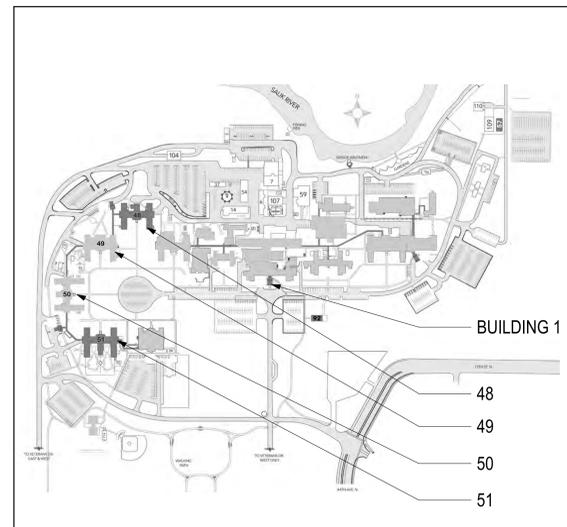


# REPLACE / ADD STEAM MAINS WEST SIDE CAMPUS

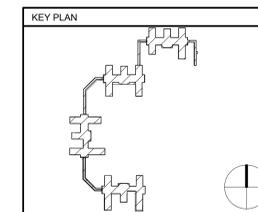
## St. Cloud VA Health Care System Main Campus, St. Cloud, Minnesota

Drawing No.	Title
<b>GENERAL</b>	
G1001	Cover Sheet
<b>MECHANICAL</b>	
M000	Mechanical - Title Sheet
M101	Mechanical - Tunnel Building 48
M102	Mechanical - Tunnel Building 48-49
M103	Mechanical - Tunnel Building 49
M104	Mechanical - Tunnel Building 49-50
M105	Mechanical - Tunnel Building 50
M106	Mechanical - Tunnel Building 50-51
M107	Mechanical - Tunnel Building 51
M201	Mechanical - Sections Building 48
M202	Mechanical - Sections Building 48-49
M203	Mechanical - Sections Building 49
M204	Mechanical - Sections Building 49-50
M205	Mechanical - Sections Building 50
M206	Mechanical - Sections Building 50-51
M207	Mechanical - Sections Building 51
M301	Mechanical - Details
M302	Mechanical - Piping Diagram
M303	Mechanical Piping Diagram
<b>CIVIL</b>	
G001	Civil - Overall Site Plan
D101	Civil - Existing Conditions & Removals Plan 1
D102	Civil - Existing Conditions & Removals Plan 2
C201	Civil - Planned Construction 1
C202	Civil - Planned Construction 2
C301	Civil - Restoration Plan 1
C302	Civil - Restoration Plan 2
<b>STRUCTURAL</b>	
S101	Structural - Overlay
S102	Structural - Demo Plan
S201	Structural - Footing & Foundation & Framing Plans
S202	Structural - Building 48 Framing Plan
S301	Structural - Vault & Tunnel Details
<b>ELECTRICAL</b>	
E000	Electrical - Coversheet
E001	Electrical - Overall Electrical Plan
E101	Electrical - Vault A & Vault D
E102	Electrical - Vault B & Vault C
E501	Electrical - Details & Schedules
<b>HAZARD</b>	
HA001	Hazardous Materials - Locations of Asbestos
HA002	Hazardous Materials - Asbestos contaminated soil abatement

SITE LOCATION MAP VA CAMPUS:



VICINITY MAP:



CONSTRUCTION DOCUMENTS

No.	REVISION	DATE

**CONSULTANT**

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Anderson Engineering of Minnesota, LLC | Proj # 17187

**STAMP**

APPROVED _____ DATE _____	APPROVED PROJECTOR _____ DATE _____	APPROVED PATIENT SAFETY _____ DATE _____	APPROVED O&M MANAGER _____ DATE _____	APPROVED DIRECTOR/PM _____ DATE _____
APPROVED _____ DATE _____	APPROVED SERVICE LINE DIRECTOR _____ DATE _____	APPROVED SAFETY MANAGER _____ DATE _____	APPROVED MO MANAGER _____ DATE _____	APPROVED ASSOCIATE DIRECTOR _____ DATE _____
APPROVED _____ DATE _____	APPROVED O&M COORDINATOR _____ DATE _____	APPROVED CHIEF OF POLICE _____ DATE _____	APPROVED PROJECTS SECTION MANAGER _____ DATE _____	APPROVED NURSE EXECUTIVE _____ DATE _____
APPROVED _____ DATE _____	APPROVED INFECTOR CONTROL NURSE _____ DATE _____	APPROVED O&M MANAGER _____ DATE _____	APPROVED ASSISTANT CHIEF ENGINEER _____ DATE _____	APPROVED CHIEF OF STAFF _____ DATE _____
APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED _____ DATE _____	APPROVED MEDICAL CENTER DIRECTOR _____ DATE _____

**KEY PLAN**

**COVERSHEET**

PROJECT TITLE  
**REPLACE/ADD STEAM MAINS WEST SIDE**

DATE  
**10/25/2024**

PLOT SCALE  
**AS SHOWN**

PROJECT NO.  
**656-21-114**

BUILDING No. \_\_\_\_\_ CHECKED BY **RES** DRAWN **RWB** DRAWING NO. **G1001**

LOCATION  
VA MEDICAL CENTER  
ST. CLOUD, MN 56303

FULLY SPRINKLERED

COVER OF \_\_\_\_\_

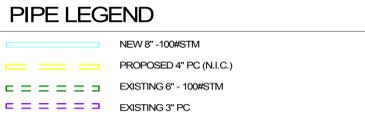
**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

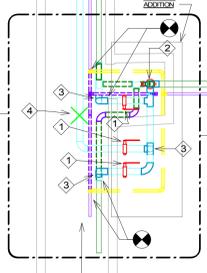
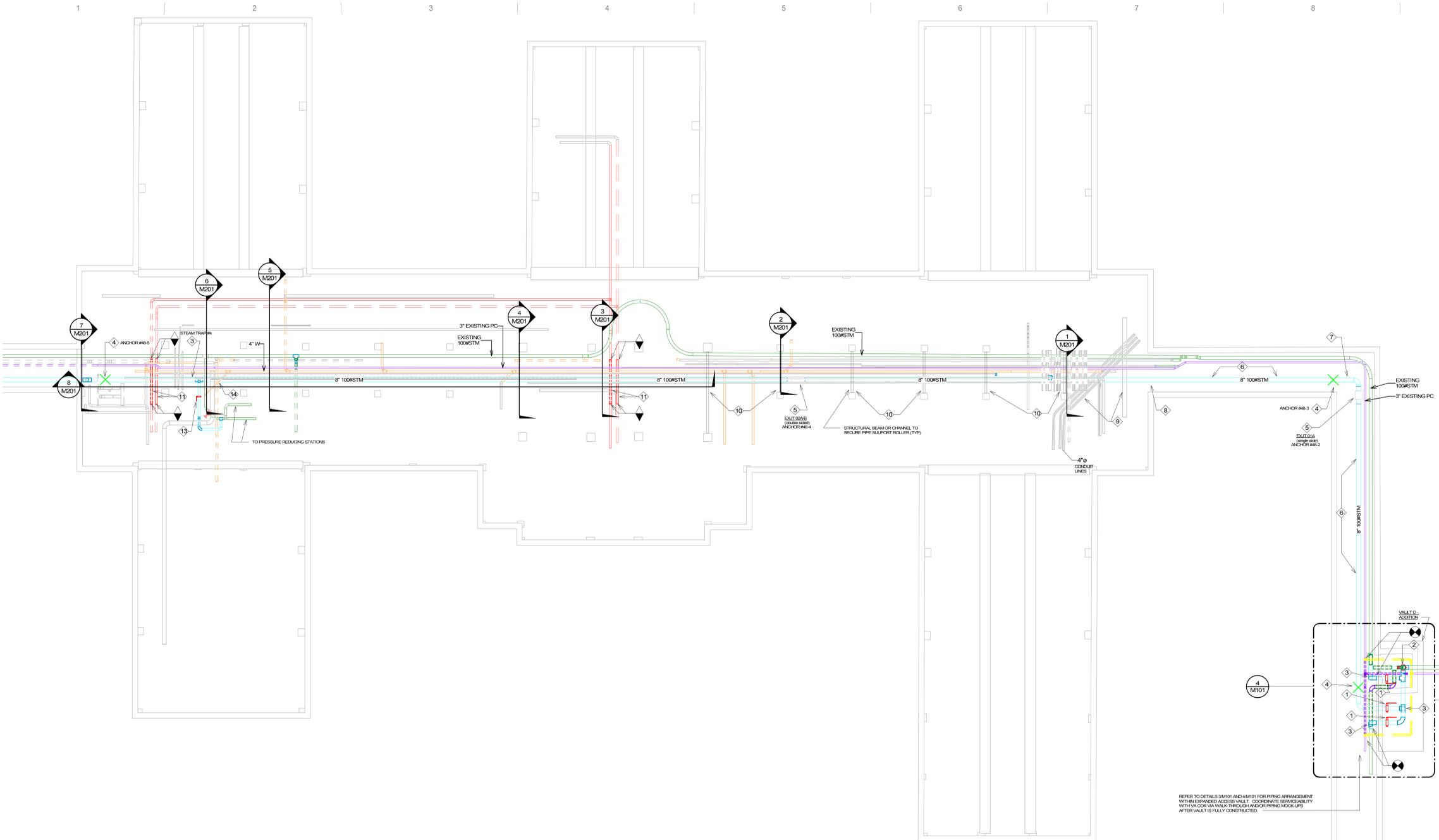
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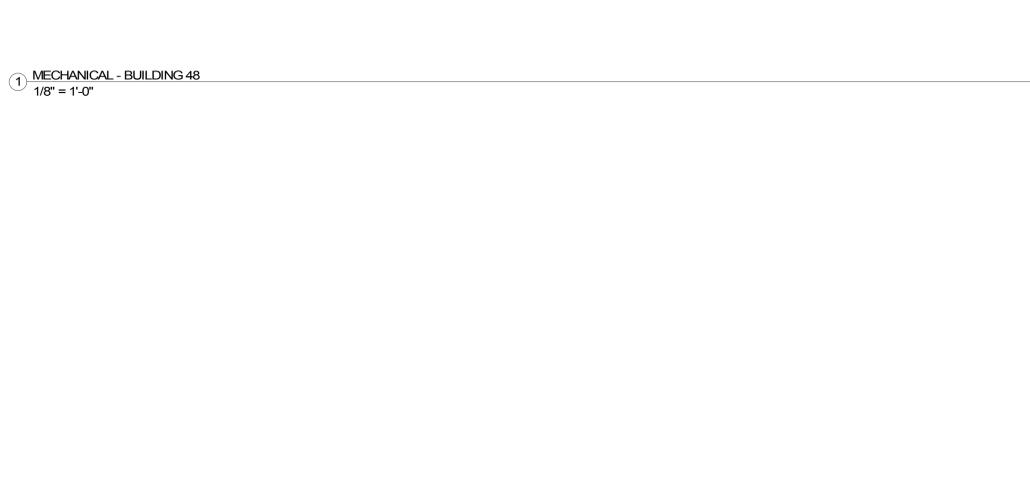
- GENERAL NOTES:**
- MECHANICAL CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATION MANUAL ALONG WITH ANY APPLICABLE VA STANDARDS. ALL REQUIREMENTS WITHIN THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION. OTHERWISE WORST CASE FOR COST OR DISRUPTION SHOULD BE ASSUMED WITHIN BID.
  - COORDINATE NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORT, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
  - SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. NO PIPING SHALL BE SUPPORTED FROM DUCTWORK, CONDUIT, OR OTHER PIPING.
  - MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ANY INSTALLATION ACTIVITIES THAT MAY ADVERSELY AFFECT THE EXISTING HOSPITAL. TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH IMPACTED DEPARTMENTS, MAINTAINING CONSTRUCTION SIGNAGES FOR DIRECTION CONTROL AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BID.



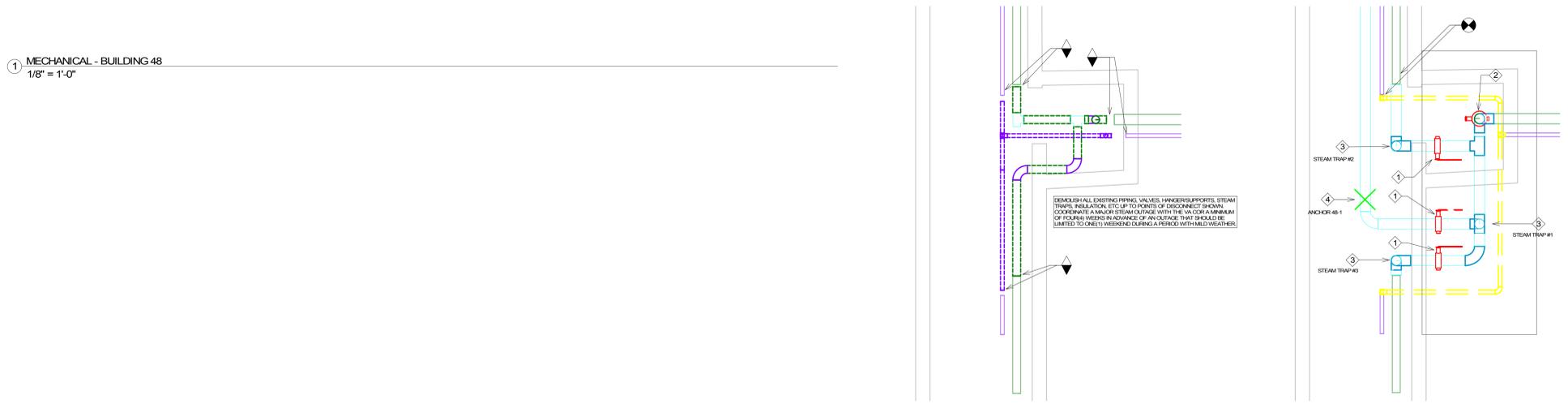
- KEY NOTES:**
- PROVIDE AN 8" TRIPLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVE, BRAY TR-LOK OR EQUAL, FOR ISOLATION OF HIGH PRESSURE STEAM INDICATED. INCLUDE A 1-1/2" PIPE BYPASS AROUND VALVE WITH GATE VALVE TO EQUALIZE PRESSURE ON BOTH SIDES OF VALVE TO ASSIST CLOSING AGAINST PRESSURE.
  - SAME AS KEY NOTE ABOVE, BUT VALVE TO BE INSTALLED ON VERTICAL PIPE (NOT VISIBLE FROM PLAN VIEW PERSPECTIVE).
  - EXTEND DIRT LEG DOWN PAST BOTTOM OF TRANSITION AND INCLUDE END OF MAIN STEAM TRAP PER DETAIL 4M101. ROUTE CONDENSATE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE.
  - WELD AND/OR ANCHOR BOLT PRE-ENGINEERED MAIN ANCHOR, ATS MODEL 8" FIG 702-STD-B-1-P OR EQUAL, TO ANCHOR HIGH PRESSURE STEAM MAIN PIPING NEAR ELBOW OR VERTICAL OFFSET OR CHANGE IN DIRECTION. REFER TO STRUCTURAL DETAILS FOR THRUST FORCE CRITERIA AND ACCEPTABLE METHODS OF SUPPORT TO NEARBY COLUMNS AND/OR FOUNDATION WALLS.
  - PROVIDE SLIP JOINT TYPE EXPANSION ASSEMBLY IN THIS LOCATION. SLIP JOINT SHALL BE MANUFACTURED BY ADVANCED THERMAL SYSTEMS (ATS) MODEL TP2 OR EQUAL. REFER TO SCHEDULE FOR MODEL NUMBERS AND EXPANSION ALLOWANCE FOR EACH SPECIFIC LOCATION. ALSO REFER TO DETAIL 8M101 FOR SPACING OF PIPE GUIDES AND REMOVABLE INSULATION JACKETING REQUIRED.
  - ROUTE HIGH PRESSURE STEAM PIPING CLOSE TO CRAWLSPACE DIRT FLOOR THROUGH TUNNEL. CONTRACTOR MAY OPT TO SUPPORT PIPING FROM WALL BRACKETS INSTEAD OF HANGERS ALONG THIS SECTION OF TUNNEL. NOTE THAT ALL HANGERS, UNLESS OTHERWISE NOTED, TO HAVE ROLLERS TO ALLOW EXPANSION AND ALSO BE USED FOR METHOD OF TRANSPORTING PIPING IF NEEDED. COORDINATE WALKPATH SPACE THAT WILL REMAIN WITH VA COR PRIOR TO INSTALLING ANY PIPING IN THIS AREA (PROVIDE CARDBOARD MOCK-UP IF REQUESTED TO HELP VISUALIZE).
  - STEAM MAIN WILL CROSS PATH OF TUNNEL AT THIS LOCATION. PROVIDE SMALL SUPPORT PLATFORM ABOVE PIPE TO ALLOW CLIMBING OVER PIPE WITHOUT APPLYING ANY WEIGHT TO PIPE MAIN.
  - THERE IS AN EXISTING CONCRETE CURB ACROSS OPENING OF TUNNEL, APPROXIMATELY 12'X12', THAT WILL NEED TO BE CUT AND MODIFIED OR REMOVED TO ALLOW STEAM MAIN TO PASS THROUGH WITHOUT JOGGING IN ELEVATION (KEEP AS STRAIGHT AS POSSIBLE BETWEEN ANCHOR POINTS).
  - ROUTE STEAM MAIN UNDERNEATH ELECTRICAL CONDUITS FOUND THROUGHOUT THIS AREA.
  - SUPPORT HANGERS MAY BE DIFFICULT TO SECURE TO STRUCTURE. CONTRACTOR MAY HAVE OPTION TO SECURE STEEL CHANNEL OR HEAVY DUTY UNISTRUT, FROM INSIDE FACE OF ADJACENT COLUMN FOOTINGS TO ALLOW ADDITIONAL SPACE FOR ROLLER SUPPORTS. NOTE THAT UP TO 6" OF DIRT MAY REQUIRE TO BE EXCAVATED THROUGH THIS AREA TO ALLOW FOR ENOUGH CLEARANCE BELOW EXISTING PIPING AND/OR CONDUIT THROUGH THIS ENTIRE AREA.
  - REMOVE AND REROUTE HEATING WATER SUPPLY AND RETURN PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3" - 4" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REROUTE EXISTING 3" PUMPED CONDENSATE PIPING TO A DIFFERENT ELEVATION TO ALLOW SPACE FOR AN AVERAGE PERSON TO FIT BETWEEN PIPING TO GET TO WEST SIDE OF TUNNEL (ACROSS EXISTING STEAM MAIN). SERVICE WALKWAY WOULD BE CONSIDERED TO BE ON THAT WEST SIDE OF TUNNEL.
  - CLOSE EXISTING ISOLATION VALVE TO PRESSURE REDUCING STATIONS INSIDE CRAWLSPACE (NOTE THIS WILL REQUIRE A TOTAL STEAM OUTAGE TO ENTIRE BUILDING 48). CONNECT 4" TAKE-OFF FROM NEW 8" MAIN DOWNSTREAM OF THIS TRIPLE OFFSET BUTTERFLY VALVE WITH 1" GATE VALVE BYPASS (SIMILAR TO WHAT WAS DESCRIBED IN KEY NOTE #1).
  - REMOVE AND REROUTE WASTE PIPE BRANCH TO HIGHER ELEVATION. FIELD VERIFY PIPE SIZE. UTILIZE EXISTING WYE CONNECTION TO MAIN.



1 MECHANICAL - BUILDING 48  
1/8" = 1'-0"



3 MECHANICAL - BUILDING 48 - VAULT DEMOLITION  
1/4" = 1'-0"



4 MECHANICAL - BUILDING 48 - VAULT STEAM PIPING  
1/4" = 1'-0"

No.	REVISION	DATE

**CONSULTANT**

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www.dunhameng.com  
mechanical • electrical consulting engineering

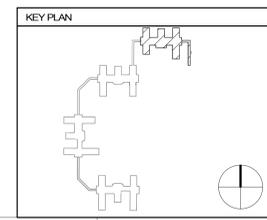
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Anderson Engineering of Minnesota, LLC | Proj #

**STAMP**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Name: Jason R. Gotwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360



PROJECT TITLE REPLACE/ADD STEAM MAINS WEST SIDE	DATE 10/25/2024
BUILDING 48	REVISION M101
DESIGNED BY JRG	DRAWN BY LS/TM
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	FULLY SPRINKLERED DWG. OF

**CONSTRUCTION DOCUMENTS**

**VA** U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

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**GENERAL NOTES:**

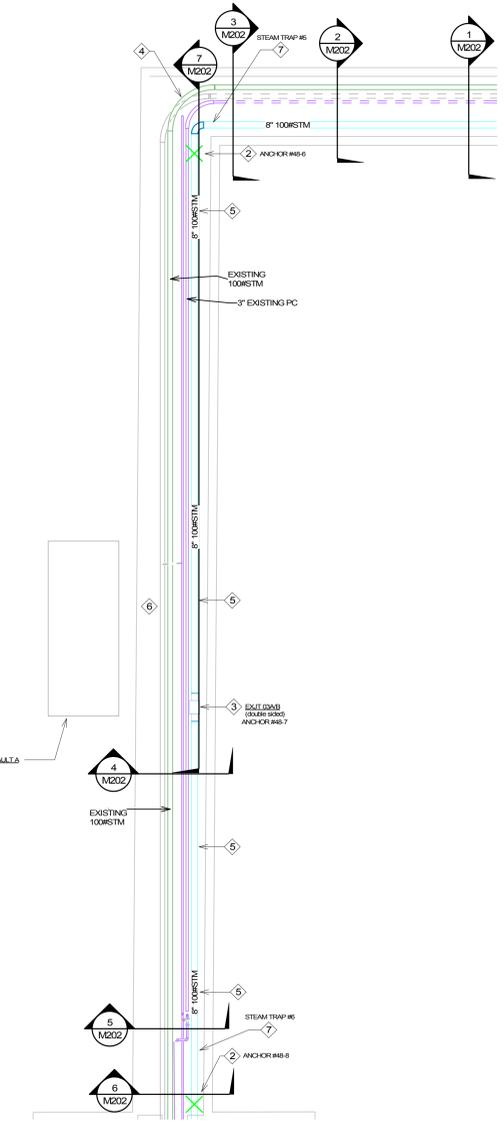
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- COORDINATE NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORT, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
- SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. NO PIPING SHALL BE SUPPORTED FROM DUCTWORK, CONDUIT, OR OTHER PIPING.
- MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ANY INSTALLATION ACTIVITIES THAT MAY ADVERSELY AFFECT THE EXISTING HOSPITAL. TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH IMPACTED DEPARTMENTS, MAINTAINING CONSTRUCTION BOUNDARIES FOR INFLECTION CONTROL, AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BID.

**PIPE LEGEND**

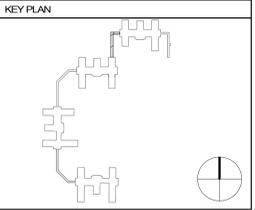
- NEW 8" -100RSTM
- PROPOSED 4" PC
- EXISTING 6" - 100RSTM
- EXISTING 3" PC

**KEY NOTES:**

- RUN 8" STEAM PIPE AT 0'-11" AFF.
- WELD AND/OR ANCHOR BOLT PRE-ENGINEERED MAIN ANCHOR, AT5 MODEL 87-Fig 702-STD-B-1P OR EQUAL. TO ANCHOR HIGH PRESSURE STEAM MAIN PIPING NEAR ELBOW OR VERTICAL OFFSET OR CHANGE IN DIRECTION. REFER TO STRUCTURAL DETAILS FOR THRUST FORCE CRITERIA AND ACCEPTABLE METHODS OF SUPPORT TO NEARBY COLUMNS AND/OR FOUNDATION WALLS.
- PROVIDE SLIP JOINT TYPE EXPANSION ASSEMBLY IN THIS LOCATION. SLIP JOINT SHALL BE MANUFACTURED BY ADVANCED THERMAL SYSTEMS (ATS) MODEL TP2 OR EQUAL. REFER TO SCHEDULE FOR MODEL NUMBERS AND EXPANSION ALLOWANCE FOR EACH SPECIFIC LOCATION. ALSO REFER TO DETAIL 6M301 FOR SPACING OF PIPE GUIDES AND REMOVABLE INSULATION JACKETING REQUIRED.
- REROUTE EXISTING 3" PUMPED CONDENSATE PIPING TO A DIFFERENT ELEVATION TO ALLOW SPACE FOR AN AVERAGE PERSON TO FIT BETWEEN PIPING TO GET TO WEST SIDE OF TUNNEL (ACROSS EXISTING STEAM MAIN). SERVICE WALK WAY WOULD NOW BE CONSIDERED TO BE ON THE WEST SIDE OF TUNNEL AFTER ROUTING NEW 8" STEAM MAIN ON EAST SIDE CLOSE TO GROUND.
- ROUTE NEW 8" HIGH PRESSURE STEAM MAIN CLOSE TO FLOOR AND EAST WALL OF TUNNEL. SUPPORT STEAM PIPING EITHER WITH ROLLER HANGERS SUPPORTED FROM STRUCTURE, OR BY USING WELDED STEEL BRACKETS ANCHORED INTO WALL TO SUPPORT PIPE ROLLERS. KEEP PIPE ROUTE AS STRAIGHT AS POSSIBLE FOR EXPANSION CONTROL PURPOSES.
- PRIOR TO VAULT "A" CONSTRUCTION: REMOVE AND REROUTE PIPING SECURED TO TUNNEL WALLS THAT ARE TO BE DEMOLISHED AND PROTECT EXISTING PIPING TO REMAIN.
- EXTEND DIRT LEGS DOWN PAST BOTTOM OF TRANSITION, OR ALONG STRAIGHT LENGTH OF PIPING NEAR, AND INCLUDE END OF MAIN STEAM TRAP PER DETAIL 4N301. ROUTE CONDENSATE PIPE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE.



1 MECHANICAL - TUNNEL 48-49  
1/8" = 1'-0"



**MECHANICAL - TUNNEL BUILDINGS 48-49**

**CONSTRUCTION DOCUMENTS**



No.	REVISION	DATE

**CONSULTANT**

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Anderson Engineering of Minnesota, LLC | Proj #

**STAMP**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Name: Jason R. Goltwatt, P.E.  
Date: 10/25/2024 Reg. No. 41360

**PROJECT TITLE**  
REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
10/25/2024

**BUILDING**  
48-49

**CHECKED BY**  
JRG

**DRAWN**  
LS/STM

**PROPOSED**  
M102

**LOCATION**  
VA MEDICAL CENTER ST. CLOUD, MN 56303

**FULLY SPRINKLERED**

DWG. OF

A

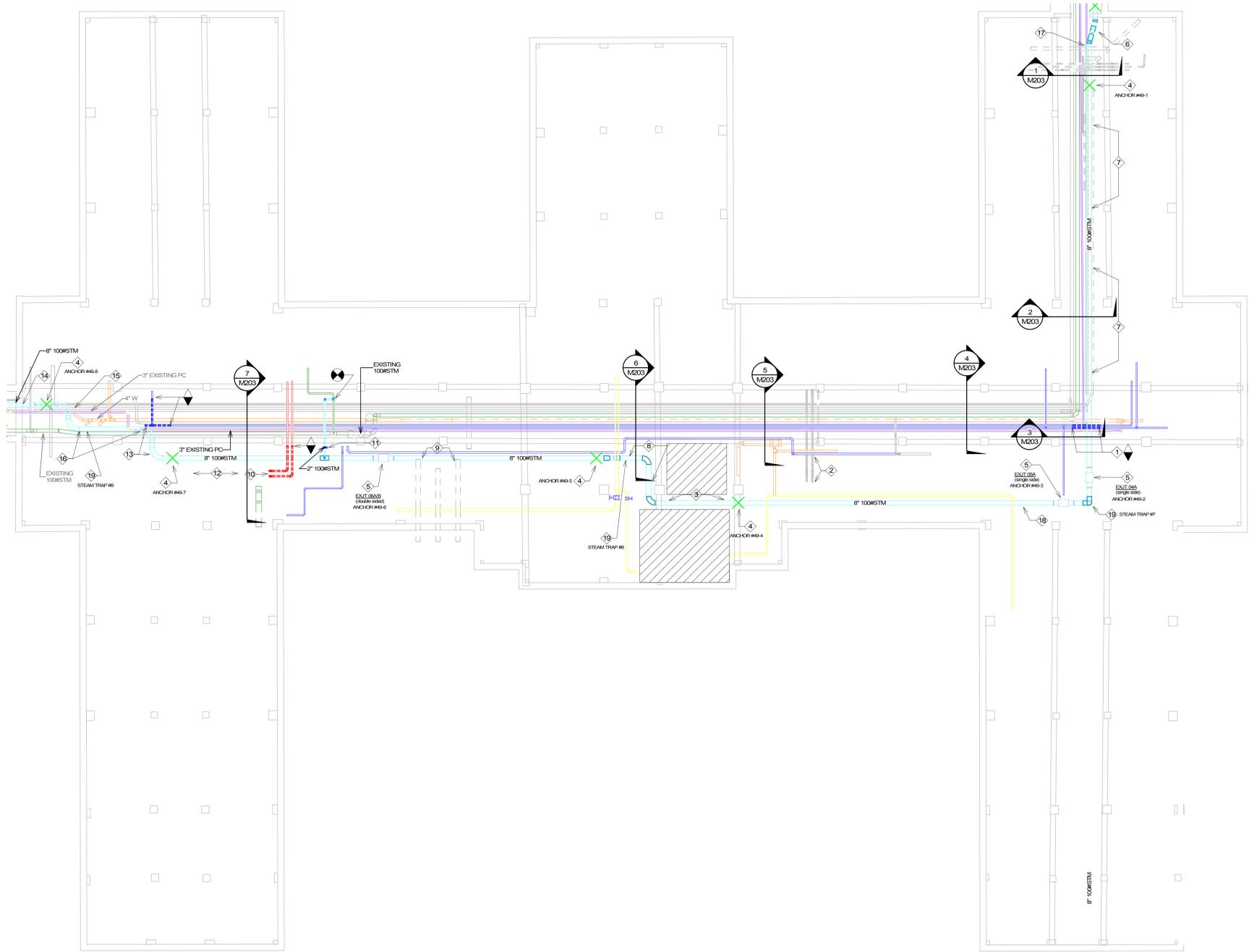
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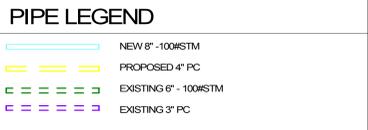
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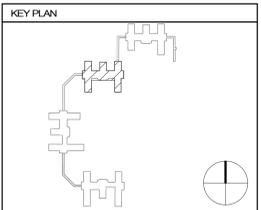


- GENERAL NOTES:**
- A. MECHANICAL CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATION MANUAL ALONG WITH ANY APPLICABLE VA STANDARDS. ALL REQUIREMENTS WITHIN THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION. OTHERWISE WORST CASE FOR COST OR DISRUPTION SHOULD BE ASSUMED WITHIN BID.
  - B. COORDINATE NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORT, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
  - C. SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. NO PIPING SHALL BE SUPPORTED FROM DUCTWORK, CONDUIT, OR OTHER PIPING.
  - D. MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ANY INSTALLATION ACTIVITIES THAT MAY ADVERSELY AFFECT THE EXISTING HOSPITAL. TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH IMPACTED DEPARTMENTS, MAINTAINING CONSTRUCTION BOUNDARIES FOR INJECTION CONTROL, AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BID.



- KEY NOTES:**
1. REROUTE EXISTING IRRIGATION AND DOMESTIC COLD WATER PIPING MAINS (APPROX 2" AND 3" IN SIZE RESPECTIVELY, FIELD VERIFY). COORDINATE SERVICE OUTAGE WITH VA COR AND ADD LOW POINT DRAINS AND/OR VENTS AS REQUIRED FOR OFFSET TO ALLOW 8" STEAM MAIN TO CROSS THIS AREA ABOVE EXISTING WASTE PIPING.
  2. AVOID THIS AREA FULL OF CONDUIT TRANSITIONING UP THROUGH FLOOR. CLOSELY COORDINATE ANY VIBRATIONS CAUSED BY FLOOR ANCHORS AROUND THIS AREA WITH IMAGING EQUIPMENT ABOVE.
  3. ROUTE THROUGH NARROW AREA INDICATED BETWEEN ADJACENT STRUCTURES. CLEARANCES REQUIRED FOR WELDING WILL BE LIMITED AND MAY NEED TO FIND A METHOD OF DELIVERING A LONG LENGTH OF PIPING TO GET THROUGH THIS BOTTLE-NECKED AREA.
  4. WELD AND/OR ANCHOR BOLT PRE-ENGINEERED MAIN ANCHOR, ATTS MODEL 8"-Fig 702-STD-B-1-P OR EQUAL, TO ANCHOR HIGH PRESSURE STEAM MAIN PIPING NEAR ELBOW OR VERTICAL OFFSET OR CHANGE IN DIRECTION. REFER TO STRUCTURAL DETAILS FOR THRUST FORCE CRITERIA AND ACCEPTABLE METHODS OF SUPPORT TO NEARBY COLUMNS AND/OR FOUNDATION WALLS.
  5. PROVIDE SLIP JOINT TYPE EXPANSION ASSEMBLY IN THIS LOCATION. SLIP JOINT SHALL BE MANUFACTURED BY ADVANCED THERMAL SYSTEMS (ATS) MODEL T22 OR EQUAL. REFER TO SCHEDULE FOR MODEL NUMBERS AND EXPANSION ALLOWANCE FOR EACH SPECIFIC LOCATION. ALSO REFER TO DETAIL 6/M01 FOR SPACING OF PIPE GUIDES AND REMOVABLE INSULATION JACKETING REQUIRED.
  6. OFFSET FROM LOW ELEVATION IN TUNNEL TO HIGHER ELEVATION WITHIN CRAWLSPACE (APPROXIMATELY A 30" CHANGE IN HEIGHT).
  7. ROUTE 8" STEAM MAIN HIGH IN CRAWLSPACE, APPROXIMATELY ADJACENT TO PARALLEL EXISTING STEAM PIPE. IN ORDER TO FOLLOW THIS HIGHER ROUTE, THE EXISTING HANGER SUPPORT CONDENSATE PIPING BELOW WILL NEED TO BE MODIFIED AND/OR INCORPORATE INTO SUPPORT STRUCTURE OR NEW STEAM MAIN INCLUDE ROLLER HANGERS MOUNTED ONTO STRUCTURAL RAIL SUFFICIENT TO SUPPORT ALL PIPING UNDERNEATH.
  8. COORDINATE TRANSITION OF 8" STEAM MAIN FROM LOW ELEVATION UNDER EXISTING STEAM PIPING AND STRUCTURAL BEAM TO AN ELEVATION FAIRLY TIGHT TO UNDERSIDE OF BEAM WHERE IT WILL CLEAR GEOTHERMAL PIPING IDENTIFIED IN KEY NOTE #9 BELOW.
  9. COORDINATE LOCATION TO CROSS ABOVE EXISTING GEOTHERMAL PIPING MAINS WHERE ACCESS TO EXISTING VALVES WILL NOT BE ADVERSELY IMPACTED.
  10. REROUTE DOMESTIC HOT AND COLD PIPING UP TO FLOOR ABOVE TO COORDINATE WITH 8" STEAM MAIN ROUTED THROUGH THIS SPACE.
  11. CLOSE EXISTING ISOLATION VALVE TO PRESSURE REDUCING STATIONS INSIDE CRAWLSPACE (NOTE THIS WILL REQUIRE A TOTAL STEAM OUTAGE TO ENTIRE BUILDING #49). CONNECT 3" TAKE-OFF (VERIFY TO MATCH EXISTING) FROM NEW 8" MAIN AND PROVIDE A 3" TRIPLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVE, BRAY TRILOK OR EQUAL, FOR ISOLATION OF HIGH PRESSURE STEAM INDICATED. INCLUDE A 1" PIPE BYPASS AROUND VALVE WITH GATE VALVE TO EQUALIZE PRESSURE ON BOTH SIDES OF VALVE TO ASSIST IN CLOSING.
  12. AVOID DUCTWORK TO PLAN SOUTH OF THIS AREA. MAY REQUIRE TO SLIGHTLY OFFSET STEAM MAIN ROUTE INDICATED. NOTE THIS WILL RESTRICT ACCESS FOR PIPING INSTALLATION.
  13. REMOVE AND REROUTE SECTION OF DOMESTIC COLD WATER PIPING TO ALLOW STEAM MAIN TO ANGLE UNDERNEATH EXISTING WASTE PIPING MAIN. ROUTE STEAM MAIN CLOSE TO FLOOR TO REACH TUNNEL ENTRY POINT.
  14. ROUTE NEW 8" 100# STEAM MAIN ABOVE STEAM CONDENSATE RETURN PIPING AND CONDENSATE TRAPS AND ROUTE BELOW EXISTING COLD WATER AND WASTE PIPING. NEW CONCRETE WALL PENETRATION NEXT TO TUNNEL ACCESS. RELOCATE LIGHTSWITCH TO OPPOSITE WALL OF TUNNEL ACCESS. REMOVE AND RELOCATE OXYGEN AND MEDICAL VACUUM PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1"-1-1/2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  15. REMOVE AND RELOCATE STEAM CONDENSATE PIPING AND STEAM CONDENSATE TRAPS ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" 2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  16. MODIFY EXISTING STEAM MAIN PIPE HANGERS TO ACCOMMODATE NEW 8" 100# STEAM MAIN ROUTED ABOVE.
  17. REROUTE EXISTING COLD WATER PIPING AS REQUIRED FOR NEW HIGH PRESSURE STEAM MAIN ROUTE INDICATED. FIELD VERIFY EXACT SIZE OF PIPING AT THIS LOCATION.
  18. REMOVE AND REROUTE WASTE PIPE BRANCH TO HIGHER ELEVATION. FIELD VERIFY PIPE SIZE. UTILIZE EXISTING WYE CONNECTION TO MAIN.
  19. EXTEND DIRT LEG DOWN PAST BOTTOM OF TRANSITION AND INCLUDE END OF MAIN STEAM TRAP PER DETAIL 4/M01. ROUTE CONDENSATE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE.

