

CODE ANALYSIS

APPLICABLE CODES			
	Year		Year
International Building Code	2006	National Electrical Code	2008 N/A
International Mechanical Code	2006	Uniform Code for	
International Plumbing Code	2006	Building Conservation	N/A
International Fire Code	2006	ADA Accessibility	
International Energy		Guidelines	N/A
Conservation Code	2006		

NOTE:
PROJECT SCOPE IS REPLACING THE EXTERIOR UNDERGROUND STEAM AND CONDENSATE PIPING SERVING THE BOILER PLANT, WAREHOUSE, AND LAB BUILDINGS. BUILDINGS ARE EXISTING.

UTAH DEPARTMENT OF TRANSPORTATION STEAM AND CONDENSATE PIPE REPLACEMENT DFCM #09095900

- A. Occupancy and Group: N/A
- Change in Use: Yes No Mixed Occupancy: Yes N/A No N/A
Special Use and Occupancy (e.g. High Rise, Covered Mall): N/A
- B. Seismic Design Category: N/A Design Wind Speed: N/A mph
- C. Type of Construction (circle one): N/A
- I I II II III III IV V V
A B A B A B HT A B
- D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours): N/A
North: _____ South: _____ East: _____ West: _____
- E. Mixed Occupancies: N/A Nonseparated Uses: N/A
- F. Sprinklers: N/A
Required: _____ Provided: _____ Type of Sprinkler System: _____
- G. Number of Stories: N/A Building Height: N/A
- H. Actual Area per Floor (square feet): N/A
- I. Tabular Area: N/A
- J. Area Modifications: N/A
- a) $A_a = A_t + \left[\frac{A_t I_f}{100} \right] + \left[\frac{A_t I_s}{100} \right]$ $I_f = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$
- b) Sum of the Ratio Calculations for Mixed Occupancies:
 $\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$
- c) Total Allowable Area for:
1) One Story: _____
2) Two Story: $A_a(2)$ _____
3) Three Story: $A_a(3)$ _____
- d) Unlimited Area Building: Yes No Code Section: _____
- K. Fire Resistance Rating Requirements for Building Elements (hours): N/A

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shaft Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Fire Partitions		
			Smoke Partitions		

- L. Design Occupant Load: N/A
Exit Width Required: N/A Exit Width Provided: N/A
- M. Minimum Number of Required Plumbing Facilities: N/A
- a) Water Closets - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
b) Lavatories - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
c) Bath Tubs or Showers: _____
d) Drinking Fountains: _____ Service Sinks: _____

FOOTNOTES:

- 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I N/A through X - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
- High Rise Requirements.
 - Atriums.
 - Performance Based Criteria.
 - Means or Egress Analysis.
 - Fire Assembly Locator Sheet.
 - Exterior and Interior Accessibility Route.
 - Fire Stopping, Including Tested Design Number.



State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DRAWING INDEX:

- M000 - TITLE SHEET
MG001- MECHANICAL GENERAL NOTES AND LEGEND
MD101- STEAM AND CONDENSATE SITE DEMOLITION PLAN
MD401- LARGE SCALE MECHANICAL ROOMS DEMOLITION PLANS
ME101- STEAM AND CONDENSATE SITE PLAN
ME401- LARGE SCALE MECHANICAL EQUIPMENT ROOM PLANS
ME402- STEAM AND CONDENSATE CONNECTIONS AT BOILER PLANT- (PHOTOGRAPHS)
ME403- STEAM AND CONDENSATE CONNECTIONS AT BUILDINGS - (PHOTOGRAPHS)
ME501- MECHANICAL DETAILS AND SCHEDULES
ME502- MECHANICAL DETAILS AND SCHEDULES



MECHANICAL ENGINEER
WHW ENGINEERING, INC.
8619 SANDY PARKWAY
SUITE 101
SANDY, UTAH 84075
PHONE: (801) 466-4021 FAX: (801) 466-8536



WHW
ENGINEERING INC.
PROFESSIONAL MECHANICAL ENGINEERING
8619 Sandy Parkway Suite 101
SANDY, UTAH 84075
(801) 466-4021, FAX 466-8536
EMAIL: excellence@whw-engineering.com

CONSULTANTS



PROJECT NAME & ADDRESS

**UTAH DEPARTMENT
OF TRANSPORTATION
STEAM AND
CONDENSATE PIPE
REPLACEMENT
DFCM #09095900**

Price, Utah

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09011



SHEET TITLE

**MECHANICAL GENERAL
NOTES AND LEGEND**

SHEET NO.

MG001

MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY			WET SIDE		
(A2)		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION			UNION
					GATE VALVE
(MA 1)		MECHANICAL EQUIPMENT DESIGNATION		BV	BALL VALVE
		EQUIPMENT ITEM DESIGNATION			DIRECTION OF FLOW
		REVISION DESIGNATOR AND NUMBER			ELBOW UP
		KEY NOTE DESIGNATOR AND NUMBER			ELBOW DOWN
	POC	POINT OF CONNECTION			TEE UP
	POR	POINT OF REMOVAL			TEE DOWN
GC		GENERAL CONTRACTOR			EXISTING PIPING TO BE REMOVED
MC		MECHANICAL CONTRACTOR			EXISTING PIPING TO REMAIN
NIC		NOT IN CONTRACT			NEW PIPING
NTS		NOT TO SCALE			PIPE CAP OR PLUG
C		COMMON		CW	CULINARY COLD WATER
				PC	PUMPED CONDENSATE
				CR	CONDENSATE RETURN
				HPS	HIGH PRESSURE STEAM SUPPLY

GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR EXISTING SITE CONDITIONS AND INFORMATION INCLUDING SPECIFICATIONS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE PIPING SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL PIPING AND GILSULATE ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT. THE CONTRACTOR SHALL REMOVE AND RE-INSTALL CORRECTLY AT HIS OWN EXPENSE ANY PIPING, ANCHORS, SUPPORTS, GILSULATE AND EXPANSION LOOPS NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR THE GILSULATE INSTALLATION, ACCESSORIES, AND CLEARANCES PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT BEFORE AND AFTER BIDDING SHALL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.

G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING UNDERGROUND PIPING AND BUILDING CONNECTIONS.

G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR NEW PIPING AND BUILDING CONNECTIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS.

G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-7 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-8 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC AND IPC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-9 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE.

CONSULTANTS



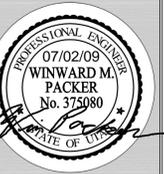
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SHEET TITLE
**STEAM AND CONDENSATE
SITE DEMOLITION PLAN**

