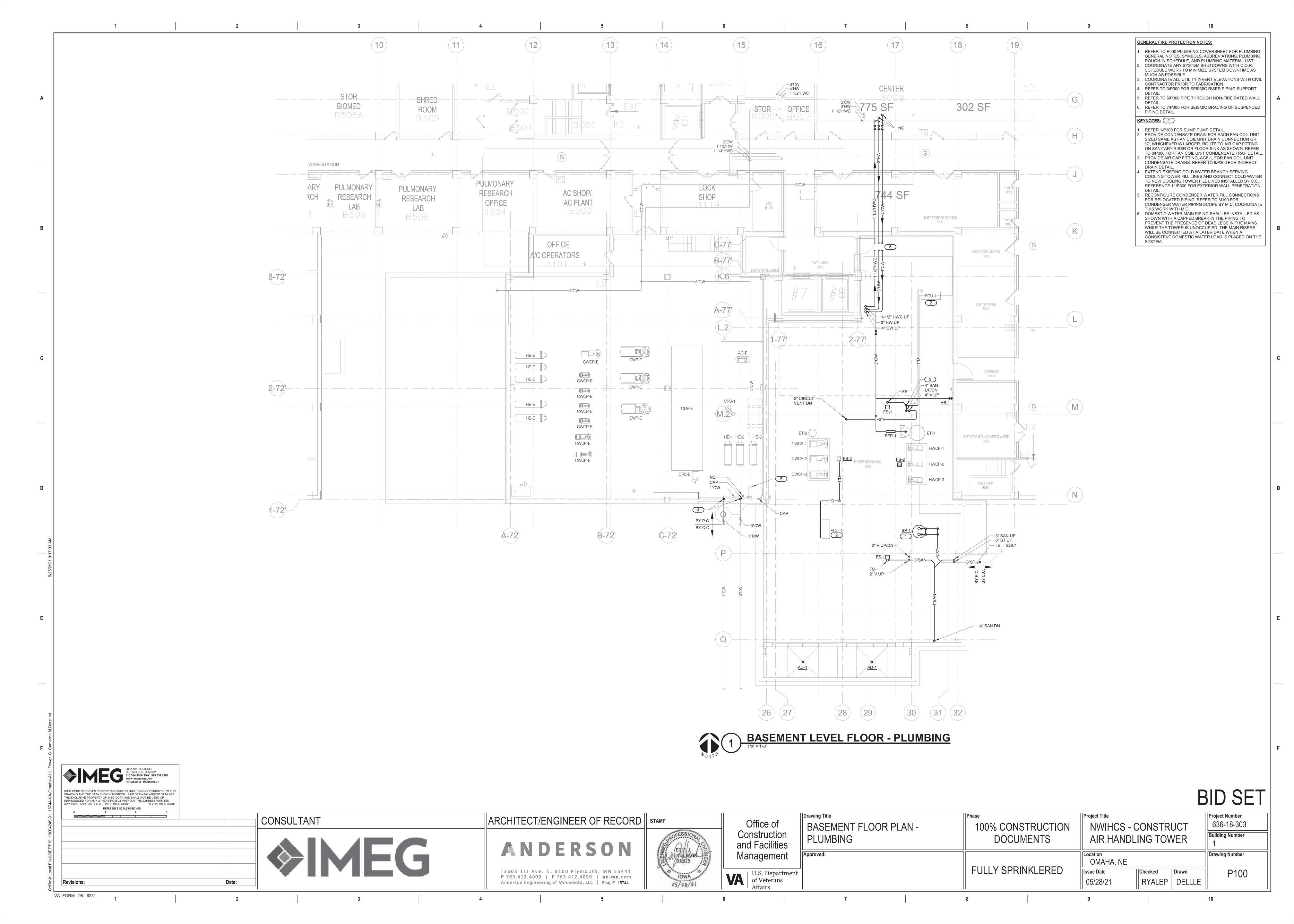
P 763.412.4000 | F 763.412.4090 | ae-mn.com Anderson Engineering of Minnesota, LLC | Proj # 15744

