Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

0052941

APR 10 2000

00-OSS-289

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EDMC

Ms. L. E. Ruud, Permit Specialist
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336

Dear Ms. Ruud:

QUARTERLY NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT, DANGEROUS WASTE PORTION (DW PORTION) (QUARTER ENDING MARCH 31, 2000 CONDITION I.C.3)

In accordance with Condition I.C.3. of the Hanford Facility RCRA Permit, enclosed for your notification are the Class 1 modifications to the Hanford Facility RCRA Permit, DW Portion. Modifications this quarter included updating information in the List of Attachments and in Part III (Enclosure). The List of Attachments Class 1 modifications pertain to Attachment 4, Hanford Emergency Management Plan. The Part III Class 1 modifications pertain to the Plutonium-Uranium Extraction Storage Tunnels, Liquid Effluent Retention Facility and Effluent Treatment Facility, 242-A Evaporator, 305-B Storage Facility, and the 325 Hazardous Waste Treatment Units. The Class 1 modifications are being made to ensure that all activities conducted are in compliance with the RCRA Permit, DW Portion.

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
S. H. Wisness, RL R. H. Gurske, FH Roby D. Enge, PNNL	L. E. Ruud, Ecology	Incoming: 0002004 Xref: FDH-0001489

Subject: CONTRACT NO. DE-AC06-96RL13200, QUARTERLY NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION (QUARTER ENDING MARCH 31, 2000–CONDITION I.C.3)
(ATTACHMENT 4, PUREX, LERF/ETF, 242-A EVAPORATOR, 305-B STORAGE FACILITY, AND 325 HWTUS)

DISTRIBUTION

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		Permitting Documentaton	G1-26	
		RCRA Permit Scan (D Jensen)	G1-29	

Should you have any questions regarding this information, please contact Ellen M. Mattlin, U.S. Department of Energy, Richland Operations Office, on (509) 376-2385; Richard H. Engelmann, Fluor Hanford, on (509) 376-7485; or Alice K. Ikenberry, Pacific Northwest National Laboratory, on (509) 373-5638.

Steven H. Wisness, Director
Office of Site Services
DOE Richland Operations Office

Richard H. Gurske, Project Manager
Environmental Services
Fluor Project Hanford

Roby D. Enge, Director
Environment, Safety, and Health
Pacific Northwest National Laboratory

OSS:EMM

Enclosure:
Quarterly Notification of Class 1
Modifications to the Hanford Facility
RCRA Permit, DW Portion

cc w/encl:
Administrative Record H6-08
HF Operating Record H6-08
Ecology NWP Kennewick Library
R. J. Landon, BHI
J. R. Wilkinson, CTUIR
M. A. Wilson, Ecology
S. A. Thompson, FH
Environmental Portal, LMSI
P. Sobotta, NPT
A. K. Ikenberry, PNNL
R. Jim, YN

cc w/o encl:
L. J. Cusack, Ecology
S. Moore, Ecology
J. Wallace, Ecology
A. B. Stone, Ecology
D. R. Sherwood, EPA
E. S. Aromi, FH
R. H. Gurske, FH
R. D. Enge, PNNL

RECEIPT

Ms. Laura Ruud
Permit Specialist
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336

I received the following document:

00-OSS-289

QUARTERLY NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT, DANGEROUS WASTE PORTION (DW PORTION) (QUARTER ENDING MARCH 31, 2000 CONDITION I.C.3)

Jennifer Cantu	4-10-00
Ms. Laura Ruud	Date

Hanford Facility RCRA Permit Modification Notification Forms

List of Attachments
Attachment 4, Hanford Emergency Management Plan

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 3, Subsection .3.4.1.1:

3.4.1.1 Law Enforcement. RL ~~SAS~~ SES interfaces with local law enforcement agencies for support to the Hanford Site during emergencies. Via a contractual agreement, the Benton County Sheriff's Office provides law enforcement on the Hanford Site (i.e., traffic enforcement and criminal investigation), and assists in access control; and, as such, coordinates activities with RL ~~SAS~~ SES and the Hanford Patrol.

RL ~~SAS~~ SES maintains memorandums of understanding with the law enforcement agencies of Kennewick, Richland, West Richland, Benton County, Franklin County, and the state of Washington.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 3/22/00	J. L. Spracklen, Jr.	Date 3/23/00	S. Moore	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 3, Table 3-1, page 11 of 14: **Table 3-1. Memorandums of Understanding**

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
State of Washington	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Washington Emergency Management Division	None	09/10/96	Continue until canceled by either party upon 30 days written notice to the other.	RL ~~OSH~~ SES
State of Oregon	Document areas of cooperation between the state of Oregon and RL in the planning for and providing notification and interface in the event of an incident on the Hanford Site.	Oregon Department of Energy	None	12/02/86	Continue until canceled by either party by written notice to the other Amendments or modifications to this Agreement my be made upon written agreement by both parities to the Amendment.	RL ~~OSH~~ SES
Benton ~~and Franklin Counties~~ County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Benton County Emergency Management ~~Franklin County Emergency Management~~	None	~~03/11/92~~ 03/16/00	Continue until canceled by either party by written notice to the other.	RL ~~OSH~~ SES
~~Franklin County~~	~~Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.~~	~~Franklin County Emergency Management~~	~~None~~	~~01/20/00~~	~~Continue until canceled by either party by written notice to the other.~~	~~RL SES~~
Grant County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Grant County Emergency Management	None	~~10/04/94~~	Continue until canceled by either party by written notice to the other.	RL ~~OSH~~ SES
Energy Northwest (formerly Washington Public Power Supply System)	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Energy Northwest (formerly Washington Public Power Supply System) Emergency Preparedness	The specific areas of assistance will be provided based upon availability, and are limited to those emergency actions necessary to protect onsite personnel, the public health and safety, and the environment in the event of a major emergency at the Hanford Site or WNP-2.	~~10/30/95~~ 12/10/97	Continue until canceled by either of the parties upon 30 days written notice to the other party.	RL ~~OSH~~ SES
Energy Northwest (formerly Washington Public Power Supply System) and HEHF	Treatment of a significantly contaminated and injured person.	Energy Northwest (formerly Washington Public Power Supply System) Emergency Preparedness and HEHF	None	~~11/02/95~~ 12/10/97	Continue until canceled by one or more of the parties upon 30 days written notice to the other(s).	~~HEHF~~ RL SES

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date	J. L. Spracklen, Jr.	Date	S. Moore	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 3, Table 3-1, page 12 of 14: **Table 3-1. Memorandums of Understanding**

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Siemens Power Corporation (SPC)	Establishes means by which RL can provide consequence assessment and meteorological information to ~~Siemens Power Corporation~~ SPC during an emergency at the ~~Siemens~~ SPC plant in Richland, Washington	~~Siemens Power Corporation~~ SPC	Emergencies affecting the Hanford Site or Hanford facilities takes precedence over all other uses of the UDAC facilities and/or staff.	~~01/19/95~~ 01/19/00	Remain in effect for five years from effective date, at which time it shall be reviewed and renegotiated, reissued, or terminated. Either party may withdraw upon 30 days written notice.	RL ~~OSH~~ SES
Siemens Power Corporation (SPC) and HEHF	Treatment of a significantly contaminated and slightly injured person.	~~Siemens~~ SPC and HEHF	~~Siemens Power Corporation~~ SPC agrees to undertake all costs and expenses incurred that directly result from this agreement.	~~02/25/96~~ 01/03/00	Continue until canceled by one or more of the parties by written notice to the other(s).	~~HEHF~~ RL SES
Allied Technology Group Inc. (ATG) and HEHF	Treatment of a significantly contaminated and slightly injured person.	ATG and HEHF	ATG agrees to undertake all costs and expenses incurred that directly result from this agreement.	~~12/22/99~~	Continue until canceled by one or more of the parties by written notice to the other(s).	RL SES
National Weather Service	Sharing Meteorological Information.	NWS Western Regional Headquarters.	None	10/05/94	Agreement may be terminated by either party upon thirty days written notice to the other party.	RL ~~OSH~~ SES
Our Lady of Lourdes Hospital (OLOL) Pasco, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	~~Our Lady of Lourdes~~ OLOL Administrator	The responsibilities of ~~Our Lady of Lourdes~~ OLOL will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by ~~Our Lady of Lourdes~~ OLOL or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL ~~OSH~~ SES
Kadlec Medical Center (KMC) Richland, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	~~Kadlec~~ KMC Administrator	~~Kadlec Medical Center~~ KMC will be limited to activities performed at the hospital and at the Emergency Decontamination Facility.	08/17/98	Arrangements may be terminated by ~~Kadlec Medical Center~~ KMC or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL ~~OSH~~ SES
Kennewick General Hospital (KGH) Kennewick, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	~~Kennewick General~~ KGH Administrator	~~Kennewick General~~ KGH will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by ~~Kenhewick General~~ KGH or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL ~~OSH~~ SES

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 4/4/2000	J. L. Spracklen, Jr.	Date 4/4/00	S. Moore	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 3, Table 3-1, page 13 of 14: **Table 3-1. Memorandums of Understanding**

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Tri-County Mutual Aid Agreement	Provide mutual aid to parties hereto desire to augment the fire and emergency medical protection available in their establishments, districts, agencies, and municipalities in the event of large fires or conflagrations or other disaster.	Hanford Fire Department	Assistance under the agreement is not mandatory.	02/05/98	Remain in full force and effect until canceled by mutual agreement of the parties hereto or by written notice by one party to the other party giving ten (10) days notice of said cancellation.	Hanford Fire Department
Richland Police Department	Mutual law enforcement assistance.	Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/18/84	Indefinite duration.	RL ~~SAS~~ SES
West Richland Police Department	Mutual law enforcement assistance.	West Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/27/86	Indefinite duration.	RL ~~SAS~~ SES
Kennewick Police Department	Mutual law enforcement assistance.	Kennewick Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	09/26/85	Indefinite duration.	RL ~~SAS~~ SES
Benton County Sheriff	Mutual law enforcement assistance.	Benton County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/10/87	Indefinite duration.	RL ~~SAS~~ SES
Franklin County Sheriff	Mutual law enforcement assistance.	Franklin County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	12/22/92	Indefinite duration.	RL ~~SAS~~ SES
Washington State Patrol	Mutual law enforcement assistance.	Washington State Patrol	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/25/89	Indefinite duration.	RL ~~SAS~~ SES

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date	J. L. Spracklen, Jr.	Date 4/4/00	S. Moore	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 4, Subsection 4.2:

4.2 RESOURCE CONSERVATION AND RECOVERY ACT EMERGENCY

A RCRA emergency is defined as a release, fire, or explosion that could threaten human health or the environment. ~~Based upon an evaluation and assessment,~~ For a facility event, the BED/BW/IC, in consultation with the respective site contractor environmental single point-of-contact, shall determine whether the incident is a RCRA emergency based upon an evaluation and assessment. It is the responsibility of the BED/BW/IC to make this determination even though ~~they~~ the BED/BW/IC consults with the site contractor environmental single point-of-contact. When this determination occurs, notifications delineated in subsection 5.1.2.1 shall be performed. Notifications described in subsection 5.1.1 may also be required for a RCRA emergency and are determined on a case-by-case basis by the BED/BW/IC.

The BED/BW/IC ensures that trained personnel identify the character, source, amount, and areal extent of the release, fire, or explosion to the extent possible. Identification of waste can be made by activities that can include, but are not limited to, visual inspection of involved containers, sampling activities in the field, reference to inventory records, or by consulting with facility personnel. Samples of materials involved in an emergency might be taken by qualified personnel and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

After gathering appropriate event information, the hazards posed by the event to human health and the environment must be assessed. The assessment must take into consideration the direct, indirect, immediate, and long-term effects of the incident. The assessment should include sources such as Material Safety Data Sheet toxicity and health information and results from any personnel monitoring examinations conducted at medical facilities. These are the types of tools, which will aid in ascertaining the extent in which human health and the environment were threatened.

If assessment of all available information does not yield a definitive assessment of the danger posed by the incident, a worst-case condition will be presumed and appropriate protective actions and notifications will be initiated. The BED/BW/IC is responsible to initiate any protective actions based on their best judgement of the incident.

For onsite transportation events, it is the responsibility of the on-call EDO, in consultation with the FH site contractor environmental single point-of-contact, to make the determination whether the incident is a RCRA emergency. A RCRA emergency for onsite transportation events is defined as a release of WAC hazardous substances that threatens human health or the environment. When this determination occurs, notifications delineated in subsection 5.1.2.1 shall be performed. Notifications described in subsection 5.1.1 may also be required for a RCRA emergency and are determined on a case-by-case basis by the EDO.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 3/22/00	J. L. Spracklen, Jr.	Date 3/23/00	S. Moore	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 11, Subsection 11.2:

11.2 EMERGENCY EQUIPMENT

Adequate personal protective equipment and other equipment and supplies shall be available and operable to meet the needs determined by the results of the hazards assessment and/or other applicable documentation, and for emergency response personnel to carry out their respective duties and responsibilities.

Emergency and backup equipment (including monitoring devices) shall be located in readily accessible areas away from the scene of the potential accident. Equipment shall be available, as appropriate, to provide functions for the potential, credible emergencies such as:

- emergency dosimetry;
- personnel protection;
- radiation control monitoring instrumentation;
- monitoring of personnel, facilities, and the environment onsite and offsite;
- emergency medical treatment onsite;
- meteorological evaluation;
- handling of personnel contaminated with radioactive or toxic materials, and fatalities;
- supplying emergency power, water, and sanitation;
- emergency transportation for personnel evacuation;
- movement of earth or heavy loads; and
- emergency communications, including portable and secure communications equipment, as required.

To ensure equipment reliability, emergency equipment should, to the extent practical, be the same equipment used for routine operations. RL/ORP and the site contractors maintain a variety of light and heavy equipment and supplies that could be diverted from routine use to emergency use, if needed.

All equipment that could be used in an emergency response is listed in the RL Property System database, which can be quickly accessed to determine the current status of each piece of equipment. This system is maintained and operated by the Resource Allocation and Management group of the operating contractor.

As applicable, the BED/BW/IC and/or the Onsite Recovery Manager and staff shall ensure that all equipment is cleaned and fit for its intended use before operations are resumed. This may include actions to ensure that depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, fire extinguishers are recharged or replaced, and protective clothing is cleaned (or disposed of) and restocked.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 14, Subsection 14.3.1.1:

14.3.1.1 Review and Update Based on WAC 173-303

Portions of this plan, together with Hanford Site location/activity-specific documentation established to meet contingency plan requirements, must be reviewed and immediately amended, if necessary, whenever:

- applicable regulations or the Hanford Facility RCRA Permit are revised;
- the building emergency plan/procedure fails in an emergency;
- a TSD unit or 90-day accumulation area changes (e.g., design, operation, maintenance, etc.) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; or
- the list of emergency equipment changes.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Enter wording of the modification from WAC 173-303-830, Appendix I citation

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Appendix A, page 4 of 6:

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN DOCUMENTATION?
WAC 173-303-350(4) (Permit requirement)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be: (a) Maintained at the facility; and (b) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.	Copies of DOE/RL-94-02 are maintained throughout the Hanford Site and with offsite agencies. Copies of location-specific documentation are not being provided to offsite agencies because no agency requested them when asked in 1994.	Site-level: DOE/RL-94-02, section 14.3.7.
WAC 173-303-350(5) (Permit requirement)	Amendments. The owner or operator shall review and immediately amend the contingency plan, if necessary, whenever: (a) Applicable regulations or the facility permit are revised; (b) The plan fails in an emergency; (c) The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, releases of hazardous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; (d) The list of emergency coordinators changes; or (e) The list of emergency equipment changes.	DOE/RL-94-02 and location-specific documentation is revised according to these criteria. Making changes to these documents must also be accomplished in accordance with WAC 173-303-830, when applicable.	Site-level: DOE/RL-94-02, sections 14.4.4 [illegible]
WAC 173-303-350(1) (Permit requirement)	Contingency planning. Owners or operators must coordinate preparedness and prevention planning and contingency planning efforts, conducted under WAC 173-303-340 and -350 with local emergency planning committees established pursuant to Title III of the 1986 Superfund Amendments and Reauthorization Act.	RL coordinates planning actions with three LEPCs: Benton County, Franklin County, and Grant County.	Site-level: DOE/RL-94-02, sections 3.1, 3.1.1, and 3.4.
WAC 173-303-350(2)	Appropriate and generally accepted computer models should be utilized to determine the impacts of a potential catastrophic air release due to fire, explosion, or other accidental releases of hazardous constituents. Evacuation plans prepared pursuant to WAC 173-303-350(3)(d) must include those affected persons and area identified through these modeling efforts.	The DOE Hanford EOC contains modeling equipment to predict impacts of air release.	Site-level: DOE/RL-94-02, sections 2.2.2.3.3 and 1.3.3.2.
WAC 173-303-360(1) (Permit requirement)	Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan required by WAC 173-303-350(3), all operations and activities at the facility, the location and properties of all wastes handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.	Duty met by the Hanford Incident Command Structure and staff with supporting on-call personnel	Site-level: DOE/RL-94-02, section 1.3.4 and 2.2.
WAC 173-303-360(2)(a) (Permit requirement)	Emergency procedures. The following procedures must be implemented in the event of an emergency: (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately: (i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and (ii) Notify appropriate state or local agencies with designated response roles if their help is needed.	Alarm activation can be accomplished by the discoverer of the event ([ing 911), or the Hanford Incident Command System and staff with supporting on-call personnel. Notification needs to non-Hanford agencies with designated response roles Agencies are accomplished via 911 telephone to request assistance (fire, ambulance, law enforcement).	Site-level: DOE/RL-94-02, sections 1.3.4 and 5.2.1.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
G. B. Griffin Date 3/22/00	J. L. Spracklen, Jr. Date 3/23/00	S. Moore Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Appendix A, page 6 of 6:

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-360(2)(f) (Permit requirement)	Emergency procedures. (f) The emergency coordinator must ensure that, in the affected area(s) of the facility: (i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and (ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	Onsite: Recovery Manager with supporting on-call personnel.	Site-level: (i) DOE/RL-94-02, section 9.2.3. Site-level: (ii) DOE/RL-94-02, section 11.2.
WAC 173-303-360(2)(f) (Permit requirement)	Emergency procedures. (f) The owner or operator must notify the department, and appropriate local authorities, that the facility is in compliance with (f) of this subsection before operations are resumed in the affected area(s) of the facility.	Site contractor environmental staffs point-of-contact personnel perform this notification. When applicable, on behalf of the Onsite Recovery Manager.	Site-level: DOE/RL-94-02, section 5.1.2.3.
WAC 173-303-360(2)(j) (Permit requirement)	Emergency procedures. (k) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within fifteen days after the incident, he must submit a written report on the incident to the department. The report must include: (i) Name, address, and telephone number of the owner or operator; (ii) Name, address, and telephone number of the facility; (iii) Date, time, and type of incident (e.g., fire, explosion); (iv) Name and quantity of material(s) involved; (v) The extent of injuries, if any; (vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; (vii) Estimated quantity and disposition of recovered material that resulted from the incident; (viii) Cause of incident; and (ix) Description of corrective action taken to prevent reoccurrence of the incident.	Site contractor management through RL ensures the note in the operating record is performed and prepares the 15-day report to Ecology.	Site-level: DOE/RL-94-02, section 5.1.2.2.
40 CFR 761.65(c)(1)(iv) and (c)(7)(ii) SPCC Plans for PCBs	Temporary Storage Areas (less than 30-days). (c)(1)(iv): PCB containers containing liquid PCBs at a concentration between 50 and 500 ppm may be stored temporarily, for up to 30 days provided a Spill Prevention Control and Countermeasure (SPCC) plan has been prepared in accordance with 40 CFR Part 112 (for onshore facilities) or 33 CFR Part 151 (for offshore facilities) and the SPCC Plan includes the following information in addition to that required by part 112 of this chapter: the specific location of PCB storage activities in the facility; the maximum number of PCB containers to be stored at any one time; a description of the storage area (including containment construction and drainage); and the procedures to be followed in the event of a spill of PCBs (including cleanup procedures and a description of available spill cleanup equipment). Storage units described in this paragraph (c)(1)(iv) are not required to meet the requirements of paragraphs (b) through (m) of this section. (c)(7)(ii): Liquid PCBs in containers larger than those specified in (c)(4). The owner or operator of any facility using containers described in paragraph (c)(7)(ii) of this section, other than a facility regulated under 40 CFR Part 112 (complying with 40 CFR Part 112), the owner or operator shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in Part 112 of this title. In complying with 40 CFR Part 112, the owner or operator shall follow the applicable sections of the SPCC guidance for regional Administrators, 40 CFR 112.4, shall describe in the SPCC Plan any PCB container storage area, and shall explain why spills from containers or PCB handling equipment would not reach navigable waters. The owner or operator of a facility with a PCB container storage area shall amend the facility's SPCC Plan within six months of the effective date of this rule to comply with the requirements of this paragraph. Any such amendment to the SPCC Plan for the facility is a minor modification and may be implemented as specified in 40 CFR 112.5(a). The owner or operator shall implement the Plan as soon as possible, but not later than one year after the effective date of this rule. The owner or operator shall maintain an up-to-date copy of the Plan at the facility if manned at least four hours per day, or shall maintain a copy at the nearest manned facility if the facility is manned less than four hours per day. The owner or operator shall make the Plan available to EPA personnel for on-site review during normal working hours. The owner or operator shall carry out all provisions of the Plan that relate to PCBs and PCB Items. The word 'shall' is used for PCBs. The owners or operators of any facility using containers described in paragraph (c)(7)(ii) of this section, other than a facility regulated under 40 CFR Part 112 (complying with 40 CFR Part 112), the owner or operator shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in Part 112 of this title. In complying with 40 CFR Part 112, the owner or operator shall follow the applicable sections of the SPCC guidance for regional Administrators, 40 CFR 112.4, shall describe in the SPCC Plan any PCB container storage area, and shall explain why spills from containers or PCB handling equipment would not reach navigable waters. The owner or operator of a facility with a PCB container storage area shall amend the facility's SPCC Plan within six months of the effective date of this rule to comply with the requirements of this paragraph. Any such amendment to the SPCC Plan for the facility is a minor modification and may be implemented as specified in 40 CFR 112.5(a). The owner or operator shall implement the Plan as soon as possible, but not later than one year after the effective date of this rule. The owner or operator shall maintain an up-to-date copy of the Plan at the facility if manned at least four hours per day, or shall maintain a copy at the nearest manned facility if the facility is manned less than four hours per day. The owner or operator shall make the Plan available to EPA personnel for on-site review during normal working hours. The owner or operator shall carry out all provisions of the Plan that relate to PCBs and PCB Items. The word 'shall' is used for PCBs.	When SPCC plans apply to Hanford Site activities, the information will be covered in site-wide documentation and will be addressed in location-specific documentation.	Site-level: DOE/RL-94-02, sections 1.1 (fourth bullet), 1.2 (first bullet, sixth bullet, and seventh bullet), 2.1.1.2 (first paragraph). Unit-level: appropriate location-specific documentation.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
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Hanford Facility RCRA Permit Modification

List of Attachments
Attachment 4, Hanford Emergency Management Plan

Replacement Sections

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Section 3

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Section 11

Section 14

Appendix A

3.0 OFFSITE RESPONSE INTERFACES

3.1 OVERVIEW

Interfaces and coordination with offsite agencies are important in the planning, preparedness, response, and recovery elements of the Hanford emergency management program. As such, RL shall interface with Federal, tribal, state, local, and private organizations and/or agencies:

- that have a responsibility to protect the public and environment within the EPZs of the Hanford Site;
- with which RL supports as the Regional Coordinating Office for Region 8 (Oregon, Washington, and Alaska); and
- with which RL has entered into special agreements for assistance.

Where appropriate, RL shall develop and maintain agreements to formalize areas of understanding, cooperation, and support with offsite agencies.

3.1.1 Planning and Preparedness

The modes of interface for planning and preparedness activities, as is determined beneficial by the parties, may include:

- coordination of emergency plans and procedures;
- periodic meetings to share information and coordinate activities;
- training opportunities related to offsite responsibilities;
- development of agreements for support to and from offsite agencies;
- participation in annual exercises; and
- development of public information programs.

3.1.2 Response and Recovery

In the event of an emergency on or affecting the Hanford Site, RL shall interface with offsite agencies to ensure coordination and support of response and recovery activities. These interfaces include:

- notification and periodic updates to local jurisdictions within the plume EPZ, states that contain portions of the ingestion EPZ, and other agencies that may be requested to provide assistance (see respective subsections in section 5.0);

- communication and coordination with DOE-HQ;
- RL representation in appropriate offsite emergency centers;
- offsite representation in the DOE Hanford EOC;
- PARs to offsite agencies; and
- event scene interface with offsite responders.

Communications with state and local EOCs are depicted on Figure 3-1.

3.2 FEDERAL AGENCIES

3.2.1 U.S. Department of Energy-Headquarters

The DOE-HQ Cognizant Secretarial Officers are responsible for ensuring implementation of policy and requirements for activities conducted under their respective areas of cognizance.

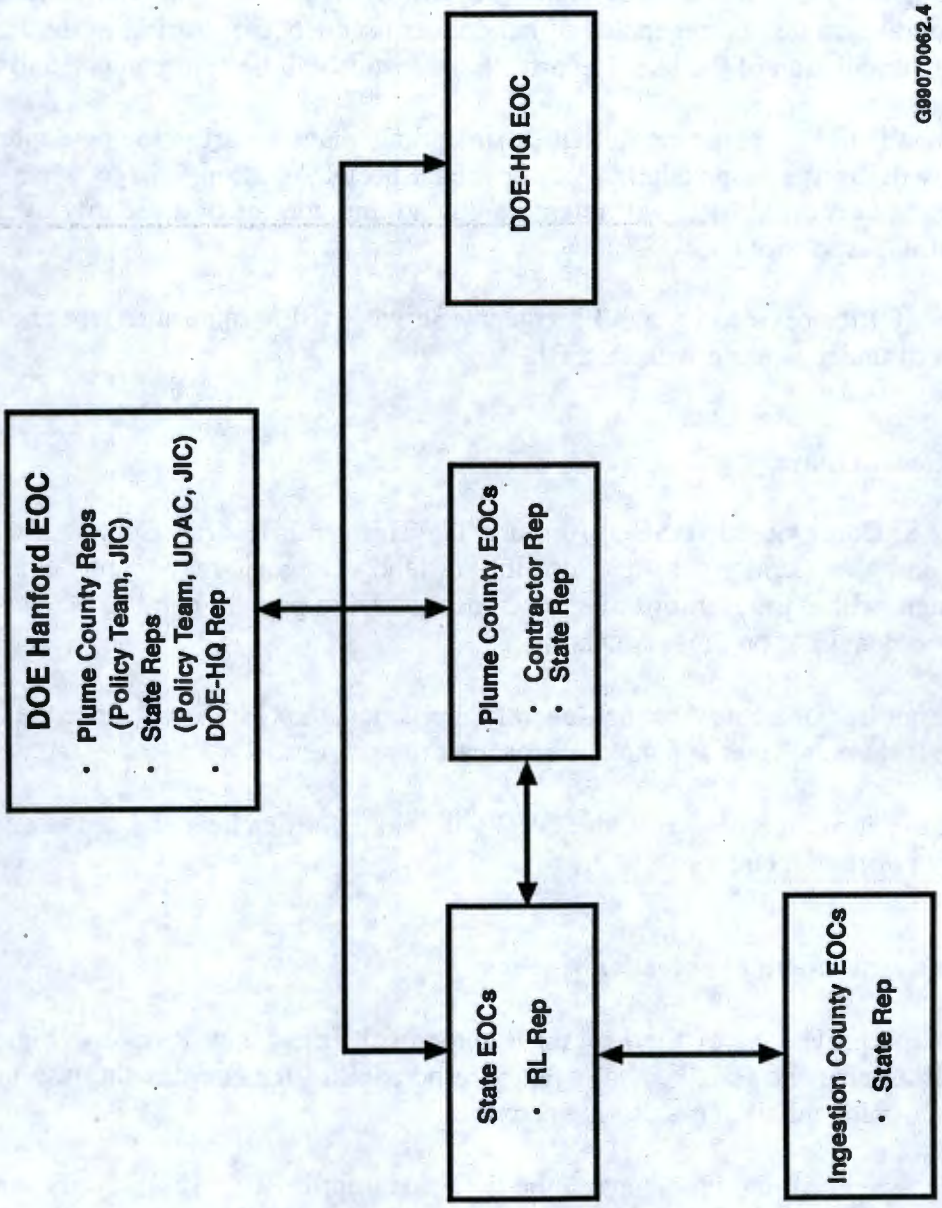
The DOE-HQ EOC serves as the point-of-contact for receipt of all emergency notifications and reports. Accordingly, the DOE-HQ EOC receives, coordinates, and disseminates emergency information to DOE-HQ elements and Program Office emergency points-of-contact, the White House Situation Room, and other Federal agencies. As such, emergency status reports shall be forwarded to the DOE-HQ EOC on a continuing basis until the emergency is terminated.

In the event of an emergency, a DOE-HQ Emergency Management Team is convened to:

- receive information on the facility, site, or area response;
- monitor the Operations/Field Office;
- provide appropriate support and assistance;
- assist with issue resolution; and
- coordinate interagency Congressional, and public information activities at the national level.

RL/ORP shall notify and provide information to the DOE-HQ EOC. Written reports shall be provided to the DOE-HQ EOC as soon as practical, but within 24 hours of emergency classification. A DOE-HQ Site Representative will respond to the DOE Hanford EOC to provide liaison with the DOE-HQ EOC. Upon request from DOE-HQ, RL/ORP shall dispatch a liaison to support activation of the DOE-HQ EOC.

Figure 3-1. Lines of Communication Between Emergency Centers.



3.2.2 Federal Bureau of Investigation

The role of the FBI is to serve as the primary U.S. Law Enforcement Agency responsible for investigating alleged or suspected violations of the Atomic Energy Act of 1954, as amended, and other Federal statutes. Emergencies of national consequence occurring at the Hanford Site and within the jurisdiction of the U.S. Department of Justice will be communicated to the FBI.

Command of FBI response activities, including plant security forces deployed at the event scene, will be the responsibility of the FBI Special-Agent-in-Charge when a declared security event has occurred. RL will retain command and control of a security event until the FBI assumes this responsibility.

The RL Office of Security and Emergency Services (SES) shall interface and maintain a memorandum of understanding with the FBI.

3.2.3 U.S. Coast Guard

The U.S. Coast Guard (USCG) (through the Thirteenth District Commander in Seattle, Washington and the Captain of the Port in Portland, Oregon) may regulate activities on navigable waters within the Hanford Site, when necessary, to prevent harm to persons, property, and the environment in or on those waters.

When notified of a Site Area or General Emergency, the USCG will close the appropriate portion of the Columbia River and make a broadcast to mariners.

In the event of an emergency, the ONC will make notifications and provide information to the USCG in Portland, Oregon.

3.2.4 U.S. Environmental Protection Agency

Under the provisions of the Federal Radiological Emergency Response Plan (FRERP), the EPA shall assume the lead Federal agency responsibility for coordinating the intermediate and long-term offsite radiation monitoring activities.

In the event of an emergency, the DOE Hanford EOC shall notify and provide information to the EPA Region 10 in Seattle, Washington.

3.2.5 Federal Aviation Administration

The Federal Aviation Administration (FAA) may make flight restrictions for aircraft under their jurisdiction over the Hanford Site.

The ONC will notify and provide information to the FAA Seattle Center. At a Site Area or General Emergency the ONC may request the FAA to impose flight restrictions over the Hanford Site.

3.2.6 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible for coordinating Federal assistance (other than monitoring resources) to the states if requested. Under the provisions of the FRERP, FEMA coordinates the offsite (nontechnical) response.

At the time of a declaration of an emergency, the DOE Hanford EOC notifies and provides information to the FEMA Region 10 office in Bothell, Washington.

3.3 STATE GOVERNMENT

States, along with local governments, share the responsibility for the protection of the public and the environment. The responsibilities and concept of operations for state agencies are described in the emergency response plans of each state.

RL shall work with the states of Washington and Oregon to assist in development of their program and response plans for an emergency at the Hanford Site. Periodic meetings will be conducted with the states to coordinate plans and share information. General descriptions of emergency responsibilities as well as areas of cooperation and understanding between RL and the states are delineated in memoranda of understanding (MOU). Copies of the MOUs are provided in Appendix B.

3.3.1 The State of Washington

The Governor of Washington is responsible for command and control of state resources to maintain and preserve life, property, and the environment in Washington. The lead agency for emergency planning and response activities is the Emergency Management Division of the Military Department. Other state agencies that participate in the planning process and have emergency response roles include the:

- Department of Health;
- Department of Agriculture;
- State Patrol;
- Department of Ecology; and
- Department of Transportation.

An emergency response plan is maintained by the Emergency Management Division that describes the concept of operations and roles and responsibilities of the state agencies. Emergency procedures are maintained by each state agency.

Responsibilities of the state of Washington include:

- providing a 24-hour single point of contact for the receipt of emergency notifications from RL/ORP;
- disseminating information to potentially affected counties within the plume and ingestion EPZs;
- coordinating ingestion protective action decisions and public information with the counties, the state of Oregon, and RL;
- providing assistance to counties as requested;
- evaluating offsite emergency PARs made to plume EPZ counties;
- making protective action decisions to protect public health from ingestion-related impacts, such as contamination of the food chain;
- performing field environmental radiological monitoring and dose assessments;
- providing guidance on emergency worker exposure and authorizing emergency workers to exceed protective action guides;
- implementing food, milk, and animal-feed control measures; and
- requesting Federal assistance as required.

3.3.2 The State of Oregon

The Governor of Oregon is responsible for directing and controlling state activities to protect the lives and property of Oregon citizens. The lead agency for Hanford Site emergency planning is the Oregon Office of Energy. Other state agencies that participate in the planning process and have emergency response roles include the:

- State Public Information Officer;
- Health Division;
- Emergency Management Division;
- Department of Agriculture;
- Oregon State University Radiation Center;
- Military Department;
- State Police; and
- State Highway Division.

An emergency response plan is maintained by the Oregon Office of Energy that describes the concept of operations and roles and responsibilities of state agencies. Emergency procedures are maintained by each state agency.

Responsibilities of the state of Oregon include:

- providing a 24-hour single point of contact for the receipt of emergency notifications from RL/ORP;
- making protective action decisions for the state of Oregon;
- coordinating protective action decisions and public information with counties, the state of Washington, and RL;
- coordinating state and local emergency response within the state of Oregon;
- performing field environmental radiological monitoring and dose assessments;
- providing guidance on emergency worker exposure and authorizing emergency workers to exceed protective action guides;
- providing assistance to Oregon counties within the ingestion EPZ;
- implementing food, milk, and animal-feed control measures; and
- requesting Federal assistance as required.

3.4 LOCAL ORGANIZATIONS

Cities and counties are responsible for protecting the lives and property of their residents. The responsibilities and concept of operations for local governments are described in the emergency response plans of each jurisdiction.

RL shall work with local emergency response organizations through the county and state emergency management organizations. Generally, RL shall interface directly with emergency response and planning organizations providing service to those areas within a plume EPZ of a Hanford Site facility. Interface with those jurisdictions within the ingestion EPZ generally shall be accomplished through the state emergency management organization. To accomplish the necessary close coordination with local agencies, periodic meetings shall be conducted to share information and discuss concerns.

3.4.1 Plume Emergency Planning Zone Counties

Portions of Benton, Franklin, and Grant Counties are within plume EPZs of a Hanford Site facility. The Boards of County Commissioners are responsible for making emergency protective action decisions and implementing emergency response actions, as necessary, to protect their residents outside the Hanford Site boundary. The lead agency for emergency planning and coordination of emergency response is the county emergency management agency. County emergency response plans and procedures are developed by the emergency management agencies, working with county, city, and volunteer emergency response agencies, such as:

- law enforcement;
- fire and emergency medical;
- public works/road departments;
- hospitals; and
- American Red Cross.

The emergency responsibilities of the plume EPZ counties include:

- making and implementing protective action decisions to protect citizens who live within the plume EPZ;
- implementing protective action decisions, made by the state of Washington, for ingestion-related impacts to residents within the ingestion EPZ;
- disseminating alert and warnings to the public and providing emergency public information; and
- coordinating response actions and public information with neighboring counties, the state of Washington, and RL.

RL maintains agreements with Benton, Franklin, and Grant Counties that outline the areas of responsibility and cooperation (see Appendix B).

3.4.1.1 Law Enforcement. RL SES interfaces with local law enforcement agencies for support to the Hanford Site during emergencies. Via a contractual agreement, the Benton County Sheriff's Office provides law enforcement on the Hanford Site (i.e., traffic enforcement and criminal investigation), and assists in access control; and, as such, coordinates activities with RL SES and the Hanford Patrol.

RL SES maintains memorandums of understanding with the law enforcement agencies of Kennewick, Richland, West Richland, Benton County, Franklin County, and the state of Washington.

3.4.1.2 Fire and Emergency Medical. The Hanford Fire Department is signatory to the Tri-County Mutual Aid Agreement for fire agencies. The agreement, signed by 11 local fire agencies, provides mutual aid for fire or medical emergencies.

Permit requirement: Subsection 3.4.1.1, Class 1 Modification 3/31/00
Subsection 3.4.1.2, Class 1 Modification 9/30/99

The Hanford Fire Department meets regularly with local fire agencies. The Hanford Fire Department and HEHF Representatives meet routinely with emergency medical service agencies to coordinate and share information.

3.4.1.3 Hospitals. RL maintains agreements with local hospitals, which provide for the care of injured, contaminated (chemical or radiological) Hanford Site personnel. These hospitals include:

- Our Lady of Lourdes Health Care Center;
- Kennewick General Hospital; and
- Kadlec Medical Center.

RL shall provide for training and exercise support, as needed, related to the services provided to the Hanford Site. HEHF shall provide expertise on radiological decontamination or chemical exposure and treatment as requested.

3.4.2 Ingestion Emergency Planning Zone Counties

Counties within the ingestion EPZ of the Hanford Site are responsible to implement measures to protect their residents from potential ingestion related impacts. In the state of Washington, the counties of Adams, Benton, Franklin, Grant, Kittitas, Klickitat, Walla Walla, and Yakima are within the 50-mile (80-kilometer) ingestion EPZ. In the state of Oregon, the counties of Morrow and Umatilla are included. Ingestion EPZ counties have emergency response plans that describe their responsibilities in the event of an emergency at the Hanford Site.

RL shall coordinate emergency planning and preparedness for ingestion counties through the Washington State Emergency Management Division and the Oregon Office of Energy. Ingestion county responsibilities include:

- coordinating with the state and implementing decisions regarding protective measures for its residents within the ingestion EPZ; and

- consulting with the respective state EOC on the identification of access control points, food control areas, food control stations, and strategies for relocation, restoration, and recovery in contaminated areas.

3.5 TRIBAL ORGANIZATIONS

RL shall provide appropriate information to the impacted tribal organizations to coordinate planning for ingestion-related response actions of the tribe(s).

3.6 PRIVATE ORGANIZATIONS

The Hanford Site emergency management program shall address private facilities on or near the site. These facilities may be impacted by an emergency at the Hanford Site, or may impact Hanford Site facilities if they experience an emergency.

RL shall coordinate emergency planning and preparedness activities with onsite private facilities (namely WNP-2, US Ecology, and Richland Specialty Extrusions). In the event of an emergency at a Hanford Site facility, onsite private facilities will receive notifications and information from RL.

Where emergencies at facilities operated by private organizations may impact the Hanford Site, RL shall ensure that the emergency management program addresses actions that must be taken to protect site workers and facilities.

Areas of cooperation with private organizations shall be documented in memorandums of understanding.

3.7 MEMORANDA OF UNDERSTANDING

RL shall develop and implement mutual assistance agreements with offsite agencies to document areas of cooperation and assistance when appropriate and as identified in Federal, state, and local regulations (see Table 3-1).

RL SES is responsible for executing and maintaining MOUs related to security and emergency preparedness. The Hanford Fire Department shall execute and maintain MOUs within its area of responsibility. MOUs shall be reviewed annually and revised as needed.

Copies of MOUs shall be provided to the CSO through their inclusion in Appendix B of this plan.

Table 3-1. Memorandums of Understanding

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
State of Washington	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Washington Emergency Management Division	None	09/10/96	Continue until canceled by either party upon 30 days written notice to the other.	RL SES
State of Oregon	Document areas of cooperation between the state of Oregon and RL in the planning for and providing notification and interface in the event of an incident on the Hanford Site.	Oregon Department of Energy	None	12/02/86	Continue until canceled by either party by written notice to the other Amendments or modifications to this Agreement my be made upon written agreement by both parities to the Amendment.	RL SES
Benton County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Benton County Emergency Management	None	03/16/00	Continue until canceled by either party by written notice to the other.	RL SES
Franklin County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Franklin County Emergency Management	None	01/20/00	Continue until canceled by either party by written notice to the other.	RL SES
Grant County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Grant County Emergency Management	None	10/04/94	Continue until canceled by either party by written notice to the other.	RL SES
Energy Northwest (formerly Washington Public Power Supply System)	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Energy Northwest (formerly Washington Public Power Supply System) Emergency Preparedness	The specific areas of assistance will be provided based upon availability, and are limited to those emergency actions necessary to protect onsite personnel, the public health and safety, and the environment in the event of a major emergency at the Hanford Site or WNP-2.	12/10/97	Continue until canceled by either of the parties upon 30 days written notice to the other party.	RL SES
Energy Northwest (formerly Washington Public Power Supply System) and HEHF	Treatment of a significantly contaminated and injured person.	Energy Northwest (formerly Washington Public Power Supply System) Emergency Preparedness and HEHF	None	12/10/97	Continue until canceled by one or more of the parties upon 30 days written notice to the other(s).	RL SES

Permit requirement: Table 3-1, Class 1 Modification 3/31/00

Table 3-1. Memorandums of Understanding

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Siemens Power Corporation (SPC)	Establishes means by which RL can provide consequence assessment and meteorological information to SPC during an emergency at the SPC plant in Richland, Washington	SPC	Emergencies affecting the Hanford Site or Hanford facilities takes precedence over all other uses of the UDAC facilities and/or staff.	01/19/00	Remain in effect for five years from effective date, at which time it shall be reviewed and renegotiated, reissued, or terminated. Either party may withdraw upon 30 days written notice.	RL SES
Siemens Power Corporation (SPC) and HEHF	Treatment of a significantly contaminated and slightly injured person.	SPC and HEHF	SPC agrees to undertake all costs and expenses incurred that directly result from this agreement.	01/03/00	Continue until canceled by one or more of the parties by written notice to the other(s).	RL SES
Allied Technology Group, Inc. (ATG) and HEHF	Treatment of a significantly contaminated and slightly injured person.	ATG and HEHF	ATG agrees to undertake all costs and expenses incurred that directly result from this agreement.	12/22/99	Continue until canceled by one or more of the parties by written notice to the other(s).	RL SES
National Weather Service	Sharing Meteorological Information.	NWS Western Regional Headquarters.	None	10/05/94	Agreement may be terminated by either party upon thirty days written notice to the other party.	RL SES
Our Lady of Lourdes Hospital (OLOL) Pasco, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	OLOL Administrator	The responsibilities of OLOL will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by OLOL or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL SES
Kadlec Medical Center (KMC) Richland, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	KMC Administrator	KMC will be limited to activities performed at the hospital and at the Emergency Decontamination Facility.	08/17/98	Arrangements may be terminated by KMC or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL SES
Kennewick General Hospital (KGH) Kennewick, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	KGH Administrator	KGH will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by KGH or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL SES

Table 3-1. Memorandums of Understanding

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Tri-County Mutual Aid Agreement	Provide mutual aid to parties hereto desire to augment the fire and emergency medical protection available in their establishments, districts, agencies, and municipalities in the event of large fires or conflagrations or other disaster.	Hanford Fire Department	Assistance under the agreement is not mandatory.	02/05/98	Remain in full force and effect until canceled by mutual agreement of the parties hereto or by written notice by one party to the other party giving ten (10) days notice of said cancellation.	Hanford Fire Department
Richland Police Department	Mutual law enforcement assistance.	Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/18/84	Indefinite duration.	RL SES
West Richland Police Department	Mutual law enforcement assistance.	West Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/27/86	Indefinite duration.	RL SES
Kennewick Police Department	Mutual law enforcement assistance.	Kennewick Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	09/26/85	Indefinite duration.	RL SES
Benton County Sheriff	Mutual law enforcement assistance.	Benton County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/10/87	Indefinite duration.	RL SES
Franklin County Sheriff	Mutual law enforcement assistance.	Franklin County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	12/22/92	Indefinite duration.	RL SES
Washington State Patrol	Mutual law enforcement assistance.	Washington State Patrol	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/25/89	Indefinite duration.	RL SES

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4.0 EVENT CATEGORIZATION AND CLASSIFICATION

Categorization and classification of events is key to ensuring that appropriate notifications and response actions are promptly initiated. Event categorization and classification criteria are developed and maintained to include events that require similar actions. The spectrum of actions triggered by categorization range from management activities that are not required to be initialized until after an event is closed out (i.e., occurrence reporting), to full activation of onsite and offsite emergency response organizations.

At the Hanford Site, five event categories are used to meet the requirements of DOE Orders, state and Federal regulations, and mutual agreements between RL and state and county agencies. Events may meet the criteria of one or more category; therefore, a sequential event evaluation process prioritized according to the time urgency of the required actions is employed. The five event categories used at Hanford are: Operational Emergencies, RCRA Emergencies, Abnormal Events, Unusual Occurrences, and Off-Normal Occurrences.

This section describes the provisions that shall be established and maintained as methods to be used to recognize, categorize, and classify events in order to protect workers, the public, and the environment. The Unusual and Off-normal Occurrence categories are used solely for occurrence reporting purposes, which is delineated in the Hanford implementing directive HFID 232.1B, *Notification, Reporting, and Processing of Operations Information*, and, therefore, will not be addressed further in this plan.

4.1 OPERATIONAL EMERGENCY

Operational Emergencies are unplanned, significant events or conditions that require time-urgent response from outside the immediate/affected facility or area of the incident. Operational Emergencies are divided into Base Program Operational Emergencies or Hazardous Material Operational Emergencies. Such emergencies are caused by, involve, or affect DOE facilities or activities and represent, cause, or have the potential to cause the events or conditions described in the respective subsections below. Incidents that can be controlled by employees or maintenance personnel in the immediate/affected facility or area are not Operational Emergencies. Incidents that do not pose a significant hazard to safety, health, and/or the environment and that do not require a time-urgent response are not Operational Emergencies. Initiating events that warrant categorization as Operational Emergencies shall be included in site- and facility-specific procedures.

Emergencies, once categorized, shall not be downgraded. An event determined to be an emergency will remain so until the emergency response is terminated.

RL/ORP shall determine the criteria to be used to categorize and classify Operational Emergencies based on site-specific criteria. Additional criteria may be based on the DOE *Emergency Management Guide* (DOE 1997). Site contractors shall maintain procedures to ensure recognition and appropriate categorization and classification of emergencies.

4.1.1 Base Program Operational Emergency

A Base Program Operational Emergency shall be declared when events occur that represent a significant degradation in the level of safety at a facility and that require time-urgent response efforts from outside the facility but do not involve the release or potential release of significant quantities of radiological or nonradiological materials. Since Base Program Operational Emergencies do not involve the release of significant quantities of hazardous materials, they do not require further classification (i.e., as Alert, Site Area Emergency, or General Emergency).

The designated point-of contact (e.g., BED/BW, contractor single point-of-contact), with assistance from ONC personnel will assess event information to determine if the event should be categorized as a Base Program Operational Emergency. The criteria for categorization of a Base Program Operational Emergency is part of the Abnormal Event criteria which is contained as a single criteria list within Hanford implementing directive HFID 232.1B, *Notification, Reporting, and Processing of Operations Information.*

Additionally, offsite transportation events involving RL/ORP-owned hazardous materials are categorized as Base Program Operational Emergencies and, as such, do not require classification.

4.1.2 Hazardous Material Operational Emergency

If an Operational Emergency represents a specific threat to workers and the public due to the release or potential release of significant quantities of radiological and nonradiological hazardous materials, it shall be classified as either an Alert, Site Area Emergency, or General Emergency, in order of increasing severity.

For facility events, the initial event classification shall be made by the BED or IC in accordance with established procedures.

For nonfacility events (e.g., transportation events, wildland fires), the initial event classification shall be made by the on-call Emergency Duty Officer.

The emergency classification shall be reviewed periodically to ensure the classification is commensurate with response activities; however, the classification shall not be downgraded until termination of the event. The criteria used to recognize and classify emergencies, called emergency action levels (EALs), are delineated in subsection 4.4. Hazardous Material Operational Emergency notification requirements are delineated in subsection 5.1.1.2.

4.1.2.1 Alert. An Alert shall be declared when events are predicted, are in progress, or have occurred that result in either of the following.

(1) An actual or potential substantial degradation in the level of control over hazardous materials (radiological and nonradiological). The radiation dose from any release to the environment of radioactive material or a concentration in air of other hazardous material is expected to be limited to a fraction of the applicable Protective Action Guide (PAG) or Emergency Response Planning Guideline (ERPG) at the facility boundary; but it is not expected that the applicable PAG or ERPG will be exceeded at or beyond the facility boundary. (See Table 4-2 for specific PAG and ERPG exposure levels.)

(2) An actual or potential substantial degradation in the level of safety or security of a facility or activity that could, with further degradation, produce a Site Area Emergency or General Emergency.

Additionally, an Alert represents an event where the entire Hanford Site ERO is required to provide more than event monitoring or minimal assistance to the facility organization.

At an Alert, the Hanford Site ERO shall:

- activate the DOE Hanford EOC and establish communications, consultation, and liaison with offsite agencies;
- continuously assess pertinent information for DOE decision makers, offsite agencies, the public, and other appropriate entities;
- conduct appropriate assessments, investigations, or preliminary sampling and monitoring;
- mitigate the severity of the occurrence or its consequences; and
- prepare for other response actions should the situation become more serious, requiring emergency response organizations to mobilize or activate resources.

4.1.2.2 Site Area Emergency. A Site Area Emergency shall be declared when events are predicted, in progress, or have occurred that result in either of the following situations.

(1) An actual or potential major failure of functions necessary for the protection of workers or the public. The radiation dose from any release of radioactive material or concentration in air from any release of other hazardous material is expected to be equal to or exceed the applicable PAG or ERPG exposure levels at the facility boundary but is not expected to be exceeded at or beyond the Hanford Site boundary. (See Table 4-2 for specific PAG and ERPG exposure levels. Refer to site boundary definition in subsection 1.4.2.)

(2) Actual or potential major degradation in the level of safety or security of a facility or process that could, with further degradation, produce a General Emergency.

At a Site Area Emergency, the Hanford Site ERO shall perform the same response actions as for an Alert plus the:

- initiation of predetermined protective actions for onsite personnel;
- provision of information to the public and the media;
- implementation of or assistance in any evacuations and sheltering; and
- mobilization of appropriate emergency response groups or protective/security forces for immediate dispatch should the situation become more serious.

4.1.2.3 General Emergency. A General Emergency shall be declared when events are predicted, in progress, or have occurred that result in the actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities of hazardous materials (radiological or nonradiological) to the environment. The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to be equal to or exceed the applicable PAG or ERPG exposure levels at or beyond the Hanford Site boundary. (See Table 4-2 for specific PAG and ERPG exposure levels. Refer to site boundary definition in subsection 1.4.2.)

At a General Emergency, the Hanford Site ERO shall perform the same response actions as for a Site Area Emergency plus the notification, mobilization, and dispatch of appropriate emergency response personnel and equipment, including appropriate DOE emergency response assets, and liaison with offsite agencies for the recommendation of predetermined public protective actions.

Operational Emergency notification requirements are delineated in respective subsections of section 5.0.

4.2 RESOURCE CONSERVATION AND RECOVERY ACT EMERGENCY

A RCRA emergency is defined as a release, fire, or explosion that could threaten human health or the environment. For a facility event, the BED/BW/IC, in consultation with the respective site contractor environmental single point-of-contact, shall determine whether the incident is a RCRA emergency based upon an evaluation and assessment. It is the responsibility of the BED/BW/IC to make this determination even though the BED/BW/IC consults with the site contractor environmental single point-of-contact. When this determination occurs, notifications delineated in subsection 5.1.2.1 shall be performed. Notifications described in subsection 5.1.1 may also be required for a RCRA emergency and are determined on a case-by-case basis by the BED/BW/IC.

The BED/BW/IC ensures that trained personnel identify the character, source, amount, and areal extent of the release, fire, or explosion to the extent possible. Identification of waste can be made by activities that can include, but are not limited to, visual inspection of involved containers, sampling activities in the field, reference to inventory records, or by consulting with facility personnel. Samples of materials involved in an emergency might be taken by qualified personnel and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

After gathering appropriate event information, the hazards posed by the event to human health and the environment must be assessed. The assessment must take into consideration the direct, indirect, immediate, and long-term effects of the incident. The assessment should include sources such as Material Safety Data Sheet toxicity and health information and results from any personnel monitoring examinations conducted at medical facilities. These are the types of tools, which will aid in ascertaining the extent in which human health and the environment were threatened.

If assessment of all available information does not yield a definitive assessment of the danger posed by the incident, a worst-case condition will be presumed and appropriate protective actions and notifications will be initiated. The BED/BW/IC is responsible to initiate any protective actions based on their best judgement of the incident.