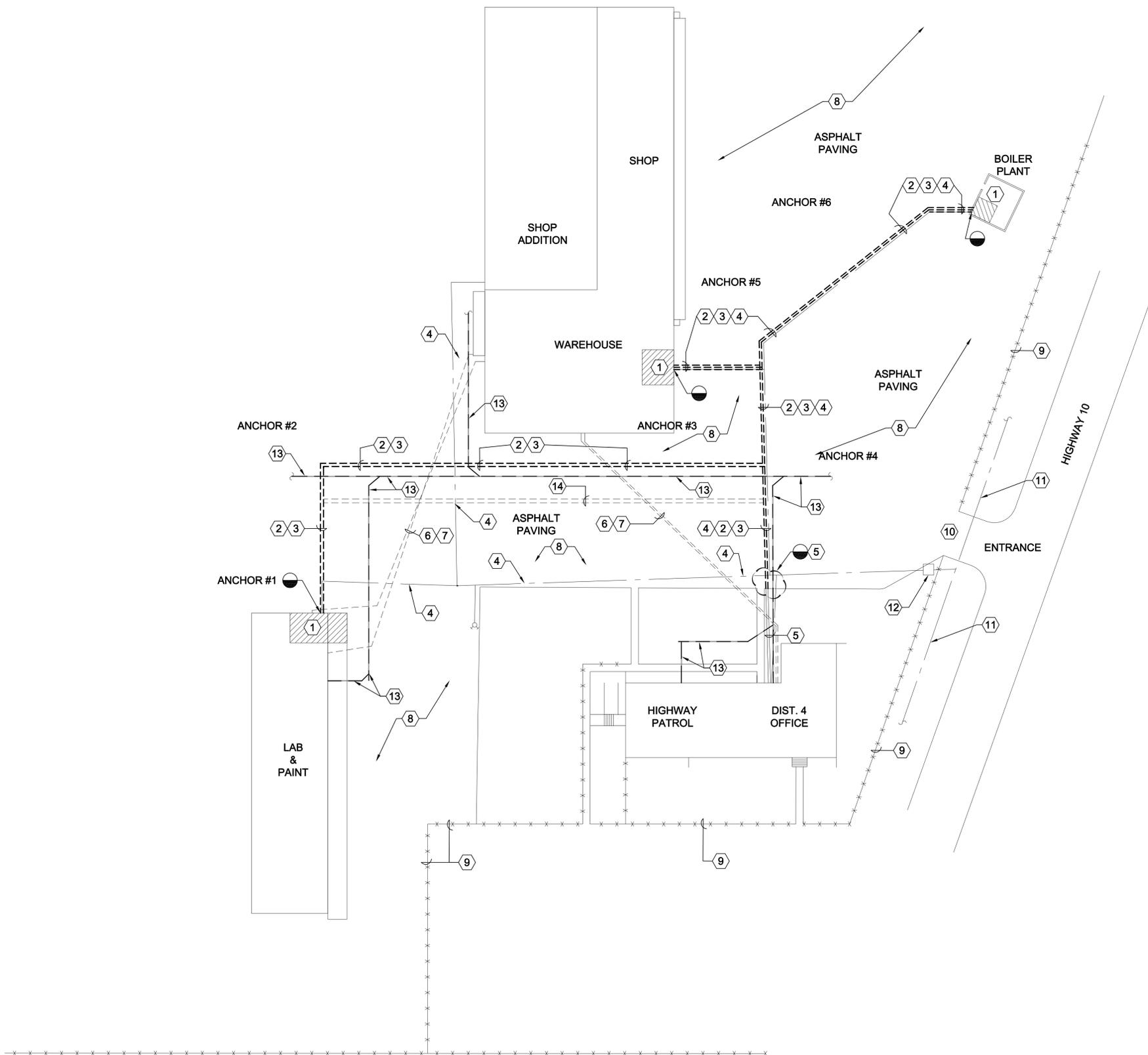
SHEET NO.
MD101

SHEET NOTES:

- ① SEE LARGE SCALE SHEET MD401 FOR BUILDING MECHANICAL EQUIPMENT ROOM.
- ② EXCAVATE TO EXISTING STEAM AND CONDENSATE PIPE AND REMOVE ALL PIPING, ANCHORS, EXPANSION LOOPS, SUPPORTS ETC.
- ③ EXCAVATE TO DIMENSIONS SHOWN FOR THE INSTALLATION OF GILSULATE. SEE DETAILS SHEET ME501.
- ④ EXISTING UNDERGROUND WATER PIPING SHALL REMAIN. IF EXISTING PIPING IS DAMAGED, CONTRACTOR SHALL REPLACE WITH SAME SIZE WATER PIPING AND SAME TYPE MATERIAL AS EXISTING.
- ⑤ STEAM, CONDENSATE AND WATER TO OFFICE IS NEW AND SHALL REMAIN. EXCAVATE TO THOSE TIE-INS AND REMOVE FOR NEW TIE-INS TO NEW STEAM AND CONDENSATE MAINS. FIELD VERIFY EXACT LOCATION.
- ⑥ EXISTING UNDERGROUND POWER. FIELD VERIFY LOCATION DURING EXCAVATION.
- ⑦ EXISTING UNDERGROUND TELEPHONE. FIELD VERIFY LOCATION DURING EXCAVATION.
- ⑧ EXISTING ASPHALT SURFACE.
- ⑨ EXISTING CHAIN LINK FENCE.
- ⑩ EXISTING CHAIN LINK GATE.
- ⑪ EXISTING 16" PRICE CITY WATER MAIN.
- ⑫ EXISTING WATER METER.
- ⑬ EXISTING UNDERGROUND SEWER PIPING. BE AWARE DURING EXCAVATION.
- ⑭ EXISTING ABANDONED STEAM AND CONDENSATE PIPING.

NOTES:

1. THE LOCATIONS OF UTILITIES SHOWN COME FROM UDOT DRAWINGS AND MAY NOT BE EXACT. CONTRACTOR SHALL EXCAVATE VERY CAREFULLY AND REPLACE ANY PIPING DAMAGED.



STEAM AND CONDENSATE PIPING DEMOLITION PLAN
SCALE: 1" = 30'-0"



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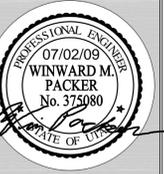
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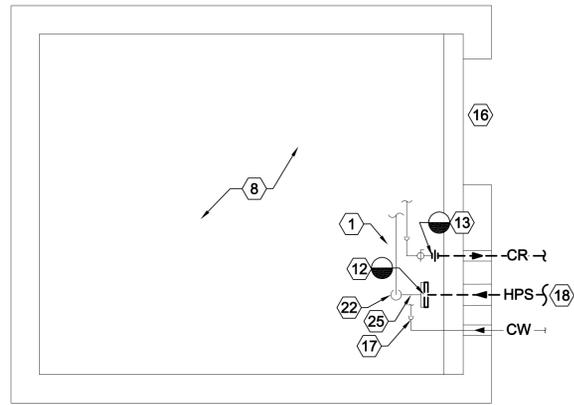
**LARGE SCALE
MECHANICAL ROOMS
DEMOLITION PLANS**

SHEET NO.

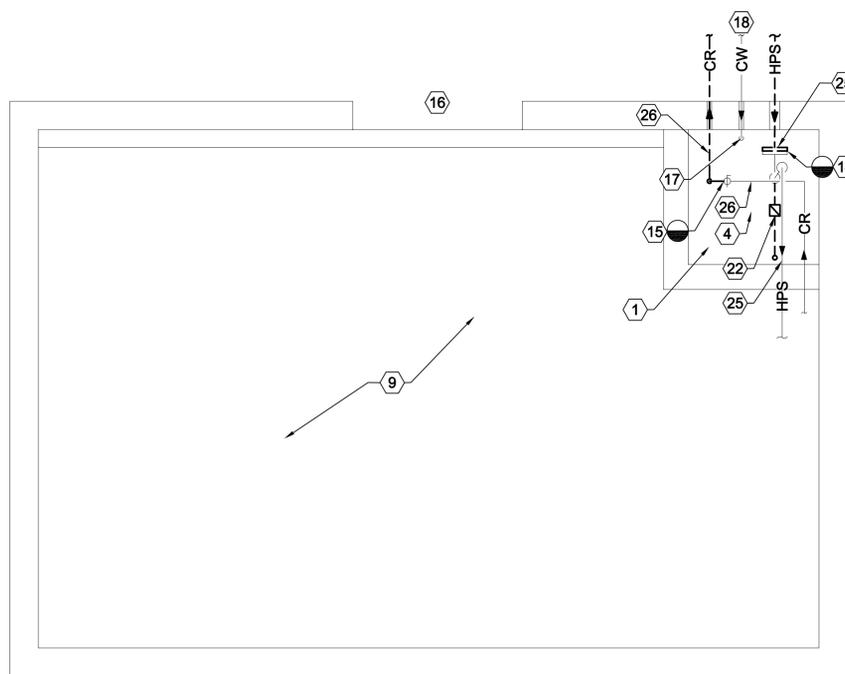
MD401

SHEET NOTES:

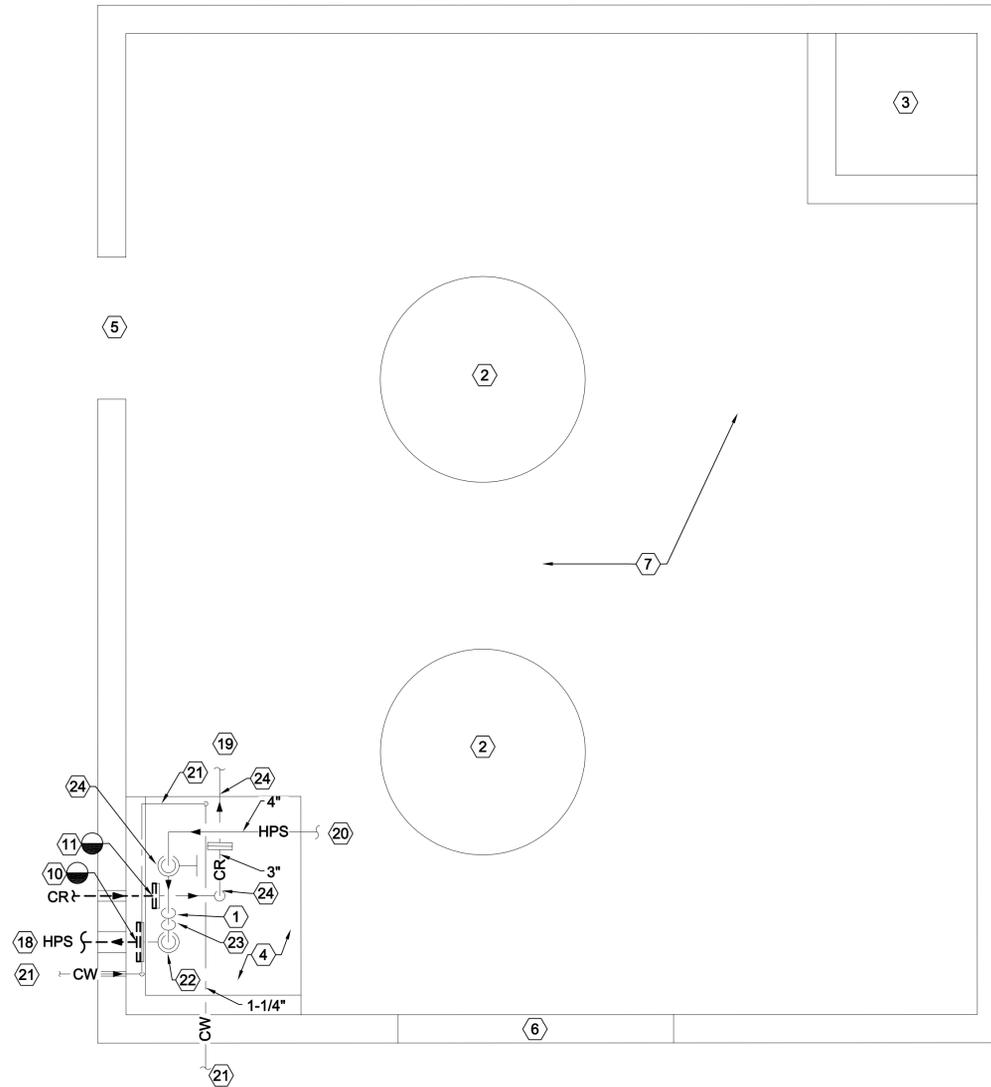
- ① SEE LARGE SCALE SHEET ME401 FOR NEW PIPING CONNECTIONS THIS AREA.
- ② EXISTING STEAM BOILERS SHALL REMAIN.
- ③ CHIMNEY SHALL REMAIN.
- ④ EXISTING PIT FOR STEAM, CONDENSATE, AND WATER PIPING.
- ⑤ EXISTING MAN DOOR.
- ⑥ EXISTING ROLL-UP DOOR.
- ⑦ EXISTING BOILER PLANT.
- ⑧ EXISTING UNDER FLOOR WAREHOUSE AND SHOP BUILDING MECHANICAL EQUIPMENT ROOM.
- ⑨ EXISTING UNDER FLOOR LAB AND PAINT BUILDING MECHANICAL EQUIPMENT ROOM.
- ⑩ REMOVE EXISTING STEAM PIPING UP TO AND INCLUDING 6" FLANGE.
- ⑪ REMOVE EXISTING CONDENSATE RETURN PIPING UP TO AND INCLUDING 3" FLANGE.
- ⑫ REMOVE EXISTING 3" STEAM PIPING UP TO AND INCLUDING 3" FLANGE.
- ⑬ REMOVE EXISTING 1-1/4" CONDENSATE RETURN PIPING UP TO EXISTING UNION.
- ⑭ REMOVE EXISTING 3" STEAM PIPING UP TO AND INCLUDING 3" FLANGE.
- ⑮ REMOVE EXISTING 1-1/4" CONDENSATE RETURN PIPING UP TO EXISTING VALVE.
- ⑯ ACCESS DOOR TO UNDER FLOOR MECHANICAL ROOM.
- ⑰ EXISTING COLD WATER LINE SHALL REMAIN.
- ⑱ SEE SHEET ME101 FOR CONTINUATION.
- ⑲ 3" CR TO CONDENSATE RECEIVER AND PUMP SET SHALL REMAIN.
- ⑳ 4" HPS TO BOILER STEAM SUPPLY HEADER SHALL REMAIN.
- ㉑ EXISTING 1-1/4" COLD WATER PIPING SHALL REMAIN.
- ㉒ REMOVE EXISTING TRAP AND PIPING.
- ㉓ REMOVE EXISTING STEAM PIPING INSULATION FROM 6" FLANGES TO 4" VALVE. SEE ME402.
- ㉔ REMOVE EXISTING CONDENSATE RETURN PIPING INSULATION FROM FLANGE TO CONDENSATE RECEIVER AND PUMP SET. SEE SHEET ME402.
- ㉕ REMOVE EXISTING STEAM PIPE INSULATION FROM 3" FLANGE TO THAT SHOWN ON SHEET ME403.
- ㉖ REMOVE EXISTING CONDENSATE RETURN PIPING INSULATION FROM BUILDING ENTRANCE TO LOCATION SHOWN ON SHEET ME403.



C1 WAREHOUSE STEAM AND CONDENSATE DEMOLITION PLAN
SCALE: 1/2" = 1'-0"



A1 LAB STEAM AND CONDENSATE DEMOLITION PLAN
SCALE: 1/2" = 1'-0"



A3 BOILER PLANT STEAM AND CONDENSATE DEMOLITION PLAN
SCALE: 1/2" = 1'-0"

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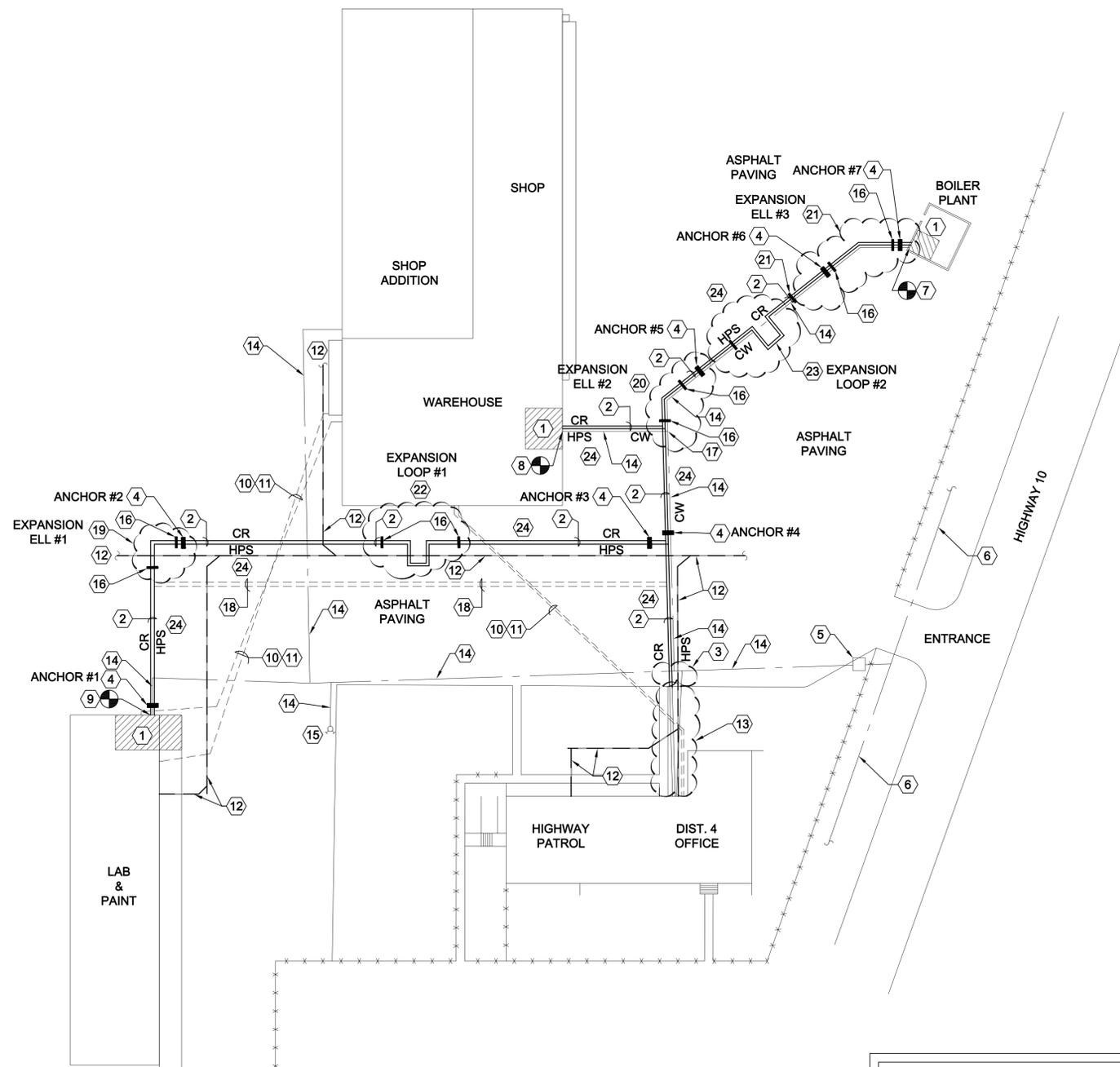


SHEET TITLE
**STEAM AND CONDENSATE
SITE PLAN**

SHEET NO.
ME101

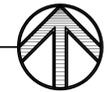
SHEET NOTES:

- 1 SEE LARGE SCALE SHEET ME401 FOR NEW PIPING CONNECTIONS THIS AREA.
- 2 PROVIDE NEW HPS AND CR IN SAME LOCATIONS AS REMOVED STEAM AND CONDENSATE PIPING IF POSSIBLE. SEE SHEET ME501 AND 502 FOR PIPING INSTALLATION DETAILS.
- 3 CONTRACTOR SHALL EXCAVATE THIS AREA FOR EXACT LOCATION OF CONNECTIONS THAT SERVE THE OFFICE. REMOVE THESE CONNECTIONS AND PROVIDE NEW CONNECTIONS TO NEW PIPING.
- 4 PIPE ANCHORS. SEE DETAIL C3/ME501.
- 5 EXISTING WATER METER.
- 6 EXISTING 16"Ø PRICE CITY WATER MAIN.
- 7 SEE PHOTOGRAPHS SHEET ME402 FOR PIPING THIS AREA.
- 8 SEE PHOTOGRAPHS C1 AND C3 SHEET ME403 FOR PIPING THIS AREA.
- 9 SEE PHOTOGRAPHS A1 AND A3 SHEET ME403 FOR PIPING THIS AREA.
- 10 EXISTING UNDERGROUND TELEPHONE.
- 11 EXISTING UNDERGROUND POWER.
- 12 EXISTING SEWER LINE.
- 13 EXISTING WATER, STEAM AND CONDENSATE PIPING IN THIS AREA IS FAIRLY NEW AND SHALL REMAIN.
- 14 EXISTING WATER PIPING SHALL REMAIN, HOWEVER IF WATER PIPING IS DAMAGED DURING EXCAVATION CONTRACTOR SHALL REPLACE DAMAGED PIPING WITH NEW PIPING THE SAME SIZE AND SAME MATERIAL AS EXISTING. CONTRACTOR SHALL INCLUDE THE EXISTING PIPING WITHIN THE NEW GILSULATE INSULATION.
- 15 EXISTING FIRE HYDRANT.
- 16 PIPING GUIDES SEE DETAIL A1/ME501.
- 17 TAKE STEAM, CONDENSATE, AND WATER BRANCHES FROM TOP OR AT TOP 45° DEPENDING ON SLOPE REQUIRED.
- 18 ABANDONED STEAM AND CONDENSATE PIPING.
- 19 EXPANSION ELBOW #1. SEE DETAIL C1/ME502.
- 20 EXPANSION ELBOW #2. SEE DETAIL C2/ME502.
- 21 EXPANSION ELBOW #3. SEE DETAIL C4/ME502.
- 22 EXPANSION LOOP #1. SEE DETAIL C1/ME501.
- 23 EXPANSION LOOP #2. SEE DETAIL C4/ME501.
- 24 PROVIDE ASPHALT OVER FILL ALONG NEW EXCAVATION. MATCH EXISTING ASPHALT THICKNESS.



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF UNDERGROUND PIPING. PIPING LOCATIONS SHOWN ON DRAWINGS ARE A RESULT OF DRAWINGS PROVIDED BY UDOT DATED JAN 30, 1981.

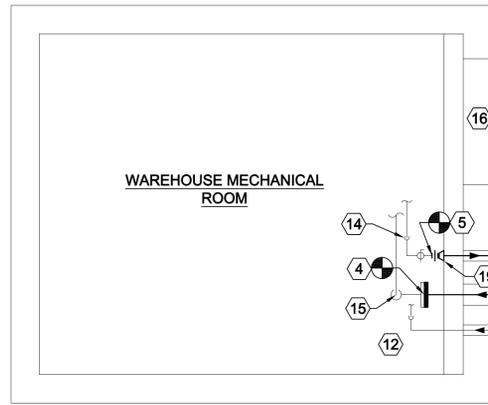
STEAM AND CONDENSATE SITE PLAN
SCALE: 1" = 30'-0"



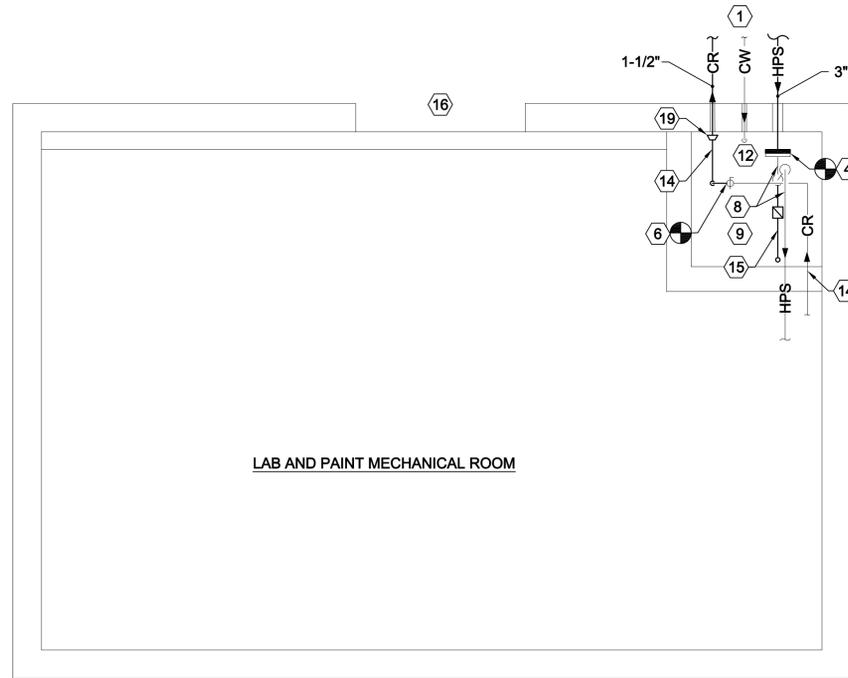
CONSULTANTS



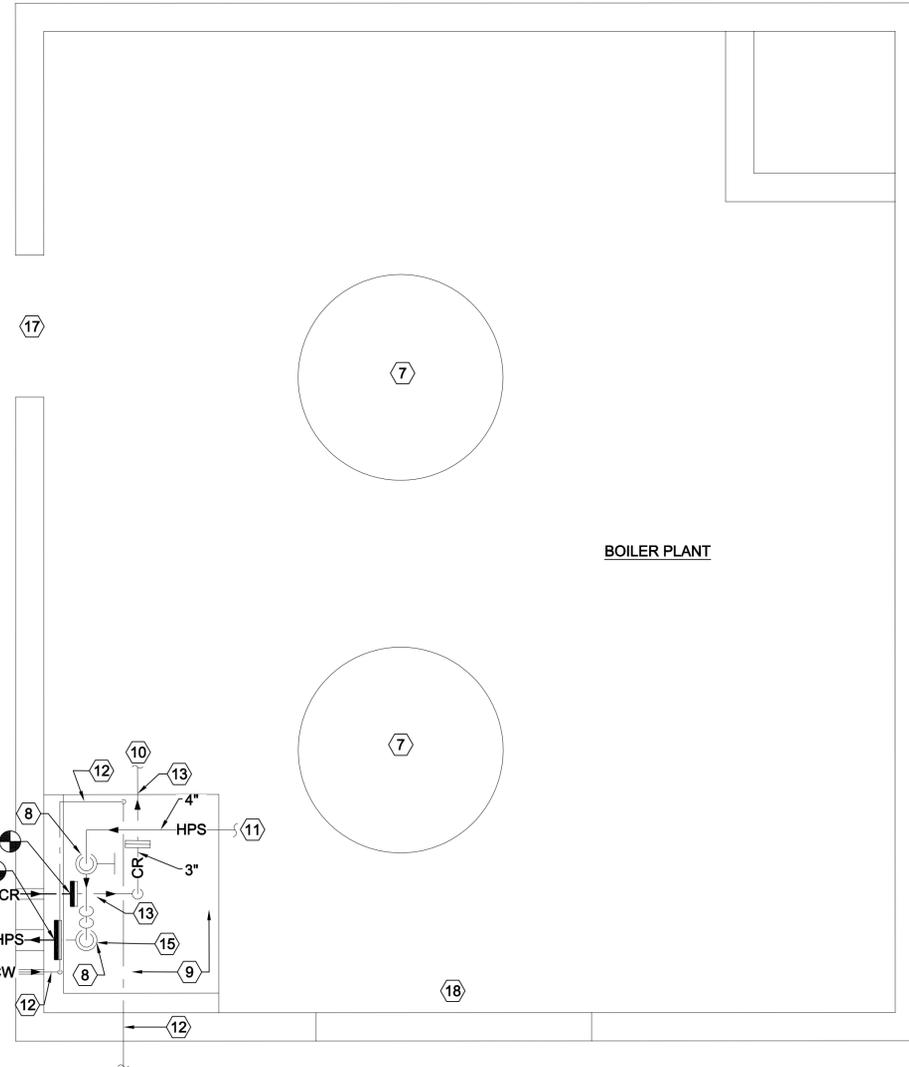
- SHEET NOTES:**
- ① SEE SITE PLAN SHEET ME101 FOR CONTINUATION OF PIPING.
 - ② CONNECT TO EXISTING 6" - 300 LB. FLANGE WITH NEW 6" - 300 LB FLANGE. FIELD VERIFY THAT EXISTING FLANGES ARE 300 LB. REPLACE IF NOT 300 LB.
 - ③ CONNECT TO EXISTING 3" - 300 LB. FLANGE WITH NEW 3" - 300 LB FLANGE. FIELD VERIFY THAT EXISTING FLANGES ARE 300 LB. REPLACE IF NOT 300 LB.
 - ④ CONNECT TO EXISTING 3" - 300 LB. FLANGE WITH NEW 3" - 300 LB FLANGE. FIELD VERIFY THAT EXISTING FLANGES ARE 300 LB. REPLACE IF NOT 300 LB.
 - ⑤ CONNECT TO EXISTING 1-1/4" UNION.
 - ⑥ CONNECT TO EXISTING 1-1/4" VALVE.
 - ⑦ EXISTING HP STEAM BOILERS.
 - ⑧ REMOVE AND REPLACE EXISTING STEAM PIPING INSULATION IN PIT TO 4" VALVE. SEE SPECIFICATIONS.
 - ⑨ CONCRETE PIT.
 - ⑩ EXISTING 3" CONDENSATE TO EXISTING PUMP RECEIVER SET.
 - ⑪ EXISTING 4" OVERHEAD HP STEAM FROM BOILERS.
 - ⑫ EXISTING 1-1/4" GALVANIZED CULINARY WATER PIPING SHALL REMAIN. PROVIDE NEW INSULATION FOR WATER PIPING NOT INSULATED. REMOVE AND REPLACE EXISTING INSULATION ON WATER PIPING THAT'S INSULATED IN THIS AREA.
 - ⑬ REMOVE AND REPLACE EXISTING CR PIPE INSULATION FROM BUILDING ENTRANCE TO CONDENSATE RECEIVER AND PUMP SET.
 - ⑭ REMOVE AND REPLACE INSULATION FROM CR ENTRANCE TO LOCATION SHOWN. SEE SHEET ME403.
 - ⑮ PROVIDE NEW TRAP AND ASSEMBLY. SEE DETAIL A1/ME502.
 - ⑯ ACCESS DOOR TO UNDER FLOOR MECHANICAL ROOMS.
 - ⑰ BOILER PLANT MAN DOOR.
 - ⑱ BOILER PLANT DOUBLE DOOR.
 - ⑲ 1-1/2" x 1-1/4" REDUCER.



