



U.S. Department of Energy  
**Office of River Protection**

P.O. Box 450, MSIN H6-60  
Richland, Washington 99352

0098433

AUG 22 2011

11-ESQ-194

Ms. Jane A. Hedges, Program Manager  
Nuclear Waste Program  
Washington State  
Department of Ecology  
3100 Port of Benton Blvd.  
Richland, Washington 99354

Dear Ms. Hedges:

SUBMITTAL OF HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY  
ACT (RCRA) PERMIT MODIFICATION NOTIFICATION FORM 24590-PTF-PCN-ENV-11-  
005

Reference: WA7890008967, "Dangerous Waste Portion of the Hanford Facility Resource  
Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of  
Dangerous Waste, Part III, Operating Unit 10, 'Waste Treatment and  
Immobilization Plant.'"

This letter transmits Hanford Facility RCRA Permit Modification Notification Form 24590-PTF-  
PCN-ENV-11-005, attached, for the Washington State Department of Ecology (Ecology) review  
and approval. The form describes a requested Class 1 modification requiring concurrence or  
approval to the Reference.

Modification Notification Form 24590-PTF-PCN-ENV-11-005 submits Pretreatment Facility  
Piping and Instrumentation Diagrams (P&ID) for incorporation into Appendix 8.2 of the  
Dangerous Waste Permit. The P&IDs are not replacements for previously permitted P&IDs but  
incorporate advanced High-Level Waste Lag Storage and Feed Blending Process (HLP) system  
design details to the permitted HLP system.

Ecology was provided an opportunity to review the modification notification form and the  
associated information and comments were dispositioned.

Ms. Jane A. Hedges  
11-ESQ-194

-2-

AUG 22 2011

If you have any questions, please contact me, or your staff may contact Gae M. Neath, Office of Environmental Safety and Quality, (509) 376-7828.

Sincerely,



Paul G. Harrington, Acting Assistant Manager  
Office of Environmental Safety and Quality

ESQ:GMN

Attachment

cc w/attach:

B. L. Curn, BNI  
B. G. Erlandson, BNI  
P. A. Fisher, BNI  
S. K. Murdock, BNI  
F. M. Russo, BNI  
J. F. Schneider, BNI

Administrative Record (WTP H-0-8)

BNI Correspondence  
Environmental Portal, LMSI

cc electronic:

R. K. Biyani, Ecology  
J. Cantu, Ecology (2 hard copies)  
A. S. Carlson, Ecology  
M. E. Jones, Ecology  
J. F. Ollero, MSA  
A. C. McKarns, RL  
D. J. Sommer, SCS

cc w/o attach:

D. M. Busche, BNI  
J. Cox, CTUIR  
S. G. Harris, CTUIR  
S. L. Dahl, Ecology  
D. McDonald, Ecology  
G. P. Bohnee, NPT  
K. Niles, Oregon Energy  
S. R. Weil, RL  
R. Jim, YN



Attachment  
11-ESQ-194  
(11 Pages)

Hanford Facility RCRA Permit Modification Notification  
Form 24590-PTF-PCN-ENV-11-005

Quarter Ending 09/30/2011

24590-PTF-PCN-ENV-11-005

**Hanford Facility RCRA Permit Modification Notification Form**

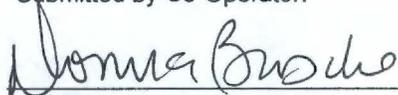
**Part III, Operating Unit 10**

**Waste Treatment and Immobilization Plant**

Index

Page 2 of 2: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant  
Update PTF Piping and Instrumentation Diagrams (P&ID) to incorporate new Pulse Jet Mixer (PJM) utility racks for HLP-VSL-00022.

Submitted by Co-Operator:



D. M. Busche

7/28/11

Date

Reviewed by QRP Program Office:



D. L. Noyes

8/17/11

Date

Quarter Ending 09/30/2011

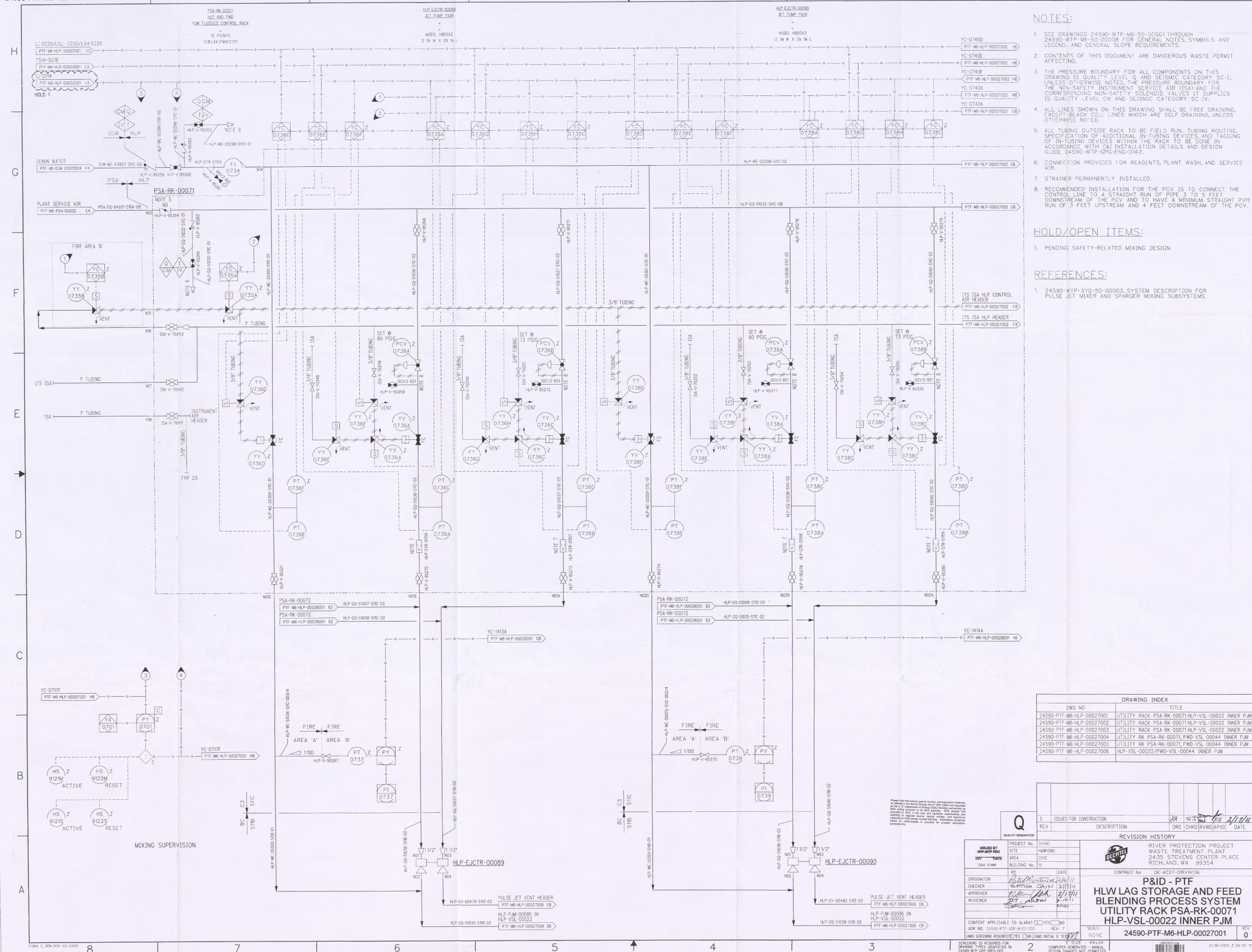
24590-PTF-PCN-ENV-11-005

<b>Hanford Facility RCRA Permit Modification Notification Form</b>				
Unit:	Permit Part:			
<b>Waste Treatment and Immobilization Plant</b>	<b>Part III, Operating Unit 10</b>			
<u>Description of Modification:</u>				
<p>The purpose of this Class 1 prime modification is to incorporate the following P&amp;IDs for the PTF into Appendix 8.2 of the DWP. The P&amp;IDs are not replacements for previously permitted P&amp;IDs but incorporate advanced HLP system design details to the permitted HLP system. These partial changes incorporate M3 design input requirements for increased number, arrangement, and performance of PJMs. The P&amp;IDs support erosion hold vessel permitting efforts and include advanced design details on utility racks.</p>				
<b>Appendix 8.2</b>				
24590-PTF-M6-HLP-00027001	Rev.0			
24590-PTF-M6-HLP-00027002	Rev.0			
24590-PTF-M6-HLP-00027003	Rev.0			
24590-PTF-M6-HLP-00027004	Rev.0			
24590-PTF-M6-HLP-00027005	Rev.0			
24590-PTF-M6-HLP-00027006	Rev.0			
24590-PTF-M6-HLP-00028004	Rev.0			
24590-PTF-M6-HLP-00028005	Rev.0			
24590-PTF-M6-HLP-00028006	Rev.0			
<p>The change document 24590-PTF-M6LN-HLP-00044 has not been incorporated into this modification and applies to the following P&amp;IDs:</p> <ul style="list-style-type: none"> <li>• 24590-PTF-M6-HLP-00027001</li> <li>• 24590-PTF-M6-HLP-00027002</li> <li>• 24590-PTF-M6-HLP-00027003</li> <li>• 24590-PTF-M6-HLP-00027006</li> </ul>				
WAC 173-303-830 Modification Class:	Class 1	Class <sup>1</sup> 1	Class 2	Class 3
Please mark the Modification Class:		X		
<p>Enter relevant WAC 173-303-830, Appendix I Modification citation number:      NA</p> <p>Enter wording of WAC 173-303-830, Appendix I Modification citation:</p> <p>In accordance with WAC 173-303-830(4)(d)(i), this modification notification is requested to be reviewed and approved as a Class <sup>1</sup>1 modification. WAC 173-303-830(4)(d)(ii)(A) states, "Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the director may require prior approval."</p>				
Modification Approved/Concur: <input type="checkbox"/> Yes <input type="checkbox"/> Denied (state reason below) Reason for denial:	Reviewed by Ecology:			
	J. J. Wallace		Date	