For onsite transportation events, it is the responsibility of the on-call EDO, in consultation with the FHI site contractor environmental single point-of-contact, to make the determination whether the incident is a RCRA emergency. A RCRA emergency for onsite transportation events is defined as a release of WAC hazardous substances that threatens human health or the environment. When this determination occurs, notifications delineated in subsection 5.1.2.1 shall be performed. Notifications described in subsection 5.1.1 may also be required for a RCRA emergency and are determined on a case-by-case basis by the EDO.

4.3 ABNORMAL EVENT

There are a variety of events or situations that may occur on the Hanford Site that, while not creating or indicating an emergency condition, may generate public concern or media interest. Local, state, and tribal agencies need timely information regarding these events in order to reassure the public that these situations do not threaten their health or safety.

RL will work with offsite agencies to maintain criteria that will be used to identify these situations, termed Abnormal Event. The criteria will include those events as mutually agreed to by RL/ORP and the offsite agencies. Additionally, any incident categorized as an Operational Emergency, but not further classified as an Alert, Site Area Emergency, or General Emergency, will automatically trigger notifications to offsite agencies as an Abnormal Event. RL/ORP will further communicate criteria changes to the site contractors upon acceptance by RL/ORP and the offsite agencies.

4.4 EMERGENCY ACTION LEVELS

The EALs are specific, predetermined, observable criteria used to detect, recognize, and determine the classification of Hazardous Material Operational Emergencies identified by the hazards assessment. The EALs are typically identified as either event-based or symptom-based. The distinction arises from the available methods of detecting and recognizing the initiating conditions of the event. The development of symptom-based EALs is the preferred approach recognizing that there will usually be some initiating conditions that require an event-based approach. Initiating conditions must be identified specifically in EAL procedures and must be observable and recognizable in a timely manner by responsible personnel.

Facility-specific and nonfacility (e.g., onsite transportation incident, wildland fire, etc.) EALs shall be developed for the spectrum of potential Hazardous Material Operational Emergencies identified by the hazards assessment. Additional guidance for developing EALs can be found in the DOE *Emergency Management Guide* (DOE 1997) regarding hazards assessment and event classification.

The definitions delineated in Table 4-1, used in conjunction with Table 4-2, depict the criteria used at the Hanford Site to classify Hazardous Material Operational Emergency events. The BED/IC or EDO (for nonfacility events) is responsible for making initial classification of emergency events in accordance with RL/ORP and site contractor procedures.

Event classification using EALs also forms the basis for notification and participation of offsite organizations and for determining what and when protective actions will be implemented. As such, EALs and related information must be consistent and integrated with the emergency plans and procedures of offsite Federal, tribal, state, and local organizations and should be reviewed annually, as appropriate by all parties involved in response activities.

4.4.1 Symptom-Based Emergency Action Levels

Symptom-based EALs are dependent on one or more observable conditions or parameter values (i.e., symptoms) that are measurable over some continuous spectrum. The EALs should be the same indicators as those used to monitor routine facility operation. The level of severity indicated by these symptoms is directly related to the failure of or challenge to the facility's hazardous materials confinement barriers, other symptoms or events that occur simultaneously, and the ability of personnel to gain control and bring the indicator(s) back to safe levels. The resulting facility-specific EALs shall consist of specific quantified values (e.g., alarms and control instrument readings) that require no additional interpretation by the user. By comparing the observed value to the EALs in event classification procedures, the correct Hazardous Material Operational Emergency class can be readily determined.

4.4.2 Event-Based Emergency Action Levels

Event-based EALs address the occurrence of discrete events with potential safety significance. The level of severity is determined by the degree to which hazardous material confinement barriers are either failed or challenged as a result of the event, and the ability of personnel to gain control of the situation. Event classification requires the interpretation of one or more qualitative conditions or discrete observable indicators to determine if the existing situation matches the descriptions contained in the event classification procedure.

4.4.3 Emergency Action Level Development

The methodology for development of Hanford Site EALs is described in the following steps.

Step 1: Using the hazards assessment as the technical basis, identify the accident scenarios and consequences.

Step 2: Identify initiating conditions, barrier failures, system failures, contributing events and accident mechanisms for the scenario.

Step 3: Use the information developed in step 2 to identify specific equipment or other methods of detection.

Step 4: For detection and recognition methods that correlate directly to consequences, specific values for each emergency class are developed as necessary. These are symptom-based EALs.

Step 5: If there are no readily available methods to confirm a release, but the situation has the potential to exceed emergency criteria, the recognition of the event becomes the EAL. These are event-based EALs.

4.4.4 Use of Emergency Action Levels

On determination that an event has occurred at or affecting a Hanford Site facility, the BED/IC or EDO (for nonfacility events) shall promptly assess the conditions, compare the indications to the EAL set, and determine the appropriate Hazardous Material Operational Emergency classification. Then, immediate protective and mitigative actions, activation of the emergency response organization, and appropriate notifications are carried out.

The DOE Hanford EOC is responsible for ensuring that the emergency has been classified appropriately by the BED/IC or EDO (for nonfacility events) by reviewing the appropriate EAL to determine that the correct emergency classification has been selected.

Table 4-1. Summary of Hazardous Material Operational Emergency Classifications.

OPERATIONAL EMERGENCY CLASSIFICATION	FACILITY OR PROCESS EVENT	ONSITE TRANSPORTATION EVENT
Alert	Actual or potential substantial degradation of level of control over radiological or nonradiological hazardous material. Releases are not expected to exceed applicable PAG or ERPG levels at or beyond the facility boundary. OR Actual or potential substantial degradation in the level of safety or security that could, with further degradation, produce a Site Area Emergency or General Emergency.	Actual or potential substantial degradation of the safety of the shipment. Exposures in excess of PAG or ERPG levels only expected for personnel engaged in cleanup, recovery and investigation.
Site Area Emergency	Actual or potential major failures of functions necessary for the protection of workers or the public. Releases could exceed applicable PAG or ERPG levels onsite but not offsite. OR Actual or potential major degradation in the level of safety or security that could, with further degradation, produce a General Emergency.	Actual or potential major reduction in safety of a shipment. Release may exceed PAG or ERPG levels beyond the exclusion zone[1] onsite but not at nearest site boundary.
General Emergency	Actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities of radiological or nonradiological materials to the environment. Releases reasonably expected to exceed applicable PAG or ERPG levels offsite.	Actual or imminent catastrophic reduction in safety of a shipment. Release expected to exceed PAG or ERPG levels offsite.

[1] The exclusion zone is defined as the immediate vicinity of the accident.

Table 4-2. Hanford Site Hazardous Material Operational Emergency Classification Criteria.

ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
$\geq$ ERPG[1]-1 & < ERPG-2 at the facility boundary[2].	$\geq$ ERPG-2 at the facility boundary.	$\geq$ ERPG-2 at the Hanford Site boundary.
$\geq$ 100 mrem TEDE[3] at the facility boundary.	$\geq$ 1 rem TEDE at the facility boundary.	$\geq$ 1 rem TEDE at the Hanford Site boundary.

[1] Appropriate ERPG values or equivalent as stated in the DOE *Emergency Management Guide.* Solubility class "D" uranium compounds are limited by chemical toxicity.

[2] The facility boundary is defined as the property protection area perimeter fence when present or a distance of 100 meters from the release location unless otherwise specified in the hazards assessment documentation.

[3] The total effective dose equivalent (TEDE) includes the summation of the doses delivered from plume submersion, ground shine, and inhalation from accidental releases.

11.0 EMERGENCY FACILITIES AND EQUIPMENT

This section identifies and describes the emergency facilities and equipment used or maintained by RL/ORP and the Hanford Site contractors. The provision of facilities and equipment adequate to support emergency response, including the capability to notify employees of an emergency to facilitate the safe evacuation of employees from the work place, immediate work area, or both shall be addressed. Facility-specific equipment may be listed in respective building emergency plans and/or procedures.

11.1 EMERGENCY FACILITIES

This section contains a description of the RL/ORP and site contractor facilities that have been equipped for emergency control, operations, and coordination. Figure 11-1 depicts the geographical location of the primary and alternate DOE Hanford EOC, the POC, and the Hanford fire stations. The functions, staffing, and activation criteria of the DOE Hanford EOC are described in the various subsections of section 2.0.

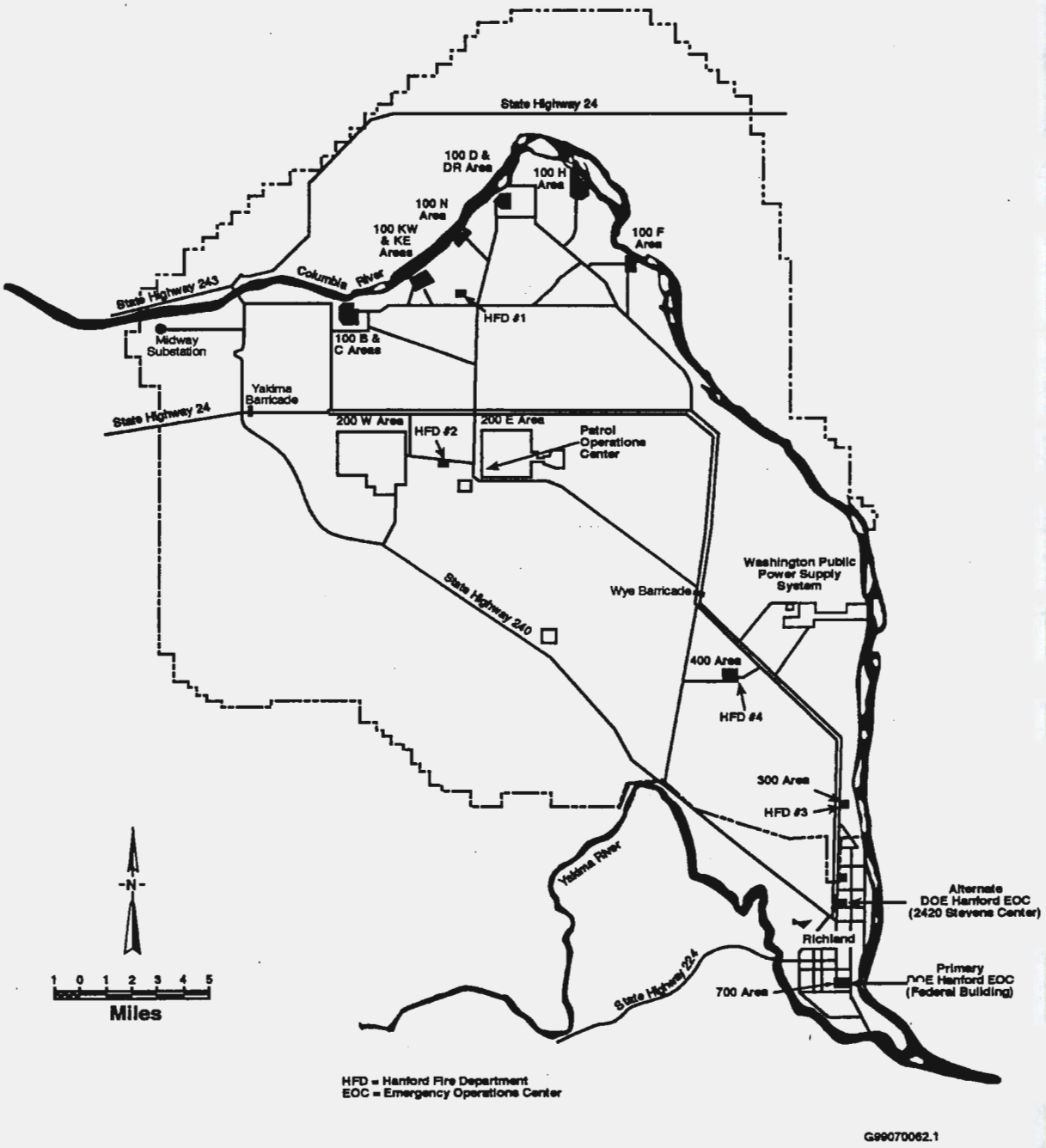
11.1.1 U.S. Department of Energy Hanford Emergency Operations Center

The DOE Hanford EOC, which consists of the Policy Team, SMT, and the JIC, is located in the Federal Building, 825 Jadwin Avenue, Richland, Washington. The Policy Team and SMT workrooms are dedicated facilities located in the basement of the Federal Building. The JIC is a dedicated facility located on the main floor in Rooms 157 and 158. Telecommunication, word processing, and duplication equipment is provided to support JIC-participating agencies and the media. The JIC may also dedicate the use of the auditorium, portions of the lobby, and other areas in the Federal Building for JIC purposes as needed. The DOE Hanford EOC location provides favorable proximity to the emergency management and response staff, the RL Communications Center, and to additional office space.

Additionally, the DOE Hanford EOC is outside of Hanford Site facility plume EPZs thus ensuring a high probability of the DOE Hanford EOC being habitable following an emergency on the Hanford Site. An emergency power generator, routinely serviced and maintained by the General Services Administration, is available to supply power to essential emergency equipment in the Federal Building in the event of loss of normal power.

The DOE Hanford EOC shall be equipped with compatible communication, photo/video, and automatic data processing support specified by the DOE-HQ Director of Emergency Management. Additionally, primary and backup means of communication shall be available and capable of operating with other DOE elements and with other Federal, tribal, state, and local response organizations as applicable.

Figure 11-1. Hanford Site Emergency Centers and Fire Stations.



An alternate DOE Hanford EOC has been established at 2420 Stevens Center Boulevard, Richland, Washington. The criteria for abandonment of the primary DOE Hanford EOC will be when radiation monitoring at the DOE Hanford EOC shows whole body dose rates (beta plus gamma) exceeding 0.1 rem/hr for greater than 1 hour or the DOE Hanford EOC becomes uninhabitable for any other reason (e.g., earthquake or a security breach).

The primary DOE Hanford EOC may be reactivated following abandonment if the radiation dose rates decrease or other conditions change to the point where, in the opinion of the RL/ORP Emergency Manager, it is safe to reoccupy the primary DOE Hanford EOC.

Procedures for the operation of the alternate DOE Hanford EOC are found in the *Emergency Plan Implementing Procedures* (DOE-0223).

11.1.2 Hanford Patrol Operations Center

The POC is located in the 2721-E Building in the 200 East Area. The POC monitors the emergency response number (911), business number (373-3800), and acts as the single point-of-contact for RL/ORP.

The POC notifies and/or dispatches the:

- Hanford Fire Department, including ambulance and the Hazardous Material Response Team;
- Hanford Patrol;
- HEHF on-call provider;
- Transportation on-call representative;
- EDO; and
- Benton County Sheriff personnel assigned to Hanford Site.

The POC also is responsible for alarm monitoring; activation of crash alarm telephone systems and sirens; and assisting in dispatch and radio communications for emergency responders.

11.1.3 Occurrence Notification Center

The ONC, located in the basement of the Federal Building, is a 24-hour operational facility equipped to communicate information regarding occurrences at or affecting the Hanford Site to RL/ORP and site contractor personnel and to state and local emergency management organizations.

Specific responsibilities of the ONC includes:

- activating the Hanford Site ERO via the automated ENS;

- providing initial notifications via the automated ENS to Grant County residents within the Hanford EPZs; and

- providing notifications to the DOE-HQ EOC and state and local emergency management agencies.

ONC notification responsibilities are covered further in applicable subsections of section 5.0. Specific operational desk instructions shall be maintained by the ONC.

11.1.4 Medical Emergency Facilities

Capabilities for medical aid, triage, and personnel decontamination shall be available onsite. Emergency Medical Support is described further in section 8.0.

Medical emergency facilities include the following.

- Health Care Centers: HCCs are located at 3080 George Washington Way in Richland and in the 200 East Area. (NOTE: Construction of a 200 West Area HCC is currently underway to replace the 200 East Area HCC. Estimated completion date is July 2000.) HCCs are occupied on day shift Monday through Friday, excluding holidays, and contain sufficient medical supplies to treat patients with occupational illnesses or injuries who do not require hospitalization. Ambulance service is provided by the Hanford Fire Department.

- Site Decontamination Facilities: Personnel decontamination sites are located in several locations in the 100, 200, 300, and 400 Areas.

- Emergency Decontamination Facility: The EDF is located north of Kadlec Medical Center (Richland, Washington). The EDF is a dedicated, hardened facility designed to accommodate nonserious or nonlife-threatening radiologically contaminated injuries.

Agreements shall be in place between RL and local hospitals for backup medical treatment. A copy of each MOU is contained in Appendix B.

11.1.5 Protective Clothing Cleaning

Interstate Nuclear Services provides laundry services for the Hanford Site. The laundry facility is located in the Science and Technology Park just south of the site. The laundry manages protective clothing, including cleaning both radioactively contaminated laundry and noncontaminated laundry.

11.1.6 State and County Emergency Operations Centers

The Benton County EOC is located at 651 Truman Avenue, Richland, Washington.

The Franklin County EOC is located at 502 Boeing Street, Pasco, Washington.

The Grant County EOC is located at 6500 32nd Avenue NE, Moses Lake, Washington.

The Washington State EOC is located in the office of the Washington State Emergency Management Division (Building 20) at Camp Murray in Tacoma, Washington.

The Oregon State EOC is in the office of the Oregon Emergency Management Division, located at 595 Cottage Street NE, Salem, Oregon.

11.2 EMERGENCY EQUIPMENT

Adequate personal protective equipment and other equipment and supplies shall be available and operable to meet the needs determined by the results of the hazards assessment and/or other applicable documentation, and for emergency response personnel to carry out their respective duties and responsibilities.

Emergency and backup equipment (including monitoring devices) shall be located in readily accessible areas away from the scene of the potential accident. Equipment shall be available, as appropriate, to provide functions for the potential, credible emergencies such as:

- emergency dosimetry;
- personnel protection;
- radiation control monitoring instrumentation;
- monitoring of personnel, facilities, and the environment onsite and offsite;
- emergency medical treatment onsite;
- meteorological evaluation;
- handling of personnel contaminated with radioactive or toxic materials, and fatalities;
- supplying emergency power, water, and sanitation;
- emergency transportation for personnel evacuation;

- movement of earth or heavy loads; and
- emergency communications, including portable and secure communications equipment, as required.

To ensure equipment reliability, emergency equipment should, to the extent practical, be the same equipment used for routine operations. RL/ORP and the site contractors maintain a variety of light and heavy equipment and supplies that could be diverted from routine use to emergency use, if needed.

All equipment that could be used in an emergency response is listed in the RL Property System database, which can be quickly accessed to determine the current status of each piece of equipment. This system is maintained and operated by the Resource Allocation and Management group of the operating contractor.

As applicable, the BED/BW/IC and/or the Onsite Recovery Manager and staff shall ensure that all equipment is cleaned and fit for its intended use before operations are resumed. This may include actions to ensure that depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, fire extinguishers are recharged or replaced, and protective clothing is cleaned (or disposed of) and restocked.

11.2.1 Assessment Equipment

Emergency equipment shall be available, as appropriate, to allow an early and reliable determination of the seriousness of an accident. The equipment for both emergency and continuing assessment of the facilities and environment at the Hanford Site consists of dosimeters, criticality detectors and alarms, and effluent and environmental monitoring equipment. Each building having a potential for a nuclear accident has a list of dosimeters, criticality detectors, and alarms, as well as a drawing showing their location in relation to prominent facility features.

Arrangements are in place with the Aerial Measuring System (DOE Nevada Operations Office) for aerial surveillance and monitoring through UDAC.

11.2.1.1 Nuclear Accident Dosimeter. The Hanford Site nuclear accident dosimeter is a stationary device that provides neutron and gamma dose information following a criticality or high-level radiation event. The dosimeter satisfies the requirements for an emergency dosimetry system by providing a system capable of determining the:

- neutron dose (in rads);
- photon dose in the presence of neutrons (from 10 to 10,000 rads); and
- neutron flux in each of five energy intervals, which permits calculation of the neutron dose equivalent in rem.

These dosimeters are recovered only when directed by RL. PNNL maintains a current list of nuclear accident dosimeter locations in PNL-MA-583 (PNL 1994). Instructions for recovery of these dosimeters are contained in site contractor emergency procedures.

11.2.1.2 Emergency Instrumentation. Under emergency conditions, many needed supplies and equipment would be drawn from the instrument and equipment pool used for normal operations at the Hanford Site. This ensures that multiple sources of supplies are available and that the equipment is calibrated, maintained, and ready for use by personnel involved in controlling the emergency.

11.2.2 Fire Control Equipment

Buildings shall be equipped with fire control equipment, such as automatic fire-suppression (sprinkler) systems and portable fire extinguishers, in accordance with National Fire Protection Association safety codes. Where equipped, portable fire extinguishers must comply with the National Fire Code standards and be inspected monthly with inspections recorded on tags attached to each extinguisher.

11.2.3 Personal Protective Equipment

Buildings shall have safety showers and eyewash stations, located as necessary, in accordance with applicable regulations. Drainage from these stations shall be contained. In addition to these stations, portable eyewash equipment shall be maintained at protective storage areas as necessary. The eyewash and shower stations shall be inspected regularly.

Protective clothing and respiratory protective equipment shall be maintained for use during both routine and emergency operations. Equipment not provided by the Hanford Fire Department shall be identified in nonhazardous and hazardous facility documentation.

11.2.4 Spill Control and Contamination Supplies

Spill control and contamination supplies shall be located in facilities as necessary. Supplies may include sorbent materials for organic or inorganic materials; diatomaceous earth for liquid waste spills; neutralizing sorbents for response to acid or caustic spills; containers and salvage containers (e.g., overpacks); and brooms, shovels, and miscellaneous spill response supplies.

11.2.5 Decontamination Operation Equipment

The T Plant Complex in the 200 West Area provides equipment decontamination services for the Hanford Site.

11.2.6 Evacuation Vehicles

The BEDs shall ensure that vehicles are available to move all personnel from their facility. This may be accomplished by a combination of government-owned and private vehicles. If insufficient vehicles are available, the BED can coordinate the response of additional transportation assets through the DOE Hanford EOC.

11.2.7 Hanford Patrol

Hanford Patrol maintains a large inventory of security response equipment, including transportation, weaponry, protective equipment, and communication.

11.2.8 Hanford Fire Department

The Hanford Fire Department maintains a large inventory of fire fighting, hazardous material response, and rescue equipment. The Hanford Fire Department also operates the site ambulance service from the various area fire stations. Mutual aid agreements with local fire departments provide additional backup capabilities.

A description of equipment for hazardous material responses available through the Hazardous Materials Response Team is delineated in Appendix C of this plan. Locations of the four fire stations on the Hanford Site are shown in Figure 11-1.

11.3 MAINTENANCE AND TESTING OF ALARM AND COMMUNICATION SYSTEMS

The facility manager or BED shall ensure that preventive maintenance is performed on facility emergency sirens and criticality alarm systems by the responsible maintenance organizations in accordance with the established preventative maintenance procedures.

The FHI Emergency Preparedness organization shall ensure that preventive maintenance is performed on area and river sirens.

Facility sirens, facility criticality alarm systems, and area sirens not heard in offsite, permanently populated areas shall be audibly tested at a predesignated time each month in accordance with contractor preventive maintenance procedures.

Where facility sirens, facility criticality alarm systems, and area sirens may be heard in offsite, permanently populated areas, audible testing shall be conducted on an annual basis and must be coordinated with offsite emergency authorities. Silent testing shall be used if more frequent tests are necessary to assure operability. Site contractors responsible for these sirens will coordinate audible tests and necessary offsite notifications with RL SES.

The site contractor responsible for the facility sirens, facility criticality alarm systems, and area sirens to be tested is responsible to ensure appropriate notification to workers through such means as announcements over the crash alarm telephone system, public address system, and/or e-mail. Sitewide information sources, such as the POC and Hanford telephone operator, should also be notified of any audible facility siren, facility criticality alarm system, or area siren testing.

Communication systems testing shall include:

- monthly testing of area crash alarm telephone systems (100K, 100N, 200 East, 200 West, 300, and 400 Areas) by the responsible site contractor;
- monthly testing of the DOE Hanford EOC radios by the FHI Emergency Preparedness organization; and
- quarterly testing of the ENS by the ONC.

As applicable, the organization(s) responsible for communications with DOE-HQ and offsite agencies shall test communications systems at least annually or as often as needed to ensure that communications systems are operational.

11.4 INVENTORY OF EMERGENCY EQUIPMENT

Contractor emergency equipment shall be inventoried periodically in accordance with site contractor inventory control procedures to ensure availability in the event of an emergency.

A quarterly inventory of emergency equipment in emergency centers shall be conducted and the records of these inventories maintained for one year by the site contractor responsible for emergency center maintenance. An implementing procedure for conducting emergency center inventories shall be maintained and corrected within 30 days of an inventory change.

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14.0 PROGRAM ADMINISTRATION

The basic purpose of program administration is to establish and maintain effective organizational management and control of the emergency management program. Even though the program is now available to ORP and its contractors, RL retains the primary responsibility to oversee, coordinate, and assess the emergency management programs of the Hanford Site contractors. RL will ensure the preparation and maintenance of plans and procedures necessary for RL/ORP to carry out its responsibilities during an emergency and will schedule through ORP any activities (i.e., drills, exercises, assessments) of ORP contractors.

14.1 EMERGENCY MANAGEMENT PROGRAM ADMINISTRATOR

The RL/ORP Managers have the responsibility for administering the overall emergency management program for the Hanford Site. The RL/ORP Managers have delegated the authority to develop, implement, and maintain the emergency management program to the RL SES director; however, key program decisions and/or policy changes will be coordinated with ORP prior to implementation. The RL Emergency Preparedness staff of RL SES carries out these responsibilities.

Each site contractor shall designate an individual to administer the site-level emergency management program and/or to administer/assess the facility-level emergency management program. This individual shall also assist, as necessary, in the development and maintenance of this plan and applicable implementing procedures; development of the Hanford Emergency Readiness Assurance Plan (ERAP) and annual updates; development and conduct of training and exercise programs; coordination of assessment activities; development of related documentation; and coordination of emergency resources.

Each building organization shall designate an individual (e.g., BED, BW, emergency preparedness coordinator) responsible to administer the emergency management program at the facility level.

14.1.1 Emergency Management Functions at the U.S. Department of Energy, Richland Operations Office

The RL/ORP Emergency Preparedness staff functions, as appropriate to the responsibilities described above, related to overseeing site contractor emergency preparedness programs include:

- ensuring that hazards assessments and hazards surveys for emergency planning are adequately performed and documented;

- reviewing and recommending approval of the annual Hanford ERAP developed by site contractors and RL/ORP, and submitting it to the CSO and the DOE-HQ Director of Emergency Management for inclusion in the annual report;

- assessing facility emergency preparedness programs to verify compliance with appropriate Federal and state directives and policy, and providing the results/conclusions to the CSO and the DOE-HQ Director of Emergency Management;

- submitting DOE Order requirement exemption requests, as necessary, for approval by the Under Secretary, which document the basis for each exemption, and establishes and justifies alternatives equivalent to or exceeding the Order;

- reviewing and approving the Hanford Site emergency exercise program, and reviewing exercise evaluation and quarterly corrective action status reports; and

- reviewing written reports of evaluations of declared events.

RL Emergency Preparedness staff functions to ensure that RL/ORP can carry out its responsibilities in an emergency include:

- ensuring that annual budgets and mission and function statements reflect implementation policies and decisions;

- assigning a senior emergency preparedness representative to the Emergency Management Advisory Committee;

- revising and updating this plan and the *Emergency Plan Implementing Procedures* (DOE-0223) in accordance with DOE O 151.1 and other appropriate Federal and state regulations, and ensuring integration within the overall emergency management program;

- interfacing with Federal, tribal, state, and local emergency management organizations;

- maintaining and negotiating agreements with state and county response agencies, Federal assistance agencies, and maintaining agreements with medical and fire support agencies;

- providing training to state and local emergency response personnel, as requested;

- recruiting and training staff for the DOE Hanford EOC;

- maintaining the DOE Hanford EOC facility and equipment; and

- maintaining the DOE Region 8 RAP.

Additional organizational responsibility, authority, and functions within RL for implementing requirements from DOE O 151.1 and other DOE Directives and Federal and state laws are delineated in the *Richland Operations Office Functions, Responsibilities and Authorities Manual*.

14.2 EMERGENCY READINESS ASSURANCE PROGRAM

14.2.1 Hanford Emergency Readiness Assurance Plan

Based upon the organization and management of the Hanford Site emergency management program, individual facility ERAPS are not provided. Rather, RL/ORP and site contractor Emergency Preparedness personnel participate in the preparation of a consolidated Hanford ERAP.

The Hanford ERAP shall be a planning tool to identify and develop needed resources and improvements. The Hanford ERAP shall highlight any significant changes in emergency management programs (i.e., planning bases, organizations, exemptions) from previous ERAPs, as well as comparing actual achievements to goals, milestones, and objectives. If applicable, the Hanford ERAP shall be reviewed for classified or controlled information prior to submittal.

Site contractor Emergency Preparedness personnel shall submit initial or updated emergency planning and preparedness activities information, as indicated above, to RL SES by September 30 each year for review and inclusion in the Hanford ERAP. The information shall cover a planning cycle of five years beginning the next October 1.

The RL Emergency Preparedness staff shall review and finalize the Hanford ERAP for approval by the RL SES director. The RL staff will obtain concurrence from ORP prior to ERAP approval by the RL SES director. The consolidated Hanford ERAP shall be submitted to the CSO and DOE-HQ Director of Emergency Management by November 30 each year.

14.2.2 Emergency Readiness Assurance Assessments/Appraisals

RL/ORP shall periodically review the ability of contractor-operated facilities to meet requirements of the DOE Emergency Management System. Appraisals and assessments shall be based on specific standards and criteria published by the DOE-HQ Director of Emergency Management. Appraisal findings shall be acknowledged by the appraised activity within 90 days of receipt of findings with a corresponding plan for correction. The RL/ORP appraising organization shall determine closure of open or unresolved appraisal findings.

Additionally, RL/ORP shall assess the emergency management program of each site contractor under its supervision. Each site contractor shall be assessed at least once every 3 years. RL/ORP shall notify the CSO of its assessment schedule.

Contractor-operated facilities shall conduct an annual internal readiness assurance assessment of their emergency management programs with the documented results provided to RL/ORP. Corrective actions shall be tracked and status reports provided to RL/ORP. In addition, site contractors shall assist external organizations (i.e., RL/ORP, DOE-HQ) in scheduling and conducting evaluations, appraisals, and assessments of their respective facilities; respond to external evaluation, appraisal, and assessment findings within 90 days of receipt of findings; and resolve all evaluation, appraisal, and assessment findings with the responsible organization or request approval for an exemption to the requirements.

RL/ORP and contractor assessment results shall be provided to the CSO and DOE-HQ Director of Emergency Management through documentation in the Hanford ERAP.

14.2.3 Lessons Learned

RL/ORP and each site contractor emergency management program shall include a system to track and identify correction of findings or lessons learned from training, drills, exercises, and actual responses.

14.3 DOCUMENT CONTROL

This plan and RL/ORP and site contractor implementing procedures shall be controlled distribution documents. RL/ORP and site contractors shall use a document control system to ensure that controlled copies are up to date and available at locations where they may be needed in an emergency. RL/ORP and site contractors shall determine the internal and external controlled copy distribution of the emergency plan and respective implementing procedures.

14.3.1 Review and Update of the Hanford Emergency Management Plan and U.S. Department of Energy Richland Operations Office/Office of River Protection and Site Contractor Implementing Procedures

This plan and the *Emergency Plan Implementing Procedures* (DOE-0223) will be reviewed annually by the RL/ORP and the appropriate response organizations and agencies. RL SES is responsible for the coordination of this review and any resulting actions. RL SES will identify specific changes deemed necessary and will ensure implementation of the revisions.

Revising and updating of this plan and/or the *Emergency Plan Implementing Procedures* (DOE-0223) may be initiated at any time deemed necessary by RL SES. Changes and/or amendments shall be incorporated by RL SES, concurred upon by ORP and site contractors, and approved by the RL/ORP Manager or his designee.

A controlled copy of the approved plan and the *Emergency Plan Implementing Procedures* (DOE-0223) shall be submitted to the DOE-HQ Director of Emergency Management, the CSO, and to the DOE-HQ EOC.

Site contractor emergency plans (e.g., building emergency plans) and implementing procedures shall be reviewed at least annually.

14.3.1.1 Review and Update Based on WAC 173-303

Portions of this plan, together with Hanford Site location/activity-specific documentation established to meet contingency plan requirements, must be reviewed and immediately amended, if necessary, whenever:

- applicable regulations or the Hanford Facility RCRA Permit are revised;
- the building emergency plan/procedure fails in an emergency;
- a TSD unit or 90-day accumulation area changes (e.g., design, operation, maintenance, etc.) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; or
- the list of emergency equipment changes.

14.3.2 Review of Agreements

Agreements with local, state, and Federal officials and agencies (as contained in Appendix B) are maintained by RL SES and are reviewed and/or updated at least annually. Updates may be initiated either by RL or by the agreement official or agency. Updates are documented by amendment marks on individual pages of the agreement unless comprehensive amendments are required. Agreements shall be reviewed annually and revised as necessary. RL SES shall maintain documentation of the annual review.

14.3.3 Classified Information

RL/ORP and site contractors shall ensure that emergency preparedness documents, such as plans, procedures, scenarios, and assessments, are reviewed, as necessary, for classified and Unclassified Controlled Nuclear Information (UCNI) by an authorized derivative classifier or UCNI reviewing official.

14.3.4 Supporting Documents

RL SES shall maintain copies of documents and records that support the emergency management program (i.e., technical data, hazards assessments, ERAPs, and plans and procedures). Records of training, drills, and exercises shall be maintained to document status of the program and provide direction for improvements.

Hanford Site contractors shall maintain records that will provide documentation of the facility emergency preparedness program and to support the preparation of the ERAP, work plans, etc.

14.3.5 Vital Records

A program shall be established to ensure that vital records, regardless of media, essential to continued functioning or reconstruction of an organization during and after an emergency, are maintained and available, per 36 CFR 1236.

The vital records program ensures the protection and availability of information critical to effective emergency response management, and the protection of the legal rights and interests of citizens, the Federal government and its employees, and DOE contractors and site personnel. The RL Office of Site Services is responsible to ensure that a vital records program for the Hanford Site is in place.

RL/ORP and site contractors shall annually review their respective records indicated on the vital records submittal listing and determine necessary additions to or deletions from the list. RL SES shall ensure that the retrieval process for vital records is evaluated annually as part of a Hanford sitewide emergency exercise.

Each site contractor and RL/ORP shall provide designated storage locations for vital records, as appropriate. RL/ORP and site contractor documents identified as vital records, such as this plan, emergency procedures, and building emergency plans, shall be stored at the DOE Hanford EOC in paper form so they can be used without reliance on mechanical equipment. Other emergency operating records and rights and interests records designated as vital need not be kept at the DOE Hanford EOC.

14.3.6 Emergency Records

RL/ORP and site contractor emergency procedures shall provide for documentation of emergency records that contain information for review and reconstruction of major communications and actions taken during a declared emergency. These records include logs and documentation produced by the respective emergency response organizations (i.e., Incident Command Organization and the DOE Hanford EOC). RL SES shall maintain emergency records generated during the operation of the DOE Hanford EOC and may also request copies of emergency records generated at other emergency response locations.

In addition, provisions shall be in place for the control, monitoring, and maintenance of permanent records of onsite personnel exposures to internal/external radiological and nonradiological hazardous materials in response to emergency conditions. Exposure records shall be stored in accordance with existing site records retention requirements.

14.3.7 Plan Locations

Copies of this plan are maintained at:

- RL and ORP Emergency Preparedness program offices;
- each contractor Emergency Preparedness office and other locations as specified by the respective contractor;
- Hanford Fire Department (area fire stations);
- Occurrence Notification Center;
- DOE Hanford Emergency Operations Center (primary and alternate); and
- the Patrol Operations Center.

Copies of the plan are also maintained at the following offsite agencies (per their request) to meet the WAC 173-303-350(4) requirement:

- Kennewick Police Department;
- West Richland Police Department;
- Washington State Patrol;
- Pasco Fire Department;
- Richland Fire Department;
- City of Kennewick;
- Kadlec Medical Center;
- Our Lady of Lourdes Health Center;
- Benton County Emergency Management Center;
- Franklin County Emergency Management Center; and
- Grant County Emergency Management Center.

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APPENDIX A
DOCUMENTATION CROSSWALK MATRIX

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-340 Introduction	Preparedness and prevention. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or any unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, or surface or ground water, which could threaten the public health or the environment. This section describes preparations and preventive measures, which help avoid or mitigate such situations.	Under the Dangerous Waste Regulations (State authorized RCRA program), the Hanford Site is a singular facility with over 60 TSD units and many more locations where generator activities take place. For the purposes of these regulations: Facility = Hanford Site	N/A
WAC 173-303-340(1) (Permit requirement)	Required equipment. Required equipment. All facilities must be equipped with the following, unless it can be demonstrated to the department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below: (a) An internal communications or alarm system capable of providing immediate emergency instruction to facility personnel; (b) A device, such as a telephone or a hand-held, two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams; (c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and (d) Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.	Required equipment is evaluated on a site-wide basis (Hanford Fire Department) and a location-specific basis for TSD units and 90-day accumulation areas. Each location does not necessarily require each type of equipment. Lists of appropriate equipment are documented in accordance with WAC 173-303-350(3)(e).	See line item for WAC 173-303-350(3)(e).
WAC 173-303-340(2) (Permit requirement)	Access to communications or alarms. Personnel must have immediate access to the signaling devices described in the situations below: (a) Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, all personnel involved must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in subsection (1) of this section; (b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone or a hand-held, two-way radio, capable of summoning external emergency assistance, unless such a device is not required in subsection (1) of this section.	Site personnel are provided access to signaling devices.	None required to document compliance.
WAC 173-303-340(3) (Permit requirement)	Aisle space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel. fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the department that aisle space is not needed for any of these purposes.	This requirement is met at TSD units and 90-day accumulation area, where appropriate.	N/A

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-340(4) (Permit requirement)	Arrangements with local authorities. The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations, unless the hazards posed by wastes handled at the facility would not require these arrangements: (a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of dangerous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes; (b) Arrangements to familiarize local hospitals with the properties of dangerous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility; (c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and (d) Where more than one party might respond to an emergency, agreements designating primary emergency authority and agreements with any others to provide support to the primary emergency authority.	Arrangements are addressed on a site-wide basis. Memoranda of Understanding, which RL enters into, are described in DOE/RL-94-02, Table 3-1. Hanford Site emergency responders (Hanford Fire Department and Hanford Patrol) must be familiar with items - 340(4)(a). The City of Richland, Benton County Sheriff and Washington State Patrol will be familiar as necessary.	See line item for WAC 173-303-350(3)(c).
WAC 173-303-340(5)	Where state or local authorities decline to enter into such agreements, the owner or operator must document the refusal in the operating record.	The operating record is the set of documents maintained to demonstrate compliance with WAC 173-303 and the Hanford Site RCRA Permit.	None. If authorities decline, the documentation will be maintained in accordance with DOE/RL-91-28.
WAC 173-303-350(1)	Purpose. The purpose of this section and WAC 173-303-360 is to lessen the potential impact on the public health and the environment in the event of an emergency circumstance, including a fire, explosion, or unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, surface water, or ground water by a facility. A contingency plan must be developed to lessen the potential impacts of such emergency circumstances, and the plan must be implemented immediately in such emergency circumstances.	DOE/RL-94-02 is the site-wide plan meeting site-wide contingency planning requirements. Location-specific/activity-specific elements are contained in documentation for operating TSD units and 90-day accumulation areas.	The contingency plan consists of portions of DOE/RL-94-02 and location-specific/activity-specific documentation.
WAC 173-303-350(2)	Each owner or operator must have a contingency plan at his facility. A contingency plan must be developed to lessen the potential impacts of such emergency circumstances, and the plan must be implemented immediately in such emergency circumstances.	Facility = Hanford Site according to the regulations. (See section 1.4.1 of this plan for definition.)	The contingency plan consists of portions of DOE/RL-94-02 and location-specific/activity-specific documentation.
WAC 173-303-350(3)(a) (Permit requirement)	The contingency plan must contain the following: (a) A description of the actions which facility personnel must take to comply with this section and WAC 173-303-360;	The site-level description of actions is addressed in this plan. Location-specific/activity-specific documentation utilizes generic response descriptions or creates more detailed descriptions appropriate for the location.	Site-level: DOE/RL-94-02, section 1.3.4. Unit-level: location-specific documentation.
WAC 173-303-350(3)(b) (Permit requirement)	The contingency plan must contain the following: (b) A description of the actions which will be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported, pursuant to the requirements of WAC 173-303-370(5), Manifest system, reasons for not accepting dangerous waste shipments;	The site-level description of actions is addressed in this plan. For TSD units that receive offsite waste shipments, location-specific documentation addresses these circumstances.	Site-level: DOE/RL-94-02, section 1.3.4. Unit-level: location-specific documentation.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-350(3)(c) (Permit requirement)	The contingency plan must contain the following: (c) A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in WAC 173-303-340(4);	DOE/RL-94-02, section 3.7 and Table 3-1 contain this information. This requirement is met at the site level. No location-specific information is needed to meet this requirement.	Site-level: DOE/RL-94-02, sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1.
WAC 173-303-350(3)(d) (Permit requirement)	The contingency plan must contain the following: (d) A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under WAC 173-303-360(1). Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by WAC 173-303-810(14)(a)(i)), rather than as part of the permit application;	DOE/RL-94-02, section 2.2, discusses personnel job titles, which will fill duties and responsibilities of the Emergency Coordinator, described in WAC 173-303-360. Location-specific/activity-specific documentation for TSD units and 90-day accumulation areas include information on job title, work location, and work phone number for Emergency Coordinator. Emergency Coordinator names and home phone numbers are maintained separate from the contingency plan document, on file in accordance with Hanford Facility RCRA Permit, DW Portion, General Condition II.A.4 and is updated, at a minimum on a monthly basis.	Site-level: None. Unit-level: location-specific documentation.
WAC 173-303-350(3)(e) (Permit requirement)	The contingency plan must contain the following: (e) A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities; and	DOE/RL-94-02, Appendix C contains the list of Hanford Fire Department equipment. Location-specific documentation for TSD units and 90-day accumulation areas contain equipment lists for their respective locations.	Site-level: DOE/RL-94-02, Appendix C. Unit-level: Appropriate equipment identified in location-specific documentation.
WAC 173-303-350(3)(f) (Permit requirement)	The contingency plan must contain the following: (f) An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	The site-wide signals are delineated in DOE/RL-94-02, Table 5-1. No location signal information is required unless unique devices are used at the location. Site-wide evacuation routes are contained in DOE/RL-94-02, Figure 7-3. Location-specific evacuation routes will be provided in TSD units and 90-day accumulation area documentation. Evacuation routes for occupied buildings are provided through postings.	Site-level: DOE/RL-94-02, Figure 7-3 and Table 5-1. Unit-level: location-specific documentation.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-350(4) (Permit requirement)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be: (a) Maintained at the facility; and (b) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.	Copies of DOE/RL-94-02 are maintained throughout the Hanford Site and with offsite agencies. Copies of location-specific documentation are not being provided to offsite agencies because no agency requested them when asked in 1994.	Site-level: DOE/RL-94-02, section 14.3.7.
WAC 173-303-350(5) (Permit requirement)	Amendments. The owner or operator shall review and immediately amend the contingency plan, if necessary, whenever: (a) Applicable regulations or the facility permit are revised; (b) The plan fails in an emergency; (c) The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; (d) The list of emergency coordinators changes; or (e) The list of emergency equipment changes.	DOE/RL-94-02 and location-specific documentation is revised according to these criteria. Making changes to these documents must also be accomplished in accordance with WAC 173-303-830, when applicable.	Site-level: DOE/RL-94-02, section 14.3.1.1.
WAC 173-303-355(1) (Permit requirement)	Owners or operators must coordinate preparedness and prevention planning and contingency planning efforts, conducted under WAC 173-3-3-340 and -350 with local emergency planning committees established pursuant to Title III of the 1986 Superfund Amendments and Reauthorization Act.	RL coordinates planning actions with three LEPCs: Benton County, Franklin County, and Grant County.	Site-level: DOE/RL-94-02, sections 3.1, 3.1.1, and 3.4.
WAC 173-303-355(2)	Appropriate and generally accepted computer models should be utilized to determine the impacts of a potential catastrophic air release due to fire, explosion, or other accidental releases of hazardous constituents. Evacuation plans prepared pursuant to WAC 173-303-350(3)(d) must include those effected persons and areas identified through these modeling efforts.	The DOE Hanford EOC contains modeling equipment to predict impacts of air releases.	Site-level: DOE/RL-94-02, sections 2.2.2.3.3 and 1.3.3.2.
WAC 173-303-360(1) (Permit requirement)	Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, required by WAC 173-303-350(2), all operations and activities at the facility, the location and properties of all wastes handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.	Duty met by the Hanford Incident Command Structure and staff with supporting on-call personnel.	Site-level: DOE/RL-94-02, section 1.3.4 and 2.2.
WAC 173-303-360(2)(a) (Permit requirement)	Emergency procedures. The following procedures must be implemented in the event of an emergency. (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately: (i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and (ii) Notify appropriate state or local agencies with designated response roles if their help is needed.	Alarm activation can be accomplished by the discoverer of the event (fire/911), or the Hanford Incident Command System and staff with supporting on-call personnel. Notification made to non-Hanford agencies with designated response roles agencies are accomplished via 911 telephones to request assistance (fire, ambulance, law enforcement).	Site-level: DOE/RL-94-02, sections 1.3.4 and 5.2.1.

Permit requirement: Class 1 Modification 3/31/00

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-360(2)(b) (Permit requirement)	Emergency procedures. (b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials.	Hanford Incident Command System and staff with supporting on-call personnel.	Site-level: DOE/RL-94-02, sections 2.2.1.1.2(f) and 2.2.1.1.3(g).
WAC 173-303-360(2)(c) (Permit requirement)	Emergency procedures. (c) Concurrently, the emergency coordinator shall assess possible hazards to human health and the environment (considering direct, indirect, immediate, and long-term effects) that may result from the release, fire, or explosion.	Hanford Incident Command System and staff with supporting on-call personnel.	Site-level: DOE/RL-94-02, section 4.2.
WAC 173-303-360(2)(d) (Permit requirement)	Emergency procedures. (d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, he must report his findings as follows: (i) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and (ii) He must immediately notify the department and either the government official designated as the on-scene coordinator, or the National Response Center (using their 24-hour toll free number (800) 424-8802).	Hanford Incident Command System and staff with supporting on-call personnel. ONC personnel notify local authorities if evacuation is advisable on behalf of the Hanford Incident Command Structure. Site contractor environmental single point-of-contact personnel perform the assessment report notification to Ecology (Kennewick) and RL (the on-scene coordinator on behalf of the Hanford Incident Command Structure. NRC is not called.	Site-level: DOE/RL-94-02, sections 2.2.1.1.2(a) &(d), 2.2.1.1.3(a)&(e), 5.1.1, 5.1.1.2, 5.1.2, and 5.1.2.1.
WAC 173-303-360(2)(e) (Permit requirement)	Emergency procedures. (e) His assessment report must include: (i) Name and telephone number of reporter; (ii) Name and address of facility; (iii) Time and type of incident (e.g., release, fire); (iv) Name and quantity of material(s) involved, to the extent known; (v) The extent of injuries, if any; and (vi) The possible hazards to human health or the environment outside the facility.	Site contractor environmental single point-of-contact personnel perform the assessment report notification to Ecology (Kennewick) and RL after obtaining it from location-specific personnel.	Site-level: DOE/RL-94-02, sections 2.2.1.1.2(d), 2.2.1.1.3(e), 5.1.1, 5.1.1.2, and 5.1.2.1.
WAC 173-303-360(2)(f) (Permit requirement)	Emergency procedures. (f) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.	Hanford Incident Command System and staff with supporting on-call personnel.	Site-level: DOE/RL-94-02, sections 2.2.1.1.2(f) and 2.2.1.1.3(g).
WAC 173-303-360(2)(g) (Permit requirement)	Emergency procedures. (g) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.	Hanford Incident Command System and staff with supporting on-call personnel.	Site-level: DOE/RL-94-02, sections 2.2.1.1.2(f) and 2.2.1.1.3(g).
WAC 173-303-360(2)(h) (Permit requirement)	Emergency procedures. (h) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.	Onsite Recovery Manager with supporting on-call personnel.	Site-level: DOE/RL-94-02, section 9.2.3.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-360(2)(i) (Permit requirement)	Emergency procedures. (i) The emergency coordinator must ensure that, in the affected area(s) of the facility: (i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and (ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	Onsite Recovery Manager with supporting on-call personnel.	Site-level: (I) DOE/RL-94-02, section 9.2.3. Site-level: (ii) DOE/RL-94-02, section 11.2.
WAC 173-303-360(2)(j) (Permit requirement)	Emergency procedures. (j) The owner or operator must notify the department, and appropriate local authorities, that the facility is in compliance with (i) of this subsection before operations are resumed in the affected area(s) of the facility.	Site contractor environmental single point-of-contact personnel perform this notification, when applicable, on behalf of the Onsite Recovery Manager.	Site-level: DOE/RL-94-02, section 5.1.2.3.
WAC 173-303-360(2)(k) (Permit requirement)	Emergency procedures. (k) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within fifteen days after the incident, he must submit a written report on the incident to the department. The report must include: (i) Name, address, and telephone number of the owner or operator; (ii) Name, address, and telephone number of the facility; (iii) Date, time, and type of incident (e.g., fire, explosion); (iv) Name and quantity of material(s) involved; (v) The extent of injuries, if any; (vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; (vii) Estimated quantity and disposition of recovered material that resulted from the incident; (viii) Cause of incident; and (ix) Description of corrective action taken to prevent reoccurrence of the incident.	Site contractor management through RL ensures the note in the operating record is performed and prepares the 15-day report to Ecology.	Site-level: DOE/RL-94-02, section 5.1.2.2.
40 CFR 761.65(c)(1)(iv) and (c)(7)(ii) SPCC Plans for PCBs	Temporary Storage Areas (less than 30-days). (c)(1)(iv): PCB containers containing liquid PCBs at concentrations of $\geq$50 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with part 112 of this chapter and the liquid PCB waste is in packaging authorized in the DOT Hazardous Materials Regulations at 49 CFR parts 171 through 180 or stationary bulk storage tanks (including rolling stock such as, but not limited to, tanker trucks, as specified by DOT). (c)(7)(ii): The owners or operators of any facility using containers described in paragraph (c)(7)(i) of this section, shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in Part 112 of this title. In complying with 40 CFR Part 112, the owner or operator shall read "oil(s)" as "PCB(s)" whenever it appears. The exemptions for storage capacity, 40 CFR 112.1(d)(2), and the amendment of SPCC plans by the Regional Administrator, 40 CFR 112.4, shall not apply unless some fraction of the liquids stored in the container are oils as defined by section 311 of the Clean Water Act.	When SPCC plans apply to Hanford Site activities, the information not covered in site-wide documentation must be addressed in location-specific documentation.	Site-level: DOE/RL-94-02, sections 1.1 (fourth paragraph), 1.2 (first bullet, sixth dash and second bullet, fourth dash), and 2.2.1.1.2 (first paragraph). Unit-level: appropriate location-specific documentation.

Hanford Facility RCRA Permit Modification Notification Forms

Part III, Chapter 3 and Attachment 28
PUREX Storage Tunnels

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 1.0:

1.0 GENERAL INFORMATION

The Plutonium-Uranium Extraction 218-E-14 and 218-E-15 (PUREX Storage Tunnels) are located in the 200 East Area of the 1,450-square kilometer U.S. Department of Energy, Richland Operations Office (DOE-RL) operated Hanford Site in southeastern Washington State. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for responses to emergency events. This plan contains a description of facility specific planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency Management~~Response~~ Plan*. Response to events is performed using facility specific and/or Site level emergency procedures.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.22.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 1.4:

1.4 Facility Manager

~~Fluor B&W Hanford Company~~
P.O. Box ~~1000~~ 1200
Richland, Washington 99352-~~1000~~ 1200

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
N. C. Boyter	Date 3.22.00	D. T. Evans	Date 4/10/00	A. B. Stone	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit: PUREX Storage Tunnels	Permit Part & Chapter: Part III, Chapter 3 and Attachment 28

Description of Modification:

Appendix 7A, Section 2.0:

2.0 EMERGENCY COORDINATORS/BUILDING EMERGENCY DIRECTOR

Table 2-1. Emergency Coordinator/Building Emergency Director [a]

Designation	Job title	Work location	Work phone
Primary	~~PUREX~~ Accelerated Deactivation Project Director	MO-414	373-4999
Alternate	Manager	MO-~~273~~414	373-~~1604~~4134
Alternate	Manager	MO-~~273~~414	373-~~1341~~1781
Alternate	Manager	MO-408	376-4098
Alternate	Manager	MO-414	376-7678

[a]The names and home phone numbers of all Emergency Coordinators/Building Emergency Director (EC/BED) are maintained at the single point-of-contact (the Hanford Patrol Operations Center) telephone number 373-3800 in accordance with the Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

[a]Emergency response will be directed by the EC/BED until the Incident Commander arrives. The incident command structure and staff with supporting on-call personnel fulfill the responsibilities of the EC/BED as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the EC/BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The EC/BED becomes a member of the ICP and functions under the direction of the IC. In this role, the EC/BED continues to manage and direct facility operations.