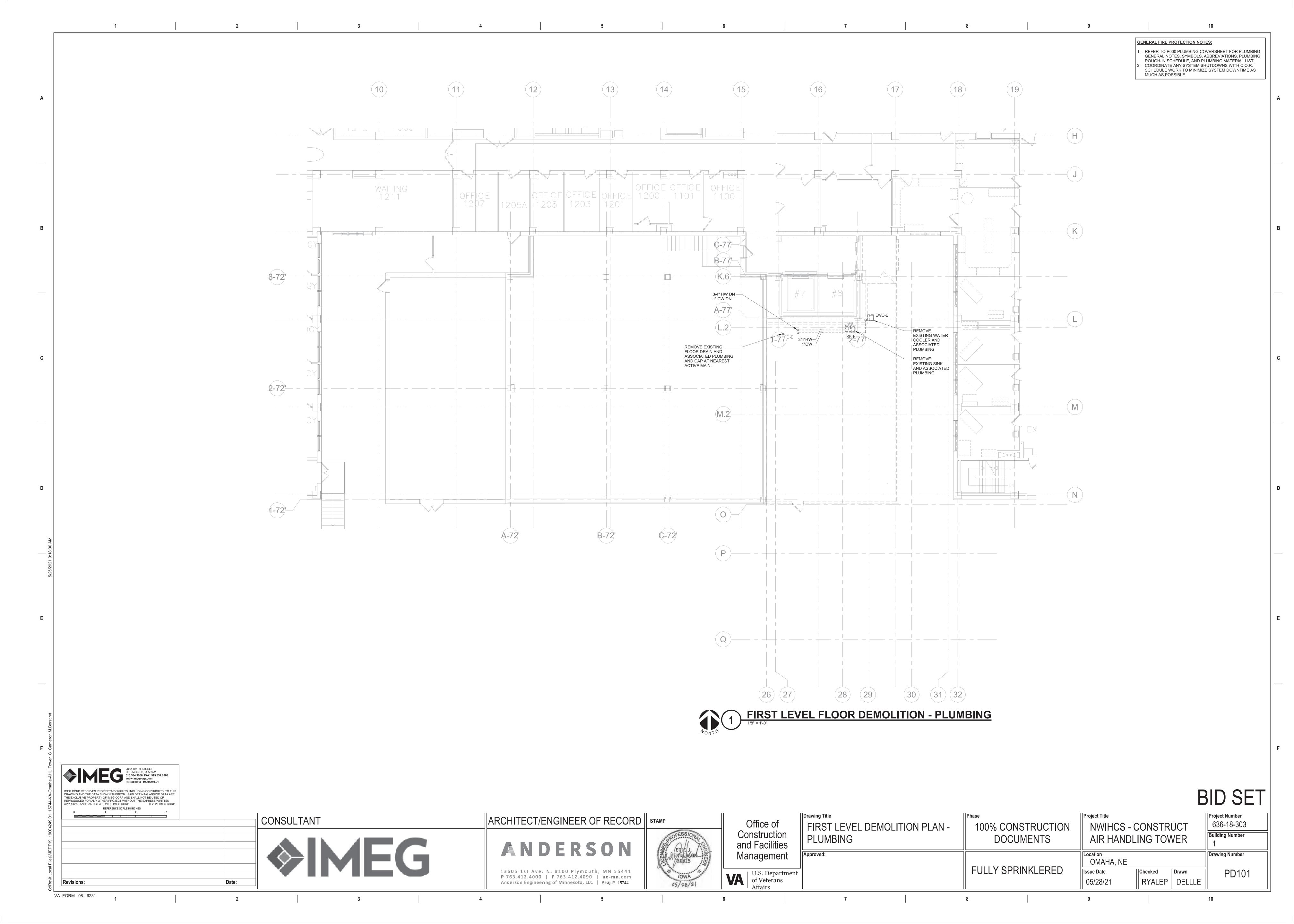
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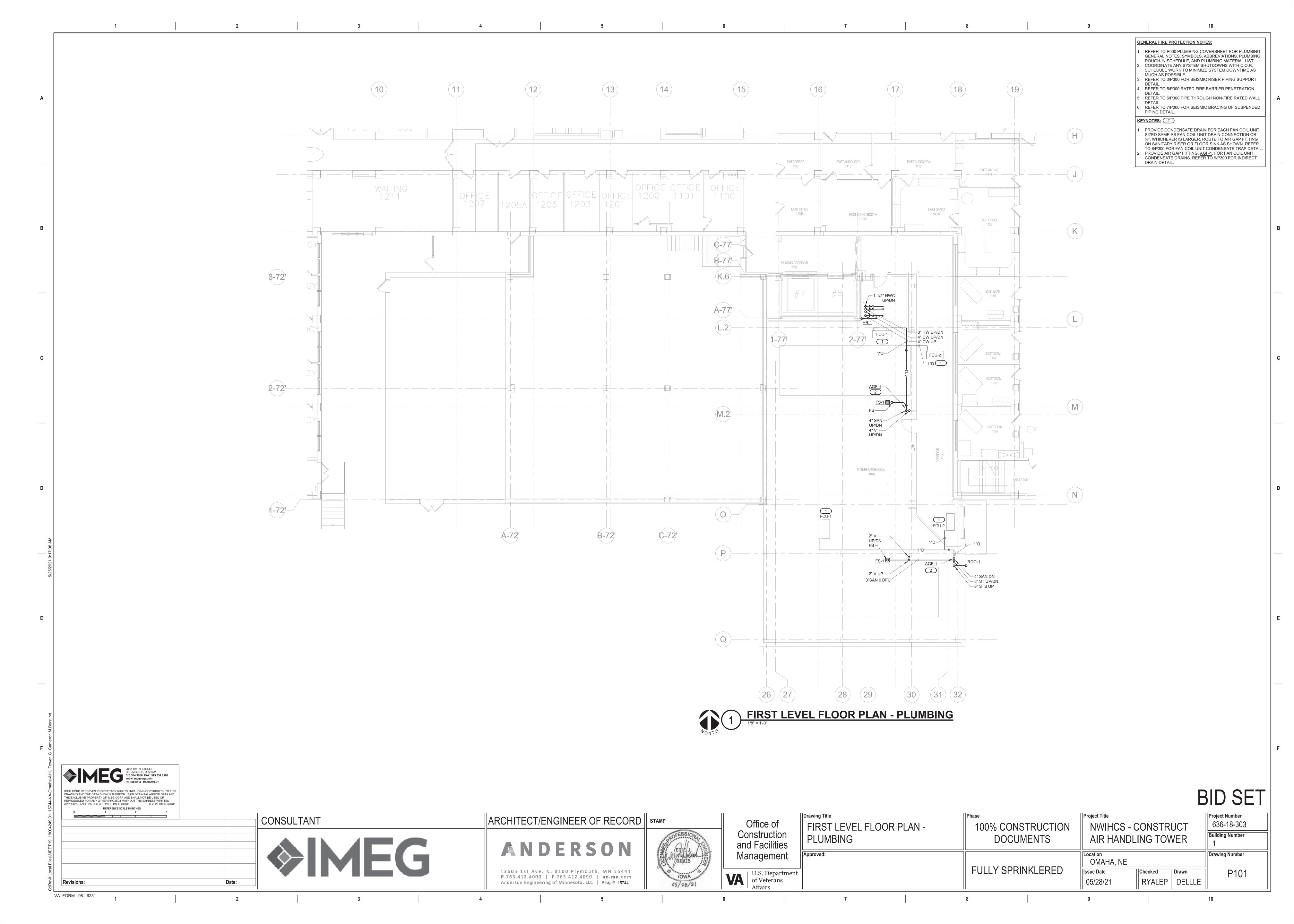
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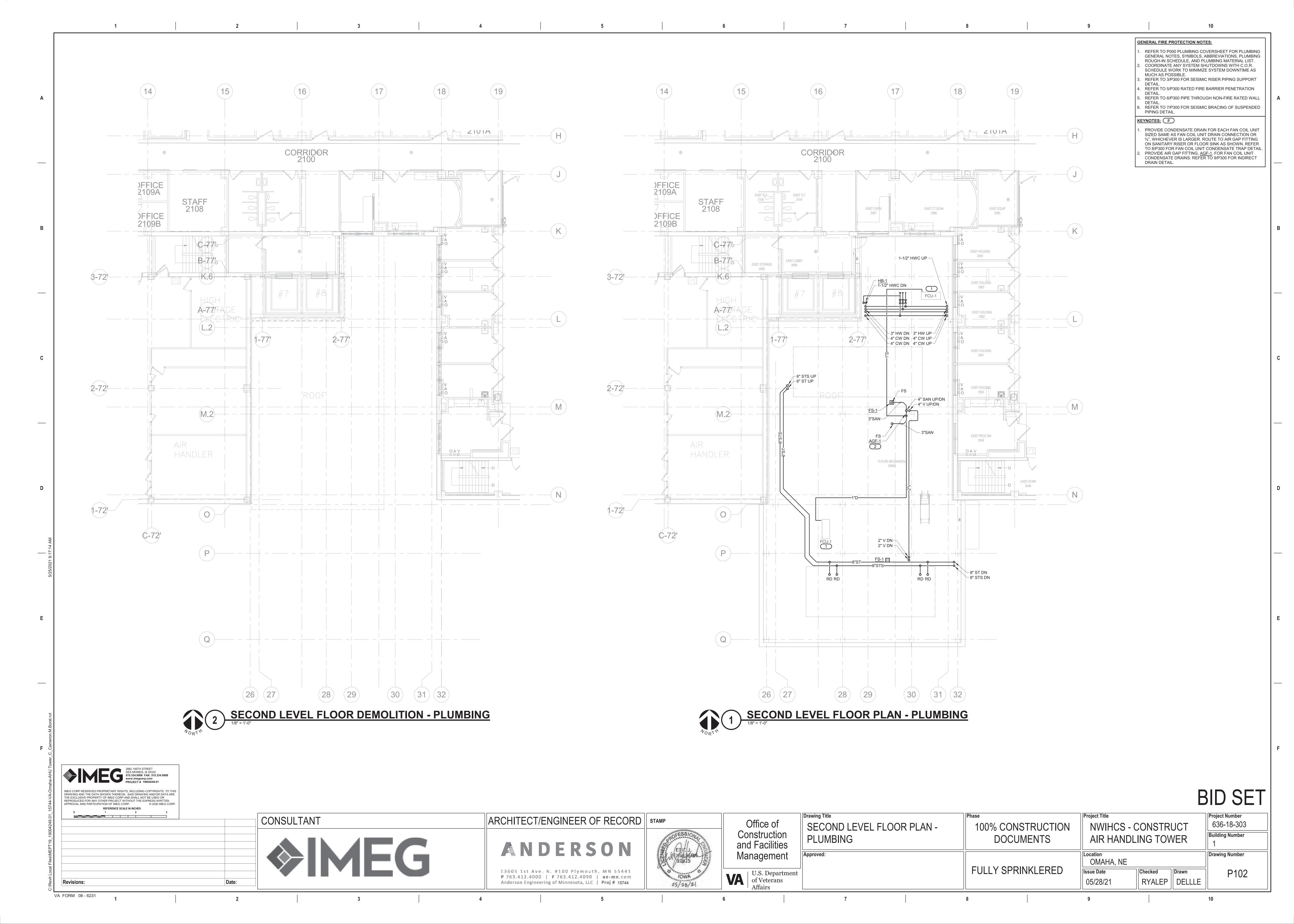