# Patch II

24590-PTF-M6-HLP-00027001



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-1, UNLESS OTHERWISE NOTED. THE PRESSURE BOUNDARY FOR THE NON-SAFETY INSTRUMENT SERVICE AIR (ISA) AND THE CORRESPONDING NON-SAFETY SOLENOID VALVES IT SUPPLIES IS QUALITY LEVEL QV AND SEISMIC CATEGORY SC-1V.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, EXCEPT BLACK CELL LINES WHICH ARE SELF DRAINING, UNLESS OTHERWISE NOTED.
  - ALL TUBING OUTSIDE RACK TO BE FIELD RUN. TUBING ROUTING, SPECIFICATION OF ADDITIONAL IN-TUBING DEVICES, AND TAGGING OF IN-TUBING DEVICES WITHIN THE RACK TO BE DONE IN ACCORDANCE WITH C&I INSTALLATION DETAILS AND DESIGN GUIDE 24590-WTP-GPG-ENG-0142.
  - CONNECTION PROVIDED FOR REAGENTS, PLANT WASH, AND SERVICE AIR.
  - STRAINER PERMANENTLY INSTALLED.
  - RECOMMENDED INSTALLATION FOR THE PCV IS TO CONNECT THE CONTROL LINE TO A STRAIGHT RUN OF PIPE 3 TO 5 FEET DOWNSTREAM OF THE PCV AND TO HAVE A MINIMUM STRAIGHT PIPE RUN OF 3 FEET UPSTREAM AND 4 FEET DOWNSTREAM OF THE PCV.

- HOLD/OPEN ITEMS:**
- PENDING SAFETY-RELATED MIXING DESIGN.