A listing of the primary and alternate EC/BEDs by title, work location and work telephone numbers is identified in the table above. The EC/BED is on the premises or is available through an "on-call" list 24 hours a day.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3/22/07	4/6/07		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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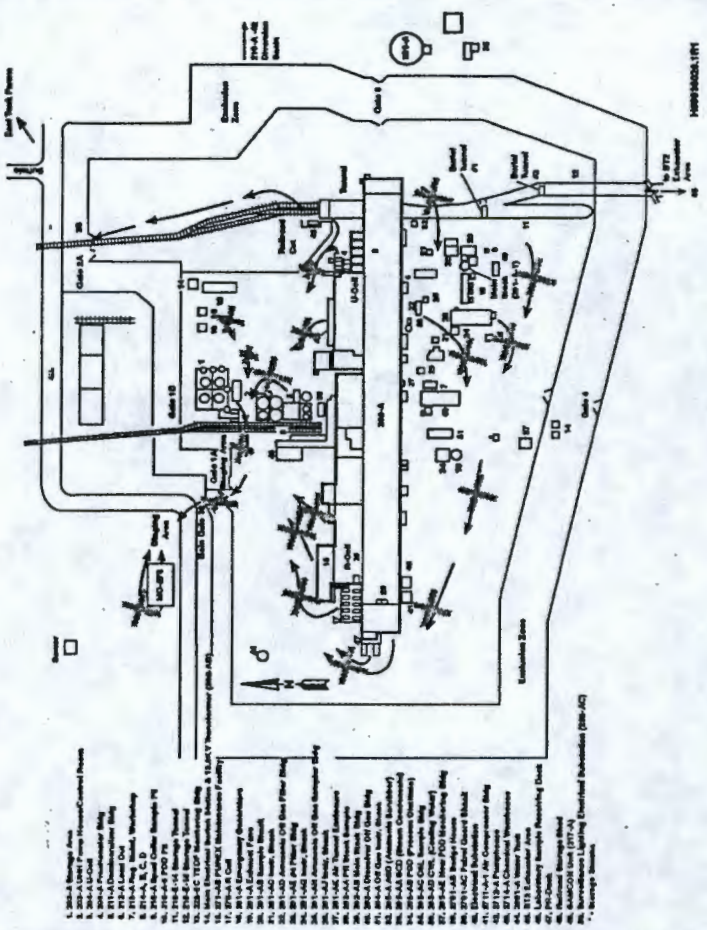
Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:
Appendix 7A, Figure 2-1:
Deleted arrows marked with o'xo'



Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation
A. General Permit Provisions
1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
7.22.00	8/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 3.0:

3.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of the WAC, this plan will be considered implemented when the EC/BED has determined that a release, fire, or explosion involving dangerous waste, mixed waste or dangerous waste constituents that could threaten human health or the environment (WAC 173-303 Emergency) has occurred at the facility~~. An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan has been implemented.~~ This plan will be used in conjunction with DOE/RL-94-02, Section 4.2, for event recognition and response.

Under DOE guidance, this plan will be considered implemented whenever the EC/BED determines that one of the incidents listed in Section 3.1 has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment (DOE Unusual Occurrence or Emergency). Incidents listed in Section 3.1 could also be considered DOE emergencies that cause activation of the ~~RL~~ Hanford Emergency Operations Center and offsite emergency response organizations.

The EC/BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Patrol, Fire, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the Patrol Operations Center and request the desired assistance. To request other resources or assistance from outside the facility, the Patrol Operations Center business number is used (373-3800).

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.22.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.2:

4.2 Identification of Released/Spilled Materials

Methods for identifying the character, source, amount, and areal extent of any materials when there has been a release or spill to the environment, a fire, or an explosion are outlined in DOE/RL-94-02, Section 4.2.~~1~~.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
N. C. Boyter 3/22/00 Date	D. T. Evans 4/10/00 Date	A. B. Stone Date	L.E. Ruud Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.4:

4.4 Termination of Event

For events where the ~~RL~~ Hanford Emergency Operations Center (~~RL~~ Hanford-EOC) is activated, the RL Emergency Manager has the authority to declare event termination. This decision is based on input from the EC/BED, Incident Commander, and other emergency response organization members. For events where the ~~RL~~ Hanford-EOC is not activated, the Incident Command structure and staff will declare event termination.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3:Dec 00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.5:

4.5 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from it, recovery planning may involve personnel from RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan was implemented for a WAC emergency (see Section 3.0 of this plan~~4.0~~), the Washington State Department of Ecology must be notified before operations can resume. DOE/RL-94-02, Section 5.1~~6.1~~, discusses different reports to outside agencies. This notification is in addition to other required reports and must include information documenting the following conditions:

There are no incompatibility issues with the waste and released materials from the incident.

All the equipment has been clean, fit for its intended use, and placed back into service.

Additional information that Ecology requests regarding these restart conditions may be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the ~~RL~~Hanford-EOC, the EC/BED ensures that conditions are restored to normal before operations are resumed. An onsite Recovery Manager could be appointed at the discretion of RL to restore conditions to normal. This process is detailed in DOE/RL-94-02, Section 9.0~~8.0~~. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization will be appointed by the appropriate contractor's management.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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3.22.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.6:

4.6 Incompatible Waste

After an event, the EC/BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section ~~9.2.8.3~~, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed, as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of waste was a factor in the incident, the EC/BED or the onsite recovery organization ensures that the cause is corrected. Examples include modification of an incompatibility chart of increased scrutiny of waste from a generating unit when incorrectly designated waste caused or contributed to an incident.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
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Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 7.0:

7.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site in accordance with DOE/RL-94-02, Section 5.1~~6.1~~.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 8.0:

8.0 REFERENCES

DOE/RL-94-02, Hanford Emergency Management ~~Response~~ Plan, as amended.

Hanford Facility RCRA Permit, Dangerous Waste Portion, Washington State Department of Ecology, Olympia, Washington, as amended.

DOE-0223, Emergency Plan Implementing Procedures, as amended.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Enter wording of the modification from WAC 173-303-830, Appendix I citation

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1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
N. C. Boyter 5.22.'' Date	D. T. Evans 4/10/00 Date	A. B. Stone Date	L.E. Ruud Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification

Part III, Chapter 3 and Attachment 28
PUREX Storage Tunnels

Replacement Section

Index

Appendix 7A

This plan covers the following buildings and structures: 218-E-14 (Tunnel Number 1), 218-E-15 (Tunnel Number 2).

Approved by: _____ 3/20/00
Building Emergency Director — Date

Approved by: _____ 3-21-00
Emergency Preparedness — Date

Approved by: _____ 3/21/00
Hanford Fire Department — Date

Approved by: _____ 20 Mar '00
Environmental Compliance Officer — Date

This document will be reviewed annually and updated if necessary by the Building Emergency Director unless Hanford Facility RCRA Permit coordination requirements provides otherwise.

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1.0 GENERAL INFORMATION

The Plutonium-Uranium Extraction 218-E-14 and 218-E-15 (PUREX Storage Tunnels) are located in the 200 East Area of the 1,450-square kilometer U.S. Department of Energy, Richland Operations Office (DOE-RL) operated Hanford Site in southeastern Washington State. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for responses to emergency events. This plan contains a description of facility specific planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency ManagementPlan.* Response to events is performed using facility specific and/or Site level emergency procedures.

1.1 Facility Name

U.S. Department of Energy Hanford Site PUREX Storage Tunnels.

1.2 Facility Location

Benton County, Washington; within the 200 East Area. Structures covered by this plan are:

218-E-14 Tunnel Number 1
218-E-15 Tunnel Number 2

1.3 Owner

U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, Washington 99352

1.4 Facility Manager

Fluor Hanford
P.O. Box 1000
Richland, Washington 99352-1000

1.5 Description of Facility and Operations

The PUREX Storage Tunnels consist of two structures, 218-E-14 (Tunnel Number 1) and 218-E-15 (Tunnel Number 2). The tunnels are used for the storage of material from the PUREX Plant and from other onsite sources. The material stored in the tunnels contains dangerous waste and varying amounts of radioactive contamination; therefore, the stored material is managed as mixed waste. Tunnel Number 1 is filled to capacity. Tunnel Number 2 currently has storage positions available and may continue to receive mixed waste from the PUREX Plant and other onsite sources until the tunnel is either filled to capacity or a determination is made that waste will no longer be received.

Mixed waste is stored in the PUREX Storage Tunnels on railcars that are modified to serve as both transporter and storage platforms. Each railcar is retrievable. However, because the railcars are stored on a single, dead-end railroad spur inside each storage tunnel, the railcars can be removed only in reverse order (i.e., last in, first out).

1.6 Building Evacuation Route

The PUREX Storage Tunnels evacuation route is shown in Figure 1. During an emergency, personnel that enter the storage tunnels during material placement operations will evacuate via the north end of the railroad tunnel.

2.0 EMERGENCY COORDINATORS/BUILDING EMERGENCY DIRECTOR

Table 2-1. Emergency Coordinator/Building Emergency Director [a]

Designation	Job title	Work location	Work phone
Primary	Accelerated Deactivation Project Director	MO-414	373-4999
Alternate	Manager	MO-414	373-4160
Alternate	Manager	MO-414	373-4134
Alternate	Manager	MO-408	376-4098
Alternate	Manager	MO-414	376-7678

[a]The names and home phone numbers of all Emergency Coordinators/Building Emergency Director (EC/BED) are maintained at the single point-of-contact (the Hanford Patrol Operations Center) telephone number 373-3800 in accordance with the Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

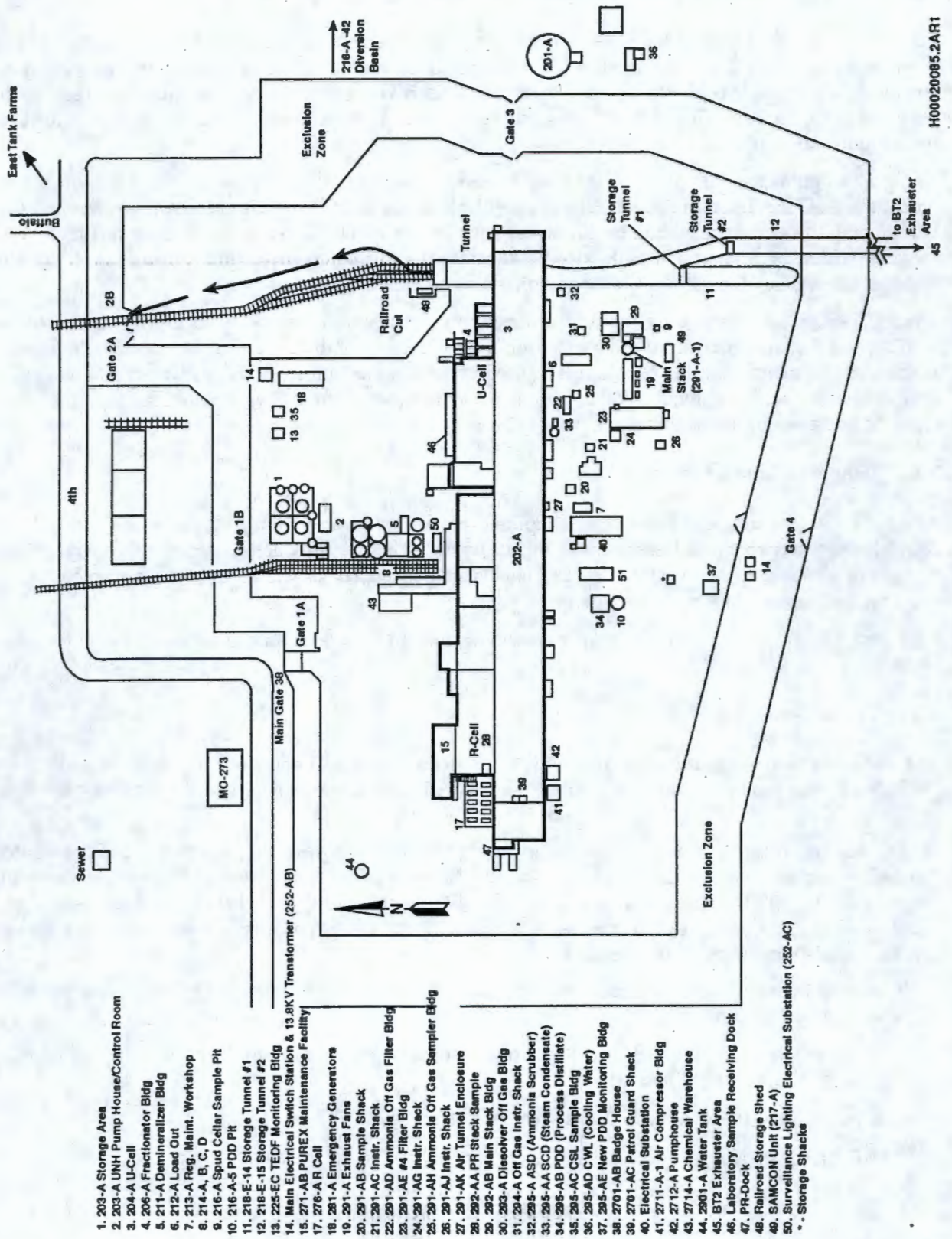
[a]Emergency response will be directed by the EC/BED until the Incident Commander arrives. The incident command structure and staff with supporting on-call personnel fulfill the responsibilities of the EC/BED as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the EC/BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The EC/BED becomes a member of the ICP and functions under the direction of the IC. In this role, the EC/BED continues to manage and direct facility operations.

A listing of the primary and alternate EC/BEDs by title, work location and work telephone numbers is identified in the table above. The EC/BED is on the premises or is available through an "on-call" list 24 hours a day.

1
2

Figure 2-1 . PUREX Storage Tunnels Evacuation Route



3.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of the WAC, this plan will be considered implemented when the EC/BED has determined that a release, fire, or explosion involving dangerous waste, mixed waste or dangerous waste constituents that could threaten human health or the environment (WAC 173-303 Emergency) has occurred at the facility. This plan will be used in conjunction with DOE/RL-94-02, Section 4.2, for event recognition and response.

Under DOE guidance, this plan will be considered implemented whenever the EC/BED determines that one of the incidents listed in Section 3.1 has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment (DOE Unusual Occurrence or Emergency). Incidents listed in Section 3.1 could also be considered DOE emergencies that cause activation of the Hanford-Emergency Operations Center and offsite emergency response organizations.

The EC/BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Patrol, Fire, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the Patrol Operations Center and request the desired assistance. To request other resources or assistance from outside the facility, the Patrol Operations Center business number is used (373-3800).

3.1 Dangerous and/or Mixed Waste

A seismic event, explosion, tornado, or an aircraft crash could cause damage to the storage tunnels and could involve environmental exposure to mixed waste. These events are considered the only credible sources of a release as the PUREX Storage Tunnels are unoccupied structures and there are no continuous processes associated with waste storage.

Emergency responses for credible dangerous and/or mixed waste releases can be found in the following sections.

3.2 Fire or Explosion

The fire or explosion hazard associated with the PUREX Storage Tunnels is considered to be very low because of the minimal amount of combustibles stored within the tunnels and the lack of an ignition source.

Because of the potential for mixed waste to leach, water is not the preferred choice for fire control. Reduction of the air supply to the storage area by isolation of the tunnel exhaust system, if operating, should permit a fire to self-extinguish. Should the fire continue to spread, heavy equipment and cranes will be called to the scene to cover areas of the tunnels that might collapse. In addition, the following actions are taken in the event of a fire or explosion:

- If present in the Tunnels, personnel leave by the nearest safe exit and proceed to the designated staging area for accounting
- The single point-of-contact (911) is notified immediately, who in turn initiates notifications to the EC/BED (or alternate) if necessary
- The EC/BED proceeds directly to the scene (if not already there)
- The EC/BED obtains all necessary information pertaining to the incident

- Depending on the severity of the event, the EC/BED or his/her designee may be required to provide notifications to the site contractor environmental single point of contact, which in turn notifies offsite agencies and/or the occurrence notification center informing them as to the extent of the emergency (including estimates of mixed waste quantities released to the environment) and any actions necessary to protect nearby buildings and/or structures
- Depending on the severity, the EC/BED requests activation of the affected area ICP to establish organizations to provide assistance from DOE-RL, other Hanford site contractors, and outside agencies (if 911 is called, the ICP will automatically be activated)
- The Hanford Patrol establishes roadblocks within the area to route traffic away from the emergency scene
- If necessary, Hanford Fire Department medical personnel remove injured personnel to a safe location, apply first aid, and prepare the injured for transport to medical aid stations or to local hospitals.

Depending on the magnitude of a natural phenomena event, fire, or an explosion, damage to the storage tunnels is possible. The hazards could involve personnel and environmental exposure to mixed waste. In the event of such an occurrence, a recovery plan will be developed. The recovery plan will take into consideration methods, if any, for retrieval of the waste stored within the tunnels.

3.3 Seismic Event/Tornado

Depending on the magnitude of the seismic event or tornado, damage to the storage tunnels is possible. The hazards could involve personnel and environmental exposure to mixed waste.

Emergency responses for seismic events and tornadoes would be the same as those for a fire or explosion. Refer to Section 3.2 of this plan.

3.4 Aircraft Crash

In addition to the potential for serious injuries or fatalities involved with an aircraft crash, damage to the storage tunnels is possible, which would result in a fire, explosion, or a mixed waste release. The hazards could involve personnel and environmental exposure to mixed waste.

Refer to Section 3.2 of this plan for emergency responses for fires and explosions.

3.5 Bomb Threat/Explosive Device

Depending on the magnitude of an explosion, damage to the storage tunnels is possible. The hazards could involve personnel and environmental exposure to mixed waste. For emergency responses, refer to Section 3.2 of this plan for explosions.

3.6 Damaged Dangerous and/or Mixed Waste Shipment

The PUREX Storage Tunnels do not accept shipments from offsite; therefore, the following response procedures only apply to the receipt of a damaged mixed waste shipment from onsite.

If the damaged shipment of hazardous substance, or dangerous waste/mixed waste arrives at the PUREX Storage Tunnels and the shipment is unacceptable for receipt, the damaged shipment should not be moved. The TSD unit personnel instead need to determine if there has been a release. If there has been a release, TSD unit personnel perform the following actions.

- Notify the supervisor or manager to advise of the situation. The supervisor or manager contacts the Emergency Coordinator in order to respond and assist in the evaluation of, and response to, the release (response to spills or releases may result in implementation of the contingency plan if the Emergency Coordinator makes this determination).
- Notify the shipper or generating unit of the damaged shipment and request that they provide any chemical information necessary to assist in responding to the release.
- Actions are taken to contain and/or to stop the spill if all of the following are true:
  - The identity of the substance(s) involved is known
  - Appropriate protective equipment and control/cleanup supplies are readily available
  - Personnel present have received the appropriate training and can safely perform the action(s) without assistance, or assistance is readily available from other trained TSD unit personnel.

If any of the above conditions are not met, or there is any doubt, personnel evacuate the area and remain outside, upwind of the TSD unit, pending the arrival of the Emergency Coordinator. Personnel remain available for consultation with the Emergency Coordinator, Hanford Fire Department, or other emergency response personnel, as appropriate.

4.0 UNIT/BUILDING EMERGENCY RESPONSE PROCEDURES

The initial response to any emergency is to immediately protect the health and safety of persons in the area. Identification of released material is essential to determine appropriate protective actions. Containment, treatment, and disposal assessment are secondary responses.

Emergency action levels associated with event classifications applicable to the PUREX Storage Tunnels include the following. A Site Area Emergency can be declared for a radioactive material release resulting from an explosion, natural hazards (i.e., seismic event and/or tornado), and aircraft crash. An Alert Emergency can be declared for a fire, explosion, or high winds. Additional detail concerning emergency action levels is identified in *Emergency Plan Implementing Procedures*, DOE-0223, Appendix 1-2.G. The preceding sections describe the process for implementing basic protective actions as well as descriptions of response actions for events.

4.1 Notification

Notification will be made in accordance with the requirements of WAC 173-303-145 and WAC 173-303-360.

4.2 Identification of Released/Spilled Materials

Methods for identifying the character, source, amount, and areal extent of any materials when there has been a release or spill to the environment, a fire, or an explosion are outlined in DOE/RL-94-02, Section 4.2.

4.3 Prevention of Recurrence or Spread of Fires, Explosions, Releases

The EC/BED, as part of the incident command structure, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The following actions are taken:

- Isolate the area of the initial incident by shutting off power, closing off ventilation systems, if still operating, etc., to minimize the spread of a release and/or the potential for a fire or explosion

- Inspect surface of the tunnels for leaks, cracks, or other damage
- Contain and isolate residual mixed waste material
- Cover or otherwise stabilize areas where residual released mixed waste remains to prevent migration or spread from wind or precipitation run-off
- Install new structures, systems, or equipment to enable better management of mixed waste
- Reactivate adjacent operations in affected areas only after cleanup of residual mixed waste is achieved.

4.4 Termination of Event

For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the RL Emergency Manager has the authority to declare event termination. This decision is based on input from the EC/BED, Incident Commander, and other emergency response organization members. For events where the Hanford-EOC is not activated, the Incident Command structure and staff will declare event termination.

4.5 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from it, recovery planning may involve personnel from RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan was implemented for a WAC emergency (see Section 3.0 of this plan), the Washington State Department of Ecology must be notified before operations can resume. DOE/RL-94-02, Section 5.1, discusses different reports to outside agencies. This notification is in addition to other required reports and must include information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.
2. All the equipment has been clean, fit for its intended use, and placed back into service.

Additional information that Ecology requests regarding these restart conditions may be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford-EOC, the EC/BED ensures that conditions are restored to normal before operations are resumed. An onsite Recovery Manager could be appointed at the discretion of RL to restore conditions to normal. This process is detailed in DOE/RL-94-02, Section 9.0. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization will be appointed by the appropriate contractor's management.

4.6 Incompatible Waste

After an event, the EC/BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed, as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of waste was a factor in the incident, the EC/BED or the onsite recovery organization ensures that the cause is corrected. Examples include modification of an incompatibility chart of increased scrutiny of waste from a generating unit when incorrectly designated waste caused or contributed to an incident.

4.7 Post Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumables and disposed materials are restocked. Fire extinguishers are recharged or replaced.

The EC/BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc.

5.0 EMERGENCY EQUIPMENT

Because personnel only enter the storage tunnels during material placement operations, no permanent emergency equipment, communications equipment, warning systems, personal protective equipment, or spill control and containment supplies are located in the tunnels.

During storage tunnel operations or an emergency response event, personnel use portable emergency equipment, which could include heavy equipment and cranes (Section 3.2). Also, for such operations, work plans are followed and pre-job safety meetings take place.

6.0 COORDINATION AGREEMENTS

The DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Table 3-1.

7.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site in accordance with DOE/RL-94-02, Section 5.1.

8.0 REFERENCES

DOE/RL-94-02, Hanford Emergency Management Plan, as amended.

Hanford Facility RCRA Permit, Dangerous Waste Portion, Washington State Department of Ecology, Olympia, Washington, as amended.

DOE-0223, Emergency Plan Implementing Procedures, as amended.

Hanford Facility RCRA Permit Modification Notification Forms
Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 4A, Table 4A-2:

The drawings identified in Table 4A-2 illustrate the piping and instrumentation configuration within LERF, and of the transfer piping systems between the LERF and the 242-A Evaporator. These drawings are provided for general information and to demonstrate the adequacy of the design of the LERF as a surface impoundment. An update to these drawings and drawings identified in Table 4A-1 will be provided annually to the Washington State Department of Ecology.

Table 4A-2. Liquid Effluent Retention Facility Piping and Instrumentation.

LERF System	Drawing Number	Outstanding ECNs	Drawing Title
Transfer Piping to 242-A Evaporator	H-2-79604, Sh 1,Rev. 3	None	Piping Plot and Key Plans; 242-A Evaporator Condensate Stream (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 1, Rev. 2	ECN-647888	P&ID; LERF Basin and ETF Influent (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 2, Rev. 4	ECN-647209L	P&ID; LERF Basin and ETF Influent (Sheet 2)
LERF Piping and Instrumentation	H-2-88766, Sh 3, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 3)
LERF Piping and Instrumentation	H-2-88766, Sh 4, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 4)
	H-2-89351, Sh 1, Rev. ~~5~~ 4	None~~ECN-649101~~	Piping & Instrumentation Diagram - Legend

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 2/22/00	R. F. Guercia	Date APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 4B, Table 4B-1:

Drawings of the secondary containment systems for the ETF containers, and tanks and process units, and for the Load-In Tanks are summarized in Table 4B-1. Because the failure of the secondary containment systems could lead to the release of dangerous waste into the environment, Engineering Change Notices (ECNs) which affect the secondary containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4B-1. Drawing of Effluent Treatment Facility and Load-In Station Secondary Containment Systems

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Surge Tank, Process/Container Storage Areas and Trenches - Foundation and Containment	H-2-89063, Sh. 1, Rev. 3	ECN-647892	STRUCT – Foundation and Grade Beam Plan (Sheet 1)
Sump Tank Containment	H-2-89065, Sh. 1, Rev. 3	None	STRUCT – Foundation, Sections and Detail (Sheet 1)
Verification Tank Foundation and Containment	H-2-89068, Sh. 1, Rev. 3	ECN-647892	STRUCT – Verification Tank Foundation (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 1, Rev. 1	ECN-641703 ECN-647247 ECN-649104	Structural – ETF Truck Load-in Facility Plans and Sections (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 2, Rev. 1	ECN-641703 ECN-649104	Structural – ETF Truck Load-in Facility Sections and Details (Sheet 2)

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 4B, Table 4B-2:

The drawings identified in Table 4B-2 provide an illustration of the piping and instrumentation configuration for the major process units and tanks at the ETF, and the Load-In Tanks. Drawings of the transfer piping systems between the LERF and ETF, and between the Load-In Station and the ETF also are presented in this table. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings and drawings identified in Table 4B-1 will be provided annually to the Washington State Department of Ecology.

Table 4B-2. Drawings of Major Process Units and Tanks at the Effluent Treatment Facility and Load-In Station.

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Load-In Facility	H-2-817974, Sh. 1, Rev. ~~129~~	None ~~ECN-647201L~~ ~~ECN-642820L~~ ~~ECN-647247~~	P&ID – ETF Truck Load-In Facility (Sheet 1)
Load-In Facility	H-2-817974, Sh. 2, Rev. 0	None	P&ID – ETF Truck Load-In Facility (Sheet 2)
Surge Tank	H-2-89337, Sh. 1, Rev. ~~1110~~	ECN-644244 ~~ECN-649101~~	P&ID – Surge Tank System (Sheet 1)
UV/Oxidation	H-2-88976, Sh. 1, Rev. ~~86~~	~~ECN-646667L~~ECN-647245	P&ID – UV Oxidizer Part 1 (Sheet 1)
UV/Oxidation	H-2-89342, Sh. 1, Rev. 6	ECN-647245	P&ID – UV Oxidizer Part 2 (Sheet 1)
Reverse Osmosis	H-2-88980, Sh. 1, Rev. ~~98~~	None	P&ID – 1st RO Stage (Sheet 1)
Reverse Osmosis	H-2-88982, Sh. 1, Rev. ~~1110~~	None	P&ID – 2nd RO Stage (Sheet 1)
IX/Polishers	H-2-88983, Sh. 1, Rev. ~~108~~	ECN-642800	P&ID – Polisher (Sheet 1)
Verification Tanks	H-2-88985, Sh. 1, Rev. 8	None	P&ID – Verification Tank System (Sheet 1)
ETF Evaporator	H-2-89335, Sh. 1, Rev. ~~1211~~	~~ECN-646658L~~ ECN-641719 ECN-653080L ECN-641564 ECN-651583	P&ID – Evaporator (Sheet 1)
Thin Film Dryer	H-2-88989, Sh. 1, Rev. ~~1613~~	ECN-648765 ~~ECN-646670~~ ~~ECN-646672~~ ECN-642797	P&ID – Thin Film Dryer (Sheet 1)
Transfer Piping from LERF to ETF	H-2-88768, Sh. 1, Rev. 1	None	Piping Plan/Profile 4"– 60M-002-M17 and 3"-60M-001-M17 (Sheet 1)
Transfer Piping from Load-In Facility to ETF	H-2-817969, Sh. 1, Rev. 1	W291-015 ECN-641703 ECN-649104	Civil – ETF Truck Load-In Facility Site Plan (Sheet 1)

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 3.1:

3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander arrives. The incident command ~~structure~~ system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Emergency Preparedness maintains a listing of BED names and work and home telephone numbers at the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

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Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 4.0:

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion ~~involving dangerous waste, mixed waste or hazardous materials or dangerous waste constituents that~~ which could threaten human health or the environment ~~(WAC 173-303-360, Emergencies~~ (RCRA Emergency) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan will be implemented.~~ The RCRA Emergency determination ~~incident classification~~ process is described in DOE/RL-94-02, Section 4.~~202~~.

~~Under DOE guidance, this plan will be implemented whenever the BED determines that one of the incidents listed in Section 6.0 of this plan has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment (DOE Unusual Occurrence or Emergency).~~

~~DOE Declared Emergencies are assigned one of three classifications which, in the order of increasing severity, are: 1) Alert Emergency, 2) Site Area Emergency, and 3) General Emergency. The ETF/LERF implements responses to these DOE emergencies through this plan and criteria identified in DOE 0223, RLEP 1.1, Appendix 1-2.K, and other documents listed in Attachment A of this plan.~~

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) ~~is~~ must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
E. S. Aromi Date 3/29/00	R. F. Guercia Date APR 06 2000	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.1.1:

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility because of an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation will be directed by the BED when conditions warrant and will apply to all personnel not actively involved in the event response or emergency plan-related activities.

The BED will initiate the evacuation by directing an announcement be made to evacuate along with the evacuation location over a public address system, facility radios, and, as conditions warrant, by activating the 200 Area site evacuation ~~/take cover~~ alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 2), or other safe upwind location, as determined by the BED. The BED will determine the operating configuration of the facility and identify any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel will conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability will be performed at the staging area. The BED will assign personnel as accountability aides and staging managers with the responsibility to ensure that evacuation actions are taken at all occupied buildings at the ETF or LERF complexes. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers will provide a status report to the BED. The BED will provide status to the Incident Commander.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.1.2:

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous materials, or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED will initiate the take cover by directing an announcement be made over the public address system, facility radios, and, as conditions warrant, by activating the 200 Area site take cover alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Actions to complete a facility take-cover will be directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover response is based on plant operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard will be minimized. The BED will assign personnel as accountability aides with responsibility to ensure that take-cover actions are taken at all occupied buildings at the ETF complex. All implementing actions executed by the aides/managers are directed by the emergency response procedure in attachment A. When take cover actions are complete the aides/manager will provide the BED with a status report.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

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Description of Modification:

Appendix 7A, Section 7.2:

7.2 Response to Operationsal Emergencies

If there is a potential for categorization of an Occurrence or classification into an Alert, Site Area or General Emergency, in the following facility operations emergency sections, reference shall be made to the site facility occurrence reporting procedure or the event recognition and classification procedure using the following statement, "Depending on the severity of the following events, the BED reviews the site wide procedures and facility-specific procedure (s) and, as required, categorizes or classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events."~~Operations activities to isolate, contain, and mitigate an event can be performed in parallel with classification and protective action implementation. The response procedures are structured to allow parallel activity with clearly established priorities. The division of actions and workload between various personnel is such that coordinated team response will result in the successful implementation of both emergency operating actions and emergency planning requirements. Specific event mitigation strategy for each type of accident is provided in the following sections.~~

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
D M Moore 3/29/00		APR 06 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

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Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.1:

7.2.1 Loss of Utilities

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE ~~Order defined~~ emergency. ~~No emergency planning is required~~.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

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Description of Modification:

Appendix 7A, Section 7.2.2:

7.2.2 Major Process Disruption/Loss of Plant Control

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE ~~Order defined~~ emergency. ~~No emergency planning is required.~~

Please check one of the Classes:	Class 1	Class[1] 1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/06	R. F. Guercia	Date APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

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Description of Modification:

Appendix 7A, Section 7.2.3:

7.2.3 Pressure Release

The hazards assessment has determined that a pressure release does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE ~~Order defined~~ emergency. ~~No emergency planning is required.~~ Hazardous material release and radioactive/dangerous/mixed waste releases are addressed in Section 7.2.5.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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Hanford Facility RCRA Permit Modification Notification Form

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Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.4:

7.2.4 Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire alarm pull station, contacts 911 to request fire fighting assistance, and contacts the ETF control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident ~~event~~ command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The ~~Shift Operations Manager~~ BED interfaces with the Incident Commander ~~Hanford Fire Department~~ and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.
b. Location and severity of fire.
c. Known hazardous (radiological and nonradiological) conditions.
d. Facility operating status.
e. Utility systems status.
f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).
g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).
h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

An incident requiring evacuation of personnel or the summoning of emergency response units does not necessarily indicate that the contingency plan has been implemented.

~~A fire or explosion involving 92% sulfuric acid will be classified as a Site Emergency. Actions described in Section 7.2.5.2 will be performed for this event.~~

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
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Description of Modification:

Appendix 7A, Section 7.2.5:

7.2.5 Hazardous Material, Radioactive/Dangerous/Mixed Waste Spills or Releases

The ETF and LERF have engineering controls to contain or minimize spills. These controls include, containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. LWPF procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazard induced by the presence of radioactive materials.

If a spill or release is discovered, the discoverer performs the following actions:

- Notifies the ETF control room - BED and initiates SWIMS response;
- Stops work,
- Warns others in the vicinity
- Isolates the area,
- Minimizes the spill if possible, and
- Requests the BED Secure unfiltered ventilation.
- The BED determines whether to activate the Incident Command System (ICS) based on classification of the spill and injured personnel; and evaluates need to perform additional protective actions.
- If the ICS is not activated, the spill is mitigated with resources identified by the BED and proper notifications are made.
- If the ICS requires activation, the BED calls 911 or 373-3800 if using a cellular phone.
- The BED sends out a representative to meet the Hanford Fire Department.
- The BED provides formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste, mixed waste, or radioactive material quantities released to the environment.
- If operations are stopped, the BED ensures that the plant is put in safe shutdown configuration.
- Hanford Fire Department stabilizes spill as needed.

~~1. Notifies the ETF control room and evacuates to a safe area~~
~~2. Remains available for consultation with the BED, Hanford Fire Department, or other emergency response personnel.~~
~~The control room operator performs the following actions:~~
~~1. Uses the public address system to notify the facility occupants of the event~~
~~2. Notifies the BED/HFD and relays information received from the event scene~~
~~3. Places the facility in a safe condition~~
~~4. Remains available to support further notification and response activities~~
~~The BED performs or arranges for personnel to perform the following actions:~~
~~1. Coordinates response activity and establishes an command post at a safe location~~
~~2. Obtains all available information pertaining to the incident and determines if the spill or release warrants implementation of the contingency plan in accordance with Sections 4.0, 6.1.5, and 6.1.9~~
~~3. Determines need for assistance from outside agencies and arranges for their mobilization and response~~
~~4. Initiates the appropriate announcements, if building or area evacuations are necessary~~
~~5. Arranges for care of any injured persons~~
~~6. Requests activation of the affected area emergency sirens/crash alarm system if a threat to surrounding facilities~~
~~7. Provides for event notification~~
~~8. Maintains access control at the incident site by keeping unauthorized personnel and vehicles away from the area. Security personnel can be used to assist in site control if control of the boundary is difficult. In determining controlled access areas, considers environmental factors such as wind speed and direction~~
~~9. Arranges for proper remediation of the incident after evaluation~~
~~10. Remains available for HFD, Hanford Patrol, and other authorities on the scene and provide all required information~~
~~11. Enlists the assistance of alternate BED(s), if around-the-clock work is anticipated~~
~~12. Refers media inquiries to the Media Relations/Communications offices of the contractors or DOE-RL.~~
~~13. Ensures the use of proper protective equipment, remedial techniques (including ignition source control for flammable spills), and decontamination procedures by all involved personnel, if remediation is performed by ETF personnel~~
~~14. Remains at the command post to oversee activities and to provide information, if remediation is performed by the HFD Hazardous Materials Response Team or other response teams~~
~~15. d spill materials and overpack containers~~
~~16. Ensures decontamination (or restocking) and restoration of emergency equipment used in the spill remediation before resuming operations~~
~~17. Provides required reports after the incident.~~

Please check one of the Classes:	Class 1	Class [1]	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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Hanford Facility RCRA Permit Modification Notification Form

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Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.7:

7.2.7 Criticality

The hazards assessment has determined that a criticality is not credible for ETF or LERF. ~~No emergency planning is required.~~

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.3:

7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, as part of the incident command system, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED will take measures, where applicable, to stop processes and operations, collect and contain released waste, and remove or isolate containers. The BED also monitors for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment, whenever this is appropriate. ~~The BED, in coordination with emergency response organizations, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The area of the initial incident is isolated by shutting off power, closing off ventilation systems, etc. The affected area containment is inspected for leaks, cracks, or other damage and for toxic vapor generation. Released material and waste remaining inside of containment structures are removed as soon as possible, and residual waste material is contained and isolated using dikes and adsorbents. Areas where residual released materials remain are covered or otherwise stabilized to prevent migration or spread from wind or precipitation run-off.~~

~~New structures, systems, or equipment are installed as required to enable better management of hazardous materials or dangerous waste. Adjacent operations in affected areas are reactivated only after cleanup of residual waste materials is achieved.~~

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 5/23/06	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 8.1:

8.1 Termination of Event

For events where the Hanford ~~DOE RL~~ Emergency Operations Center (Hanford~~RL~~-EOC) is activated, the ~~DOE~~-RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the Hanford~~RL~~-EOC is not activated, the incident command system and staff declare event termination.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Officer:		Reviewed by Ecology:		Reviewed by Ecology:	
ES Aromi	3/23/06	R. F. Guercia APR 06 2006					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 8.2:

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a RCRA ~~WAC~~ emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management ~~Response~~ Plan*, Section 5.~~16.1~~ discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.
2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford ~~RL~~ EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 8.3:

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3~~8.3~~, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.0:

9.0 EMERGENCY EQUIPMENT

Hanford Site emergency resources and equipment are described and listed in DOE/RL-94-02, Appendix ~~A~~C.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT		
Safety shower/eye wash stations (ETF only)	1 – 2025E Rm 122 Decon Station 1 – 2025E South Wall of Process Area 1 –2025Erm 134 1 –Outside south 2025E near acid/ caustic tanks 1 –Outside at Load-in station 1 – 2025E Rm 112 Laboratory	Assist in flushing chemicals/materials from the body and/or eyes and face of personnel.
Wet pipe sprinkler (ETF only)	Throughout the ETF except those areas protected by pre-active sprinklers.	Assist in the control of a fire.
Preactive sprinkler (ETF only)	Control room, communications room, electrical equipment room	Assist in the control of a fire. Maintained dry to prevent accidental damage to equipment.
Fire alarm pull boxes (ETF only)	All high traffic areas in operations administration and support areas, truck bay, and process area	Activate the local fire alarm
E-lights	Throughout ETF	1 hour temporary lighting

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E S Aromi	3/22/00	R F Guercia	APR 06 2000				
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.3:

9.3 Communications Equipment/Warning Systems

COMMUNICATIONS EQUIPMENT

TYPE	LOCATION	CAPABILITY
Fire alarms (ETF only)	Corridors, locker rooms, process area, drum storage, and truck bay	Audible throughout ETF
Take cover/evacuation	Site Emergency Alarm System	Audible outside buildings and inside administrative buildings
Public address system (ETF Only)	Throughout the ETF	Audible throughout ETF
Portable radios	Operations and maintenance personnel	Communication to control room
Telephone	ETF - control room, 2025E, 2025EA offices, MO-269, 2025EC71. LERF - MO-727 and 242AL71 instrument building LERF Garage 242AL11 TEDF - 225E(pump house 1), 225W (pump house 2), 6653 (sample building), 6653A (pump house 3)	Internal and external communications. Allows notification off outside resources (POC, HFD, Hanford Patrol, etc,.)
Crash alarms (ETF only)	Control room, 2025EA Rm 101	Audible in ETF control room
Area Radiation Monitors, Continuous Air Monitors ~~Process alarm (ETF only)~~	Evaporator skid and drum loadout area ~~ETF beacon near IX columns~~	~~Visible from ETF control room~~ Equipment only activated during potentially higher radiological campaigns

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.4:

9.4 PERSONAL PROTECTIVE EQUIPMENT

PERSONAL PROTECTIVE EQUIPMENT

TYPE	LOCATION	CAPABILITY
Self contained breathing apparatus (SCBA)	~~4 5~~ -2025E Rm ~~122~~ 116 ~~2 2025E Control room area~~ ~~2 Outside southeast 2025E.~~	Breathable air for initial response to emergency, and recovery activities when required for radiological protection
Acid suits	3 each included in the spill response cabinets in 2025E.	Chemical protection for personnel during containment and isolation.
Respirators	2025E Rm ~~203~~107A	Filtered air for recovery of known hazards.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: B.6.b.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

B. General Facility Standards
   6. Contingency Plan
      b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
E. S. Aromi Date	R. F. Guercia APR 0 6 2000 Date	J. J. Wallace Date	L.E. Ruud Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.6:

9.6 Incident Command Post ~~Emergency Response Center~~

For emergencies not requiring evacuation, the BED and support personnel will assemble in the ETF control room~~, ETF control room,~~ or other location as identified by the BED.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E S Aromi	3/22/00	R. F. Guercia	APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 11.0:

11.0 REQUIRED REPORTS

Post incident, written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Section 5.~~16.1~~.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 13.0:

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

~~BED~~	TITLE	WORK LOCATION	WORK PHONE
~~PRIMARY~~	Shift Operation Manager (SOM)	2025E Building - ETF control room or 242-A Evaporator control room	373-9000 373-2737
~~ALTERNATE~~	Operations Manager	~~2025EA Building, room 101~~	~~373-4565~~ 373-5533

~~The complete building emergency organization listing of positions, names, work locations and telephone numbers for essential LWPF personnel is maintained the organization administrative procedures. Copies are distributed to appropriate facility locations and to Emergency Preparedness. In addition, work~~ Names and home telephone numbers of the BEDs ~~and alternates~~ are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
T M Moore 3/30/00		R F Guercia APR 06 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Replacement Sections

Index

Appendix 4A

Appendix 4B

Appendix 7A

APPENDIX 4A

DETAILED DRAWINGS FOR THE LIQUID EFFLUENT RETENTION FACILITY

Drawings of the containment systems at the LERF are summarized in Table 4A-1. Because the failure of these containment systems at LERF could lead to the release of dangerous waste into the environment, Engineering Change Notices (ECNs) which affect these containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4A-1. Liquid Effluent Retention Facility Containment System.

LERF System	Drawing Number	Outstanding ECNs	Drawing Title
Bottom Liner	H-2-79590, Sh 1, Rev. 3	None	Civil Plan, Sections and Details; Cell Basin Bottom Liner (Sheet 1)
Top Liner	H-2-79591, Sh 1, Rev. 3	None	Civil Plan, Sections and Details; Cell Basin Bottom Liner (Sheet 1)
Catch Basin	H-2-79593, Sh 1, Rev. 4	None	Civil Plan, Section and Details; Catch Basin (Sheet 1)

P&ID - piping and instrumentation diagram.

The drawings identified in Table 4A-2 illustrate the piping and instrumentation configuration within LERF, and of the transfer piping systems between the LERF and the 242-A Evaporator. These drawings are provided for general information and to demonstrate the adequacy of the design of the LERF as a surface impoundment. An update to these drawings and drawings identified in Table 4A-1 will be provided annually to the Washington State Department of Ecology.

Table 4A-2. Liquid Effluent Retention Facility Piping and Instrumentation.

LERF System	Drawing Number	Outstanding ECNs	Drawing Title
Transfer Piping to 242-A Evaporator	H-2-79604, Sh 1,Rev. 3	None	Piping Plot and Key Plans; 242-A Evaporator Condensate Stream (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 1, Rev. 2	ECN-647888	P&ID; LERF Basin and ETF Influent (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 2, Rev. 4	ECN-647209L	P&ID; LERF Basin and ETF Influent (Sheet 2)
LERF Piping and Instrumentation	H-2-88766, Sh 3, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 3)
LERF Piping and Instrumentation	H-2-88766, Sh 4, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 4)
	H-2-89351, Sh 1, Rev. 5	None	Piping & Instrumentation Diagram - Legend

P&ID - piping and instrumentation diagram.

Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Outstanding ECNs

Appendix 4A
Table 4A-2

IPF# 1, 7, 9
CPF# 13A, 13B

ENGINEERING CHANGE NOTICE

Page 1 of 54

1. ECN 647888
Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [ ] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [X] Cancel/Void [ ]	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [ ] No LW-98-027	07-31-98
	6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
	Instrument Air Purge of LERF Transfer Line Encasement	242A/200E	NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). 645601	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [ ] No (NA Blks. 12b, 12c, 12d)	EL-98-00280	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [ ] No

THIS ECN SUPERCEDES ECN 645601 IN ITS ENTIRETY.

H-2-99001 SH1 Rev13
SEE PAGE 3 THIS ECN

H-2-88766 SH1 REV1
SEE PAGE 4 THIS ECN

Piping, fittings, and jointing methods to meet the requirements of 242-A piping specification M-7. Install, inspect and test the new piping installation in accordance with ASME B31.1.

14a. Justification (mark one)

Criteria Change	[ ]	Design Improvement	[X]	Environmental	[ ]	Facility Deactivation	[ ]
As-Found	[ ]	Facilitate Const	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

14b. Justification Details

This ECN supercedes ECN 645601. A bypass line and two isolation valves were added to the system as described. The 1/2" IA-704-M7 line that leads to the HVAC PAD at the 242A Evaporator will be tied into before it leaves the building. This tie in will allow Instrument Air to be routed through the encasement line of the LERF transfer line. This line is currently saturated with condensate and requires drying out so that we no longer receive spurious leak alarms.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72	*
NJ SULLIVAN	S6-72	
JM ISDELL	G3-17	
MA BOWMAN	S6-72	
DL FLYCKT	S6-71	
WCC PLANNING	S6-72	*
JE GEARY	S6-71	

*=advanced copy

RELEASE STAMP
AUG 03 1998
DATE
STA: 16
HANFORD RELEASE
ID: 4

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 647888

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $NA	Savings	[] $NA	Delay	[] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[X]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[X]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	~~None~~ See Above JMY 7-31-98	[X]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-640-020	7-GN-031	CI-7-008
EE-01691		

21. Approvals

	Signature	Date
Design Authority	TM GALIOTO JM Galioto	7-31-98
Cog. Eng.	JM Galioto	7-31-98
Cog. Mgr.	MJ Sullivan	7-31-98
QA		
Safety		
Environ.		
Informal Review	MJ Sullivan	7-31-98

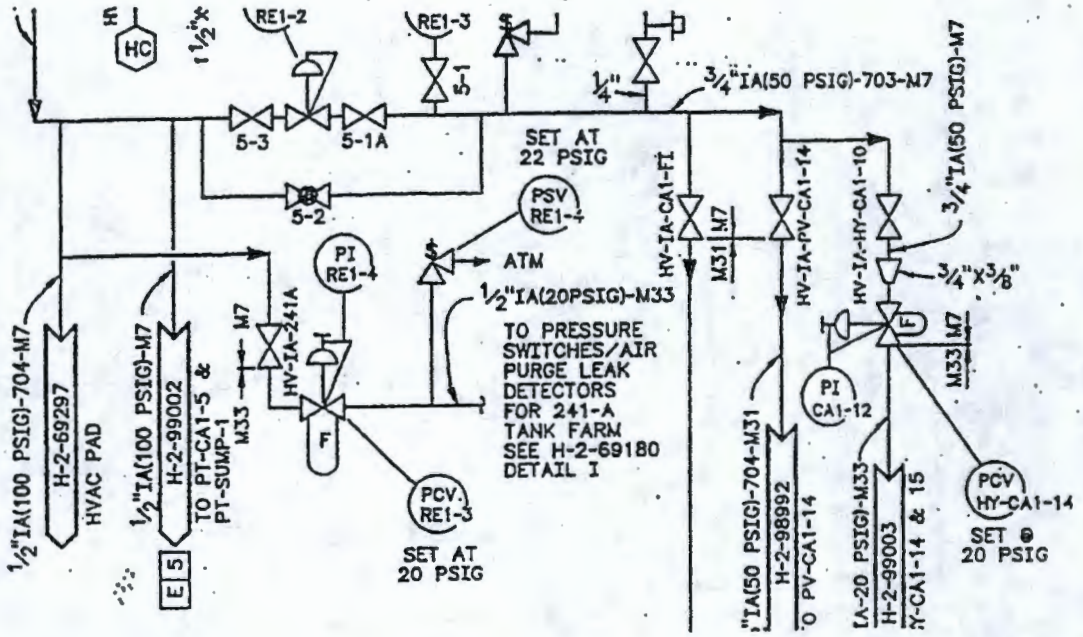
	Signature	Date
Design Agent	JM Galioto	7-31-98
PE		
QA		
Safety		
Design		
Environ.		
Other		

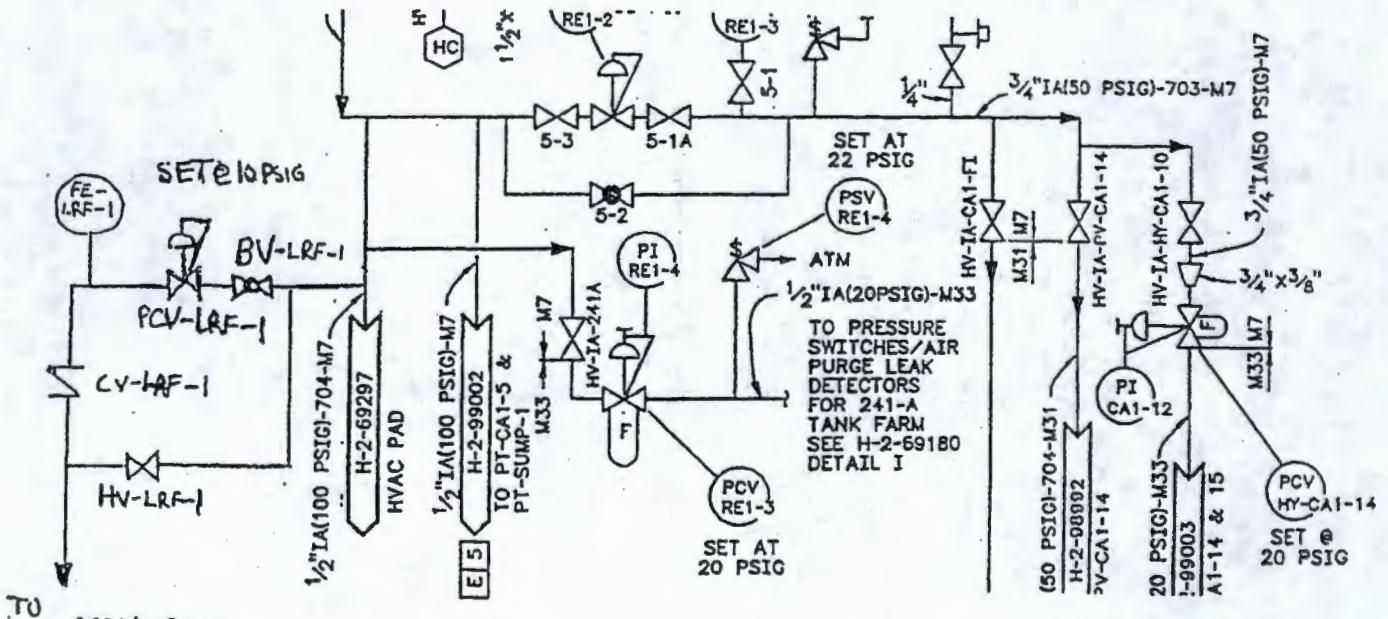
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

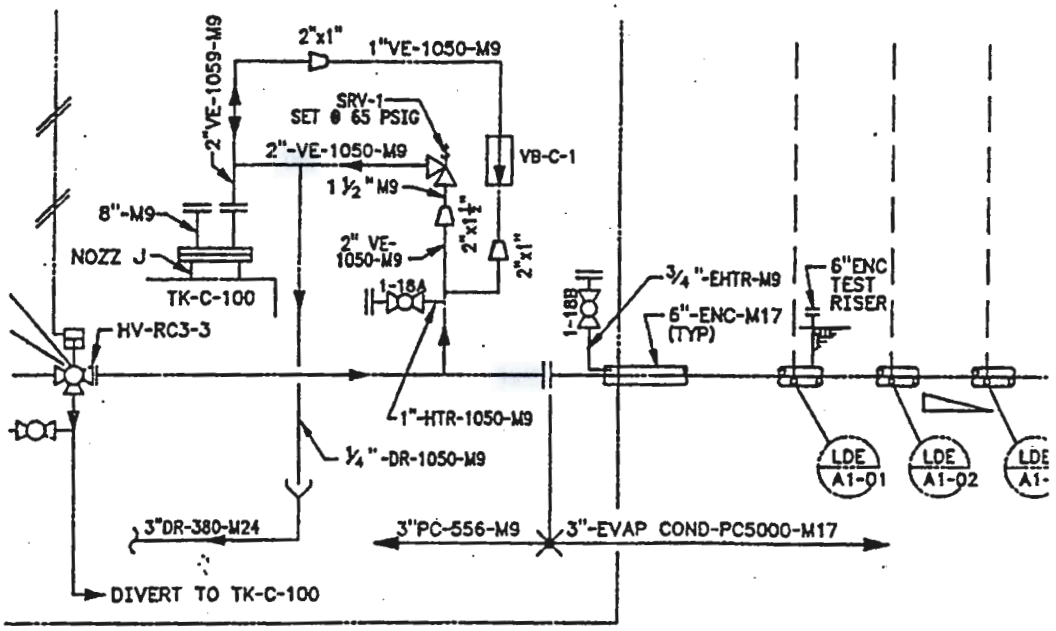
ADDITIONAL

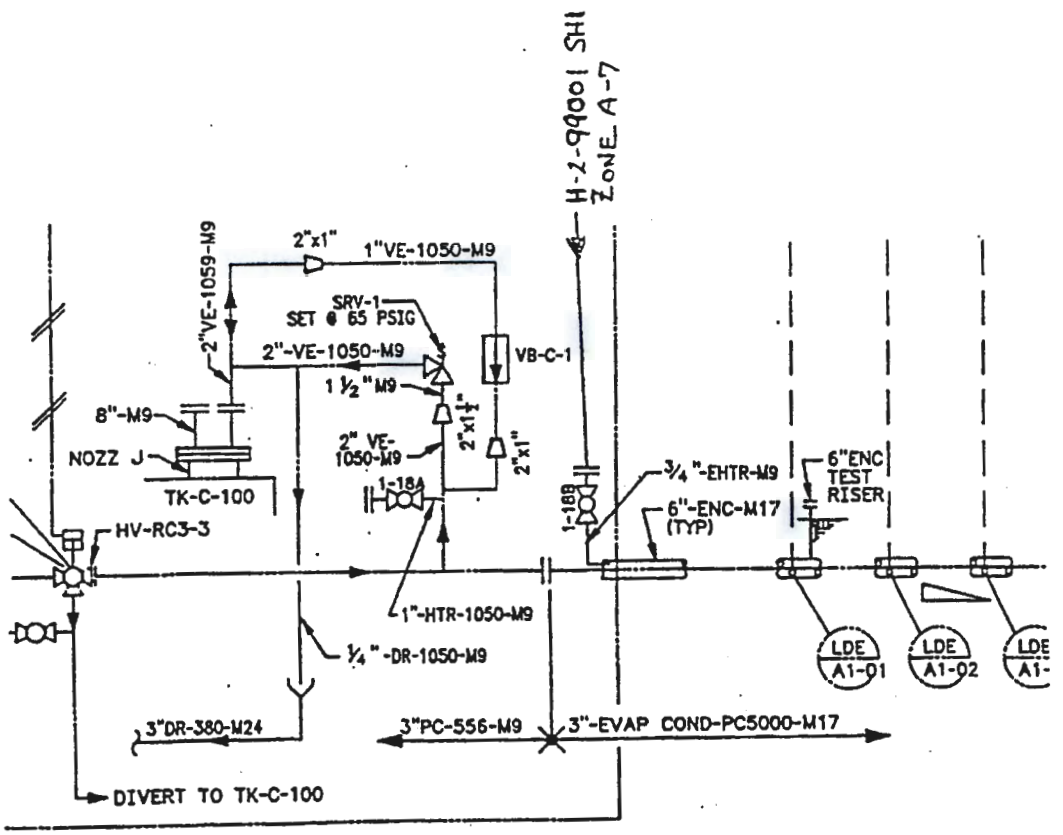
H-2-99001 SH 1


HC
1½"x
RE1-2
RE1-3
5-1
5-3
5-1A
5-2
SET AT 22 PSIG
¼"
¾"IA(50 PSIG)-703-M7
PSV RE1-4
PI RE1-4
ATM
½"IA(20PSIG)-M33
TO PRESSURE SWITCHES/AIR PURGE LEAK DETECTORS FOR 241-A TANK FARM SEE H-2-69180 DETAIL I
HV-IA-241A
M7
M33
½"IA(100 PSIG)-704-M7
H-2-69297
HVAC PAD
½"IA(100 PSIG)-M7
H-2-99002
TO PT-CA1-5 & PT-SUMP-1
E 5
PCV RE1-3
SET AT 20 PSIG
HV-IA-CA1-FI
M31
HV-IA-PV-CA1-14
HV-IA-HY-CA1-10
¾"IA(50 PSIG)-M7
¾"x⅜"
PI CA1-12
PCV HY-CA1-14
SET @ 20 PSIG


HC
1½"x
RE1-2
RE1-3
5-1
5-3
5-1A
5-2
SET AT 22 PSIG
¼"
¾"IA(50 PSIG)-703-M7
SET @ 10 PSIG
FE-LRF-1
BV-LRF-1
PCV-LRF-1
CV-LRF-1
HV-LRF-1
PSV RE1-4
PI RE1-4
ATM
½"IA(20PSIG)-M33
TO PRESSURE SWITCHES/AIR PURGE LEAK DETECTORS FOR 241-A TANK FARM SEE H-2-69180 DETAIL I
HV-IA-241A
M7
M33
½"IA(100 PSIG)-704-M7
H-2-69297
HVAC PAD
½"IA(100 PSIG)-M7
H-2-99002
TO PT-CA1-5 & PT-SUMP-1
E 5
PCV RE1-3
SET AT 20 PSIG
HV-IA-CA1-FI
M31
HV-IA-PV-CA1-14
HV-IA-HY-CA1-10
¾"IA(50 PSIG)-M7
¾"x⅜"
PI CA1-12
PCV HY-CA1-14
SET @ 20 PSIG
TO H-2-88166 SH1

H-2-88766 SH1


2"x1"
1"VE-1050-M9
2"VE-1059-M9
SRV-1
SET @ 65 PSIG
2"-VE-1050-M9
VB-C-1
1 ½"-M9
2"x1½"
2"x1"
8"-M9
NOZZ J
TK-C-100
2" VE-1050-M9
1-18A
1-18B
¾"-EHTR-M9
6"ENC TEST RISER
6"-ENC-M17 (TYP)
HV-RC3-3
1"-HTR-1050-M9
¼"-DR-1050-M9
LDE A1-01
LDE A1-02
LDE A1-
3"DR-380-M24
3"PC-556-M9
3"-EVAP COND-PC5000-M17
DIVERT TO TK-C-100


H-2-99001 SH1 ZONE A-7
2"x1"
1"VE-1050-M9
2"VE-1059-M9
SRV-1
SET @ 65 PSIG
2"-VE-1050-M9
VB-C-1
1 ½"-M9
2"x1½"
2"x1"
8"-M9
NOZZ J
TK-C-100
2" VE-1050-M9
1-18A
1-18B
¾"-EHTR-M9
6"ENC TEST RISER
6"-ENC-M17 (TYP)
HV-RC3-3
1"-HTR-1050-M9
¼"-DR-1050-M9
LDE A1-01
LDE A1-02
LDE A1-
3"DR-380-M24
3"PC-556-M9
3"-EVAP COND-PC5000-M17
DIVERT TO TK-C-100

CPF 14 A
CPF 13 A
CPF 13 B
CPF

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 3

1. ECN 647209L

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [] Direct Revision [] Change ECN [] Temporary [x] Standby [] Supersedure [] Cancel/Void []	LL Lin/32910/S6-72/372-2759	[] Yes [X] No	December 1, 1998
	6. Project Title/No./Work Order No. Install Hose Adaptors on Basin 42 Sample Ports/Charge # 101697, COA AJ60	7. Bldg./Sys./Fac. No. LERF/60M	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-88766 Sh.2, Rev. 4	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00840/L	Design Authority/Cog. Engineer Signature & Date	NA 12/2/98 Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [X] Yes [] No

Install temporary adaptors per Detail I shown on page 3 of this ECN. The adaptors will be installed on Riser 3 and Riser 7 for LERF Basin 42. Install 2" line off the sample ports. Valves 60M-TEMP-1 and 60M-TEMP-2 shall be 2" gate valves or engineering approved equal. Install 1-1/2" pipe nipple down stream of the 2"x 1-1/2" reducer.