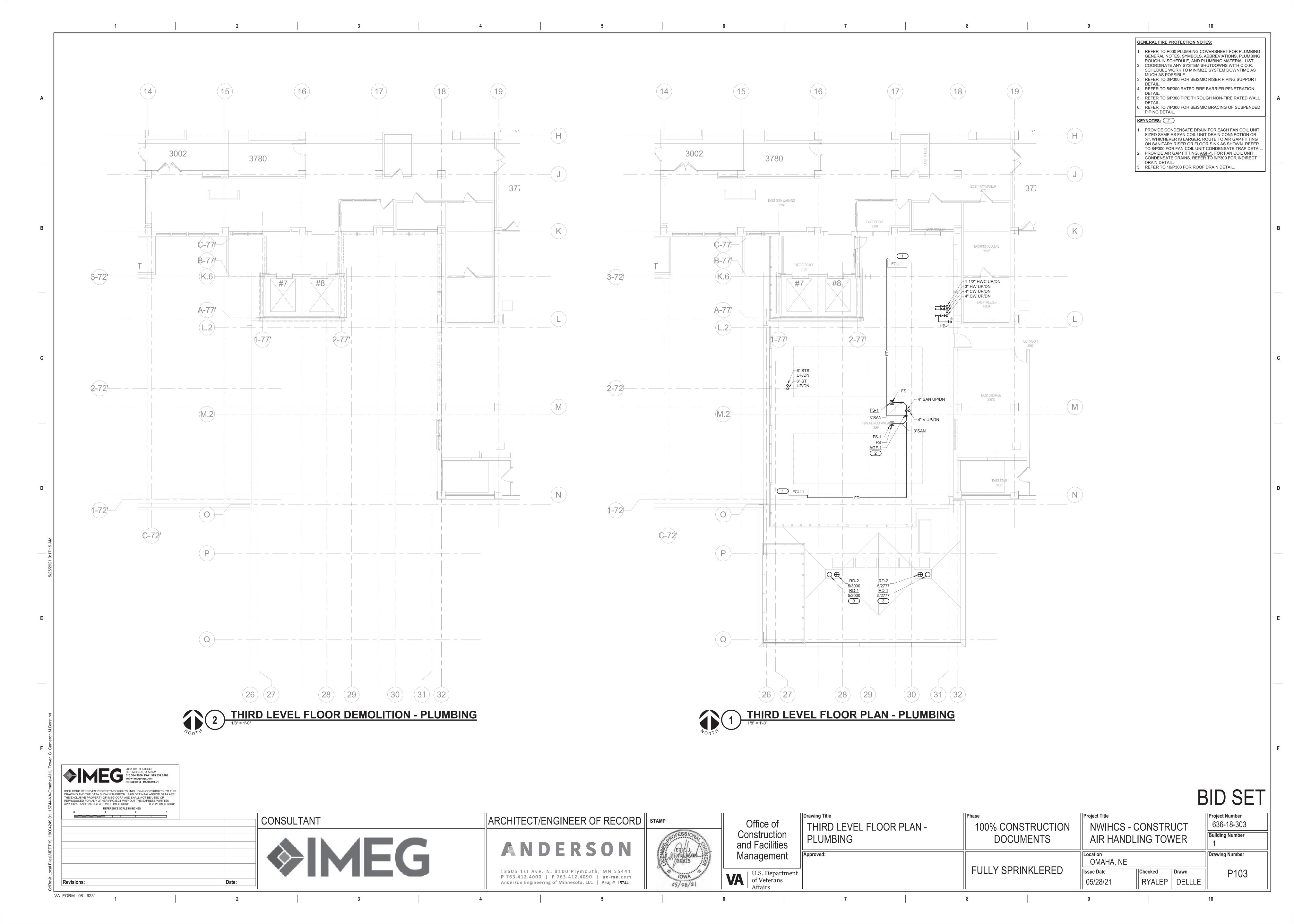


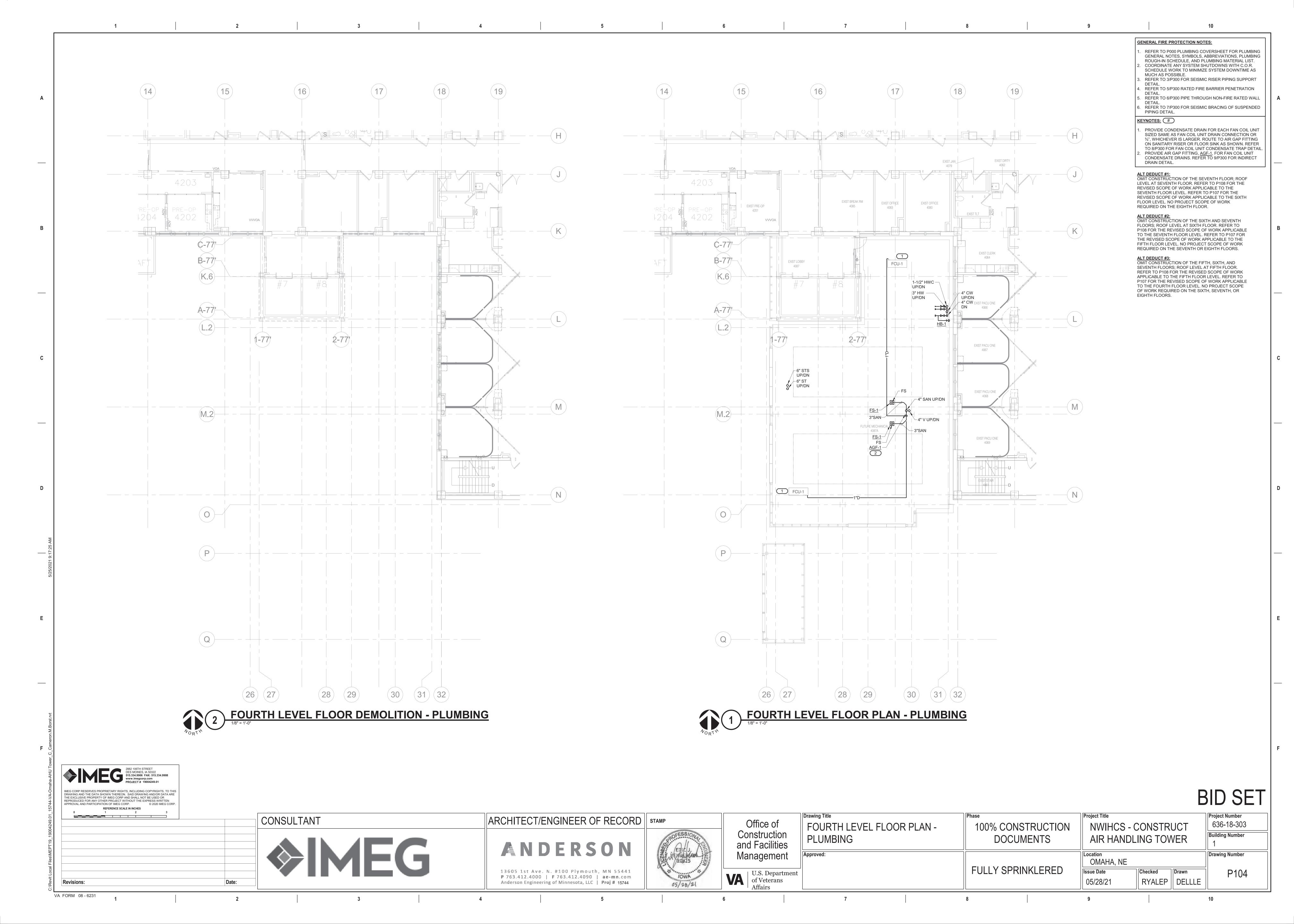


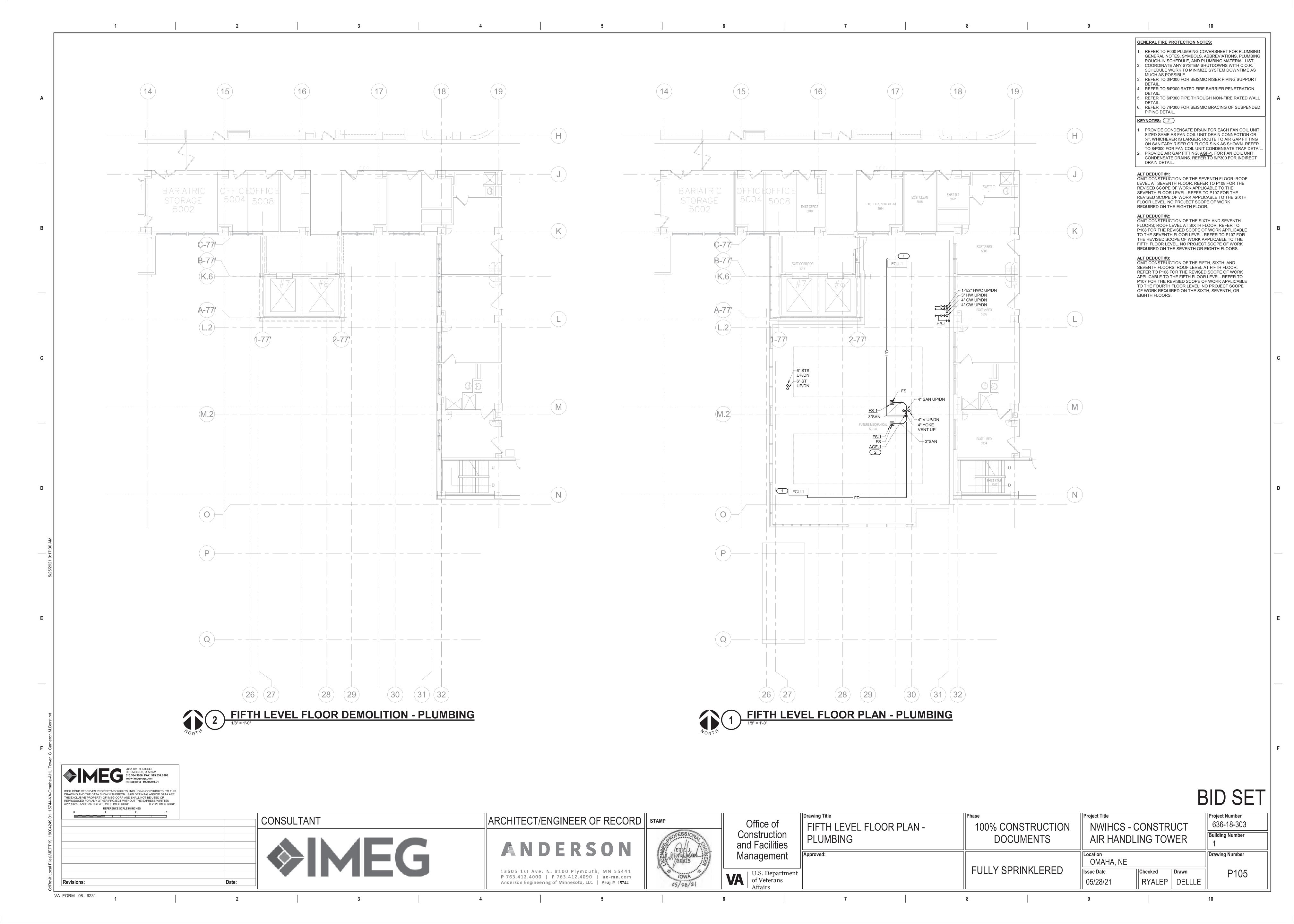