C1 WAREHOUSE STEAM AND CONDENSATE PIPING PLAN
SCALE: 1/2" = 1'-0"



A1 LAB STEAM AND CONDENSATE PIPING PLAN
SCALE: 1/2" = 1'-0"



A3 BOILER PLANT STEAM AND CONDENSATE PIPING PLAN
SCALE: 1/2" = 1'-0"

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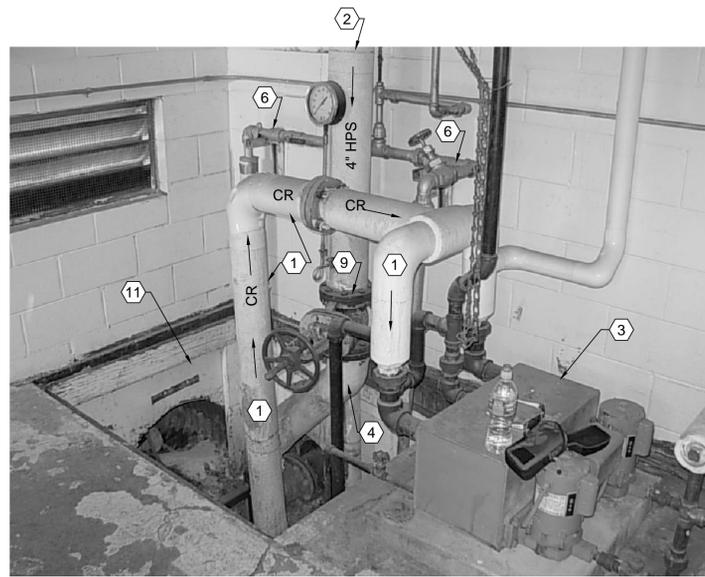
SHEET TITLE
LARGE SCALE MECHANICAL EQUIPMENT ROOM PLANS

SHEET NO.
ME401

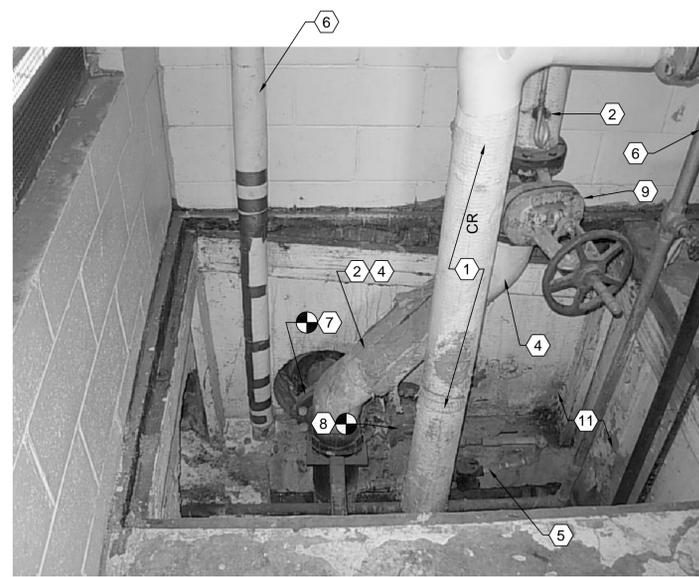
CONSULTANTS



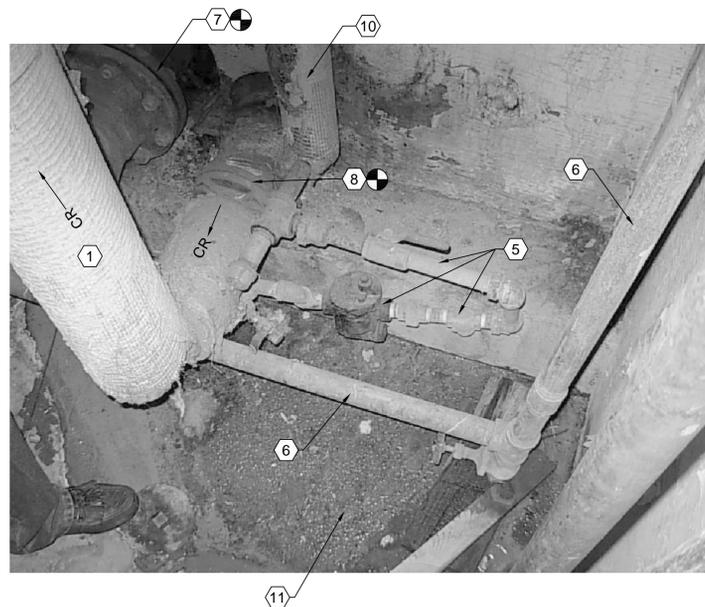
- SHEET NOTES:
- 1 EXISTING CONDENSATE RETURN SHALL REMAIN. REMOVE AND REPLACE INSULATION FROM NEW CONNECTION TO EXISTING PUMP SET RECEIVER.
 - 2 EXISTING 4" HPS FROM STEAM BOILERS.
 - 3 EXISTING CONDENSATE RECEIVER AND PUMP SET SHALL REMAIN.
 - 4 REMOVE AND REPLACE EXISTING INSULATION FROM 4" GATE VALVE TO NEW 6" FLANGE.
 - 5 REMOVE AND REPLACE EXISTING TRAP ASSEMBLY. SEE DETAIL A1/ME502.
 - 6 EXISTING 1-1/4" COLD WATER SUPPLY SHALL REMAIN. PROVIDE NEW INSULATION ON NON-INSULATED PIPING. REMOVE AND REPLACE EXISTING INSULATION ON WATER RISER.
 - 7 CONNECT NEW STEAM PIPING INTO EXISTING 6" FLANGE.
 - 8 CONNECT NEW CONDENSATE RETURN PIPING INTO EXISTING 3" FLANGE.
 - 9 EXISTING 4" GATE VALVE (STEAM) SHALL REMAIN. PROVIDE INSULATION OVER VALVE. SEE SPECIFICATIONS.
 - 10 EXISTING CONDENSATE RETURN TO FLASH TANK SHALL REMAIN. REMOVE AND REPLACE INSULATION TO 2'-0" ABOVE PIT TOP.
 - 11 EXISTING BOILER ROOM PIT.