Material of construction shall be compatible with rain water at a maximum pressure of 100 psig. Use EPDM gasket or engineering approved equal. Perform in-service leak test on the new installation.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[x]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Temporary adaptors are needed to expedite the pumping of the standing water on LERF Basin 42 cover. This water contains radioactivity which is above the limits for discharging to the ground. The adaptors will allow the transfer of the water, using the basin float pump, back to the basin.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	J. M. Petty	S6-74	1
J. M. Isdoll	G3-17	1	A. K. Yoakum	S6-72	1
L. L. Lin*	S6-72	1	M. W. Bowman	S6-72	1
WCC Planning*	S6-71	1	B. S. Darling	T4-05	1
C. D. Skogley	T4-05	1	A. F. Crane	S6-72	1
D. L. Flyckt	S6-71	1			

(* = 1 Advance Copy)

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DATE: DEC 02 1998

...A 16 HANFORD RELEASE ID: 18

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 3	1. ECN 647209L

16. Design Verification Required	17. Cost Impact ——> NA <—— ENGINEERING		CONSTRUCTION		18. Schedule Impact (days) ——> NA <——	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Task Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[NA]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec.	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[NA]	Operating Procedure	[NA]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[X]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac. Proc. Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
No other documents affected by this ECN.		

21. Approvals

	Signature	Date
Design Authority – L. L. Lin		12/2/98
Cog. Eng. – L. L. Lin		12/2/98
Cog. Mgr. – N. J. Sullivan		12-2-98
QA		
Safety		
Environ.		
Other - R. J. Huth (Informal Design Review)		12-2-98
Operations		

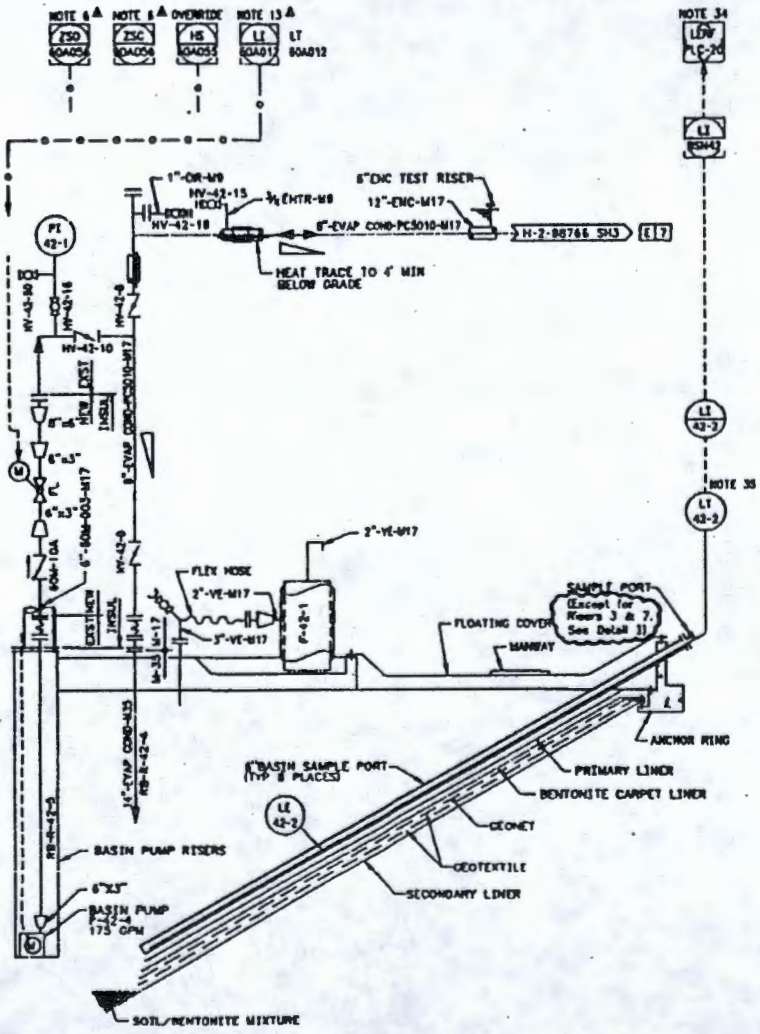
	Signature	Date
Design Agent – L. L. Lin		12/2/98
PE		
QA		
Safety		
Design		
Environ.		
Other		

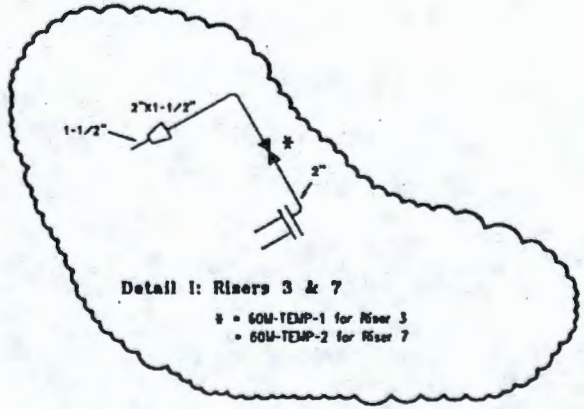
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

ECN No. 647209L		
Ref. Dwg. H-2-88766	Sh. 2	Rev. 4
Zone B-3 TO F-3		





NOTE:
FOR NOTES SEE SHEET 1

242-A EVAP COND
242AL-42
6.5 MILLION GAL CAPACITY

ECN Changes Shown in

APPENDIX 4B

DETAILED DRAWINGS FOR THE 200 AREA EFFLUENT TREATMENT FACILITY CONTAINER STORAGE AREA AND TANK SYSTEMS

Drawings of the secondary containment systems for the ETF containers, and tanks and process units, and for the Load-In Tanks are summarized in Table 4B-1. Because the failure of the secondary containment systems could lead to the release of dangerous waste into the environment, Engineering Change Notices (ECNs) which affect the secondary containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4B-1. Drawing of Effluent Treatment Facility and Load-In Station Secondary Containment Systems

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Surge Tank, Process/Container Storage Areas and Trenches - Foundation and Containment	H-2-89063, Sh. 1, Rev. 3	ECN-647892	STRUCT – Foundation and Grade Beam Plan (Sheet 1)
Sump Tank Containment	H-2-89065, Sh. 1, Rev. 3	None	STRUCT – Foundation, Sections and Detail (Sheet 1)
Verification Tank Foundation and Containment	H-2-89068, Sh. 1, Rev. 3	ECN-647892	STRUCT – Verification Tank Foundation (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 1, Rev. 1	ECN-641703 ECN-647247 ECN-649104	Structural – ETF Truck Load-in Facility Plans and Sections (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 2, Rev. 1	ECN-641703 ECN-649104	Structural – ETF Truck Load-in Facility Sections and Details (Sheet 2)

P&ID - piping and instrumentation diagram.
STRUCT - architectural/structural diagram.

The drawings identified in Table 4B-2 provide an illustration of the piping and instrumentation configuration for the major process units and tanks at the ETF, and the Load-In Tanks. Drawings of the transfer piping systems between the LERF and ETF, and between the Load-In Station and the ETF also are presented in this table. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings and drawings identified in Table 4B-1 will be provided annually to the Washington State Department of Ecology.

Table 4B-2. Drawings of Major Process Units and Tanks at the Effluent Treatment Facility and Load-In Station.

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Load-In Facility	H-2-817974, Sh. 1, Rev. 12	None	P&ID – ETF Truck Load-In Facility (Sheet 1)
Load-In Facility	H-2-817974, Sh. 2, Rev. 0	None	P&ID – ETF Truck Load-In Facility (Sheet 2)
Surge Tank	H-2-89337, Sh. 1, Rev. 11	ECN-644244	P&ID – Surge Tank System (Sheet 1)
UV/Oxidation	H-2-88976, Sh. 1, Rev. 8	ECN-647245	P&ID – UV Oxidizer Part 1 (Sheet 1)
UV/Oxidation	H-2-89342, Sh. 1, Rev. 6	ECN-647245	P&ID – UV Oxidizer Part 2 (Sheet 1)
Reverse Osmosis	H-2-88980, Sh. 1, Rev. 9	None	P&ID – 1st RO Stage (Sheet 1)
Reverse Osmosis	H-2-88982, Sh. 1, Rev. 11	None	P&ID – 2nd RO Stage (Sheet 1)
IX/Polishers	H-2-88983, Sh. 1, Rev. 10	ECN-642800	P&ID – Polisher (Sheet 1)
Verification Tanks	H-2-88985, Sh. 1, Rev. 8	None	P&ID – Verification Tank System (Sheet 1)
ETF Evaporator	H-2-89335, Sh. 1, Rev. 12	ECN-641719 ECN-653080L ECN-641564 ECN-651583	P&ID – Evaporator (Sheet 1)
Thin Film Dryer	H-2-88989, Sh. 1, Rev. 16	ECN-648765 ECN-642797	P&ID – Thin Film Dryer (Sheet 1)
Transfer Piping from LERF to ETF	H-2-88768, Sh. 1, Rev. 1	None	Piping Plan/Profile 4"– 60M-002-M17 and 3"-60M-001-M17 (Sheet 1)
Transfer Piping from Load-In Facility to ETF	H-2-817969, Sh. 1, Rev. 1	W291-015 ECN-641703 ECN-649104	Civil – ETF Truck Load-In Facility Site Plan (Sheet 1)

P&ID - piping and instrumentation diagram.
STRUCT - architectural/structural diagram.

1
2
3
4
5
6

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Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Outstanding ECNs

Appendix 4B
Table 4B-1

S

ENGINEERING CHANGE NOTICE

Page 1 of 2-7

1. ECN 647892

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32230, S6-72, 372-3152	[] Yes [X] No	09/21/98
	6. Project Title/No./Work Order No. Access Stairs/A4055	7. Bldg./Sys./Fac. No. 2025E	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Blk. 13a	10. Related ECN No(s). N/A	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00585/M AFC 9/23/98	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

H-2-89033, Sh 1, Rev 2
H-2-89036, Sh 1, Rev 2
H-2-89039, Sh 1, Rev 4
H-2-89040, Sh 1, Rev 2
H-2-89044, Sh 1, Rev 4
H-2-89063, Sh 1, Rev 3
H-2-89068, Sh 1, Rev 3
H-2-89069, Sh 1, Rev 3
H-2-89078, Sh 1, Rev 4

See Continuation Sheet

13b. Design Baseline Document? [X] Yes [] No

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Installation of stairways is required to provide safe access when carrying equipment into the surge and verification containments.

Informal design review performed by RJ Huth.

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72	(1)	RJ Huth	S6-72	(1)
AF Crane	S6-72	(1)*	JM Isdell	G3-17	(1)*
BS Darling	T4-61	(1)	NJ Sullivan	S6-72	(1)
DL Flyckt	S6-71	(1)	AK Yoakum	S6-71	(1)
JE Geary	S6-71	(1)	WCC Planning	S6-71	(1)*

*Advance Copy

RELEASE STAMP

SEP 23 1998

DATE: HANFORD RELEASE ID:

STA: 30 25

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 27	1. ECN (use no. from pg. 1) 647892

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

21. Approvals

	Signature	Date		Signature	Date
Design Authority	AF Crane	9-21-98	Design Agent	AF Crane	9-21-98
Cog. Eng.			PE		
Cog. Mgr.	NJ Sullivan	9-22-98	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
RJ Huth Informal Design Review		9.22-98			

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

H-2-89033, Sh 1, Zone D-3: Replace ladder with stairway.

H-2-89036, Sh 1, Zone E-4: Replace ladder with stairway.

H-2-89039, Sh 1, Zone B-4: Replace ladder with stairway & show new sidewalk.

Zone E-4: Replace ladder with stairway.

H-2-89040, Sh 1, Zone B-4: Replace ladder with stairway & show new sidewalk.

Zone E-4: Replace ladder with stairway.

H-2-89044, Sh 1, Zone B-4: Replace ladder with stairway & show new sidewalk.

Zone E-4: Replace ladder with stairway.

H-2-89063, Sh 1, Zone F-2: Replace ladder with stairway. Delete 8'-9" dimension and ladder & crossover centerline callout. Change Section 4, Dwg. 89069 callout to read "See Section For Foundation Information".

H-2-89068, Sh 1, Zone C-3: Replace ladder with stairway. Delete 10'-0" & 3'-5 1/2" dimensions, landing and ladder & crossover centerline callout. Change callout to read "See Section For Foundation Information" with reference to Dwg. 89069, Section 4.

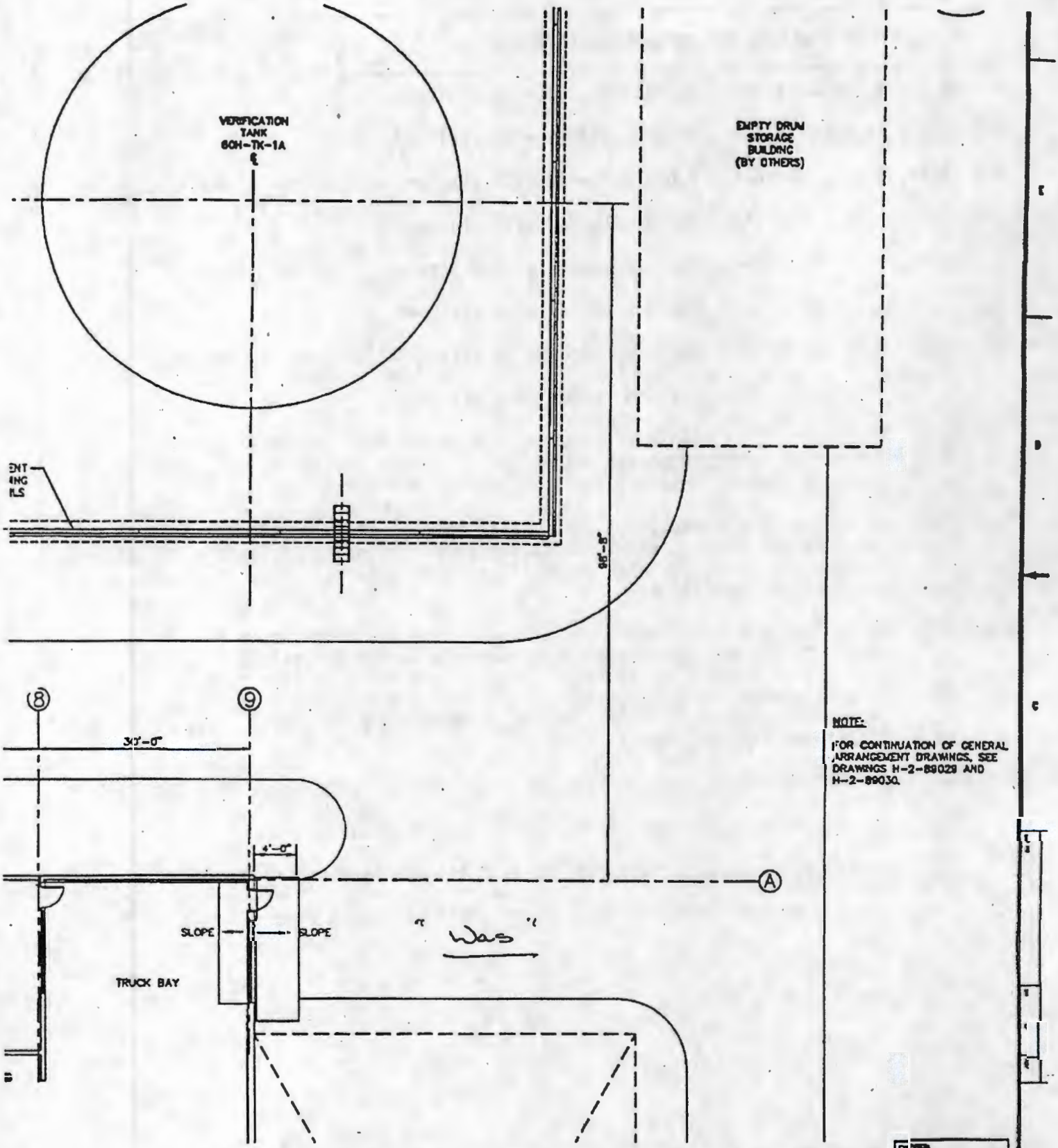
H-2-89069, Sh 1, Zone A-6: Add "minimum" to foundation width dimension (2'-0") callout. Change foundation text to read "Ladder Or Stairway Concrete Foundation (Locate In Field)". Change ladder description text to read "Aluminum Pre-Engineered Ship Ladder With Platform & Return, O'Keefe's Model 522-10 Or Equal, Or Aluminum Pre-Engineered Stairway. See VI Supp. 50054 For Stairway Detail."

H-2-89078, Sh 1, Zone A-7: Change detail title to "Ladder Or Stairway Step Off Pad".

Zone B-6: Change callout to "Ladder Or Stairway" from "Ladder".

Zone B-7: Add "minimum" to step off pad length dimension (38").

Zone B-8: Add "minimum" to step off pad width dimension (30").



NOTE:

FOR CONTINUATION OF GENERAL ARRANGEMENT DRAWINGS, SEE DRAWINGS H-2-89029 AND H-2-89030.

ECN 647892, Pg 4 of 27
H-2-89033, SH 1

NUMBER	TITLE	NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS				
2	AS BUILT PER ECN 71353	MV		
1	ISSUED FOR CONSTRUCTION	[illegible]	ECN	[illegible]
0	ISSUED FOR PDSR SUBMITTAL	[illegible]	ECN	[illegible]

CADFILE 8089033A

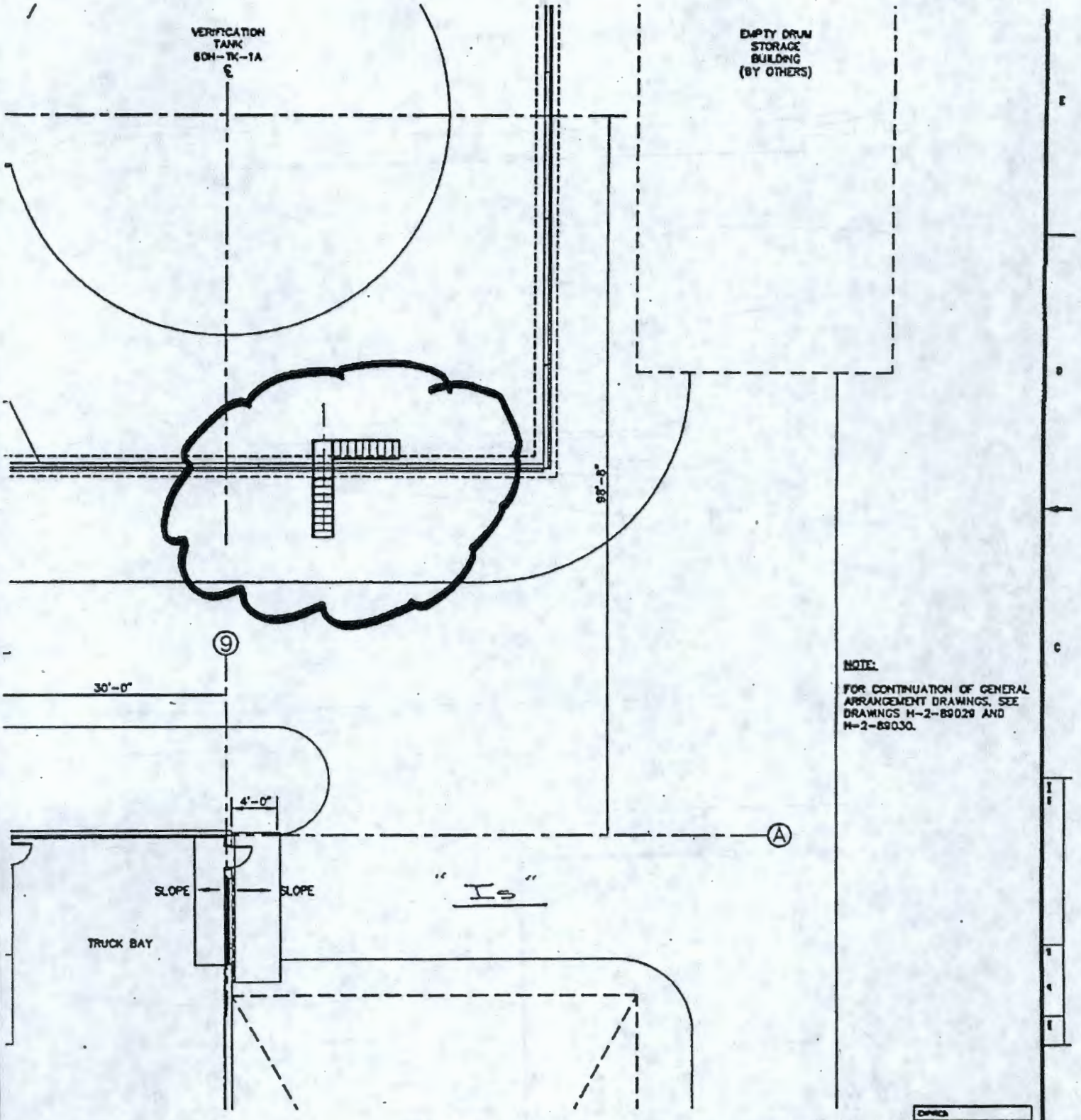
U.S. DEPARTMENT OF ENERGY
DOE FIELD OFFICE, RICHLAND
JCC CORPORATION

GENERAL ARRANGEMENT
NORTH YARD

F | 2012Z | 0110 | H-2-89033 | 2

SCALE 1/8"=1'-0" | D-122H-008 | SHEET 1 OF

4 3 2 1



NOTE:

FOR CONTINUATION OF GENERAL ARRANGEMENT DRAWINGS, SEE DRAWINGS H-2-89029 AND H-2-89030.

ECN 647892, Pg 5 of 27
H-2-89033, Sh 1

NUMBER	TITLE	NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES NEXT USED ON	

REVISIONS				
CADFILE B089033A				
2	AS BUILT PER ECN 171353	MV		
1	ISSUED FOR CONSTRUCTION	MHM	ECN	EPH
0	ISSUED FOR 90% SUBMITTAL	MHM	ECN	EPH

U.S. DEPARTMENT OF ENERGY
DOE FIELD OFFICE, RICHLAND
JOC CORPORATION

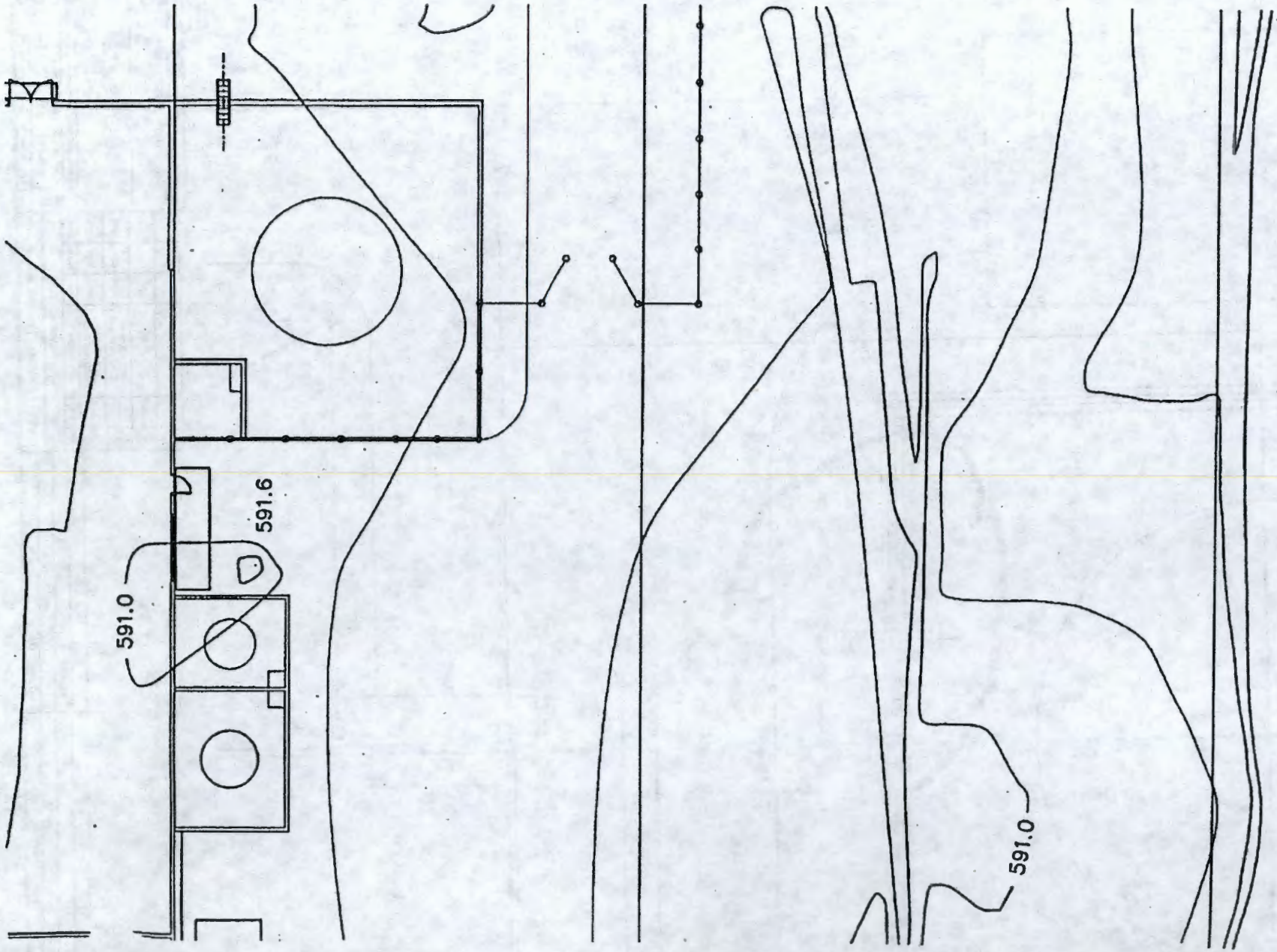
GENERAL ARRANGEMENT
NORTH YARD

SIZE	JOB NO	DRAWING NO	REV
F	21235E	0110 H-2-89033	2

SCALE 1/8"=1'-0" D-122H-008 SHEET 1 OF 1

"Das"

ECN 647892, Pg 6 of 27
H-2-89036, SH 1



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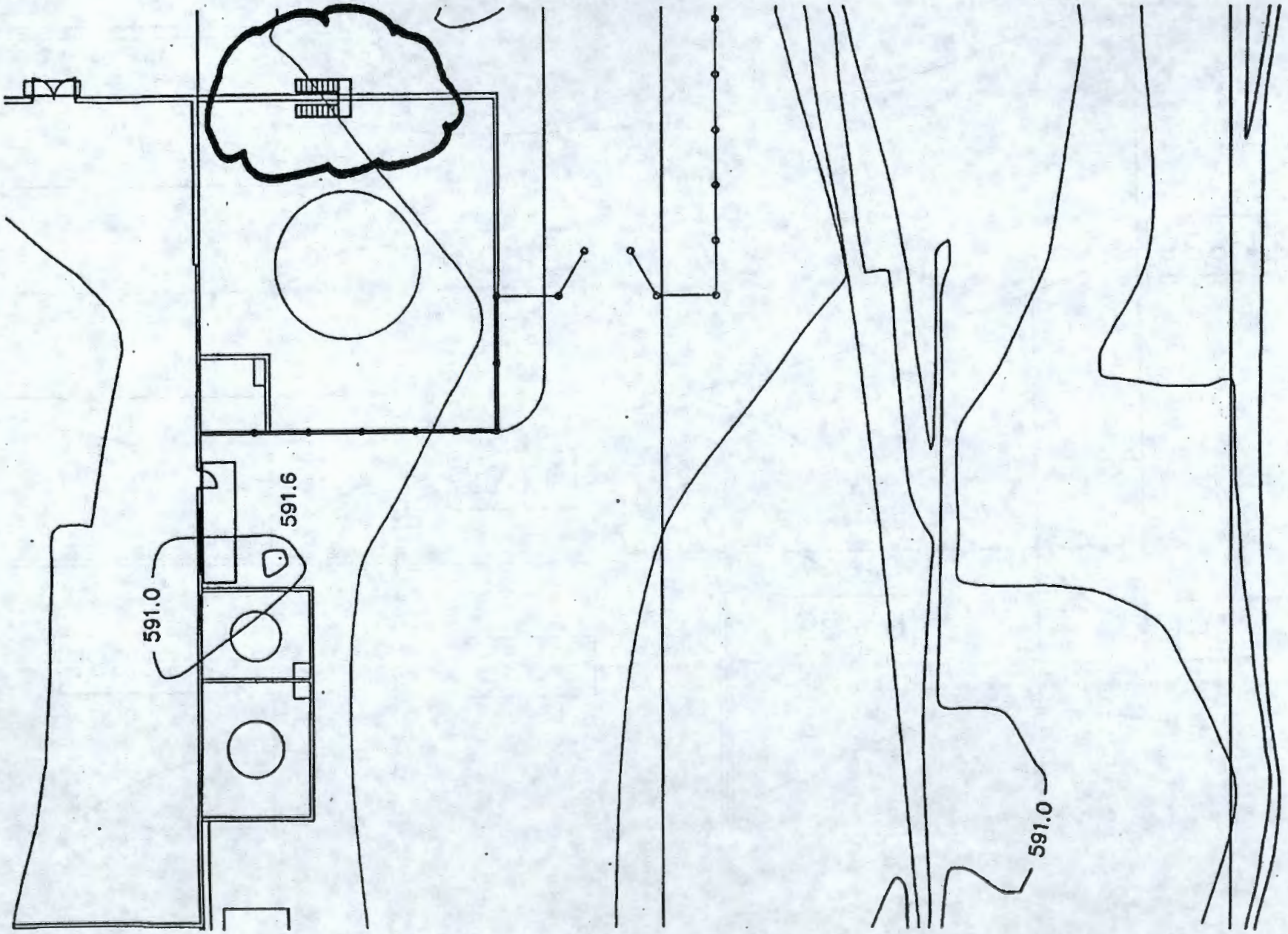
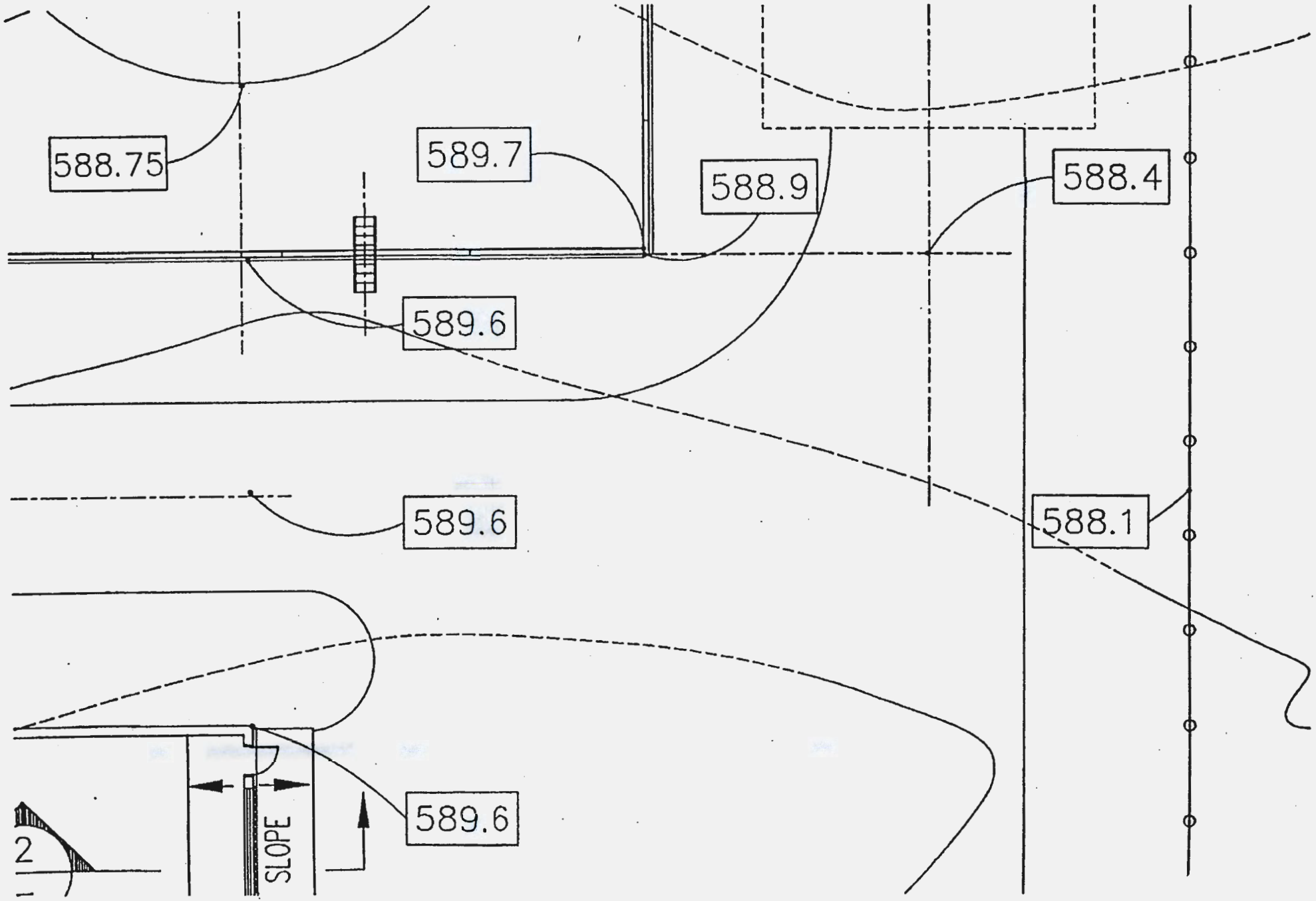
ECN 647892, Pg 7 of 27

11-2-89036, SH 1



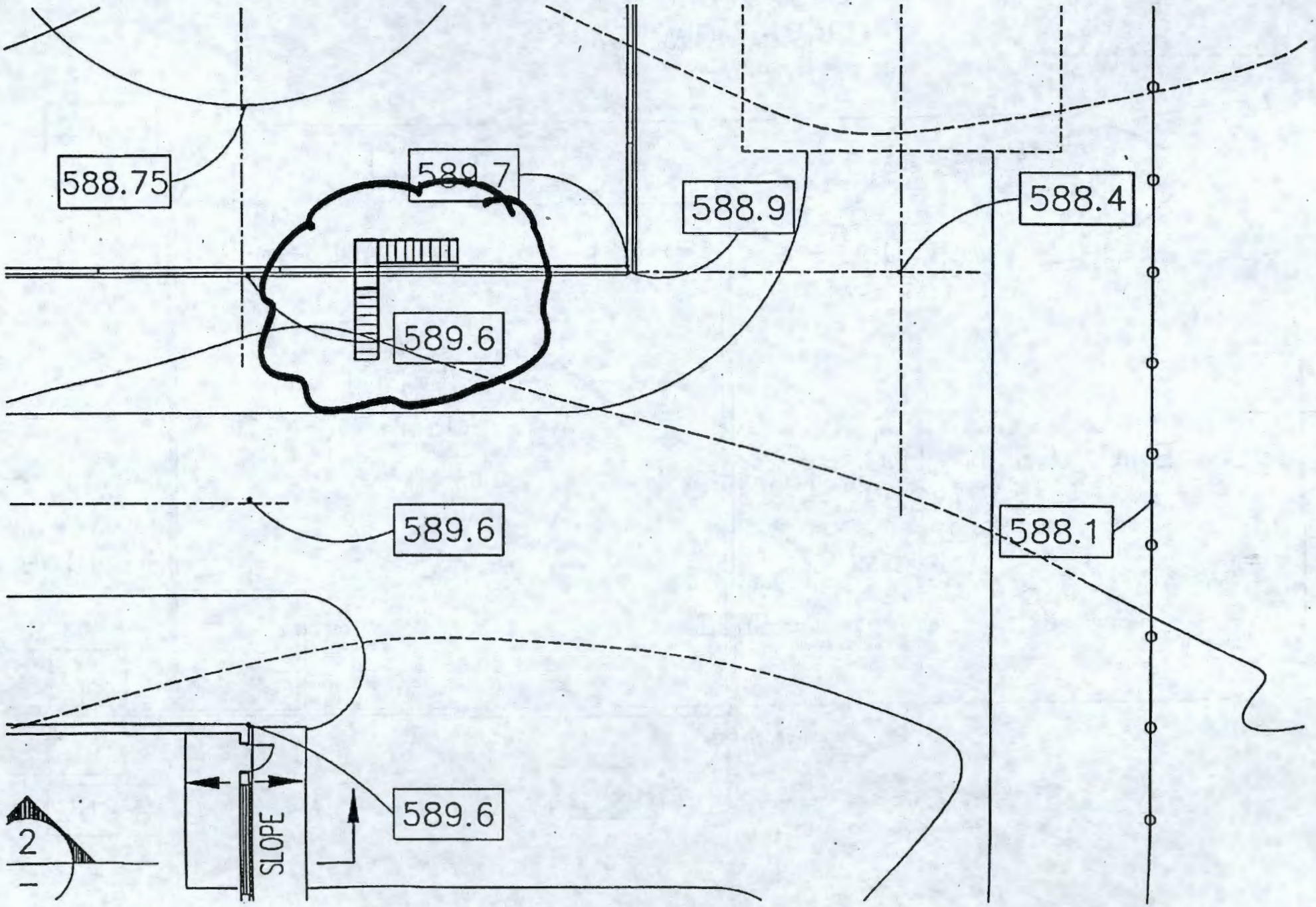
"Was"

ECN 647892, Pg 8 of 27
H-2-89039, SH 1



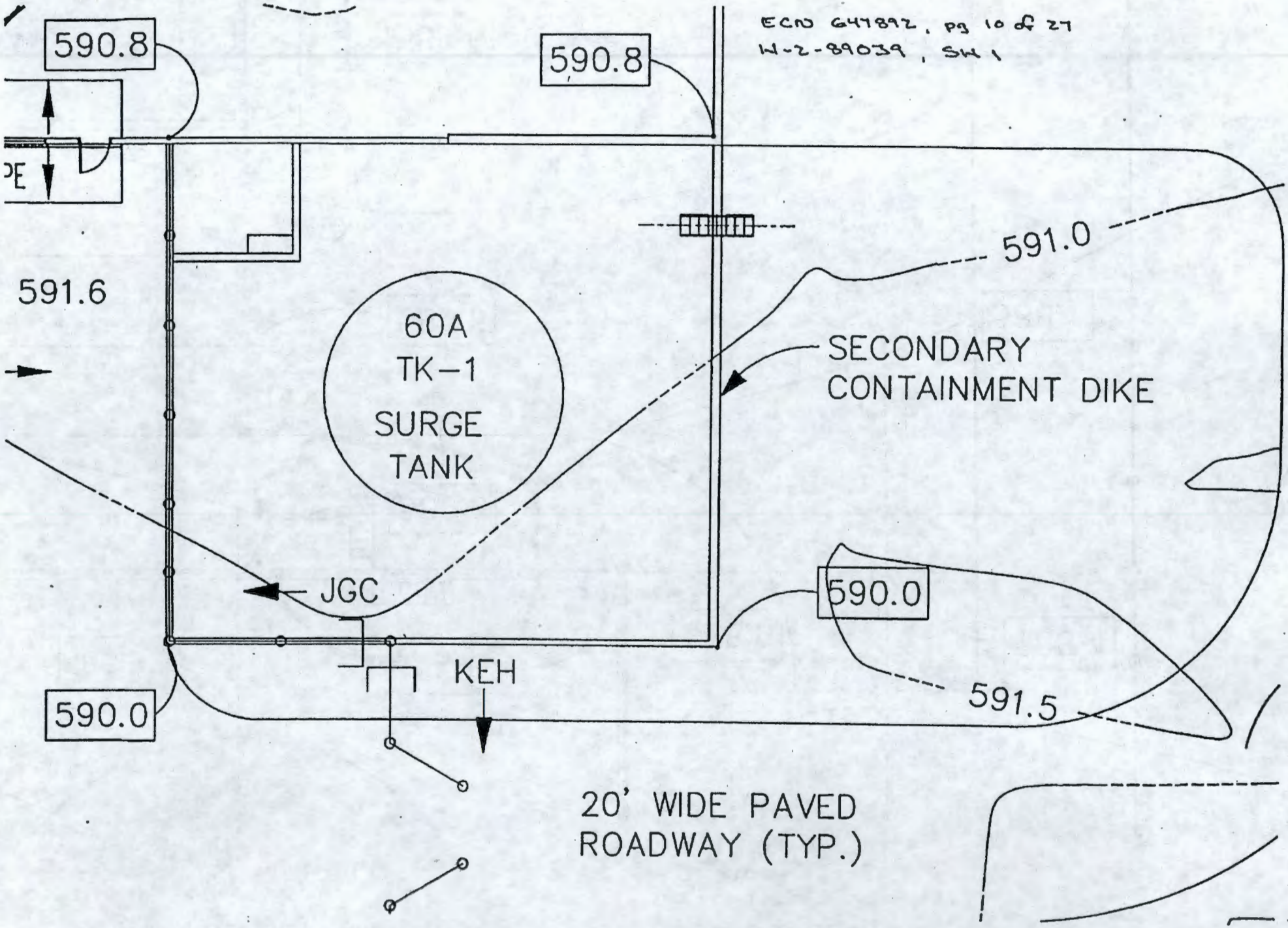
"I3"

ECN 647892, Pg 9 of 27
H-2-89039, Sh 1



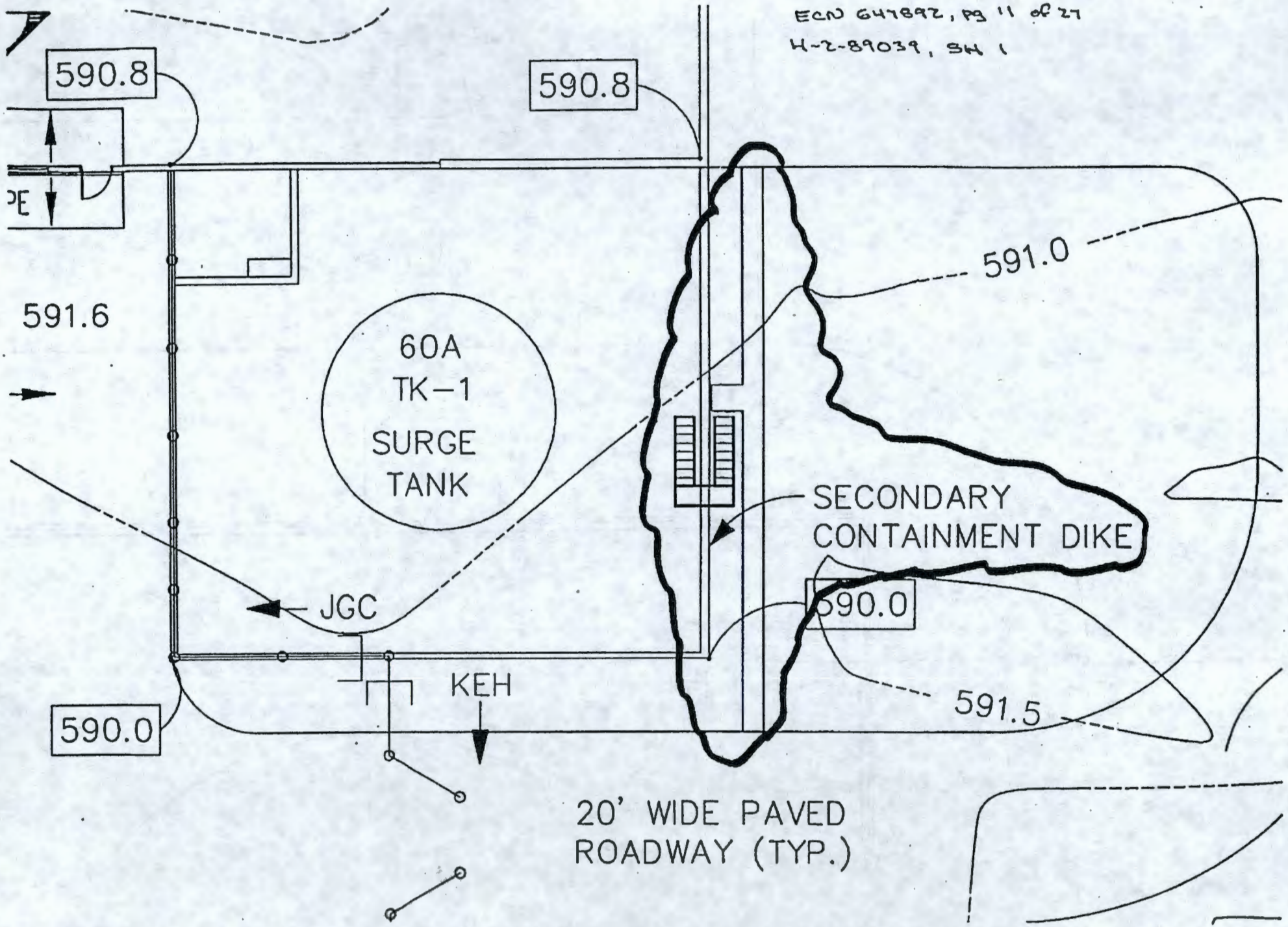
"Was"