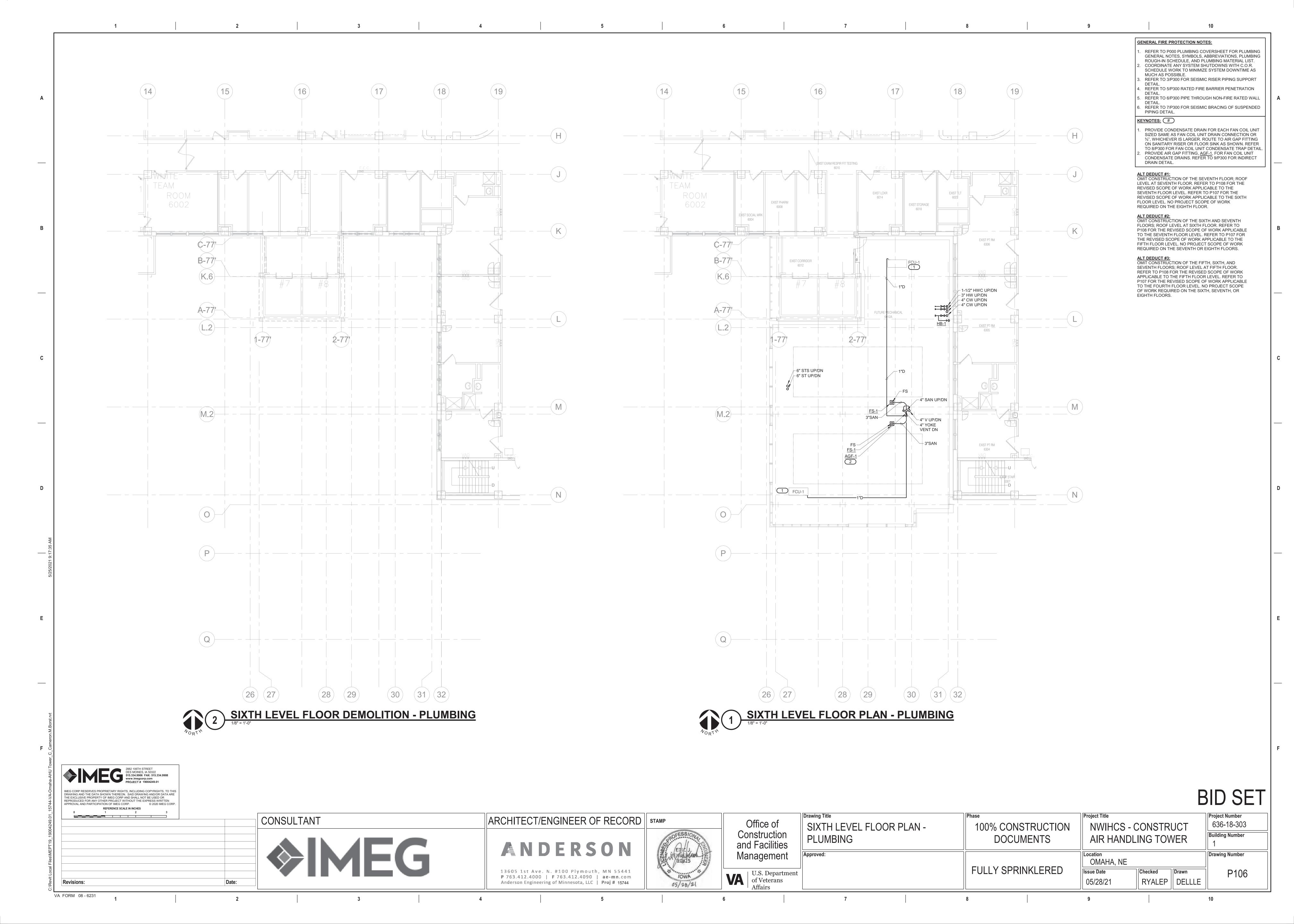


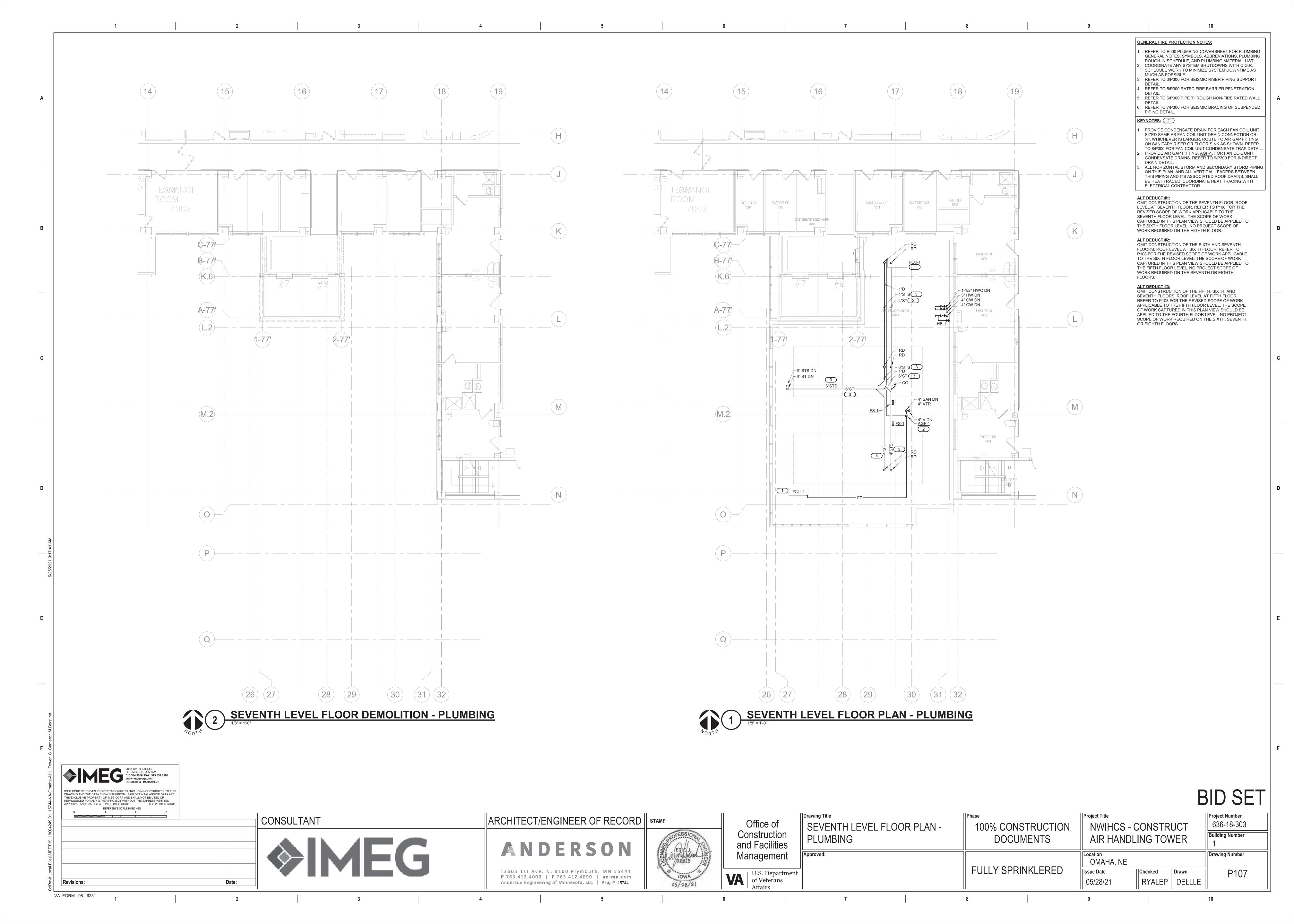


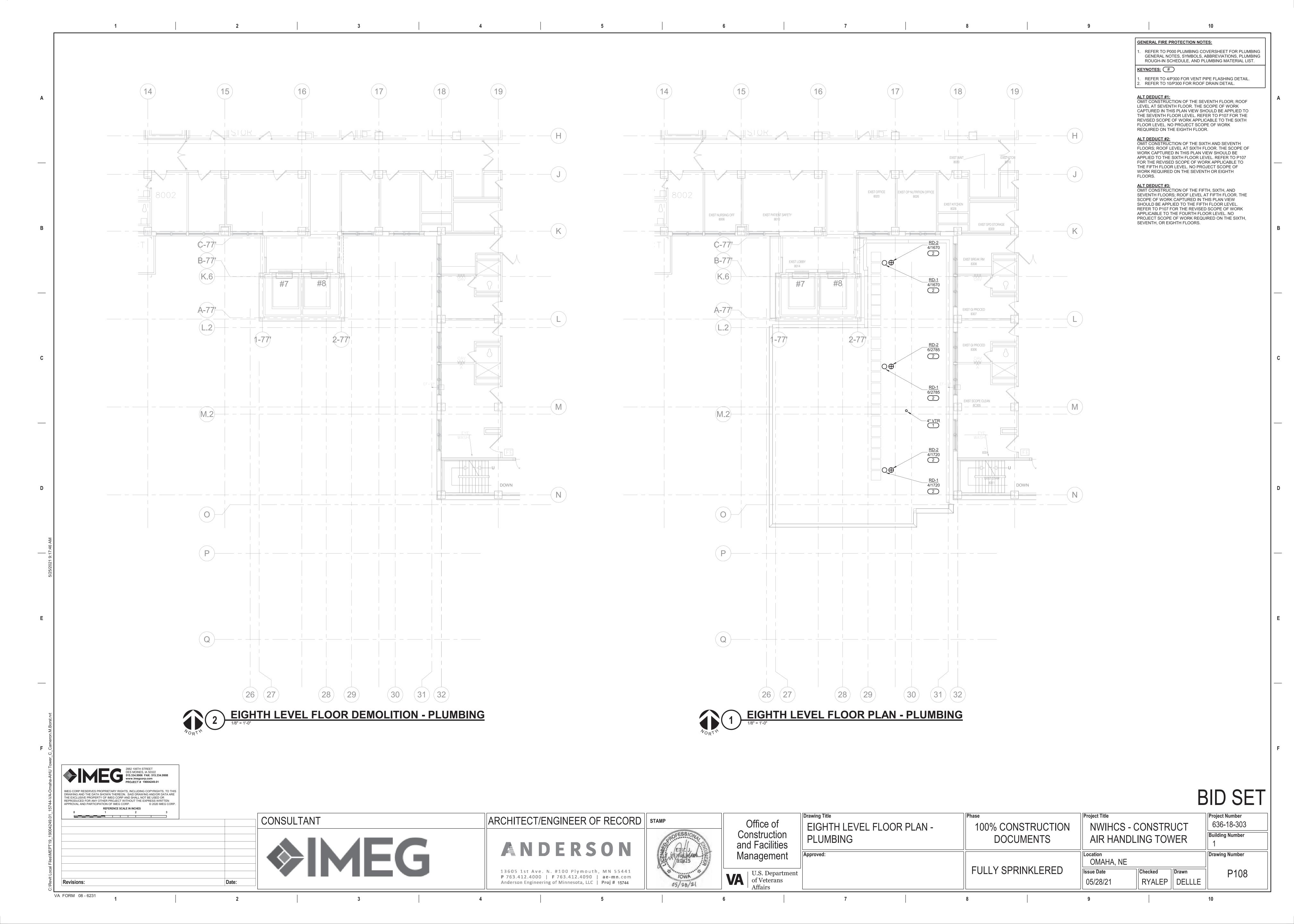