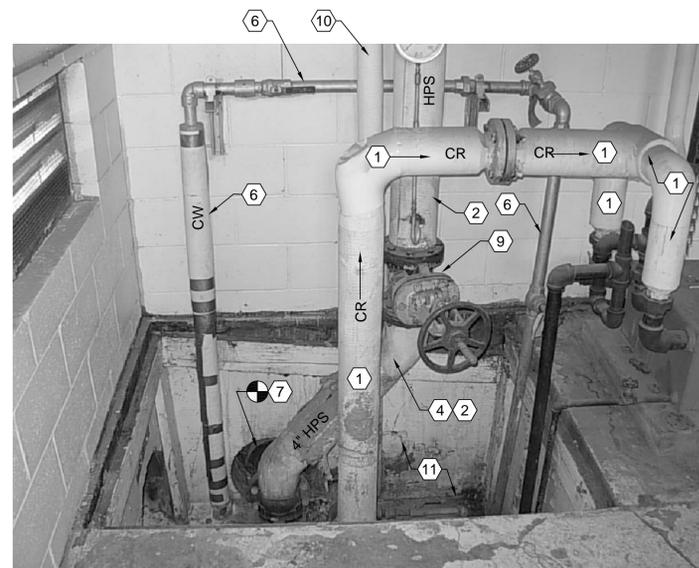
C1 BOILER PLANT LOOKING SOUTHWEST
SCALE: NONE



C3 BOILER PLANT LOOKING DOWN AND WEST
SCALE: NONE



A1 BOILER PLANT LOOKING DOWN AND SOUTH WEST
SCALE: NONE



A3 BOILER PLANT LOOKING WEST
SCALE: NONE

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CHECKED BY:
SLW
DATE:
07/02/09
WHW JOB NO.:
09011

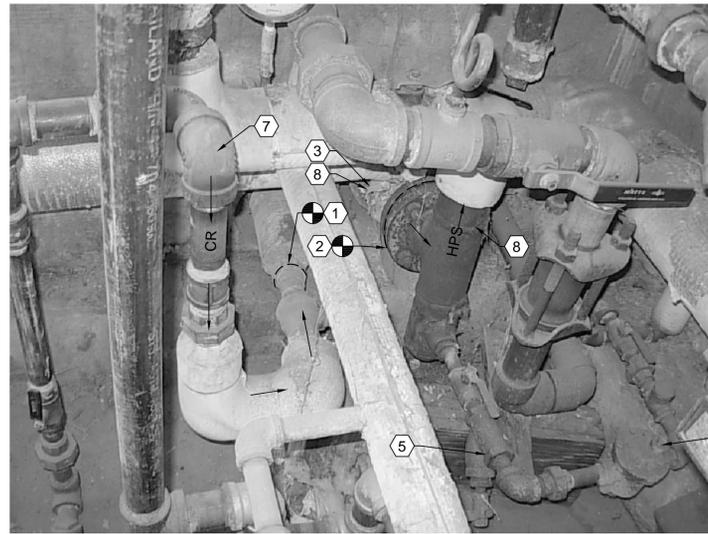


SHEET TITLE

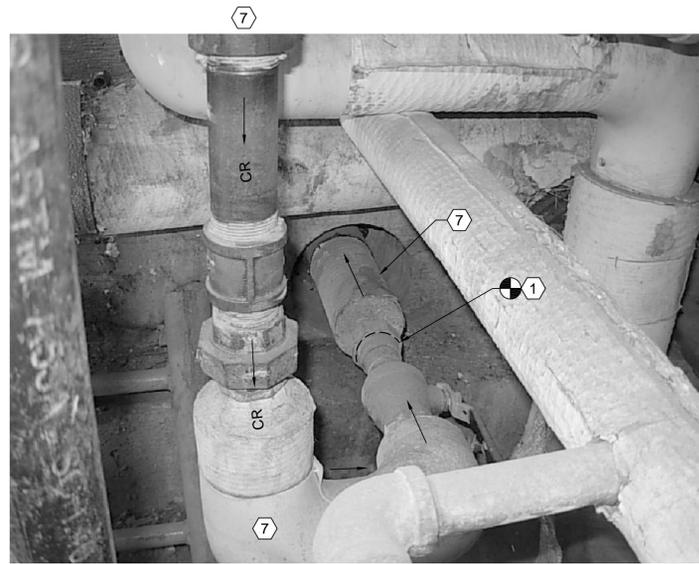
STEAM AND CONDENSATE CONNECTIONS AT BOILER PLANT PHOTOGRAPHS

SHEET NO.

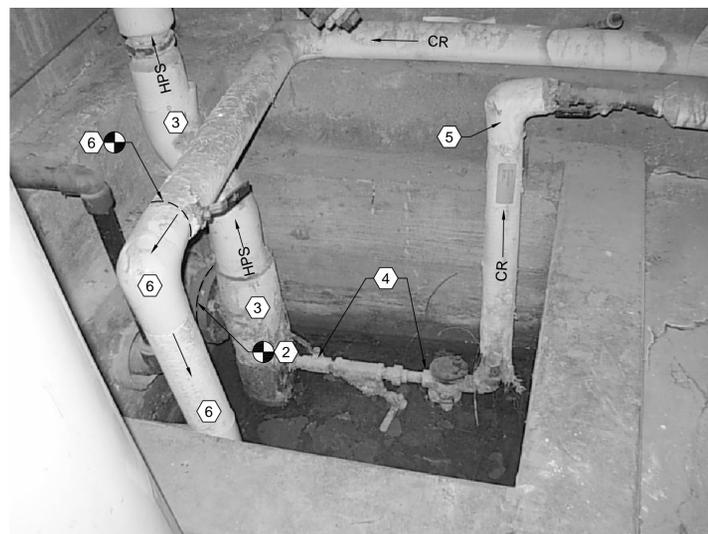
ME402



C1 WAREHOUSE BUILDING LOOKING EAST
SCALE: NONE



C3 WAREHOUSE BUILDING LOOKING EAST
SCALE: NONE



A1 LAB AND PAINT BUILDING LOOKING EAST
SCALE: NONE



A3 LAB AND PAINT BUILDING LOOKING NORTH EAST
SCALE: NONE

- SHEET NOTES:**
- ① CONNECT NEW CONDENSATE RETURN TO EXISTING UNION. REMOVE AND REPLACE EXISTING INSULATION. PROVIDE NEW INSULATION ON NON-INSULATED PIPING.
 - ② CONNECT NEW 3" STEAM PIPING INTO EXISTING 3" FLANGE.
 - ③ REMOVE AND REPLACE INSULATION ON STEAM PIPING FROM NEW CONNECTION TO ABOVE PIT.
 - ④ REMOVE AND REPLACE EXISTING TRAP ASSEMBLY WITH NEW PIPING, TRAP, BALL VALVES, STRAINER AND UNIONS.
 - ⑤ REMOVE AND REPLACE INSULATION WITH NEW FROM TRAP ASSEMBLY TO BALL VALVE.
 - ⑥ REMOVE AND REPLACE EXISTING CONDENSATE RETURN PIPE FROM EXISTING VALVE TO WALL PENETRATION.
 - ⑦ REMOVE AND REPLACE THIS PORTION OF INSULATION AND ADD INSULATION TO NEW INSULATED CR PIPING.
 - ⑧ INSULATE NEW STEAM PIPING TO UNION AND FROM TEE TO EXISTING INSULATION.

CONSULTANTS



PROJECT NAME & ADDRESS

**UTAH DEPARTMENT
OF TRANSPORTATION
STEAM AND
CONDENSATE PIPE
REPLACEMENT
DFCM #09095900**

Price, Utah

MARK	DATE	REVISION

PROJECT MANAGER:
WP
DRAWN BY:
LGD
CHECKED BY:
SLW
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07/02/09
WHW JOB NO.:
09011



SHEET TITLE
**STEAM AND CONDENSATE
CONNECTIONS AT
BUILDINGS PHOTOGRAPHS**

SHEET NO.
ME403

CONSULTANTS



PROJECT NAME & ADDRESS

**UTAH DEPARTMENT OF TRANSPORTATION
STEAM AND CONDENSATE PIPE REPLACEMENT
DFCM #09095900**

Price, Utah

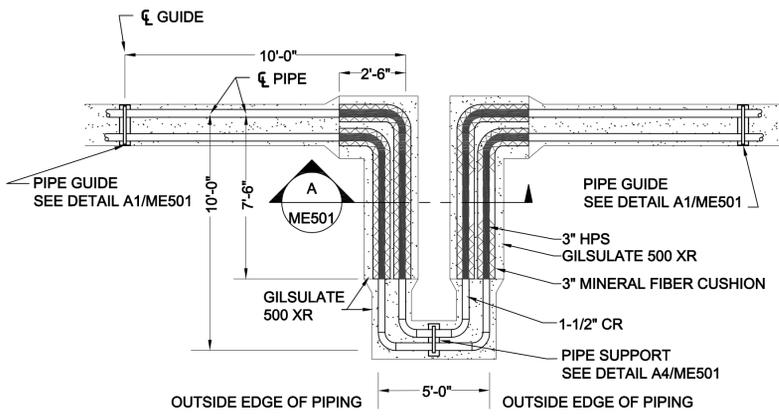
MARK	DATE	REVISION

PROJECT MANAGER:
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LGD
CHECKED BY:
SLW
DATE:
07/02/09
WHW JOB NO.:
09011
SHEET TITLE