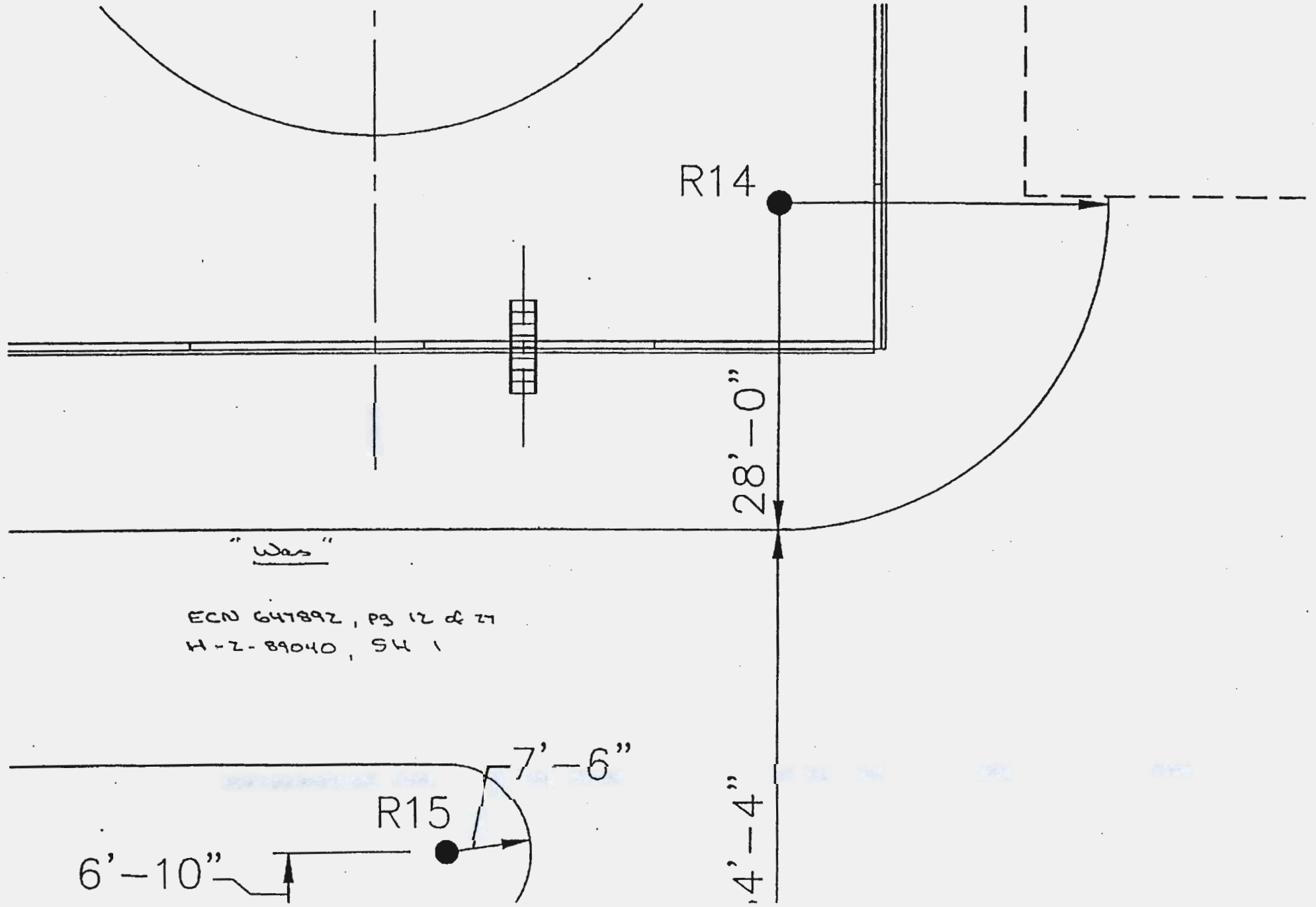
ECN 647892, pg 10 of 27
W-2-89039, SH 1



"Is"

ECN 647892, Pg 11 of 27
H-2-89039, SH 1

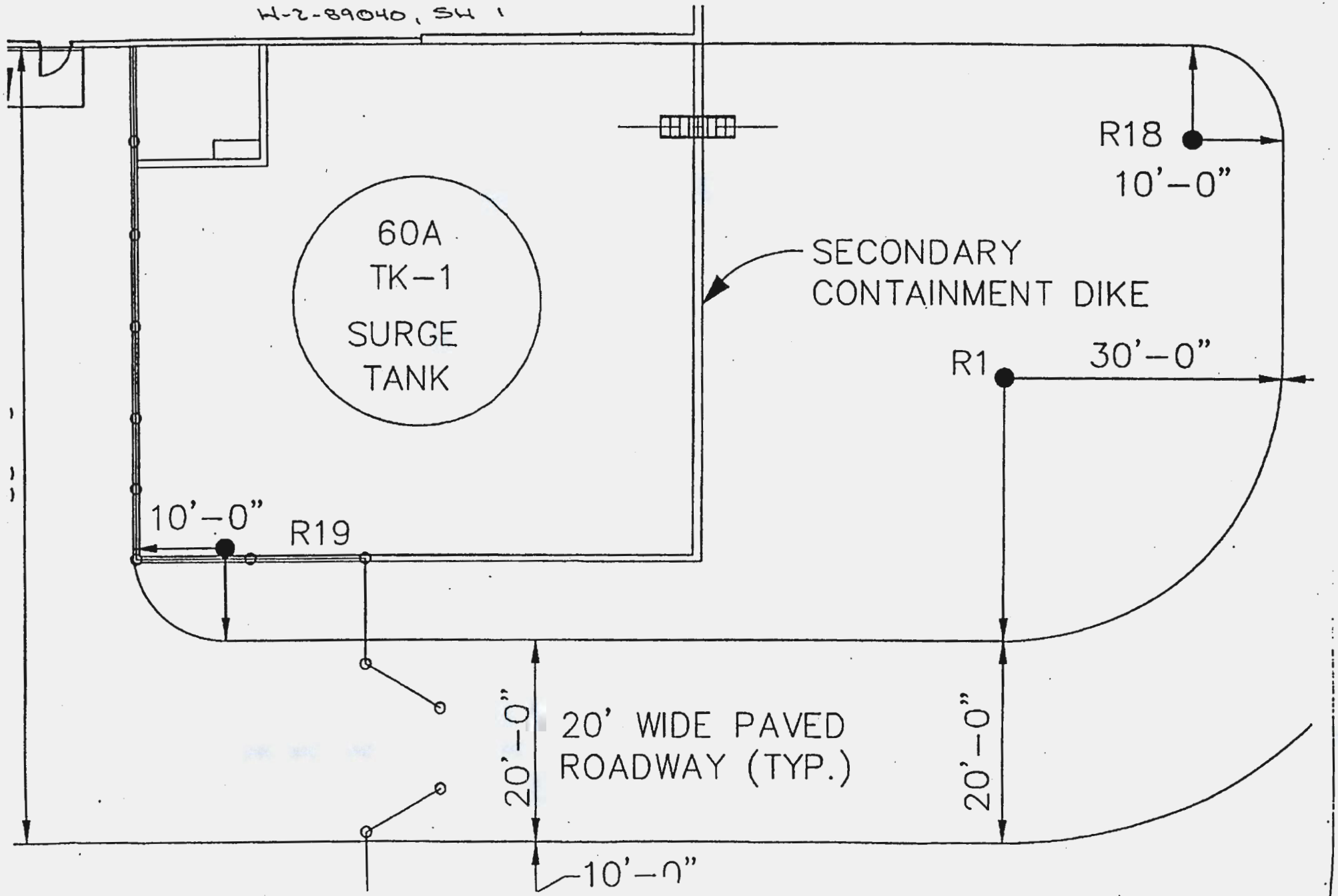



R14
28'-0"
"Was"
ECN 647892, Pg 12 of 27
H-2-89040, SH 1
7'-6"
R15
6'-10"
4'-4"

6'-10"
R15
7'-6"
4'-4"
28'-0"
R14
"Is"
ECN 611892, Pg 13 of 71
H-2-88040, Sh 1

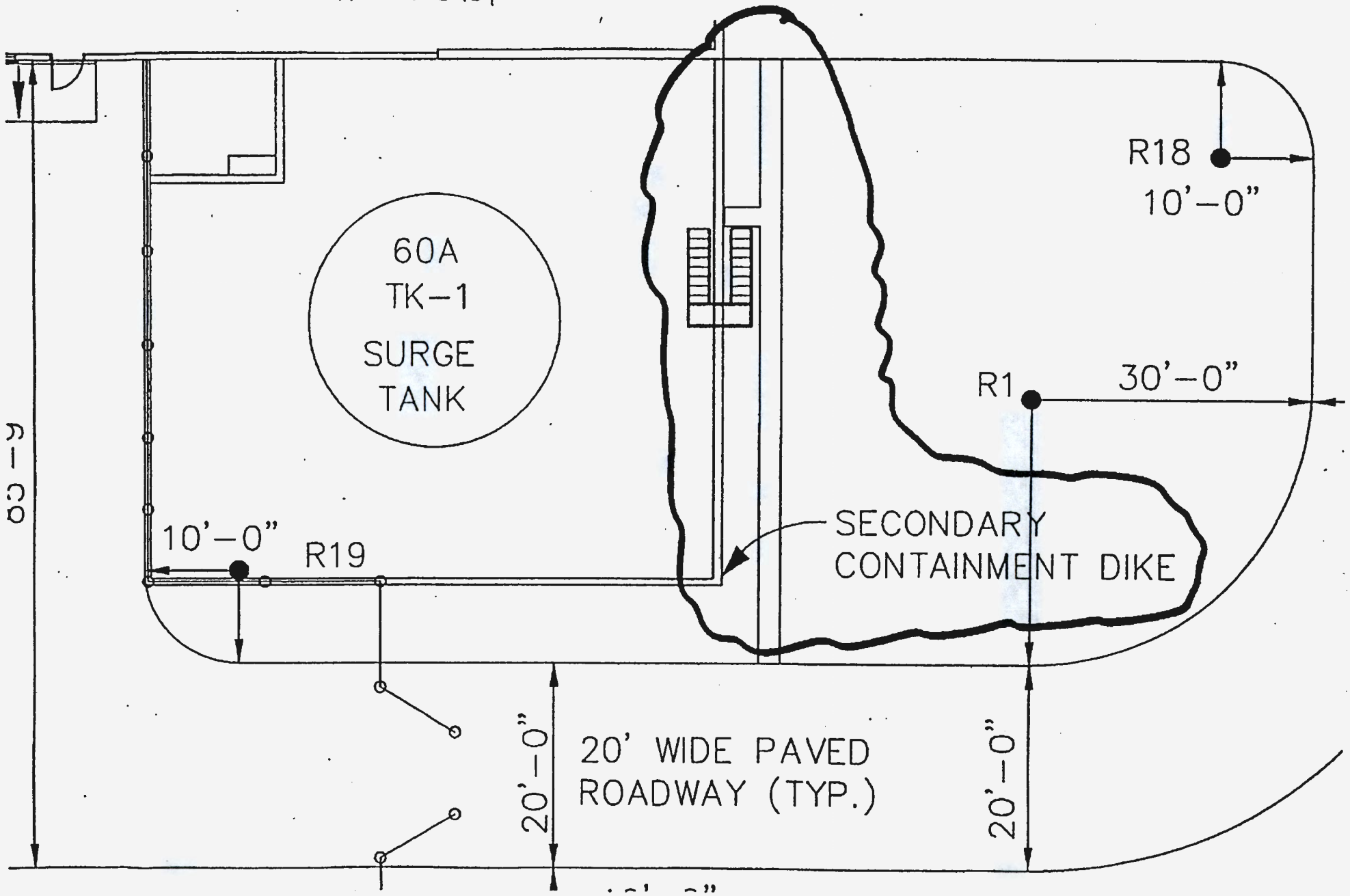
"Was"

ECN 647892, Pg 14 of 27
W-2-89040, SH 1



"I5"

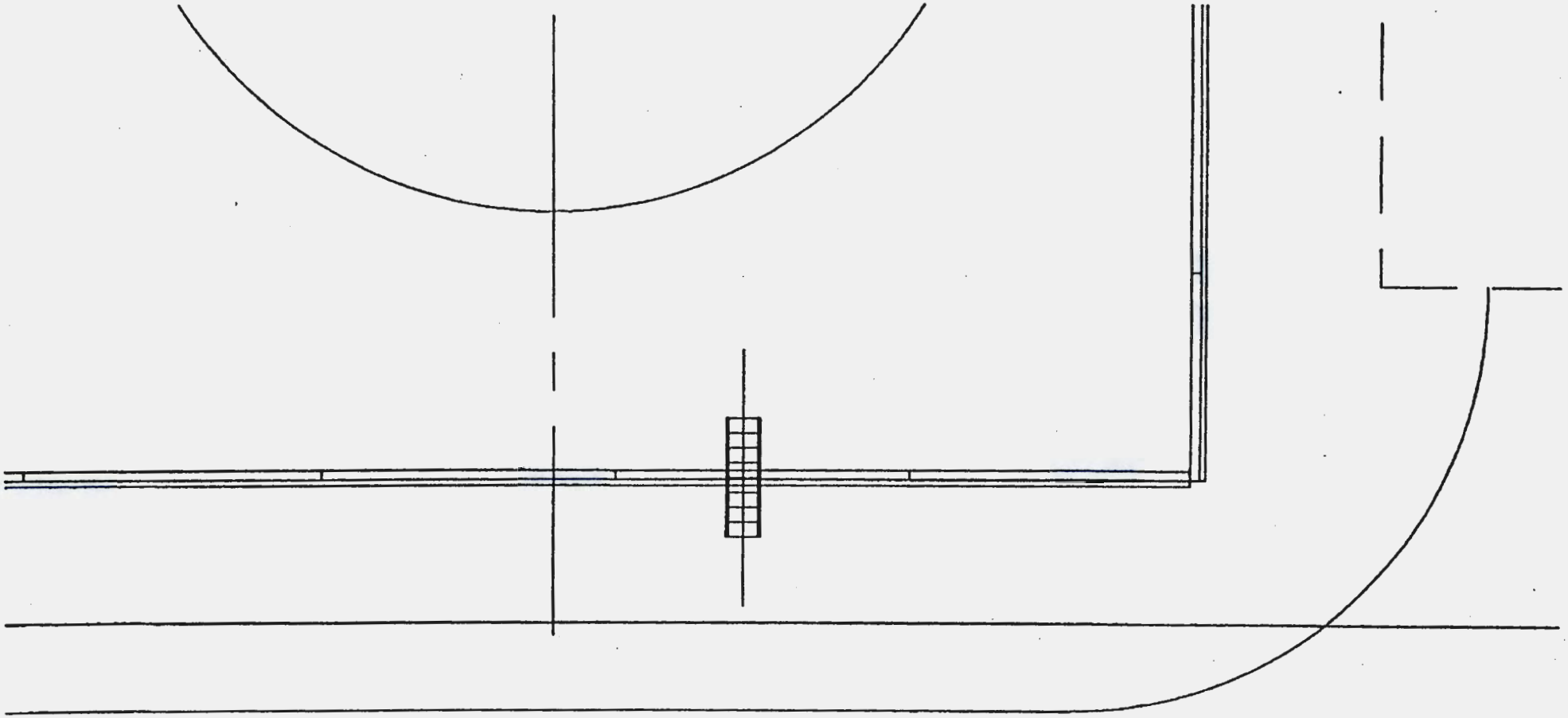
ECN 647892, Pg 15 of 27
H-2-89040, SH 1



"Was"

ECN 647892, Pg 16 of 27

H-2-69044, Sh 1

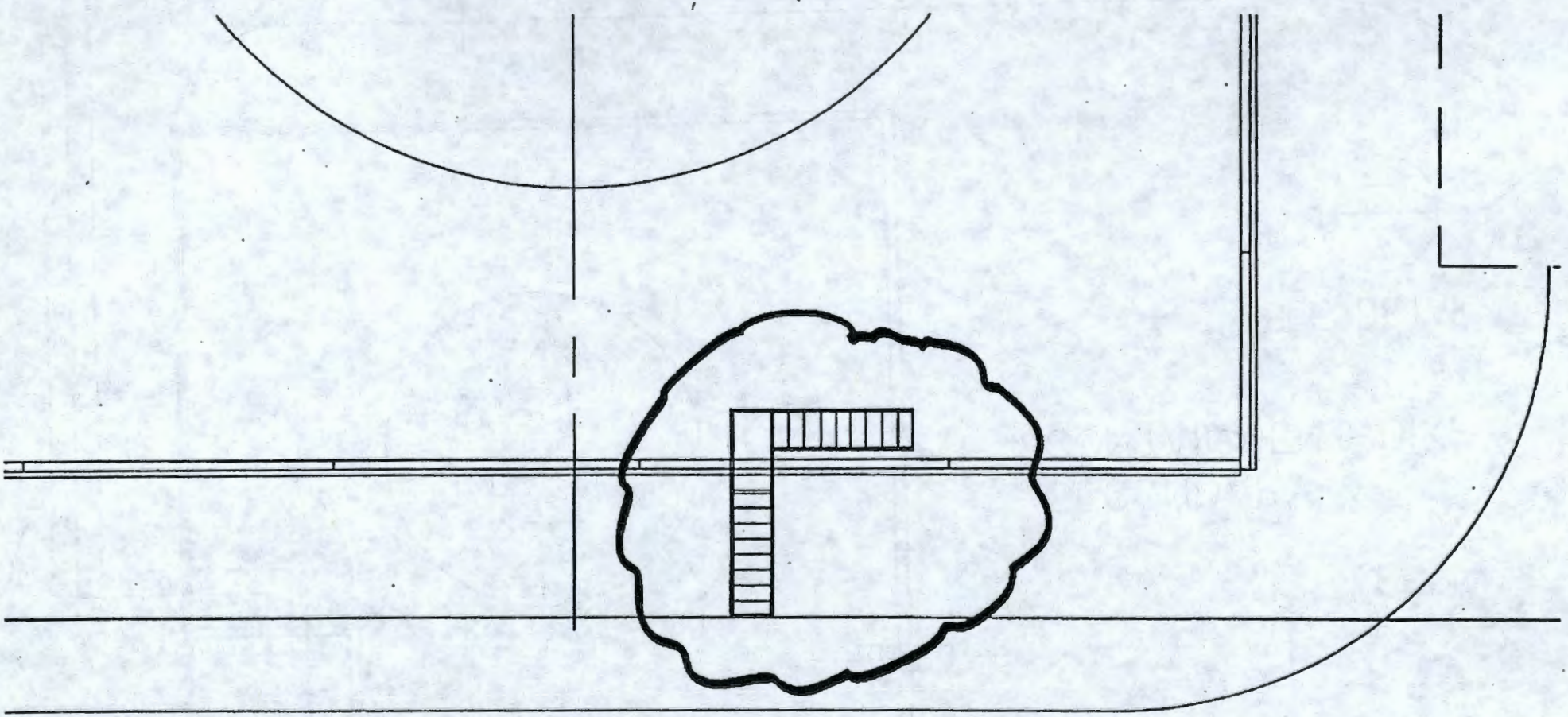


℄ PIPE (–)4'–6"
BELOW GRADE

"I3

ECN 647892, Pg 17 of 27

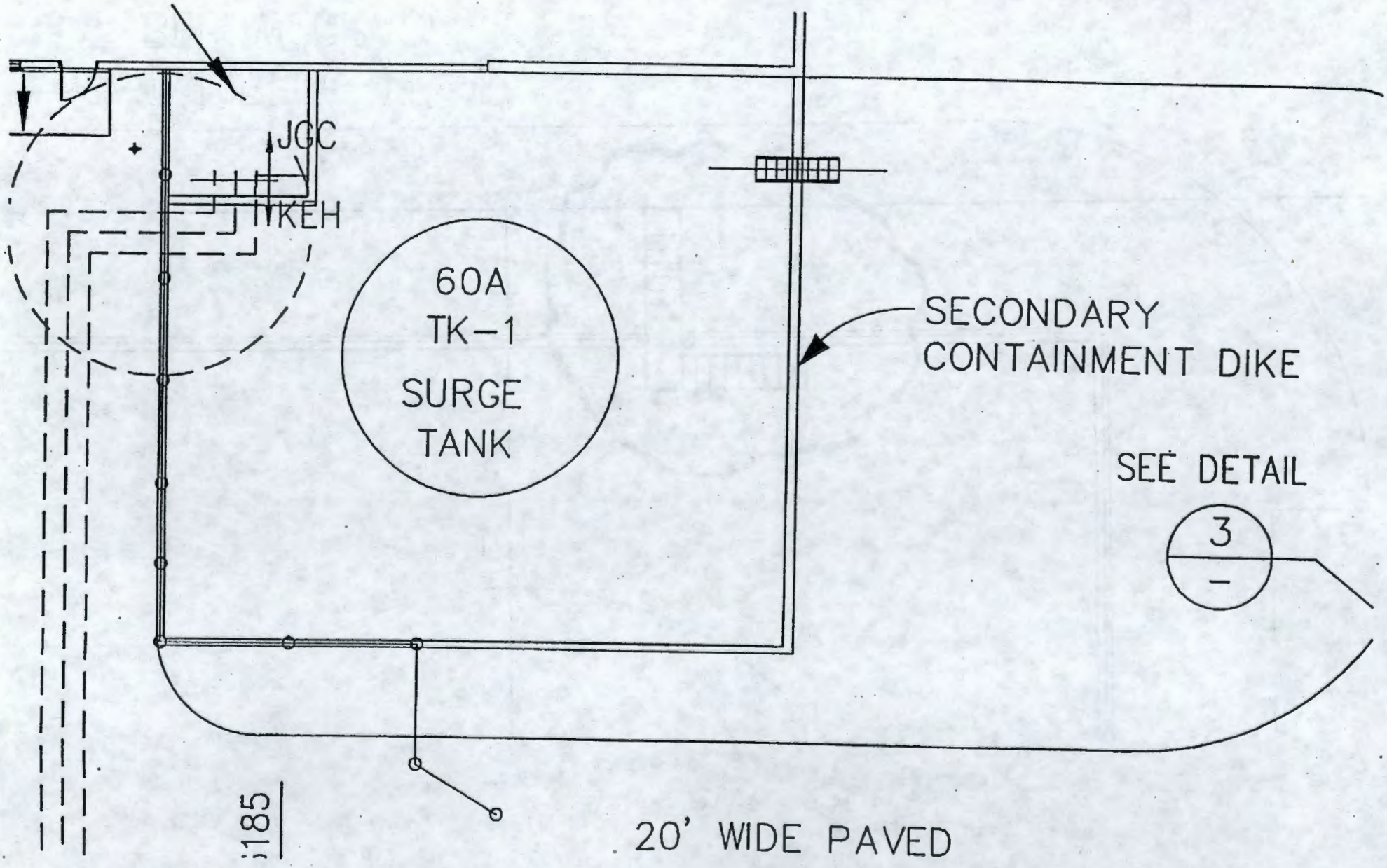
H-2-89044, SH 1



℄ PIPE (–)4'–6"
BELOW GRADE

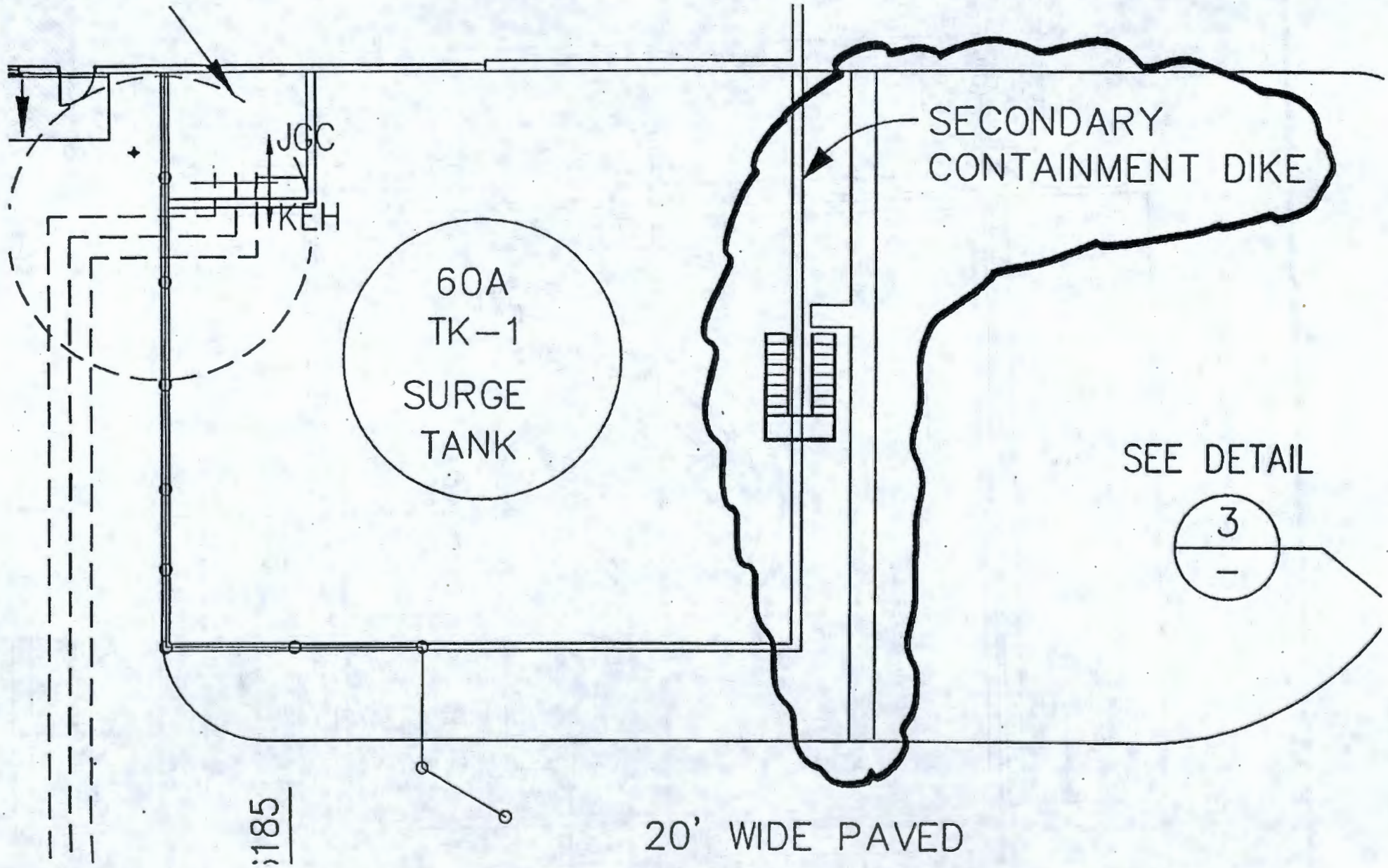
"Was"

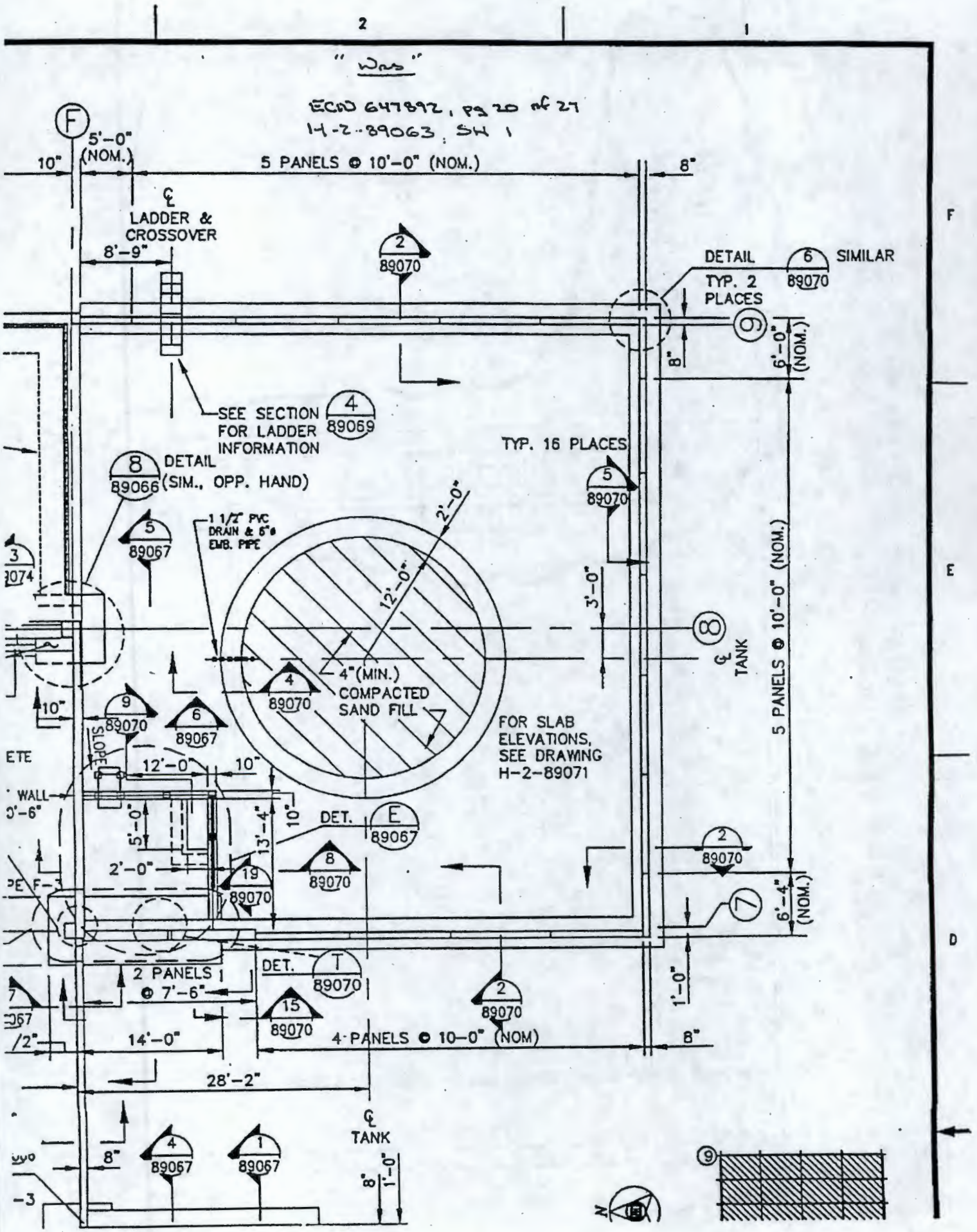
ECN 647892, pg 18 of 27
H-2-890144, SH 1



"I3"

ECO 647892, pg 19 of 27
14-2-99044, SH 1

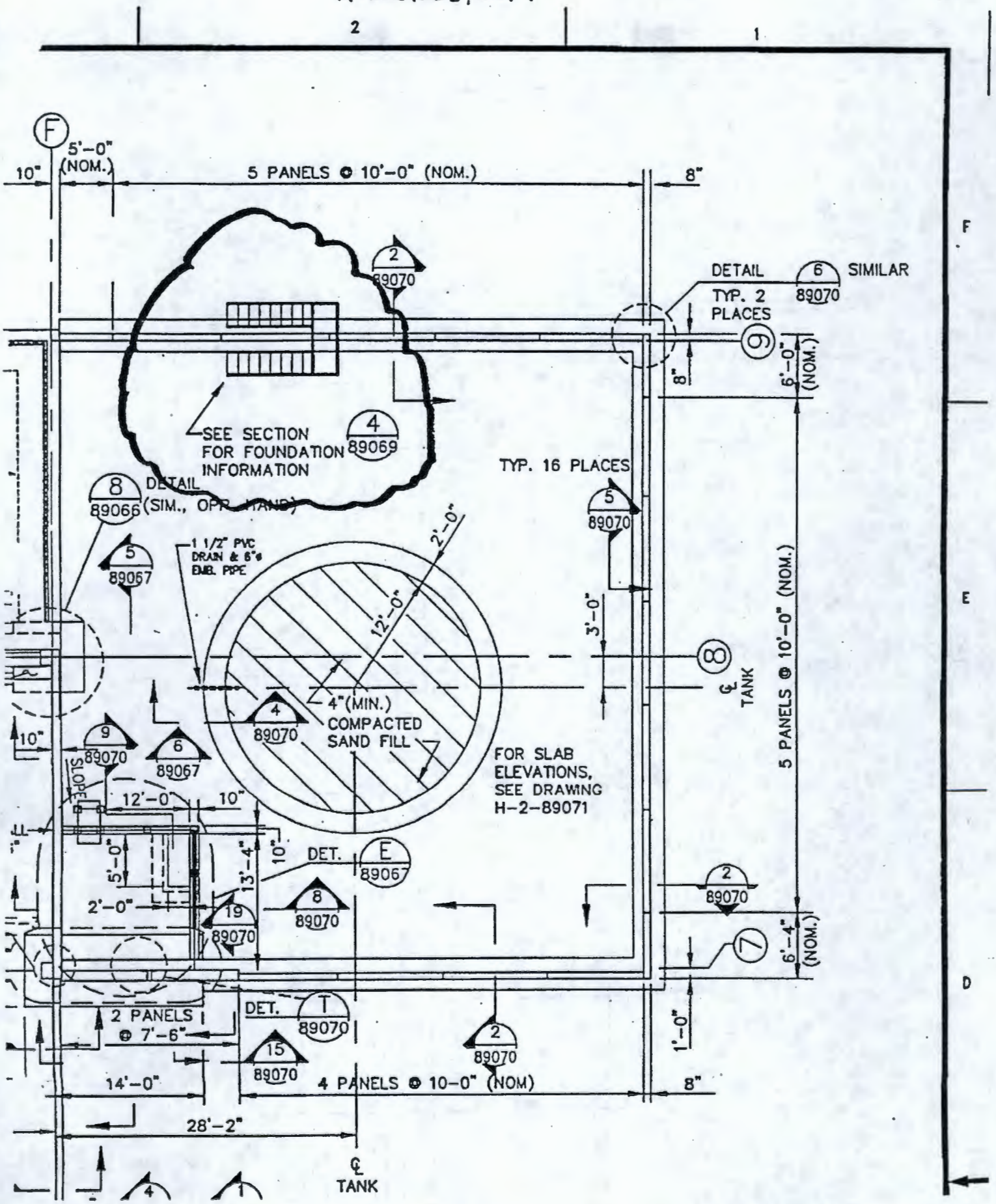



2
1
"Was"
ECN 647892, Pg 20 of 27
H-2-89063, SH 1
F
5'-0" (NOM.)
10"
5 PANELS @ 10'-0" (NOM.)
8"
℄ LADDER & CROSSOVER
8'-9"
2 89070
DETAIL 6 SIMILAR
TYP. 2 PLACES
9
8"
6'-0" (NOM.)
SEE SECTION FOR LADDER INFORMATION
4 89069
TYP. 16 PLACES
8 DETAIL 89066 (SIM., OPP. HAND)
5 89070
5 89067
1 1/2" PVC DRAIN & 6"ø EMB. PIPE
2'-0"
12'-0"
3'-0"
3 2074
E
8 ℄ TANK
4"(MIN.) COMPACTED SAND FILL
4 89070
FOR SLAB ELEVATIONS, SEE DRAWING H-2-89071
5 PANELS @ 10'-0" (NOM.)
10"
9 89070
6 89067
SLOPE
ETE
12'-0"
10"
WALL
0'-6"
5'-0"
13'-4"
10"
DET. E 89067
2'-0"
19 89070
8 89070
2 89070
7
6'-4" (NOM.)
D
2 PANELS @ 7'-6"
DET. T 89070
15 89070
2 89070
1'-0"
14'-0"
4 PANELS @ 10'-0" (NOM)
8"
28'-2"
℄ TANK
4 89067
1 89067
8"
1'-0"
9
N

"I3"

ECN 647892, Pg 21 of 27

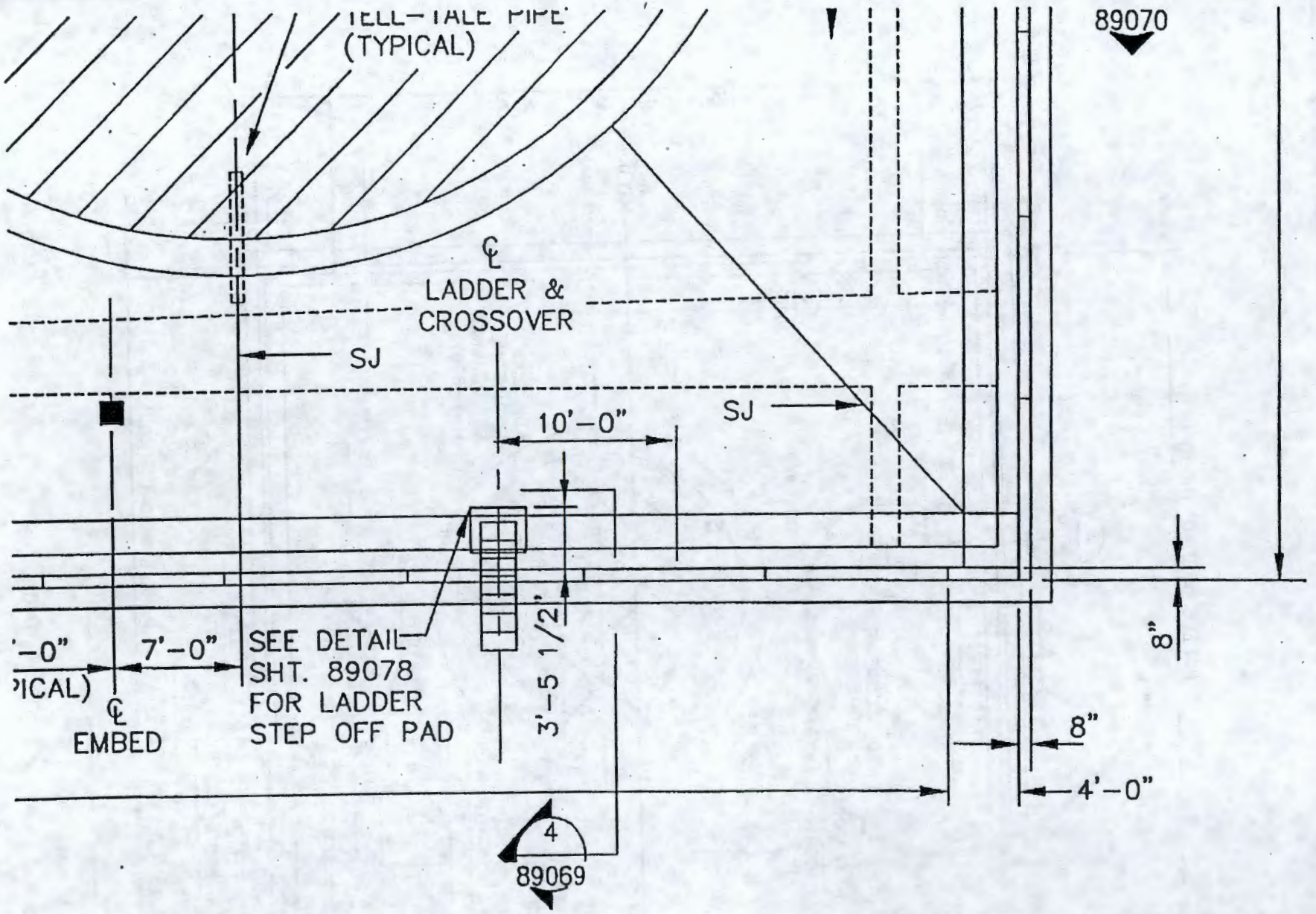
H-2-89063, SH 1



"Was"

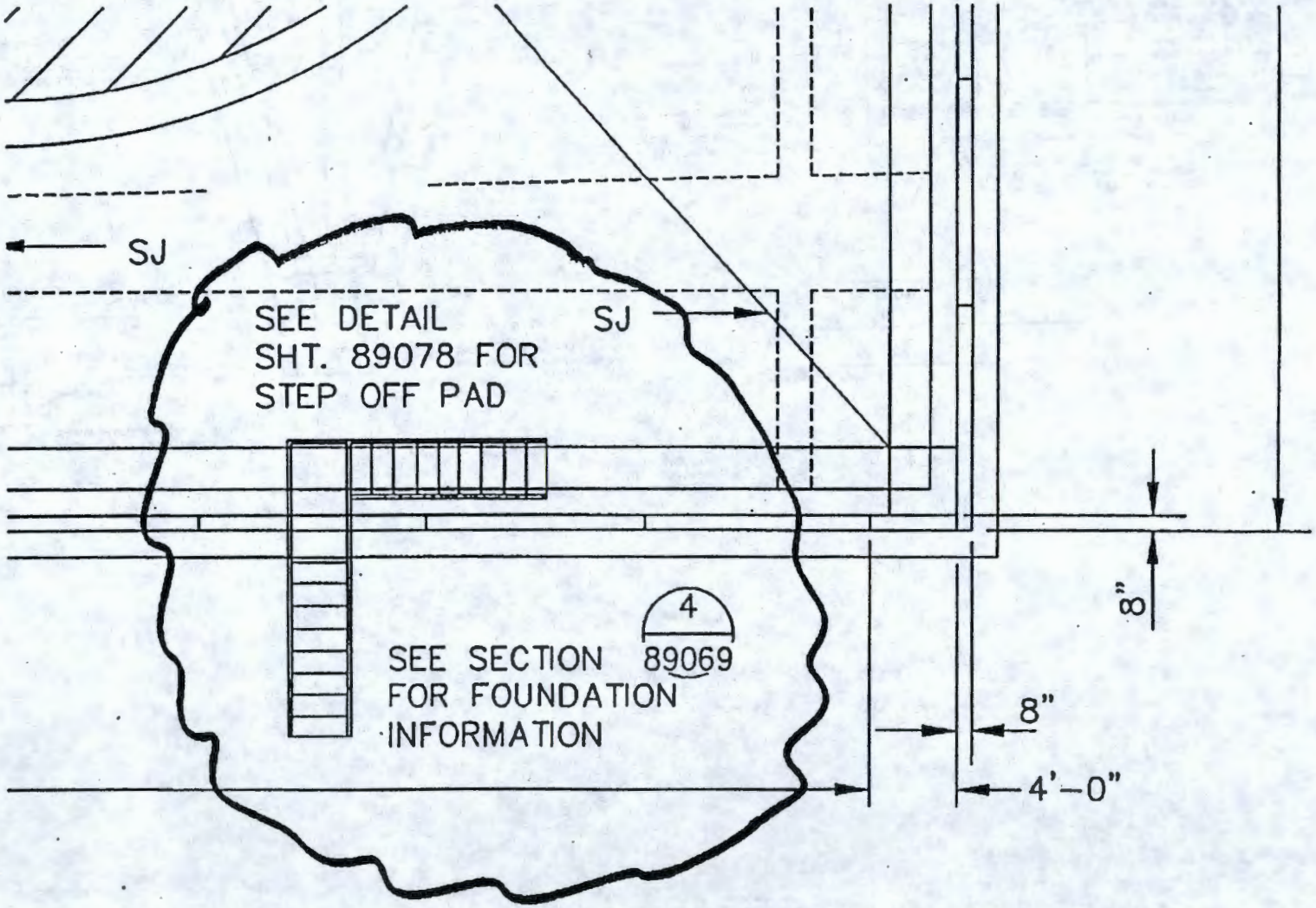
ECN 647892 ; Pg 22 of 27

H-2-89068, SH 1



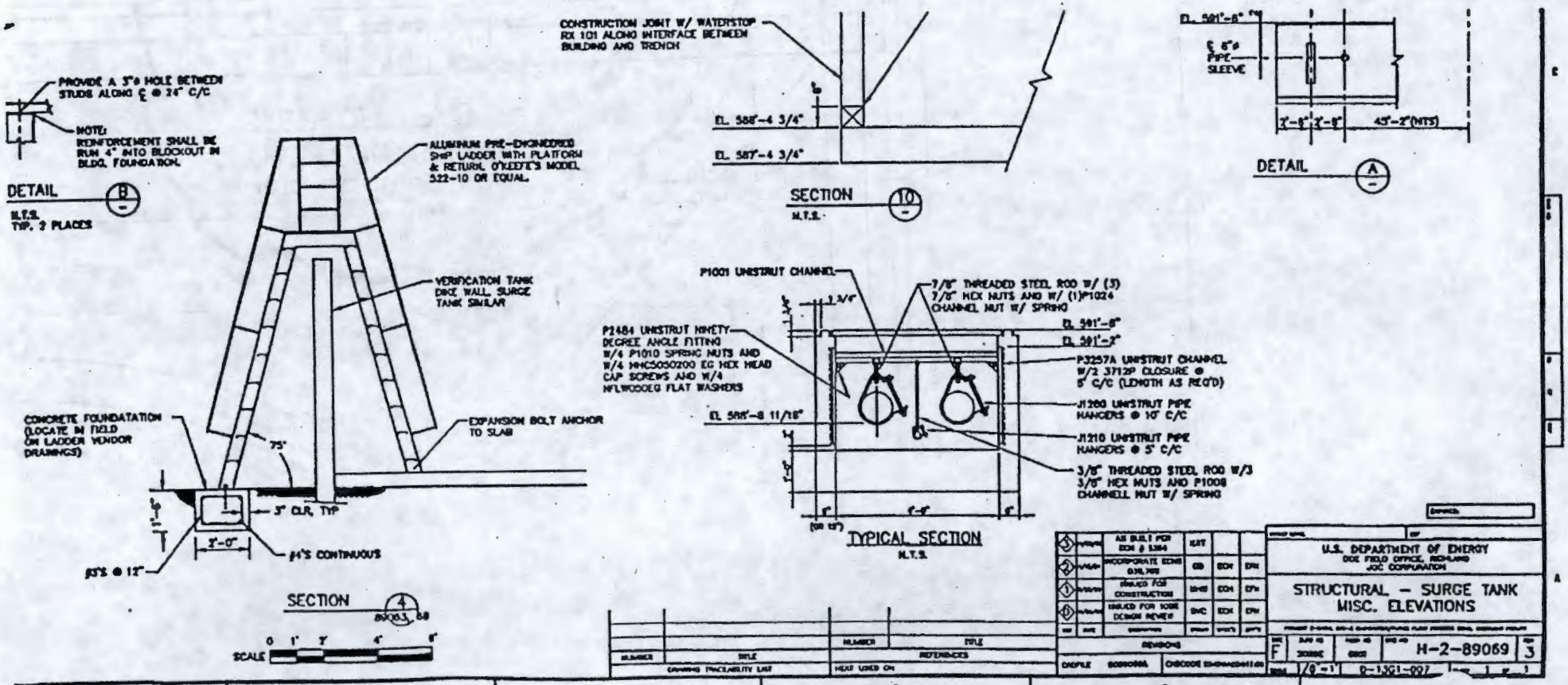
"Is"

ECN 647892, Pg 23 of 27
H-2-89068, SH 1



"Was"

ECN 647892, Pg 24 of 27
H-2-89069, SH 1



NUMBER	TITLE	NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS					
		AS BUILT PER ECN # 5384	KAT		
		INCORPORATE ECN# 630,789	GB	EDH	DPH
		ISSUED FOR CONSTRUCTION	SMD	EDH	DPH
		ISSUED FOR 90% DESIGN REVIEW	SMC	EDH	DPH
NO.	DATE	DESCRIPTION	ORIGN	CHK'D	APP'D

DISCIPLE 80890686 CHECKED ENGINEERING

U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE, RICHLAND
JOC CORPORATION

STRUCTURAL – SURGE TANK
MISC. ELEVATIONS

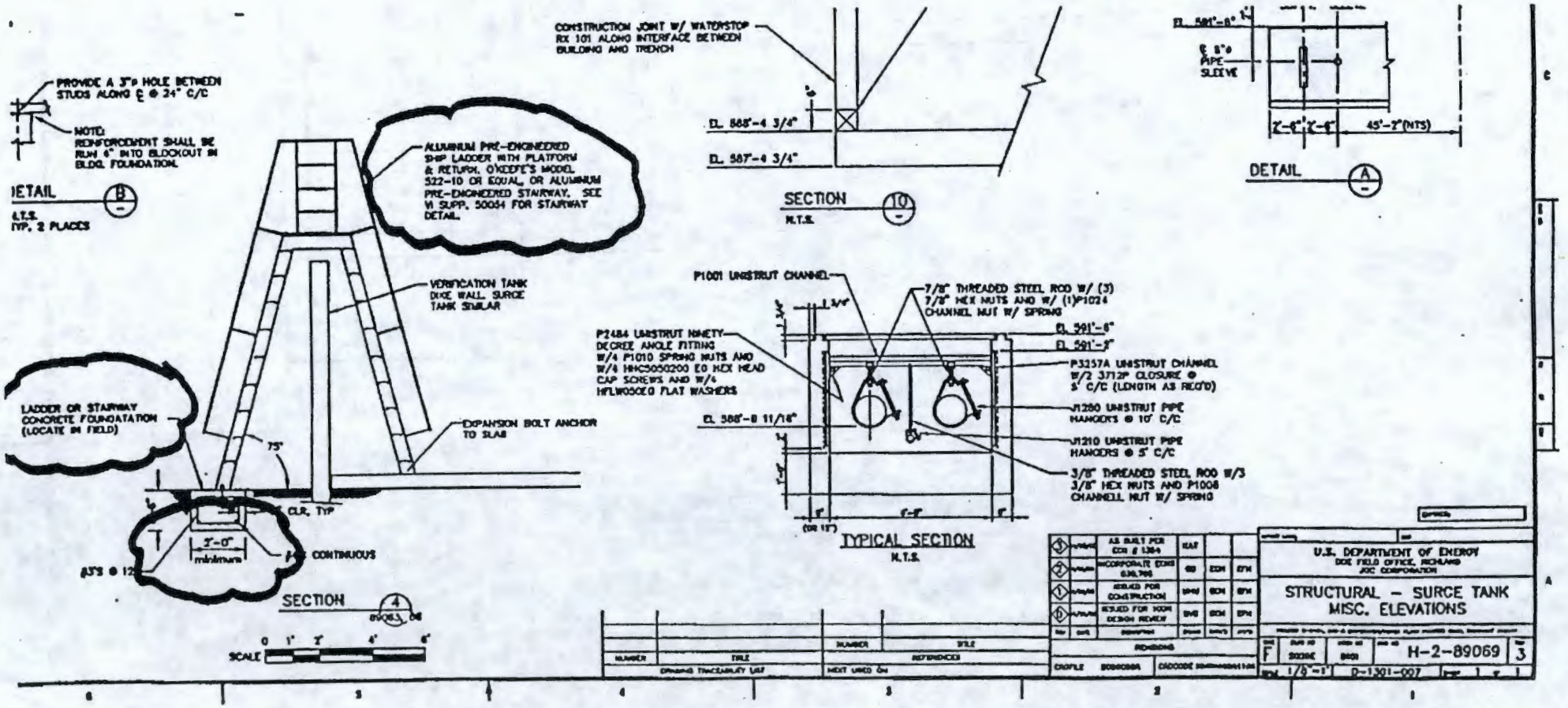
SIZE	JOB NO	DWG NO	REV NO
F	30886	H-2-89069	3

SCALE 0-1 | 0-1301-097

"I"

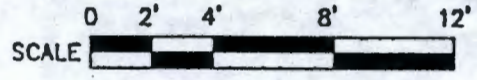
ECN 647892, Pg 25 of 27

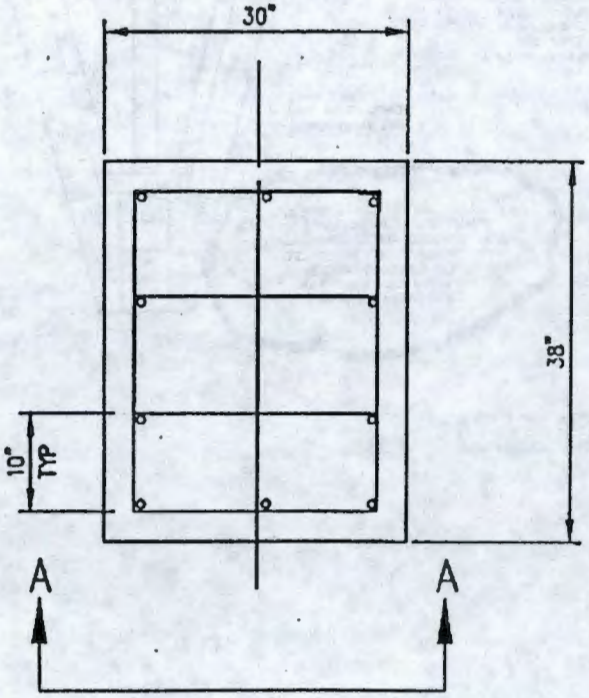
H-2-89069, SH 1

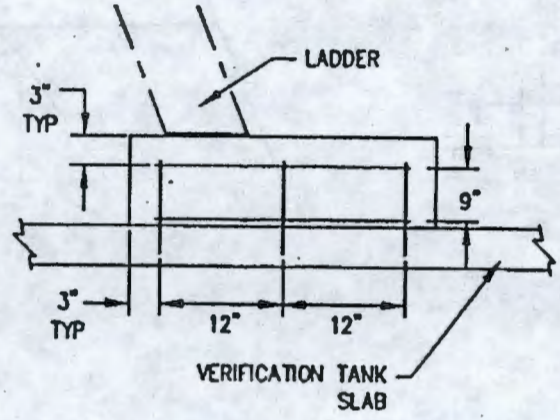


"Was

EGN 647892, PG 26 OF 27
14-2-89078, SH 1





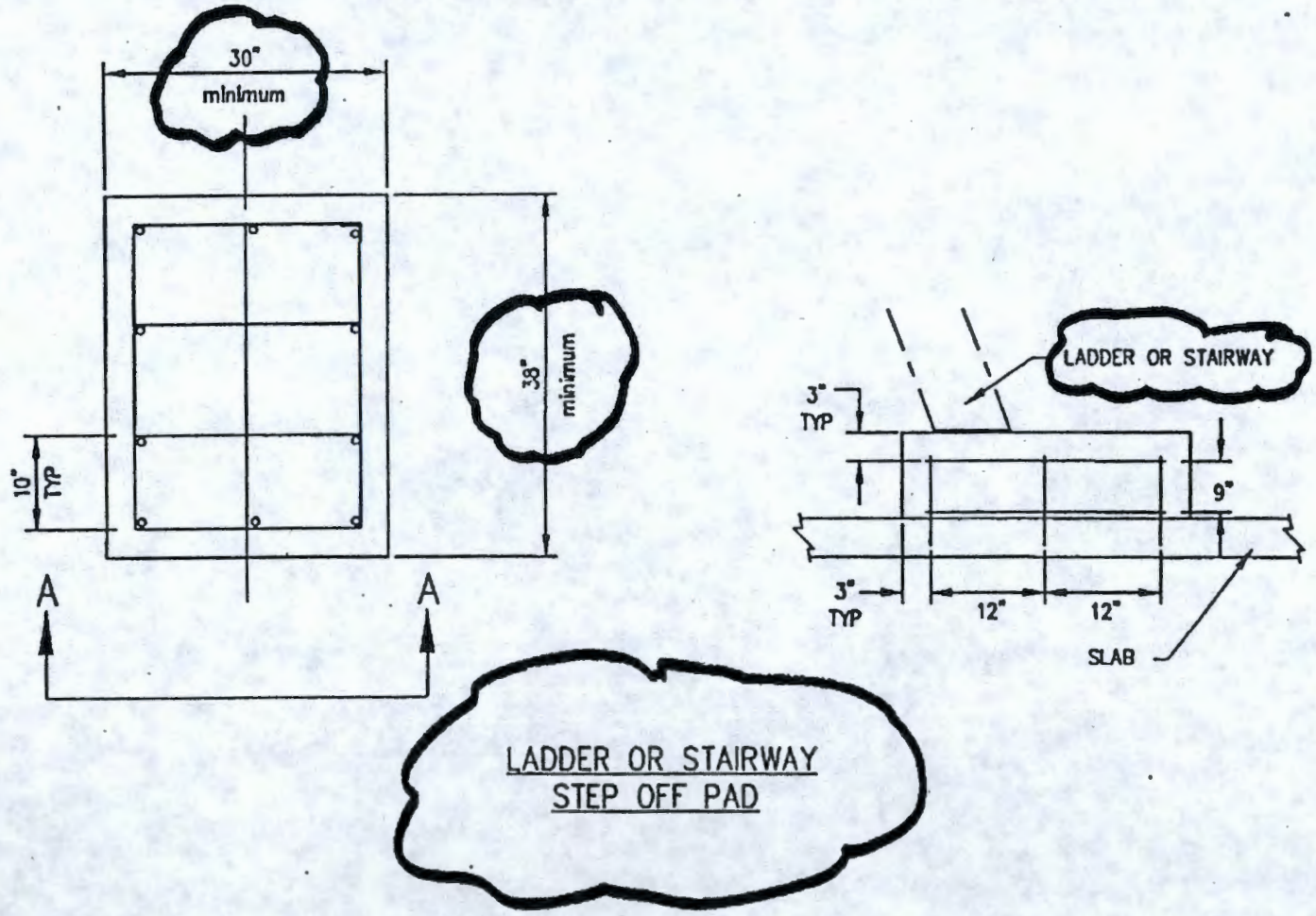


SHIP'S LADDER PLAN
VERIFICATION TANK

B
A
8
7
6

ECN 647892, Pg 27 of 27
H-2-89078, SH 1

0 2' 4' 8' 12'
SCALE



B
A
8
7
6

FILE COPY

ESSENTIAL

ENGINEERING CHANGE NOTICE

1. ECN 641703

Page 1 of 24

Proj. ECN

CPF 18

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-71/376-4460	[] Yes [X] No	May 13, 1997
	6. Project Title/No./Work Order No. Misc. Mods and As-Builts for ETF Load-In Station	7. Bldg./Sys./Fac. No. 2025E/59A,60M/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13A	10. Related ECN No(s). N/A	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00208, EL-97-00343	JUN 12 1997 25 6/12/97 Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [X] Yes [] No

This ECN implements the following changes:

- Remove flow orifice in System 60M transfer line from Load-In Station.
- As-build sample valve and tanker vent valving.
- Add drain lines and valves to Load-In Station pump cases.
- Add bell-reducer funnels and valving to suction of Load-In Station pumps.
- Replace "Facility" with "Station" in all Load-In drawing titles.
- Identify status of Load-In Station drawings to Essential or Support.