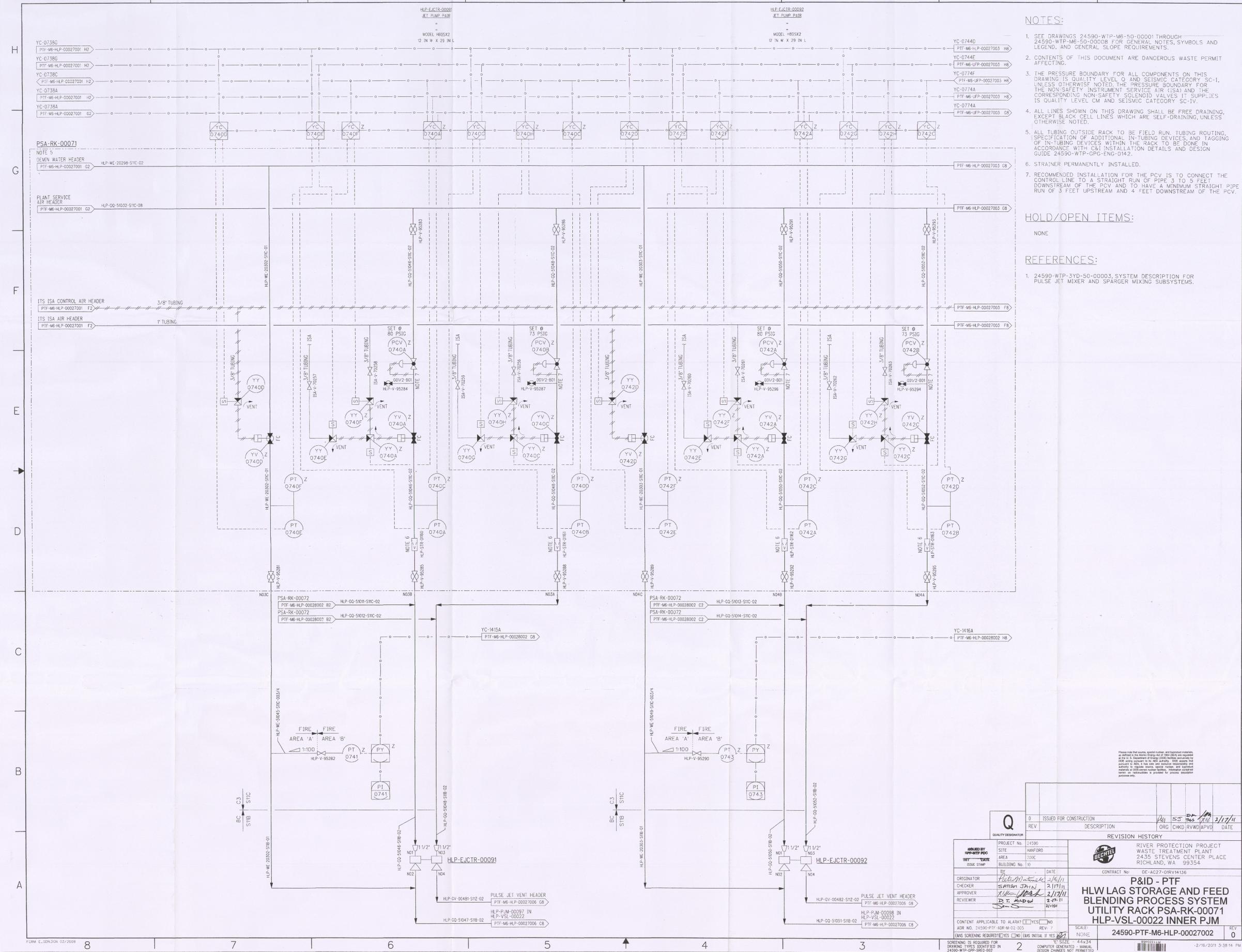
- REFERENCES:**
- 24590-WTP-3YD-50-00003, SYSTEM DESCRIPTION FOR PULSE JET MIXER AND SPARGER MIXING SUBSYSTEMS.

DWG NO	TITLE
24590-PTF-M6-HLP-00027001	UTILITY RACK PSA-RK-00071/HLP-VSL-00022 INNER PJM
24590-PTF-M6-HLP-00027002	UTILITY RACK PSA-RK-00071/HLP-VSL-00022 INNER PJM
24590-PTF-M6-HLP-00027003	UTILITY RACK PSA-RK-00071/HLP-VSL-00022 INNER PJM
24590-PTF-M6-HLP-00027004	UTILITY RACK PSA-RK-00071/PWD-VSL-00044 INNER PJM
24590-PTF-M6-HLP-00027005	UTILITY RACK PSA-RK-00071/PWD-VSL-00044 INNER PJM
24590-PTF-M6-HLP-00027006	HLP-VSL-00022/PWD-VSL-00044 INNER PJM

<p>ISSUED FOR CONSTRUCTION</p>		<p>DATE: 2/17/11</p>
<p>REVISION HISTORY</p>		
REV	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	2/17/11

<p>PROJECT NO: 24590</p> <p>SITE: HANFORD</p> <p>AREA: 200E</p> <p>BUILDING NO: 30</p>	<p>CONTRACT NO: DE-AC27-01RV14136</p>
<p><b>P&amp;ID - PTF</b></p> <p><b>HLW LAG STORAGE AND FEED</b></p> <p><b>BLENDED PROCESS SYSTEM</b></p> <p><b>UTILITY RACK PSA-RK-00071</b></p> <p><b>HLP-VSL-00022 INNER PJM</b></p>	
<p>SCALE: NONE</p>	<p>24590-PTF-M6-HLP-00027001</p>



- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-I. UNLESS OTHERWISE NOTED, THE PRESSURE BOUNDARY FOR THE NON-SAFETY INSTRUMENT SERVICE AIR (ISA) AND THE CORRESPONDING NON-SAFETY SOLENOID VALVES IT SUPPLIES IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV.
  - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, EXCEPT BLACK CELL LINES WHICH ARE SELF-DRAINING, UNLESS OTHERWISE NOTED.
  - ALL TUBING OUTSIDE RACK TO BE FIELD RUN. TUBING ROUTING, SPECIFICATION OF ADDITIONAL IN-TUBING DEVICES, AND TAGGING OF IN-TUBING DEVICES WITHIN THE RACK TO BE DONE IN ACCORDANCE WITH CMI INSTALLATION DETAILS AND DESIGN GUIDE 24590-WTP-GPG-ENG-0142.
  - STRAINER PERMANENTLY INSTALLED.
  - RECOMMENDED INSTALLATION FOR THE PCV IS TO CONNECT THE CONTROL LINE TO A STRAIGHT RUN OF PIPE 3 TO 5 FEET DOWNSTREAM OF THE PCV AND TO HAVE A MINIMUM STRAIGHT PIPE RUN OF 3 FEET UPSTREAM AND 4 FEET DOWNSTREAM OF THE PCV.

