STEAM TUNNEL AT 2" AND 6" PIPE SUPPORTS

THK INSULATION 1"

LP. CONDENSATE PIPE

UNISTRUT (TYP)

CONCRETE IMBED

SECTION TYP. SECTION THRU STEAM TUNNEL AT 2" AND 6" PIPE SUPPORTS

THK INSULATION 6"

LP. CONDENSATE PIPE

PIPE GUIDE

1" THK INSULATION

1.5" THK INSULATION

2" H.P. CONDENSATE PIPE

NOTE: ACTUAL GUIDE PLACEMENT IS SHOWN ON DWGS. ST-P101 THRU ST-P113.

PIPE GUIDE DETAIL TYP. SECTION THRU STEAM TUNNEL AT PIPE GUIDES

SCALE IN FEET

PIPE GUIDE DETAIL SECTION

PIPE GUIDE DETAIL SECTION

PIPE GUIDE DETAIL SECTION
NOTE: ACTUAL GUIDE PLACEMENT IS SHOWN ON DWGS. ST-P101 THRU ST-P109.

SECTION
TYP. SECTION THRU SHALLOW STEAM TUNNEL AT PIPE SUPPORTS

SCALE IN FEET

5'-4" THK INSULATION
14" STEAM PIPE

1" THK INSULATION
6" LP. CONDENSATE PIPE

CONCRETE IMBED UNISTRUT (TYP)

1685x1457

1695x1457

1695x1457

1695x1457
**HIGH PRESSURE CONDENSATE RETURN**

2"x2"x3/4"
REDUCING TEE

**STEAM VAULT DRAIN POCKET ASSEMBLY**
FOR STEAM TUNNEL

**STEAM VAULT SUMP PUMP DETAIL**

NOTES:
1. REFER TO PIPE SPEC ART. DWG. ST-P020, FOR STEAM AND CONDENSATE PIPE MATERIAL.
2. CONDENSATE PIPE INSULATION IS 1.5 IN. THICK MINERAL WOOL.

**STEAM VAULT SUMP PUMP DETAILS**

**APPLICABLE VAULTS**

1. 14" STEAM PIPE

**APPLICATION**

- 1/2" IPNE VALVE
- 1-1/2" REDUCING TEE
- 3/4" STEAM PIPE

**TYP. DRAIN POCKET**
LEVEL SWITCH DETAIL

**SCALE IN FEET**

NOTE: VAULT IS NOT CONTROL VAULT. DRAIN HOSE CAN FILL VAULT OR STEAM PIPING IF VAULT FILL HOSE. DRAIN VALUES AT NOSE. DRAIN VALVES WILL BE INCREASED TO 1/2" TO FACILITATE QUICK DRAIN SERVICE.

**STEAM VAULT DRAIN POCKET ASSEMBLY**
FOR STEAM TUNNEL

**STEAM VAULT SUMP PUMP DETAIL**

**APPPLICABLE VAULTS**

1. 14" STEAM PIPE

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TUNNEL PIPE SUPPORT METHOD:

14" STEAM PIPING SHALL BE SUPPORTED BY DOUBLE UNISTRUT AND PIPE SHOE EVERY 30 FEET. PIPE SHOE BE FIXED AT MAXIMUM 10 FEET APART.

6" CONDENSATE PIPING SHALL BE SUPPORTED BY SINGLE UNISTRUT AND PIPE SHOE EVERY 10 FEET AND DOUBLE UNISTRUT EVERY 30 FEET. PIPE GUIDES SHALL BE POSITIONED A MAXIMUM OF 60 FEET APART.

2" CONDENSATE PIPING SHALL BE SUPPORTED BY SINGLE UNISTRUT EVERY 10 FEET AND DOUBLE UNISTRUT EVERY 30 FEET. PIPE GUIDES SHALL BE POSITIONED A MAXIMUM OF 20 FEET APART.

INSULATION WILL BE WRAPPED IN 18 GAUGE STEEL TO SUPPORT PIPING ON UNISTRUT A MAXIMUM OF 20 FEET APART. THERE SHALL BE 3 TO 4 PIPE GUIDES PLACED NEXT TO EXPANSION JOINT, THE PIPE GUIDES THEREAFTER WILL BE CONSTRUCTED WITH UNISTRUT.
PIPE GUIDE STA. 50+66.50
STA. 50+50

PIPE GUIDE STA. 50+24.40

STA. 49+75

PIPE SUPPORTS STA. 50+96.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 50+86.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 50+76.50
SEE SECTION K, DWG. ST-P013

PIPE SUPPORTS STA. 50+66.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 50+56.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 50+46.50
SEE SECTION K, DWG. ST-P013

PIPE SUPPORTS STA. 50+36.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 50+26.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 50+16.50
SEE SECTION K, DWG. ST-P013

PIPE SUPPORTS STA. 50+06.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 49+96.50
SEE SECTION L, DWG. ST-P013