Piping, fittings and jointing methods to meet the requirements of Hanford Site piping specification Class M-9. Install, inspect and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

- Remove flow orifice in transfer line from Load-In Station to increase flow rate.
- As-build sample valve and tanker vent valving for configuration control.
- Add drain lines and valves to Load-In Station pump cases for improved contamination control.
- Add bell-reducer funnels and valving to allow priming of Load-In Station pumps.
- Replace "Facility" with "Station" in drawing titles to reflect the status of the Load-In Station as part of the 200 Area ETF, rather than a stand-alone facility.
- Identify status of Load-In Station drawings to Essential or Support, as appropriate.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	S6-72	1
J. E. Geary	S6-71	2	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-71	2	S. P. Biglin*	S6-74	1
C. M. Towne	S6-74	1	E. A. McNamar*	S6-74	1
J. L. Vigue	S6-74	1	B. S. Darling	S6-72	1
J. F. Berger	S6-74	1	D. P. Nelsen	S6-71	1
T. W. Dallas	S6-71	1	Stations 3/4/5/15/16/30		

(* Advance Copies)

RELEASE STAMP

MAY 27 1997

HANFORD RELEASE

DATE:

STA: 30

ID: 25

A-7900-013-2 (05/96) GEF095

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 641703

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING NA		CONSTRUCTION		NA	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[X]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
JCS Database (Component Index)		

21. Approvals

Signature	Date	Signature	Date
Design Authority - R. N. Wagner	5/23/97	Design Agent	
Cog. Eng. - R. N. Wagner	5/23/97	PE	
Cog. Mgr. - R. J. Nicklas for	5-23-97	QA	
QA		Safety	
Safety		Design	
Environ.		Environ.	
Other		Other	
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

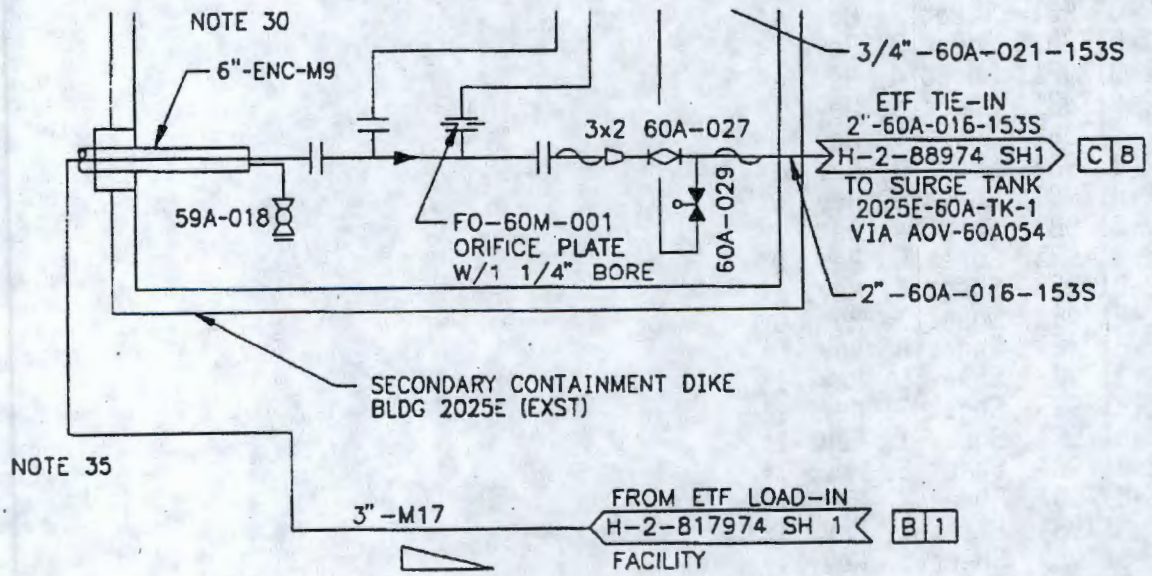
Documents changed by this ECN (also see attached drawing changes):

H-2-88766, Sheet 4, Rev. 2
H-2-88779, Sheet 4, Rev. 0
H-9-203, Sheet 1, Rev. 0
H-9-203, Sheet 4, Rev. 0
H-2-817968, Sheet 1, Rev. 1*
H-2-817969, Sheet 1, Rev. 1*
H-2-817969, Sheet 2, Rev. 1*
H-2-817969, Sheet 3, Rev. 1*
H-2-817969, Sheet 4, Rev. 1*
H-2-817969, Sheet 5, Rev. 1*
H-2-817970, Sheet 1, Rev. 1*
H-2-817970, Sheet 2, Rev. 1*
H-2-817971, Sheet 1, Rev. 1*
H-2-817971, Sheet 2, Rev. 1*
H-2-817972, Sheet 1, Rev. 1*
H-2-817973, Sheet 1, Rev. 1*
H-2-817974, Sheet 1, Rev. 2*
H-2-817975, Sheet 1, Rev. 1*
H-2-817976, Sheet 1, Rev. 1*
H-2-817977, Sheet 1, Rev. 1*
H-2-817978, Sheet 1, Rev. 1*
H-2-817980, Sheet 1, Rev. 1*
H-2-817981, Sheet 1, Rev. 1*
H-2-817981, Sheet 2, Rev. 1*
H-2-817981, Sheet 3, Rev. 1*
H-2-817981, Sheet 4, Rev. 1*
H-2-817981, Sheet 5, Rev. 1*
H-2-817983, Sheet 1, Rev. 0*
H-2-817983, Sheet 2, Rev. 1*
H-2-817983, Sheet 3, Rev. 0*
H-2-817983, Sheet 4, Rev. 1*
H-2-817983, Sheet 5, Rev. 0*
H-2-817983, Sheet 6, Rev. 1*
H-2-817983, Sheet 7, Rev. 0*
H-2-817983, Sheet 8, Rev. 0*
H-2-817985, Sheet 1, Rev. 1*
H-2-817985, Sheet 2, Rev. 1*
H-2-817987, Sheet 1, Rev. 1*
H-2-817987, Sheet 3, Rev. 1*
H-2-817987, Sheet 4, Rev. 1*
H-2-817988, Sheet 1, Rev. 1*
H-2-817988, Sheet 2, Rev. 1*
H-2-817988, Sheet 3, Rev. 1*
H-2-817989, Sheet 1, Rev. 1*
H-2-817990, Sheet 1, Rev. 1*
H-2-817991, Sheet 2, Rev. 1*

(* Title and/or Essential/Support status is changed for these drawings per this ECN.)

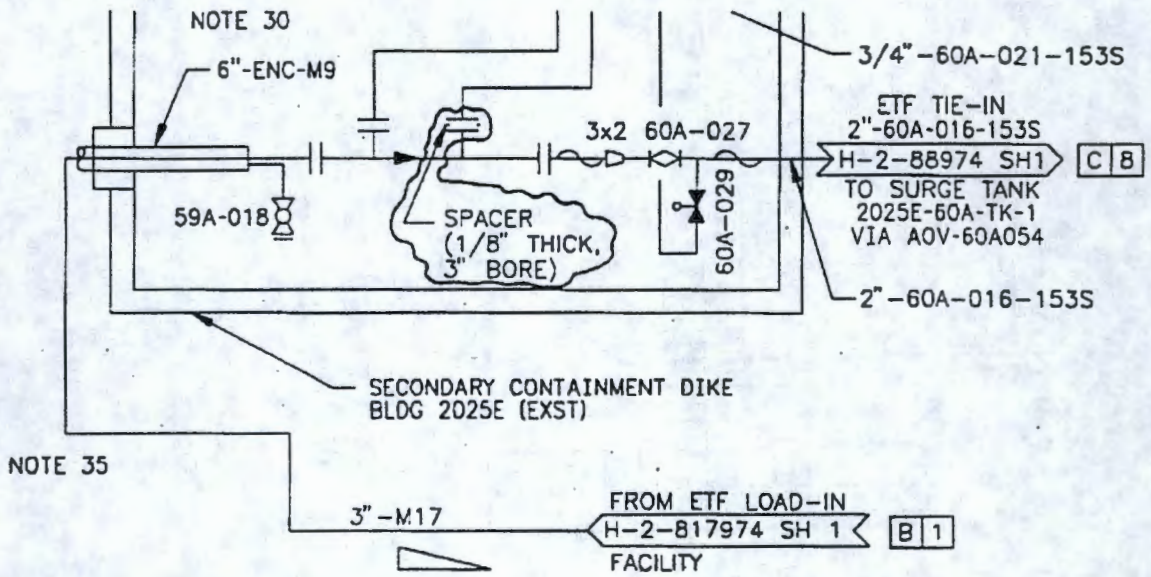
H-2-88766, Sheet 4, Rev. 2, Zone D-2

IS:



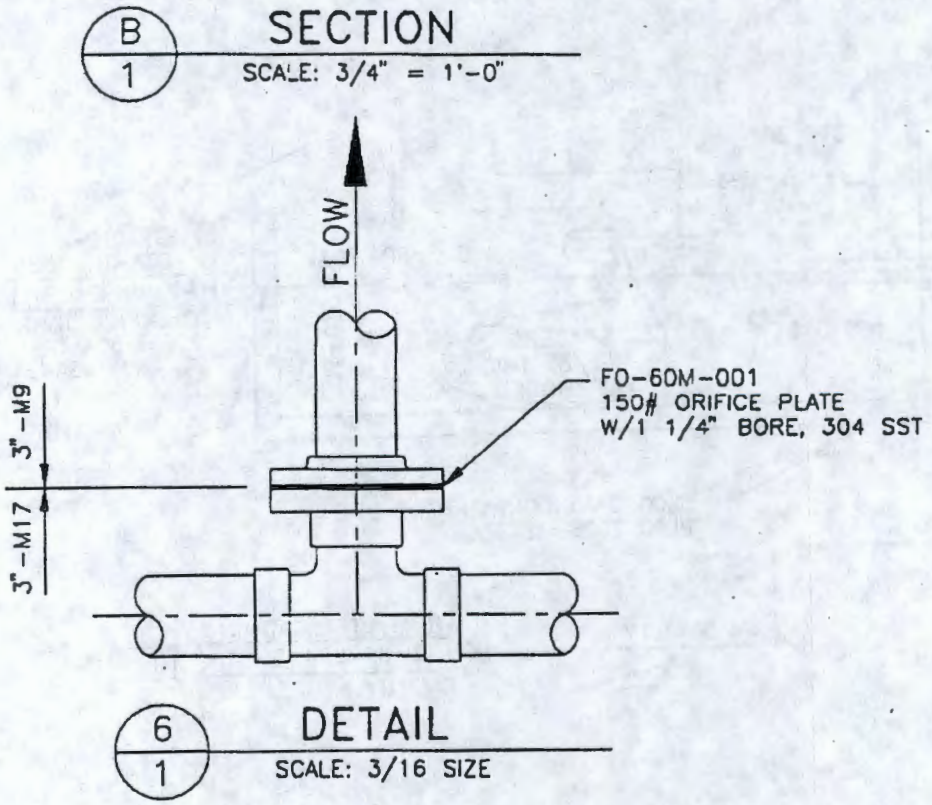
H-2-88766, Sheet 4, Rev. 2, Zone D-2

CHANGE TO:



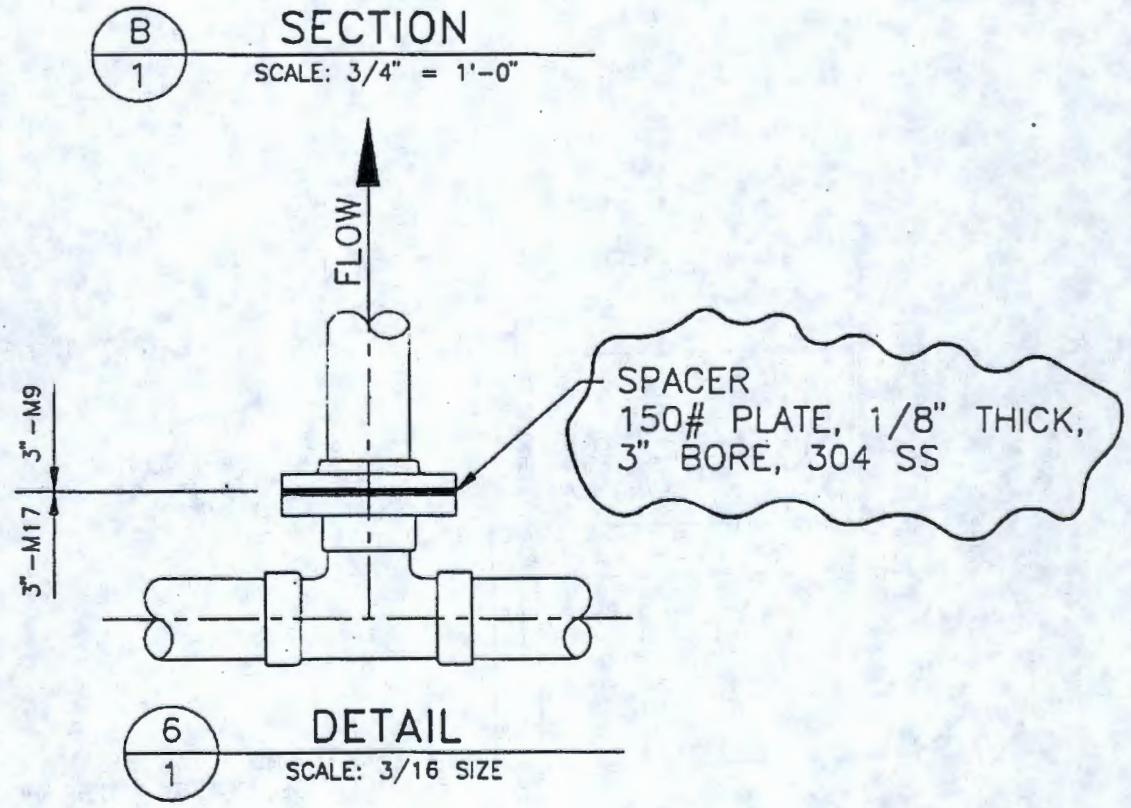
H-2-88779, Sheet 4, Rev. 0, Zone B-2

IS:



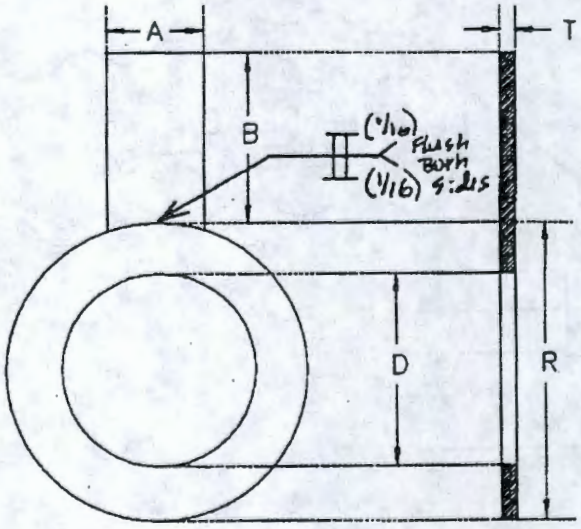
H-2-88779, Sheet 4, Rev. 0, Zone B-2

CHANGE TO:



Sketch for 3" spacer shown in above changes to H-2-88779 and H-2-88766

3" FLANGE SPACER FOR ECN 641703



T = 1/8" PLATE THICKNESS

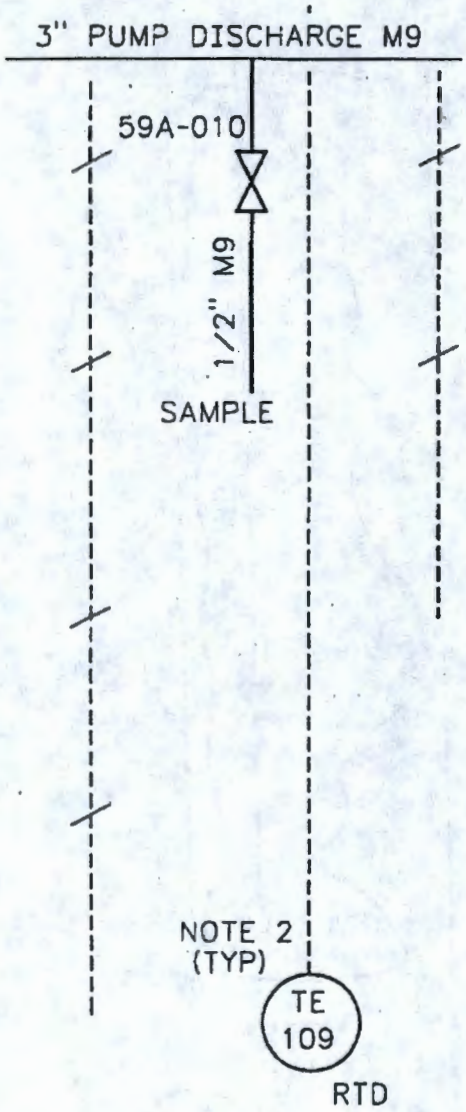
A = 2" (APPROX)
B = 3" (APPROX)

D = 3.00" +/- .05"
R = 5.25" +/- .05"

MATERIAL = 304SS
FLANGE CLASS = 150 LB

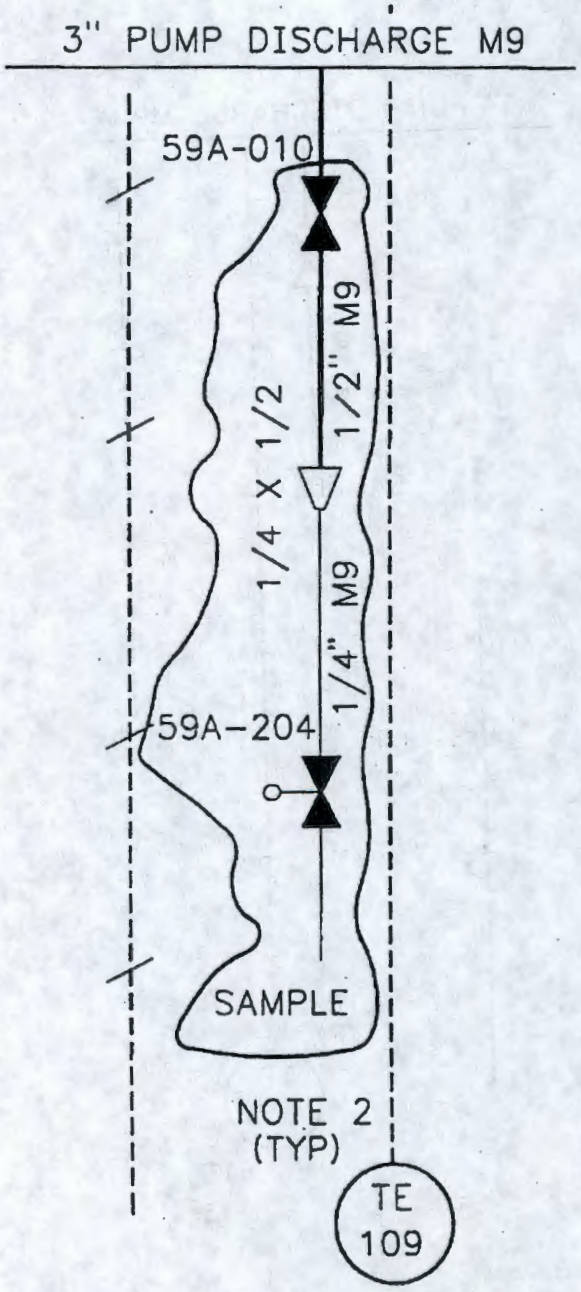
H-2-817974, Sheet 1, Rev. 2, Zone C-5

IS:



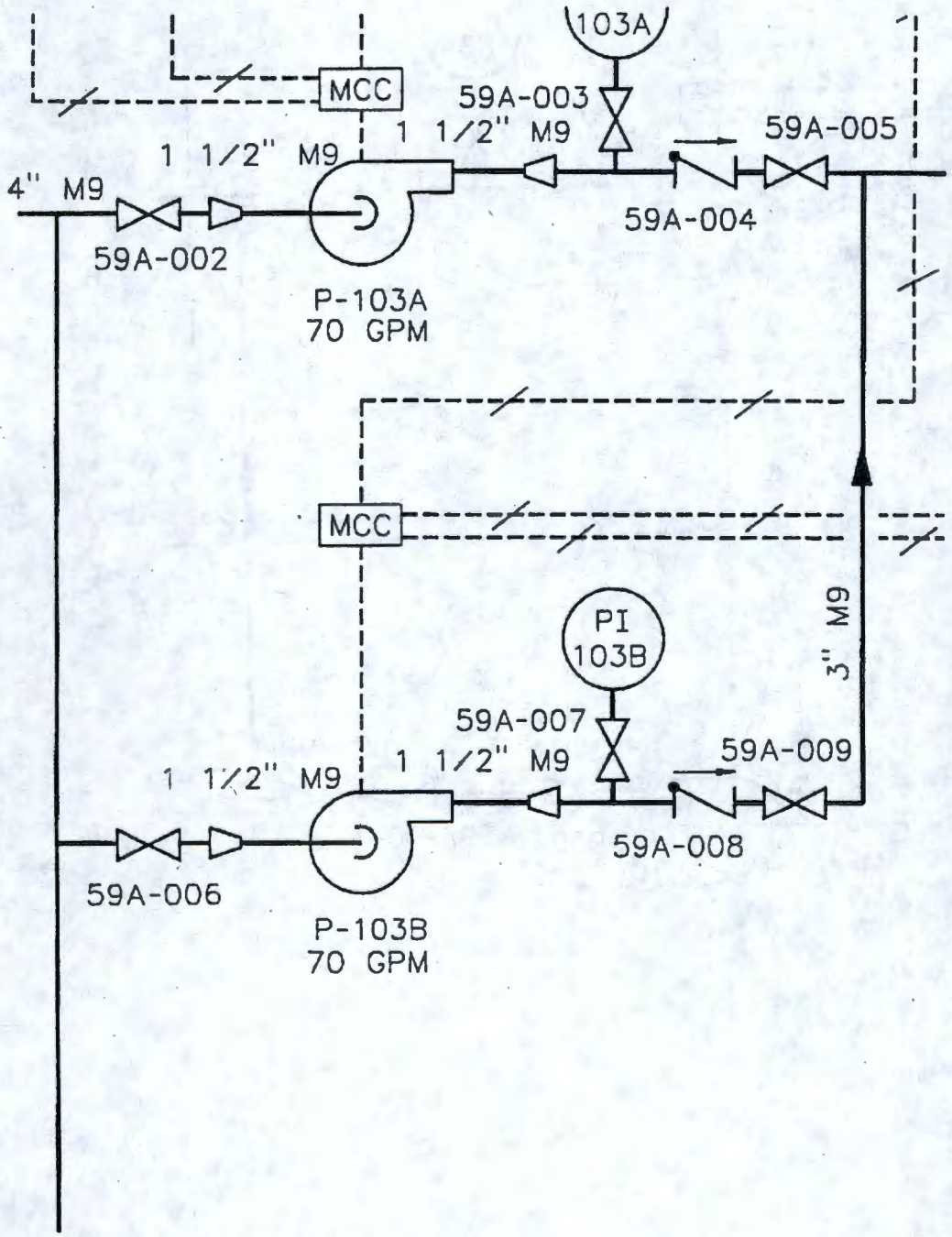
H-2-817974, Sheet 1, Rev. 2, Zone C-5

CHANGE TO:



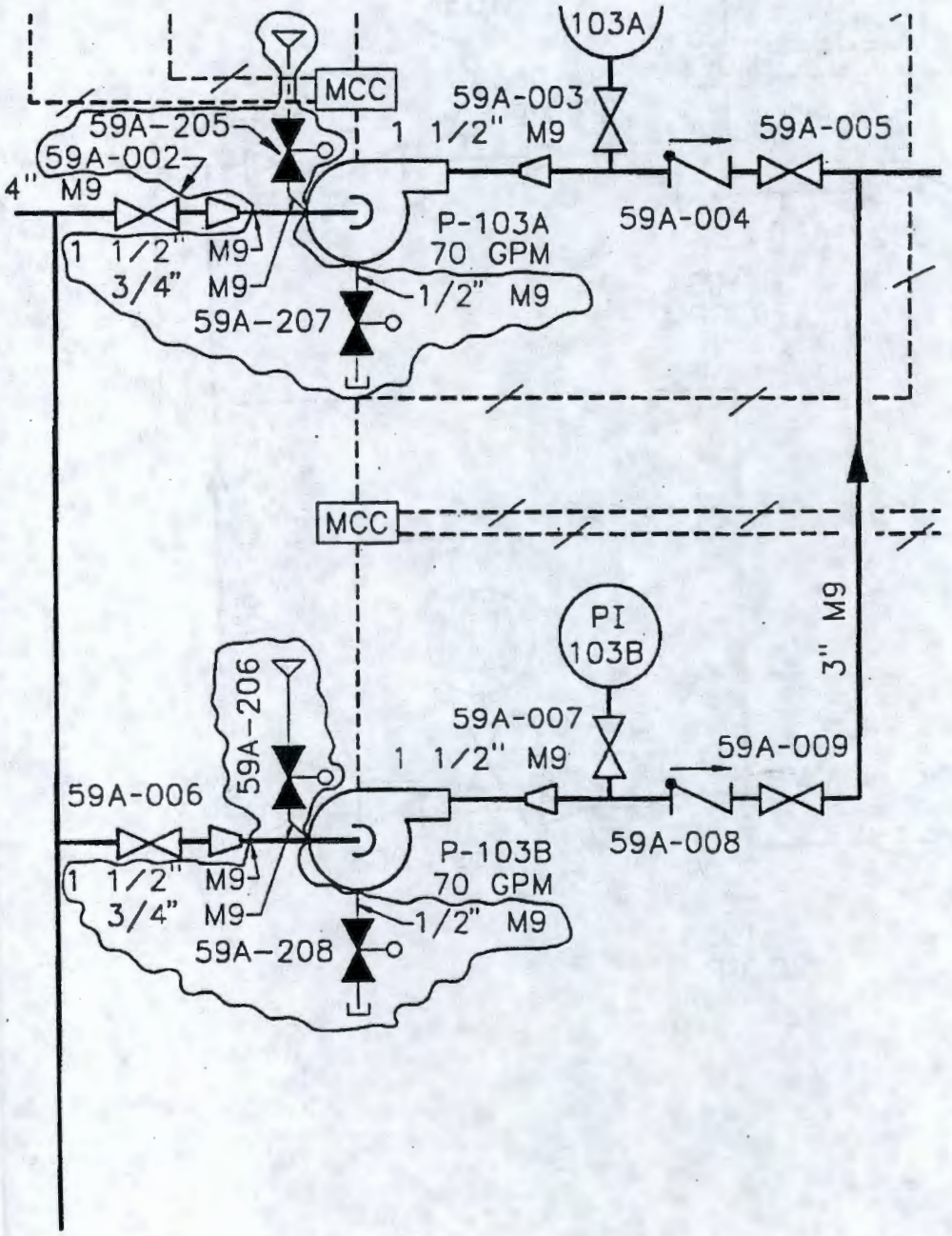
H-2-817974, Sheet 1, Rev. 2, Zone C-7 to D-7

IS:



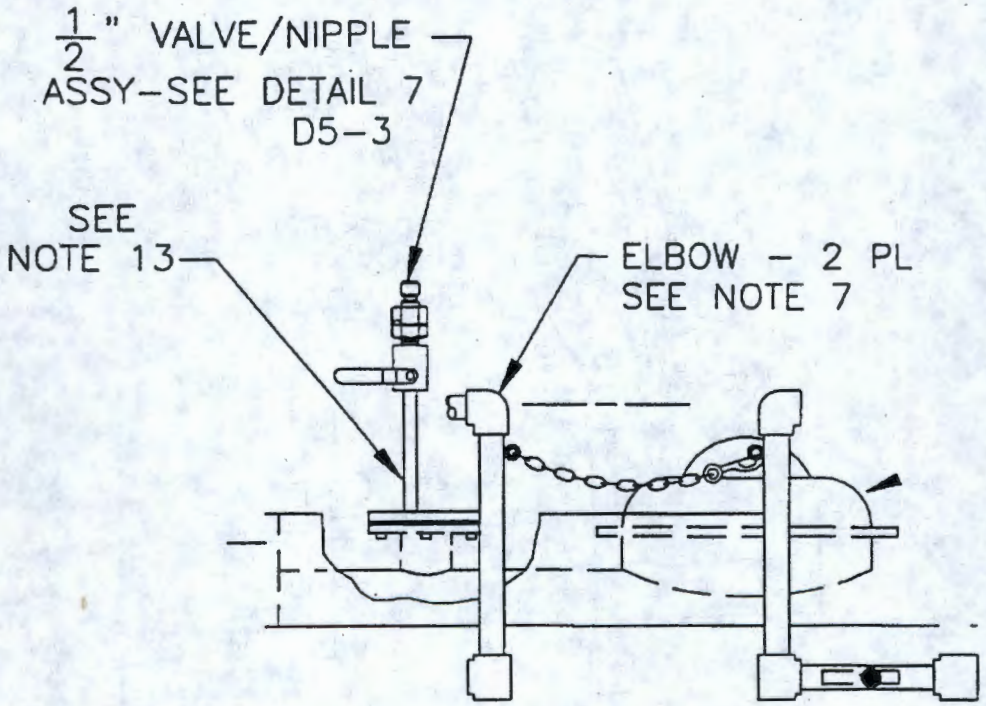
H-2-817974, Sheet 1, Rev. 2, Zone C-7 to D-7

CHANGE TO:



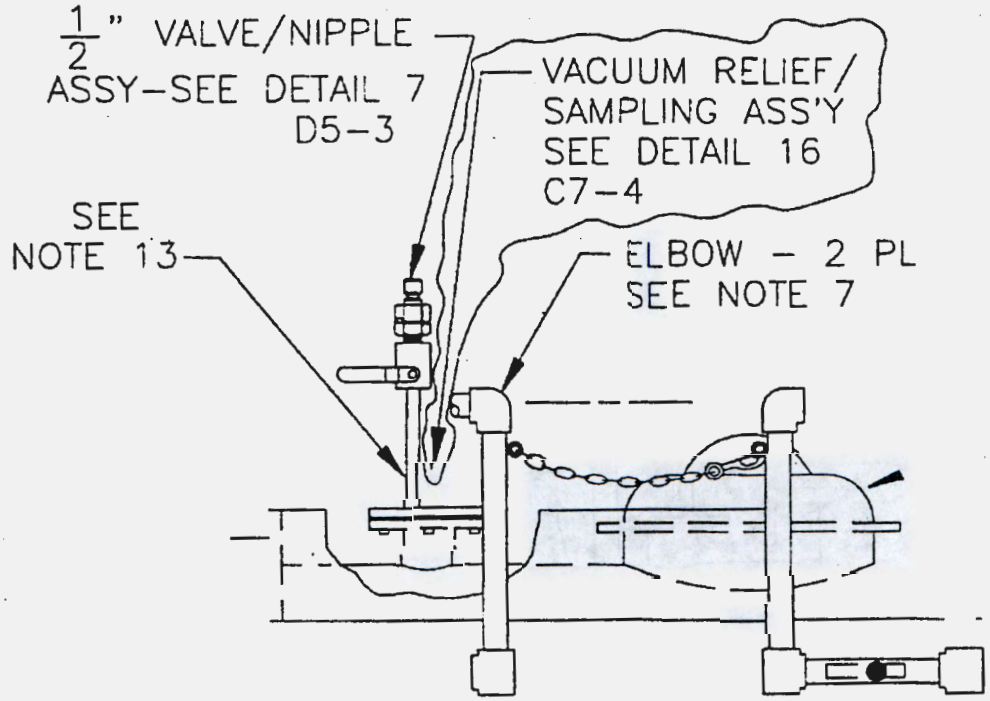
H-9-203, Sheet 1, Rev. 0, Zone E-6

IS:



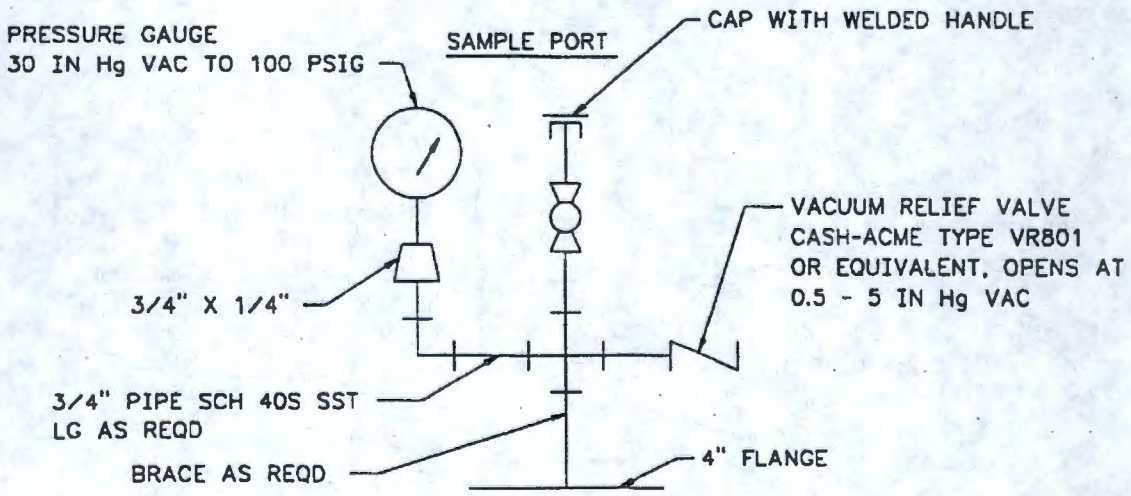
H-9-203, Sheet 1, Rev. 0, Zone E-6

CHANGE TO:



H-9-203, Sheet 4, Rev. 0, Zone D-7

IS:

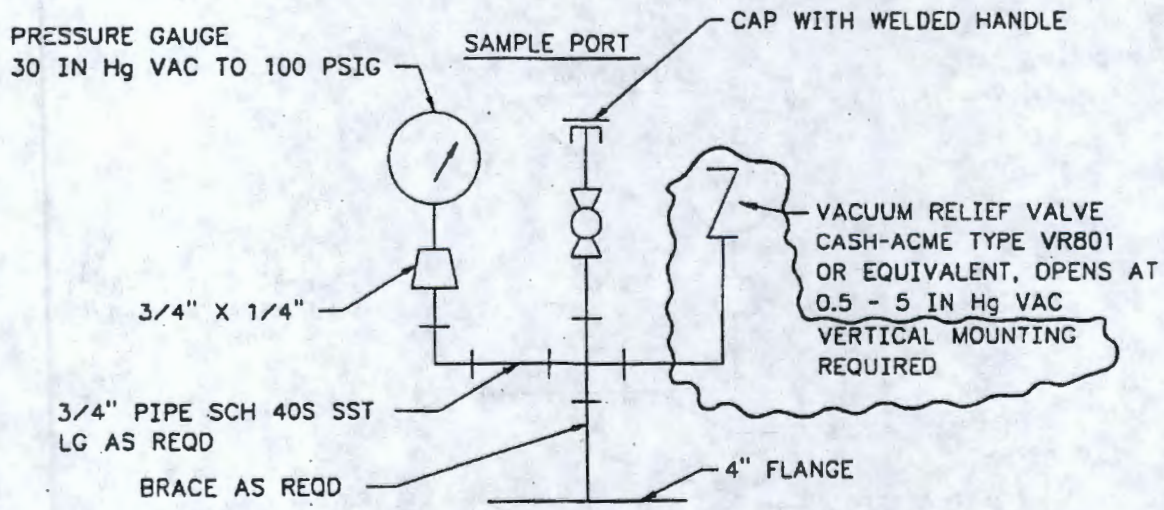


DETAIL 16 C6-2

SCALE: NONE

H-9-203, Sheet 4, Rev. 0, Zone D-7

CHANGE TO:



DETAIL 16 C6-2, E6-1

SCALE: NONE

H-2-817968, Sheet 1, Rev. 1, Title

IS: ETF TRUCK LOAD-IN FACILITY LOCATION PLAN & DWG LIST

CHANGE TO: ETF TRUCK LOAD-IN STATION LOCATION PLAN & DWG LIST

Drawing Status: ESSENTIAL

H-2-817969, Sheet 1, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY SITE PLAN

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION SITE PLAN

Drawing Status: SUPPORT

H-2-817969, Sheet 2, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY PLAN AND PROFILES

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION PLAN AND PROFILES

Drawing Status: SUPPORT

H-2-817969, Sheet 3, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY ENLARGED PLAN

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION ENLARGED PLAN

Drawing Status: SUPPORT

H-2-817969, Sheet 4, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY MISCELLANEOUS DETAILS

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION MISCELLANEOUS DETAILS

Drawing Status: SUPPORT

H-2-817969, Sheet 5, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY MISCELLANEOUS DETAILS

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION MISCELLANEOUS DETAILS

Drawing Status: SUPPORT

H-2-817970, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY PLAN AND SECTIONS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION PLAN AND SECTIONS

Drawing Status: SUPPORT

H-2-817970, Sheet 2, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817971, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY STEEL PLAN & SECTIONS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION STEEL PLAN & SECTIONS

Drawing Status: SUPPORT

H-2-817971, Sheet 2, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY STEEL DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION STEEL DETAILS

Drawing Status: SUPPORT

H-2-817972, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817973, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY MISC SECTIONS AND DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION MISC SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817974, Sheet 1, Rev. 2, Title

IS: P & ID ETF TRUCK LOAD-IN FACILITY

CHANGE TO: P & ID ETF TRUCK LOAD-IN STATION

Drawing Status: ESSENTIAL

H-2-817975, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY PLAN

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION PLAN

Drawing Status: ESSENTIAL

H-2-817976, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817977, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY DETAILS

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION DETAILS

Drawing Status: SUPPORT

H-2-817978, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY PIPE SUPPORTS

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION PIPE SUPPORTS

Drawing Status: SUPPORT

H-2-817980, Sheet 1, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LEGEND & SYMBOLS

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LEGEND & SYMBOLS

Drawing Status: SUPPORT

H-2-817981, Sheet 1, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 2, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 3, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 4, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 5, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817983, Sheet 1, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 2, Rev. 1, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 3, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 4, Rev. 1, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 5, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 6, Rev. 1, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 7, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 8, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817985, Sheet 1, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817985, Sheet 2, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817987, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY SITE PLAN

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION SITE PLAN

Drawing Status: SUPPORT

H-2-817987, Sheet 3, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY SECTIONS & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION SECTIONS & DETAILS

Drawing Status: SUPPORT

H-2-817987, Sheet 4, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY SECTIONS & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION SECTIONS & DETAILS

Drawing Status: SUPPORT

H-2-817988, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY PLAN, ONE-LINE & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION PLAN, ONE-LINE & DETAILS

Drawing Status: ESSENTIAL

H-2-817988, Sheet 2, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY PLAN, GND & HEAT TRACING

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION PLAN, GND & HEAT TRACING

Drawing Status: ESSENTIAL

H-2-817988, Sheet 3, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY PANEL SCHEDULE & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION PANEL SCHEDULE & DETAILS

Drawing Status: ESSENTIAL

H-2-817989, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY ELEMENTARY DIAGRAM

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION ELEMENTARY DIAGRAM

Drawing Status: ESSENTIAL

H-2-817990, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY WIRE & CONDUIT SCHEDULE

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION WIRE & CONDUIT SCHEDULE

Drawing Status: ESSENTIAL

H-2-817991, Sheet 2, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY TELECOMMUNICATIONS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION TELECOMMUNICATIONS

Drawing Status: SUPPORT

ESSENTIAL

8

ENGINEERING CHANGE NOTICE

Page 1 of 10

1. ECN 647247

Proj. ECN

2. ECN Category (mark one)		3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental	[X]	RN Wagner/32230/S6-72/376-4460	[] Yes [X] No	August 27, 1998
Direct Revision	[]	6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
Change ECN	[]	Install Tent Over ETF Load-In Station/A4055	2025EC/59A/ 200 Area ETF	NA
Temporary	[]			
Standby	[]			
Supersedure	[]	9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	10. Related ECN No(s).	11. Related PO No.
Cancel/Void	[]	See Block 13	NA	NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b)	EL-97-00853	JAN 15 1999 STA. 30 (18)	N/A
[] No (NA Blks. 12b, 12c, 12d)		Design Authority/Cog. Engineer Signature & Date 1/13/99	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [X] Yes [] No

This ECN installs a tent over the ETF Load-In Station to provide shelter during inclement weather. Mechanical modifications to the Load-In Station necessary to accommodate the tent placement are covered in this ECN.

Drawings affected are:

- H-2-817970 Sheet 1, Rev. 1
- H-2-817972 Sheet 1, Rev. 1
  H-2-817975 Sheet 1, Rev. 5
- H-2-817976 Sheet 1, Rev. 1

Concrete anchor bolts for relocation of the Load-In transfer line support frame shall be Hilti P/N 0045407, Description Code KB II SS 58-812 Ext Trd, or Engineering approved equivalent. Piping, fittings, and jointing methods shall meet the requirements of Piping Specification Class M-9. Install, inspect, and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The tent will provide shelter to ensure operator safety and allow continuity of operations during inclement weather.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	J. E. Geary	S6-71	1
A. K. Yoakum	S6-71	1	E. A. McNamar	S6-72	1
R. N. Wagner*	S6-72	2	M. W. Bowman	S6-72	1
WCC Planning	S6-71*	1	T. W. Dallas	S6-74	1
L. L. Lin	S6-72	1	D. L. Tubbs	S6-74	1
D. L. Flyckt	S6-71	1	C. M. Towne	S6-74	1

(* = 1 Advance Copy)

IPF 7 - S6-72 1

IPF 4 - H6-26 1

RELEASE STAMP

DATE: SEP 08 1998 HANFORD RELEASE ID: 2.

STA: 4

ENGINEERING CHANGE NOTICE	Page 2 of 10	1. ECN (use no. from pg. 1) 647247

16. Design Verification Required	17. Cost Impact ENGINEERING		CONSTRUCTION		18. Schedule Impact (days)	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Task Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[NA]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[NA]	Operating Procedure	[NA]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[NA]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac Proc Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
No other documents are affected by this ECN.		