1 MECHANICAL - BUILDING 49  
1/8" = 1'-0"



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No.	REVISION	DATE

**CONSULTANT**

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Anderson Engineering of Minnesota, LLC | Proj #

**STAMP**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Name: Jason R. Gottwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

<b>PROJECT</b>		<b>DATE</b>	
REPLACE/ADD STEAM MAINS WEST SIDE		10/25/2024	
<b>BUILDING</b>		<b>PROJ #</b>	
49		M103	
<b>CHECKED BY</b>		<b>DRAWN</b>	
JRG		LS/TM	
<b>LOCATION</b>		<b>FULLY SPRINKLED</b>	
VA MEDICAL CENTER ST. CLOUD, MN 56303		DWG. OF	

**CONSTRUCTION DOCUMENTS**

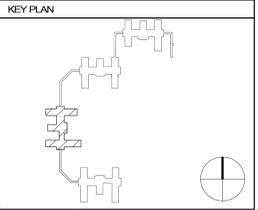
**VA**  **U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



- GENERAL NOTES:**
- MECHANICAL CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATION MANUAL ALONG WITH ANY APPLICABLE VA STANDARDS. ALL REQUIREMENTS WITHIN THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION. OTHERWISE, WORST CASE FOR COST OR DISRUPTION SHOULD BE ASSUMED WITHIN BID.
  - COORDINATE NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORT, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
  - SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. NO PIPING SHALL BE SUPPORTED FROM DUCTWORK, CONDUIT, OR OTHER PIPING.
  - MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ANY INSTALLATION ACTIVITIES THAT MAY ADVERSELY AFFECT THE EXISTING HOSPITAL. TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH IMPACTED DEPARTMENTS, MAINTAINING CONSTRUCTION BOUNDARIES FOR INFLECTION CONTROL, AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BID.

- PIPE LEGEND**
- NEW 8" - 100#STM
  - PROPOSED 4" PC
  - EXISTING 6" - 100#STM
  - EXISTING 3" PC

- KEY NOTES:**
- WELD AND/OR ANCHOR BOLT PRE-ENGINEERED MAIN ANCHOR, AT'S MODEL #F112 STD-1/4" OR EQUAL, TO ANCHOR HIGH PRESSURE STEAM MAIN PIPING NEAR ELBOW OR VERTICAL OFFSET OR CHANGE IN DIRECTION. REFER TO STRUCTURAL DETAILS FOR THRUST FORCE CRITERIA AND ACCEPTABLE METHODS OF SUPPORT TO NEARBY COLUMNS AND/OR FOUNDATION WALLS.
  - PROVIDE SLIP JOINT TYPE EXPANSION ASSEMBLY IN THIS LOCATION. SLIP JOINT SHALL BE MANUFACTURED BY ADVANCED THERMAL SYSTEMS (ATS) TP2 OR EQUAL. REFER TO SCHEDULE FOR MODEL NUMBERS AND EXPANSION ALLOWANCE FOR EACH SPECIFIC LOCATION. ALSO REFER TO DETAIL 6/M01 FOR SPACING OF PIPE GUIDES AND INSULATION JACKETING REQUIRED.
  - ROUTE NEW 8" 100# STEAM MAIN ABOVE EXISTING CONDENSATE RETURN MAIN. NEW CONCRETE WALL PENETRATION NEXT TO TUNNEL ACCESS.
  - NEW CONCRETE WALL PENETRATION ABOVE TUNNEL ACCESS FOR REROUTED LOW PRESSURE STEAM PIPE IN KEYNOTE #7.
  - REMOVE AND REROUTE OXYGEN AND MEDICAL VACUUM ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" - 3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE DOMESTIC HOT, COLD, AND RECIRCULATION WATER PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3/4" - 2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE VACUUM CONDENSATE PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3/4" - 2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - ROUTE NEW 8" 100# STEAM MAIN NEXT TO EXISTING 100# STEAM MAIN. NEW CONCRETE WALL PENETRATION.
  - REMOVE EXISTING 100# STEAM MAIN EXPANSION LOOP. PROVIDE SLIP JOINT EXPANSION ASSEMBLY. SEE KEYNOTE #2, AND NEW ANCHOR SUPPORT AT NEW ELBOW. SEE KEYNOTE #1.
  - REMOVE AND RELOCATE END OF MAIN STEAM CONDENSATE TRAP ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3/4" - 2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - ROUTE NEW 8" 100# STEAM MAIN BELOW EXISTING CONDUITS. NEW CONCRETE WALL PENETRATION NEXT TO TUNNEL ACCESS.
  - REMOVE AND REROUTE VACUUM CONDENSATE PIPING AND DOMESTIC COLD, HOT, AND RECIRCULATION WATER PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" - 3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE CONDENSATE PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" - 3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE VACUUM CONDENSATE PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" - 3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE DOMESTIC COLD WATER RECIRC ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3/4" - 1-1/2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - COORDINATE INSTALLATION OF 8" 100# STEAM PIPE WITH STRUCTURAL PIPE SUPPORT BETWEEN COLUMNS.
  - COORDINATE INSTALLATION OF 8" 100# STEAM PIPE BELOW EXISTING LOW PRESSURE STEAM PIPING.
  - COORDINATE INSTALLATION OF 8" 100# STEAM PIPE ABOVE GLYCOL SUPPLY AND RETURN PIPING.
  - COORDINATE INSTALLATION OF 8" 100# STEAM PIPE ABOVE GLYCOL SUPPLY AND RETURN PIPING.
  - COORDINATE INSTALLATION OF 8" 100# STEAM PIPE ABOVE PIPING IN THIS AREA.
  - EXTEND DIRT LEG DOWN PAST BOTTOM OF TRANSITION AND INCLUDE END OF MAIN STEAM TRAP PER DETAIL 4/M01. ROUTE CONDENSATE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE.

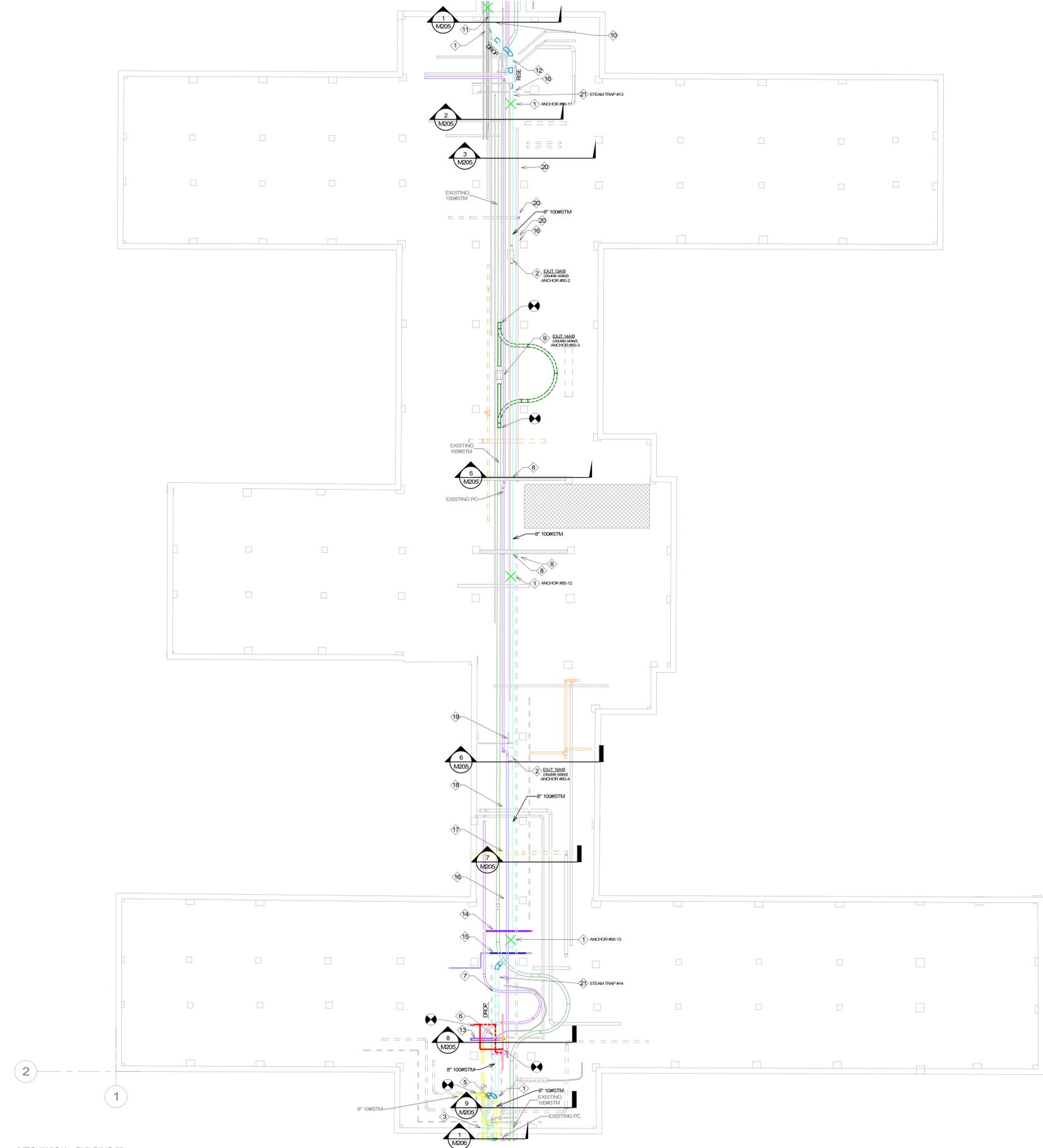


MECHANICAL - BUILDING 50

**CONSTRUCTION DOCUMENTS**



PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE
DATE	10/25/2024
PLT/SCALE	
PROJECT NO.	656-21-114
DRAWING NO.	M105
BUILDING NO.	50
CHECKED BY	JRG
DRAWN BY	LS/TM
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303
DATE	10/25/2024
SCALE	1/8" = 1'-0"



1 MECHANICAL - BUILDING 50  
1/8" = 1'-0"

No.	REVISION	DATE

**CONSULTANT**

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

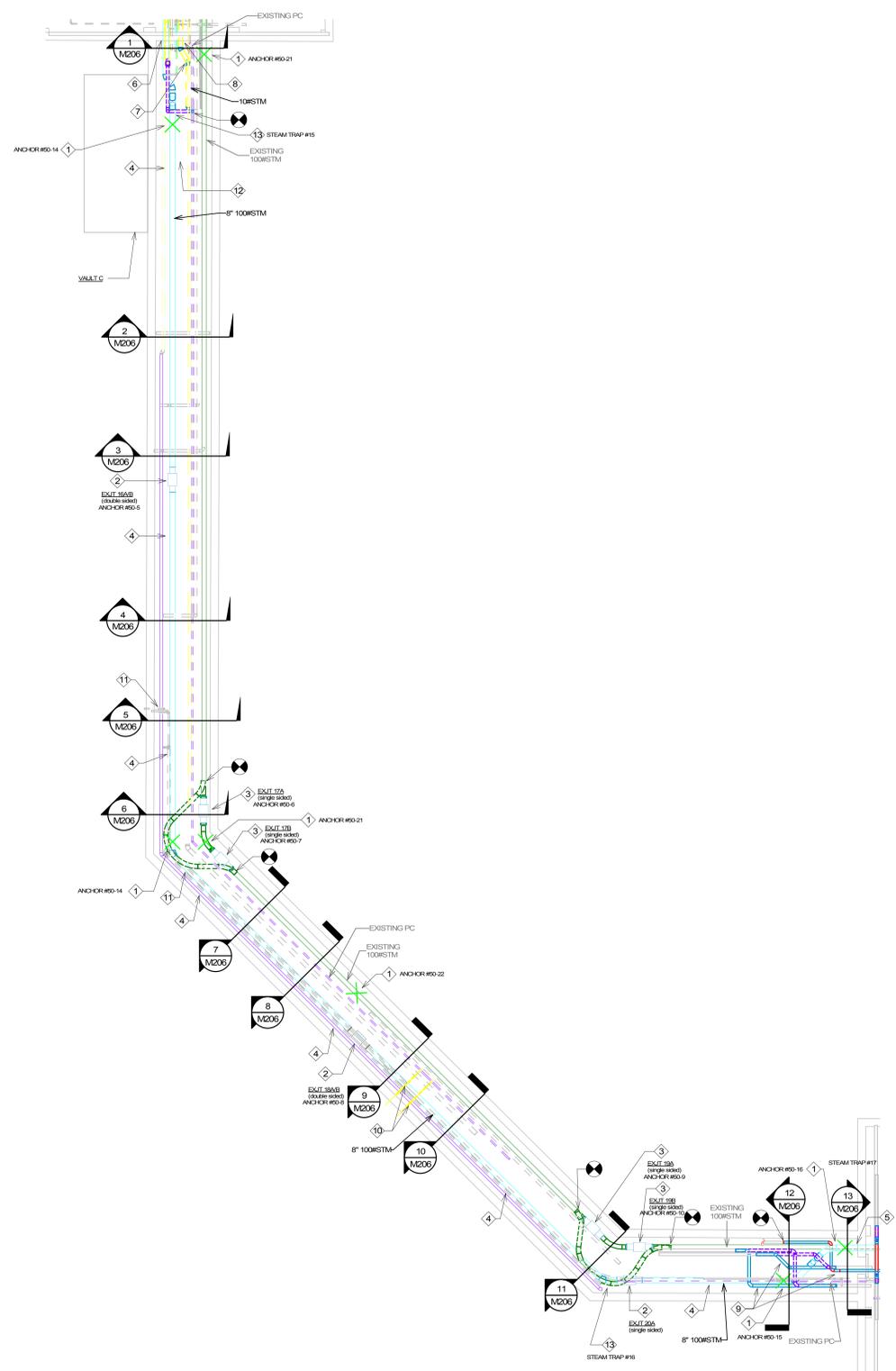
Name: Jason R. Gottwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

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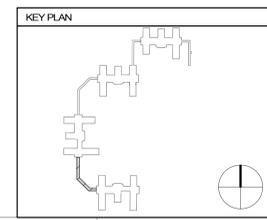
- GENERAL NOTES:**
- MECHANICAL CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATION MANUAL ALONG WITH ANY APPLICABLE VA STANDARDS. ALL REQUIREMENTS WITHIN THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION, OTHERWISE WORST CASE FOR COST OR DISRUPTION SHOULD BE ASSUMED WITHIN BID.
  - COORDINATE NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORT, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
  - SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. NO PIPING SHALL BE SUPPORTED FROM DUCTWORK, CONDUIT, OR OTHER PIPING.
  - MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ANY INSTALLATION ACTIVITIES THAT MAY ADVERSELY AFFECT THE EXISTING HOSPITAL TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH IMPACTED DEPARTMENTS, MAINTAINING CONSTRUCTION BOUNDARIES FOR INFECTION CONTROL AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BID.



- KEY NOTES:**
- WELD AND/OR ANCHOR BOLT PRE-ENGINEERED MAIN ANCHOR, ATS MODEL 8" FIG 702 STD-B-1-P OR EQUAL, TO ANCHOR HIGH PRESSURE STEAM MAIN PIPING NEAR ELBOW OR VERTICAL OFFSET OR CHANGE IN DIRECTION. REFER TO STRUCTURAL DETAILS FOR THRUST FORCE CRITERIA AND ACCEPTABLE METHODS OF SUPPORT TO NEARBY COLUMNS AND/OR FOUNDATION WALLS.
  - PROVIDE SLIP JOINT TYPE EXPANSION ASSEMBLY IN THIS LOCATION. SLIP JOINT SHALL BE MANUFACTURED BY ADVANCED THERMAL SYSTEMS (ATS) TP2 OR EQUAL. REFER TO SCHEDULE FOR MODEL NUMBERS AND EXPANSION ALLOWANCE FOR EACH SPECIFIC LOCATION. ALSO REFER TO DETAIL 9M001 FOR SPACING OF PIPE GUIDES AND INSULATION JACKETING REQUIRED.
  - REMOVE EXISTING 100W STEAM MAIN EXPANSION LOOP. PROVIDE SLIP JOINT EXPANSION ASSEMBLY. SEE KEYNOTE #2, AND NEW ANCHOR SUPPORT AT NEW ELBOW. SEE KEYNOTE #1.
  - WITHIN TUNNEL: RECONFIGURE PIPE HANGERS FOR HIGH PRESSURE CONDENSATE RETURN AND VACUUM RETURN PIPING TO ACCOMMODATE NEW STEAM MAIN PIPE ROUTED ABOVE. REMOVE AND REROUTE OXYGEN PIPING ROUTED IN THE PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE. ROUTE AS HIGH AS POSSIBLE.
  - ROUTE NEW 8" 100W STEAM MAIN ABOVE EXISTING STEAM MAIN. NEW CMU WALL PENETRATION NEXT TO TUNNEL ACCESS.
  - ROUTE NEW 8" 100W STEAM MAIN ABOVE EXISTING CONDENSATE RETURN MAIN. NEW CONCRETE WALL PENETRATION NEXT TO TUNNEL ACCESS.
  - REROUTE LOW PRESSURE STEAM PIPING FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 2"-3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE. PROVIDE END MAIN STEAM TRAP AND ROUTE CONDENSATE TO CONDENSATE MAIN.
  - NEW CONCRETE WALL PENETRATION ABOVE TUNNEL ACCESS FOR REROUTED LOW PRESSURE STEAM PIPE IN KEYNOTE #7.
  - REMOVE AND REROUTE HOT WATER BYPASS, STEAM CONDENSATE, AND LOW PRESSURE STEAM PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 2"-3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE LOW PRESSURE STEAM AND CONDENSATE PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - REMOVE AND REROUTE STEAM AND CONDENSATE TRAP PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
  - PRIOR TO VALLT "C" CONSTRUCTION, REMOVE AND REROUTE PIPING SECURED TO TUNNEL WALLS THAT ARE TO BE DEMOLISHED AND PROTECT EXISTING PIPING TO REMAIN.
  - EXTEND DIRT LEG DOWN PAST BOTTOM OF TRANSITION AND INCLUDE END OF MAIN STEAM TRAP PER DETAIL 4M001. ROUTE CONDENSATE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE.



1 MECHANICAL - TUNNEL 50-51  
1/8" = 1'-0"



PROJECT TITLE		DATE	
REPLACE/ADD STEAM MAINS WEST SIDE		10/25/2024	
BUILDING: 49-50		FLOOR: M106	
CHECKED BY: JRG		DRAWN BY: LS/MTM	
LOCATION: VA MEDICAL CENTER ST. CLOUD, MN 56303		FULLY SPRINKLERED	

**CONSTRUCTION DOCUMENTS**




**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

No.	REVISION	DATE

**CONSULTANT**

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Anderson Engineering of Minnesota, LLC | Proj #

**STAMP**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Name: Jason R. Gottwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

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**GENERAL NOTES:**

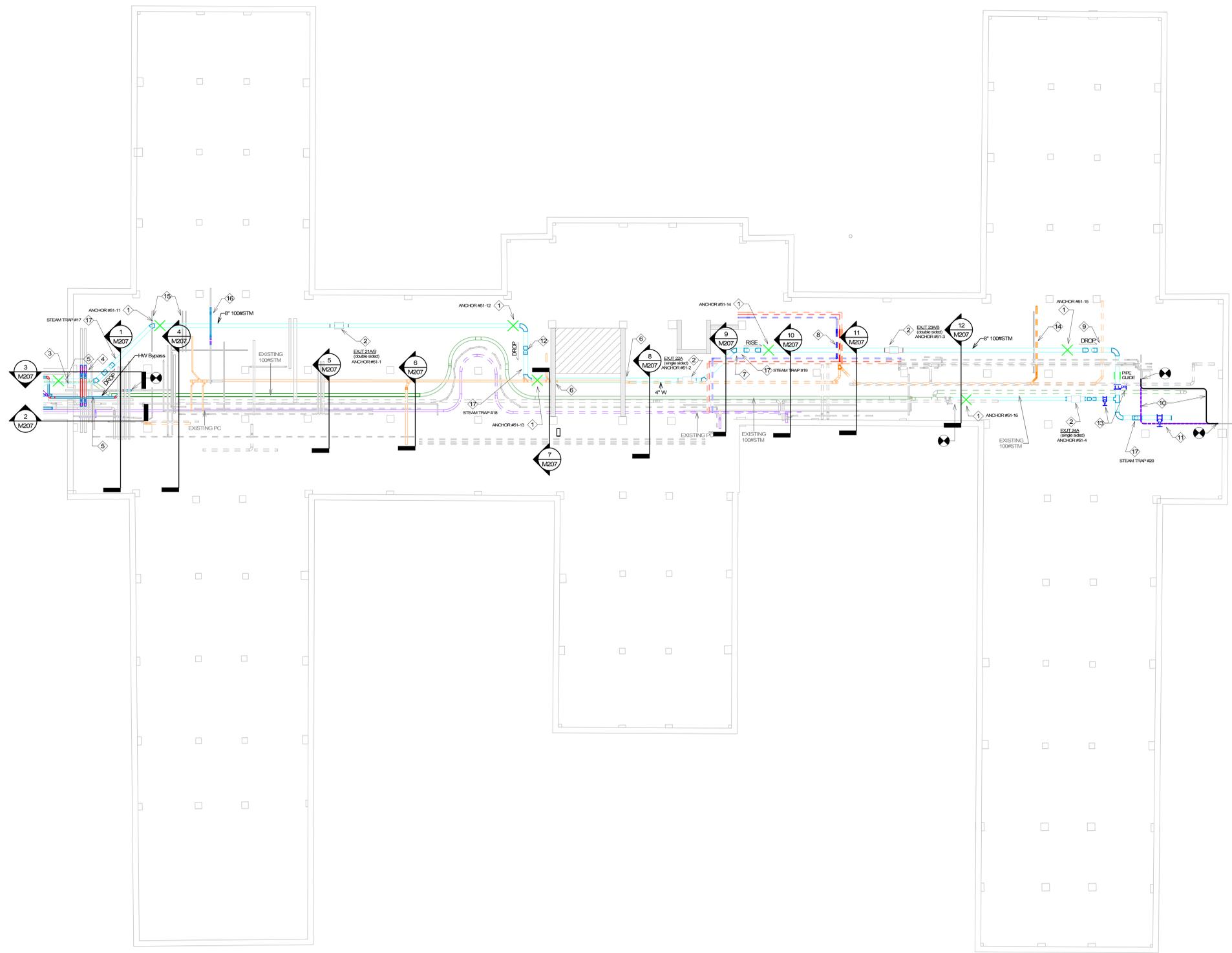
- A. MECHANICAL CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATION MANUAL ALONG WITH ANY APPLICABLE VA STANDARDS. ALL REQUIREMENTS WITHIN THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION. OTHERWISE WORST CASE FOR COST OR DISRUPTION SHOULD BE ASSUMED WITHIN BID.
- B. COORDINATE NEW PIPE ROUTING WITH ALL OTHER TRADES TO ENSURE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORT, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.
- C. SUPPORT ALL PIPING DIRECTLY TO STRUCTURE. NO PIPING SHALL BE SUPPORTED FROM DUCTWORK, CONDUIT, OR OTHER PIPING.
- D. MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ANY INSTALLATION ACTIVITIES THAT MAY ADVERSELY AFFECT THE EXISTING HOSPITAL. TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH IMPACTED DEPARTMENTS, MAINTAINING CONSTRUCTION BOUNDARIES FOR INFECTION CONTROL, AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BID.

**PIPE LEGEND**

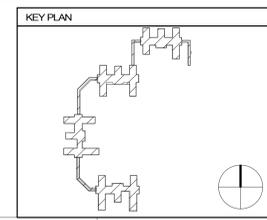
- NEW 8" - 100#STM
- PROPOSED 4" PC
- EXISTING 6" - 100#STM
- EXISTING 3" PC

**KEY NOTES:**

- 1. WELD ANCHOR ANCHOR BOLT PRE-ENGINEERED MAIN ANCHOR. AITS MODEL 8" FIG 702-STD-B-1-P OR EQUAL. TO ANCHOR HIGH PRESSURE STEAM MAIN PIPING NEAR ELBOW OR VERTICAL OFFSET OR CHANGE IN DIRECTION. REFER TO STRUCTURAL DETAILS FOR FORCE CRITERIA AND ACCEPTABLE METHODS OF SUPPORT TO NEARBY COLUMNS AND/OR FOUNDATION WALLS.
- 2. PROVIDE SLIP JOINT TYPE EXPANSION ASSEMBLY IN THIS LOCATION. SLIP JOINT SHALL BE MANUFACTURED BY ADVANCED THERMAL SYSTEMS (ATS) T22 OR EQUAL. REFER TO SCHEDULE FOR MODEL NUMBERS AND EXPANSION ALLOWANCE FOR EACH SPECIFIC LOCATION. ALSO REFER TO DETAIL 6M001 FOR SPACING OF PIPE GUIDES AND INSULATION JACKETING REQUIRED.
- 3. ROUTE NEW 8" 100# STEAM MAIN ABOVE EXISTING STEAM MAIN. NEW CONCRETE WALL PENETRATION NEXT TO TUNNEL ACCESS.
- 4. REMOVE AND REROUTE HEATING WATER SUPPLY AND RETURN PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3" - 4" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
- 5. REMOVE AND REROUTE HOT WATER BYPASS PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 2" - 3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
- 6. ROUTE NEW 8" 100# STEAM MAIN BELOW EXISTING WASTE MAIN. NEW CMU WALL PENETRATION.
- 7. ROUTE NEW 8" 100# STEAM MAIN PLAN NORTH OF DOMESTIC WATER PIPING.
- 8. ROUTE NEW 8" 100# STEAM MAIN ABOVE EXISTING WASTE MAIN. REMOVE AND REROUTE DOMESTIC COLD, HOT, AND RECIRCULATION WATER PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 3/4" - 2 1/2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
- 9. ROUTE NEW 8" 100# STEAM MAIN BELOW EXISTING WASTE MAIN.
- 10. REMOVE AND REROUTE CONDUIT ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
- 11. PROVIDE AN 8" TRIPLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVE, BRAY TRILOK OR EQUAL, FOR ISOLATION OF HIGH PRESSURE STEAM INDICATED. INCLUDE A 1-1/2" PIPE BYPASS AROUND VALVE WITH GATE VALVE TO EQUALIZE PRESSURE ON BOTH SIDES OF VALVE TO ASSIST CLOSING AGAINST PRESSURE. CAP FOR FUTURE EXPANSION OF STEAM MAIN.
- 12. EXTEND DIRT LEG DOWN PAST BOTTOM OF TRANSITION AND INCLUDE END OF MAIN STEAM TRAP. ROUTE CONDENSATE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE IN CRAWLSPACE.
- 13. PROVIDE AN 8" TRIPLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVE, BRAY TRILOK OR EQUAL, FOR ISOLATION OF HIGH PRESSURE STEAM INDICATED. INCLUDE A 1-1/2" PIPE BYPASS AROUND VALVE WITH GATE VALVE TO EQUALIZE PRESSURE ON BOTH SIDES OF VALVE TO ASSIST CLOSING AGAINST PRESSURE.
- 14. REMOVE AND REROUTE WASTE PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 1-1/2" - 2" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
- 15. COORDINATE INSTALLATION OF NEW 8" 100# STEAM PIPE ABOVE EXISTING CONDUITS.
- 16. REMOVE AND REROUTE PIPING ROUTED ACROSS PROPOSED PATH FOR NEW STEAM MAIN. APPROXIMATE SIZE OF PIPING IS ESTIMATED AT 2" - 3" IN DIAMETER. CONTRACTOR TO CONFIRM BOTH SIZING AND REROUTE ON SITE.
- 17. EXTEND DIRT LEG DOWN PAST BOTTOM OF TRANSITION AND INCLUDE END OF MAIN STEAM TRAP PER DETAIL 4M001. ROUTE CONDENSATE FROM THIS LOCATION TO NEAREST CONDENSATE RETURN LINE.



1 MECHANICAL - BUILDING 51  
1/8" = 1'-0"



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No.	REVISION	DATE

**CONSULTANT**

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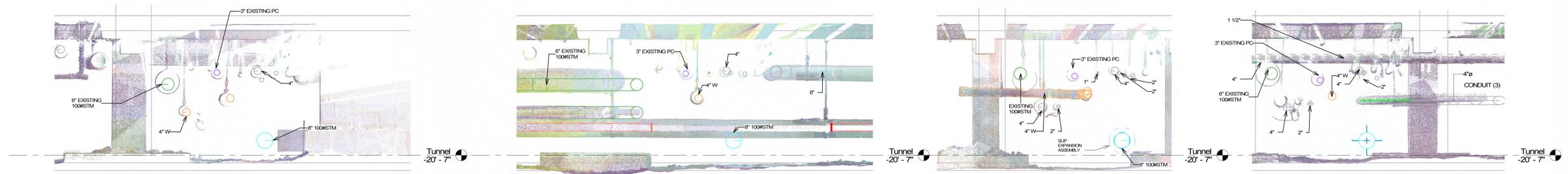
Name: Jason R. Gotwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

PROJECT TITLE REPLACE/ADD STEAM MAINS WEST SIDE	DATE 10/25/2024
BUILDING: 51	REVISION: 656-21-114
CHECKED BY: JRG	DRAWN: LS/STM
DESIGNED BY: M107	DATE: 10/25/2024
LOCATION: VA MEDICAL CENTER ST. CLOUD, MN 56303	SCALE: FULLY SPRINGFIELD

**CONSTRUCTION DOCUMENTS**

**VA** U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

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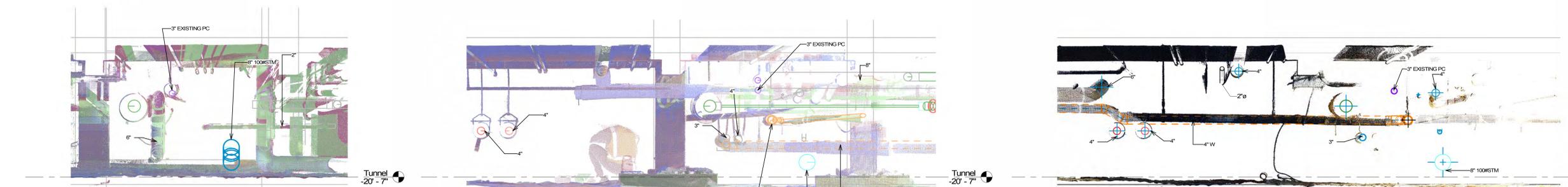


4 BUILDING 48 - SECTION 4  
1/2" = 1'-0"

3 BUILDING 48 - SECTION 3  
1/2" = 1'-0"

2 BUILDING 48 - SECTION 2  
1/2" = 1'-0"

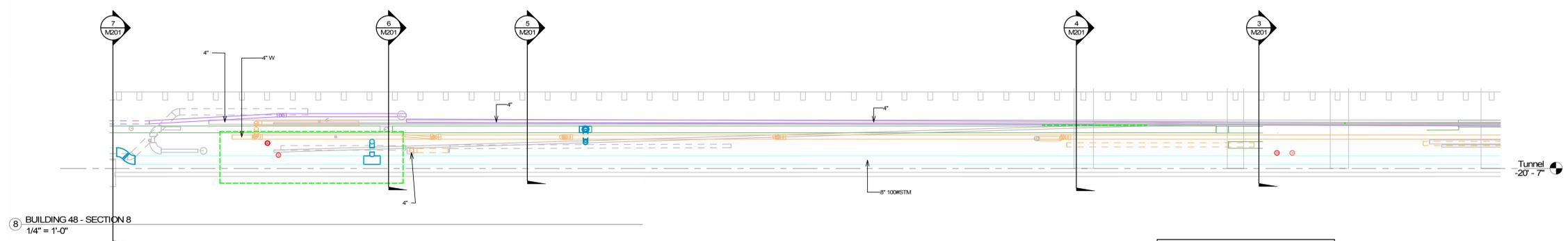
1 BUILDING 48 - SECTION 1  
1/2" = 1'-0"



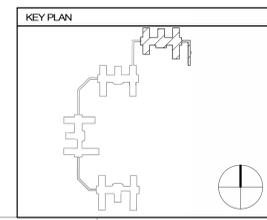
7 BUILDING 48 - SECTION 7  
1/2" = 1'-0"

6 BUILDING 48 - SECTION 6  
1/2" = 1'-0"

5 BUILDING 48 - SECTION 5  
1/2" = 1'-0"



8 BUILDING 48 - SECTION 8  
1/4" = 1'-0"



MECHANICAL SECTIONS - BUILDING 48

PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE	DATE	10/25/2024
BUILDING	48	PROJECT NO.	656-21-114
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303	DRAWN BY	LS/TM
		CHECKED BY	JRG
		DESIGNED BY	M201
		DATE	10/25/2024

CONSTRUCTION DOCUMENTS



No.	REVISION	DATE

CONSULTANT

**DUNHAM**

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Minneapolis, Minnesota 55402-3540  
phone 612.465.7550 fax 612.465.7551  
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**ANDERSON**

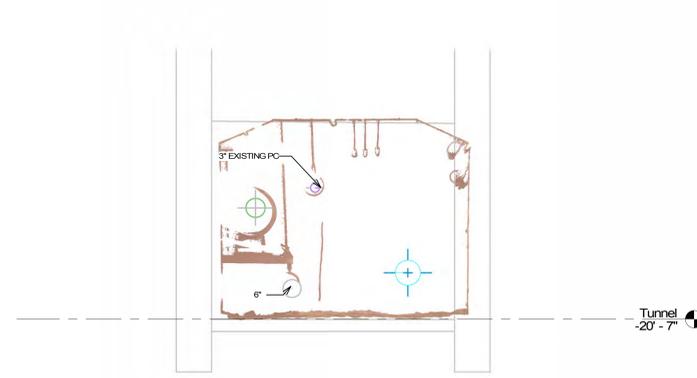
13605 1st Ave. N. #100 Plymouth, MN 55441  
P 763.412.4000 | F 763.412.4090 | ae-mn.com  
Anderson Engineering of Minnesota, LLC | Proj #

STAMP

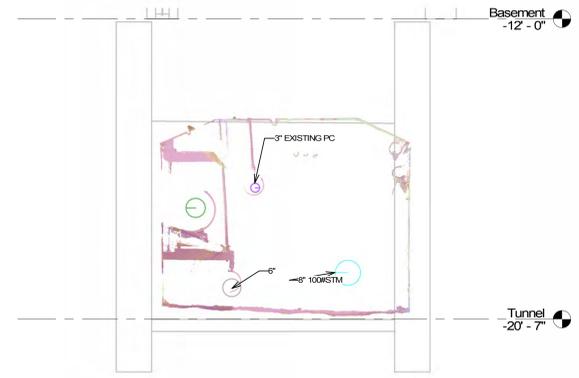
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Name Jason R. Gottwalt, P.E.  
Date 10/25/2024 Reg. No. 41360

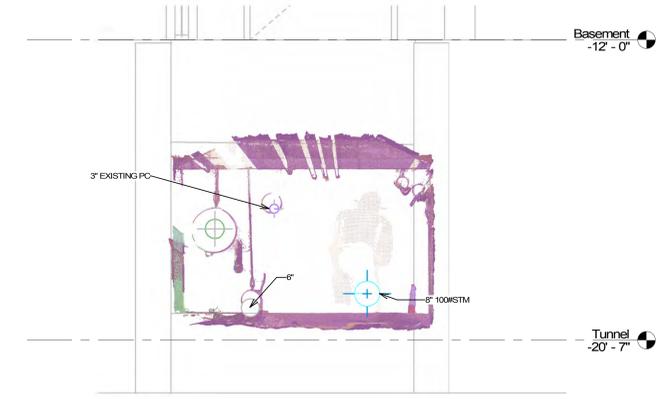
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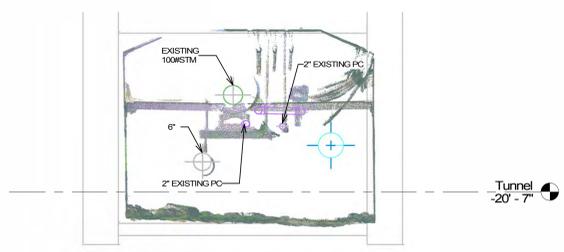
③ TUNNEL 48-49 - SECTION 3  
1/2" = 1'-0"



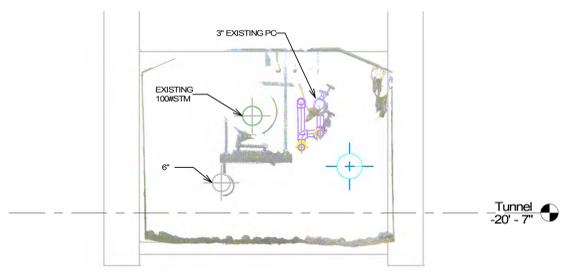
② TUNNEL 48-19 - SECTION 2  
1/2" = 1'-0"



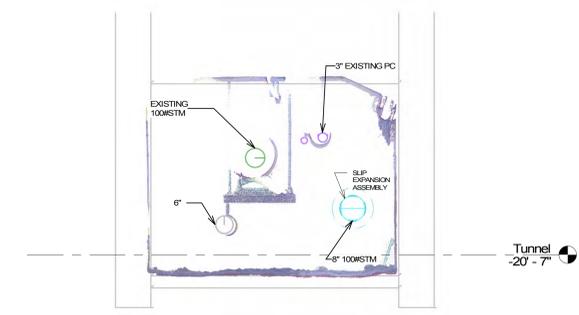
① TUNNEL 48-49 - SECTION 1  
1/2" = 1'-0"



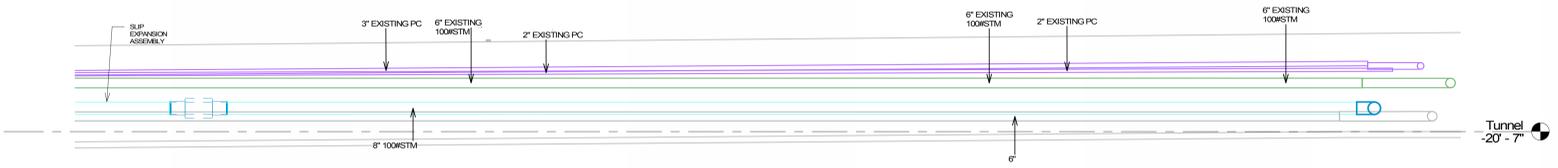
⑥ TUNNEL 48-49 - SECTION 6  
1/2" = 1'-0"



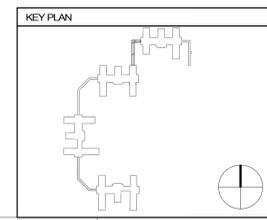
⑤ TUNNEL 49-49 - SECTION 5  
1/2" = 1'-0"



④ TUNNEL 48-49 - SECTION 4  
1/2" = 1'-0"



⑦ TUNNEL 48-49 - SECTION 7  
1/4" = 1'-0"



No.	REVISION	DATE

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I hereby certify that the plans, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Name: Jason R. Gotwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