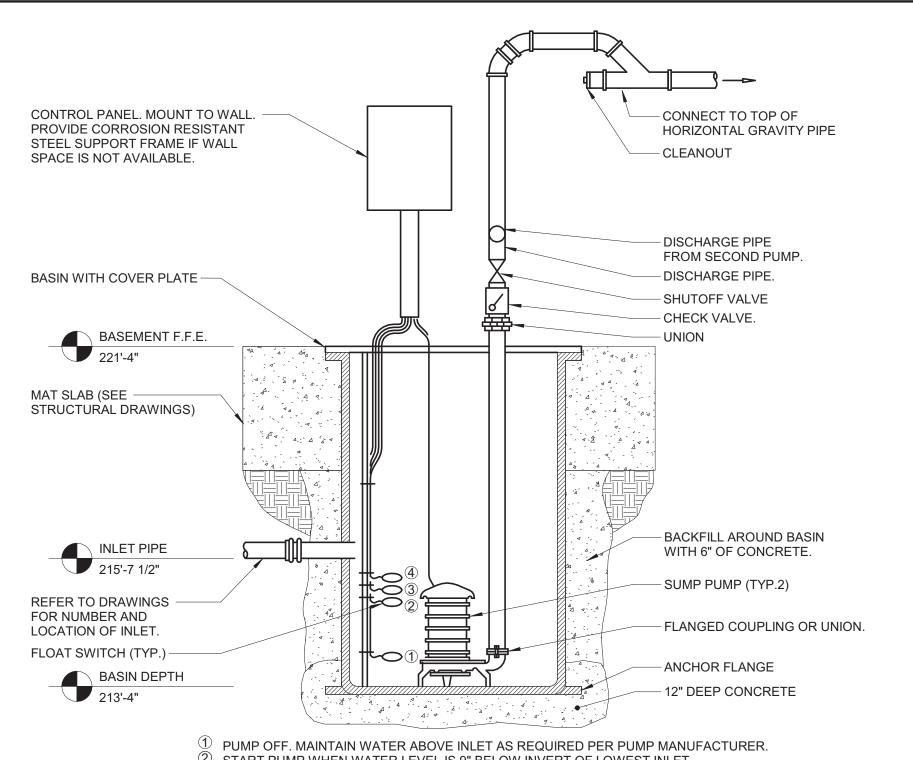








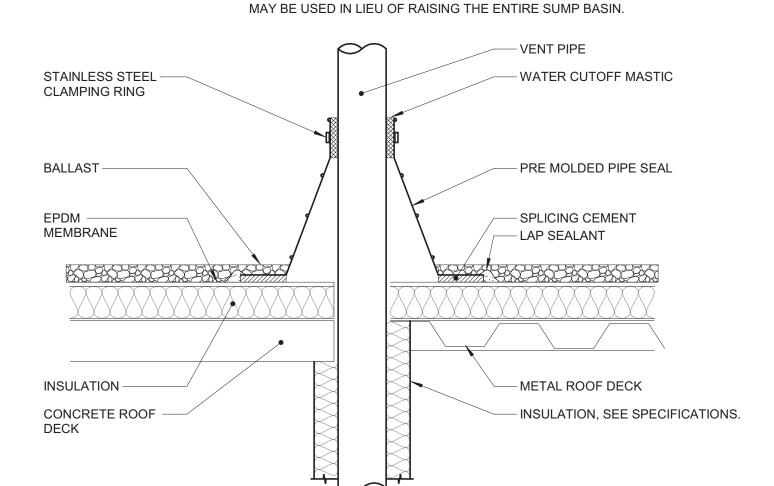




START PUMP WHEN WATER LEVEL IS 9" BELOW INVERT OF LOWEST INLET. START SECONDARY PUMP WHEN WATER LEVEL IS 6" BELOW INVERT OF LOWEST INLET. ALARM WHEN WATER LEVEL IS 3" BELOW INVERT OF LOWEST INLET.