21. Approvals

	Signature	Date
Design Authority – R. N. Wagner		9/27/98
Cog. Eng – R. N. Wagner		9/27/98
Cog. Mgr. – N. J. Sullivan (Informal Design Review)		9-8-98
QA		____
Safety		____
Environ		____
Other		____
Operations – J. E. Geary		9-8-98
		____
		____
		____
		____
		____
		____
		____

	Signature	Date
Design Agent – R. N. Wagner		9/27/98
PE		____
QA		____
Safety		____
Design		____
Environ.		____
Other		____
		____
		____

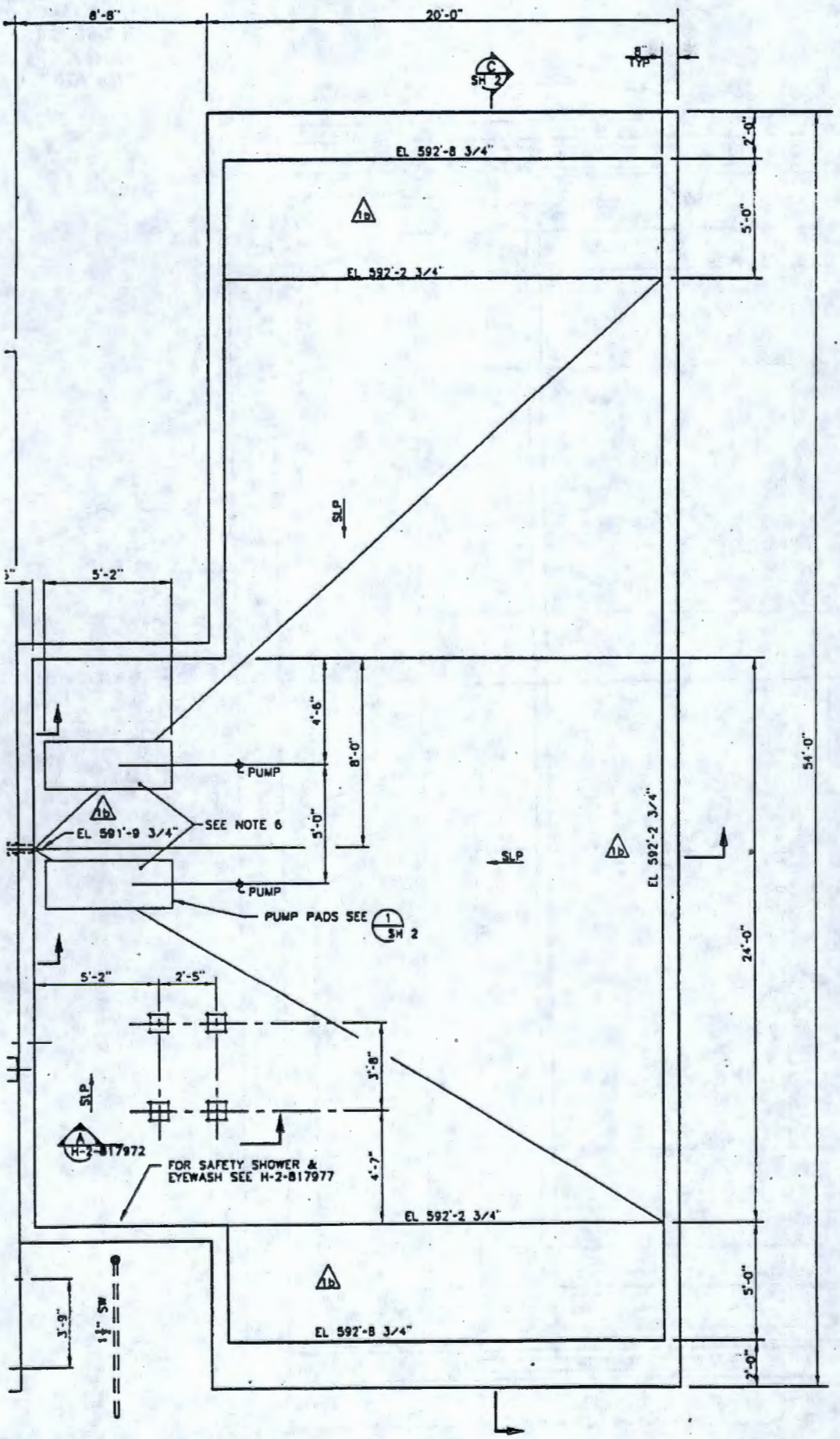
DEPARTMENT OF ENERGY

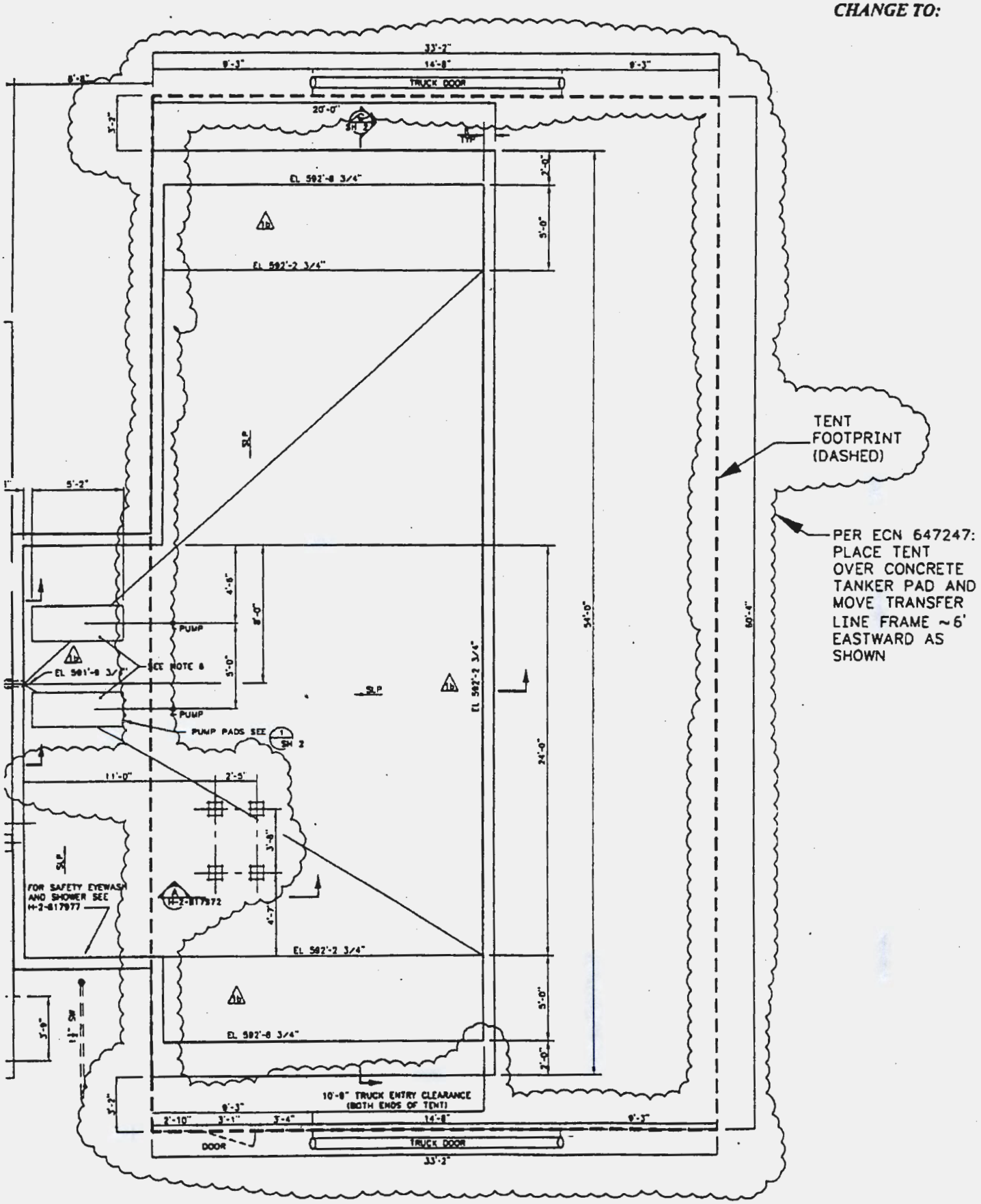
Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

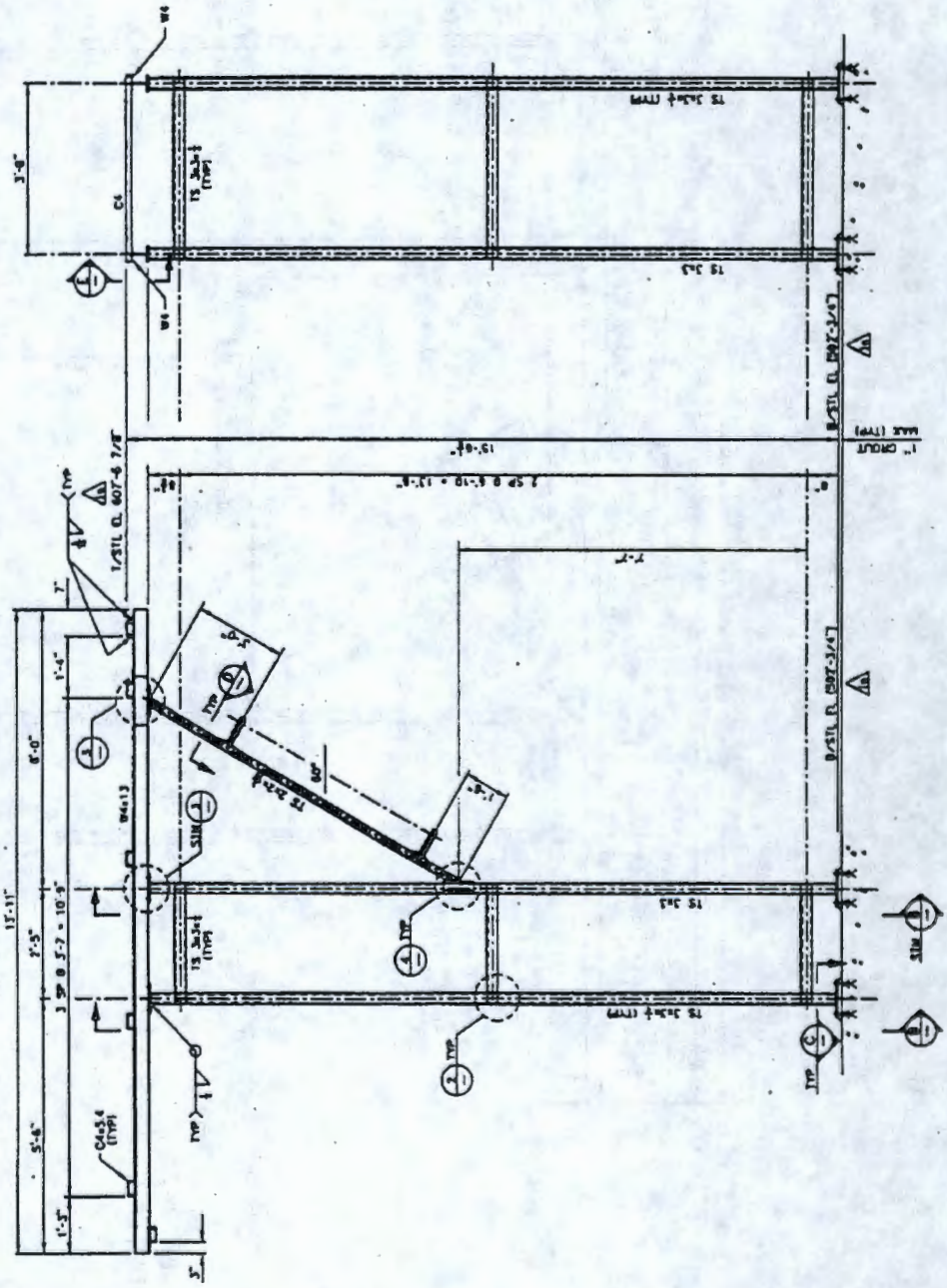
	____
	____
	____

ECN 647247 – 8/27/98
Page 3 of 10
Block 13a Cont'd
H-2-817970 Sh 1 Rev 1
Zones A3–F6
IS NOW:




TENT FOOTPRINT (DASHED)
PER ECN 647247: PLACE TENT OVER CONCRETE TANKER PAD AND MOVE TRANSFER LINE FRAME ~6' EASTWARD AS SHOWN
TRUCK DOOR
PUMP
PUMP PADS SEE
SEE NOTE 8
FOR SAFETY EYEWASH AND SHOWER SEE H-2-817977
10'-8" TRUCK ENTRY CLEARANCE (BOTH ENDS OF TENT)
DOOR
EL 582'-8 3/4"
EL 582'-2 3/4"
EL 581'-8 3/4"
SLP

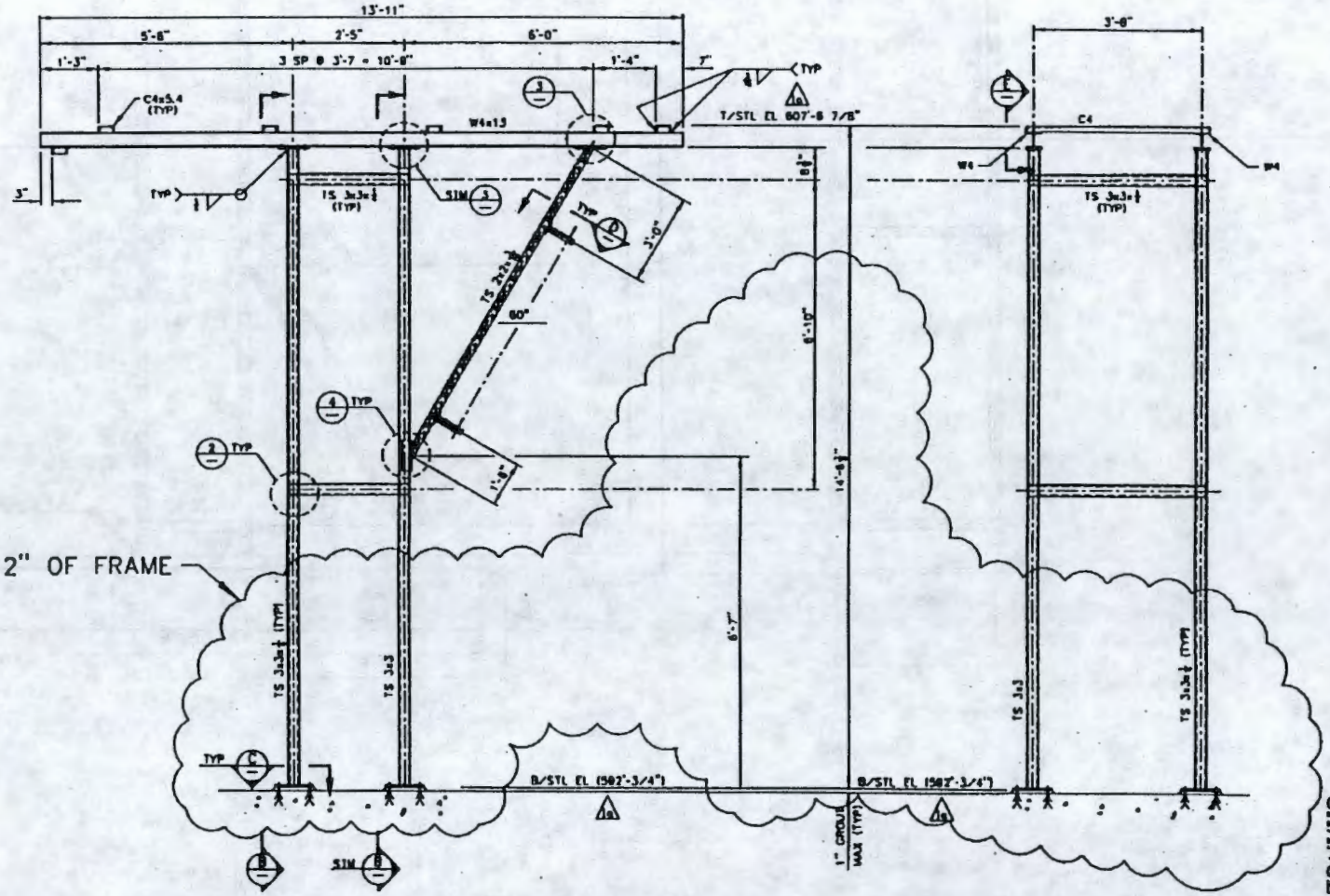
ECN 647247 – 8/27/98
Page 5 of 10
Block 13a Cont'd
H-2-817972 Sh 1 Rev 1
Zones C4–F8
IS NOW:



A SECTION

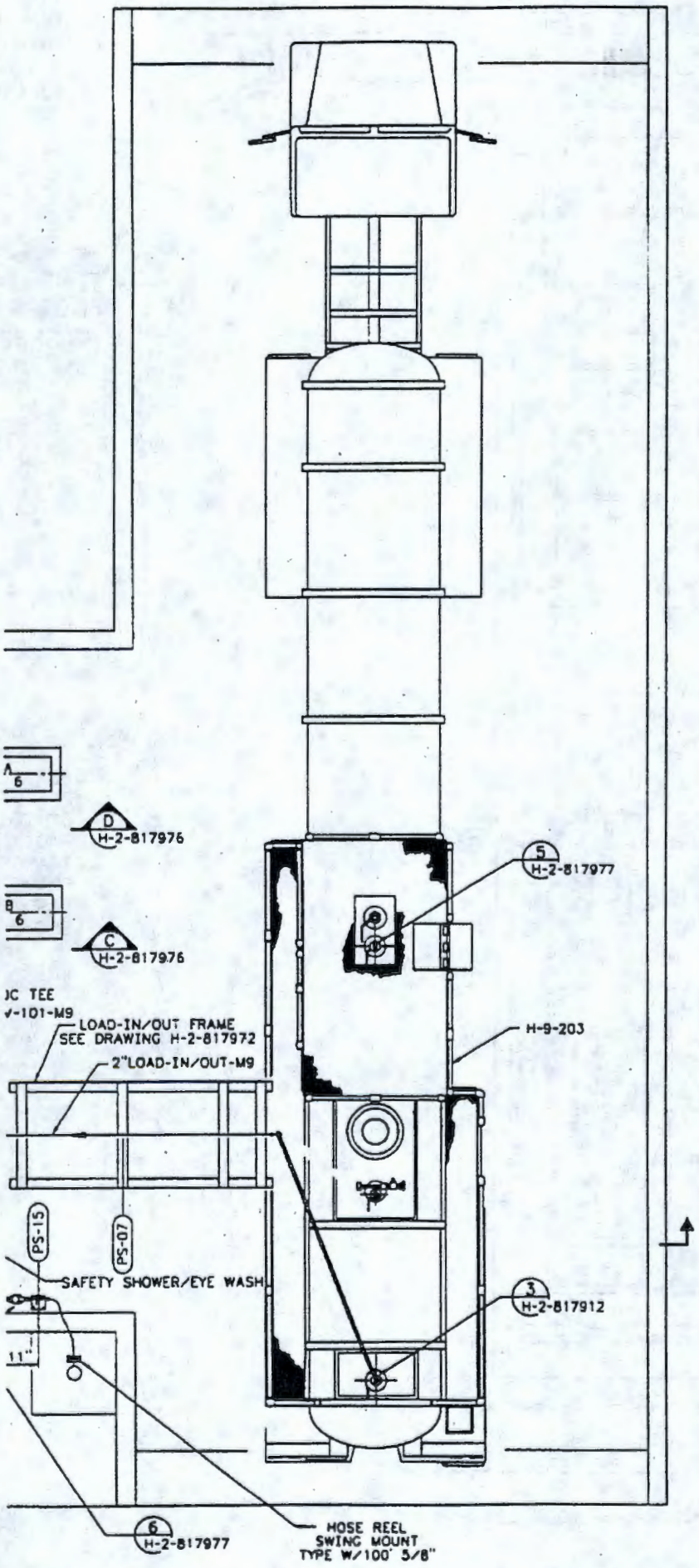
ECN 647247 – 8/27/98
Page 6 of 12
Block 13a Cont'd
H-2-817972 Sb 1 Rev 1
Zones C4–F8
CHANGE TO:

PER ECN 647247:
REMOVE BOTTOM 12" OF FRAME

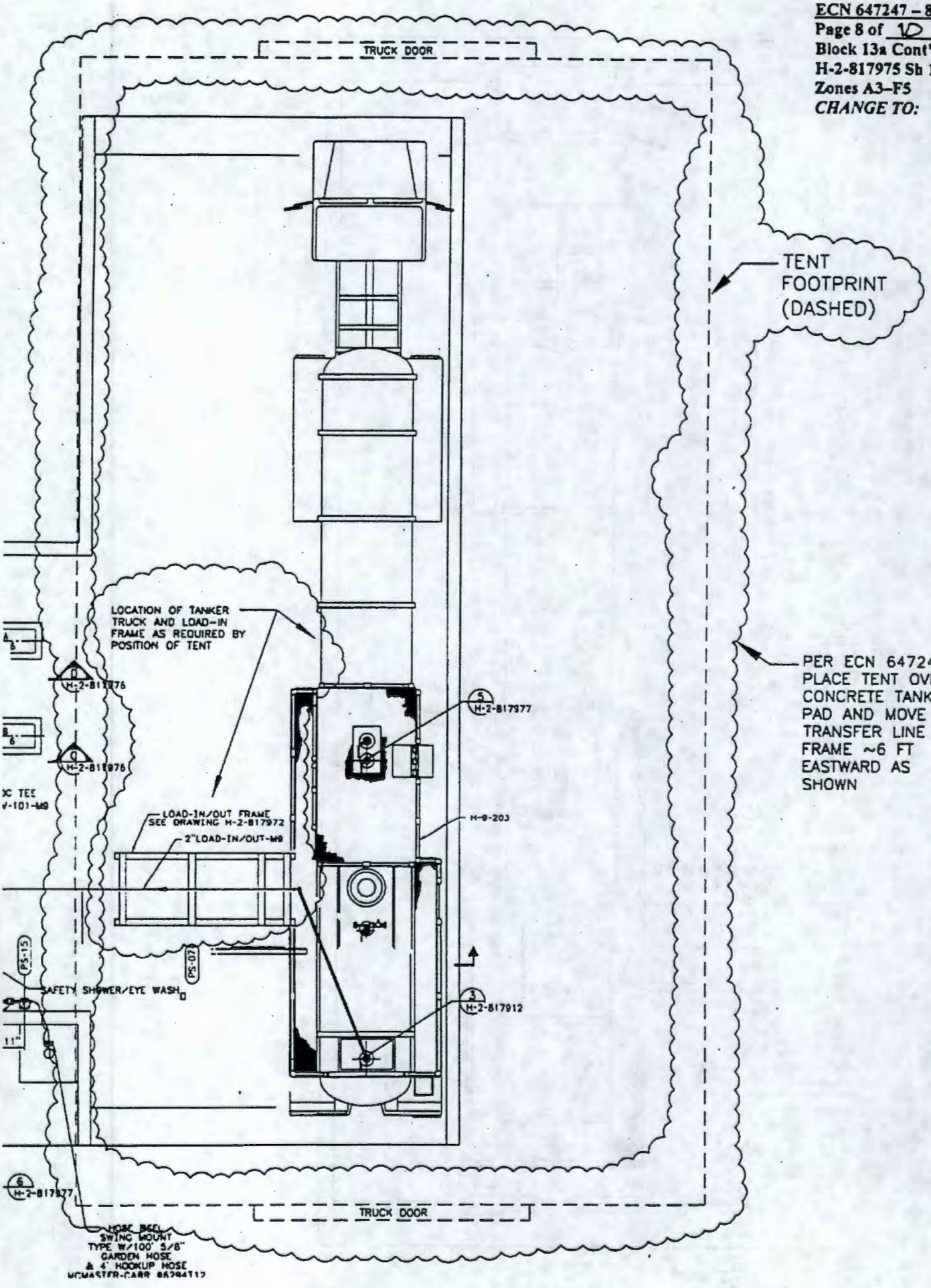


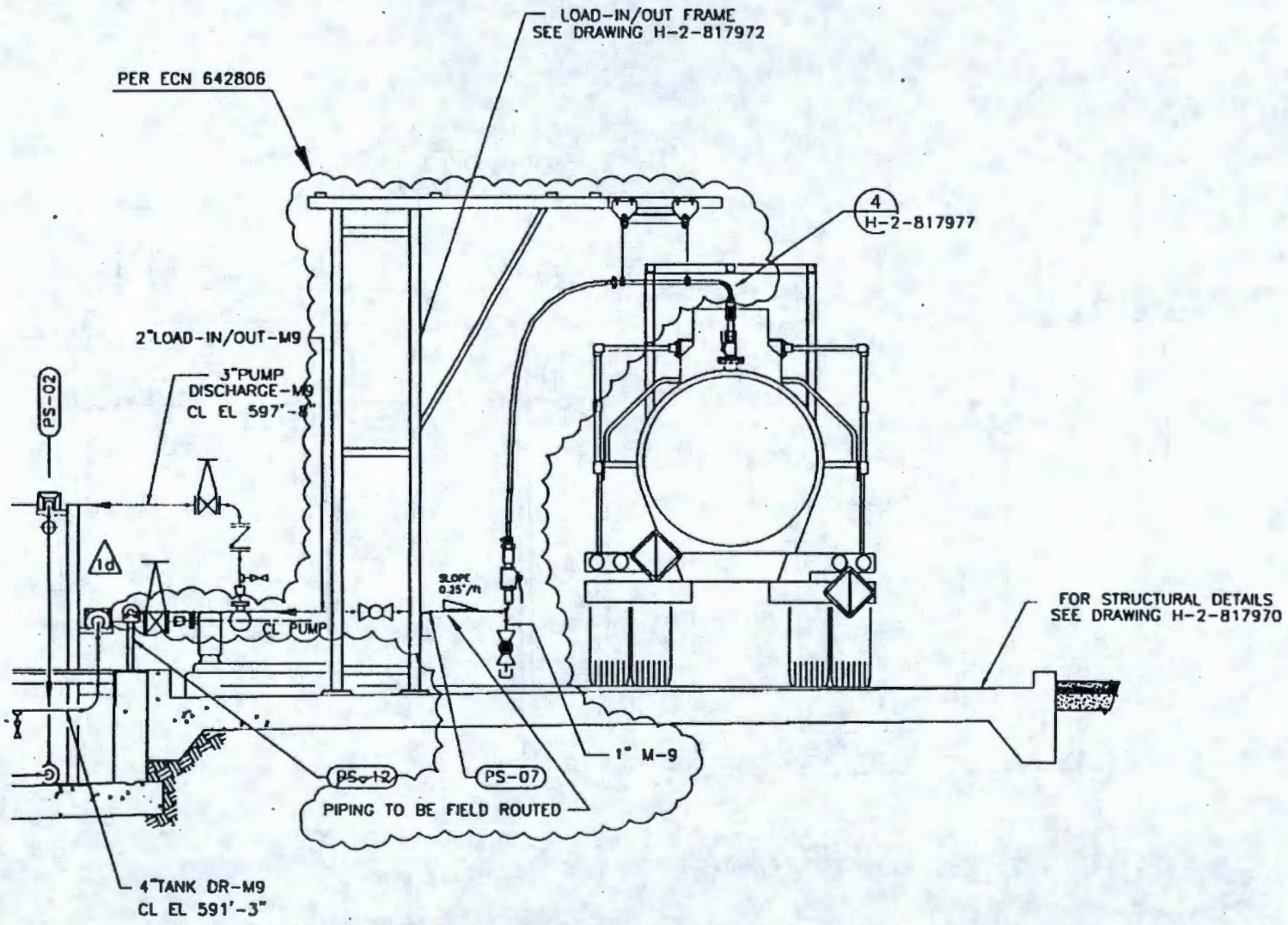
A SECTION
H-2-817970, SH1 3/4" = 1'-0

ECN 647247 – 8/27/98
Page 7 of 10
Block 13a Cont'd
H-2-817975 Sh 1 Rev 5
Zones A3–F5
IS NOW:



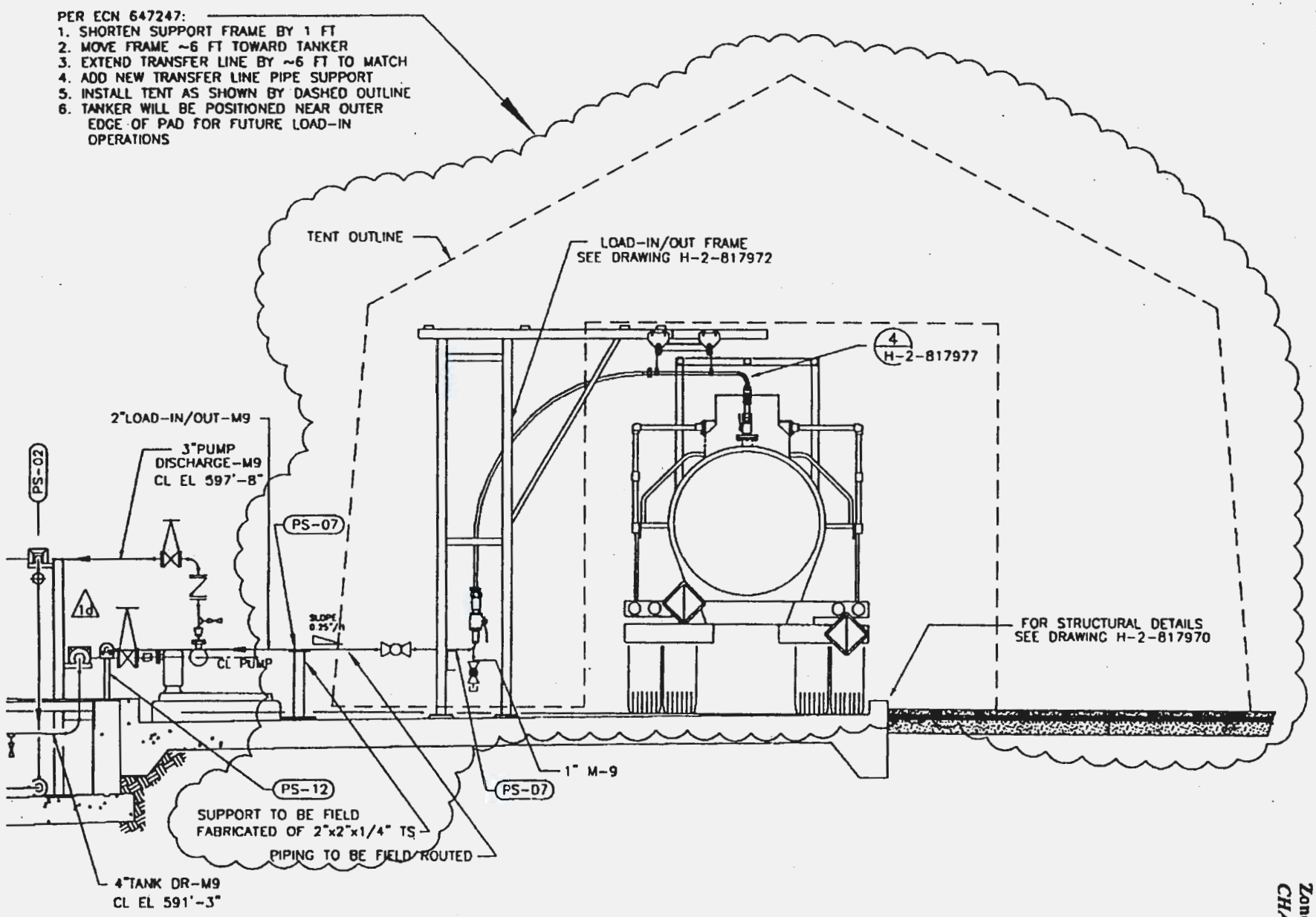
ECN 647247 – 8/27/98
Page 8 of 10
Block 13a Cont'd
H-2-817975 Sh 1 Rev 5
Zones A3–F5
CHANGE TO:





B SECTION
H-2-817975 SCALE: 3/8"=1'-0"

ECN 647247 – 8/27/98
Page 9 of 12
Block 13a Cont'd
H-2-817976 Sh 1 Rev 1
Zones A4–D6
IS NOW:



B SECTION
H-2-817975 SCALE: 3/8"=1'-0"

ECN 647247 – 8/27/98
Page 10 of 12
Block 13a Cont'd
H-2-817976 Sh 1 Rev 1
Zones A4-D6
CHANGE TO:

pg 1

ENGINEERING CHANGE NOTICE

Page 1 of 8

1. ECN 649104

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32910, S6-72, 372-3152	[] Yes [x] No	2/16/99
	6. Project Title/No./Work Order No. Truck Load-in Filter/CACN 106883 COA EK00	7. Bldg./Sys./Fac. No. 2025E/59A/ETF	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13a	10. Related ECN No(s.) 647275 648786	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00071/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [x] Yes [] No

Affected Drawings

H-2-817969, Sh 1, Rev 1
H-2-817969, Sh 2 Rev 1
H-2-817969, Sh 3 Rev 1
H-2-817970, Sh 1, Rev 1
H-2-817970, Sh 2, Rev 1

See attached continuation sheet for description of changes.

DAVID STEPHEN McNAMARA STATE OF WASHINGTON 0027710 REGISTERED PROFESSIONAL ENGINEER 2-18-99

EXPIRES 10/06/00

Construction to be in accordance with the requirements of construction specification W-291H-C2.

14a. Justification (mark one)

Criteria Change	[x]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Supplemental offload and filtration capability is required to simultaneously accept liquid wastes containing solids while receiving existing waste generator shipments.

Informal design review performed by EA McNamar

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72 (1)	EA McNamar	S6-72 (1)	WCC Planning S6-71 (1)*
BS Darling	T4-05 (1)	DB Powell	T3-07 (1)	(* = 1 Advance Copy)
AF Crane	S6-72 (1)*	CD Skogley	T4-05 (1)	
DL Flyckt	S6-72 (1)	DK Smith	S6-71 (1)	
JM Isdell	B4-39 (1)*	NJ Sullivan	S6-72 (1)	

RELEASE STAMP
DATE: FEB 18 1999
STA: 30 HANFORD RELEASE ID: 18

CN By ECN-649114

ENGINEERING CHANGE NOTICE	Page 2 of 8	1. ECN 649104

16. Design Verification Required	17. Cost Impact ----------> NA <---------- ENGINEERING		CONSTRUCTION		18. Schedule Impact (days) ----------> NA <----------	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Tank Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[NA]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec.	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[X]	Operating Procedure	[NA]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[NA]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac. Proc. Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

21. Approvals

	Signature	Date
Design Authority AF Crane	AF Crane	2-18-99
Cog. Eng.		
Cog. Mgr. NJ Sullivan	N J Sullivan	2-17-99
QA		
Safety		
Environ. DL Flyckt	D. L. Flyckt	2/16/99
Other		
Operations DK Smith	D K Smith	2-18-99
EA McNamar Informal Design Review	E.A. McNamar	2/16/99

	Signature	Date
Design Agent AF Crane	AF Crane	2-16-99
PE	David McSloan	2-18-99
QA		
Safety		
Design		
Environ.		
Other		
DEPARTMENT OF ENERGY		
Signature or a Control Number that tracks the Approval Signature		
ADDITIONAL		

H-2-817969, Sh 1, Rev 1

Zone D-3: Add asphalt and concrete pad areas.

H-2-817969, Sh 2 Rev 1

Zone E-3: Add asphalt and concrete pad areas.

H-2-817969, Sh 3 Rev 1

Zone D-7: Add asphalt and concrete pad areas, and elevations.

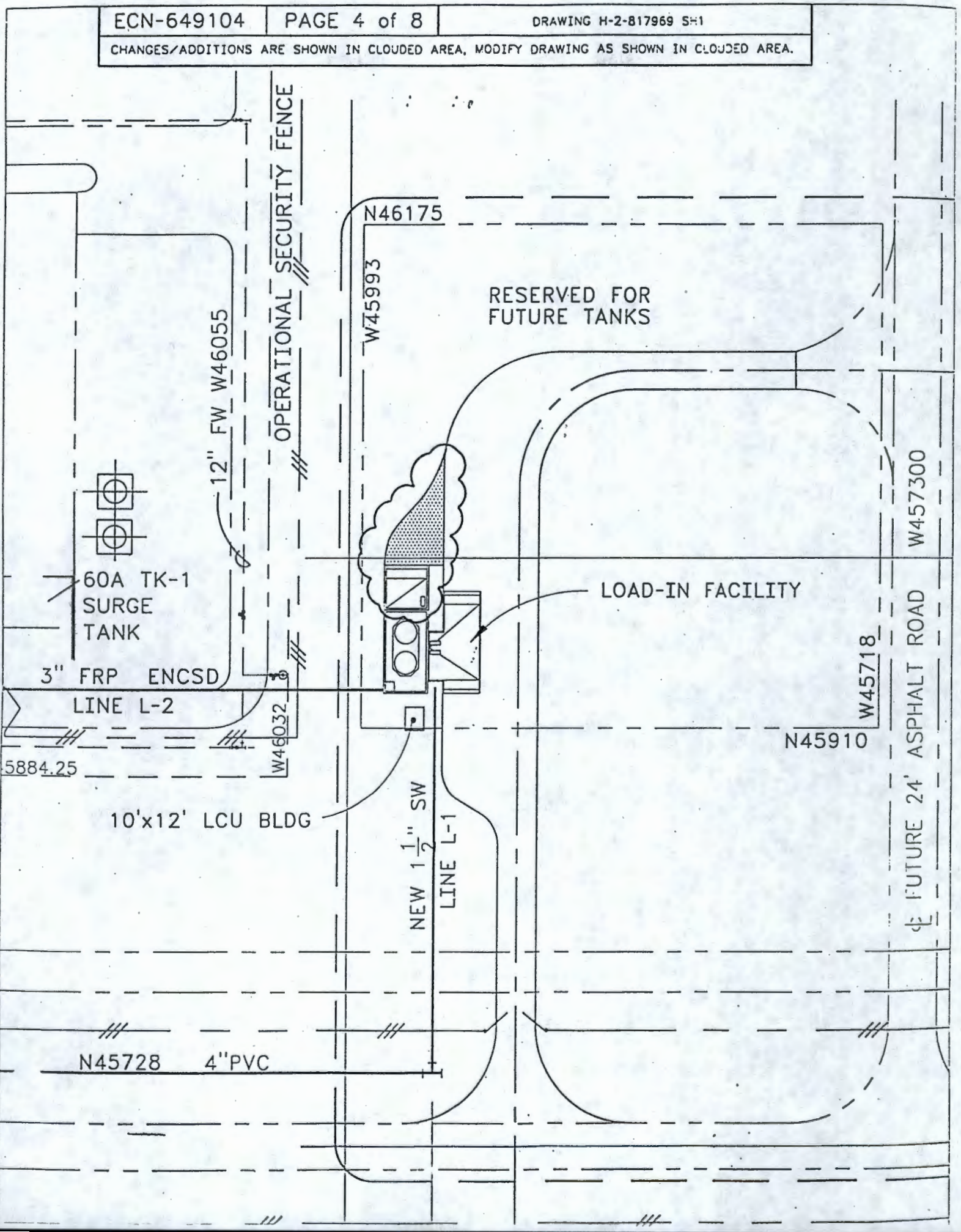
H-2-817970, Sh 1 Rev 1

Zones C/F-5/8: Add asphalt and concrete pad areas, filter skid, pump base, dimensional details and Section G reference.

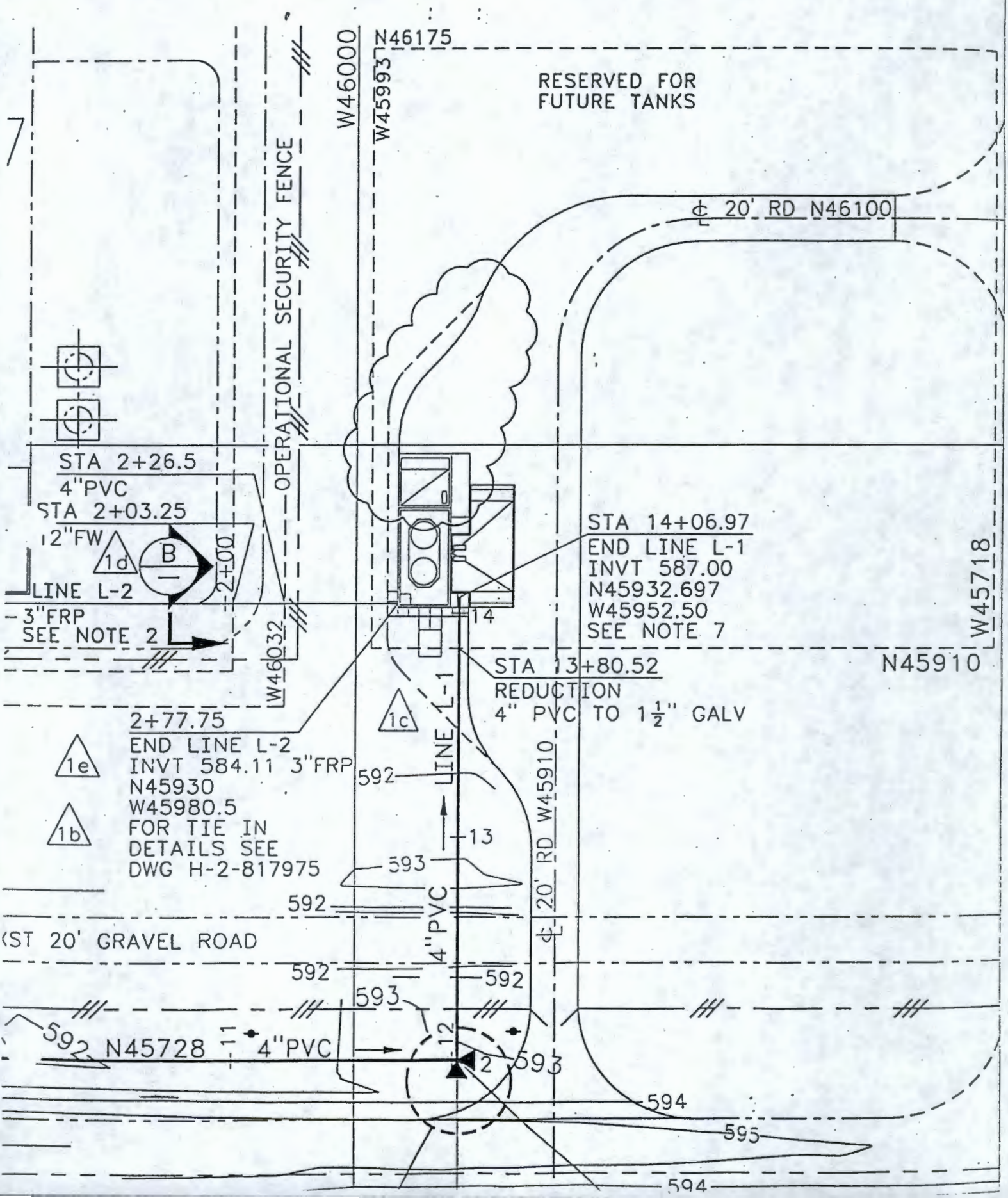
H-2-817970, Sh 2 Rev 1

Zones A/D-4/8: Add Sections F and G and Detail 6. Add note to Section E identifying elevations of respective pump pads.

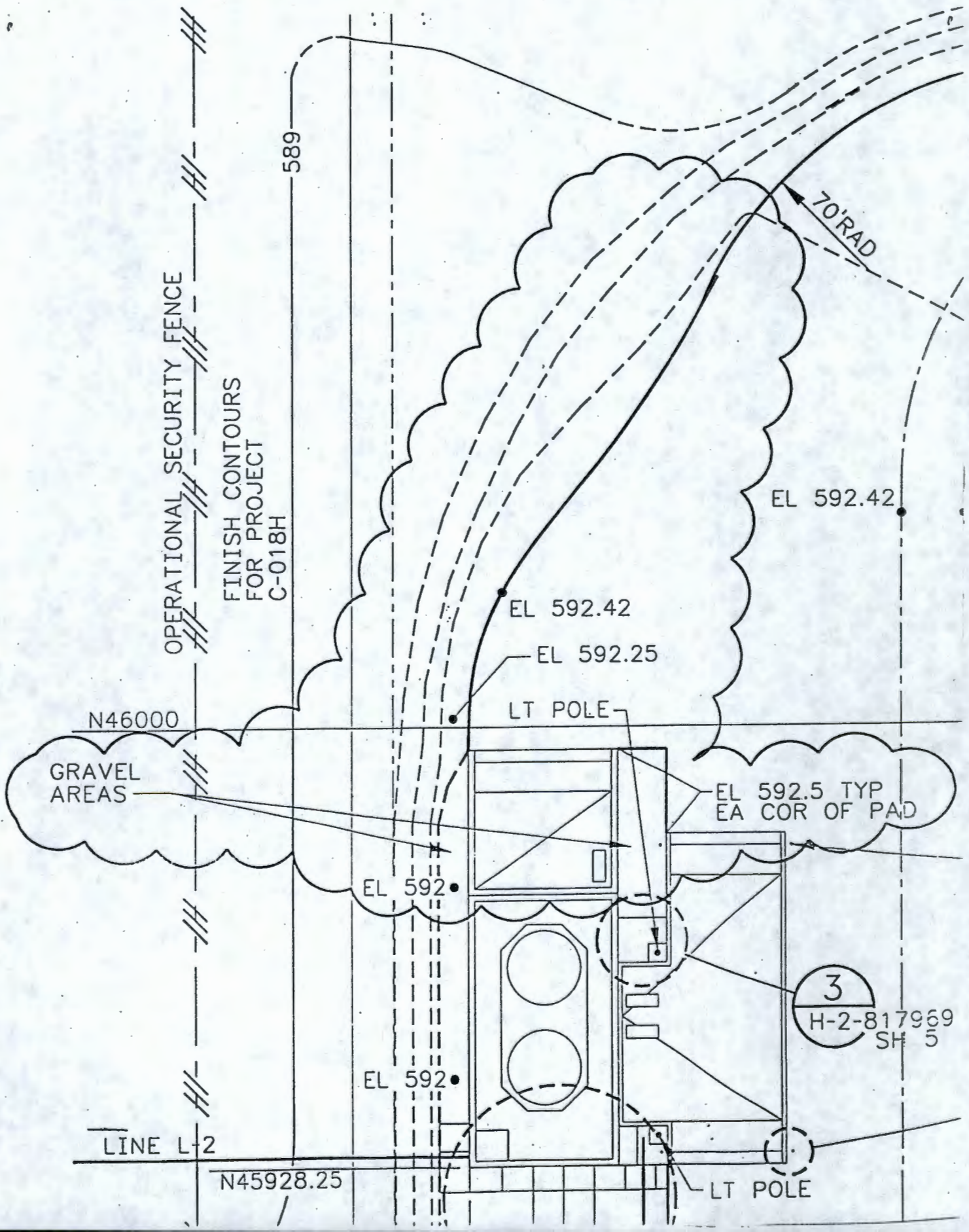
ECN-649104	PAGE 4 of 8	DRAWING H-2-817969 SH1
CHANGES/ADDITIONS ARE SHOWN IN CLOUDED AREA. MODIFY DRAWING AS SHOWN IN CLOUDED AREA.		



ECN-649104	PAGE 5 of 8	DRAWING H-2-817969 SH2
CHANGES/ADDITIONS ARE SHOWN IN CLOUDED AREA, MODIFY DRAWING AS SHOWN IN CLOUDED AREA.		



ECN-649104	PAGE 6 of 8	DRAWING H-2-817969 SH3
CHANGES/ADDITIONS ARE SHOWN IN CLOUDED AREA. MODIFY DRAWING AS SHOWN IN CLOUDED AREA.		



pg 18
1pg 1 H
1pg 1pg

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 18

1. ECN 644244

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [X] Change ECN [ ] CAM 2/10/98 Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	E.A. McNAMAR, 32200, S6-72, 373-3465	[ ] Yes [ ] No	11-20-98
	6. Project Title/No./Work Order No. CHEMICAL FEED PUMP RELOCATION	7. Bldg./Sys./Fac. No. 2025E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13a	10. Related ECN No(s). 627754 644243	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [ ] No (NA Blks. 12b, 12c, 12d)	EL- 97-00622	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

- H-2-88992 SH1, REV 9
- H-2-89337 SH1, REV 10
- H-2-89181 SH1, REV 5
- H-2-89211 SH1, REV 1
- H-2-89200 SH1, REV 3
- H-2-89047 SH1, REV 6
- H-2-89047 SH2, REV 0
- H-2-89162 SH1, REV 4
- ~~H-2-89351 SH1, REV 4~~

CAM 3/22/99

13b. Design Baseline Document? [X] Yes [ ] No

Install, inspect and test new piping installation in accordance with ASME B31.3 Normal Fluid Service.

FILE COPY

SEE PAGE 3 FOR DESCRIPTION OF CHANGES

14a. Justification (mark one)

Criteria Change	[ ]	Design Improvement	[X]	Environmental	[ ]	Facility Deactivation	[ ]
As-Found	[ ]	Facilitate Const	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

14b. Justification Details

RELOCATE EXISTING CHEMICAL FEED PUMPS 2025E-65C-P-5, -6, -7 FROM THE TOP OF SURGE TANK 2025E-60A-TK-1 TO INSIDE THE EFFLUENT TREATMENT FACILITY.

15. Distribution (include name, MSIN, and no. of copies)

E. A. McNAMAR	S6-72 *	A.K. Youkum	S6-71
K. D. JUNT	G3-17	T.W. Dallas	S6-74
wcc Planning	S6-71 *	M.W. Bowman	S6-72
L.L. Lin	S6-72 *	B.S. Darling	T4-05
N.J. Sullivan	S6-72	J.M. Petty	S6-74

* = 1 Advance Copy

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DATE:

STA: 30

HANFORD RELEASE

ID: 18

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 644244

16. Design Verification Required	17. Cost Impact						18. Schedule Impact (days)		
	ENGINEERING			CONSTRUCTION					
[X] Yes	Additional	[]	$ NA	Additional	[]	$ NA	Improvement	[]	NA
[ ] No	Savings	[]	$ NA	Savings	[]	$ NA	Delay	[]	NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[X]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
onmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
POP-60-006		
POP-65C-001		

21. Approvals

Signature	Date	Signature	Date
Design Authority E.A. McNamar E.A. McNamar	12/10/98	Design Agent E.A. McNamar E.A. McNamar	12/10/98
Cog. Eng. E.A. McNamar E.A. McNamar	12/10/98	PE	
Cog. Mgr. N.J. Sullivan N.J. Sullivan (Informal Design Review)	3-22-99	QA	
QA		Safety	
Safety		Design	
Environ.		Environ.	
Other		Other	
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

escription of Changes

1) H-2-88992 SH 1, REV 9
Modify as shown on page 4

2) H-2-89337 SH 1, REV 10
Modify as shown on page 5

3) H-2-89181 SH1, REV 5
a) Modify as shown on page 6
b) Add ENLARGED PLAN, as shown on page 7
c) Add SECTION D, as shown on page 8
d) Add SECTION E, as shown on page 9
e) Add SECTION F, as shown on page 10

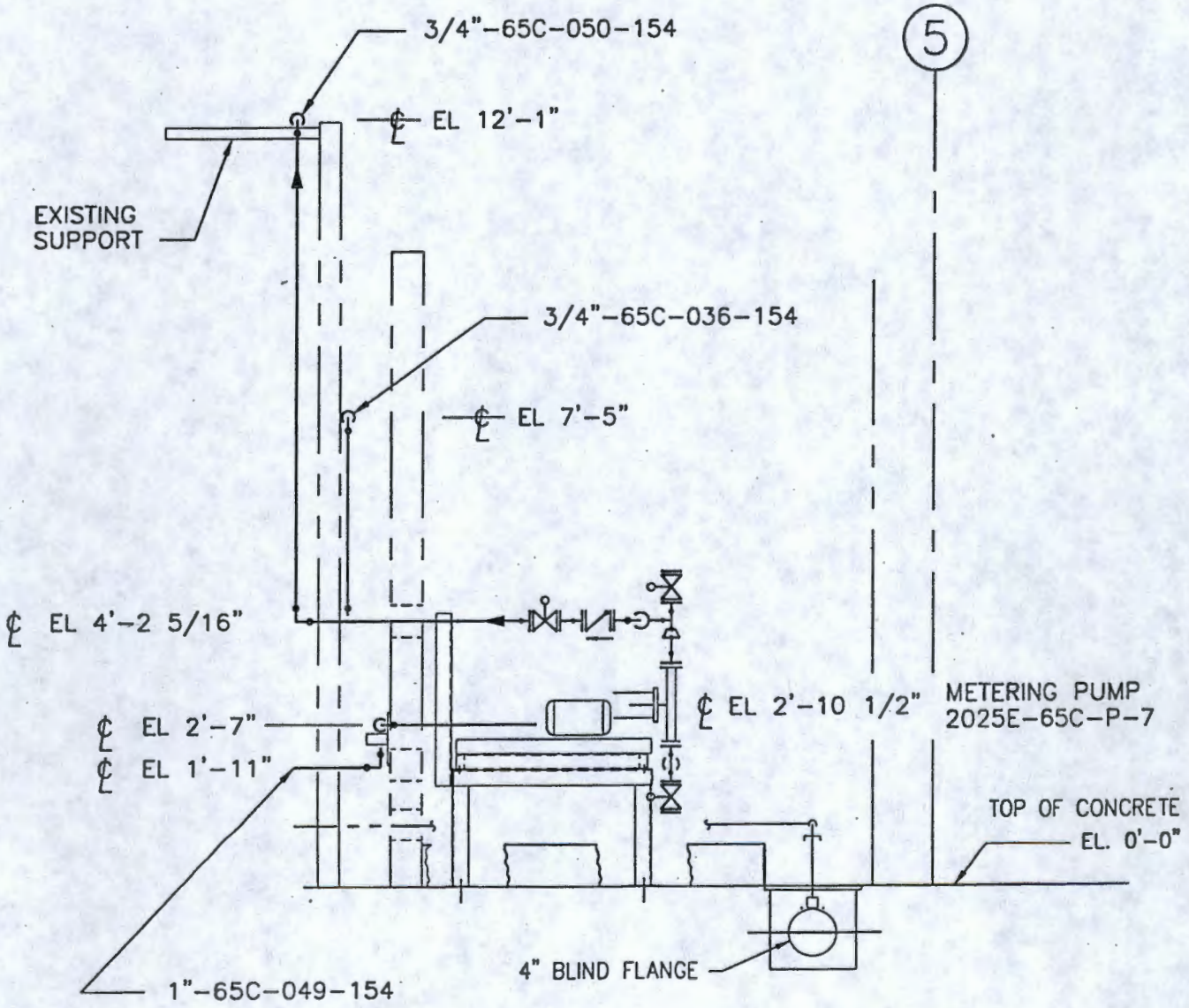
4) H-2-89211 SH 1, REV 1
a) Add TYPE 32 SUPPORT AND TYPE 35 SUPPORT, as shown on page 11
b) Add TYPE 33 SUPPORT, as shown on page 12
c) Add TYPE 34 SUPPORT SKID, as shown on page 13

5) H-2-89200 SH 1, REV 3
a) Modify as shown on page 14
b) Add ENLARGED PLAN and SECTIONS F & G, as shown on page 15

6) H-2-89047 SH 1, REV 6
Modify as shown on page 16

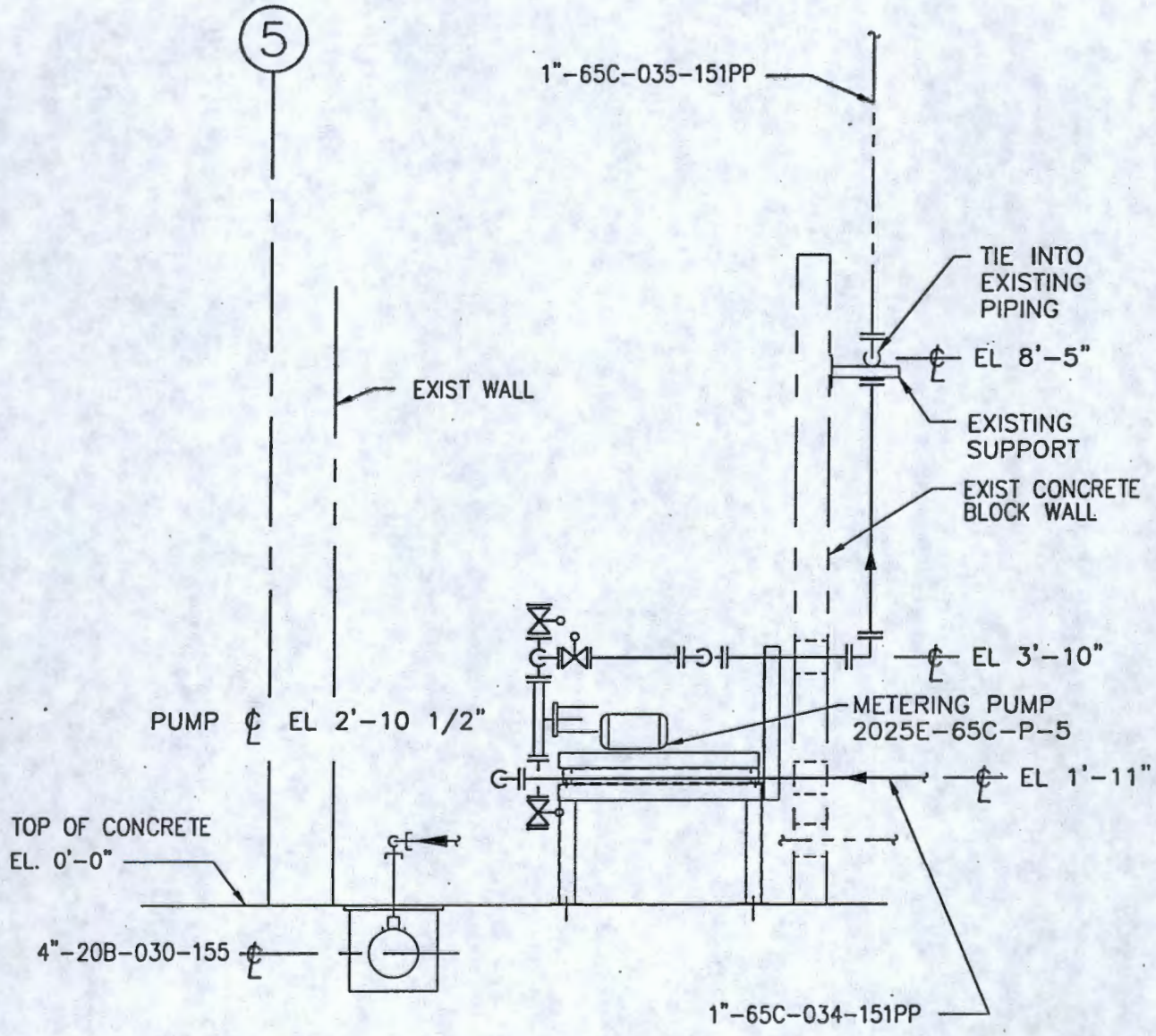
7) H-2-89162 SH 1, REV 4
Modify as shown on page 17

8) H-2-89047 SH 2, REV 0
Add DETAIL F as shown on page 18



SECTION E
THIS DWG.

H-2-89181 SH1, REV 5



SECTION F
THIS DWG.