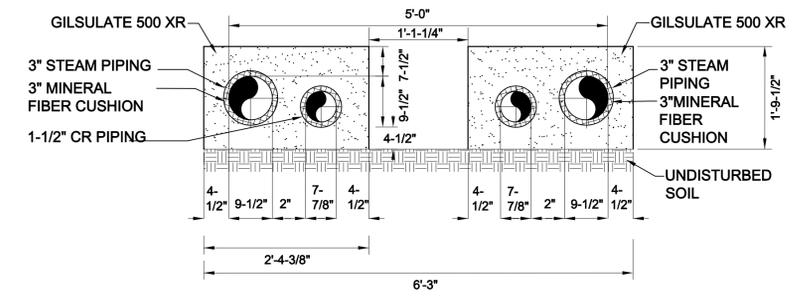


MECHANICAL DETAILS AND SCHEDULES

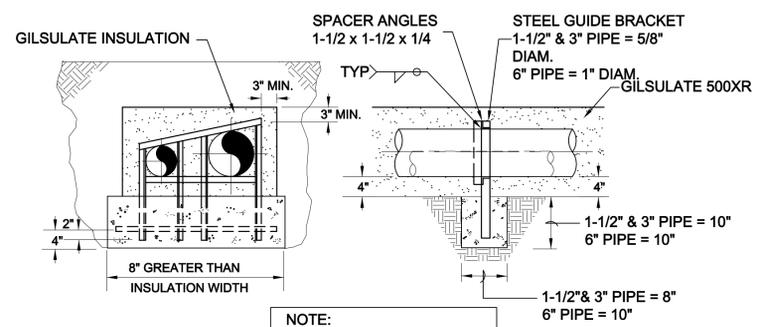
SHEET NO. **ME501**



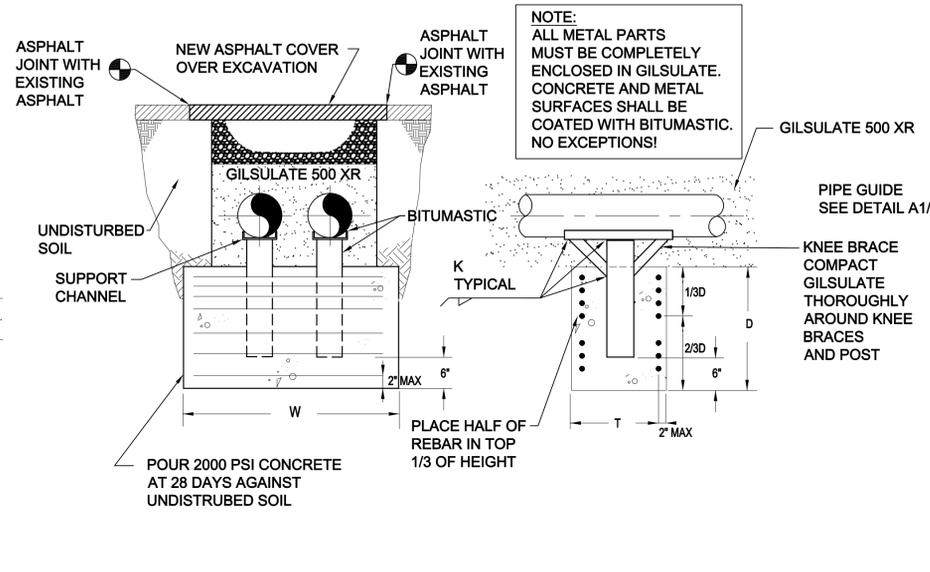
C1 3" STEAM 1-1/2" CONDENSATE EXPANSION LOOP #1 DETAIL
SCALE: NONE



A 3" HPS & 1-1/2" CR SECTION
SCALE: NONE



A1 DIRECT BURIED PIPING GUIDE DETAIL
SCALE: NONE



C3 DIRECT BURIED PIPING ANCHOR DETAIL
SCALE: NONE

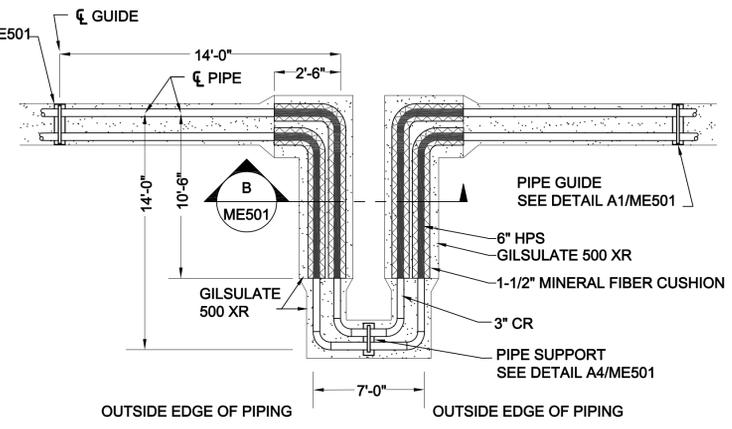
ANCHOR SCHEDULE						
ANCHOR NUMBER	MAX. UNBALANCED PIPE SURFACE AREA SQ. FT.	W (INCHES)	D (INCHES)	T (INCHES)	NO. OF REBARS EA SIDE	SIZE OF REBARS NO.
1	160	44	24	14	7	3
2	160	44	24	14	7	3
3	160	44	24	14	7	3
4	220	52	28	16	9	3
5	60	28	16	10	4	3
6	60	28	16	10	4	3
7	100	36	20	12	5	3

END ANCHOR SCHEDULE					
PIPE SIZE	SUPPORT CHANNEL		ANCHOR POST I BEAM	KNEE BRACE	FILLET K INCHES
	CHANNEL	L (INCHES)			
1-1/2 TO 2"	NR		5 10.0	NR	1/4"
3"	NR		5 14.75	NR	1/4"
4"	4 5.4	26"	5 14.75	* 2-1/2"Ø	1/4"
6"	5 6.7	28"	6 17.25	* 3"Ø	5/16"

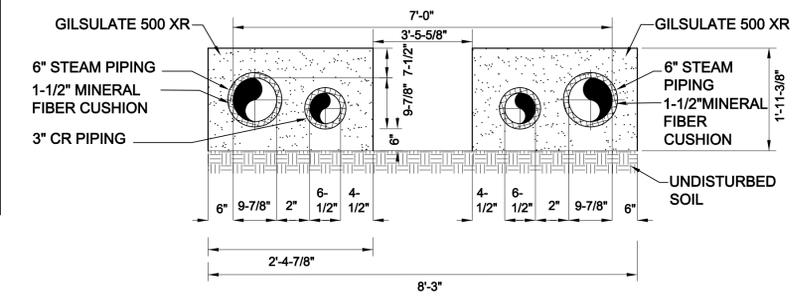
NR = NOT REQUIRED
* = PIPE DIA. SCH 40

INTERMEDIATE ANCHOR SCHEDULE					
PIPE SIZE	SUPPORT CHANNEL		ANCHOR POST I BEAM	KNEE BRACE	FILLET K INCHES
	CHANNEL	L (INCHES)			
1-1/2 TO 2"	NR		4 7.7	NR	1/4"
3"	NR		5 10.0	NR	1/4"
4"	NR		6 12.5	NR	1/4"
6"	NR		8 18.4	NR	1/4"

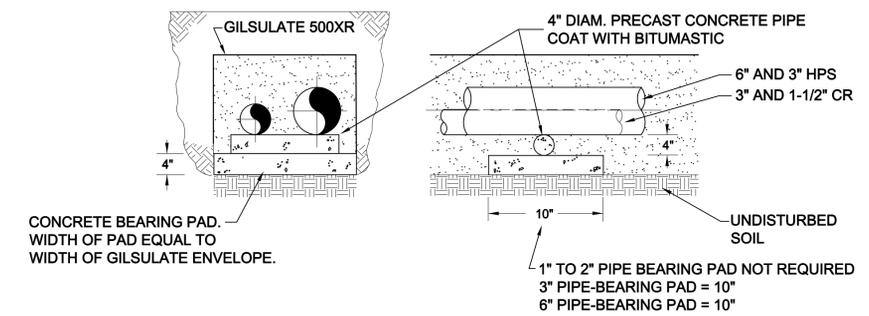
NR = NOT REQUIRED



C4 6" STEAM 3" CONDENSATE EXPANSION LOOP #2 DETAIL
SCALE: NONE



B 6" HPS & 3" CR SECTION
SCALE: NONE



A4 DIRECT BURIED PIPE SUPPORT AT EXPANSION LOOP DETAIL
SCALE: NONE

CONSULTANTS



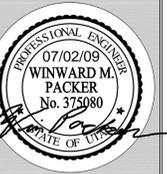
PROJECT NAME & ADDRESS

**UTAH DEPARTMENT
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STEAM AND
CONDENSATE PIPE
REPLACEMENT
DFCM #09095900**