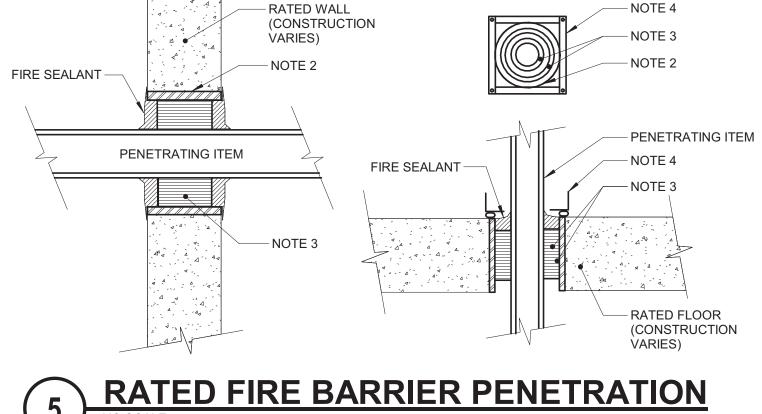
SUMP PUMP DETAIL (DUPLEX)

1. SUMP PUMPS THAT DISCHARGE TO STORM SHALL BE INSTALLED WITH THE TOP OF THE SUMP BASIN 2" ABOVE FLOOR LEVEL A 2" HIGH X4" WIDE CONCRETE CURB AROUND THE PERIMETER OF THE BASIN LID



VENT PIPE FLASHING NO SCALE

1. VENT PIPE SHALL BE A MINIMUM OF 3" DIAMETER UNLESS NOTED LARGER ON FLOOR PLANS. INCREASERS, IF REQUIRED TO TRANSITION TO THE LARGER VTR SIZE, MUST BE INSTALLED AT LEAST 12 INCHES BELOW THE THERMAL ENVELOPE OF



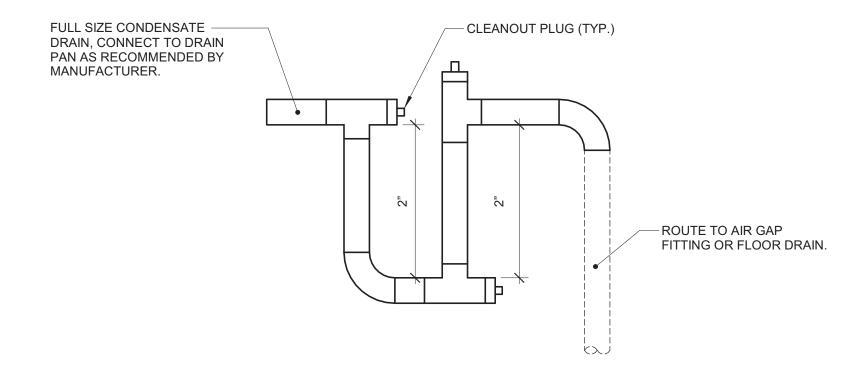
DRAIN TILE DETAIL
NO SCALE

BACKFILL -

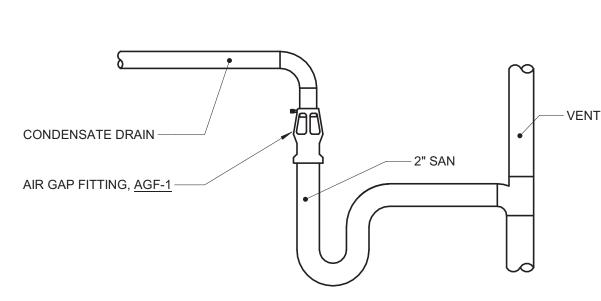
WALL -

FLOOR/MAT SLAB —

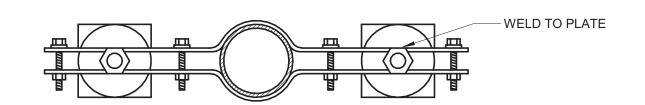
- 1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT. REFER TO SPECIFICATION SECTION 22 05 03 FOR SELECTION OF THROUGH PENETRATION FIRE STOPPING.
- . SCHEDULE 5 PIPE SLEEVE EMBEDDED IN WALL OR FLOOR, OR SMOOTH CORE DRILL. EACH CONTRACTOR FURNISHES SLEEVE TO G.C., COORDINATES SLEEVE LOCATIONS AND DEBURS SLEEVE. G.C. BUILDS SLEEVE INTO WALL OR FLOOR ALLOWING NO GAP AROUND SLEEVE. IF SLEEVE IS NOT PROVIDED WHEN WALL OR FLOOR IS BUILT, CONTRACTOR SHALL INSTALL SLEEVE. SLEEVE SIZE SHALL ALLOW ANNULAR SPACE REQUIRED BY THE
- SELECTED FIRE STOP SYSTEM. 3. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM
- WITHOUT MOVEMENT OF FIRE BARRIER. 4. WATERTIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP. PLACE A BEAD OF WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.

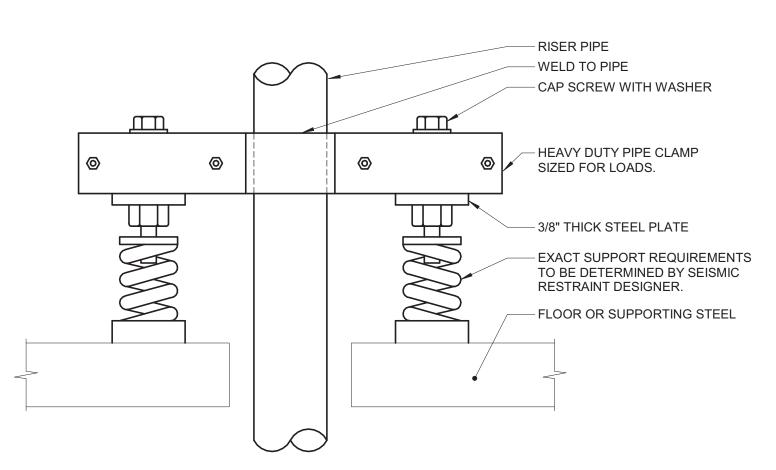


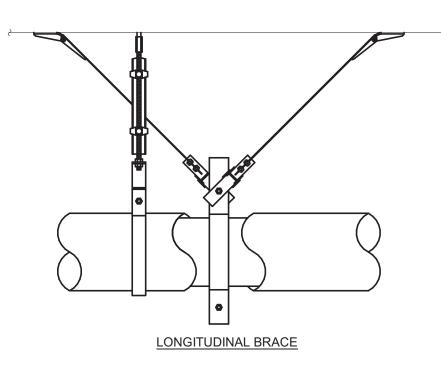
FAN COIL UNIT CONDENSATE TRAP DETAIL



NO SCALE



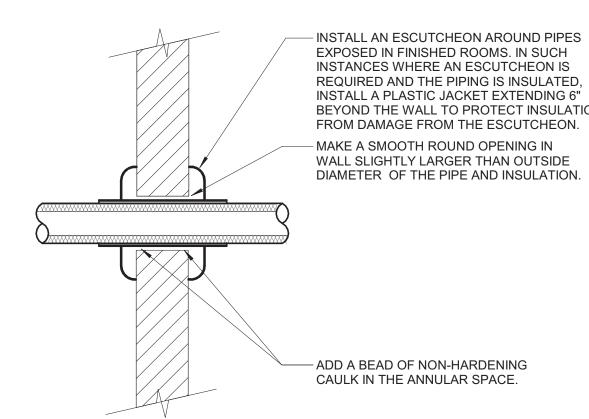




SEISMIC RISER PIPING SUPPORT

1. GENERAL REQUIREMENTS FOR SEISMIC RESTRAINT OF PIPING ARE SHOWN. SPECIFIC REQUIREMENTS, INCLUDING ATTACHMENT TO BUILDING STRUCTURE, SHALL BE DETERMINED BY THE SEISMIC RESTRAINT DESIGNER. REFER TO SPECIFICATION SECTION (SECTION 21 05 50 - FIRE SUPPRESSION, SECTION 22 05