**PROJECT TITLE**  
REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
10/25/2024

**PROJECT NO.**  
656-21-114

**BUILDING**  
48-49

**CHECKED BY**  
JRG

**DRAWN**  
LS/TM

**DESIGNED BY**  
M202

**LOCATION**  
VA MEDICAL CENTER ST. CLOUD, MN 56303

**FULLY SPRINKLERED**

**DWG. OF**

**CONSTRUCTION DOCUMENTS**

**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

A

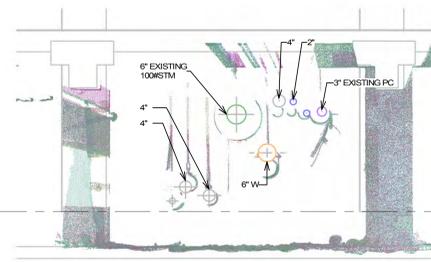
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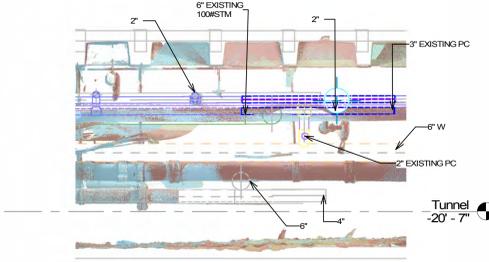
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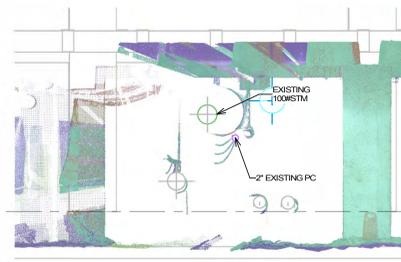
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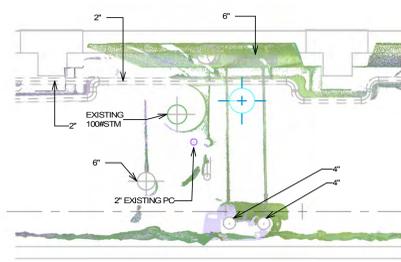
4 BUILDING 49 - SECTION 4  
1/2" = 1'-0"



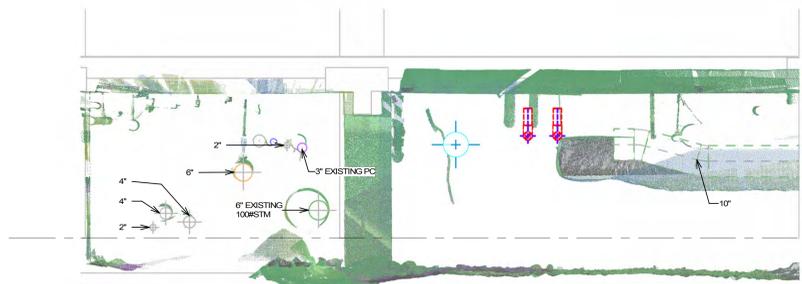
3 BUILDING 49 - SECTION 3  
1/2" = 1'-0"



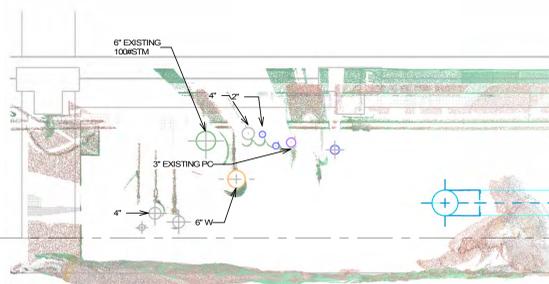
2 BUILDING 49 - SECTION 2  
1/2" = 1'-0"



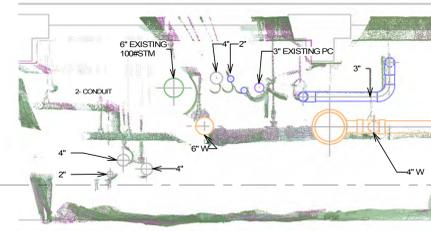
1 BUILDING 49 - SECTION 1  
1/2" = 1'-0"



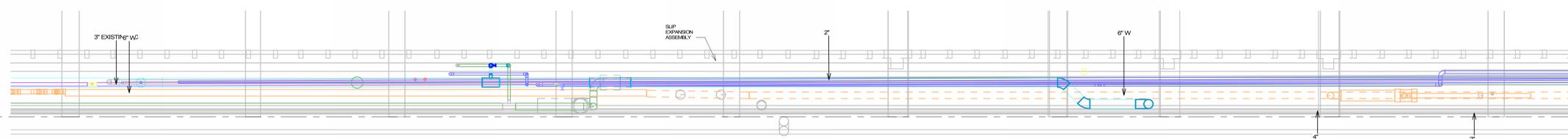
7 BUILDING 49 - SECTION 7  
1/2" = 1'-0"



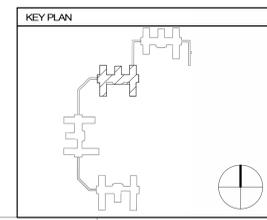
6 BUILDING 49 - SECTION 6  
1/2" = 1'-0"



5 BUILDING 49 - SECTION 5  
1/2" = 1'-0"



8 BUILDING 49 - SECTION 8  
1/4" = 1'-0"



MECHANICAL SECTIONS - BUILDING 49

PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE	DATE	10/25/2024
BUILDING	49	PROJECT NO.	656-21-114
CHECKED BY	URG	DRAWN	LS/TM
DESIGNED BY	M203	DATE	10/25/2024
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303	SCALE	AS SHOWN

CONSTRUCTION DOCUMENTS



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No.	REVISION	DATE

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Name Jason R. Gottwalt, P.E.  
Date 10/25/2024 Reg. No. 41360

A

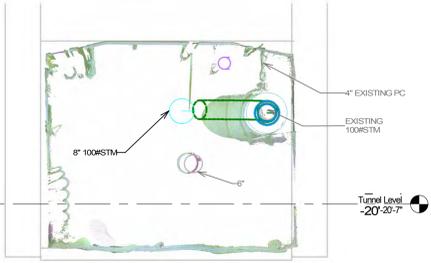
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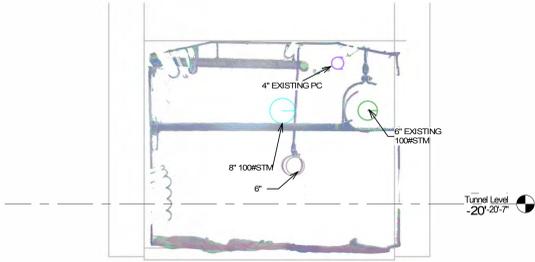
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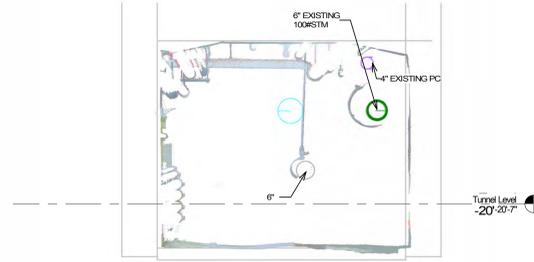
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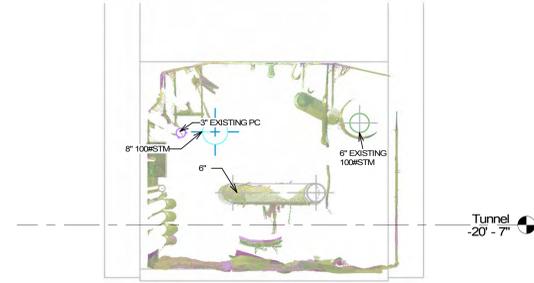
4 TUNNEL 49-50 - SECTION 4  
1/2" = 1'-0"



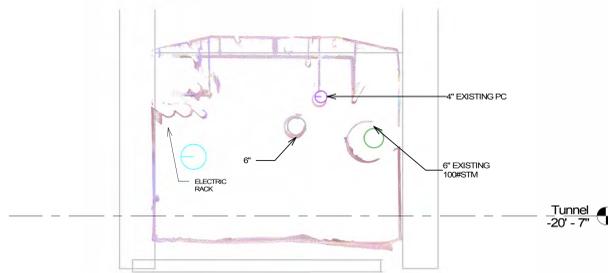
3 TUNNEL 49-50 - SECTION 3  
1/2" = 1'-0"



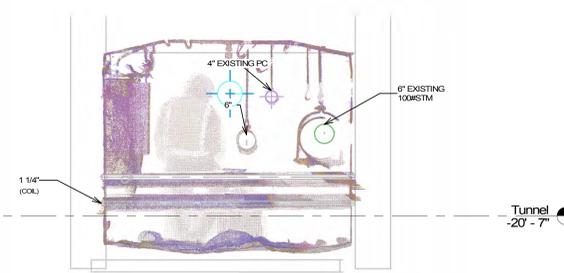
2 TUNNEL 49-50 - SECTION 2  
1/2" = 1'-0"



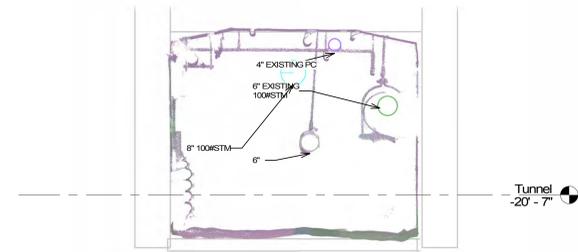
1 TUNNEL 49-50 - SECTION 1  
1/2" = 1'-0"



7 TUNNEL 49-50 - SECTION 7  
1/2" = 1'-0"



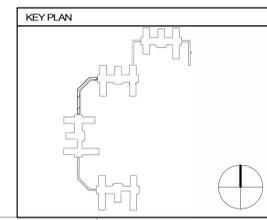
6 TUNNEL 49-50 - SECTION 6  
1/2" = 1'-0"



5 TUNNEL 49-50 - SECTION 5  
1/2" = 1'-0"



8 TUNNEL 49-50 - SECTION 8  
1/4" = 1'-0"



No.	REVISION	DATE

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Name Jason R. Gotwalt, P.E.  
Date 10/25/2024 Reg. No. 41360

PROJECT TITLE REPLACE/ADD STEAM MAINS WEST SIDE	DATE 10/25/2024
BUILDING 49-50	FLOOR 656-21-114
DESIGNED BY JRG	CHECKED BY LS/TM
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	DESCRIPTION M204 FULLY SPRINKLERED

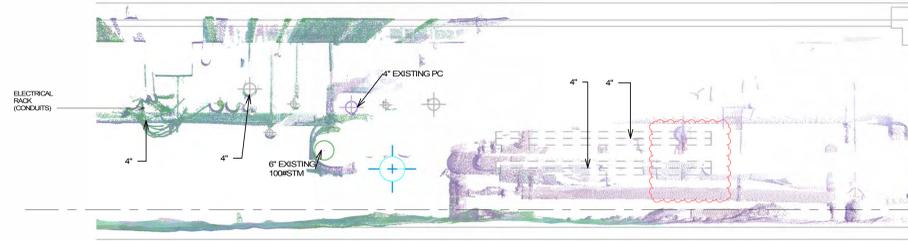
CONSTRUCTION DOCUMENTS

**VA**

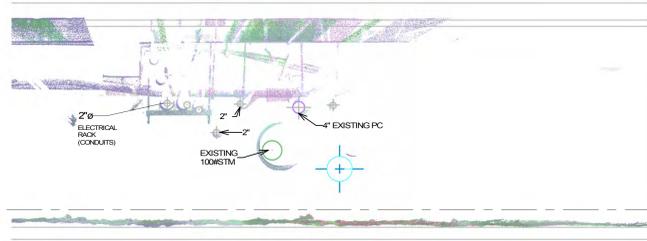
U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

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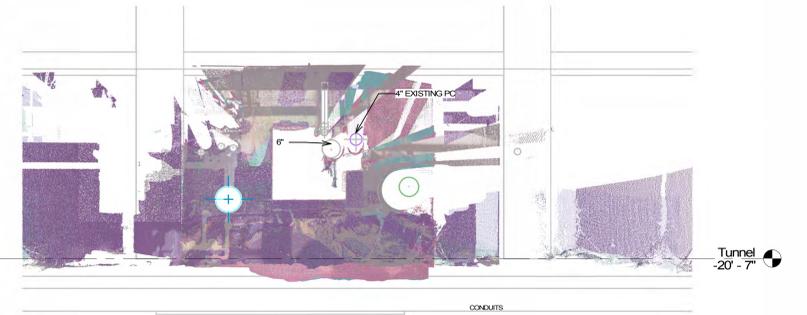
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3 BUILDING 50 - SECTION 3  
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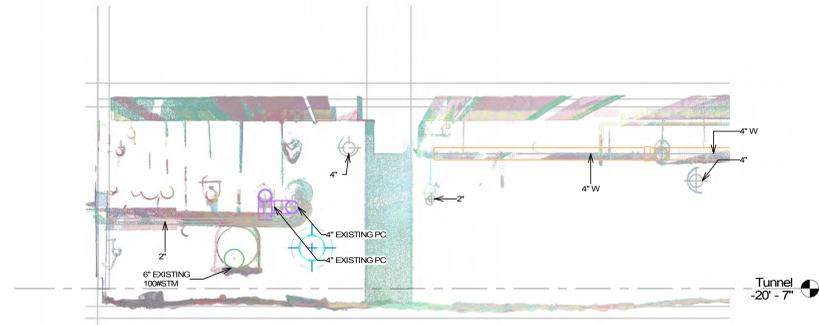


2 BUILDING 50 - SECTION 2  
1/2" = 1'-0"

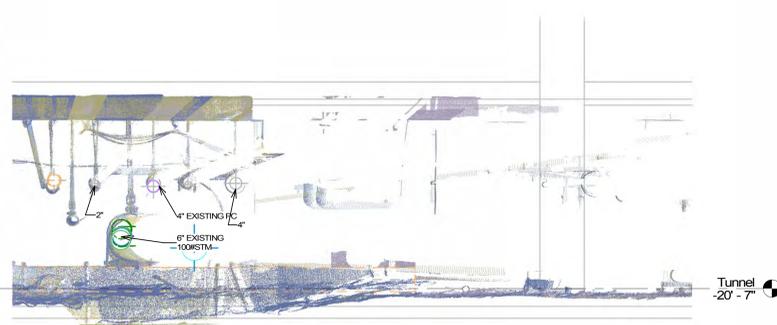


1 BUILDING 50 - SECTION 1  
1/2" = 1'-0"

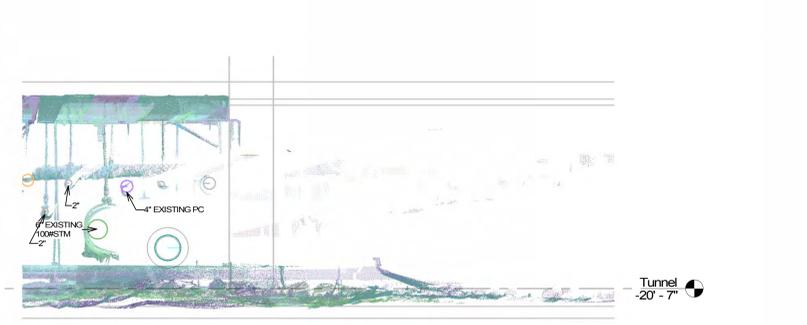
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6 BUILDING 50 - SECTION 6  
1/2" = 1'-0"

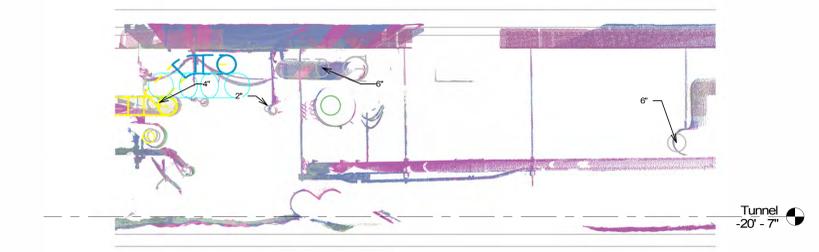


5 BUILDING 50 - SECTION 5  
1/2" = 1'-0"

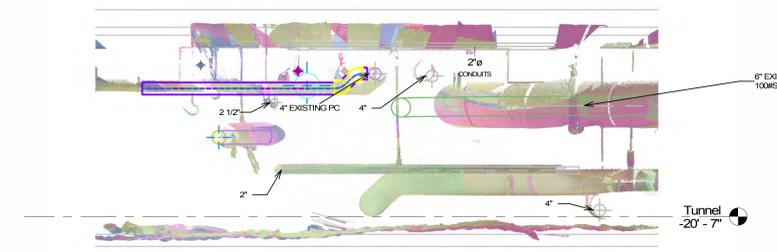


4 BUILDING 50 - SECTION 4  
1/2" = 1'-0"

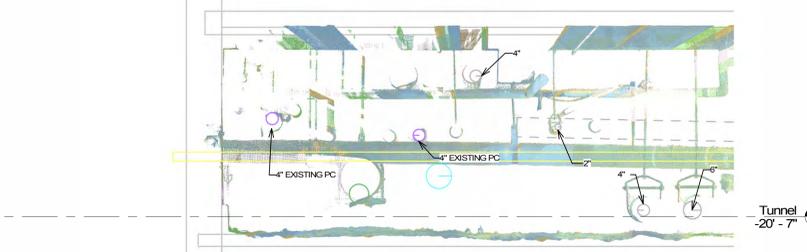
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9 BUILDING 50 - SECTION 9  
1/2" = 1'-0"



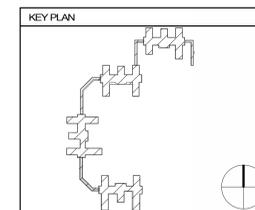
8 BUILDING 50 - SECTION 8  
1/2" = 1'-0"



7 BUILDING 50 - SECTION 7  
1/2" = 1'-0"

E

F



MECHANICAL SECTIONS - BUILDING 50

PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE
DATE	10/25/2024
PLOT SCALE	
PROJECT NO.	656-21-114
BUILDING	50
CHECKED BY	JRG
DRAWN BY	LS/TM
DESIGNED BY	M205
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303
FULLY SPRINKLERED	
DWG. OF	

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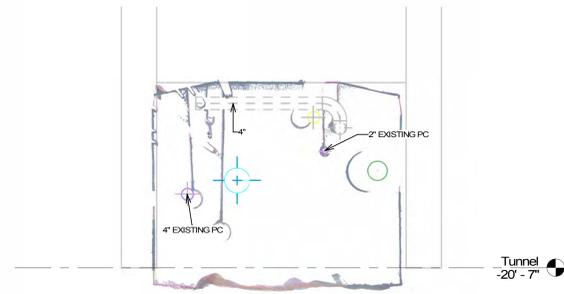
Revision	DATE	REVISION
1		

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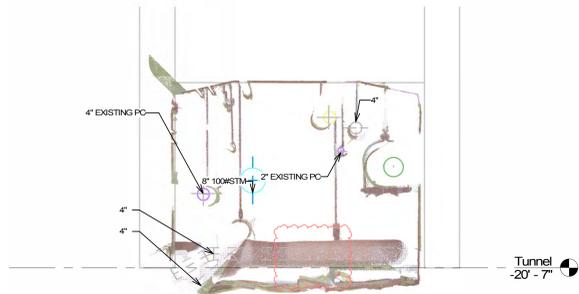
ARCHITECT/ENGINEER OF RECORD  
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
Name Jason R. Gotwalt, P.E.  
Date 10/25/2024 Reg. No. 41360

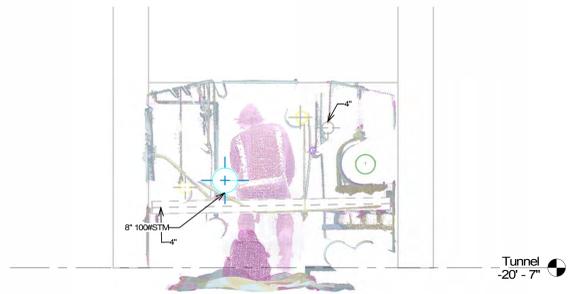
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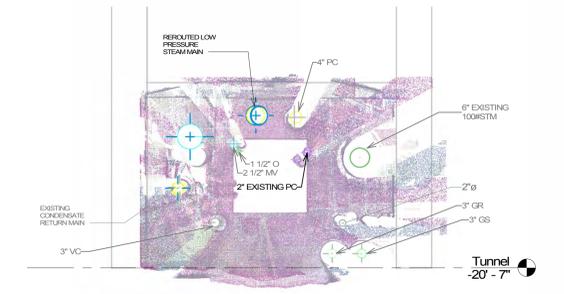
④ TUNNEL 50-51 - SECTION 4  
1/2" = 1'-0"



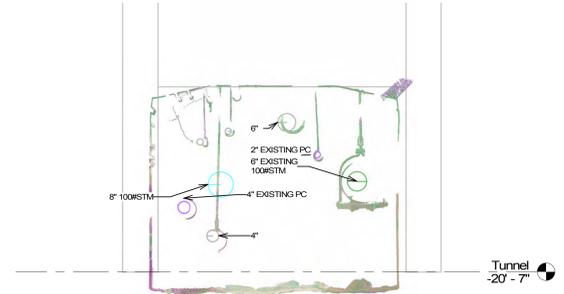
③ TUNNEL 50-51 - SECTION 3  
1/2" = 1'-0"



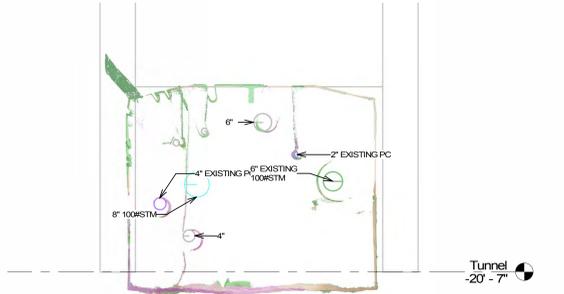
② TUNNEL 50-51 - SECTION 2  
1/2" = 1'-0"



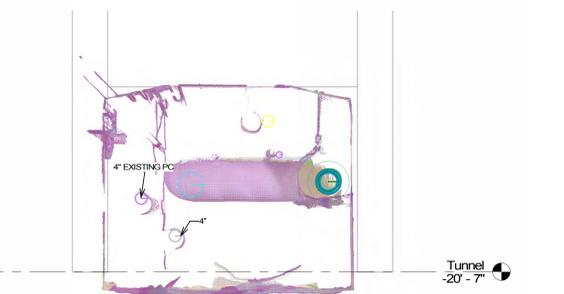
① TUNNEL 50-51 - SECTION 1  
1/2" = 1'-0"



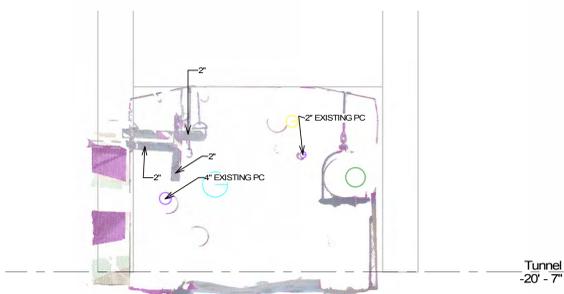
⑧ TUNNEL 50-51 - SECTION 8  
1/2" = 1'-0"



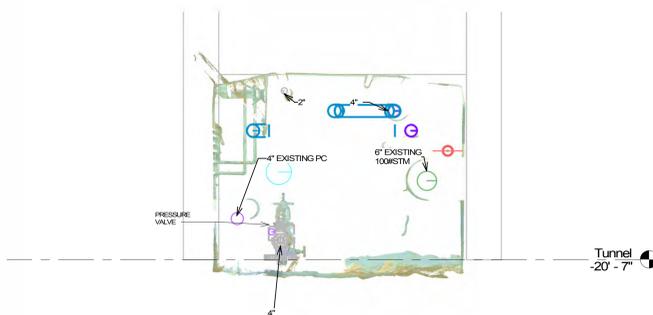
⑦ TUNNEL 50-51 - SECTION 7  
1/2" = 1'-0"



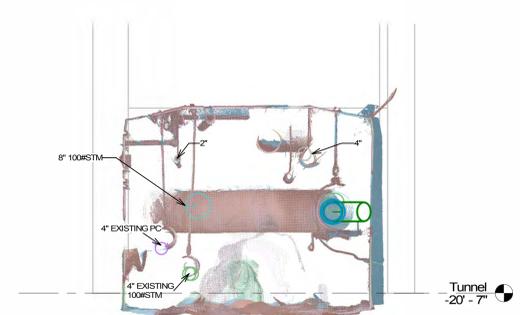
⑥ TUNNEL 50-51 - SECTION 6  
1/2" = 1'-0"



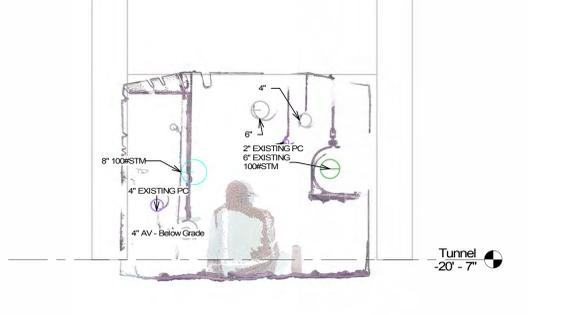
⑤ TUNNEL 50-51 - SECTION 5  
1/2" = 1'-0"



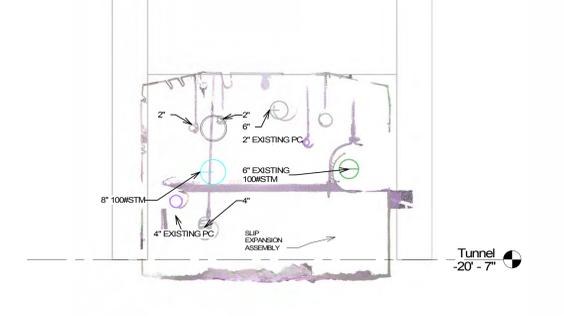
⑫ TUNNEL 50-51 - SECTION 12  
1/2" = 1'-0"



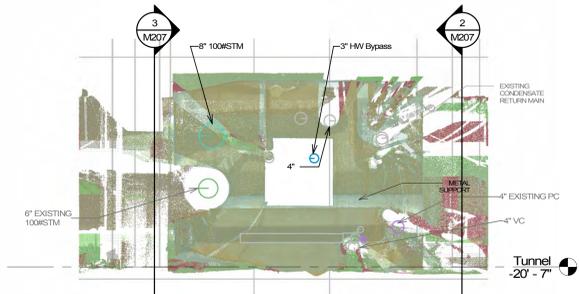
⑪ TUNNEL 50-51 - SECTION 11  
1/2" = 1'-0"



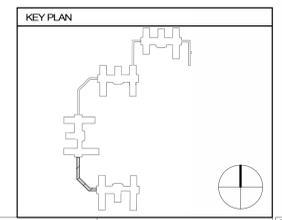
⑩ TUNNEL 50-51 - SECTION 10  
1/2" = 1'-0"



⑨ TUNNEL 50-51 - SECTION 9  
1/2" = 1'-0"



⑬ TUNNEL 50-51 - SECTION 13  
1/2" = 1'-0"



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No.	Revision	DATE
1	Revision 1	Date 1
	REVISION	DATE

**CONSULTANT**

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Minneapolis, Minnesota 55402-1540  
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Anderson Engineering of Minnesota, LLC | Proj #

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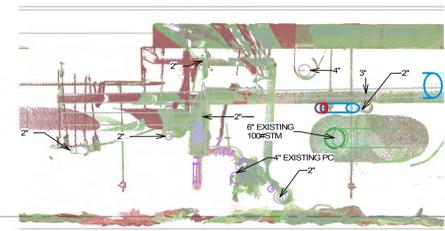
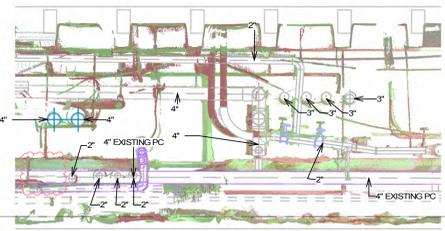
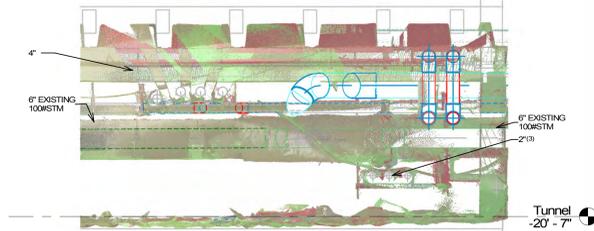
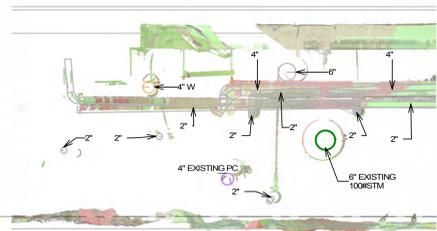
Name: Jason R. Gotwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE 10/25/2024
BUILDING 50-51	PROJECT NO. 656-21-114
CHECKED BY JRG	DRAWN LS/LTM
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	ISSUED FOR FULLY SPRINKLERED
	DWG. OF

**CONSTRUCTION DOCUMENTS**

**VA** U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

A



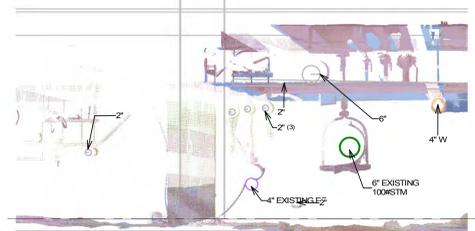
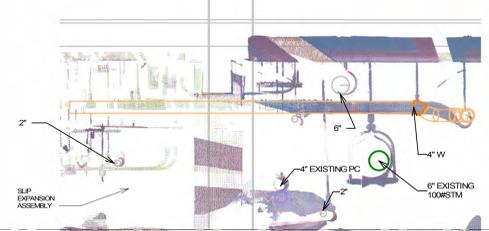
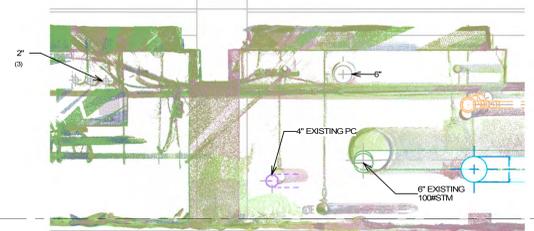
4 BUILDING 51 - SECTION 4  
1/2" = 1'-0"

3 BUILDING 51 - SECTION 3  
1/2" = 1'-0"

2 BUILDING 51 - SECTION 2  
1/2" = 1'-0"

1 BUILDING 51 - SECTION 1  
1/2" = 1'-0"

B



8 BUILDING 51 - SECTION 8  
1/2" = 1'-0"

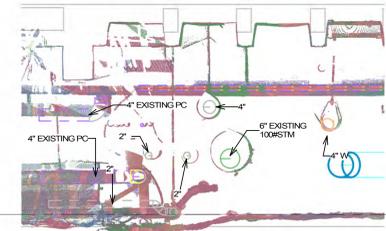
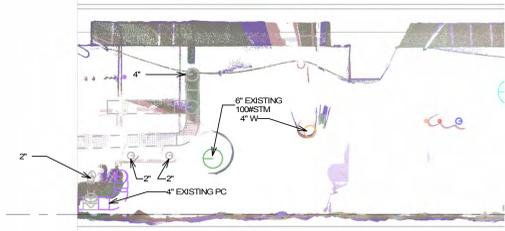
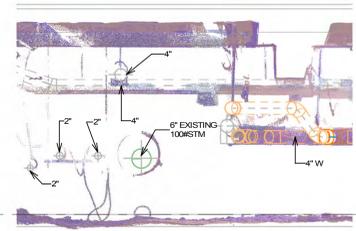
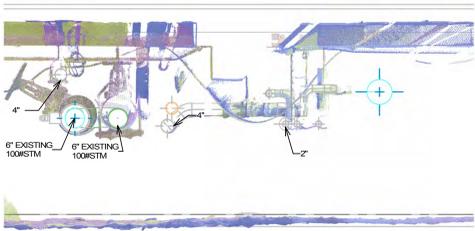
7 BUILDING 51 - SECTION 7  
1/2" = 1'-0"

6 BUILDING 51 - SECTION 6  
1/2" = 1'-0"

5 BUILDING 51 - SECTION 5  
1/2" = 1'-0"

C

D



12 BUILDING 51 - SECTION 12  
1/2" = 1'-0"

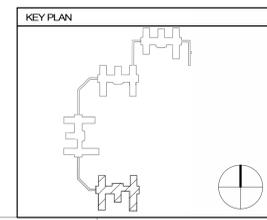
11 BUILDING 51 - SECTION 11  
1/2" = 1'-0"

10 BUILDING 51 - SECTION 10  
1/2" = 1'-0"

9 BUILDING 51 - SECTION 9  
1/2" = 1'-0"

E

F



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No.	Revision	DATE
1	Revision 1	Date 1
	REVISION	DATE

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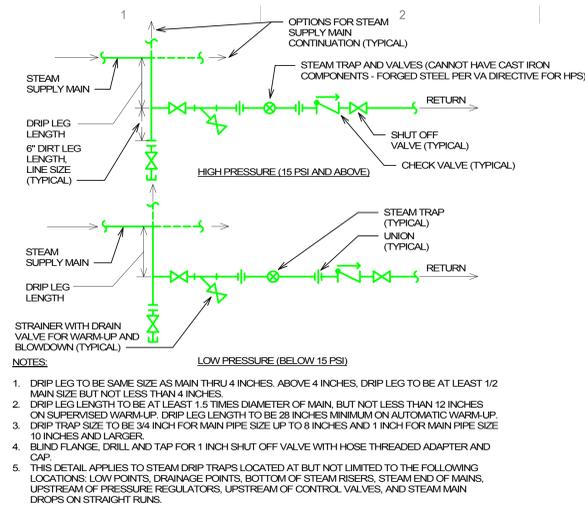
Name Jason R. Gotwalt, P.E.  
Date 10/25/2024 Reg. No. 41360

PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE 10/25/2024
BUILDING 51	PROJ NO. 656-21-114
CHECKED BY JRG	DRAWN BY LS/MTM
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	APPROVED BY M207
	FULLY SPRINKLERED
	DWG. OF

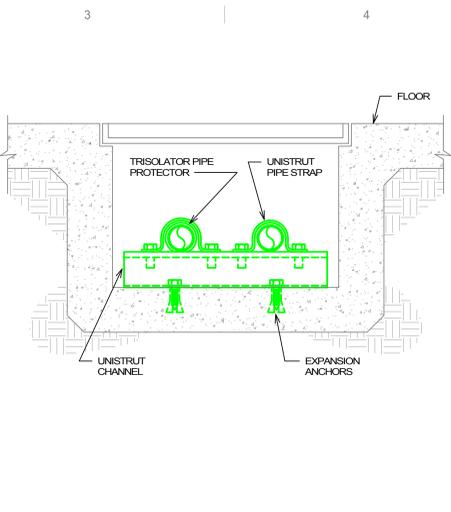
**CONSTRUCTION DOCUMENTS**

**VA**

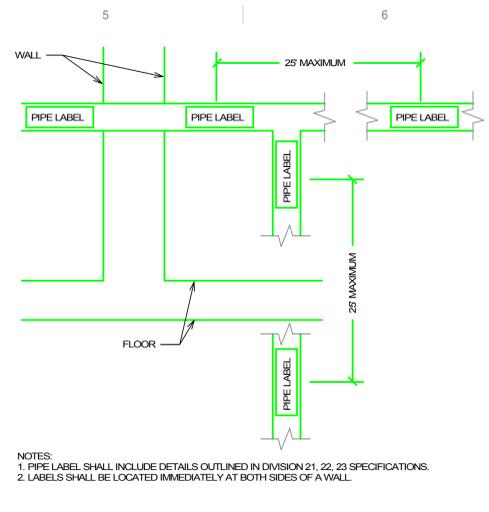
**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



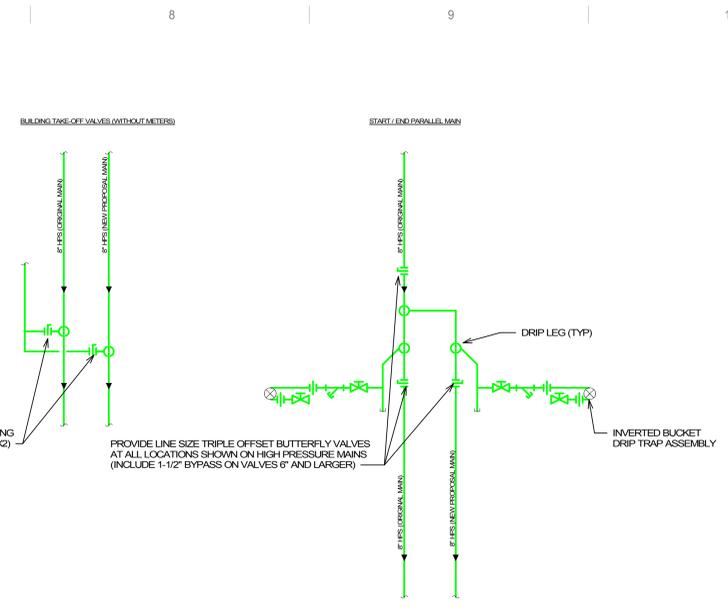
4 STEAM DRIP TRAP DETAIL  
NO SCALE



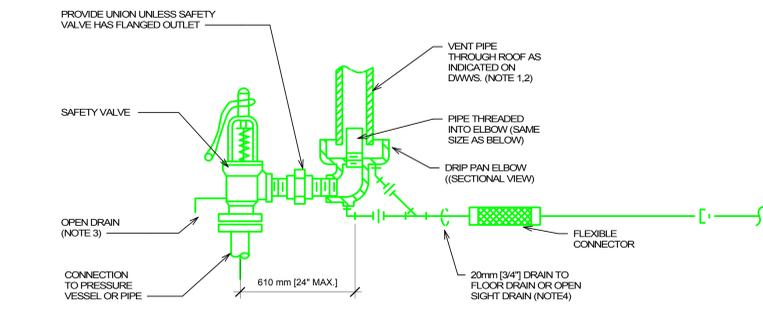
3 PIPE TRENCH DETAIL  
NO SCALE



2 PIPE LABEL DETAIL  
NO SCALE

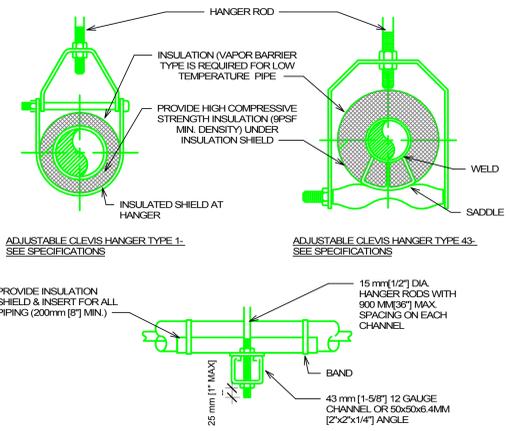


1 BUILDING TAKE-OFF VALVES  
NO SCALE



NOTES:  
 1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, SIZE THE VENT PIPE SO THAT STEAM IS NOT BLOWN OUT AT THE VENT PIPE ENTRANCE. UTILIZE THE CALCULATION METHOD CONTAINED IN ANSI B31.1 POWER PIPING CODE, APPENDIX II. THE VENT PIPE SHOULD GO VERTICAL THRU THE ROOF WITH NO TURNS OR ANGLES. WHERE REQUIRED THERE SHALL BE MORE THAN A TOTAL OR 180 DEGREES IN DIRECTIONAL CHANGES MADE WITH 45 DEG. ELBOWS.  
 2. VENT PIPE SHALL TERMINATE 1829 mm(6") MIN. ABOVE FINISHED ROOF.  
 3. DISCHARGE OF DRAIN SHALL BE DIRECTED AWAY FROM PLATFORMS OR OTHER AREAS WHERE PERSONNEL MAY OCCUPY.  
 4. DO NOT CONNECT ANY OTHER DRAIN TO THE DRIP PAN DRAIN PIPE.  
 5. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