Price, Utah

MARK	DATE	REVISION

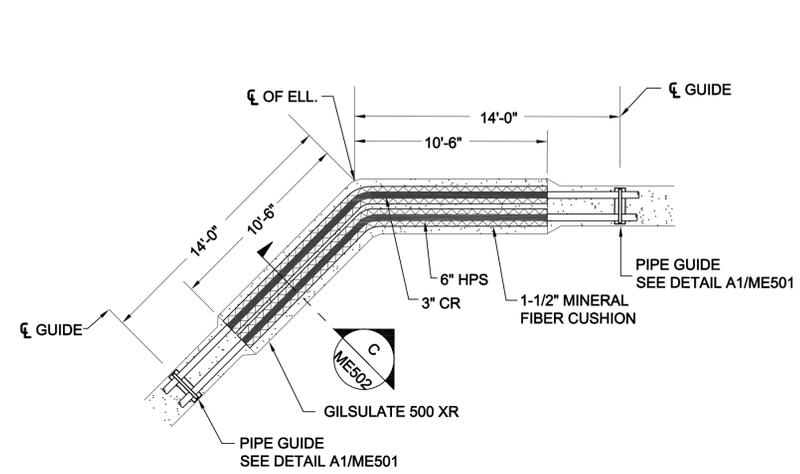
PROJECT MANAGER:
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09011
SHEET TITLE



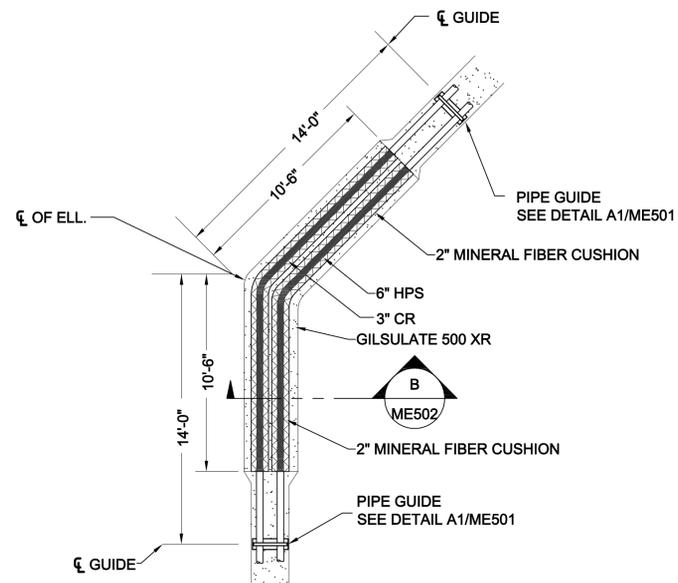
**MECHANICAL DETAILS
AND SCHEDULES**

SHEET NO.

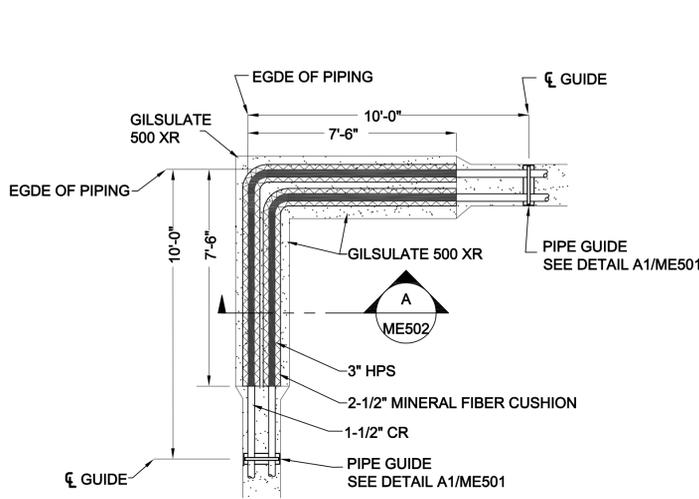
ME502



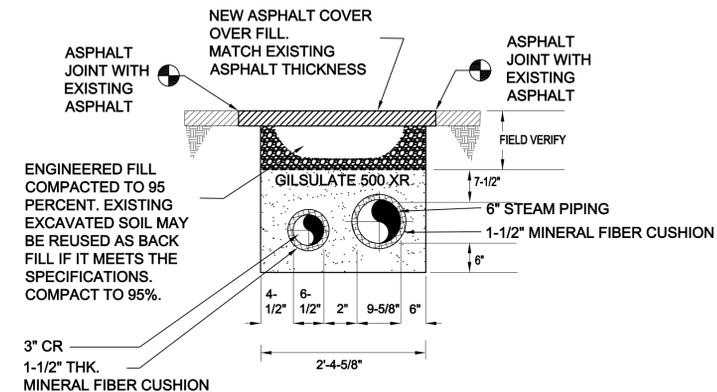
C4 ELBOW EXPANSION #3 DETAIL
SCALE: NONE



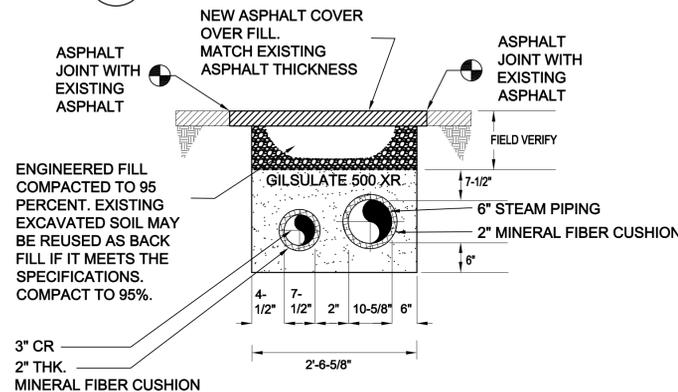
C2 ELBOW EXPANSION #2 DETAIL
SCALE: NONE



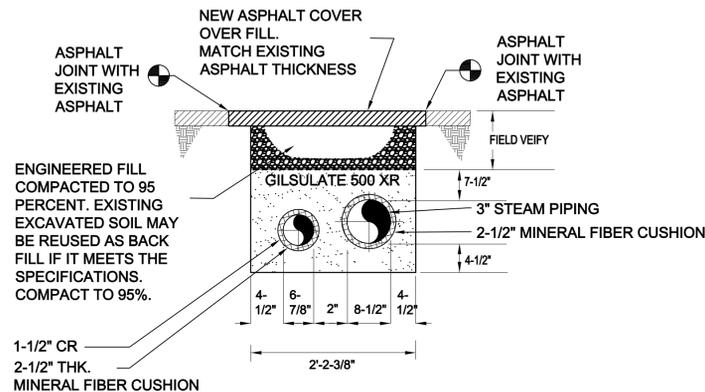
C1 ELBOW EXPANSION #1 DETAIL
SCALE: NONE



C SECTION DETAIL
SCALE: NONE



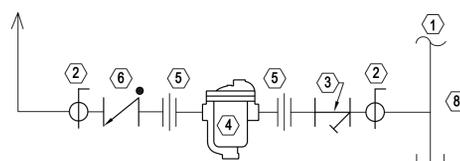
B SECTION DETAIL
SCALE: NONE



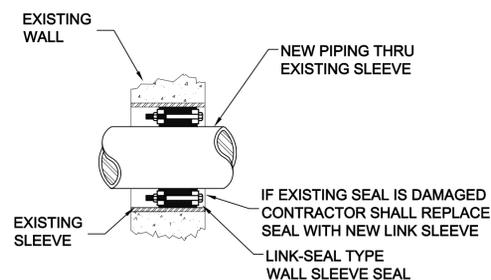
A SECTION DETAIL
SCALE: NONE

DETAIL NOTES:

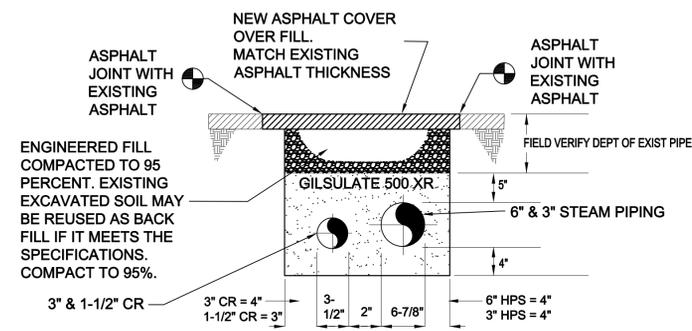
- ① DRIP LEG-FULL SIZE
- ② BALL VALVE
- ③ STRAINER TURNED ON SIDE
- ④ BUCKET STEAM TRAP SEE SPECIFICATIONS
- ⑤ UNION
- ⑥ CHECK VALVE
- ⑦ TO CONDENSATE PUMP
- ⑧ DRIP LEG WITH CAP



A1 BUCKET TRAP DETAIL
SCALE: NONE



A2 PIPE PENETRATION THROUGH WALL DETAIL
SCALE: NONE



**A4 TYPICAL GILSULATE
INSTALLATION WITHOUT CUSHION DETAIL**
SCALE: NONE