PIPE SUPPORTS STA. 49+86.50
SEE SECTION K, DWG. ST-P013

PIPE SUPPORTS STA. 49+76.50
SEE SECTION L, DWG. ST-P013

SEE DWG. ST-P112 FOR CONTINUATION
SEE DWG. ST-P150 FOR CONTINUATION

PIPE SUPPORT STA. 4+15.00
SEE SECTION C, DWG. ST-P015

MATCHLINE A-A
SEE MATCHLINE A-A (SECTION-A-A) FOR CONTINUATION

STA. 6+00

PIPE SUPPORT STA. 6+00
SEE SECTION D, DWG. ST-P015

STA. 6+15.00

PIPE SUPPORT STA. 6+15.00
SEE SECTION D, DWG. ST-P015

STA. 6+20.00

PIPE SUPPORT STA. 6+20.00
SEE SECTION D, DWG. ST-P015

STA. 6+10.00

PIPE SUPPORT STA. 6+10.00
SEE SECTION D, DWG. ST-P015

STA. 6+50.00

PIPE SUPPORT STA. 6+50.00
SEE SECTION D, DWG. ST-P015

STA. 7+15.00

PIPE SUPPORT STA. 7+15.00
SEE SECTION D, DWG. ST-P015

STA. 7+20.00

PIPE SUPPORT STA. 7+20.00
SEE SECTION D, DWG. ST-P015

STA. 7+40.00

PIPE SUPPORT STA. 7+40.00
SEE SECTION D, DWG. ST-P015

STEAM TUNNEL PIPING PLAN TO CARMEN HALL
STA. 4+20 TO STA. 5+20

STA. 5+15.00

NEW DOME UNIT SUPPORT, INC.

CARMEN HALL

STEAM TUNNEL PIPING PLAN TO CARMEN HALL
STA. 5+15.00 TO STA. 7+14.45

SCALE IN FEET

ST-P151
NOTE:
FOR VAULT NO. 7 PIPE SUPPORTS
SEE DWG. ST-S209

SUMP

T.O.C. EL. 682-2"
ST-P207

PIPE GUIDE
ON HOLD
SEE DETAIL A-A
SEE DWG. ST-P020
FOR STEAM DRIP
POCKET ASSEMBLY DETAILS

GRADE
MANWAY
GRADE II
MANWAY

STEAM TUNNEL
14-STM07-AB1
PIPE GUIDE
6-C45-AB1
PIPE SUPPORT
STEAM TUNNEL
VAULT NO. 13
SEE DWG. ST-P112 FOR LOCATION

VOULT NO. 13
SUMP
PIPE SUPPORT
PIPE SUPPORT
PIPE SUPPORT
SUMP

SCALE IN FEET
SCALE IN FEET

NOTE:
FOR VAULT NO. 13
PIPE SUPPORTS
SEE DWG. ST-S215

STEAM TUNNEL VAULT NO. 13
SEE DWG. ST-P113 FOR LOCATION

1 0 1 2
3 4 5 6 7
SCALE IN FEET

CONNECTION DETAIL
to existing
university on hold

STEAM TUNNEL
CORNER NO. 4

STEAM TUNNEL
CORNER NO. 4

ENGINEERS — ARCHITECTS — TECHNICIANS
DESIGN — CONSTRUCTION — FIELD SERVICE
(913) 681-2881
16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000
Illinois License # 184-000823

WESTERN ILLINOIS UNIVERSITY — EI UNIVERSITY
EIU PROJECT #: 10-4535
EASTERN ILLINOIS UNIVERSITY
EIU RENEWABLE ENERGY CENTER
STEAM TUNNEL/VAULT PIPING
VAULT NO. 13, CORNER NO. 4, AND UNIVERSITY CONNECTION
DESIGN BY:
C. WARD
DRAWN BY:
C. HAYTON
CLIENT I.D.
H0N00103
CHECKED BY:
S. WOPATA
DATE:
4-12-10
SEGA PROJECT NO.
090140
CADD FILE NAME: 09140-ST-P207

NOTES:
1. PIPE INSULATION NOT SHOWN FOR CLARITY.

ST-P207

REV. B

6/7/10 4:33pm dsessler
### Expansion Joint List (Steam Tunnel)

<table>
<thead>
<tr>
<th>TAG</th>
<th>SIZE</th>
<th>TYPE</th>
<th>HYDRAULIC PART NO.</th>
<th>MAX COMPRESSION</th>
<th>DESIGN PRESSURE</th>
<th>END CONFIG.</th>
<th>SERVICE (FLUID)</th>
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<td>EH12</td>
<td>1 1/2</td>
<td>SINGLE</td>
<td>SWKAB-80</td>
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**NOTE:**

Steam pipe in steam tunnel may be ASTM A53-grade B ERW.
FOUNDATION PLAN - VAULT 1

SECTION A

BASE FOUNDATION PLAN - VAULT 1

SECTION B

NOTES:

1. SEE DWG. FOUNDATION VAULT ST-S100

2. DWG. DETAILS

ST-S111
NOTES:

1. FOR VAULT FOUNDATION CALLOUTS SEE DWG. ST-S111 THRU ST-S108.

2. FOR TYPICAL VAULT FOUNDATION DETAILS SEE DWG. ST-S130.