5 STEAM SAFETY VALVE  
NO SCALE

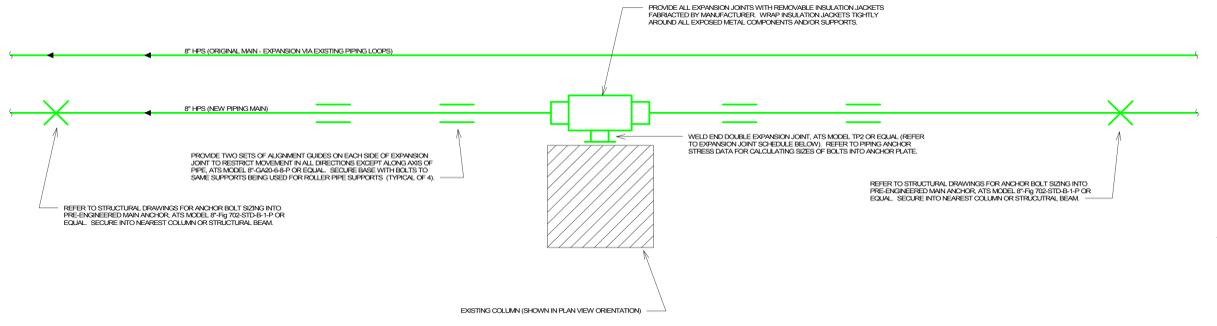


MAXIMUM PIPE/TUBING SUPPORT SPACING

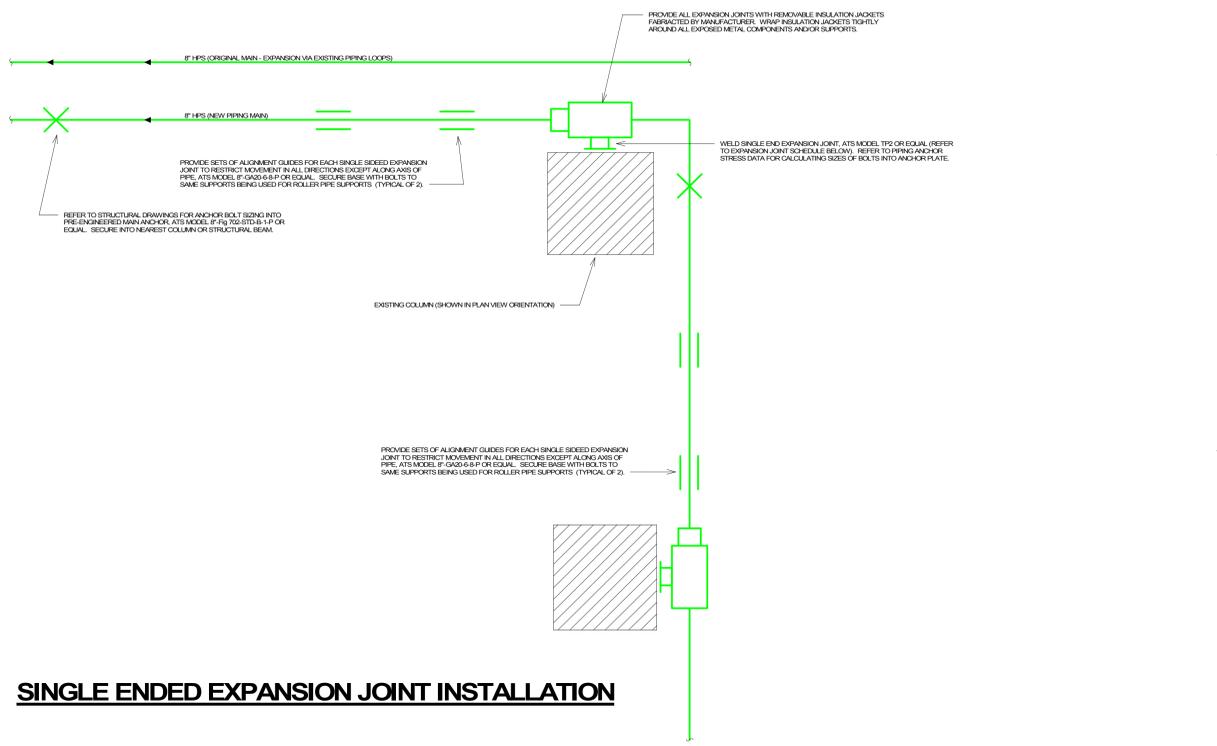
NOM. SIZE	mm (IN)	THRU 20 (THRU 3/4)	25 (1)	32 (1-1/4)	40 (1-1/2)	50 (2)	65 (2-1/2)	75 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	450 (18)	500 (20)	600 (24)	800 (32)
PIPE	mm (IN)	2100 (7)	2100 (7)	2100 (7)	2200 (8)	3000 (10)	3400 (11)	3700 (12)	4100 (14)	4000 (16)	5200 (17)	5800 (19)	6700 (22)	7000 (23)	7000 (23)	8200 (27)	8500 (28)	9100 (30)	9500 (32)	
TUBING	mm (IN)	1500 (6)	1800 (7)	2100 (8)	2400 (9)	2700 (10)	3000 (12)	3700 (14)	4000 (16)	4100 (16)	4900 (19)	-	-	-	-	-	-	-	-	-

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

7 PIPE HANGERS  
NO SCALE



6 DOUBLED ENDED EXPANSION JOINT INSTALLATION



6 SINGLE ENDED EXPANSION JOINT INSTALLATION

6 EXPANSION VALVE DETAIL  
NO SCALE

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No	REVISION	DATE

CONSULTANT

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Name Jason R. Gotwalt, P.E.  
 Date 10/25/2024 Reg. No. 41360

DRAWING TITLE  
MECHANICAL DETAILS

PROJECT TITLE  
REPLACE/ADD STEAM MAINS WEST SIDE

DATE  
10/25/2024

REVISIONS  
NONE

PROJECT NO.  
656-21-114

DRAWN BY  
LS/MTM

CHECKED BY  
JRG

APPROVED BY  
M301

LOCATION  
VA MEDICAL CENTER ST. CLOUD, MN 56303

SCALE  
FULLY SPRINGERED

DWG. OF

CONSTRUCTION DOCUMENTS

U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

VA ST. CLOUD HOSPITAL - PIPING ANCHOR STRESS DATA

Anchor ID#	Expansion Valve	FX (lb)	FORCES			MOMENTS		Notes
			FY (lb)	FZ (lb)	MX (ft-lb)	MY (ft-lb)	MZ (ft-lb)	
#48-1	none	0	-845	14,374	-3,189	0	0	
#48-2	EXIT-01A	49,036	-5,226	-5,077	-727	-64,122	72	
#48-3	none	4,487	-1,873	-8,615	-77	19,241	12,114	
#48-4	EXIT-02A/B	0	1524	0	0	0	5317	
#48-5	84862	2448	-690	-255	-8941	-22952	-4078	
#48-6	-99512	-2528	-13616	3608	199053	0	0	
#48-7	EXIT-03A/B	0	-743	265	0	0	248	
#48-8	4762	-3490	5358	114	1780	0	0	
#49-1	-4762	749	-5050	14024	18549	680	0	
#49-2	EXIT-04A	11761	16945	5943	-5131	4214	10351	
#49-3	EXIT-05A	5737	-17591	7898	6127	-8248	-20854	
#49-4	-12852	-1969	766	-189	3953	3953	432	
#49-5	12572	-1239	-766	2195	1213	-4240	0	
#49-6	EXIT-06A/B	0	-1181	0	0	0	-59	
#49-7	-3891	-988	2360	-582	-7335	105	92	
#49-8	3978	-1081	-2360	472	-5251	92	0	
#49-9	EXIT-07A	106734	-740	-98454	8	-75566	-993	
#49-10	-15495	-546	88473	418	25046	432	0	
#49-11	EXIT-09A/B	0	-1516	0	-171	0	-171	
#49-12	78359	1429	-80000	-8386	-7943	-7871	0	
#49-13	-88383	47459	75896	55984	120681	-15431	0	
#49-14	EXIT 11A/B	0	-1185	0	201	0	0	
#49-15	11503	6339	-2024	-14510	16088	-3344	0	
#49-16	-11503	-7708	2024	-15401	22332	-242	0	
#49-17	EXIT 12A/B	0	-1328	0	15	0	0	
#49-18	-1544	-791	10346	-485	-1394	-199	0	
#50-2	EXIT 13A/B	0	-1052	0	-2398	0	0	
#50-3	EXIT 14A/B	exist	exist	exist	exist	exist	exist	
#50-4	EXIT 15A/B	0	-1193	0	-83	0	0	
#50-5	EXIT 16A/B	0	-855	0	306	0	0	
#50-6	EXIT 17A	exist	exist	exist	exist	exist	exist	
#50-7	EXIT 17B	exist	exist	exist	exist	exist	exist	
#50-8	EXIT 18A/B	-900	-1108	901	-346	-7045	312	
#50-9	EXIT 19A	exist	exist	exist	exist	exist	exist	
#50-10	EXIT 19B	exist	exist	exist	exist	exist	exist	
#50-11	-5402	-1282	-7222	586	-6023	830	0	
#50-12	0	-1310	303	-2932	0	0	0	
#50-13	352	-898	6878	432	-8544	688	544	
#50-14	-352	-1747	-7022	3871	7214	544	0	
#50-15	-9824	-1163	4210	-1416	-9049	-277	0	
#50-16	-11133	-6846	17452	-5218	-23570	-7714	0	
#50-17	18109	15844	-13693	6373	-75917	-11967	0	
#50-21	exist	exist	exist	exist	exist	exist	exist	
#50-22	exist	exist	exist	exist	exist	exist	exist	
#51-1	EXIT 21A/B	0	-1199	0	0	0	-240	
#51-2	EXIT 22A	5392	1472	4454	1284	3484	2368	
#51-3	EXIT-23A/B	0	-1287	0	0	0	205	
#51-4	EXIT 24A	5371	78	2557	-915	-3935	-2054	
#51-11	-5662	-1338	-7222	589	-6023	608	0	
#51-12	11725	1365	-23095	-2383	12548	1840	0	
#51-13	-10284	-1351	21902	-290	54870	1821	0	
#51-14	-2991	10427	-3390	5039	-6738	-20096	0	
#51-15	2649	4564	-1719	2352	6028	10859	0	
#51-16	-14237	1	-424	-92	1325	82	0	

VA ST. CLOUD HOSPITAL - STEAM EXPANSION JOINT SCHEDULE

Identification Tag	Joint Type (note #5)	Double End With	Pipe Size (note #4)		Manufacturer	Model Number (reference note #1)	Calculated Travel (note #3)		Rated Travel	Location
			#4	#4			#3	#3		
EXIT 01A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	0.756"	4.0"	4.0"	B48 TUNNEL
EXIT 02A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	1.368" / 1.667"	4.0"	4.0"	B48 CRAWLSPACE
EXIT 03A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.756" / 0.532"	4.0"	4.0"	B49 TUNNEL
EXIT 04A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	0.868"	4.0"	4.0"	B49 CRAWLSPACE
EXIT 05A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	0.689"	4.0"	4.0"	B49 CRAWLSPACE
EXIT 06A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.434" / 0.439"	4.0"	4.0"	B49 CRAWLSPACE
EXIT 07A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	0.490"	4.0"	4.0"	B49-B50 TUNNEL
EXIT 08A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B49-B50 TUNNEL
EXIT 08B	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B49-B50 TUNNEL
EXIT 09A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.145" / 0.357"	4.0"	4.0"	B49-B50 TUNNEL
EXIT 10A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B49-B50 TUNNEL
EXIT 10B	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B49-B50 TUNNEL
EXIT 11A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.469" / 0.445"	4.0"	4.0"	B49-B50 TUNNEL
EXIT 12A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.256" / 0.196"	4.0"	4.0"	B49-B50 TUNNEL
EXIT 13A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.359" / 0.791"	4.0"	4.0"	B50 CRAWLSPACE
EXIT 14A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	existing	4.0"	4.0"	B50 CRAWLSPACE
EXIT 15A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.420" / 0.452"	4.0"	4.0"	B50 CRAWLSPACE
EXIT 16A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.607" / 0.607"	4.0"	4.0"	B50-B51 TUNNEL
EXIT 17A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B50-B51 TUNNEL
EXIT 17B	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B50-B51 TUNNEL
EXIT 18A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.477" / 0.137"	4.0"	4.0"	B50-B51 TUNNEL
EXIT 19A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B50-B51 TUNNEL
EXIT 19B	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	existing	4.0"	4.0"	B50-B51 TUNNEL
EXIT 21A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.455 / 0.404"	4.0"	4.0"	B51 CRAWLSPACE
EXIT 22A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	0.346" / 0.172"	4.0"	4.0"	B51 CRAWLSPACE
EXIT 23A/B	Slip	double end	8"	8"	ATS	8"TP2-SWWW-222-4-400H-BRZ-A	0.172" / 0.403"	4.0"	4.0"	B51 CRAWLSPACE
EXIT 24A	Slip	single end	8"	8"	ATS	8"TP2-SWWW-122-4-400H-BRZ-A	0.239"	4.0"	4.0"	B51 CRAWLSPACE

- NOTES:  
1. MODEL NUMBERS BASED ON ADVANCED THERMAL SYSTEMS, INC. OR MICROFLEX. EACH EXPANSION JOINT WILL BE REQUIRED TO BE PROVIDED WITH A REMOVABLE BLANKET INSULATION WRAP PER SPECIFICATIONS.  
2. IN ADDITIONAL TO MAIN ISOLATION VALVES SHOWN, CONTRACTOR SHALL COORDINATE ALL PUMPED CONDENSATE VALVE POSITIONS AS REQUIRED. REFER TO DRAWING FOR ADDITIONAL PUMPED CONDENSATE VALVES BEING PROVIDED IN THIS CONTRACT.  
3. EXPANSION JOINT MANUFACTURER SHALL PROVIDE A COMPLETE PIPE STRESS ANALYSIS OF THE ENTIRE STEAM SYSTEM SHOWN ON DRAWINGS TO COMPARE AGAINST SIMULATION PERFORMED BY DUNHAM. SUBMIT ALL CALCULATIONS TO ENGINEER FOR REVIEW.  
4. MECHANICAL CONTRACTOR TO REMOVE INSULATION AROUND EXISTING EXPANSION JOINTS AND RE-CONFIRM SIZING INDICATED ON THIS SCHEDULE PRIOR TO FINAL ORDER OF MATERIALS.  
5. ALL NEW EXPANSION VALVES SHALL BE PROVIDED WITH WELDED END CONNECTIONS. ALL JOINTS SHALL HAVE ANCHOR POINT ASSEMBLY FOR MECHANICAL CONTRACTOR TO MODIFY ON SITE.

C:\Users\jasong\Documents\171817-M-Campus-M23\_Jasongwall\1827.rvt 10/25/2024 3:54:43 PM

No.	REVISION	DATE

**CONSULTANT**

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55 South Sixth Street / Suite 1100  
Minneapolis, Minnesota 55402-1540  
phone 612.465.7550 fax 612.465.7551  
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mechanical • electrical consulting engineering

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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 #

**STAMP**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Name: Jason R. Gottwalt, P.E.  
Date: 10/25/2024 Reg. No. 41360

**DRAWING TITLE**  
MECHANICAL SCHEDULES

**PROJECT TITLE**  
REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
10/25/2024

**PROJECT NO.**  
656-21-114

**ISSUED BY**  
JRG

**CHECKED BY**  
TMM

**DESIGNED BY**  
M302

**LOCATION**  
VA MEDICAL CENTER  
ST. CLOUD, MN 56301

**DATE**  
10/25/2024

**SCALE**  
AS SHOWN

**NO. OF SHEETS**  
1

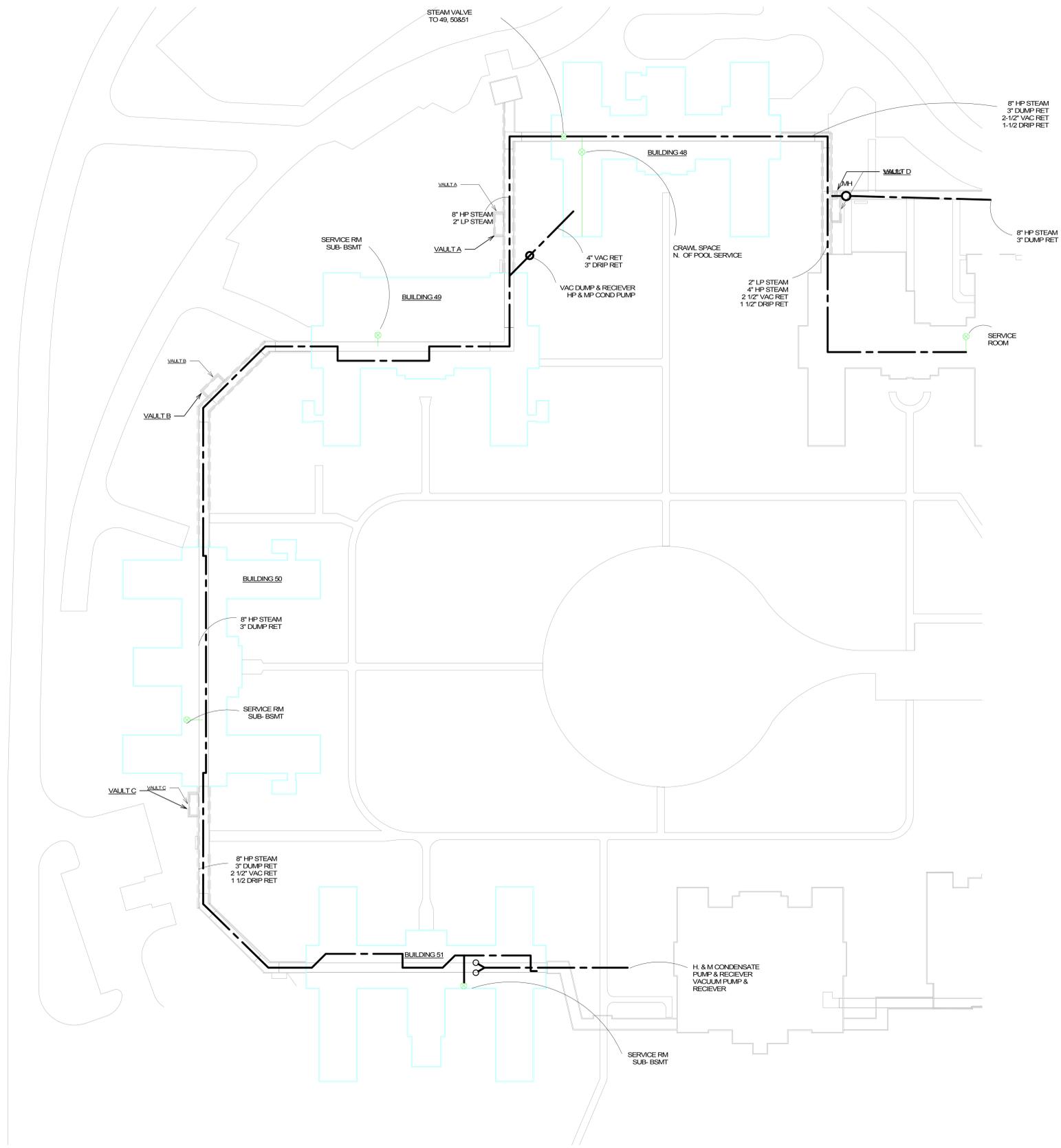
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**CONSTRUCTION DOCUMENTS**

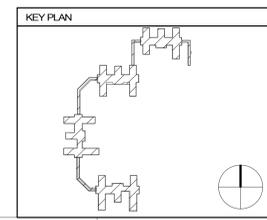
**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

NOTE:  
PIPE SIZES AND ROUTE INFORMATION IN BASE OF VA SURVEY PLAN.  
--- NEW 8" HP STEAM PIPE



1 PIPING DIAGRAM  
NO SCALE



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No.	REVISION	DATE

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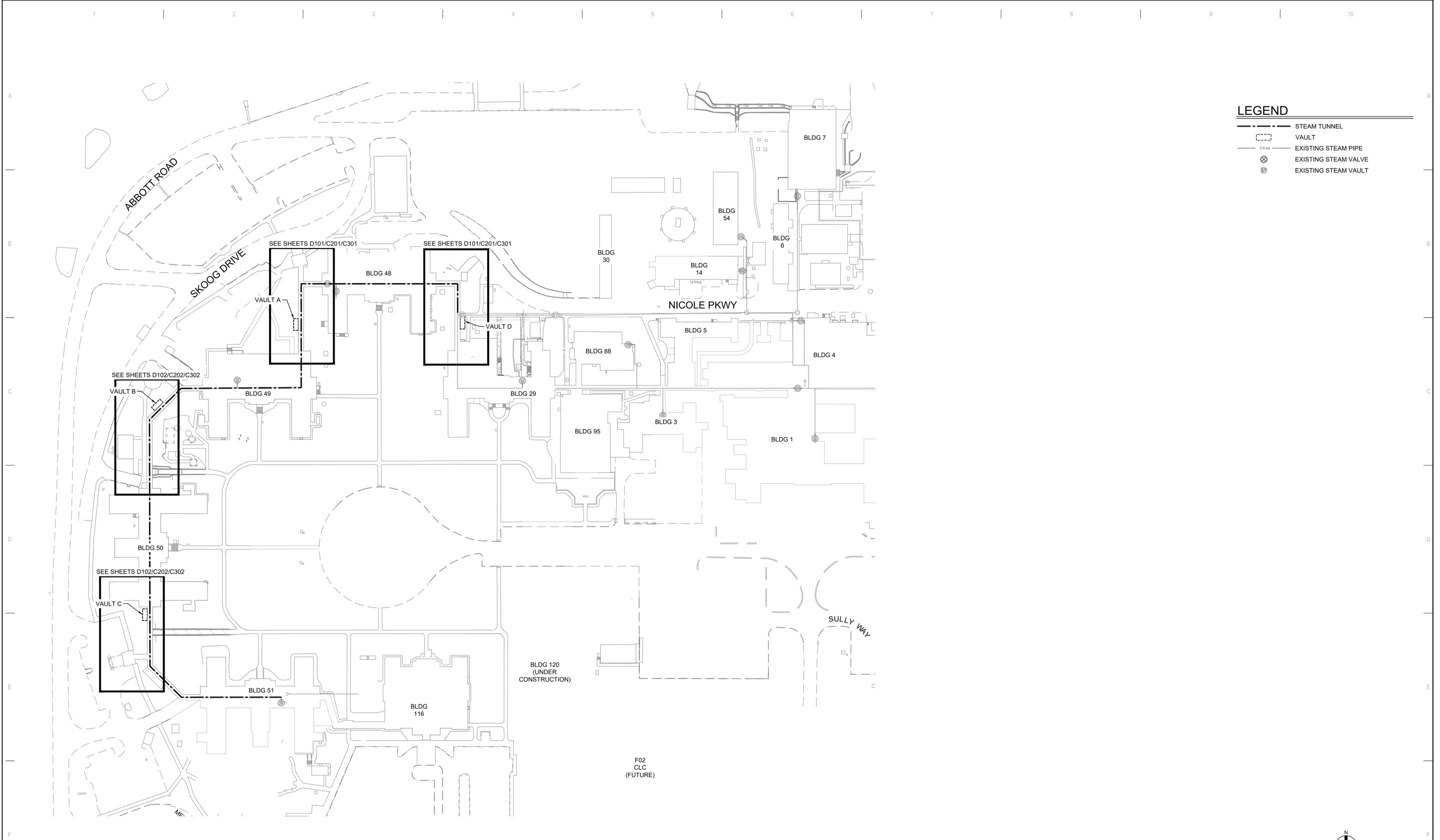
Name Jason R. Gotwalt, P.E.  
 Date 10/25/2024 Reg. No. 41360

PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE	DATE	10/25/2024
BUILDING	URG	DESIGNED BY	LS/TM
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303	DRAWN BY	LS/TM
		PROJECT NO.	656-21-114
		DRAWING NO.	M303
		DATE	10/25/2024

CONSTRUCTION DOCUMENTS

**VA**

U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



**LEGEND**

	STEAM TUNNEL
	VAULT
	EXISTING STEAM PIPE
	EXISTING STEAM VALVE
	EXISTING STEAM VAULT

NO.	REVISION	DATE

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 DUNHAM  
 60 South Sixth Street / Suite 1100  
 Minneapolis, Minnesota 55402-1640  
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 Anderson Engineering of Minnesota, LLC | Proj # 17187

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 PRINT NAME: LEE KOPPY SIGNATURE:   
 DATE OCTOBER 25, 2024 LICENSE # 41267

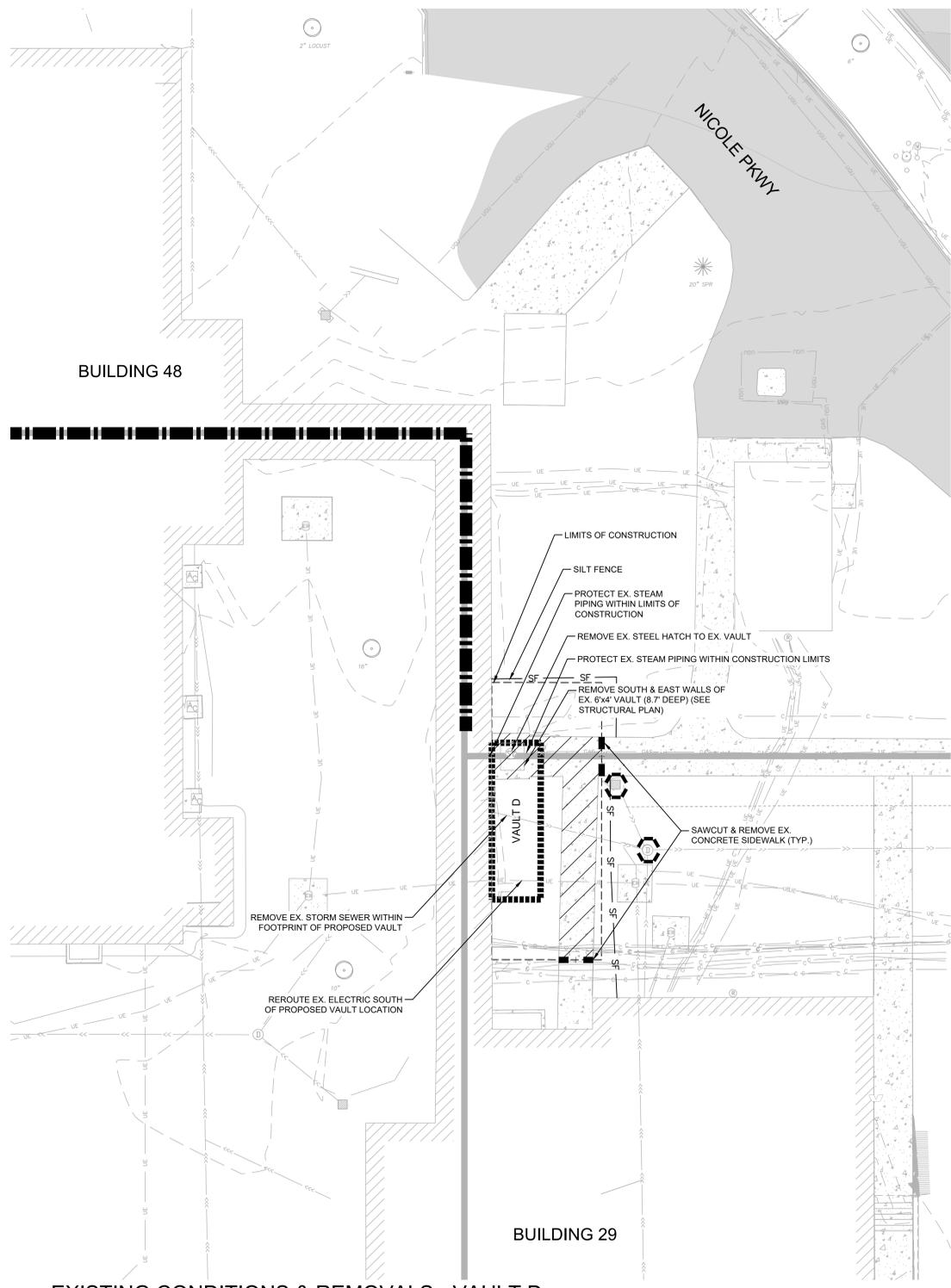
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APPROVED: _____ DATE: _____	APPROVED: SERVICE LINE DIRECTOR _____ DATE: _____	APPROVED: SAFETY MANAGER _____ DATE: _____	APPROVED: MO MANAGER _____ DATE: _____	APPROVED: ASSOCIATE DIRECTOR _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: GENM COORDINATOR _____ DATE: _____	APPROVED: CHIEF OF POLICE _____ DATE: _____	APPROVED: PROJECTS SECTION MANAGER _____ DATE: _____	APPROVED: NURSE EXECUTIVE _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: INFECTION CONTROL NURSE _____ DATE: _____	APPROVED: CHIEF OF STAFF _____ DATE: _____	APPROVED: ASSISTANT CHIEF ENGINEER _____ DATE: _____	APPROVED: CHIEF OF STAFF _____ DATE: _____

DRAWING TITLE  
**OVERALL SITE PLAN**

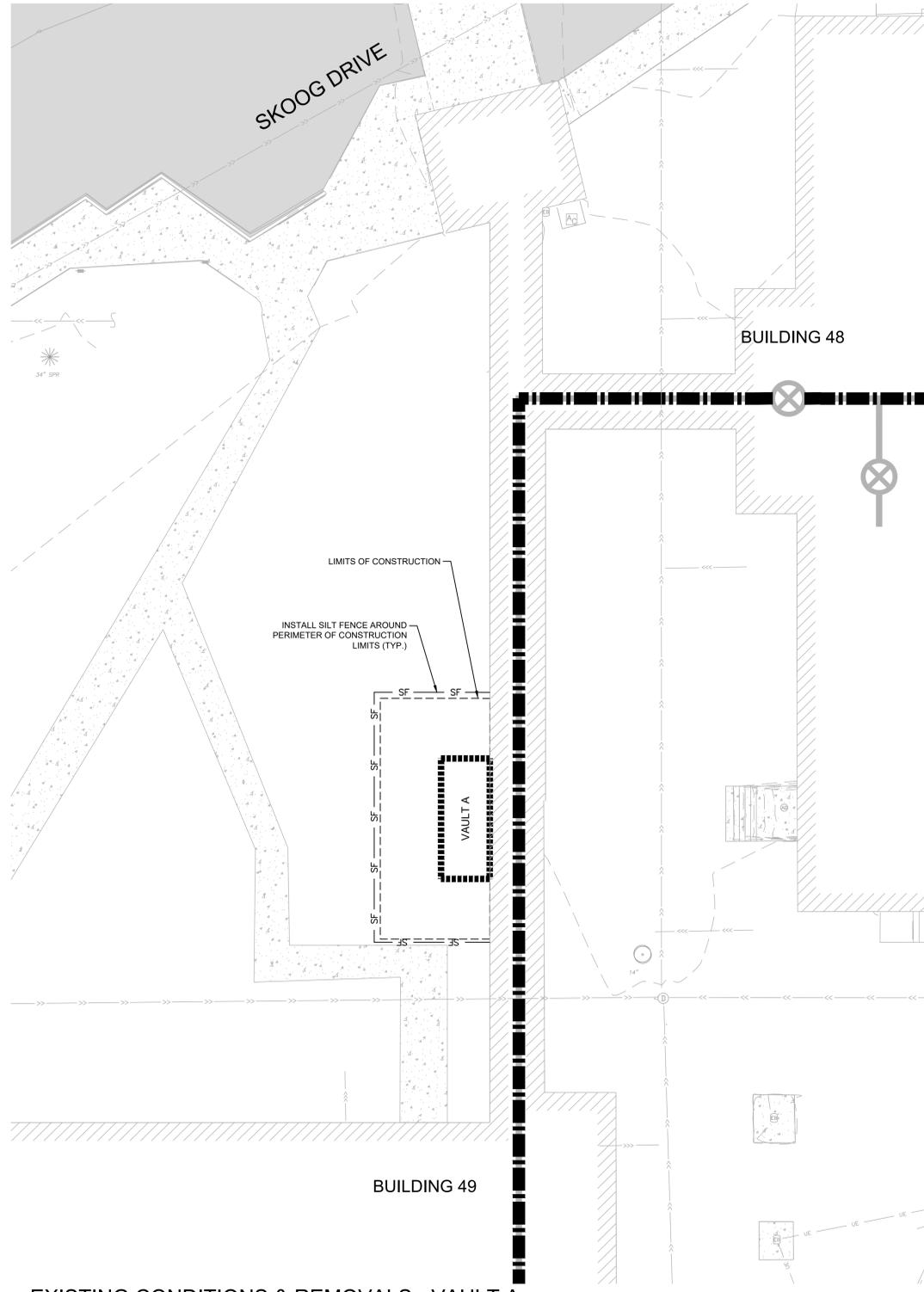
PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE <b>10/25/2024</b>
PLOT SCALE	PROJECT NO. <b>656-21-114</b>
BUILDING NO. <b>SITE</b>	DRAWN BY <b>MAM</b>
CHECKED BY <b>LRK</b>	DWG. NO. <b>G001</b>
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	COVER OF _____

**CONSTRUCTION DOCUMENTS**

**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System



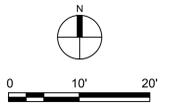
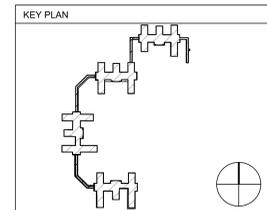
1 EXISTING CONDITIONS & REMOVALS - VAULT D  
SCALE: 1" = 10'



2 EXISTING CONDITIONS & REMOVALS - VAULT A  
SCALE: 1" = 10'

**LEGEND**

- CONSTRUCTION LIMITS
- STEAM TUNNEL
- VAULT
- EXISTING STORM PIPE
- UE EXISTING UNDERGROUND ELECTRIC
- GAS EXISTING GAS
- COMM EXISTING COMMUNICATION LINE
- STEAM EXISTING STEAM PIPE
- EXISTING STEAM VALVE
- SF SILT FENCE
- EXISTING BITUMINOUS
- EXISTING CONCRETE
- EXISTING BUILDING
- EXISTING TREE
- EXISTING RETAINING WALL
- REMOVE CONCRETE SIDEWALK
- SAWCUT
- INLET PROTECTION



No.	REVISION	DATE

**CONSULTANT**  
**DUNHAM**  
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 Anderson Engineering of Minnesota, LLC Proj # 17187

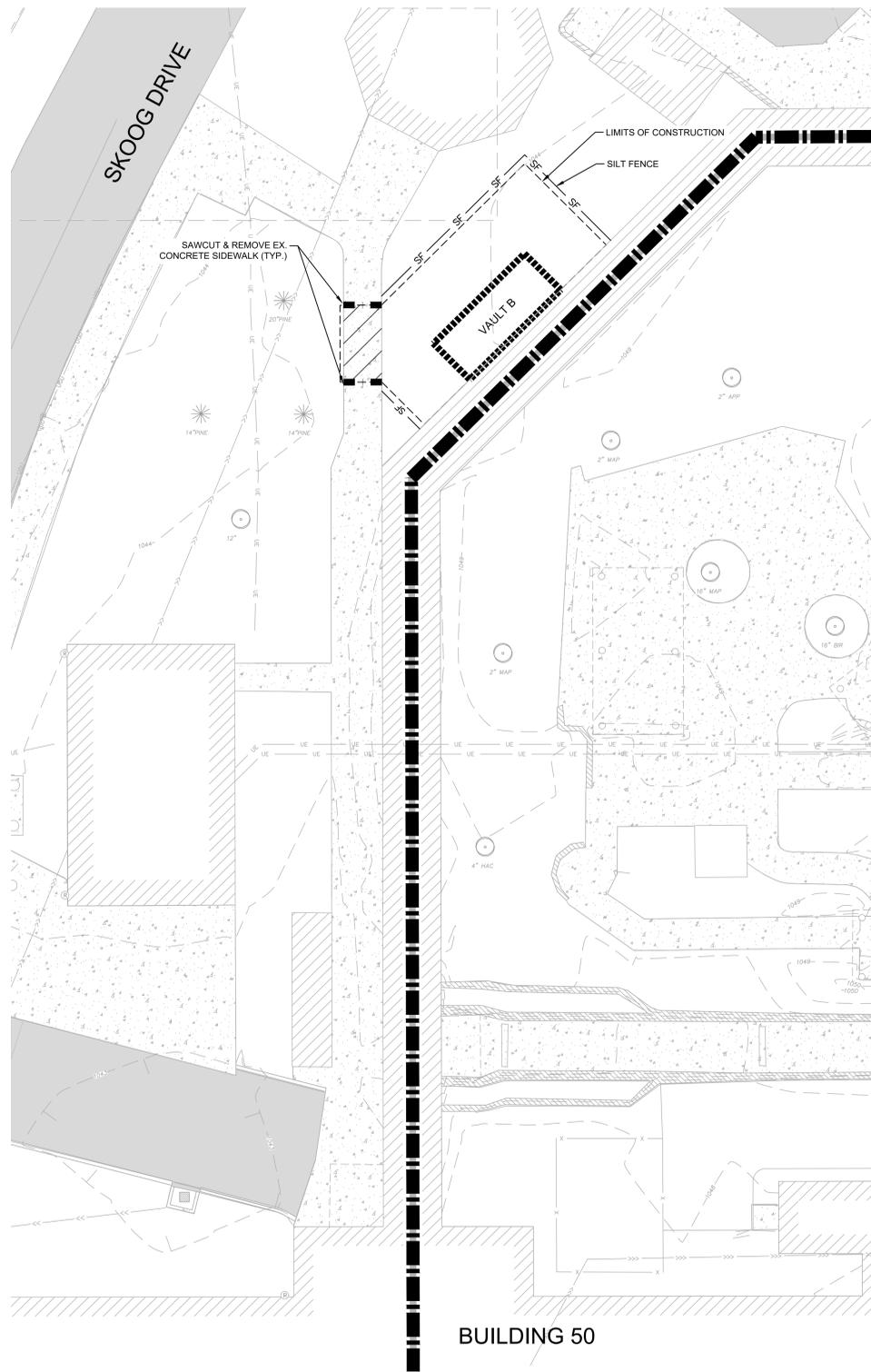
**STAMP**  
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 PRINT NAME: LEE KOPPY SIGNATURE: *[Signature]*  
 DATE: OCTOBER 25, 2024 LICENSE # 41267