**HOLD/OPEN ITEMS:**  
NONE

- REFERENCES:**
- 24590-WTP-3YD-50-00003, SYSTEM DESCRIPTION FOR PULSE JET MIXER AND SPARGER MIXING SUBSYSTEMS.

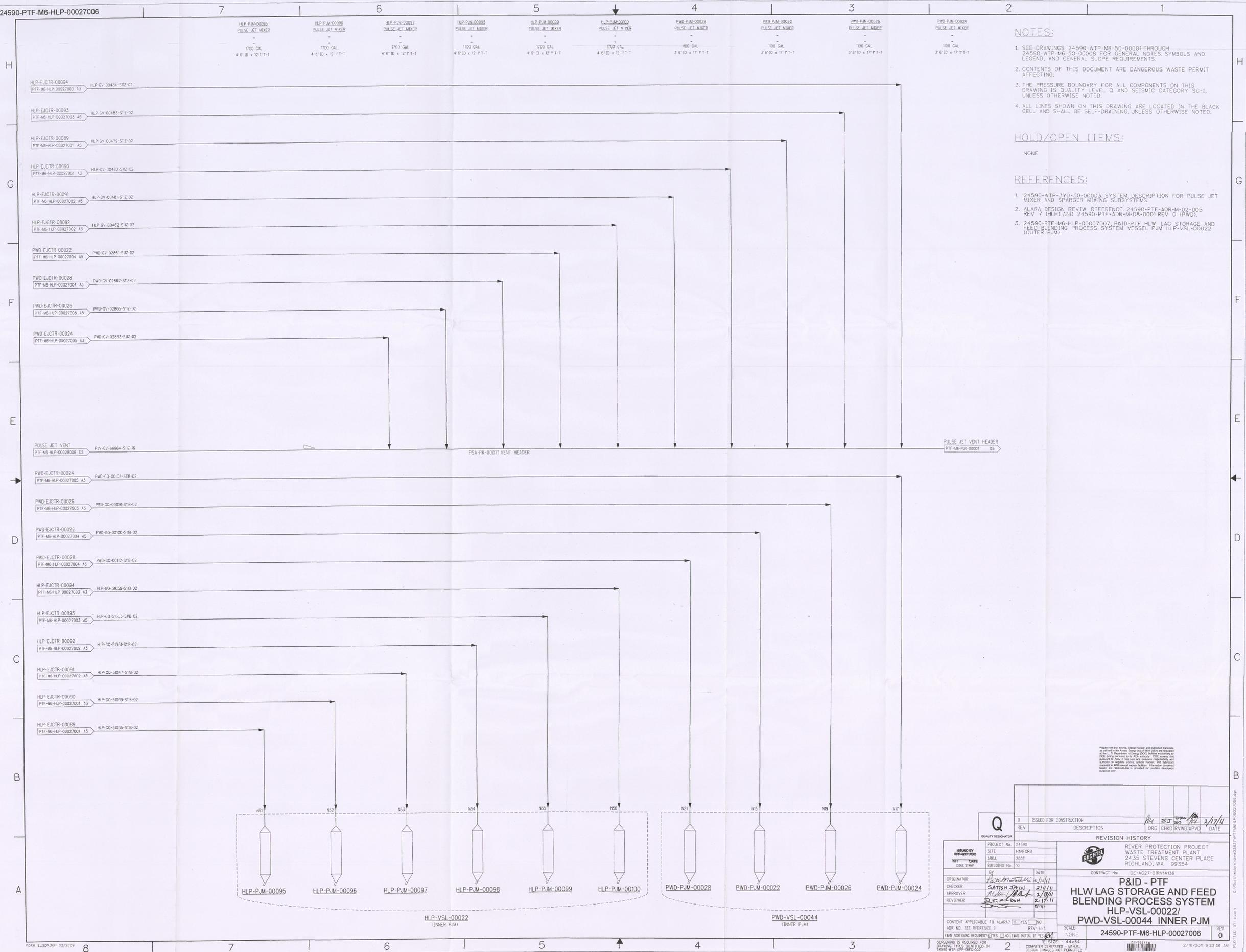
<b>Q</b> 0 ISSUED FOR CONSTRUCTION 1/11/11		2/17/11 2/17/11 2/17/11 2/17/11
REVISION HISTORY ORG (CHKD) (RWD) (APVD) DATE		
PROJECT No: 24590 SITE: HANFORD AREA: 200C BUILDING No: 10		
RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354		
CONTRACT No: DE-AC27-01RV14156		
<b>P&amp;ID - PTF          HLW LAG STORAGE AND FEED          BLENDING PROCESS SYSTEM          UTILITY RACK PSA-RK-00071          HLP-VSL-00022 INNER PJM</b>		
CONTENT APPLICABLE TO ALARA? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ADR NO. 24590-PTF-40R-M-02-303 REV: 7		SCALE: NONE 24590-PTF-M6-HLP-00027002 0