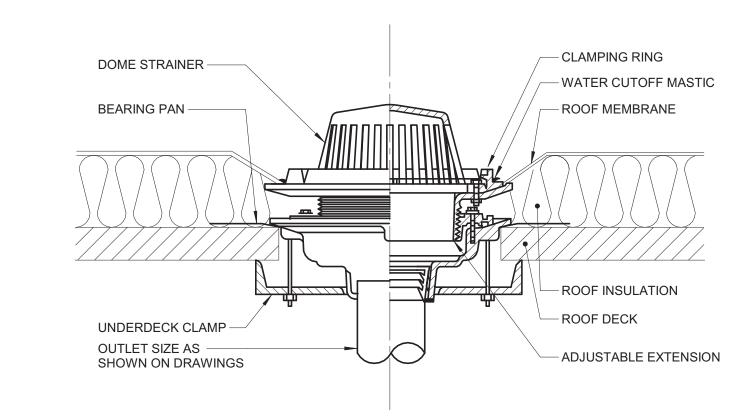
50 - PLUMBING, SECTION 23 05 50 - HVAC) FOR REQUIREMENTS.



BEYOND THE WALL TO PROTECT INSULATION

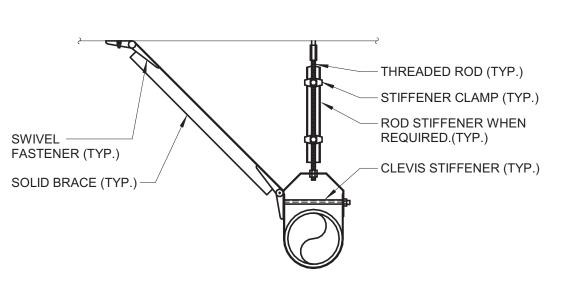
PIPE THROUGH NON-FIRE RATED WALL

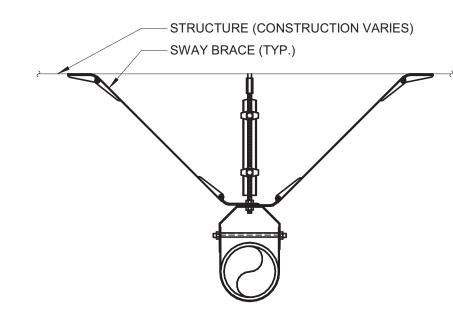
- 1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS. PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION, AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.
- 2. FLOOR OPENINGS ARE SIMILAR SEE SPECIFICATION SECTION 23 05 29 FOR DIFFERENCES BETWEEN FLOOR AND WALL PENETRATIONS. 3. SEE SPECIFICATION SECTION 23 05 03 AND SECTION 23 05 29 FOR ADDITIONAL



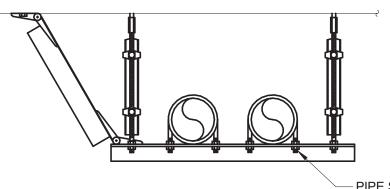
INFORMATION.

ROOF DRAIN DETAIL

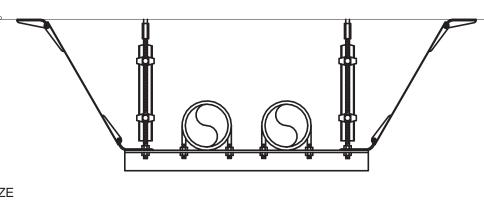




UNIVERSE CABLE BRACE



- PIPE SECURED TO TRAPEZE TRANSVERSE SOLID BRACE



TRANSVERSE CABLE BRACE

TYPE AND MATERIAL.

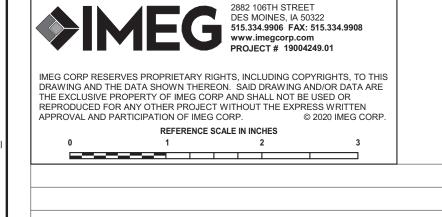
SEISMIC BRACING OF SUSPENDED PIPING

- 1. GENERAL REQUIREMENTS FOR TRANSVERSE AND LONGITUDINAL BRACING OF PIPES ARE SHOWN. SPECIFIC REQUIREMENTS, INCLUDING ATTACHMENT TO BUILDING STRUCTURE, SHALL BE DETERMINED BY THE SEISMIC RESTRAINT DESIGNER. REFER TO SPECIFICATION SECTION (SECTION 21 05 50 - FIRE
- SUPPRESSION, SECTION 22 05 50 PLUMBING, SECTION 23 05 50 HVAC) FOR REQUIREMENTS. 2. REFER TO GENERAL PIPE SUPPORT DETAIL AND SPECIFICATION SECTION (SECTION 22 05 29 - PLUMBING, SECTION 23 05 29 - HVAC) FOR INSULATED PIPING CONSIDERATIONS.
- CONCRETE - HYDROSTATIC SEAL ASSEMBLY APPLY CAULK FLUSH WITH -(LINK-SEAL) SEE SPECS. OUTSIDE SURFACE FOR (SECTION 22 05 29 - PLUMBING, FINISHED APPEARANCE IN SECTION 23 05 29 - HVAC) FOR WALLS ABOVE GRADE. SERVICE TYPE. PIPE THRU WALL INSTALL ASSEMBLY SO BOLT HEADS ARE ACCESSIBLE FROM INSIDE FOR DISASSEMBLY. - WALL SLEEVE SEE SPECS. (SECTION 22 05 29 - PLUMBING, SECTION 23 05 29 - HVAC) FOR

EXTERIOR WALL PENETRATION

- 1. CONTRACTOR MAY FABRICATE PIPE SLEEVE. 2. SEAL SELECTION BASED ON O.D. OF PIPE THRU WALL AND I.D.
- 3. SLEEVE NOT REQUIRED FOR CORE DRILLED PENETRATIONS.

BID SET



Revisions:

VA FORM 08 - 6231

CONSULTANT

ARCHITECT/ENGINEER OF RECORD | STAMP

COMPLETELY WRAP WITH

- AGGREGATE TO BE MINIMUM 1"

RIVER ROCK OR 2" CRUSHED

TOP OF DRAIN TILE MUST BE A

MINIMUM OF 4" BELOW TOP OF

NECESSARY, PLACE DRAIN LINE ADJACENT TO FOOTING.

GEOTEXTILE FABRIC.

FINISHED FLOOR. IF

- 4" PVC-SCHEDULE 40

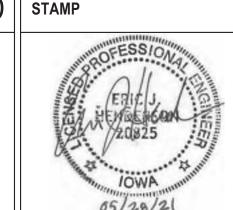
DRAIN-PERFORATED.

3/8"Ø HOLES -

LIMESTONE.

ANDERSON

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Office of Construction and Facilities

Management

U.S. Departn of Veterans

U.S. Department

Drawing Title

PLUMBING DETAILS

DOCUMENTS **FULLY SPRINKLERED**

Project Title Project Number 636-18-303 100% CONSTRUCTION **NWIHCS - CONSTRUCT Building Number** AIR HANDLING TOWER Drawing Number OMAHA, NE Issue Date Checked 05/28/21 RYALEP | DELLLE