APPROVED: _____ DATE: _____	APPROVED PROJECT OR: _____ DATE: _____	APPROVED PAINT SAFETY: _____ DATE: _____	APPROVED EIM MANAGER: _____ DATE: _____	APPROVED OPERATOR ENG: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED SERVICE DIRECTOR: _____ DATE: _____	APPROVED SAFETY MANAGER: _____ DATE: _____	APPROVED MO MANAGER: _____ DATE: _____	APPROVED ASSOCIATE DIRECTOR: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED CEM COORDINATOR: _____ DATE: _____	APPROVED CHIEF OF POLICE: _____ DATE: _____	APPROVED PROJECTS SECTION MANAGER: _____ DATE: _____	APPROVED NURSE EXECUTIVE: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED INFECTION CONTROL NURSE: _____ DATE: _____	APPROVED OF MANAGER: _____ DATE: _____	APPROVED ASSISTANT CHIEF ENGINEER: _____ DATE: _____	APPROVED CHIEF OF STAFF: _____ DATE: _____

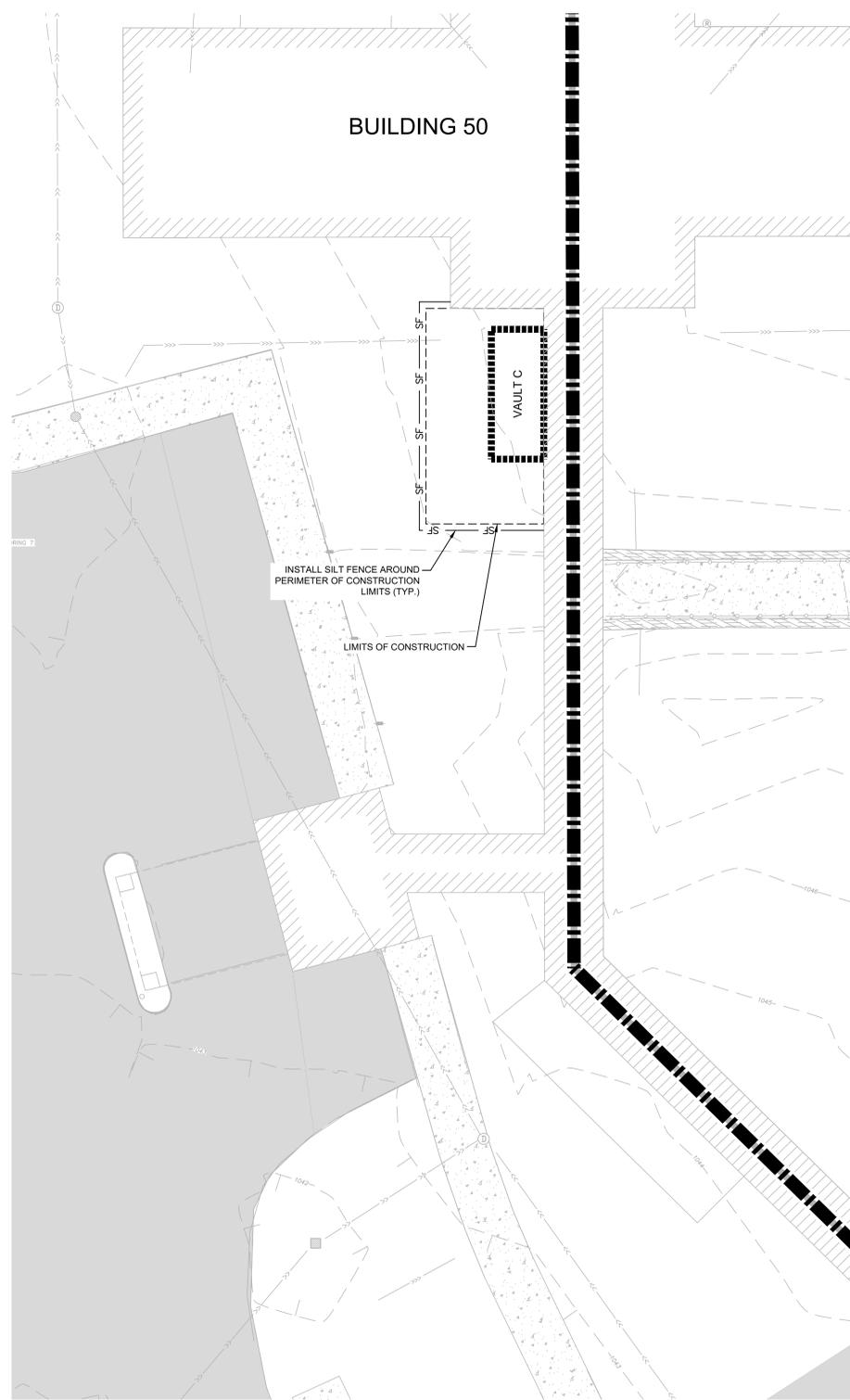
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 REPLACE/ADD STEAM MAINS WEST SIDE  
**DATE**  
 10/25/2024  
**PROJECT NO.**  
 656-21-114  
**DRAWING NO.**  
 D101  
**CHECKED BY**  
 LRK  
**DESIGN**  
 MAM  
**DATE**  
 10/25/2024  
**LOCATION**  
 VA MEDICAL CENTER  
 ST. CLOUD, MN 56303  
**COVER**  
 FULLY SPRINKLERED  
 DWG. OF

**CONSTRUCTION DOCUMENTS**

**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System

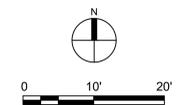
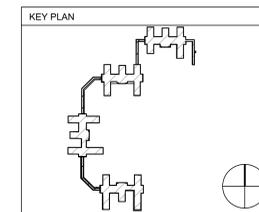


1 EXISTING CONDITIONS & REMOVALS - VAULT B  
SCALE: 1" = 10'



2 EXISTING CONDITIONS & REMOVALS - VAULT C  
SCALE: 1" = 10'

LEGEND	
	CONSTRUCTION LIMITS
	STEAM TUNNEL
	VAULT
	EXISTING STORM PIPE
	EXISTING UNDERGROUND ELECTRIC
	EXISTING GAS
	EXISTING COMMUNICATION LINE
	EXISTING STEAM PIPE
	EXISTING STEAM VALVE
	SILT FENCE
	EXISTING BITUMINOUS
	EXISTING CONCRETE
	EXISTING BUILDING
	EXISTING TREE
	EXISTING RETAINING WALL
	REMOVE CONCRETE SIDEWALK
	SAWCUT



NO.	REVISION	DATE

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 DATE: OCTOBER 25, 2024 LICENSE # 41267

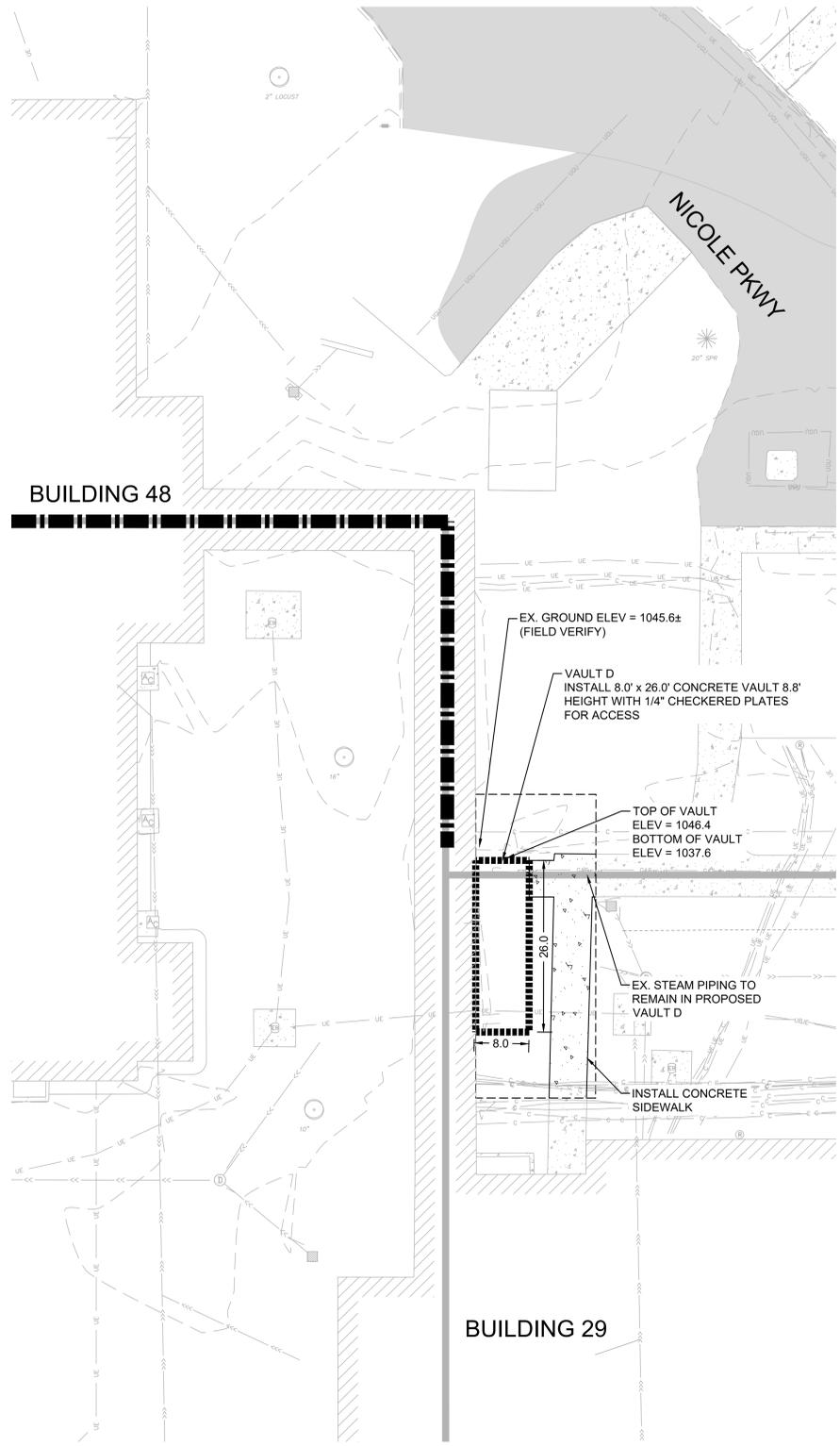
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APPROVED: _____ DATE: _____	APPROVED SERVICE LINE DIRECTOR: _____ DATE: _____	APPROVED SAFETY MANAGER: _____ DATE: _____	APPROVED MCM MANAGER: _____ DATE: _____	APPROVED ASSOCIATE DIRECTOR: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED CEM COORDINATOR: _____ DATE: _____	APPROVED CHIEF OF POLICE: _____ DATE: _____	APPROVED PROJECTS SECTION MANAGER: _____ DATE: _____	APPROVED NURSE EXECUTIVE: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED INFECTION CONTROL NURSE: _____ DATE: _____	APPROVED OF MANAGER: _____ DATE: _____	APPROVED ASSISTANT CHIEF ENGINEER: _____ DATE: _____	APPROVED CHIEF OF STAFF: _____ DATE: _____

DRAWING TITLE  
 EXISTING CONDITIONS & REMOVALS PLAN 2  
 APPROVED MEDICAL CENTER DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

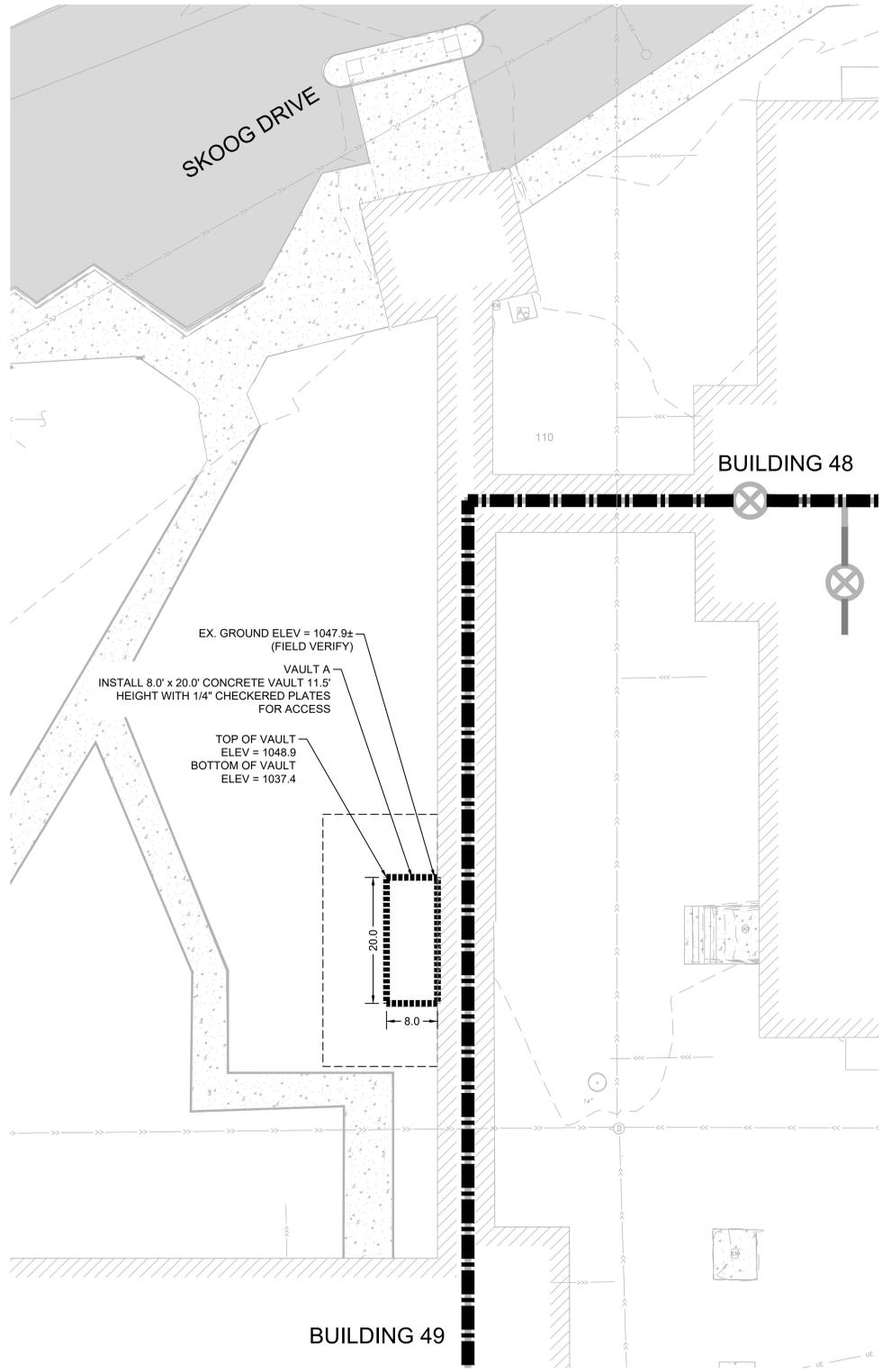
PROJECT TITLE  
 REPLACE/ADD STEAM MAINS WEST SIDE  
 DATE: 10/25/2024  
 PROJECT NO: 656-21-114  
 DRAWING NO: D102  
 FULLY SPRINKLERED  
 COVER

CONSTRUCTION DOCUMENTS

**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System

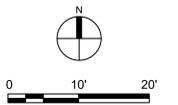
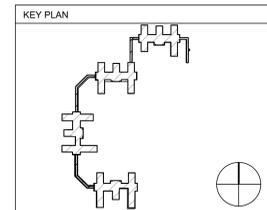


1 CIVIL SITE PLAN - VAULT D  
SCALE: 1" = 10'



2 CIVIL SITE PLAN - VAULT A  
SCALE: 1" = 10'

LEGEND	
	CONSTRUCTION LIMITS
	STEAM TUNNEL
	VAULT
	EXISTING STORM PIPE
	EXISTING UNDERGROUND ELECTRIC
	EXISTING GAS
	EXISTING COMMUNICATION LINE
	EXISTING STEAM PIPE
	EXISTING STEAM VALVE
	EXISTING BITUMINOUS
	EXISTING CONCRETE
	EXISTING BUILDING
	EXISTING TREE
	EXISTING RETAINING WALL



NO.	REVISION	DATE

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 DATE OCTOBER 25, 2024 LICENSE # 41267

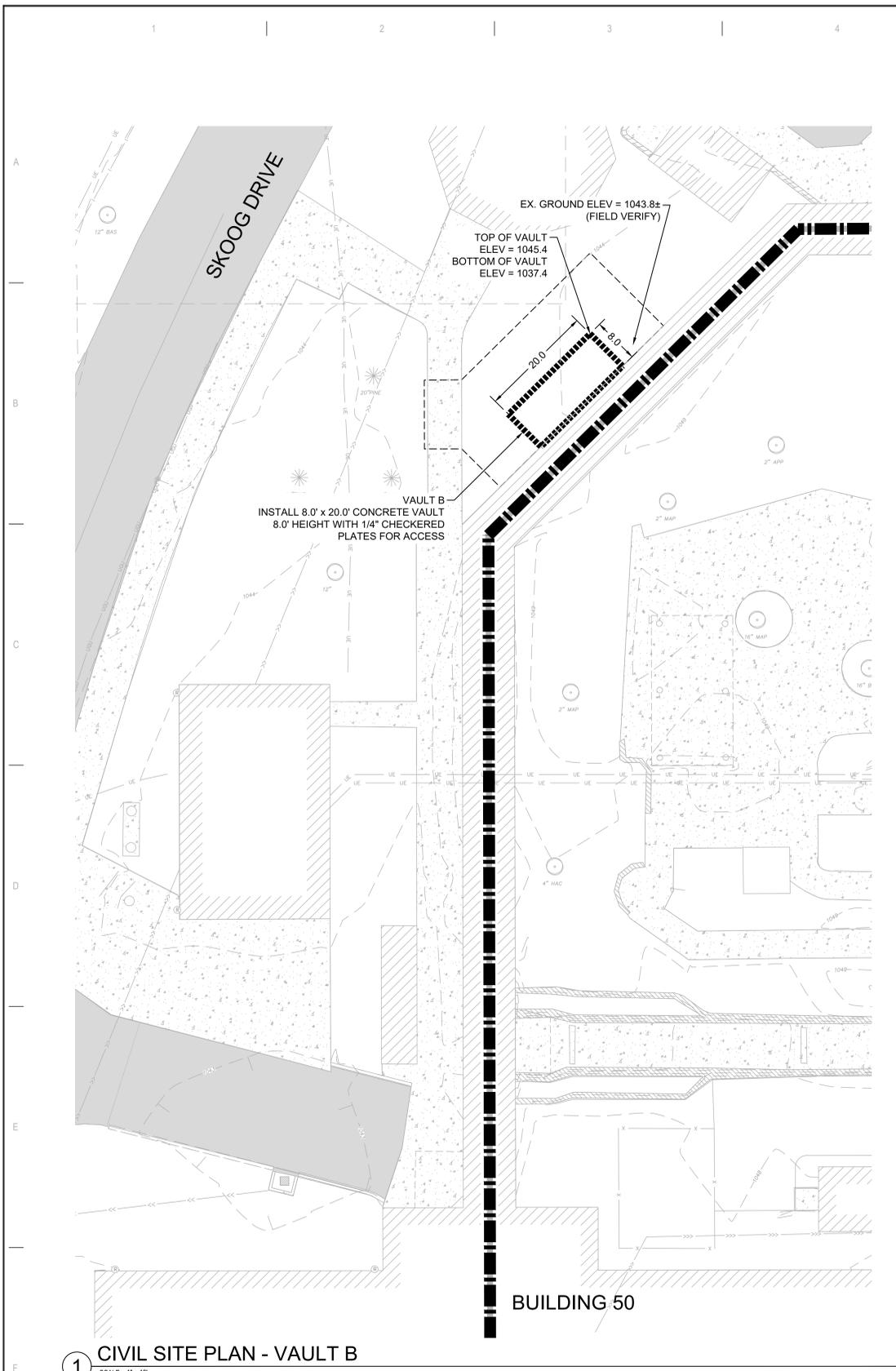
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APPROVED: _____ DATE: _____	APPROVED SERVICE LINE DIRECTOR: _____ DATE: _____	APPROVED SAFETY MANAGER: _____ DATE: _____	APPROVED MCM MANAGER: _____ DATE: _____	APPROVED ASSOCIATE DIRECTOR: _____ DATE: _____
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**KEY PLAN**  
 DRAWING TITLE  
 PLANNED CONSTRUCTION 1  
 APPROVED MEDICAL CENTER DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

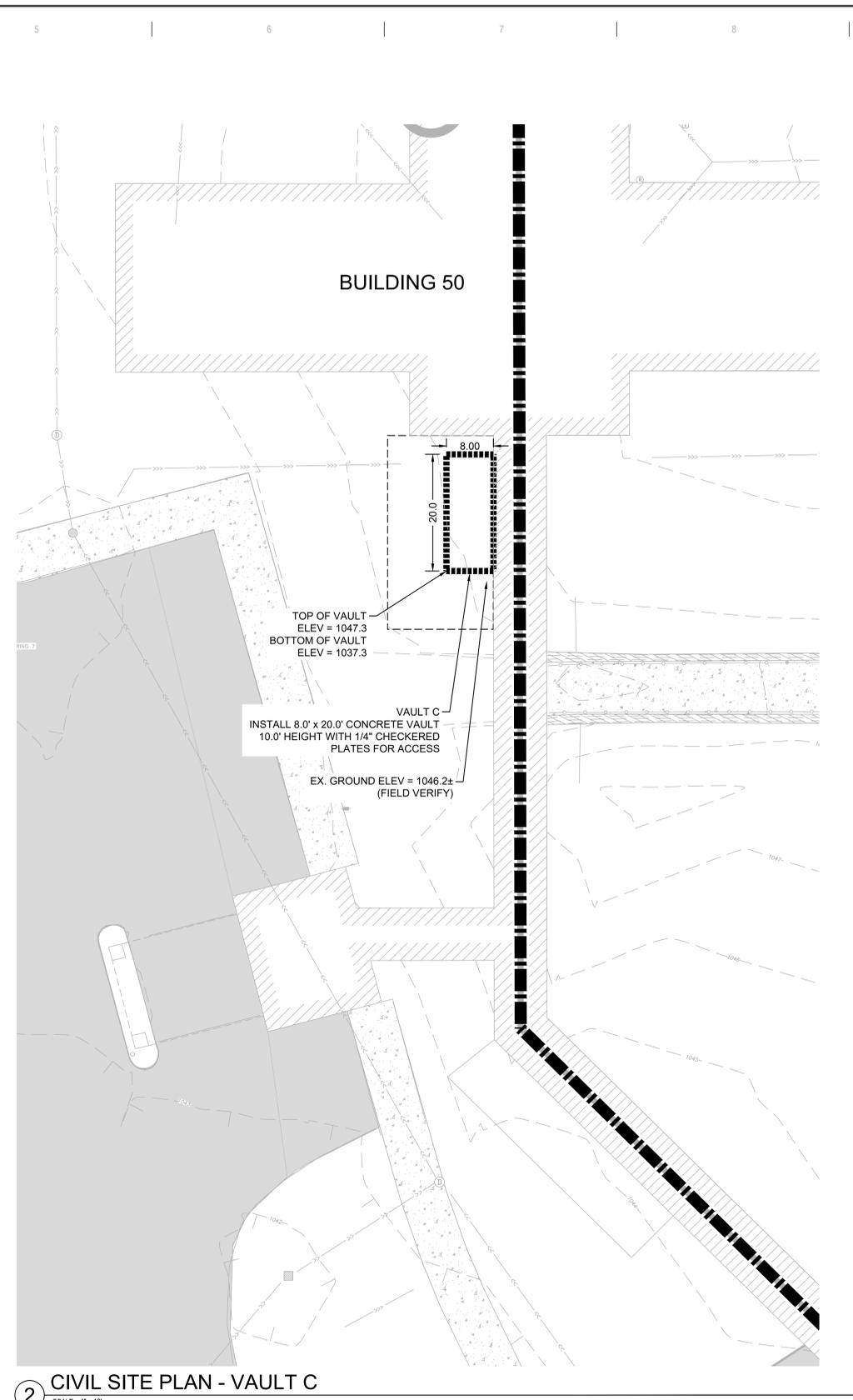
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BUILDING: SITE	CHECKED BY: LRK
DRAWN: MAM	DRAWING NO: C201
LOCATION: VA MEDICAL CENTER ST. CLOUD, MN 56303	COVER DWG. OF

**CONSTRUCTION DOCUMENTS**

**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System



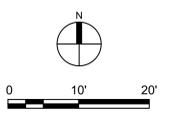
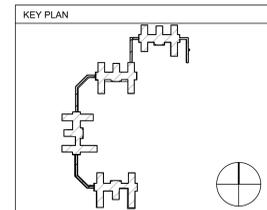
1 CIVIL SITE PLAN - VAULT B  
SCALE: 1" = 10'



2 CIVIL SITE PLAN - VAULT C  
SCALE: 1" = 10'

**LEGEND**

- CONSTRUCTION LIMITS
- ▬ STEAM TUNNEL
- ▭ VAULT
- EXISTING STORM PIPE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING GAS
- EXISTING COMMUNICATION LINE
- ▬ EXISTING STEAM PIPE
- ⊗ EXISTING STEAM VALVE
- ▨ EXISTING BITUMINOUS
- ▨ EXISTING CONCRETE
- ▨ EXISTING BUILDING
- ⊙ EXISTING TREE
- ▨ EXISTING RETAINING WALL



NO.	REVISION	DATE

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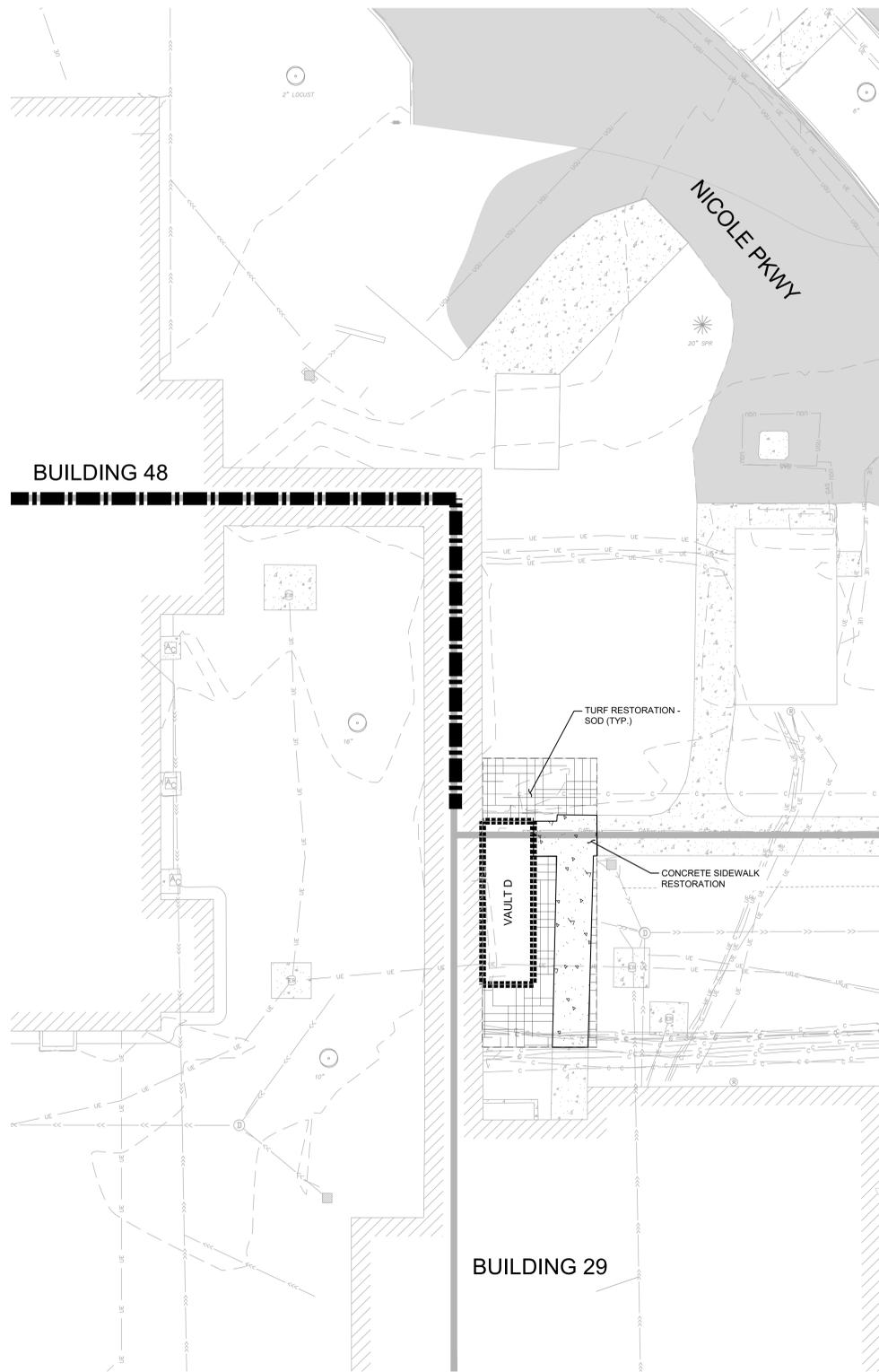
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 DATE: OCTOBER 25, 2024 LICENSE # 41267

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APPROVED: _____ DATE: _____	APPROVED SERVICE LINE DIRECTOR: _____ DATE: _____	APPROVED SAFETY MANAGER: _____ DATE: _____	APPROVED MCM MANAGER: _____ DATE: _____	APPROVED ASSOCIATE DIRECTOR: _____ DATE: _____	APPROVED VA MEDICAL CENTER DIRECTOR: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED CEM COORDINATOR: _____ DATE: _____	APPROVED CHIEF OF POLICE: _____ DATE: _____	APPROVED PROJECTS SECTION MANAGER: _____ DATE: _____	APPROVED NURSE EXECUTIVE: _____ DATE: _____	APPROVED VA MEDICAL CENTER DIRECTOR: _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED INFECTION CONTROL NURSE: _____ DATE: _____	APPROVED OF WARDEN: _____ DATE: _____	APPROVED ASSISTANT CHIEF ENGINEER: _____ DATE: _____	APPROVED CHIEF OF STAFF: _____ DATE: _____	APPROVED VA MEDICAL CENTER DIRECTOR: _____ DATE: _____

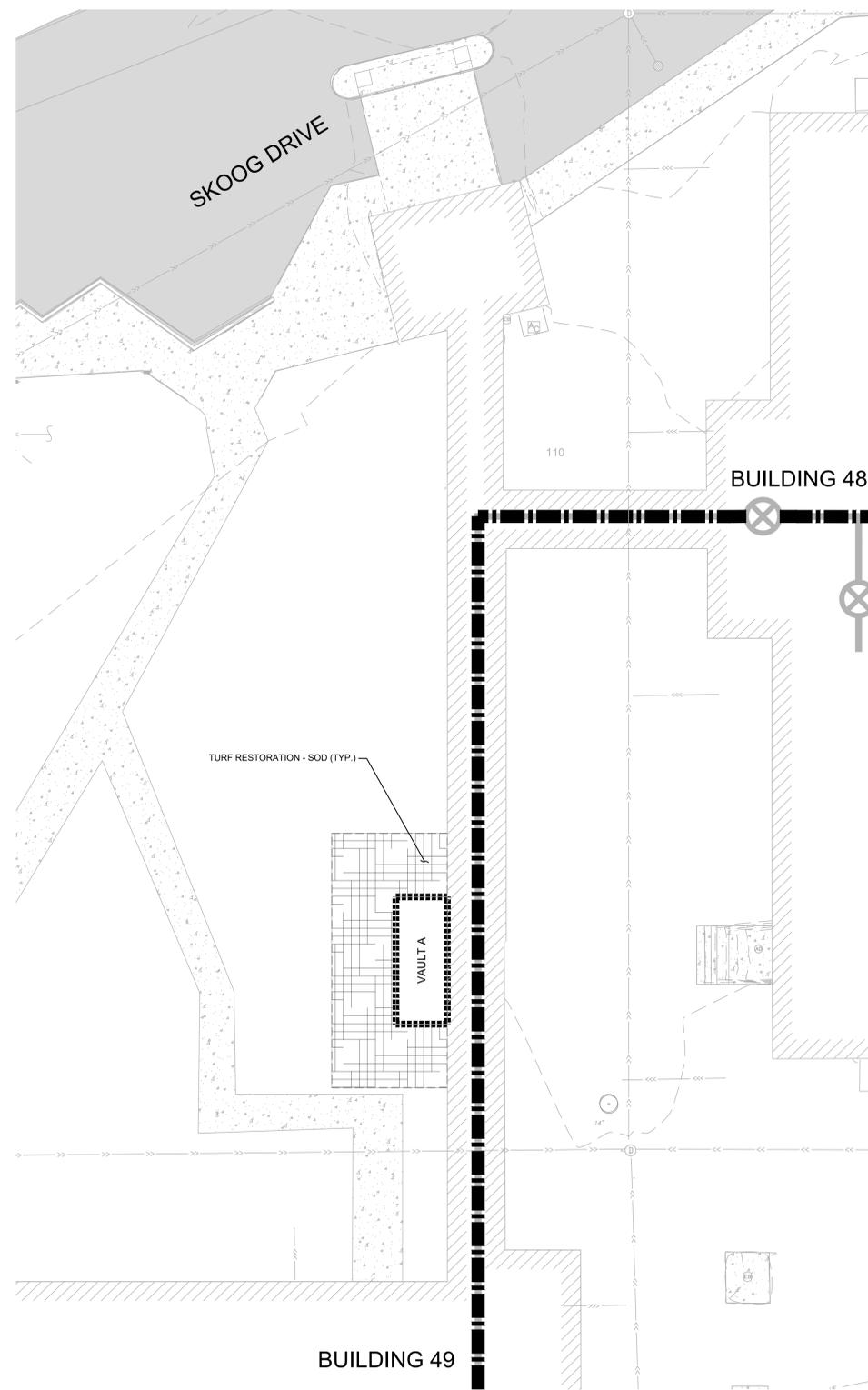
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**DATE**  
 10/25/2024  
**PROJECT NO.**  
 656-21-114  
**DRAWING NO.**  
 C202  
**CHECKED BY**  
 LRK  
**DESIGN BY**  
 MAM  
**DATE**  
 10/25/2024  
**LOCATION**  
 VA MEDICAL CENTER ST. CLOUD, MN 56303  
**COVER**  
 FULLY SPRINKLERED  
 DWG. OF

**CONSTRUCTION DOCUMENTS**

**VA** U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System



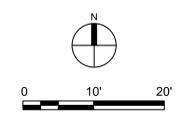
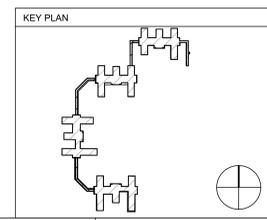
1 RESTORATION PLAN - VAULT D  
SCALE: 1"=10'



2 RESTORATION PLAN - VAULT A  
SCALE: 1"=10'

**LEGEND**

- CONSTRUCTION LIMITS
- STEAM TUNNEL
- VAULT
- EXISTING STORM PIPE
- UE --- EXISTING UNDERGROUND ELECTRIC
- EXISTING GAS
- COMM --- EXISTING COMMUNICATION LINE
- EXISTING STEAM PIPE
- ⊗ EXISTING STEAM VALVE
- EXISTING BITUMINOUS
- EXISTING CONCRETE
- EXISTING BUILDING
- ⊙ EXISTING TREE
- EXISTING RETAINING WALL
- CONCRETE SIDEWALK RESTORATION
- TURF RESTORATION



NO.	REVISION	DATE

**CONSULTANT**  
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Anderson Engineering of Minnesota, LLC | Proj # 17187

**STAMP**  
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
PRINT NAME: LEE KOPPY SIGNATURE: *[Signature]*  
DATE OCTOBER 25, 2024 LICENSE # 41267

APPROVED: _____ DATE: _____	APPROVED: PROJECT COR _____ DATE: _____	APPROVED: PATIENT SAFETY _____ DATE: _____	APPROVED: ERM MANAGER _____ DATE: _____	APPROVED: DIRECTOR FMS _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: SERVICE LINE DIRECTOR _____ DATE: _____	APPROVED: SAFETY MANAGER _____ DATE: _____	APPROVED: MO MANAGER _____ DATE: _____	APPROVED: ASSOCIATE DIRECTOR _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: GENM COORDINATOR _____ DATE: _____	APPROVED: CHIEF OF POLICE _____ DATE: _____	APPROVED: PROJECTS SECTION MANAGER _____ DATE: _____	APPROVED: NURSE EXECUTIVE _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: INFECTION CONTROL NURSE _____ DATE: _____	APPROVED: DEPT. MANAGER _____ DATE: _____	APPROVED: ASSISTANT CHIEF ENGINEER _____ DATE: _____	APPROVED: CHIEF OF STAFF _____ DATE: _____