24590-PTF-M6-HLP-00027006



**NOTES:**

1. SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
2. CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
3. THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL 'Q' AND SEISMIC CATEGORY 'SC-1', UNLESS OTHERWISE NOTED.
4. ALL LINES SHOWN ON THIS DRAWING ARE LOCATED IN THE BLACK CELL AND SHALL BE SELF-DRAINING, UNLESS OTHERWISE NOTED.

**HOLD/OPEN ITEMS:**

NONE

**REFERENCES:**

1. 24590-WTP-3YD-50-00003, SYSTEM DESCRIPTION FOR PULSE JET MIXER AND SPARGER MIXING SUBSYSTEMS.
2. ALARA DESIGN REVIEW REFERENCE 24590-PTF-ADR-M-02-005 REV 7 (HLP) AND 24590-PTF-ADR-M-08-0001 REV 0 (PWD).
3. 24590-PTF-M6-HLP-00007007, P&ID-PTF HLW LAG STORAGE AND FEED BLENDING PROCESS SYSTEM VESSEL P&ID HLP-VSL-00022 (OUTER P&ID).

Please note that waste, spent water, and byproduct materials, as defined in the current version of the RCRA, are regulated by the U.S. Department of Energy (DOE) under authority of DOE during periods of its AEA activity. DOE waste that is subject to AEA, in the form of process effluents and sludge, is regulated under DOE orders and technical manuals of DOE nuclear reactor facilities. Information contained herein, or incorporated by reference, is provided for general information purposes only.

<p><b>Q</b> QUALITY DESIGNATOR</p>		<p>ISSUED FOR CONSTRUCTION</p>	<p>DATE: 2/17/11</p>
<p>PROJECT No. 24590</p>	<p>SITE HANFORD</p>	<p>DESCRIPTION</p>	<p>ORG CHKD RYWD/APVD DATE</p>
<p>AREA 200C</p>	<p>BUILDING No. 70</p>	<p>REVISION HISTORY</p>	
<p>ORIGINATOR: <i>W. M. ...</i></p>	<p>CHECKER: <i>SATISH ...</i></p>	<p>APPROVER: <i>R. ...</i></p>	<p>REVIEWER: <i>D. ...</i></p>
<p>CONTRACT No. DE-AC27-09W14136</p>	<p>RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354</p>		
<p>SCALE: NONE</p>	<p><b>P&amp;ID - PTF HLW LAG STORAGE AND FEED BLENDING PROCESS SYSTEM HLP-VSL-00022/ PWD-VSL-00044 INNER P&amp;ID</b></p>		
<p>24590-PTF-M6-HLP-00027006</p>	<p>REV 0</p>	<p>SCALE: 4x3.34</p>	<p>DATE: 2/10/2011 9:23:28 AM</p>