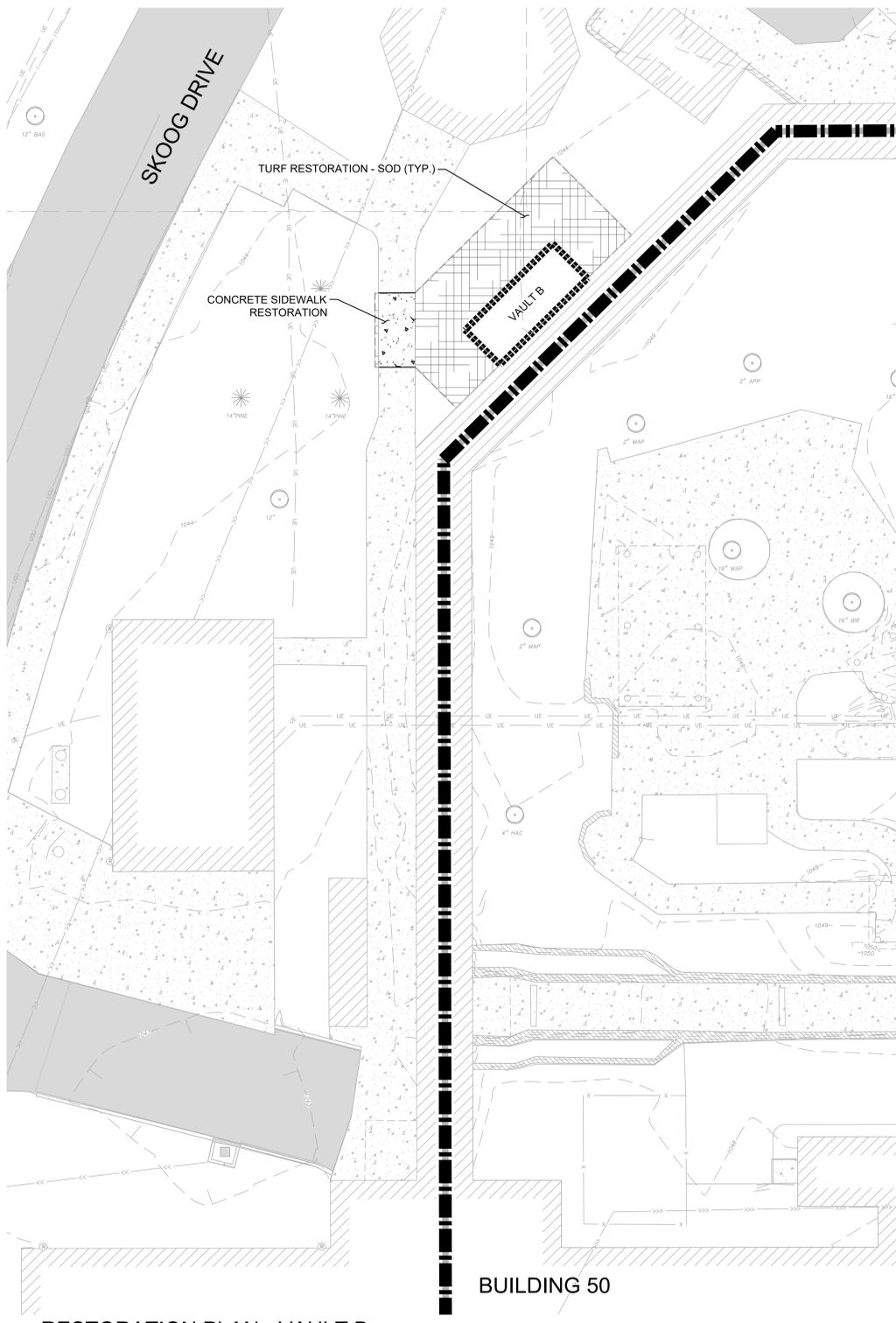
DRAWING TITLE  
**RESTORATION PLAN 1**

PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE <b>10/25/2024</b>
PLOT SCALE <b>AS SHOWN</b>	PROJECT NO. <b>656-21-114</b>
BUILDING NO. <b>SITE</b>	DRAWN BY <b>MAM</b>
CHECKED BY <b>LRK</b>	DESIGN NO. <b>C301</b>
LOCATION <b>VA MEDICAL CENTER ST. CLOUD, MN 56303</b>	COVER OF <b> </b>

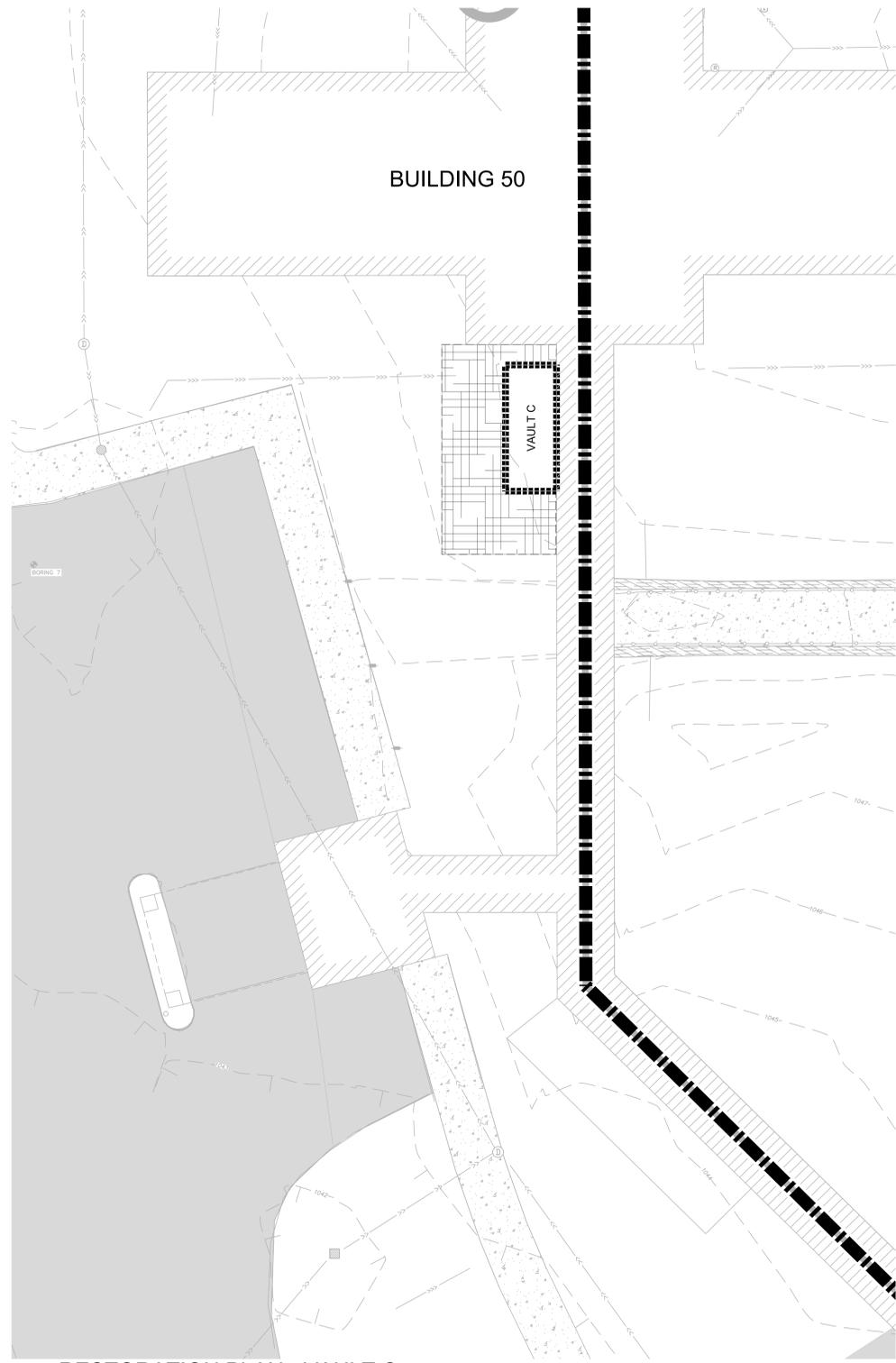
**CONSTRUCTION DOCUMENTS**




**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



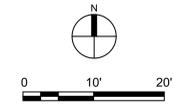
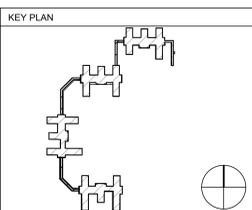
1 RESTORATION PLAN - VAULT B  
SCALE: 1" = 10'



2 RESTORATION PLAN - VAULT C  
SCALE: 1" = 10'

**LEGEND**

---	CONSTRUCTION LIMITS
---	STEAM TUNNEL
---	VAULT
---	EXISTING STORM PIPE
---	EXISTING UNDERGROUND ELECTRIC
---	EXISTING GAS
---	EXISTING COMMUNICATION LINE
---	EXISTING STEAM PIPE
---	EXISTING STEAM VALVE
---	EXISTING BITUMINOUS
---	EXISTING CONCRETE
---	EXISTING BUILDING
---	EXISTING TREE
---	EXISTING RETAINING WALL
---	CONCRETE SIDEWALK RESTORATION
---	TURF RESTORATION



No.	REVISION	DATE

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 PRINT NAME: LEE KOPPY SIGNATURE: *[Signature]*  
 DATE OCTOBER 25, 2024 LICENSE # 41267

APPROVED: _____ DATE: _____	APPROVED: PROJECT COR _____ DATE: _____	APPROVED: POTENT SAFETY _____ DATE: _____	APPROVED: EMI MANAGER _____ DATE: _____	APPROVED: DIRECTOR FMS _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: SERVICE LINE DIRECTOR _____ DATE: _____	APPROVED: SAFETY MANAGER _____ DATE: _____	APPROVED: MO MANAGER _____ DATE: _____	APPROVED: ASSOCIATE DIRECTOR _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: GENE COORDINATOR _____ DATE: _____	APPROVED: CHIEF OF POLICE _____ DATE: _____	APPROVED: PROJECTS SECTION MANAGER _____ DATE: _____	APPROVED: NURSE EXECUTIVE _____ DATE: _____
APPROVED: _____ DATE: _____	APPROVED: INFECTION CONTROL NURSE _____ DATE: _____	APPROVED: OF MANAGER _____ DATE: _____	APPROVED: ASSISTANT CHIEF ENGINEER _____ DATE: _____	APPROVED: CHIEF OF STAFF _____ DATE: _____

DRAWING TITLE  
**RESTORATION PLAN 2**

PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE <b>10/25/2024</b>
PLOT SCALE	PROJECT NO. <b>656-21-114</b>
BUILDING NO. <b>SITE</b>	DRAWN BY <b>MAM</b>
CHECKED BY <b>LRK</b>	DWG. NO. <b>C302</b>
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	COVER FULLY SPRINKLERED

**CONSTRUCTION DOCUMENTS**




**U.S. Department of Veterans Affairs**  
 Veterans Health Administration  
 St. Cloud VA Health Care System

ABBREVIATIONS & SYMBOLS:	
+-	PLUS OR MINUS
@	AT
A.B.	ANCHOR BOLT
A.F.A.	AMERICAN PLYWOOD ASSOCIATION
A.S.T.M.	AMERICAN SOCIETY OF TESTING MATERIALS
ARCH.	ARCHITECTURAL
B.B.	BOOK BEAM
B.O.	BOTTOM OF
BLK.	BLOCK
BM.	BEAM
BOT.	BOTTOM
BRG.	BRACING
C.	CHANNEL
C.M.U.	CONCRETE MASONRY UNIT
C.J.	CONSTRUCTION CONTROL JOINT
CJ.	CONTROL JOINT
CL.	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTROLS
DL.	DEAD LOAD
D.T.	DOUBLE TEE / DRAIN TILE
DBL.	DOUBLE
DM.	DIMETER
DM.	DIMENSION
DWL.	DOWEL
E.F.	EACH FACE
E.J.	EXPANSION JOINT
E.W.	EACH WAY
EA.	EACH
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
EX.	EXISTING
EXCAV.	EXCAVATION
EXP.	EXPANSION
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
FT.	FEET
FTS.	FOOTING
G.C.	GENERAL CONTRACTOR
G.T.	GRIDER TRUSS
GA.	GAUGE
GALV.	GALVANIZE
H.C.	HOLLOW CORE
HORIZ.	HORIZONTAL
H.S.F.	HOLLOW STRUCTURAL SECTION
I.F.	INSIDE FACE
INT.	INTERIOR
JO.	JOIST
K.P.S.	KIPS PER LINEAR FOOT
K.S.I.	KIPS PER SQUARE INCH
L.	LEADER
LB.	LEADER BEAM
LL.	LIVE LOAD DOUBLE ANGLE
L.H.	LONG LEG HORIZONTAL
LLV.	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LWC.	LIGHT WEIGHT CONCRETE
M.C.	MECHANICAL CONTRACTOR
MAS.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MFG.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
N.	NORTH
N.T.S.	NOT TO SCALE
NS.	NON SHRINK
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
O.H.	OVERHEAD
OPEN.	OPENING
ORIG.	ORIGINAL
P.A.F.	POWDER ACTUATED FASTENER
P.C.	PRECAST CONCRETE
PART.	PARTITION
PL.	PLATE
P.L.F.	POUNDS PER LINEAR FOOT
PNL.	PANEL
PSF.	POUNDS PER SQUARE FOOT
PSI.	POUNDS PER SQUARE INCH
PL.	PLYWOOD
R.	RADIUS
RAD.	RADIUS
R.D.	ROOF DRAIN
REIN.	REINFORCING
RECD.	REQUIRED
S.A.	STUD ANCHOR
S.B.	SOL BORING
S.D.	SEE DETAIL
S.D.L.	SUPERIMPOSED DEAD LOAD
S.E.A.	STRUCTURAL ENGINEER OF RECORD
S.L.	SNOW LOAD
S.L.L.	SUPERIMPOSED LIVE LOAD
S.S.	STAINLESS STEEL
SCHED.	SCHEDULE
SHT.	SHEET
SM.	SIMILAR
SPA.	SPACING / SPACES
SPECS.	SPECIFICATIONS
SQ.	SQUARE
STD.	STANDARD
STL.	STEEL
T & B.	TOP & BOTTOM
T & G.	TONGUE & GROOVE
T.O.	TOP OF
T.O.B.	TOP OF BEAM
T.O.J.	TOP OF JOIST
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
T.S.E.	TOP OF STEEL ELEVATION
TEMP.	TEMPORARY
THK.	THICK / THICKENED
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.O.A.	UNLESS OTHERWISE NOTED
V. / VER.	VERIFY
VERT.	VERTICAL
W.L.	WIND LOAD
W.	WITH
W/O.	WITH OUT
WD.	WOOD
WTS.	WEIGHTS
WWF.	WELDED WIRE FABRIC

**GENERAL CONSTRUCTION NOTES:**

- ALL WORK SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE, AS APPROVED BY THE STATE OF MINNESOTA.
- REFERENCE STANDARDS, UNLESS OTHERWISE NOTED (U.O.A.), ALL STANDARDS SHALL BE CURRENT EDITION, WITH LATEST AMENDAS, IF APPLICABLE.
- THE CONTRACTOR SHALL VERIFY ALL CONTRACT DOCUMENTS, SITE ELEVATIONS, DIMENSIONS AND CONDITIONS PRIOR TO STARTING WORK AND SHALL NOTIFY THE ARCHITECT ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
- SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, UNLESS OTHERWISE INDICATED. THEY DO NOT INDICATE THE MEANS OR METHOD OF CONSTRUCTION, TEMPORARY BRACING AND SHORING AGAINST WIND AND ERECTION CONDITIONS DURING CONSTRUCTION OF THE BUILDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF THE STRUCTURE DURING ALL PHASES OF DEMOLITION, CONSTRUCTION, AND INSTALLATION.
- NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.
- VERIFY LOCATION OF BOX CUTS AND OPENINGS WITH MECHANICAL CONTRACTORS, OPENING SIZES AND LOCATIONS SHOWN FOR PIPES, DUCTS ETC. ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED WITH THE MECHANICAL CONTRACTOR BEFORE COMMENCING THE WORK.
- IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT CONCLUDE WITH EQUIPMENT SHOWN ON PLANS, COORDINATE ADJUSTMENTS WITH THE STRUCTURAL ENGINEER.
- HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.
- CONTRACTOR SHALL PROVIDE A CAST-IN SLEEVE FOR ALL HORIZONTAL ELEMENTS THAT EXTEND THROUGH FOOTING. IE DRAIN TILE, ELECTRICAL CONDUIT, MECHANICAL PIPING, ETC. ALL SLEEVES SHALL BE COORDINATED WITH ARCHITECT/ENGINEER.
- SHOP DRAWINGS PREPARED BY SUPPLIERS, SUBCONTRACTORS, ETC. SHALL BE DIMENSIONED, REVIEWED, COORDINATED, AND SIGNED/STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE STRUCTURAL ENGINEER.
- FABRICATOR SHALL CLEARLY NOTE CHANGES MADE IN THE SHOP DRAWINGS WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS. REVIEWED APPROVAL SHOP DRAWINGS SHOWING ENGINEERS COMMENTS ACCOMPANIED WITH REVISION SET SHOP DRAWINGS SHALL BE AVAILABLE FOR REFERENCE AT THE CONSTRUCTION SITE.

**16. DESIGN LOADS:**

ROOF LIVE LOADS:	ROOF SNOW	Pf = 51 psf
ISF	IMPORTANCE FACTOR	1 = 1.2
EXF	EXPOSURE FACTOR	Ca = 1.0
TF	THERMAL FACTOR	Ct = 1.2
GL	GROUND SNOW LOAD	Pg = 50 psf
LL	LIVE LOAD	20 psf
DL	TYPICAL VAULT LID	5L = 12 psf

**FOUNDATION NOTES:**

- FOOTING ELEVATIONS ARE TO TOP OF FOOTING (T.O. FTG.), UNLESS OTHERWISE NOTED.
- FOOTINGS ARE DESIGNED FOR AN ASSUMED MINIMUM NET ALLOWABLE SOIL BEARING PRESSURE OF 300 psf FOR CONTINUOUS AND PAD FOOTINGS. THIS VALUE SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER. SUBMIT REPORT OF OBSERVATION TO ARCHITECT/ENGINEER PRIOR TO POURING FOOTINGS.
- FOOTINGS SHALL BEAR ON NATURAL UNDISTURBED SOIL OR ENGINEERED FILL. SOILS SHALL BE OBSERVED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF FOOTING CONCRETE. IF NATURAL UNDISTURBED SOILS ARE NOT ENCOUNTERED AND/OR INADEQUATE SOILS ARE NOTED AT FOOTING BEARING LEVEL, ARCHITECT/ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH FURTHER WORK AT THOSE FOOTING LOCATIONS.
- PROTECT FOOTINGS FROM THE ACTION OF WATER OR FREEZING.
- FOOTINGS ARE CENTERED UNDER WALLS ABOVE - UNLESS OTHERWISE NOTED.
- PRIOR TO PLACEMENT OF FOOTING CONCRETE, CLEAN FOOTING EXCAVATIONS OF SNOW, WATER AND DEBRIS.
- FOOTINGS MAY NOT BE EARTH FORMED.

**EXCAVATION & BACKFILL NOTES:**

- EXCAVATION AND BACKFILL SHALL BE EXECUTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- BACKFILL & COMPACTION SHALL BE INSPECTED AND CERTIFIED BY A LICENSED GEOTECHNICAL ENGINEER. REPORTS ARE TO BE SUBMITTED TO THE ARCHITECT ENGINEER.
- FOOTING EXCAVATIONS SHALL BE EXCAVATED TO PROPER LINE AND LEVEL TO ENSURE MINIMUM CONCRETE COVER OF FOOTING REINFORCEMENT FOR FOOTING DEPTH.
- BACKFILL SHALL BE COMPACTED BY MECHANICAL MEANS. FLOODING OR WATER INUNDATION SHALL NOT BE PERMITTED.
- BACKFILL SHALL BE PLACED IN ALTERNATING LIFTS ON EACH SIDE OF THE FOUNDATION WALLS TO MAINTAIN STABILITY OF THE FOUNDATION WALLS.
- BACKFILL SHALL NOT BE PLACED AGAINST BASEMENT FOUNDATION WALLS UNLESS WALLS ARE ADEQUATELY BRACED TOP AND BOTTOM. FINAL WALL BRACING IS BASEMENT SLAB OR ENGINEERED BACKFILL AND 1ST FLOOR STRUCTURE. IF THESE ELEMENTS ARE NOT IN PLACE AT TIME OF BACKFILL, CONTRACTOR SHALL PROVIDE AN ENGINEERED TEMPORARY BRACING SYSTEM. THE TEMPORARY BRACING SYSTEM PROPOSED SHALL BE SUBMITTED TO THE ARCHITECT ENGINEER FOR REVIEW PRIOR TO BACKFILLING.

**CONCRETE NOTES:**

- CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE (ACI) CODES AND SPECIFICATIONS, LATEST EDITION. ACI 318 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI 308 "DETAILS & DETAILING OF CONCRETE REINFORCEMENT" AND ACI 309 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
- CONCRETE MIX DESIGN SHALL BE BY AN INDEPENDENT TESTING LABORATORY.
- CAST-IN-PLACE CONCRETE SHALL BE SUBJECT TO TESTING BY AN INDEPENDENT TESTING LABORATORY. SEE PROJECT SPECIFICATIONS FOR REQUIREMENTS.
- NON WELDED REINFORCING STEEL SHALL BE GRADE 60 DEFORMED, FILLET WELDED, ASTM A615, U.O.A. ALL WELDED WIRE FABRIC (WWF) SHALL BE PLAIN, ASTM A185.
- WELDED REINFORCING STEEL SHALL BE GRADE 60, LOW CARBON, ASTM A706.
- PROVIDE EXTRA REINFORCEMENT AROUND ALL OPENINGS GREATER THAN 12" SQUARE OR 12" IN DIAMETER, INCLUDING DOOR OPENINGS, IN CONCRETE WALLS & SLABS. PROVIDE 2 #6 BARS @ 7" O.C. ON EACH SIDE OF THE OPENING EXTENDING 24" BEYOND THE CORNER OF THE OPENING. 2 #6 BARS AT 7" O.C. BY 3" OF LONG DIAGONAL BARS AT EACH CORNER. PLACE DIAGONAL BARS CENTERED ON CORNER @ 12" CLEAR OF CORNER. ADDITIONAL REINFORCEMENT SHALL BE PROVIDED AT EACH LAYER OF REINFORCING.
- REINFORCING STEEL SHALL BE BENT, SPLICED, AND PLACED IN ACCORDANCE WITH THE ACI 301 (LATEST EDITION).
- PROVIDE ADEQUATE SUPPORT BARS AND ACCESSORIES TO HOLD REINFORCING BARS FIRMLY IN PLACE TO SPECIFIED COVERAGES.
- CAST DOWELS, WITH STD 90 DEGREE HOOK, IN FOOTINGS FOR CONCRETE PIERS AND WALLS ABOVE. DOWELS SHALL BE THE SAME SIZE AND NUMBER AS THE VERTICAL REINFORCING. (U.O.A.)

**CAST-IN-PLACE CONCRETE COMPRESSIVE STRENGTHS**

FOOTINGS	4000 psi
EXTERIOR FOUNDATION WALLS	4000 psi

**REINFORCING CLEAR CONCRETE COVER**

CONCRETE ON SOIL	3"
SLABS ON GRADE	MIDHEIGHT
FORMED WALLS & STRUCTURAL SLABS EXPOSED TO EARTH OR WEATHER, 18" OR GREATER	2"
FORMED WALLS & STRUCTURAL SLABS EXPOSED TO EARTH OR WEATHER, 18" OR SMALLER	1 1/2"
FORMED WALLS & STRUCTURAL SLABS NOT EXPOSED TO EARTH OR WEATHER, 18" AND SMALLER	3/4"
BEAMS AND COLUMNS (COVER TO STIRRUPS OR TIES)	1 1/2"

**CONC. REINFORCING BAR LAP SPLICE SCHEDULE**

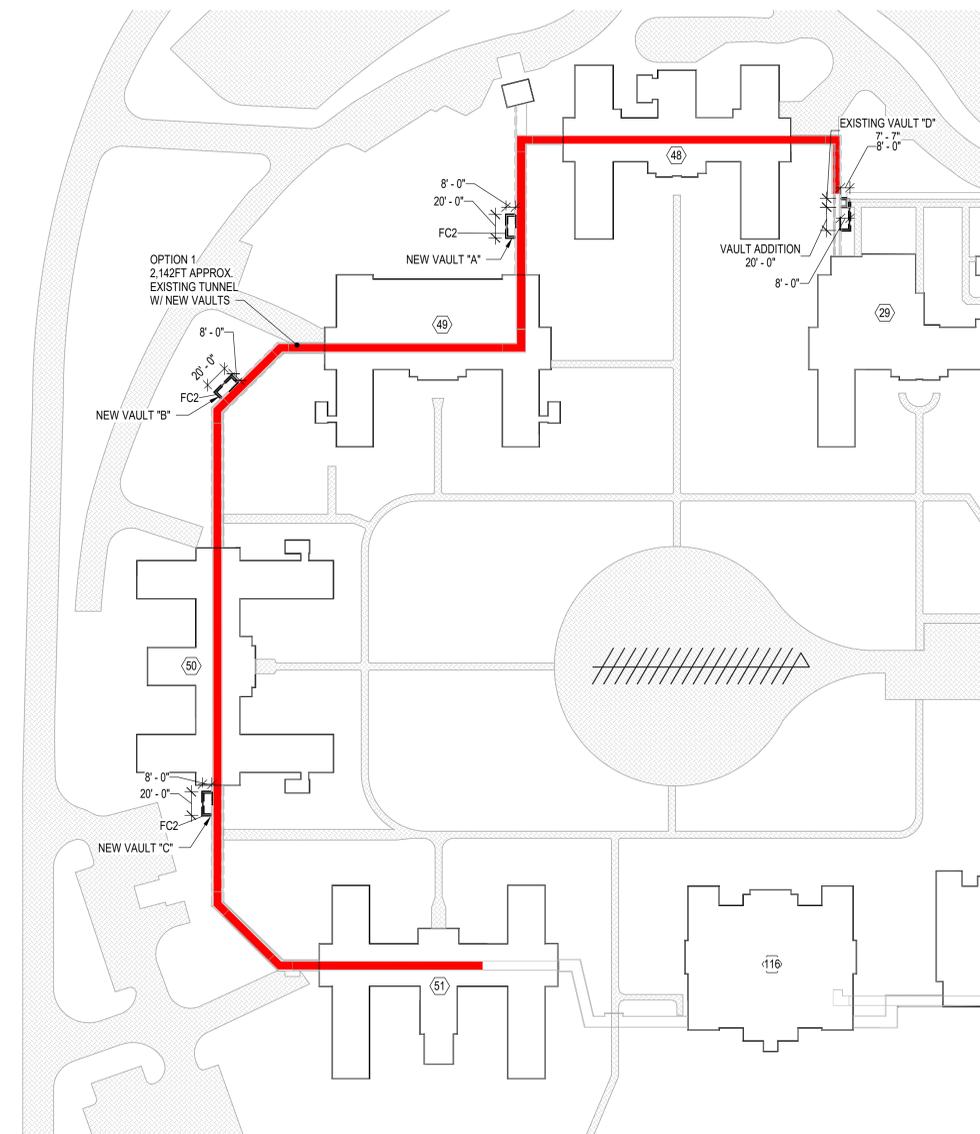
BAR SIZE	CLASS	F <sub>c</sub> = 3000 psi			F <sub>c</sub> = 4000 psi			F <sub>c</sub> = 5000 psi		
		CLASS 19	CLASS 27	CLASS 36	CLASS 19	CLASS 27	CLASS 36	CLASS 19	CLASS 27	CLASS 36
#3	22'	20'	20'	18'						
#4	30'	26'	22'							
#5	36'	32'	28'							
#6	44'	38'	34'							
#7	54'	44'	39'							
#8	66'	52'	46'							
#9	81'	62'	54'							
#10	99'	74'	64'							
#11	120'	88'	76'							

**BAR LAP SCHEDULE NOTES:**

- REINFORCING BAR LAP SPLICE SCHEDULE APPLIES TO UNCOATED, GRADE 60 REINFORCING BAR NORMAL WEIGHT CONCRETE.
- PROVIDE CLASS "B" LAP UNLESS OTHERWISE NOTED.
- FOR EPDM COATED BAR, MULTIPLY THE NOTED LENGTHS BY 1.5.
- FOR LIGHT WEIGHT CONCRETE, MULTIPLY THE NOTED LENGTHS BY 1.3.
- MAXIMUM SPACING OF BARS BEING LAPPED IS ONE FIFTH THE LAP SPLICE LENGTH, NOT TO EXCEED 6'.
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE PLACED BELOW THEM. NORMAL WEIGHT CONCRETE.

**STRUCTURAL STEEL NOTES:**

- WELDED CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST RECOMMENDATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) AND THE AMERICAN WELDING SOCIETY (AWS).
- COLUMN BASE AND CAP PLATES TO BE WELDED AROUND ALL SIDES.
- WELDS NOT SPECIFIED SHALL BE A FILLET WELD, CONTINUOUS AND/OR ALL AROUND WITH MINIMUM THROAT DIMENSION AS REQUIRED FOR MATERIAL THICKNESS PER AWS.
- STRUCTURAL FABRICATORS SHALL SHOW ALL FIELD WELDING REQUIREMENTS ON SHOP DRAWINGS SUBMITTED TO THE ENGINEER.
- BEFORE ENCASED STEEL COLUMNS IN CONCRETE OR MASONRY, COAT COLUMN BASES AND TOPS OF ANCHOR BOLTS WITH ASPHALTIC ROOF CEMENT.
- BEAMS AND COLUMNS SHALL BE ERECTED TRUE AND PLUMB WITHIN AISC TOLERANCE. PROVIDE TEMPORARY BRACING AS REQUIRED.
- BEARING PLATES FOR STEEL SHALL BE DRY PACKED WITH A NON-SHRINK, NON-METALLIC GROUT AS SPECIFIED.
- FRAMED STEEL BEAM CONNECTIONS SHALL BE "BEARING TYPE", (U.O.A.).
- DO NOT PAINT STEEL TO BE FIELD WELDED.



**A ST. CLOUD STEAM TUNNELS**  
 T = 60'-0"  
 0 30' 60' 120'

<b>CONSULTANT</b> 		<b>ARCHITECT/ENGINEER OF RECORD</b> 		<b>STAMP</b> I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Signature:  License # 48318 Date: 10/25/2024		<b>PROJECT TITLE</b> STRUCTURAL OVERLAY		<b>PROJECT FILE</b> REPLACE/ADD STEAM MAINS WEST SIDE		<b>DATE</b> 10/25/2024	
No REVISION DATE		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 # 17487				<b>BUILDING No</b> AA		<b>CHECKED BY</b> JIB		<b>DRAWING No</b> S101	
						<b>LOCATION</b> VA MEDICAL CENTER ST. CLOUD, MN 56303		<b>STATUS</b> FULLY SPRING-RELEASED		<b>DWG. OF</b>	

CONSTRUCTION DOCUMENTS



10/28/2024 2:53:58 PM  
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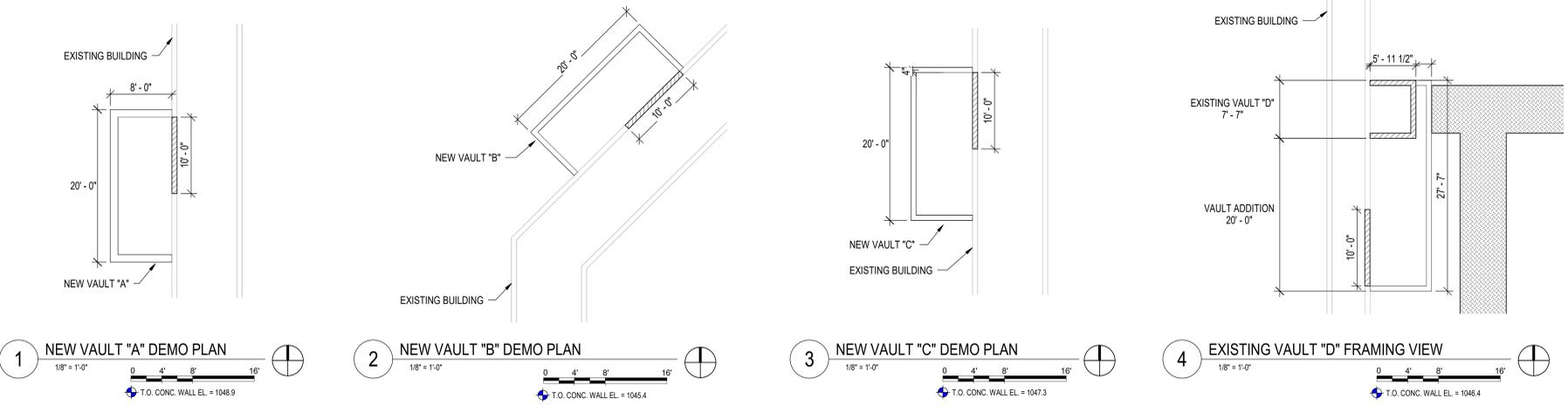


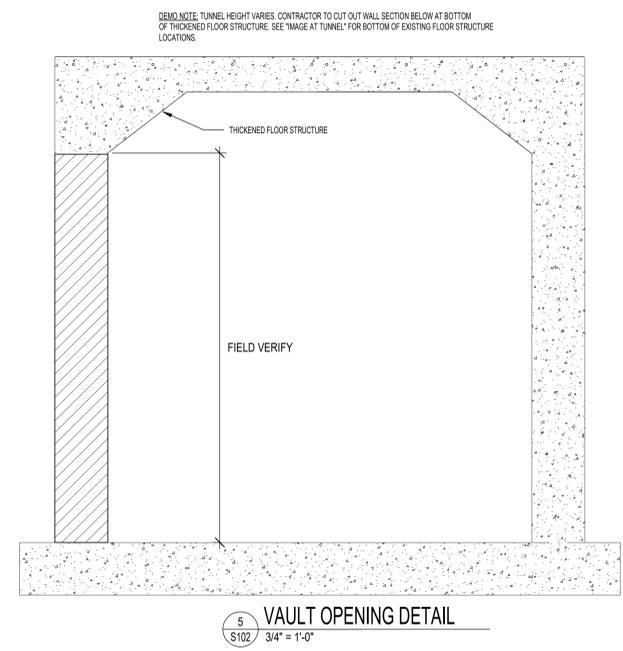
IMAGE AT VAULT D



IMAGE AT TUNNEL

**SHEET NOTES:**

1. ALL STEEL FRAMING SHALL BE HOT DIPPED GALVANIZED
2. HATCHED WALLS SHALL BE SAW CUT AND REMOVED



No.	REVISION	DATE

**CONSULTANT**

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**STAMP**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
Print Name: Adam Anderson  
Signature: [Signature]  
Date: 10/25/2024 License # 68118

**DRAWING TITLE**  
DEMO PLAN

**PROJECT TITLE**  
REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
10/25/2024

**PLOT SCALE**  
17187

**BUILDING No.**  
AA

**CHECKED BY**  
JB

**DRAWN**  
S102

**LOCATION**  
VA MEDICAL CENTER  
ST. CLOUD, MN 56303

**FULLY SPRINKLERED**

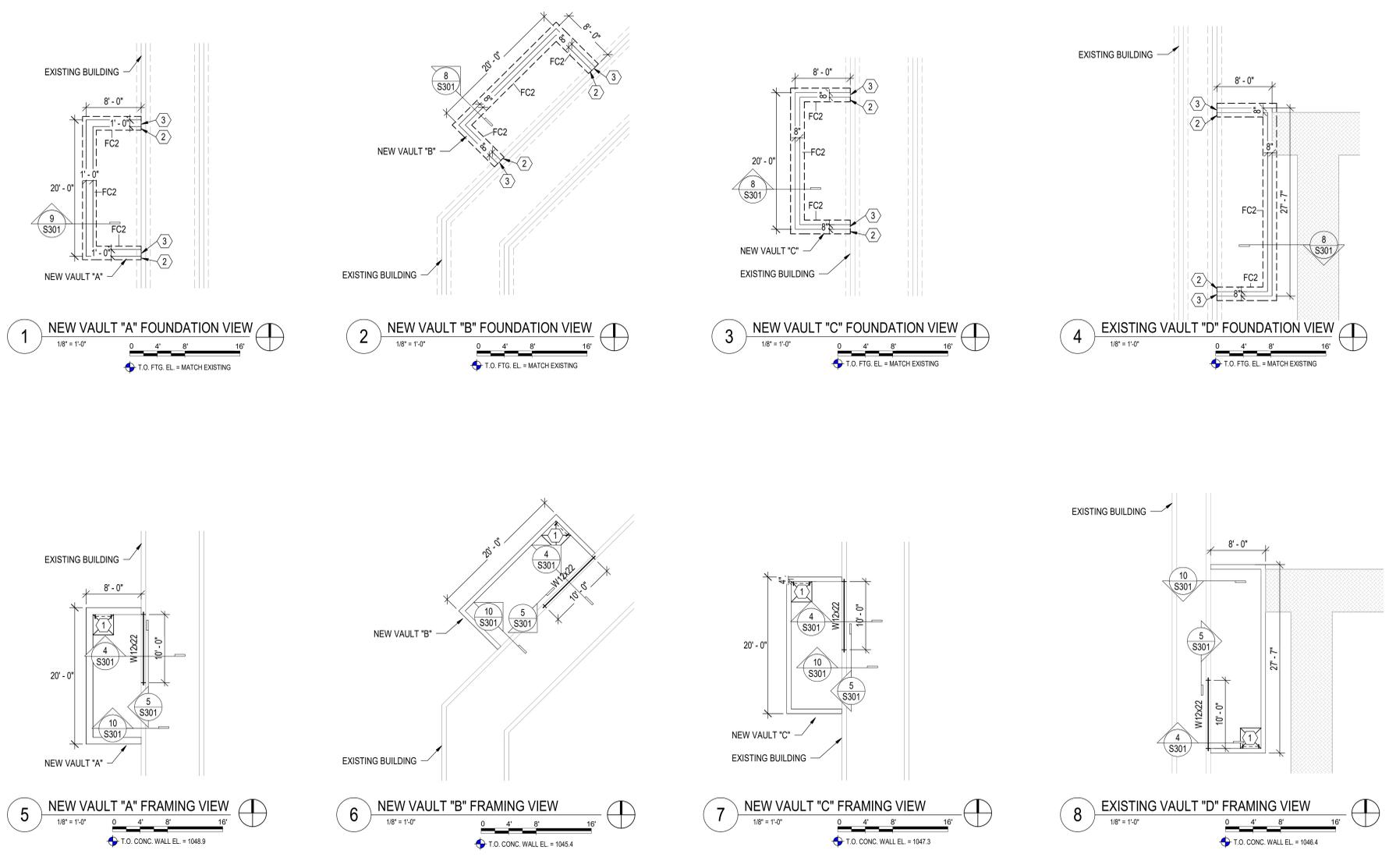
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**CONSTRUCTION DOCUMENTS**

**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

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C:\Users\Bauer\Documents\17161 ST.CLOUD STEAM TUNNELS\_RV123\_Bauer\MSR\CR\rv1



FOOTING SCHEDULE				
MARK	WIDTH	DEPTH	REINFORCING	
			TRANSVERSE	LONGITUDINAL
FC2	2'-0" CONT.	1'-0"	#5 @ 8'-0" O.C.	2-#5

- KEYNOTES:**
- HATCH W/ CONTINUOUS HINGED CHECKERED PLATE & LADDER. HATCH SHOULD BE PROVIDED WITH A LATCH AND LOCK. HATCH SHOULD HAVE A 1" OVERHANG AROUND PERIMETER AND SEALED WITH A 1/4" THICK NEOPRENE GASKET AT THE HATCH PERIMETER. S.D. 38301
  - DRILL AND EPOXY #5 DOWEL @ 1'-4" O.C. INTO EXISTING FOUNDATION WALL WITH SIMPSON 3G AND 4" EMBEDMENT.
  - DRILL AND EPOXY 2-#5 DOWEL INTO EXISTING FOOTING WITH SIMPSON 3G AND 6" EMBEDMENT.
- SHEET NOTES:**
- ALL STEEL FRAMING SHALL BE HOT DIPPED GALVANIZED
  - FLUID APPLIED WATER PROOFING SHALL BE APPLIED TO EXISTING WALL FOR A 1'-0" WIDE SECTION (MIN) AT THE CONNECTION FROM THE EXISTING WALL TO NEW WALL CONNECTION.
  - VAULT LID SHALL SLOPE 1/4" PER FOOT FROM BUILDING TO END OF TUNNEL WALL.