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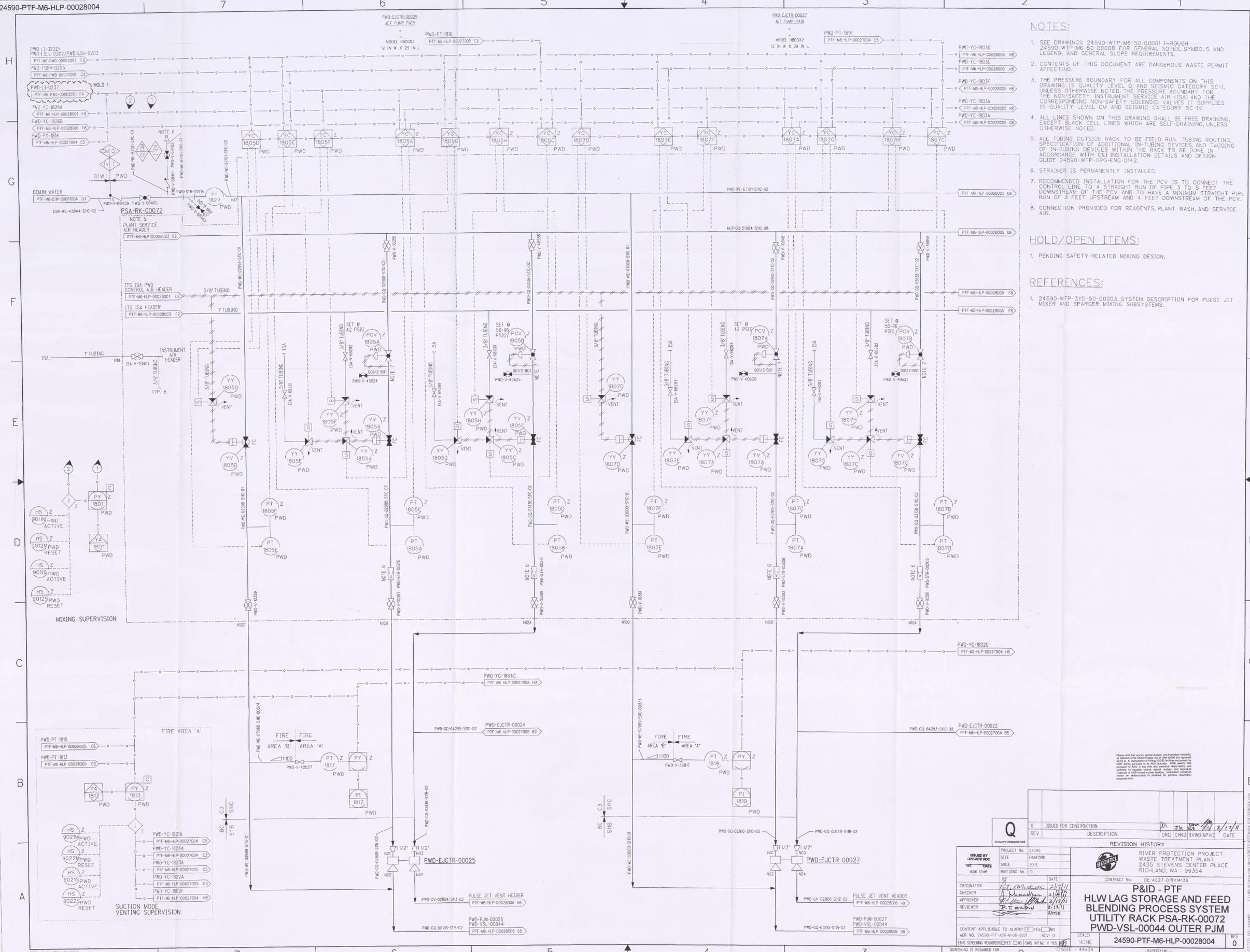
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL-SOURCE REQUIREMENTS.
- CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
- THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-1, UNLESS OTHERWISE NOTED. THE PRESSURE BOUNDARY FOR THE NON-SAFETY INSTRUMENT SERVICE AIR (ISA) AND THE CORRESPONDING NON-SAFETY SOLENOID VALVES IT SUPPLIES IS QUALITY LEVEL CM AND SEISMIC CATEGORY SC-IV.
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- STRAINER IS PERMANENTLY INSTALLED.
- RECOMMENDED INSTALLATION FOR THE PCV IS TO CONNECT THE CONTROL LINE TO A STRAIGHT RUN OF PIPE 3 TO 5 FEET DOWNSTREAM OF THE PCV AND TO HAVE A MINIMUM STRAIGHT PIPE RUN OF 3 FEET UPSTREAM AND 4 FEET DOWNSTREAM OF THE PCV.
- CONNECTION PROVIDED FOR REAGENTS, PLANT WASH, AND SERVICE AIR.

HOLD/OPEN ITEMS:

- PENDING SAFETY-RELATED MIXING DESIGN.

REFERENCES:

- 24590-WTP-3YD-50-00003 SYSTEM DESCRIPTION FOR PULSE JET MIXER AND SPARGER MIXING SUBSYSTEMS.



ISSUED FOR CONSTRUCTION		2/17/11	
REVISION		ORG CHKD (RVWD) DATE	
REVISION HISTORY			
PROJECT No.	24590	RIVER PROTECTION PROJECT	
SITE	HANFORD	WASTE TREATMENT PLANT	
AREA	ONE	2435 STEVENS CENTER PLACE	
BUILDING No.	10	RICHLAND, WA 99354	
CONTRACT No.		DE-AC27-DRV14136	
P&ID - PTF			
HLW LAG STORAGE AND FEED			
BLENDING PROCESS SYSTEM			
UTILITY RACK PSA-RK-00072			
PWD-VSL-00044 OUTER PUM			
SCALE		NONE	
24590-PTF-M6-HLP-00028004		REV 0	



24590-PTF-M6-HLP-00028006

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7 6 5 4 3 2 1

PWD-PJM-00021 PULSE_JET MIXER 100 GAL 3'6"ID x 17'1"1-T	PWD-PJM-00023 PULSE_JET MIXER 100 GAL 3'6"ID x 17'1"1-T	PWD-PJM-00027 PULSE_JET MIXER 100 GAL 3'6"ID x 17'1"1-T	PWD-PJM-00025 PULSE_JET MIXER 100 GAL 3'6"ID x 17'1"1-T
--	--	--	--

- NOTES:**
- SEE DRAWINGS 24590-WTP-M6-50-00001 THROUGH 24590-WTP-M6-50-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL 'SLOPE' REQUIREMENTS.
  - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
  - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL Q AND SEISMIC CATEGORY SC-1, UNLESS OTHERWISE NOTED.
  - ALL LINES SHOWN ON THIS DRAWING ARE LOCATED IN THE BLACK CELL AND SHALL BE SELF-DRAINING, UNLESS OTHERWISE NOTED.

**HOLD/OPEN ITEMS:**

NONE

**REFERENCES:**

- 24590-WTP-3YD-50-00003, SYSTEM DESCRIPTION FOR PULSE PULSE JET MIXER AND SPARGER MIXING SUBSYSTEMS.

PWD-EJCTR-00025  
PTF-M6-HLP-00028004 A3 PWD-CV-02864-S11Z-02

PWD-EJCTR-00027  
PTF-M6-HLP-00028004 A6 PWD-CV-02856-S11Z-02

PWD-EJCTR-00023  
PTF-M6-HLP-00028005 16 PWD-CV-02862-S11Z-02

PWD-EJCTR-00021  
PTF-M6-HLP-00028005 A3 PWD-CV-02860-S11Z-02

PLANT WASH RACK  
PWD-RK-00009  
PTF-M6-CAP-00013 A6 PLY-ZS-66963-S11Z-02

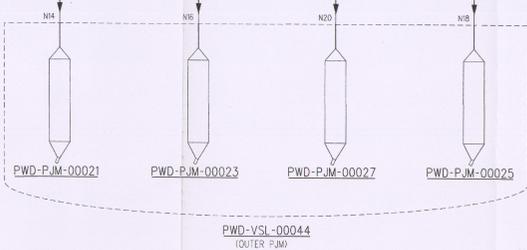
PWD-EJCTR-00025  
PTF-M6-HLP-00028004 A5 PWD-CQ-00106-S11B-02

PWD-EJCTR-00027  
PTF-M6-HLP-00028004 A3 PWD-CQ-00110-S11B-02

PWD-EJCTR-00023  
PTF-M6-HLP-00028005 A6 PWD-CQ-00102-S11B-02

PWD-EJCTR-00021  
PTF-M6-HLP-00028005 A3 PWD-CQ-00098-S11B-02

PSA-RK-00071/PSA-RK-00072 VENT HEADER PLY-CV-66964-S11Z-16 PULSE JET VENT HEADER PTF-M6-HLP-00027006 E8



Please note that various symbols, notes, and dimensioning requirements are defined in the General Notes for this drawing. All drawings shall conform to the ASME standards, and shall be prepared in accordance with the requirements of the applicable codes, standards, and specifications. The designer shall be responsible for providing the necessary information to the fabricator to ensure proper construction of the equipment.

<b>Q</b> ISSUED FOR CONSTRUCTION REV DESCRIPTION ORG (CHKD) (RWD) (APVD) DATE	PROJECT No. 24590 SITE HANFORD AREA 200C BUILDING No. 10	RIVER PROTECTION PROJECT WASTE TREATMENT PLANT 2435 STEVENS CENTER PLACE RICHLAND, WA 99354
	CONTRACT No. DE-AC27-DRV14136	DATE 2/17/11
ORIGINATOR CHECKER APPROVER REVIEWER	DATE DATE DATE DATE	<b>P&amp;ID - PTF          HLP LAG STORAGE AND FEED          BLENDING PROCESS SYSTEM          PLANT WASH VESSEL OUTER PJM          PWD-VSL-00044</b>
CONTENT APPLICABLE TO ALARAY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ADM. NO. 24590-PTF-ADM-W-00-0007 DANG. SCREENING REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A SCREENING IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-COP-REQ-001	SCALE: NONE 24590-PTF-M6-HLP-00028006 ES. SIZE - 44x34 COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED	REV 0

8 7 6 5 4 3 2 1

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DATE