No.	REVISION	DATE

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Anderson Engineering of Minnesota, LLC | Proj # 17187

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
Print Name: Adam Anderson  
Signature: [Signature]  
Date: 10/25/2024 License # 601518

**DRAWING TITLE**  
FOOTING & FOUNDATION & FRAMING PLANS

**PROJECT TITLE**  
REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
10/25/2024

**PLOT SCALE**  
17187

**PREPARED BY**  
S201

**BUILDING No.**  
AA

**CHECKED BY**  
JB

**DRAWN BY**  
S201

**LOCATION**  
VA MEDICAL CENTER  
ST. CLOUD, MN 56303

**FULLY SPRINKLERED**

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**CONSTRUCTION DOCUMENTS**

**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



BUILDING 48

**SHEET NOTES:**

1. VERIFY TOP OF STEEL ELEVATIONS WITH GC. THESE MAY VARY DUE TO THE VARIOUS PIPE LOCATIONS AND SHOULD BE VERIFIED BY THE MECHANICAL ENGINEER.
2. ALL DIMENSIONS SHOULD BE FIELD VERIFIED BY THE GC.

COLUMN SCHEDULE		
MARK	COLUMN TYPE	COMMENTS
CT	HSS 3 x 3 x 3/16"	S.D. 6/30/1

BASE PLATE SCHEDULE			
MARK	PLATE SIZE	ANCHOR BOLTS	COMMENTS
BP1	PL 3/16" x 8" x 8"	4 - 1/2" DA	S.D. 7/30/1

1 ST. CLOUD STEAM TUNNELS  
1/8" = 1'-0"



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CONSTRUCTION DOCUMENTS

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Print Name: Arjan Adams  
Signature: [Signature]  
Date: 10/25/2024 License # 48318

DRAWING TITLE

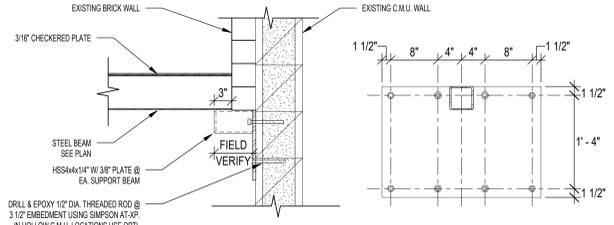
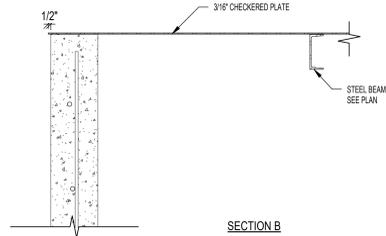
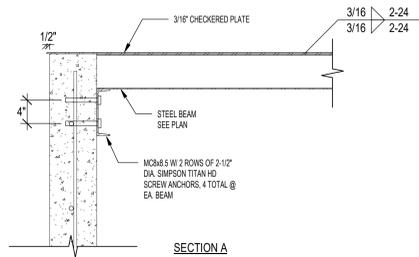
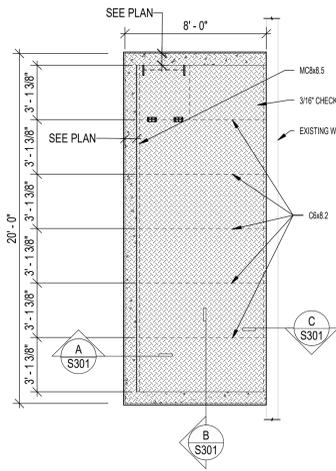
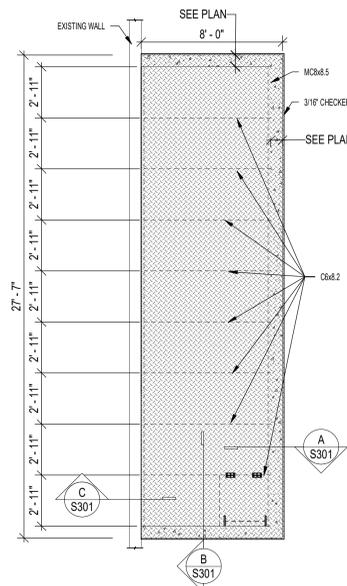
**BUILDING 48 FRAMING PLAN**

PROJECT TITLE	DATE	
REPLACE/ADD STEAM MAINS WEST SIDE	10/25/2024	
PLOT SCALE		
PROJECT NO.		
17187		
DRAWING NO.		
S202		
BUILDING No.	CHECKED BY	DRAWN
48	AA	JIB
LOCATION	VA MEDICAL CENTER	ST. CLOUD, MN 56303
FULLY SPRINKLERED	DWG. OF	

**VA**

U.S. Department of Veterans Affairs  
Veterans Health Administration  
St. Cloud VA Health Care System

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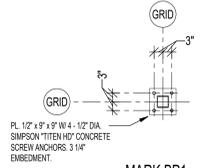
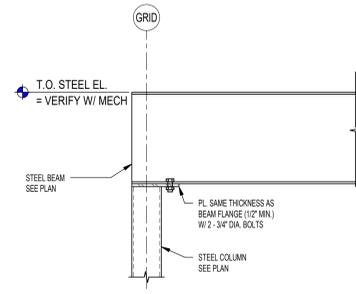
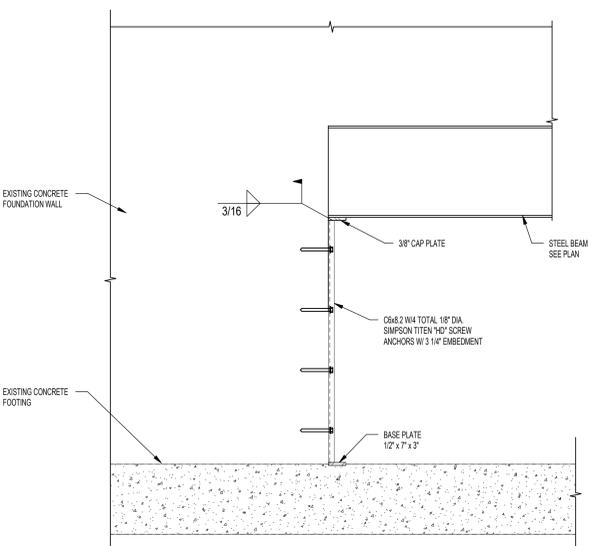
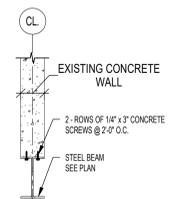
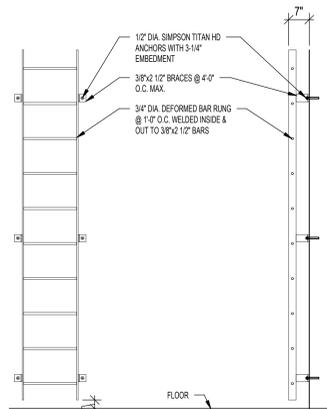
2 VAULT A, B, C LID DETAIL  
S301 1/4\" = 1'-0"

A VAULT HATCH DETAIL  
S301 1\" = 1'-0"

B VAULT HATCH DETAIL  
S301 1\" = 1'-0"

C VAULT HATCH DETAIL  
S301 1\" = 1'-0"

1 VAULT D LID DETAIL  
S301 1/4\" = 1'-0"



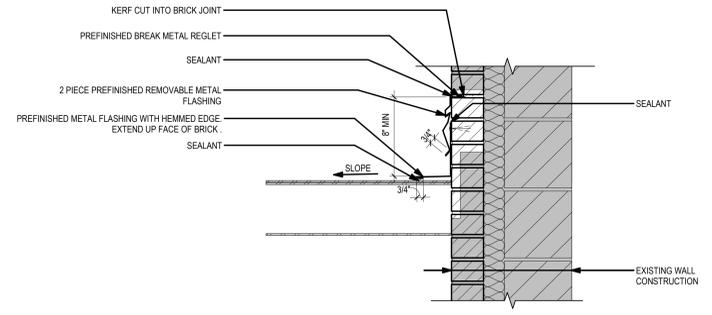
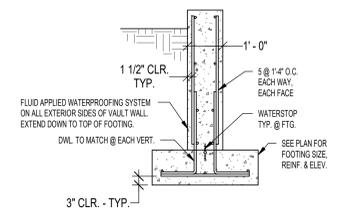
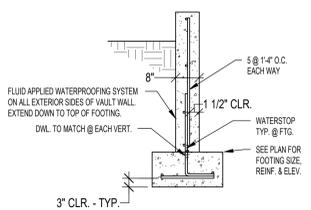
3 PIT LADDER DETAILS  
S301 1/2\" = 1'-0"

4 BEAM DETAIL  
S301 1/2\" = 1'-0"

5 COLUMN DETAIL  
S301 1\" = 1'-0"

6 STEEL BEAM END DETAIL  
S301 1\" = 1'-0"

7 BASE PLATE DETAIL  
S301 1/2\" = 1'-0"



8 FOUNDATION WALL DETAIL  
S301 1/2\" = 1'-0"

9 FOUNDATION WALL DETAIL  
S301 1/2\" = 1'-0"

10/S301 FLASHING DETAIL  
S301 1 1/2\" = 1'-0"

CONSTRUCTION DOCUMENTS

No.	REVISION	DATE

CONSULTANT

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Adam Anderson  
Signature: [Signature]  
Date: 10/25/2024 License # 48318

DRAWING TITLE

VAULT & TUNNEL DETAILS

PROJECT FILE

REPLACE/ADD STEAM MAINS WEST SIDE

DATE: 10/25/2024

PLOT SCALE: 17187

BUILDING No: AA CHECKED BY: JIB DRAWN BY: S301

LOCATION: VA MEDICAL CENTER ST. CLOUD, MN 56303 FULLY SPRINKLERED

U.S. Department of Veterans Affairs

Veterans Health Administration

St. Cloud VA Health Care System

### ELECTRICAL LEGEND

NOTE: NOT ALL SYMBOLS ARE USED ON THIS PROJECT.

#### GENERAL SYMBOLS

	CONDUIT CONCEALED ABOVE CEILING OR IN WALL WHEREVER POSSIBLE
	CONDUIT CONCEALED BELOW SLAB OR GRADE
	CONDUIT EXPOSED ON CEILING, WALL OR BAR JOIST FOR EXPOSED
	HOME RUN TO PANELBOARD SHOWING CIRCUIT DESIGNATION, INDICATING PANEL AND CIRCUIT BREAKER NUMBER WITHIN PANEL

#### POWER SYMBOLS

	SIMPLEX WALL RECEPTACLE
	SIMPLEX WALL RECEPTACLE ON BACKUP POWER
	DUPLEX WALL RECEPTACLE
	GFI DUPLEX WALL RECEPTACLE
	DUPLEX RECEPTACLE LOCATED ABOVE COUNTER BACKSPLASH OR AS INDICATED.
	DUPLEX WALL RECEPTACLE ON BACKUP POWER
	QUADRUPLIX RECEPTACLE
	QUADRUPLIX RECEPTACLE LOCATED ABOVE COUNTER BACKSPLASH OR AS INDICATED.
	QUADRUPLIX RECEPTACLE ON BACKUP POWER
	ELECTRIC WATER COOLER GFCI RECEPTACLE. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF WATER COOLER RECEPTACLE WITH MANUFACTURERS DWGS.
	DUPLEX RECEPTACLE WITH ISOLATED GROUND
	DUPLEX RECEPTACLE WITH USB CONNECTION.
	SPECIAL PURPOSE OUTLET, AS NOTED ON PLANS OR SPECIFICATIONS
	SPECIAL PURPOSE OUTLET ON BACKUP POWER, AS NOTED ON PLANS OR SPECIFICATIONS
	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE
	JUNCTION BOX
	WIREMOLD PLUGMOLD W/ ENTRANCE FITTING AS SPECIFIED AND RECEPTACLE DEVICES AS INDICATED ON PLAN
	MOTOR. REFER TO PLANS FOR CIRCUITING AND PHASE.
	FLOOR BOX. REFER TO FLOOR BOX SCHEDULE FOR ADDITIONAL INFORMATION.
	LIGHTING/ RECEPTACLE PANEL
	DISTRIBUTION POWER PANEL
	SURGE PROTECTION DEVICE
	TRANSFORMER
	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTION AND PILOT LIGHT
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MAGNETIC MOTOR STARTER
	MAGNETIC MOTOR STARTER COMBINED WITH DISCONNECT SWITCH
	PUSH PLATE FOR DOOR OPERATOR
	CIRCUIT BREAKER
	FUSIBLE SWITCH
	SWITCH PROVIDED W/ MOTORIZED PROJECTION SCREEN, INSTALLED AND WIRED BY ELECTRICAL
	EMERGENCY POWER OFF. REFER TO PLANS FOR WIRING DETAILS.
	VARIABLE FREQUENCY DRIVE, FURNISHED BY OTHERS, INSTALLED BY ELECTRICAL CONTRACTOR
	CONNECT SYMBOL

#### LIGHTING SYMBOLS

	2 x 4' LED LIGHT FIXTURE
	2 x 4' LED LIGHT FIXTURE WITH CONNECTION TO EMERGENCY POWER SOURCE
	1' x 4' LED LIGHT FIXTURE
	1' x 4' LED LIGHT FIXTURE WITH CONNECTION TO EMERGENCY POWER SOURCE
	2 x 2' LED LIGHT FIXTURE
	2 x 2' LED LIGHT FIXTURE WITH CONNECTION TO EMERGENCY POWER SOURCE
	LED DOWNLIGHT FIXTURE
	LED DOWNLIGHT FIXTURE WITH CONNECTION TO EMERGENCY POWER SOURCE
	WALL MOUNTED LIGHT FIXTURE
	4' LED STRIP FIXTURE
	EXIT LIGHT FIXTURE. SHADED AREA DENOTES SINGLE OR DOUBLE FACE. DIRECTIONAL ARROWS AS SHOWN ON PLANS
	EMERGENCY BATTERY PACK FIXTURE
	POLE MOUNTED SITE LIGHT FIXTURE. NUMBER OF HEADS AS PER DRAWINGS. (NOTE THAT ARROWS INDICATE DIRECTION FOR WHICH OPTIMUM PHOTOMETRIC PERFORMANCE IS DESIRED. FIELD ROTATE REFLECTOR ASSEMBLY IF REQUIRED.)

#### SWITCHES - LINE VOLTAGE (120/277V)

(REFER TO SPECIFICATIONS AND LIGHTING SEQUENCE OF OPERATIONS FOR ADDITIONAL INFORMATION)

	GENERAL PURPOSE SINGLE POLE SWITCH EQUAL TO HUBBELL CSL120
	DOUBLE POLE TOGGLE SWITCH EQUAL HUBBELL TO CSL220
	GENERAL PURPOSE 3-WAY SWITCH EQUAL TO HUBBELL CSL320
	GENERAL PURPOSE 4-WAY SWITCH EQUAL TO HUBBELL CSL420
	DIMMING SWITCH EQUAL TO LUTRON DIVA
	GENERAL PURPOSE KEY-OPERATED SWITCH
	GENERAL PURPOSE 3-WAY KEY-OPERATED SWITCH
	GENERAL PURPOSE 4-WAY KEY-OPERATED SWITCH
	GENERAL PURPOSE SWITCH WITH PILOT LIGHT
	CONTACTOR
	TIME CLOCK

#### SWITCHES - LOW VOLTAGE (DIGITAL)

(REFER TO SPECIFICATIONS AND LIGHTING SEQUENCE OF OPERATIONS FOR ADDITIONAL INFORMATION)

	OCCUPANCY SENSOR SWITCH EQUAL TO CURRENT NXSMIDT
	DIGITAL WALL SWITCH EQUAL TO CURRENT NXSVR
	CEILING MOUNT OCCUPANCY SENSOR EQUAL TO CURRENT NXSMIDT
	DAYLIGHT PHOTOSENSOR EQUAL TO CURRENT NXDS
	EXTERIOR PHOTOCCELL

### ELECTRICAL ABBREVIATIONS

ABBREVIATIONS USED ON DRAWINGS IN GENERAL ARE LISTED BELOW.

A	AMPS
AC	AIR CONDITIONING
AF	AMP FRAME
AFG	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
A.I.C.	AMPS INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AT	AMP TRIP
BRKR	BREAKER
C	CONDUIT
CATV	CABLE ANTENNA TELEVISION
CKT	CIRCUIT
CLG	CEILING MOUNTED
CPT	CONTROL POWER TRANSFORMER
CPU	CENTRAL PROCESSING UNIT
CUH	CABINET UNIT HEATER
Cu	COPPER
DIA	DIAMETER
DISTR	DISTRIBUTION
E	EXISTING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
EM	EMERGENCY LIGHTING WITH CONNECTION TO EMERGENCY POWER SOURCE
EMT	ELECTRICAL METALLIC TUBING
ETR	EXISTING TO REMAIN
EXP	EXPLOSION PROOF
EWC	ELECTRIC WATER COOLER
F	FUSE
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FAGAP	FIRE ALARM GRAPHIC ANNUNCIATOR PANEL
FCU	FAN COIL UNIT
FIXT	LIGHT FIXTURE
FLUOR	FLUORESCENT
FS	FUSIBLE SWITCH
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTING PROTECTION
GRC	GALVANIZED RIGID CONDUIT
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
J	JUNCTION BOX
KEC	KITCHEN EQUIPMENT CONTRACTOR
KVA	KILOVOLT AMPERE
KW	KILOWATTS
LC	LIGHTING CONTACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MLO	MAIN LUG ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PH	PHASE
P	POLE
PB	PULL BOX
PC	PHOTOELECTRIC CONTROL
PE	PNEUMATIC/ELECTRIC PANEL
PVL	POLYVINYL CHLORIDE
PVC	PVC
QR	QUARTZ RESTRIKE
R	RELOCATED
SW	SWITCH
TCP	TEMPERATURE CONTROL PANEL
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VC	VOLUME CONTROL
W	WATTS OR WALL MOUNTED
WG	WIRE GUARD
WP	WEATHER PROOF TYPE DEVICE
XFMR	TRANSFORMER

### ELECTRICAL SYSTEM INDICATION

HEAVY LINE-WEIGHT INDICATES NEW WORK	LIGHT LINE-WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION	DASHED LINE-WEIGHT INDICATES MATERIALS TO BE DISCONNECTED AND REMOVED
<b>DRAWING REVISION SYMBOL</b> 	<b>NOTES BY SYMBOL</b> 	<b>EQUIPMENT TAG IDENTIFICATION</b> 
<b>TEXT LEADER</b> 	<b>DRAWING/ DETAIL TITLE</b> 	
<b>SECTION CUT SYMBOL</b> 		
<b>NORTH ARROW</b> 	<b>ENLARGED PLAN DETAIL</b> 	

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No.	REVISION	DATE

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**DRAWING TITLE**  
ELECTRICAL COVERSHEET

**PROJECT TITLE**  
REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
10-25-2024

**PLOT SCALE**  
AS SHOWN

**PROJECT NO.**  
656-21-114

**DRAWING NO.**  
E000

**BUILDING No.**  
ATW

**CHECKED BY**  
ATW

**DRAWN**  
JPC

**LOCATION**  
VA MEDICAL CENTER  
ST. CLOUD, MN 56303

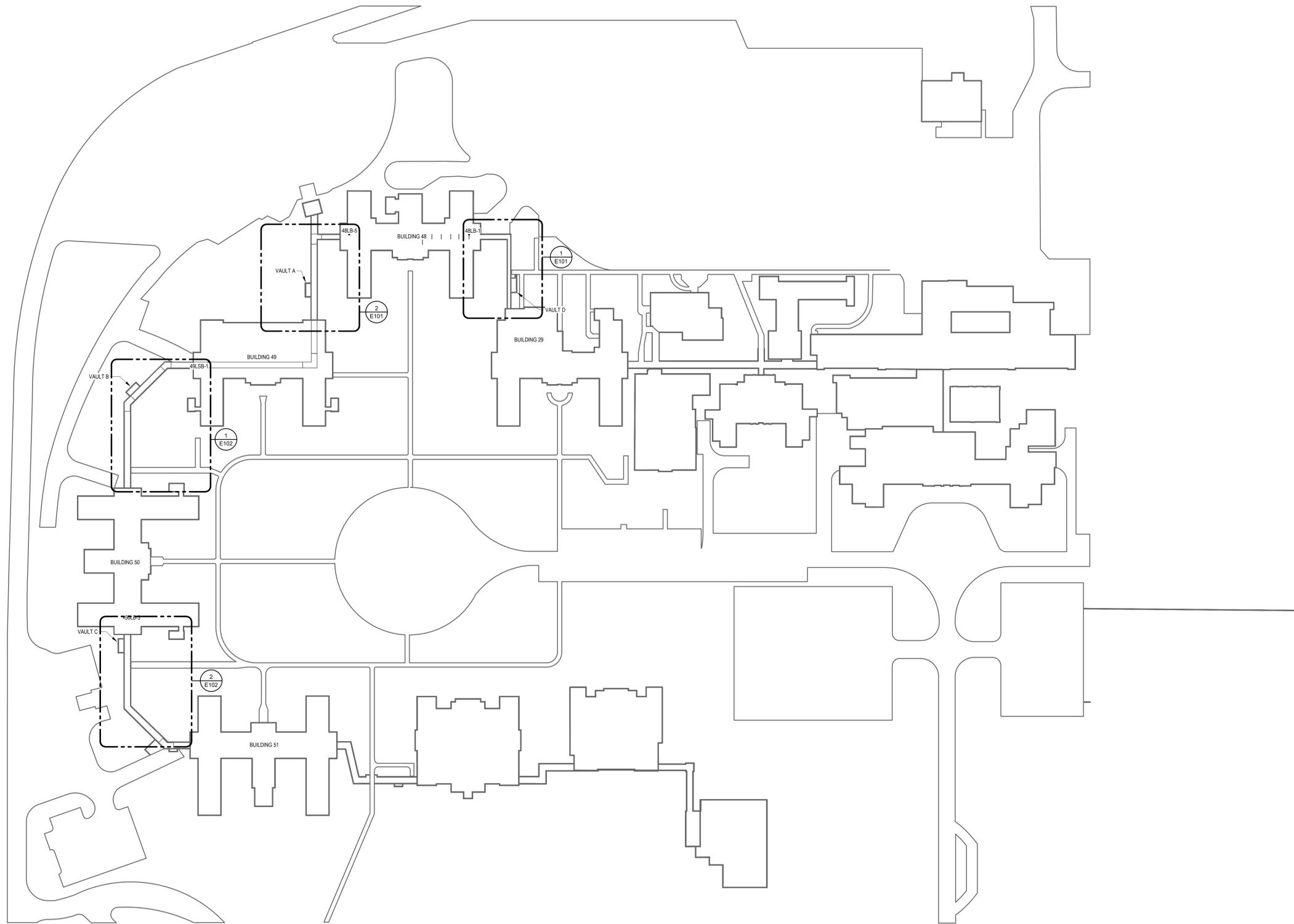
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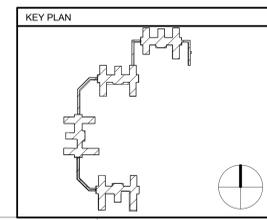
**CONSTRUCTION DOCUMENTS**

**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System



1 OVERALL ELECTRICAL PLAN  
1" = 60'-0"



OVERALL ELECTRICAL PLAN

CONSTRUCTION DOCUMENTS

No.	REVISION	DATE

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**STAMP**

PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE 10-25-2024
BUILDING No.	PLOT SCALE
CHECKED BY Author	PROJECT NO. 656-21-114
DRAWN BY E001	DRAWING NO. E001
LOCATION VA MEDICAL CENTER ST. CLOUD, MN 56303	FULLY SPRINKLERED

**VA**

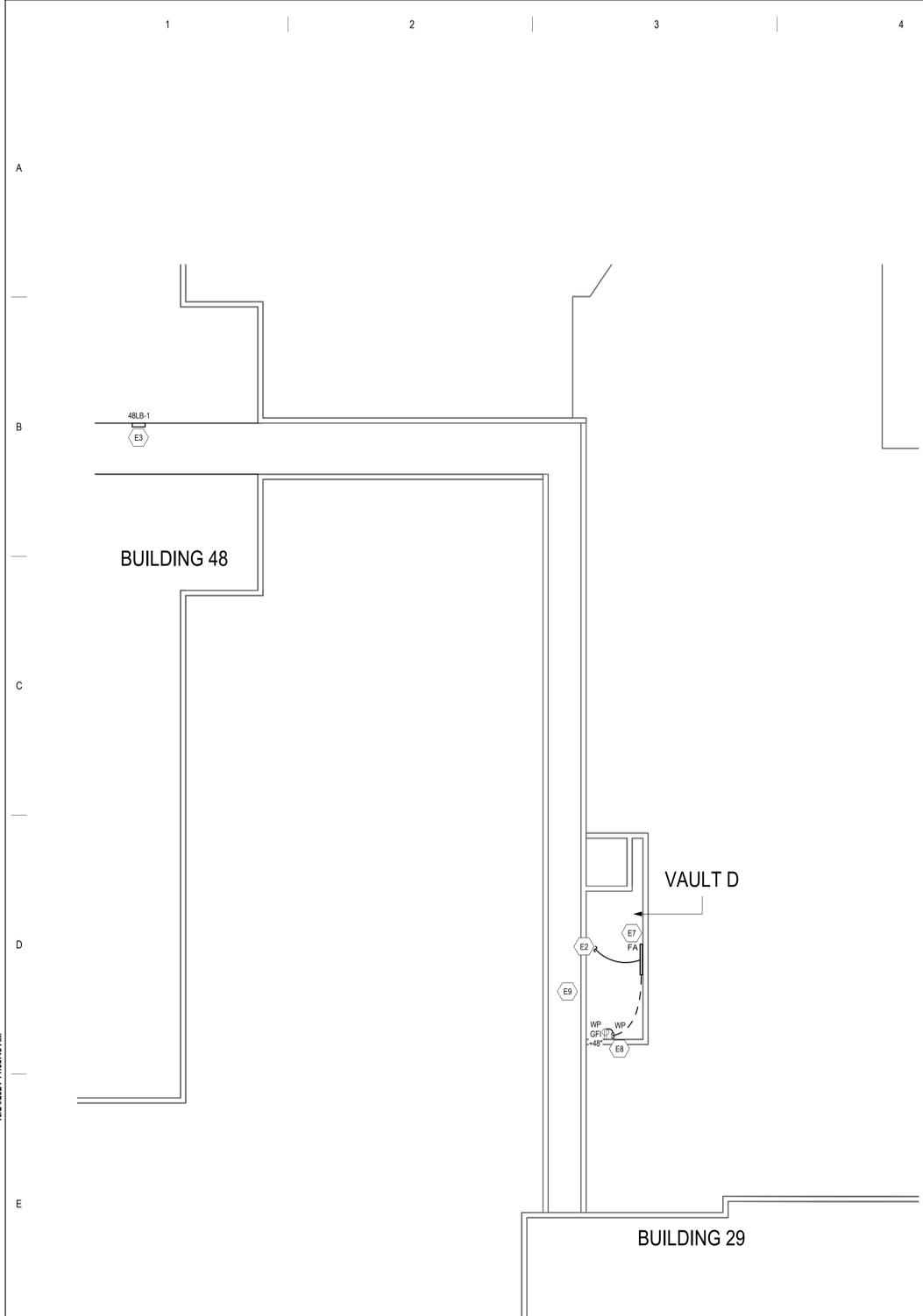
**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

**ELECTRICAL GENERAL NOTES**

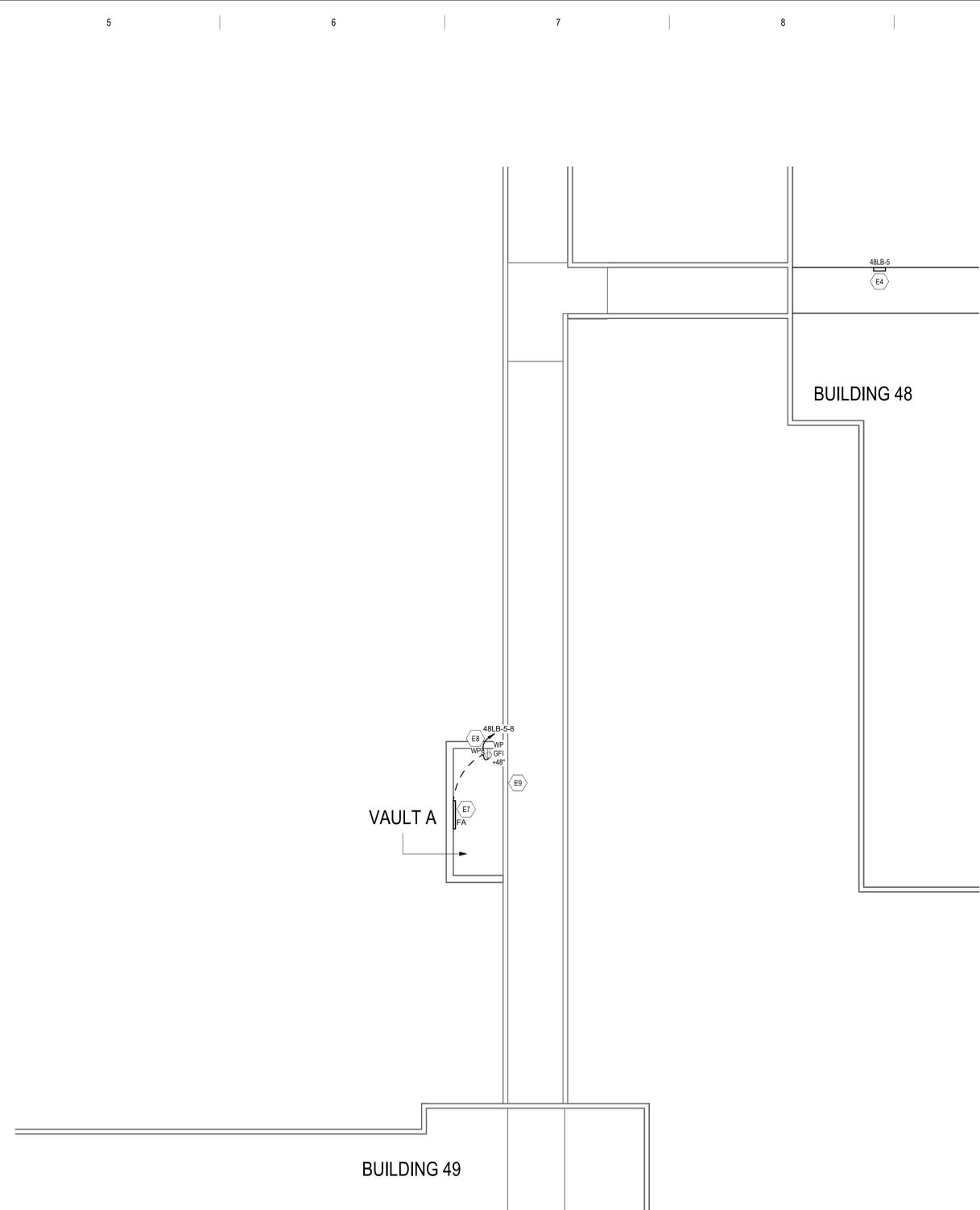
1. ALL DEVICES, EQUIPMENT, FIXTURES, AND THE LIKE MUST BE GROUNDED BY USE OF A PROPERLY SIZED GROUNDING CONDUCTOR. MECHANICAL AND ELECTRICAL BONDS OF THE METALLIC RACEWAY SYSTEM SHALL BE MAINTAINED. GROUND AND BOND PER NEC ARTICLE 250.
2. MAINTAIN SERVICE CLEARANCE AROUND MECHANICAL & ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR CONDUIT IN CLEARANCE SPACE.
3. SURFACE RACEWAY SHALL NOT BE USED IN ANY FINISHED AREAS WITH PRIOR APPROVAL FROM THE DESIGN TEAM.
4. ALL RECEPTACLE CIRCUITS SHALL HAVE DEDICATED NEUTRAL.
5. INSTALL DEVICES SUCH THAT NO TWO DEVICES ON OPPOSITE SIDES OF THE SAME WALL ARE WITHIN 24" OF EACH OTHER.

**ELECTRICAL PLAN KEYED NOTES**

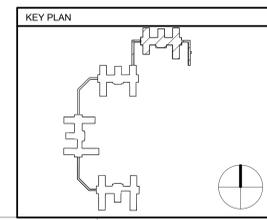
- (E1) NO ELECTRICAL SCOPE IN THIS AREA.
  - (E2) EXTEND NEAREST 120V POWER CIRCUIT IN ADJACENT TUNNEL TO NEW LIGHTING FIXTURES AND DEVICES. VERIFY CIRCUIT SOURCE AND DISCONNECT POWER BEFORE EXTENDING CIRCUIT. MINIMIZE AND COORDINATE ANY REQUIRE SHUTDOWNS WITH OWNER.
  - (E3) APPROXIMATE LOCATION OF PANEL 48-LB-1 FEEDING SUB BASEMENT LIGHTING. PANEL LOCATED IN FIRST FLOOR CORRIDOR OF BUILDING 48.
  - (E4) APPROXIMATE LOCATION OF PANEL 48-LB-5 IN FIRST FLOOR CORRIDOR OF BUILDING 48.
  - (E5) APPROXIMATE LOCATION OF PANEL 48-LSB-1 LOCATED IN BUILDING 49 BASEMENT TANK ROOM.
  - (E6) APPROXIMATE LOCATION OF PANEL 50-LB-3 LOCATED IN BUILDING 50 CORRIDOR. PANEL SERVES CRAWL SPACE LIGHTING BENEATH BUILDING 50.
  - (E7) PROVIDE ACCESSORIES REQUIRED FOR SURFACE MOUNTED INSTALLATION ON CONCRETE IN VAULT. MOUNT LIGHT FIXTURE ON WALL. COORDINATE WITH ALL TRADES PRIOR TO ROUGH-IN TO AVOID OBSTRUCTIONS.
  - (E8) LOCATE SWITCH ADJACENT TO LADDER. PROVIDE WEATHERPROOF SWITCH COVER EQUAL TO LEVITON WPS-GRAY.
  - (E9) PROTECT EXISTING CONDUITS AND DATA CABLING AT NEW VAULT LOCATION FOR DURATION OF CONSTRUCTION. RESUPPORT EXISTING CONDUITS AND DATA CABLING AS REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR VAULT OPENINGS.
  - (E10) PROTECT EXISTING CONDUITS AND DATA CABLING AT NEW VAULT LOCATION FOR DURATION OF CONSTRUCTION. RESUPPORT EXISTING CONDUITS AND DATA CABLING AS REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR VAULT OPENINGS. ASSUME (4) 4" CONDUITS, (1) 3" CONDUIT, AND (1) 1" CONDUIT FOR BIDDING PURPOSES.
- NOTE: NOT ALL KEYED NOTES MAY BE USED ON EACH PLAN



**1** ELECTRICAL POWER PLAN - VAULT D  
1/8" = 1'-0"



**2** ELECTRICAL POWER PLAN - VAULT A  
1/8" = 1'-0"



KEY PLAN  
ELECTRICAL PLAN - VAULT D AND VAULT A

**CONSTRUCTION DOCUMENTS**

No.	REVISION	DATE

**CONSULTANT**

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Anderson Engineering of Minnesota, LLC | Proj # 17187

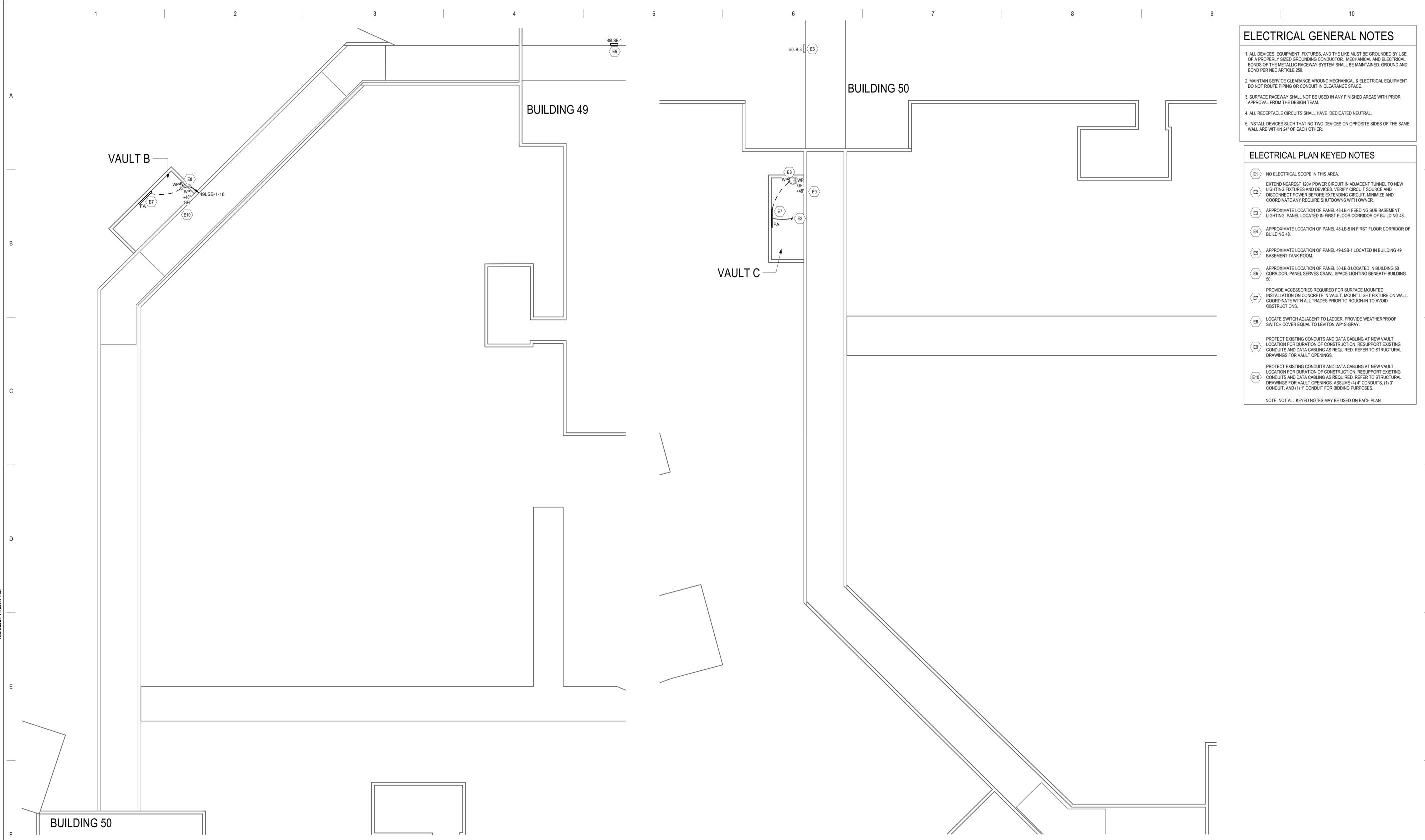
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ANDREW W. BERN  
LICENSED PROFESSIONAL ENGINEER  
STATE OF MINNESOTA

PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE	DATE	10-25-2024
PLOT SCALE		PROJECT NO.	656-21-114
BUILDING No.	ATW	DRAWN	JPC
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303	DRAWING NO.	E101
		DATE	10-25-2024

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

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**ELECTRICAL GENERAL NOTES**

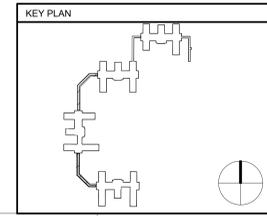
1. ALL DEVICES, EQUIPMENT, FIXTURES, AND THE LIKE MUST BE GROUNDED BY USE OF A PROPERLY SIZED GROUNDING CONDUCTOR. MECHANICAL AND ELECTRICAL BONDS OF THE METALLIC RACEWAY SYSTEM SHALL BE MAINTAINED. GROUND AND BOND PER NEC ARTICLE 250.
2. MAINTAIN SERVICE CLEARANCE AROUND MECHANICAL & ELECTRICAL EQUIPMENT. DO NOT ROUTE PIPING OR CONDUIT IN CLEARANCE SPACE.
3. SURFACE RACEWAY SHALL NOT BE USED IN ANY FINISHED AREAS WITH PRIOR APPROVAL FROM THE DESIGN TEAM.
4. ALL RECEPTACLE CIRCUITS SHALL HAVE DEDICATED NEUTRAL.
5. INSTALL DEVICES SUCH THAT NO TWO DEVICES ON OPPOSITE SIDES OF THE SAME WALL ARE WITHIN 24" OF EACH OTHER.

**ELECTRICAL PLAN KEYED NOTES**

- (E1) NO ELECTRICAL SCOPE IN THIS AREA.
  - (E2) EXTEND NEAREST 120V POWER CIRCUIT IN ADJACENT TUNNEL TO NEW LIGHTING FIXTURES AND DEVICES. VERIFY CIRCUIT SOURCE AND DISCONNECT POWER BEFORE EXTENDING CIRCUIT. MINIMIZE AND COORDINATE ANY REQUIRE SHUTDOWNS WITH OWNER.
  - (E3) APPROXIMATE LOCATION OF PANEL 48-LB-1 FEEDING SUB BASEMENT LIGHTING. PANEL LOCATED IN FIRST FLOOR CORRIDOR OF BUILDING 48.
  - (E4) APPROXIMATE LOCATION OF PANEL 48-LB-5 IN FIRST FLOOR CORRIDOR OF BUILDING 48.
  - (E5) APPROXIMATE LOCATION OF PANEL 49-LSB-1 LOCATED IN BUILDING 49 BASEMENT TANK ROOM.
  - (E6) APPROXIMATE LOCATION OF PANEL 50-LB-3 LOCATED IN BUILDING 50 CORRIDOR. PANEL SERVES CRAWL SPACE LIGHTING BENEATH BUILDING 50.
  - (E7) PROVIDE ACCESSORIES REQUIRED FOR SURFACE MOUNTED INSTALLATION ON CONCRETE IN VAULT. MOUNT LIGHT FIXTURE ON WALL COORDINATE WITH ALL TRADES PRIOR TO ROUGH-IN TO AVOID OBSTRUCTIONS.
  - (E8) LOCATE SWITCH ADJACENT TO LADDER. PROVIDE WEATHERPROOF SWITCH COVER EQUAL TO LEVITON WP1S-GRAY.
  - (E9) PROTECT EXISTING CONDUITS AND DATA CABLING AT NEW VAULT LOCATION FOR DURATION OF CONSTRUCTION. RESUPPORT EXISTING CONDUITS AND DATA CABLING AS REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR VAULT OPENINGS.
  - (E10) PROTECT EXISTING CONDUITS AND DATA CABLING AT NEW VAULT LOCATION FOR DURATION OF CONSTRUCTION. RESUPPORT EXISTING CONDUITS AND DATA CABLING AS REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR VAULT OPENINGS. ASSUME (4) 4" CONDUITS, (1) 3" CONDUIT, AND (1) 1" CONDUIT FOR BIDDING PURPOSES.
- NOTE: NOT ALL KEYED NOTES MAY BE USED ON EACH PLAN

1 ELECTRICAL POWER PLAN - VAULT B

2 ELECTRICAL POWER PLAN - VAULT C



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No.	REVISION	DATE

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ANDREW W. BERN  
 LICENSED PROFESSIONAL ENGINEER  
 STATE OF MINNESOTA

PROJECT TITLE	REPLACE/ADD STEAM MAINS WEST SIDE	DATE	10-25-2024
BUILDING No.	ATW	DESIGN NO.	656-21-114
LOCATION	VA MEDICAL CENTER ST. CLOUD, MN 56303	DRAWING NO.	E102
		DWG. OF	

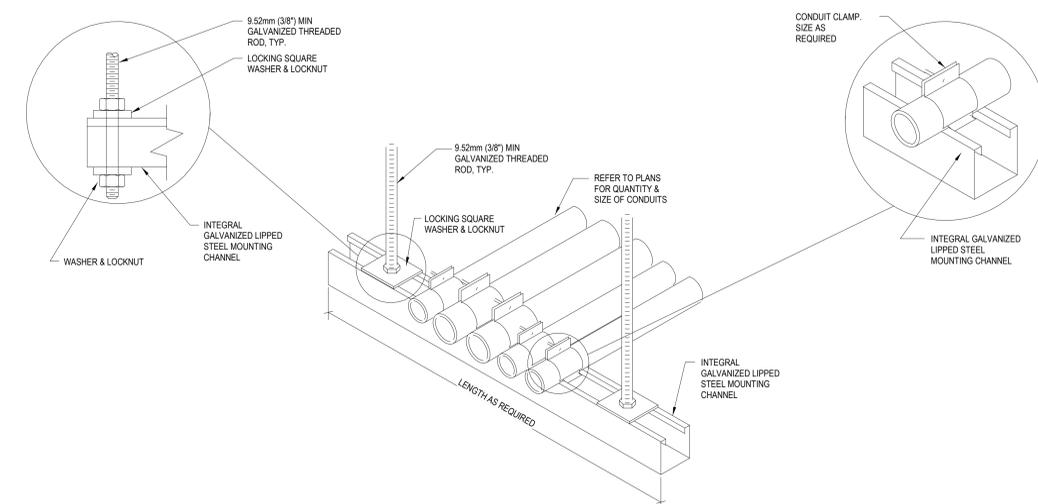
**CONSTRUCTION DOCUMENTS**

**VA** U.S. Department of Veterans Affairs  
 Veterans Health Administration  
 St. Cloud VA Health Care System

**LIGHTING FIXTURE SCHEDULE**

TYPE	BDD MANUFACTURER	MODEL NUMBER	DESCRIPTION	LAMP/CCT/CRI	CONTROL	DELIVERED LUMENS	WATTS	VOLTS	EQUALS
FA	LITHONIA	FEM-L48-4000LM-LPAFL-WD-MVOLT-GZ10-40K-80CRI-BA	4' LED VAPORTIGHT, ENCLOSED AND GASKETED FIXTURE WITH FROSTED LENS, NEMA 4X, IP67 RATED HOUSING. PROVIDE ACCESSORIES REQUIRED FOR SURFACE MOUNTED INSTALLATION ON CONCRETE. COORDINATE INSTALLATION WITH ALL TRADES TO AVOID OBSTRUCTIONS. BUY AMERICA ACT COMPLIANT.	LED/4000K/80	0-10V	3824	23.8	HVOLT	COLUMBIA, METALLUX

- NOTES:**  
 1. PROVIDE ALL PARTS AND PIECES FOR A COMPLETE AND FUNCTIONAL INSTALLATION.  
 2. CONTRACTOR SHALL INSTALL ALL FIXTURES PER MANUFACTURER RECOMMENDATIONS IN LOCATIONS SHOWN ON DRAWINGS AND NOTIFY DESIGN TEAM IF THIS IS NOT POSSIBLE PRIOR TO ROUGH-IN.



- GENERAL NOTES:**  
 1. INTEGRAL GALVANIZED LIPPED STEEL MOUNTING CHANNEL LONGER THAN 915mm (36") SHALL BE INSTALLED WITH A CENTER SUPPORT ROD. SUPPORT RODS SHALL NOT BE GREATER THAN 457mm (18") APART.  
 2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD PER SPECIFICATION 26 05 33, RAYWAY AND BOXES FOR ELECTRICAL SYSTEMS. FIELD VERIFY EXACT CONDITIONS.  
 3. FOR TRAPEZE INSTALLATIONS IN SEISMIC AREAS REFER TO SPECIFICATION SECTION 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.

**1 CONDUIT TRAPEZE MOUNTING DETAIL**

**PANEL 48LB-1**  
 MOUNTING: RECESSED  
 ENCLOSURE: NEMA 1  
 FED FROM: 48-MDP  
 LOCATION: BUILDING 48 CORRIDOR  
 VOLTS: 120/240V  
 PHASES: 1  
 WIRES: 3  
 MAINS TYPE: MLO  
 MAINS RATING: 225 A  
 MCB RATING: NONE  
 SPD: NONE  
 SCCR: 10,000 A

NOTES: EXISTING SQUARE D TYPE NO PANELBOARD.

CKT	LOAD DESCRIPTION	TYPE	TRIP	P	A	B	P	TRIP	TYPE	LOAD DESCRIPTION	CKT	
1	SPARE	E	20 A	1	0	0	1	20 A	E	AUTO DOOR E	2	
3	SPARE	E	20 A	1		0	0	1	20 A	E	AIR CURTAIN AUTO DOOR E	4
5	SPARE	E	20 A	1	0	0		1	20 A	E	REC FLOOR BUFFER	6
7	SPARE	E	20 A	1		0	0	1	20 A	E	REC RM 16/BASEMENT	8
9	SPARE	E	20 A	1	0	0		1	20 A	E	SPARE	10
11	REC OUTSIDE GFI	E	20 A	1		0	0	1	20 A	E	AC RM 12 N WALL	12
13	SPARE	E	20 A	1	0	0		1	20 A	E	LIGHTS RM 12A	14
15	LIGHTS RM 11-19	E	20 A	1		0	0	1	20 A	E	REC RM 12A	16
17	RECEPT RM 11-19	E	20 A	1	0	0		1	20 A	E	LIGHTS/REC RM 12B	18
19	SPARE	E	20 A	1		0	0	1	20 A	E	LIGHTS RM 11	20
21	SPARE	E	20 A	1	0	0		1	20 A	E	REC RM 12 EW	22
23	SPARE	E	20 A	1		0	0	1	20 A	E	REC RM 11	24
25	SPARE	E	20 A	1	0	0		1	20 A	E	SPARE	26
27	SPARE	E	20 A	1		0	0	2	30 A	E	208V AC RM 11A	28
29	SPARE	E	20 A	1	0	0		--	--	--	30	
31	SPARE	E	20 A	1		0	0	1	20 A	E	LIGHTS SUB BASEMENT	32
33	SPARE	E	20 A	1	0	0		1	20 A	E	SPARE ABOVE PANEL	34
35	SPARE	E	20 A	2		0	0	2	30 A	E	AC CORR 27-48	36
37	--	--	--	--	--	--	--	--	--	--	38	
39	SPARE	E	20 A	2		0	0	1	30 A	E	208V AC RM 16 S	40
41	--	--	--	--	--	--	--	1	30 A	E	208V AC RM 16 S	42
					Total Load:	0.00 VA	0.00 VA					
					Total Amps:	0.00	0.00					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*
Other	0 kVA	0.00%	0 kVA	
Receptacle	0.18 kVA	100.00%	0.18 kVA	TOTAL CONNECTED LOAD: 0.21 kVA
Lighting - Dwelling Unit	0.032 kVA	100.00%	0.032 kVA	TOTAL ESTIMATED DEMAND LOAD: 0.211 kVA
				TOTAL CONNECTED AMPS: 0.88 A
				TOTAL ESTIMATED DEMAND AMPS: 0.9 A

\*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: A = ARC FAULT E=EXISTING G=GFI H=HANDLE LOCK ST=SHUNT TRIP

**PANEL 48LB-5**  
 MOUNTING: SURFACE  
 ENCLOSURE: NEMA 1  
 FED FROM: 48-MDP  
 LOCATION: BUILDING 48 CORRIDOR  
 VOLTS: 120/240V  
 PHASES: 1  
 WIRES: 3  
 MAINS TYPE: MLO  
 MAINS RATING: 225 A  
 MCB RATING: NONE  
 SPD: NONE  
 SCCR: 10,000 A

NOTES: EXISTING SQUARE D TYPE NO PANELBOARD.

CKT	LOAD DESCRIPTION	TYPE	TRIP	P	A	B	P	TRIP	TYPE	LOAD DESCRIPTION	CKT	
1	REC RM 8 N WA	E	20 A	1	0	0		1	20 A	E	LIGHTS RM 3A SW	2
3	LIGHTS RM 3 SHOWER/POOL	E	20 A	1		0	0	1	20 A	E	QUAD REC IN FACP RM	4
5	SPARE	E	30 A	2	0	0		1	20 A	E	MECH METERING, LIGHTS RM SC/TANK	6
7	--	--	--	--	--	0	210.64	1	20 A	E	VAULT A - LIGHT AND RECEPT	8
9	LIGHTS RM 6	E	20 A	1	0	0		1	20 A	E	SPARE	10
11	REC RM 6	E	20 A	1		0	0	1	20 A	E	SPARE	12
13	REC RM 6	E	20 A	1	0	0		1	20 A	E	SPARE	14
15	REC RM 6 LIBRARY	E	20 A	1		0	0	1	20 A	E	SPARE	16
17	REC RM 6 & JC	E	20 A	1	0	0		1	20 A	E	SPARE	18
19	REC FLOOR BUFFER	E	20 A	1		0	0	1	20 A	E	REC RM 8/9, AC RM 9	20
21	REC CORRIDOR BY RM 6	E	20 A	1	0	0		1	20 A	E	LIGHTS/REC RM 8A/9	22
23	SPARE	E	20 A	1		0	0	1	20 A	E	SPARE	24
25	RM 6 JC	E	20 A	1	0	0		1	20 A	E	SPARE	26
27	WOMEN'S LOCKER RM & LOUNGE LIGHTS	E	20 A	1		0	0	1	20 A	E	SPARE	28
29	48/49 HALL AC	E	30 A	2	0	0		1	20 A	E	SPARE	30
31	--	--	--	--	--	0	0	1	20 A	E	SPARE	32
33	REC TELEPHONE RM 7	E	20 A	1	0	0		1	20 A	E	SPARE	34
35	SPARE	E	20 A	1		0	0	1	20 A	E	SPARE	36
37	SPARE	E	20 A	1	0	0		1	20 A	E	SPARE	38
39	SPARE	E	20 A	1		0	0	1	20 A	E	LIGHTS RM 3 W & SWIMMING	40
41	LIGHTS RM 3 E & SWIMMING POOL	E	20 A	1	0	0		1	20 A	E	REC OUTSIDE GFI BY COMPRESSOR	42
					Total Load:	0.00 VA	210.64 VA					
					Total Amps:	0.00	1.76					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*
Other	0 kVA	0.00%	0 kVA	
Receptacle	0.18 kVA	100.00%	0.18 kVA	TOTAL CONNECTED LOAD: 0.21 kVA
Lighting - Dwelling Unit	0.032 kVA	100.00%	0.032 kVA	TOTAL ESTIMATED DEMAND LOAD: 0.211 kVA
				TOTAL CONNECTED AMPS: 0.88 A
				TOTAL ESTIMATED DEMAND AMPS: 0.9 A

\*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: A = ARC FAULT E=EXISTING G=GFI H=HANDLE LOCK ST=SHUNT TRIP

**PANEL 49LSB-1**  
 MOUNTING: SURFACE  
 ENCLOSURE: NEMA 1  
 FED FROM: @  
 LOCATION: TANK ROOM UNDER BUILDING 49  
 VOLTS: 120/240V  
 PHASES: 1  
 WIRES: 3  
 MAINS TYPE: MLO  
 MAINS RATING: 225 A  
 MCB RATING: NONE  
 SPD: NONE  
 SCCR: 10,000 A

NOTES: EXISTING SQUARE D TYPE NO PANELBOARD.

CKT	LOAD DESCRIPTION	TYPE	TRIP	P	A	B	P	TRIP	TYPE	LOAD DESCRIPTION	CKT	
1	SPARE	E	100 A	2	0	0		2	100 A	E	SMOKE SHACK & GAZEBO	2
3	--	--	--	--	--	0	0	--	--	--	4	
5	DWP-49-1	E	20 A	2	0	0		1	20 A	E	RM 5 LTS	6
7	--	--	--	--	--	0	0	1	20 A	E	RM 5 LTS	8
9	GWP-49-1	E	20 A	2	0	0		1	20 A	E	SPARE	10
11	--	--	--	--	--	0	0	1	20 A	E	SPARE	12
13	GFS-49-1	E	20 A	1	0	0		1	20 A	E	SPARE	14
15	MMS-49-1	E	20 A	1		0	0	1	20 A	E	GFI REC RIGHT OF PANEL	16
17	SPACE	--	1	--	--	210.64		1	20 A	E	Lighting - Dwelling Unit	18
19	SPACE	--	1	--	--	--	--	1	--	SPACE	20	
21	SPACE	--	1	--	--	--	--	1	--	SPACE	22	
23	SPACE	--	1	--	--	--	--	1	--	SPACE	24	
25	SPACE	--	1	--	--	--	--	1	--	SPACE	26	
27	SPACE	--	1	--	--	--	--	1	--	SPACE	28	
29	SPACE	--	1	--	--	--	--	1	--	SPACE	30	
					Total Load:	210.64 VA	0.00 VA					
					Total Amps:	1.76	0.00					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*
Other	0 kVA	0.00%	0 kVA	
Receptacle	0.18 kVA	100.00%	0.18 kVA	TOTAL CONNECTED LOAD: 0.21 kVA
Lighting - Dwelling Unit	0.032 kVA	100.00%	0.032 kVA	TOTAL ESTIMATED DEMAND LOAD: 0.211 kVA
				TOTAL CONNECTED AMPS: 0.88 A
				TOTAL ESTIMATED DEMAND AMPS: 0.9 A

\*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: A = ARC FAULT E=EXISTING G=GFI H=HANDLE LOCK ST=SHUNT TRIP

**PANEL 50LB-3**  
 MOUNTING: RECESSED  
 ENCLOSURE: NEMA 1  
 FED FROM:  
 LOCATION: BUILDING 50 CORRIDOR  
 VOLTS: 120/240V  
 PHASES: 1  
 WIRES: 3  
 MAINS TYPE: MLO  
 MAINS RATING: 225 A  
 MCB RATING: NONE  
 SPD: NONE  
 SCCR: 10,000 A

NOTES: EXISTING SQUARE D TYPE NO PANELBOARD.

CKT	LOAD DESCRIPTION	TYPE	TRIP	P	A	B	P	TRIP	TYPE	LOAD DESCRIPTION	CKT	
1	LTS REC RM 16/PIPE CHASE	E	20 A	1	0	0		1	20 A	E	AC RM 9/N REC	2
3	RM 2C AC UNIT	E	20 A	1		0	0	1	20 A	E	LIGHTS & REC RM 9	4
5	LIGHTS & REC TANK RM	E	20 A	1	0	0		1	20 A	E	LIGHTS RM 4/STORAGE	6
7	LIGHTS RM 4/HALL/STORAGE	E	20 A	1		0	0	1	20 A	E	REC RM 4 N	8
9	CRAWL SPACE LIGHTS/RECS 4A	E	20 A	1	0	0		1	20 A	E	CIRCULATING PUMP/SUMP PUMP RM 9	10
11	RM-1-C-2	E	20 A	1		0	0	1	20 A	E	REC RM 4/CHAPEL	12
13	LIGHTS RM 1, LOCKER RM	E	20 A	1	0	0		1	20 A	E	REC RM KITCHEN TRAY AREA	14
15	REC RM 4/ OUTSIDE REC	E	20 A	1		0	0	2	20 A	E	SPARE	16
17	LIGHTS VENDING RM	E	20 A	1	0	0		--	--	--	18	
19	REC VENDING RM	E	20 A	1		0	0	1	20 A	E	EXHAUST FAN TANK RM	20
21	REC VENDING RM	E	20 A	1	0	0		1	20 A	E	LIGHTS RM 4/CHAPEL	22
23	REC VENDING RM	E	20 A	1		0	0	2	30 A	E	208V AC RM 4	24
25	REC VENDING RM	E	20 A	1	0	0		--	--	--	26	
27	REC VENDING RM	E	20 A	1		0	0	2	30 A	E	208V AC RM 4/ FAMILY AREA	28
29	REC RM 4 S&W	E	20 A	1	0	0		--	--	--	30	
31	50S1 AC	E	30 A	2		0	0	2	100 A	E	SPARE	32
33	--	--	--	--	--	0	0	--	--	--	34	
35	SPARE	E	20 A	1		0	0	1	20 A	E	SPARE	36
37	SPARE	E	20 A	1	0	0		1	20 A	E	SPARE	38
39	SPARE	E	20 A	1		0	0	1	20 A	E	SPARE	40
41	SPARE	E	20 A	1	0	0		1	20 A	E	SPARE	42
					Total Load:	0.00 VA	0.00 VA					
					Total Amps:	0.00	0.00					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*
Other	0 kVA	0.00%	0 kVA	
Receptacle	0.18 kVA	100.00%	0.18 kVA	TOTAL CONNECTED LOAD: 0.21 kVA
Lighting - Dwelling Unit	0.032 kVA	100.00%	0.032 kVA	TOTAL ESTIMATED DEMAND LOAD: 0.211 kVA
				TOTAL CONNECTED AMPS: 0.88 A
				TOTAL ESTIMATED DEMAND AMPS: 0.9 A

\*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.

CIRCUIT KEY NOTES: A = ARC FAULT E=EXISTING G=GFI H=HANDLE LOCK ST=SHUNT TRIP

**CONSTRUCTION DOCUMENTS**

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No	REVISION	DATE

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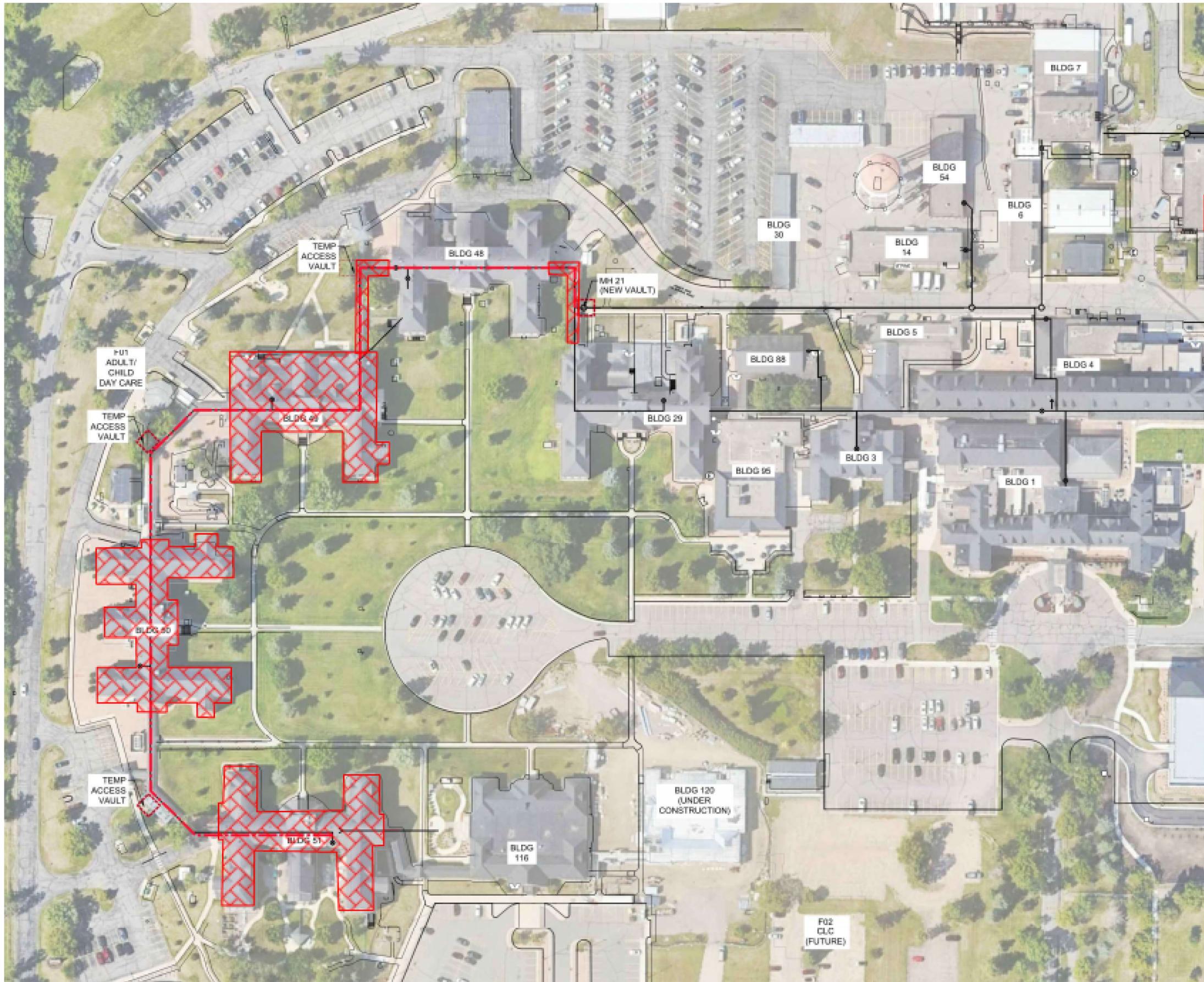
ANDREW W. BEHN  
 LICENSED PROFESSIONAL ENGINEER  
 STATE OF MINNESOTA

**DRAWING TITLE**  
 ELECTRICAL DETAILS & SCHEDULES

**PROJECT FILE**  
 REPLACE/ADD STEAM MAINS WEST SIDE

**DATE**  
 10-25-2024

**PLOT SCALE**  
 AS



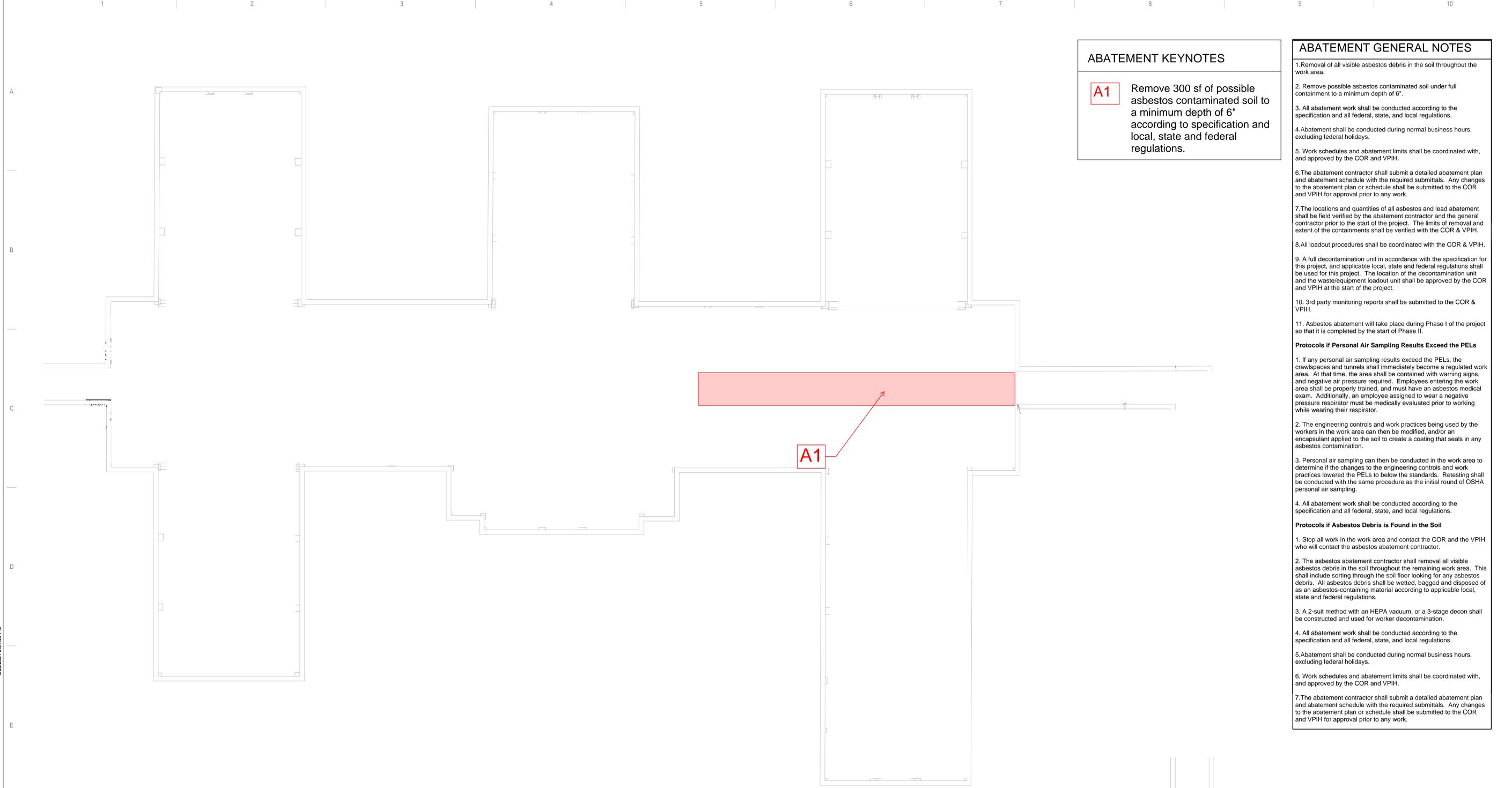
**LEGEND**

 Location of Asbestos Contaminated Soil

- ABATEMENT GENERAL NOTES**
- Protocols if Personal Air Sampling Results Exceed the PELs**
1. If any personal air sampling results exceed the PELs, the crawlspaces and tunnels shall immediately become a regulated work area. At that time, the area shall be contained with warning signs, and negative air pressure required. Employees entering the work area shall be properly trained, and must have an asbestos medical exam. Additionally, an employee assigned to wear a negative pressure respirator must be medically evaluated prior to working while wearing their respirator.
  2. The engineering controls and work practices being used by the workers in the work area can then be modified, and/or an encapsulant applied to the soil to create a coating that seals in any asbestos contamination.
  3. Personal air sampling can then be conducted in the work area to determine if the changes to the engineering controls and work practices lowered the PELs to below the standards. Retesting shall be conducted with the same procedure as the initial round of OSHA personal air sampling.
  4. All asbestos work shall be conducted according to the specification and all federal, state, and local regulations.
  5. All asbestos work shall be conducted during normal business hours, excluding federal holidays.
  6. Work schedules and abatement limits shall be coordinated with, and approved by the COR and VPIH.
  7. 3rd party air monitoring reports shall be submitted to the COR and VPIH.
  8. Asbestos abatement will take place during Phase I of the project so that it is completed by the start of Phase II.
- Protocols if Asbestos Debris is Found in the Soil**
1. Stop all work in the work area and contact the COR and VPIH who will contact the asbestos abatement contractor.
  2. The asbestos abatement contractor shall removal all visible asbestos debris in the soil throughout the remaining work area. This shall include sorting through the soil floor looking for any asbestos debris. All asbestos debris shall be wetted, bagged and disposed of as an asbestos-containing material according to applicable local, state and federal regulations.
  3. A 2-suit method with an HEPA vacuum, or a 3-stage decon shall be constructed and used for worker decontamination.
  4. All abatement work shall be conducted according to the specification and all federal, state, and local regulations.
  5. Abatement shall be conducted during normal business hours, excluding federal holidays.
  6. Work schedules and abatement limits shall be coordinated with, and approved by the COR and VPIH.
  7. 3rd party air monitoring reports shall be submitted to the COR and VPIH.

CONSTRUCTION DOCUMENTS

<b>CONSULTANT</b>  9565 James Ave S, Bloomington, MN 55431 952-295-9400 www.landmarkenv.com		<b>ARCHITECT/ENGINEER OF RECORD</b>  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 #		<b>STAMP</b> 		APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____		APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____		APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____		APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____ APPROVED: _____ DATE: _____		DRAWING TITLE <b>HAZARDOUS MATERIALS PLAN - LOCATIONS OF ASBESTOS CONTAMINATED SOIL (BUILDINGS 48-51)</b>		PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>		DATE <b>10/25/2024</b>		PROJECT NO. <b>656-21-114</b>						<b>U.S. Department of Veterans Affairs</b> Veterans Health Administration St. Cloud VA Health Care System	
REVISION DATE																											



**ABATEMENT KEYNOTES**

**A1** Remove 300 sf of possible asbestos contaminated soil to a minimum depth of 6" according to specification and local, state and federal regulations.

**ABATEMENT GENERAL NOTES**

1. Removal of all visible asbestos debris in the soil throughout the work area.
2. Remove possible asbestos contaminated soil under full containment to a minimum depth of 6".
3. All abatement work shall be conducted according to the specification and all federal, state, and local regulations.
4. Abatement shall be conducted during normal business hours, excluding federal holidays.
5. Work schedules and abatement limits shall be coordinated with, and approved by the COR and VPIH.
6. The abatement contractor shall submit a detailed abatement plan and abatement schedule with the required submittals. Any changes to the abatement plan or schedule shall be submitted to the COR and VPIH for approval prior to any work.
7. The locations and quantities of all asbestos and lead abatement shall be field verified by the abatement contractor and the general contractor prior to the start of the project. The limits of removal and extent of the containments shall be verified with the COR & VPIH.
8. All loadout procedures shall be coordinated with the COR & VPIH.
9. A full decontamination unit in accordance with the specification for this project, and applicable local, state and federal regulations shall be used for this project. The location of the decontamination unit and the waste/equipment loadout unit shall be approved by the COR and VPIH at the start of the project.
10. 3rd party monitoring reports shall be submitted to the COR & VPIH.
11. Asbestos abatement will take place during Phase I of the project so that it is completed by the start of Phase II.

**Protocols if Personal Air Sampling Results Exceed the PELs**

1. If any personal air sampling results exceed the PELs, the crawlspaces and tunnels shall immediately become a regulated work area. At that time, the area shall be contained with warning signs, and negative air pressure required. Employees entering the work area shall be properly trained, and must have an asbestos medical exam. Additionally, an employee assigned to wear a negative pressure respirator must be medically evaluated prior to working while wearing their respirator.
2. The engineering controls and work practices being used by the workers in the work area can then be modified, and/or an encapsulant applied to the soil to create a coating that seals in any asbestos contamination.
3. Personal air sampling can then be conducted in the work area to determine if the changes to the engineering controls and work practices lowered the PELs to below the standards. Retesting shall be conducted with the same procedure as the initial round of OSHA personal air sampling.
4. All abatement work shall be conducted according to the specification and all federal, state, and local regulations.

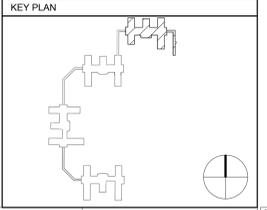
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1 MECHANICAL - BUILDING 48  
1/8" = 1'-0"

**HAZARDOUS PLAN NOTES**

1. Refer to specifications 028211, and 028333-13 for asbestos and lead paint removal and abatement requirements and procedures.
2. Refer to the Castle Hill Associates, LLC 2019 Asbestos Re-inspection Report dated November 4-6, 2019 and July 13, 2020. The Landmark asbestos inspection report dated 1/5/2024, and the lead inspection report dated 1/5/2024 for current asbestos and lead findings.



**CONSTRUCTION DOCUMENTS**

No	REVISION	DATE

**CONSULTANT**

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Anderson Engineering of Minnesota, LLC | Proj #

**STAMP**

**ASBESTOS PROJECT**  
Certified by: DESIGNER  
Date of Expiration: 10/26/2024  
1207 Jackson Ln N  
Maple Grove, MN 55127  
Dustin, Eric, Heath, Co. Tel: 953-9353 Email: 11152023

**HAZARDOUS MATERIALS PLAN - ASBESTOS CONTAMINATED SOIL ABATEMENT**

PROJECT TITLE <b>REPLACE/ADD STEAM MAINS WEST SIDE</b>	DATE <b>10/25/2024</b>
BUILDING No <b>48</b>	PLOT SCALE <b>656-21-114</b>
CHECKED BY <b>LMK</b>	DRAWN BY <b>MWM</b>
LOCATION <b>VA MEDICAL CENTER ST. CLOUD, MN 56303</b>	SHOWNING NO. <b>HA002</b>
FULLY SPRINKLERED	DWG. OF

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
St. Cloud VA Health Care System

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