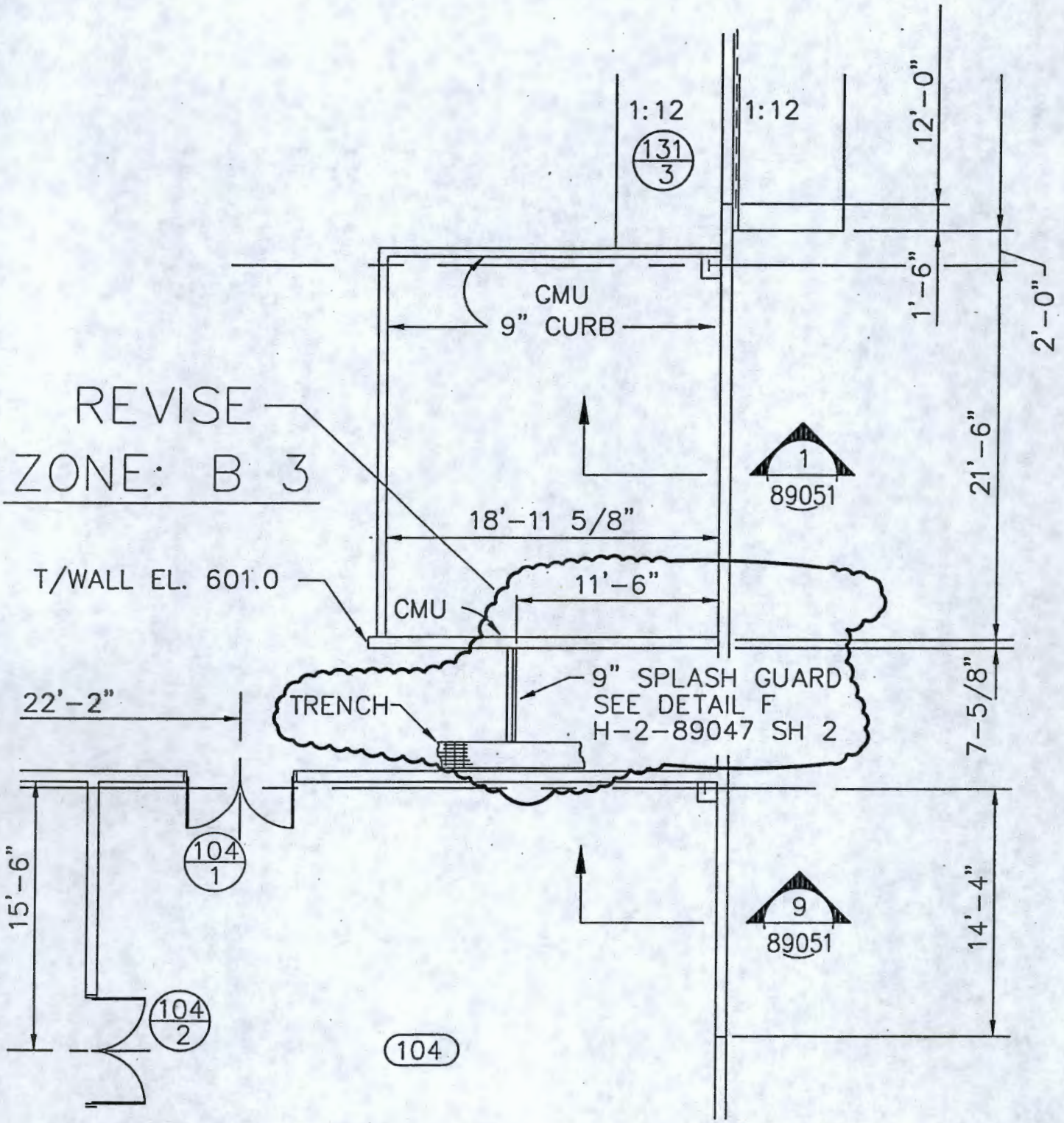
H-2-89181 SH1, REV 5

Hanford Facility RCRA Permit Modifications

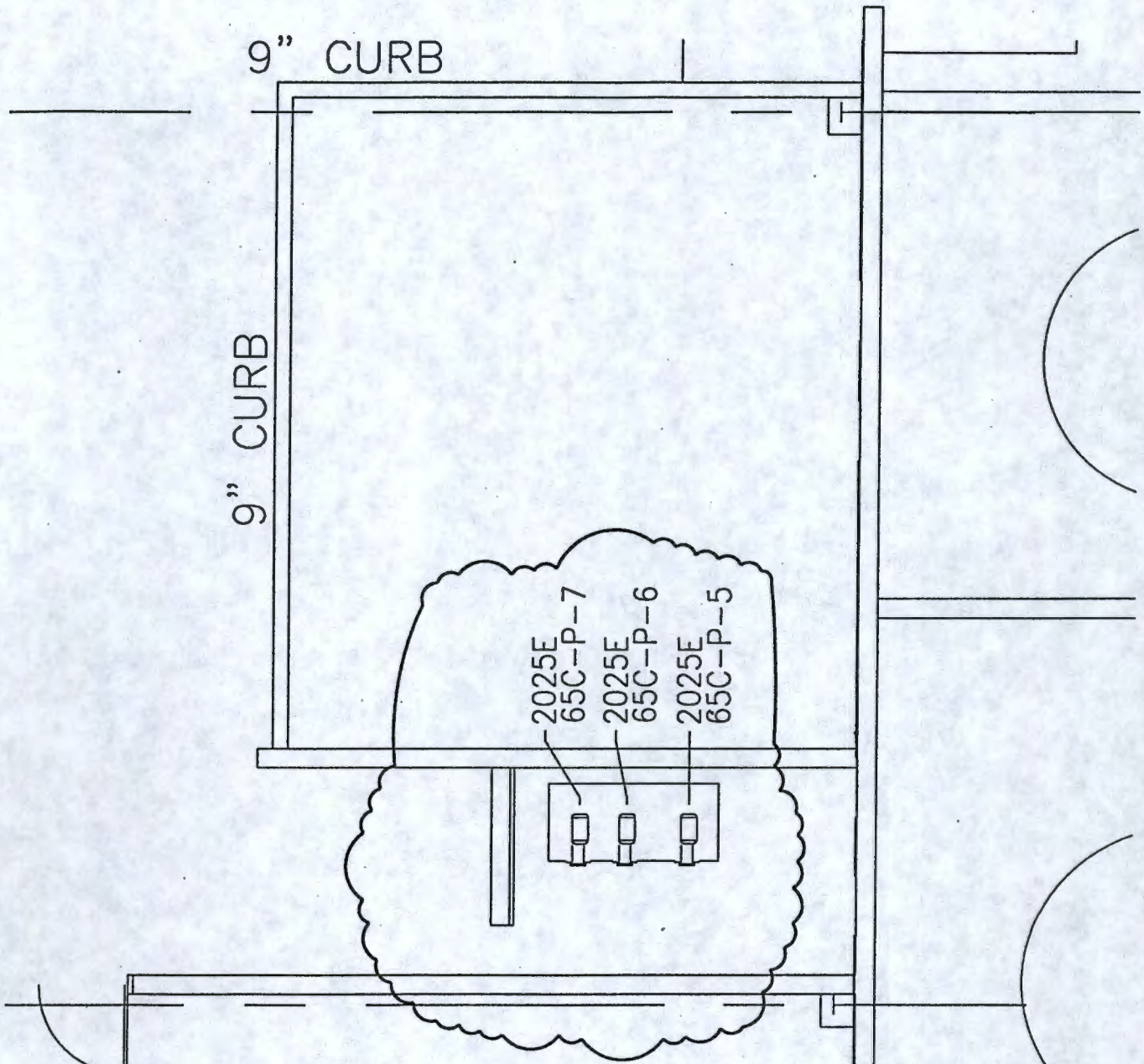
Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Outstanding ECNs

Appendix 4B
Table 4B-2

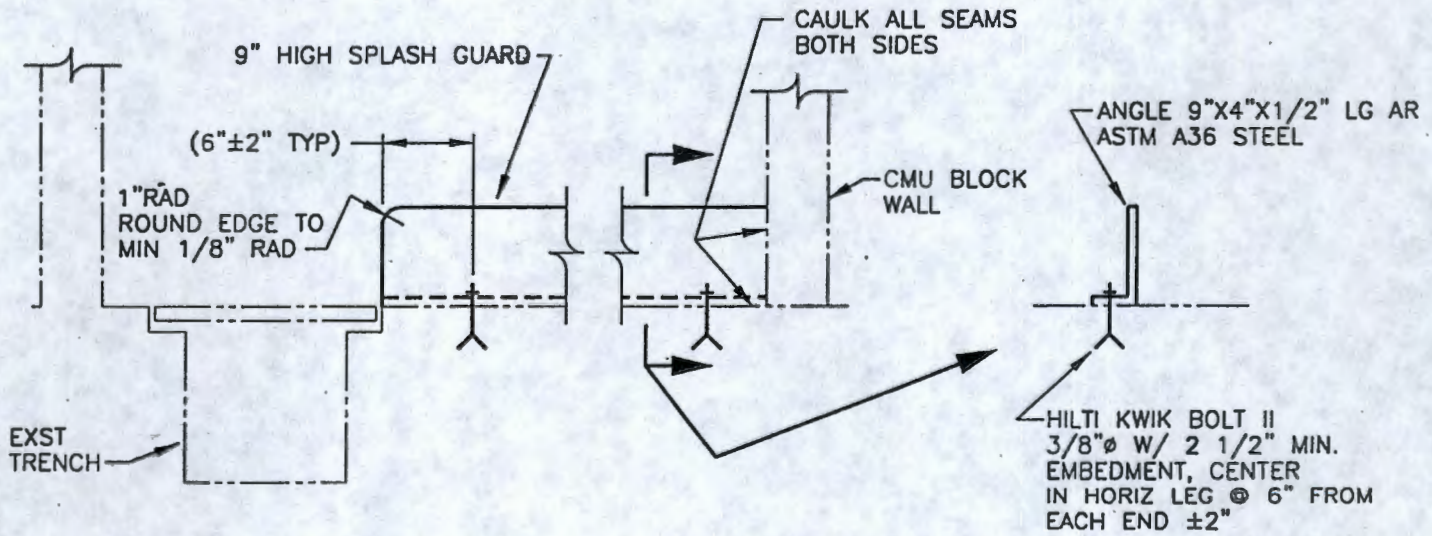


H-2-89047 SH1, REV 6



ZONE: B 3

NOTE:
COAT WITH SPC IN ACCORDANCE
WITH CONSTRUCTION SPEC
S-1131-103, REV 4, SECTION 09805



SECTION F
SCALE: NONE H-2-89047 SH 1

H-2-89047 SH 2, REV 0

S

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ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 8

1. ECN 647245

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-72/376-4460	[] Yes [x] No	June 22, 1998
	6. Project Title/No./Work Order No. A4055 Install Pressure Bleed Valves in Peroxide Feed Lines/Correct Hand Switch Number	7. Bldg./Sys./Fac. No. 2025E/60D/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00463	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [x] Yes [] No

This ECN adds needle valves to the UV/OX hydrogen peroxide injection system for the purpose of bleeding system pressure in a controlled manner prior to maintenance, and corrects the number of a hand switch for one of the peroxide injection feed pumps as shown on the drawing. The new pressure bleed valves will be Whitey part number SS-1VS4 316 or engineering approved equivalent, consistent with the system pipe code and temperature/pressure rating.

Drawings affected are:

- H-2-88976, Sheet 1, Rev. 6
- H-2-89342, Sheet 1, Rev. 6
- H-2-89350, Sheet 1, Rev. 8

Piping, fittings, and jointing methods shall meet the requirements of ETF Piping Specification Class 153T, "Type 316 Stainless Steel Tubing." Install, inspect, and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[x]	Environmental	[]	Facility Deactivation	[]
As-Found	[x]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Provides a safe and controlled means of bleeding system pressure prior to maintenance, and corrects a drawing error (hand switch number).

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	T3-07	1
J. E. Geary	S6-71	1	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-72	2	M. W. Bowman	S6-72	1
E. A. McNamar	S6-72	1	C. D. Skogley	T4-05	1
D. L. Tubbs	S6-74	1	WCC Planning	S6-71*	1
D. P. Nelsen	S6-71	1	T. W. Dallas	S6-74	1
J. M. Petty	S6-74	1	D. L. Flyckt	S6-71	1
J. M. Isdell	G3-17	1*	L. L. Lin	S6-72	1

(* = 1 Advance Copy)

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JUN 29 1998
DATE:
STA: 30
HANFORD RELEASE
ID: 125

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 8	1. ECN (use no. from pg. 1) 647245

16. Design Verification Required	17. Cost Impact ENGINEERING		CONSTRUCTION		18. Schedule Impact (days)	
	----------> NA <----------				----------> NA <----------	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Tank Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[x]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec.	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[NA]	Operating Procedure	[x]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[NA]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac. Proc. Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
JCS Component Index	POP-60D-006 Rev. 11	

21. Approvals

	Signature	Date
Design Authority - R. N. Wagner		6/22/98
Cog. Eng. - R. N. Wagner		6/22/98
Cog. Mgr. - R. J. Nicklas (Informal Design Review)	FOR	6-22-98
QA		
Safety		
Environ.		
Other		

	Signature	Date
Design Agent - R. N. Wagner		6/22/98
PE		
QA		
Safety		
Design		
Environ.		
Other		

DEPARTMENT OF ENERGY

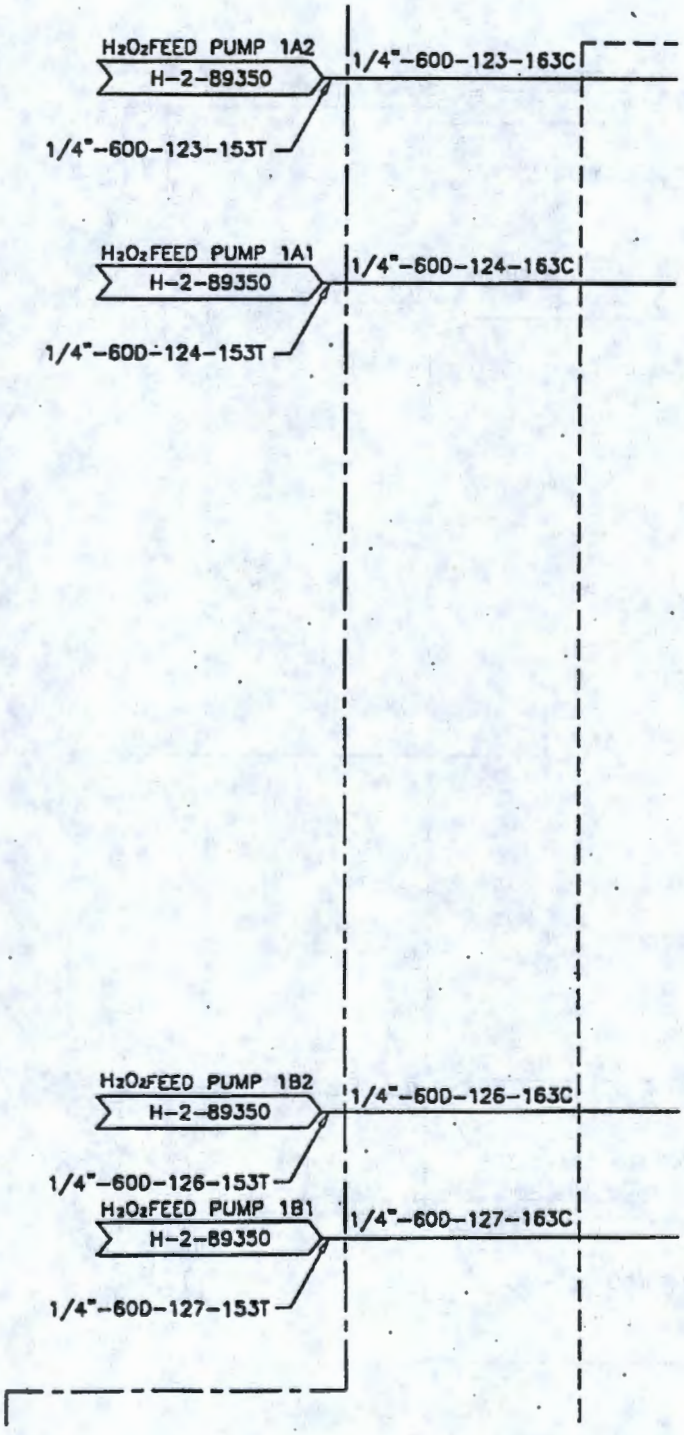
Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

BLOCK 13a CONTINUED

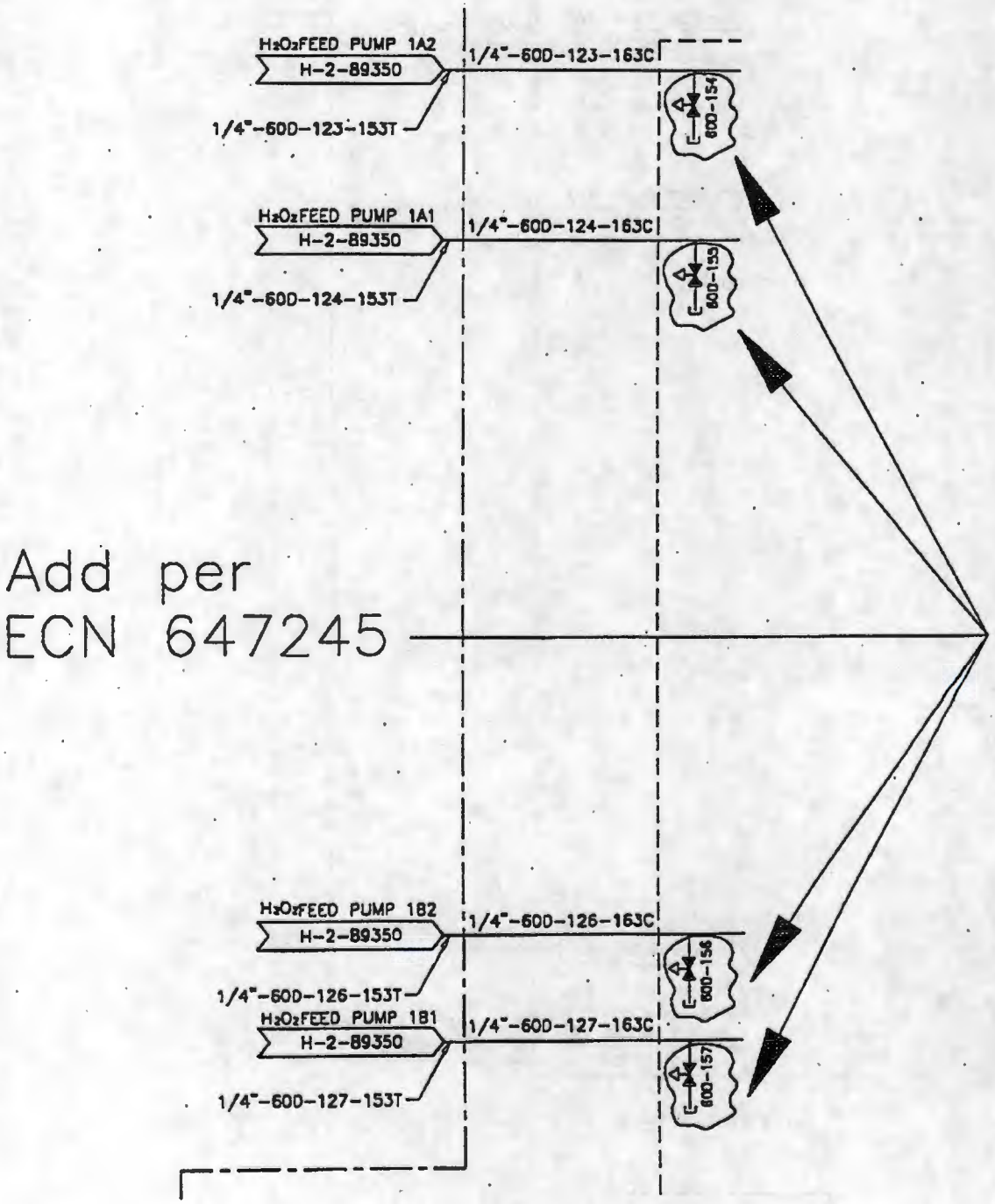
H-2-88976, Sheet 1, Rev. 6, Zones C6–F6

IS:



H-2-88976, Sheet 1, Rev. 6, Zones C6–F6

CHANGE TO:



H-2-89342, Sheet 1, Rev. 6, Zones C7–F7

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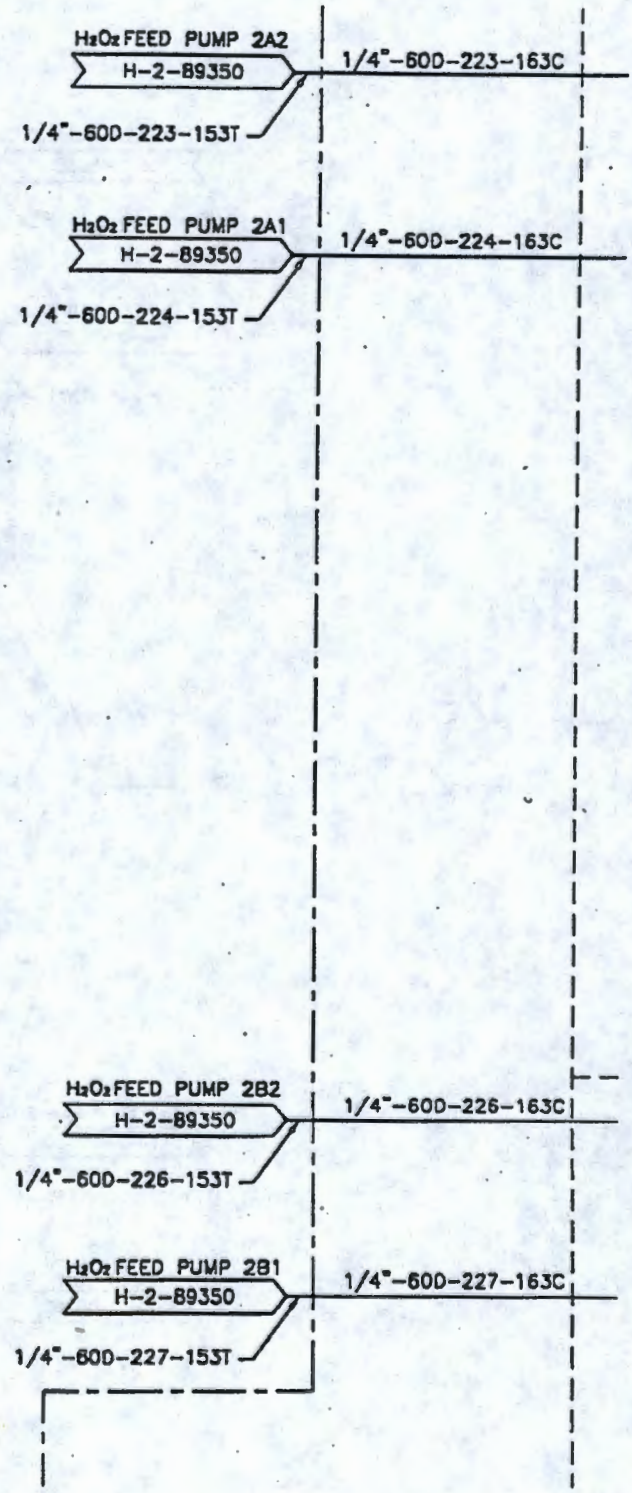
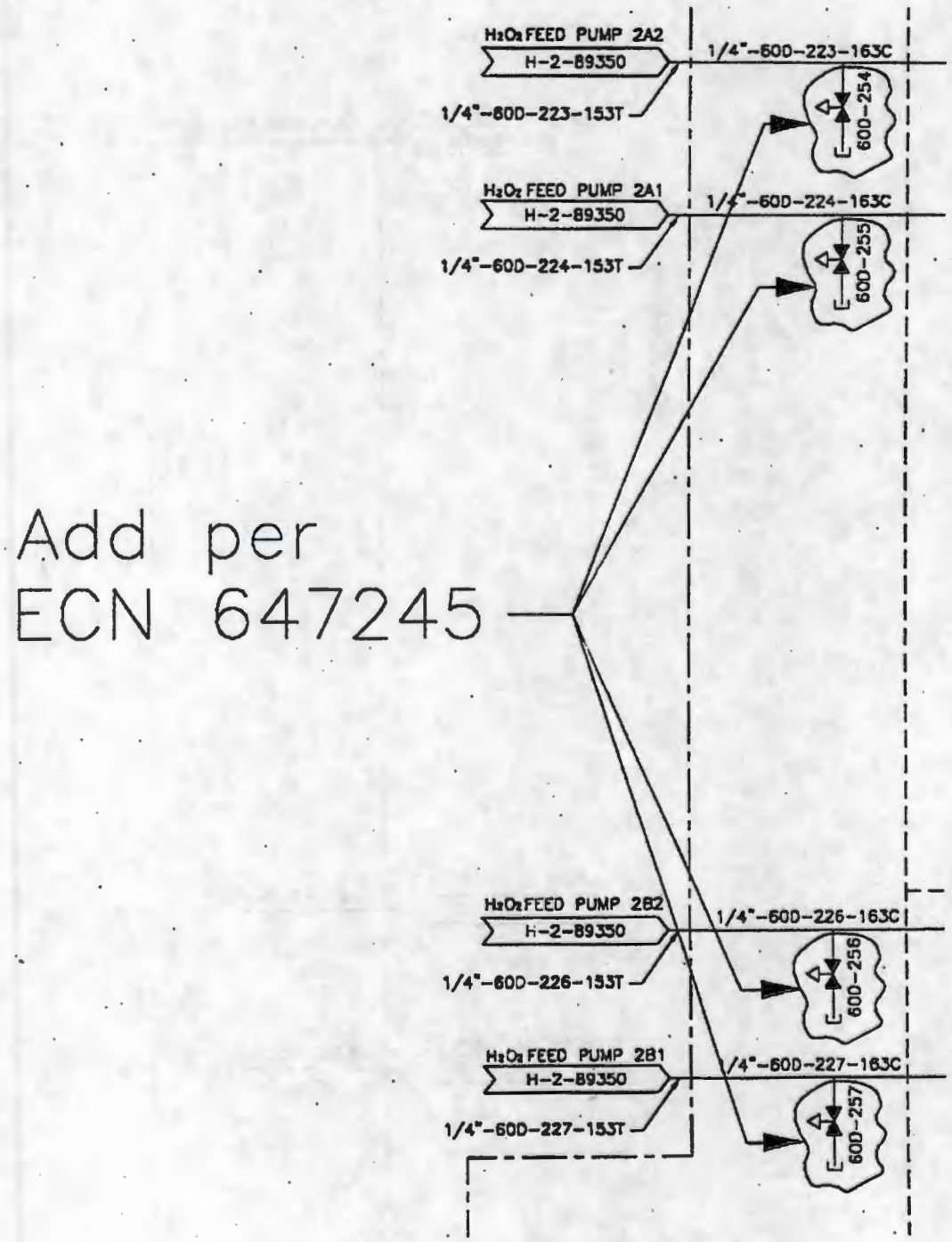


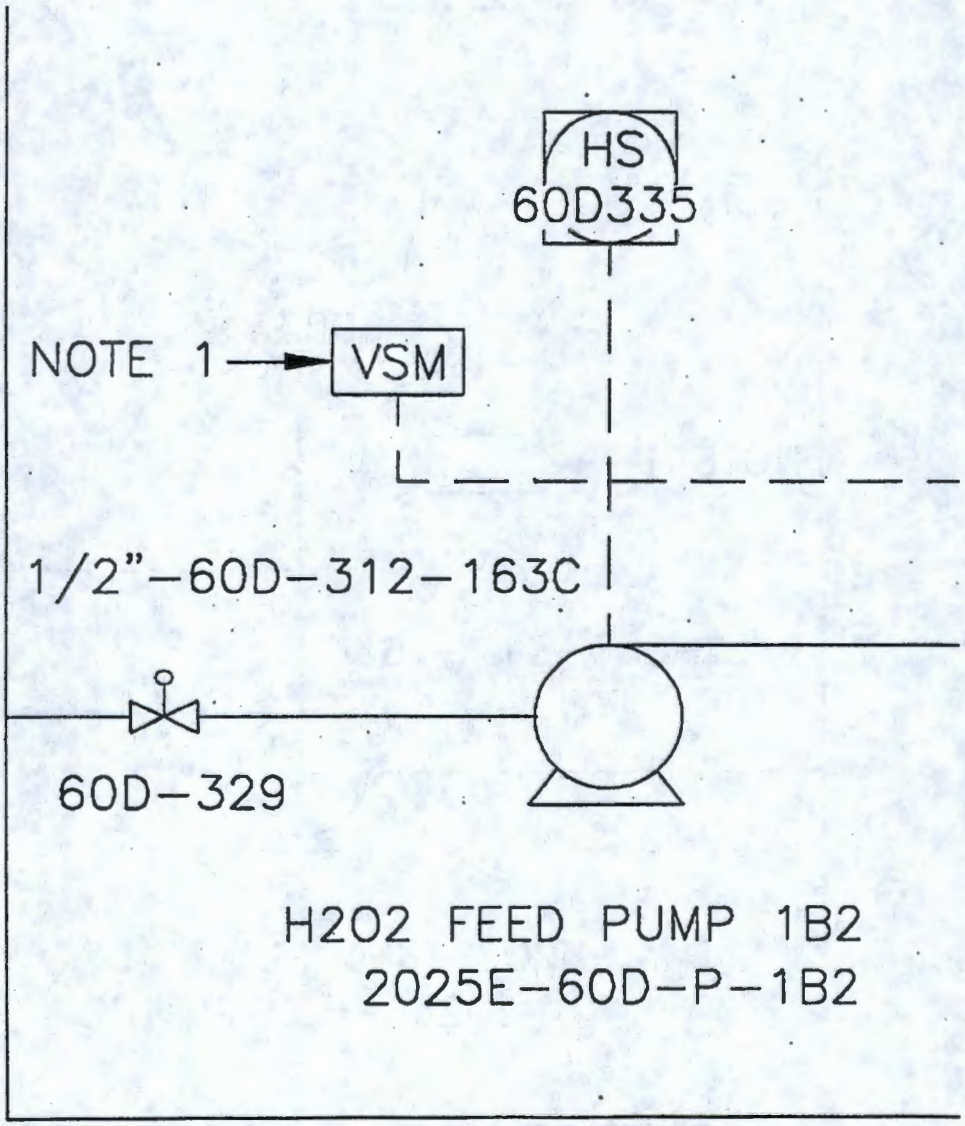
H-2-89342, Sheet 1, Rev. 6, Zones C7–F7

CHANGE TO:



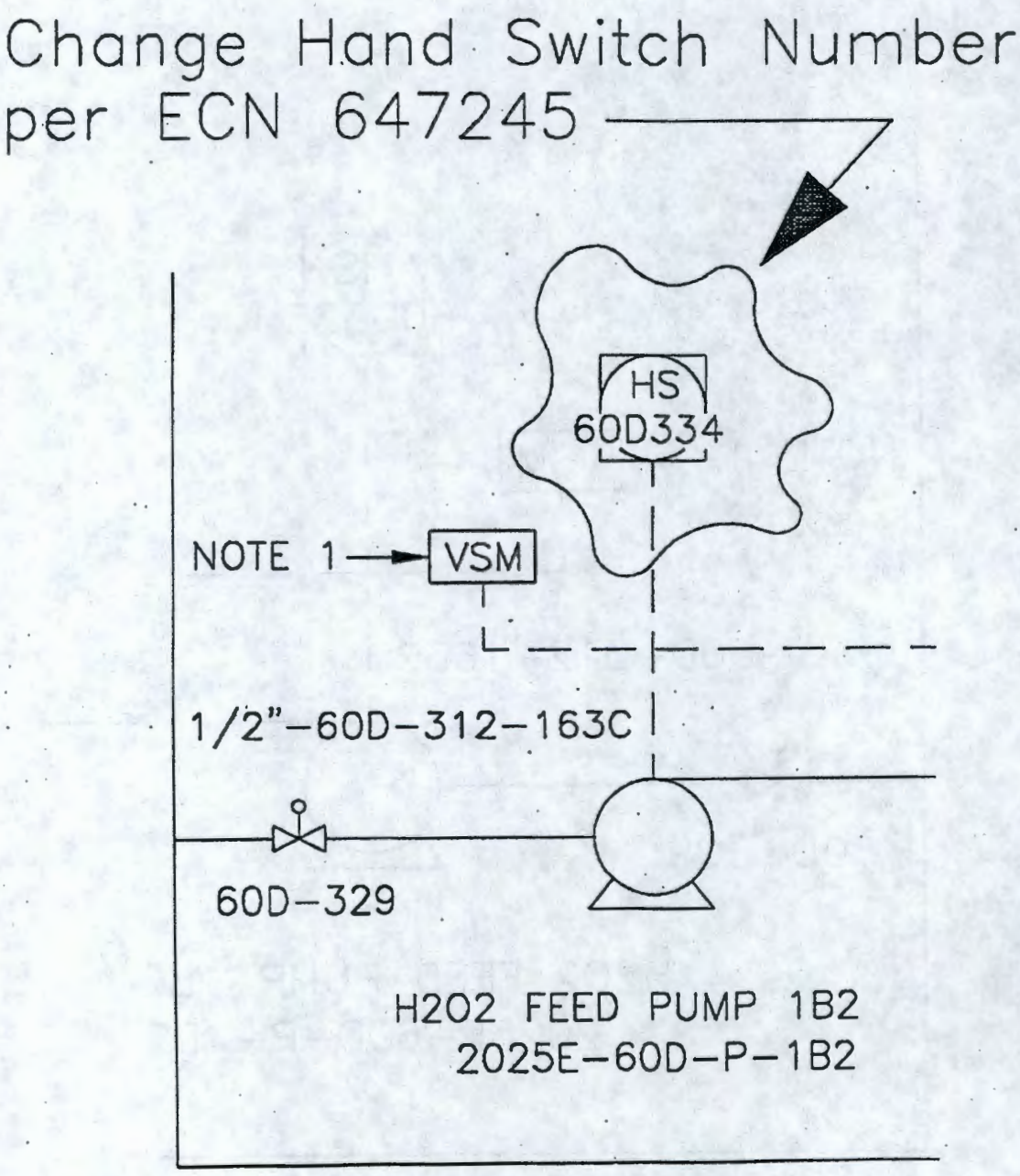
H-2-89350, Sheet 1, Rev. 8, Zone B6

IS:



H-2-89350, Sheet 1, Rev. 8, Zone B6

CHANGE TO:



CPF 18

ENGINEERING CHANGE NOTICE **ESSENTIAL**

Page 1 of 4

1. ECN 642800

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [X] Cancel/Void [ ]	LL Lin, 32230, S6-72, 372-2759	[ ] Yes [X] No	10/01/97
	6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
	Provide Sample Point on Polisher Skid Drain Header/A4055	2025E/60G	NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	10. Related ECN No(s).	11. Related PO No.
	H-2-88983, Rev 6, Sh 1	ECN-192548	None

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [ ] No (NA Blks. 12b, 12c, 12d)	EL-95-000233	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [X] Yes [ ] No

This ECN supersedes ECN 192548 in its entirety.

Description of Changes:

Affected documents:

ECN-192548
H-2-88983 Rev 6 P&ID, Polisher

See pages 3 and 4 of this ECN for details.

14a. Justification (mark one)

Criteria Change	[ ]	Design Improvement	[X]	Environmental	[ ]	Facility Deactivation	[ ]
As-Found	[X]	Facilitate Const	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

14b. Justification Details

A sample valve is needed at the polisher drain header to allow sampling and determination of the adequacy of the SLOW RINSE and FAST RINSE steps of the polisher regeneration.

This ECN also corrects drawing errors.

15. Distribution (include name, MSIN, and no. of copies)

L. L. Lin, S6-72, 1
N. J. Sullivan, S6-72, 1
D. P. Nelsen, S6-71, 1
D. L. Tubbs, S6-74, 1
~~ETF Tech Library, S6-72 Stations 4,30,5,3,15,16~~ 10/8/97
J. E. Geary, S6-71, 1
E. A. McNamar, S6-72, 1
R. N. Wagner, S6-72, 1

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OCT 08 1997
DATE:
STA: 30
HANFORD RELEASE
ID: 25

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 4	1. ECN (use no. from pg. 1) 642800

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[na]	Seismic/Stress Analysis	[na]	Tank Calibration Manual	[na]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[N/A]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[X]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[N/A]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[X]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[N/A]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
POP 60G-002, POP 60-006		

21. Approvals

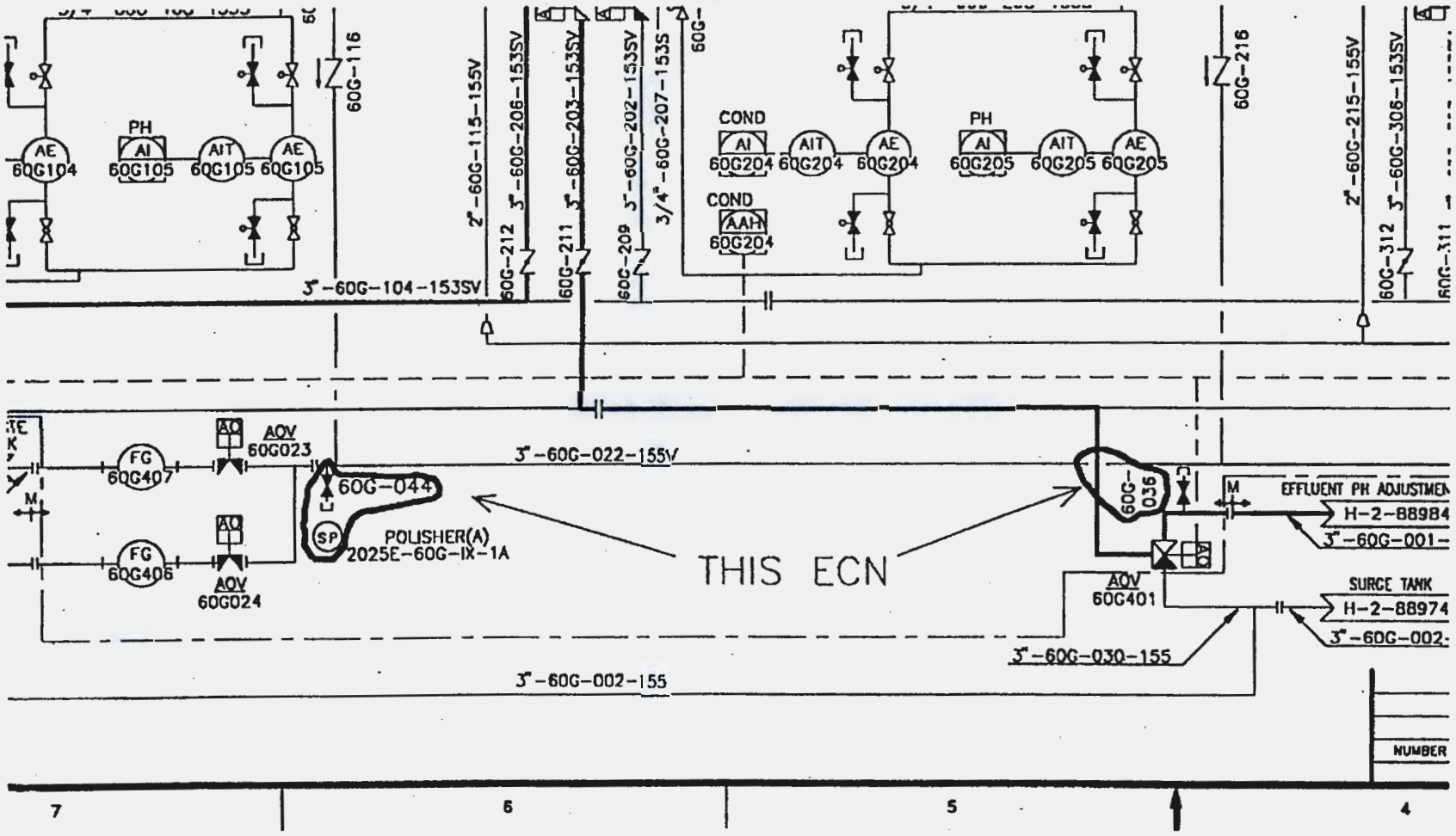
	Signature	Date		Signature	Date
Design Authority	L. L. Lin	10-1-97	Design Agent		10-1-97
Cog. Eng.	L. L. Lin	10-1-97	PE		
Cog. Mgr.	N. J. Sullivan	10-1-97	QA		
QA	(informal review)		Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
			DEPARTMENT OF ENERGY		
			Signature or a Control Number that tracks the Approval Signature		
			ADDITIONAL		

1. Install a 1/2 inch sample valve, 60G-044, at the polisher drain header (3"-60G-022-155V). Material type and pressure rating for the installation shall be compatible with ETF pipe class 155V for INDECK.

2. Correct drawing error for valve number call out. Change 60G-407 to 60G-036.

3. Correct drawing error on polisher waste drain header 3"-60G-022-155V.

4. Piping, fittings and jointing methods are to meet the requirements of ETF piping spec class 155V. Install, inspect and test the new piping installation in accordance with ASME B31.3-1993 edition and addenda for Normal Fluid Service.



ECN 642800
Page 4 of 4
H-2-88983

CPF 18

ESSENTIAL

ENGINEERING CHANGE NOTICE

Page 1 of 6

1. ECN 641719

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	DE SCULLY/32230/S6-72/372-3592	[ ] Yes [X] No	6/2/97
	6. Project Title/No./Work Order No. Provide Window Washer for ETF Evaporator	7. Bldg./Sys./Fac. No. 2025E/60I	8. Approval Designator n/a
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-89335, rev 7, sht 1	10. Related ECN No(s). none	11. Related PO No.

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [ ] No (NA Blks. 12b, 12c, 12d)	EL-97-00425	Design Authority/Cog. Engineer Signature & Date	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [ ] No

Install a SS 316 bleed ring, drilled and tapped to 1/8" NPT, behind the evaporator vapor body observation window. Route distillate to this ring via 1/4 SS tubing. Provide ball valve for operator use in cleaning window.

System Lead has provided design verification (informal review).

Provide "normally closed" status for valve 60I-246.

STA 3, 4, 5, 16, 30

14a. Justification (mark one)

Criteria Change	[ ]	Design Improvement	[X]	Environmental	[ ]	Facility Deactivation	[ ]
As-Found	[ ]	Facilitate Const	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

14b. Justification Details

This window occaisonally becomes fogged or obscured with brine/suspended solids that are sloshed up into the window during normal evaporator operation. This window is extremely useful, if not at times critical, for monitoring evaporator operation. It therefore needs to be kept clean for clear observation of the evaporating brine. This washer will allow the operator to clean the window at will by temporarily opening the ball valve located near the window.

15. Distribution (include name, MSIN, and no. of copies)

DE SCULLY, S6-72, 1
DP NELSEN, S6-71, 1
JE GEARY, S6-71, 1
NJ SULLIVAN, S6-72, 1
JL VIGUE, S6-74, 1
RJ HUTH, S6-72, 1
RS WEBER, S6-71, 1
BS DARLING, S6-71, 1
AK YOAKUM, S6-71, 1

RELEASE STAMP
JUN 03 1997
DATE:
STA: 30
HANFORD RELEASE
ID: 25

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 6	1. ECN (use no. from pg. 1) 641719

16. Design Verification Required	17. Cost Impact N/A		18. Schedule Impact (days) N/A	
	ENGINEERING	CONSTRUCTION		
[X] Yes	Additional [] $	Additional [] $	Improvement []	
[] No	Savings [] $	Savings [] $	Delay []	

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

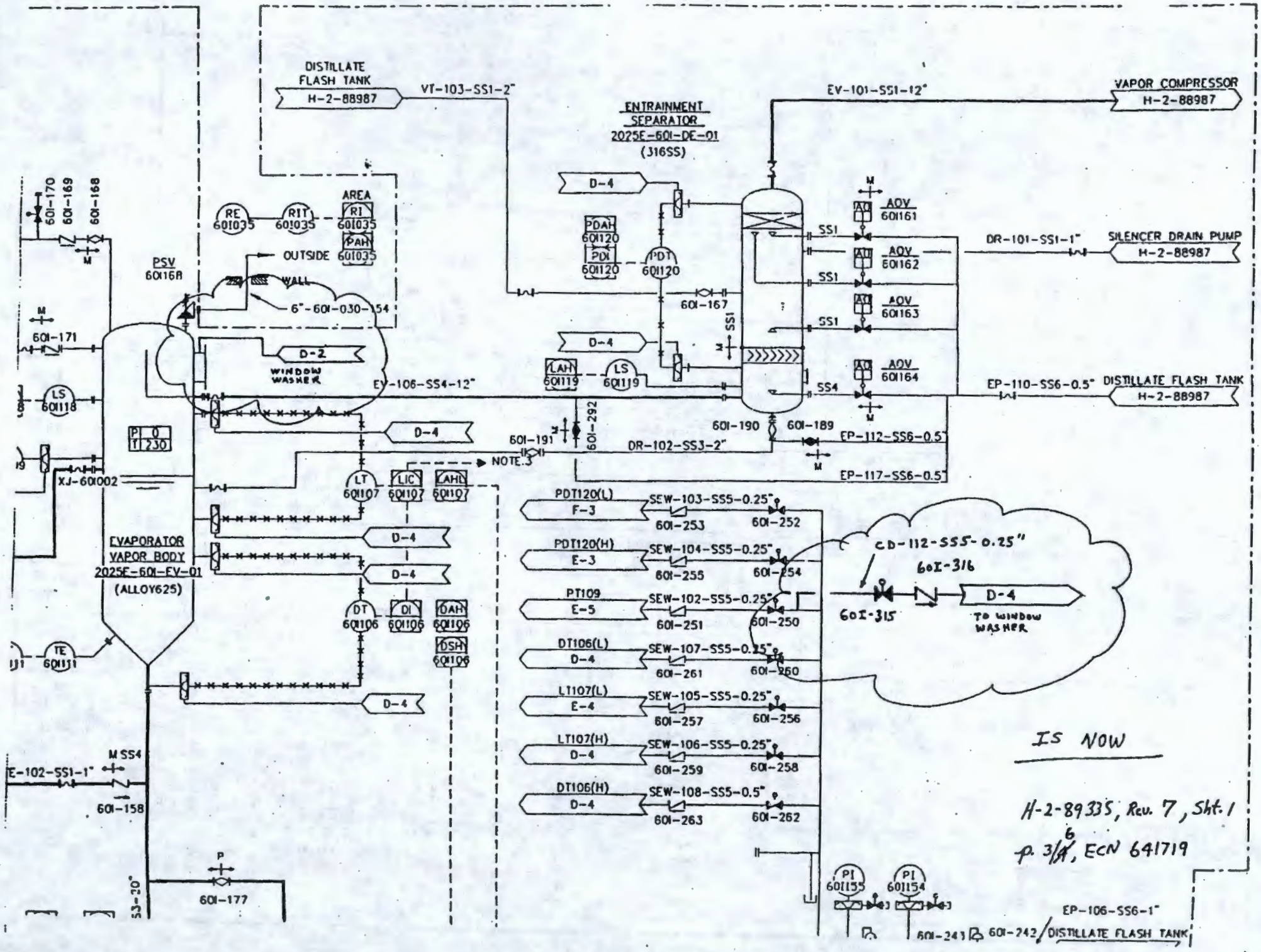
SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

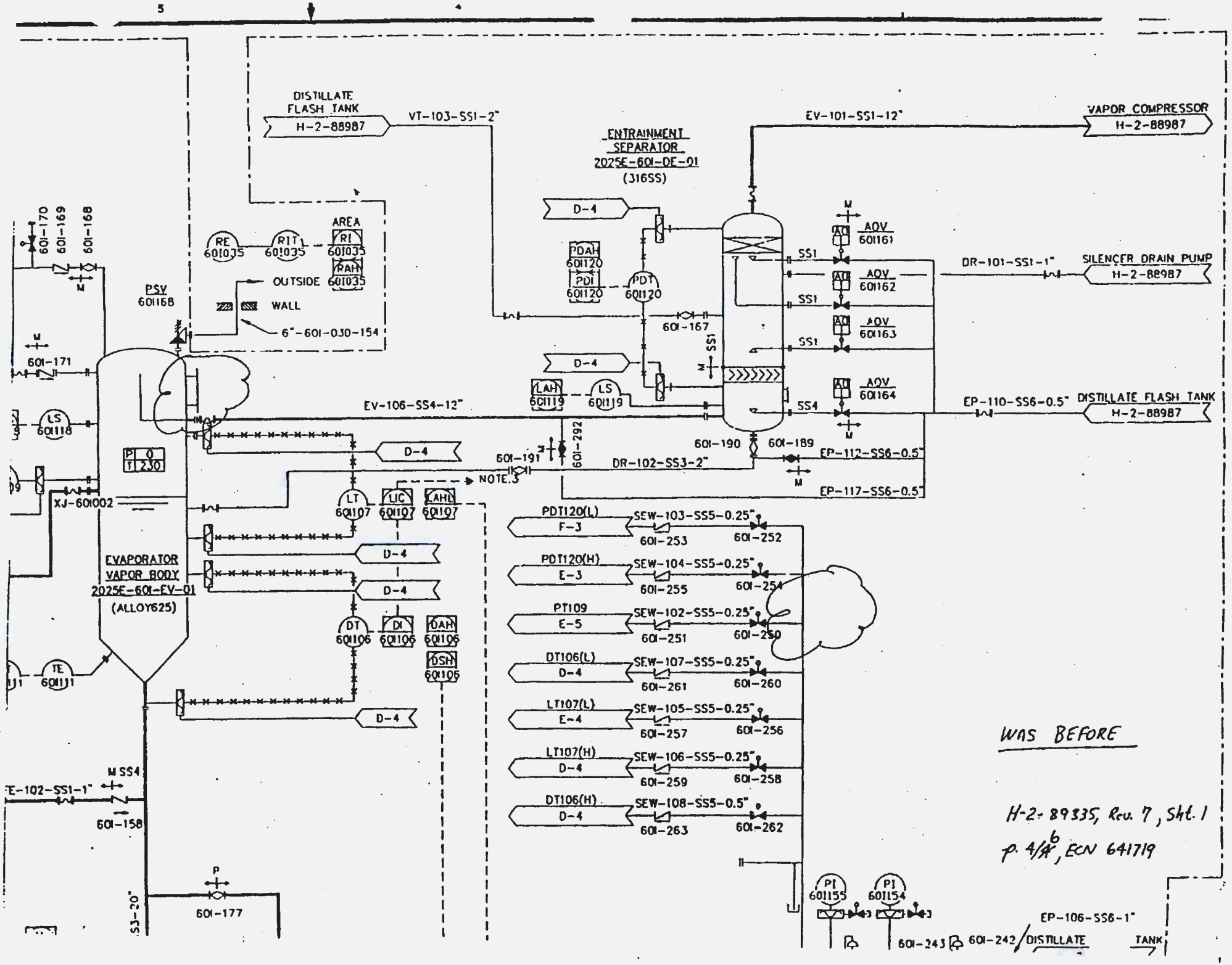
20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

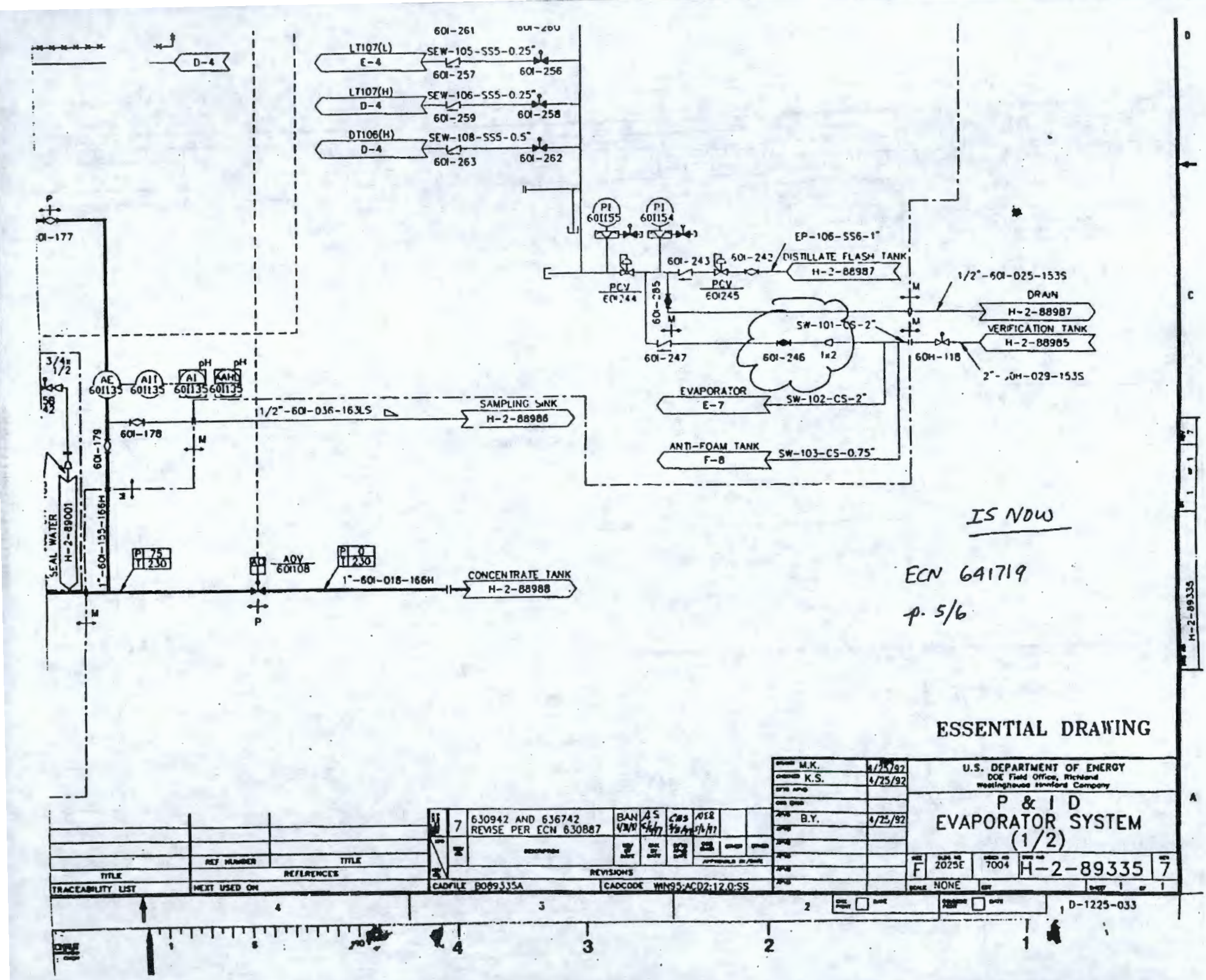
Document Number/Revision	Document Number/Revision	Document Number Revision
POP-60I-003		

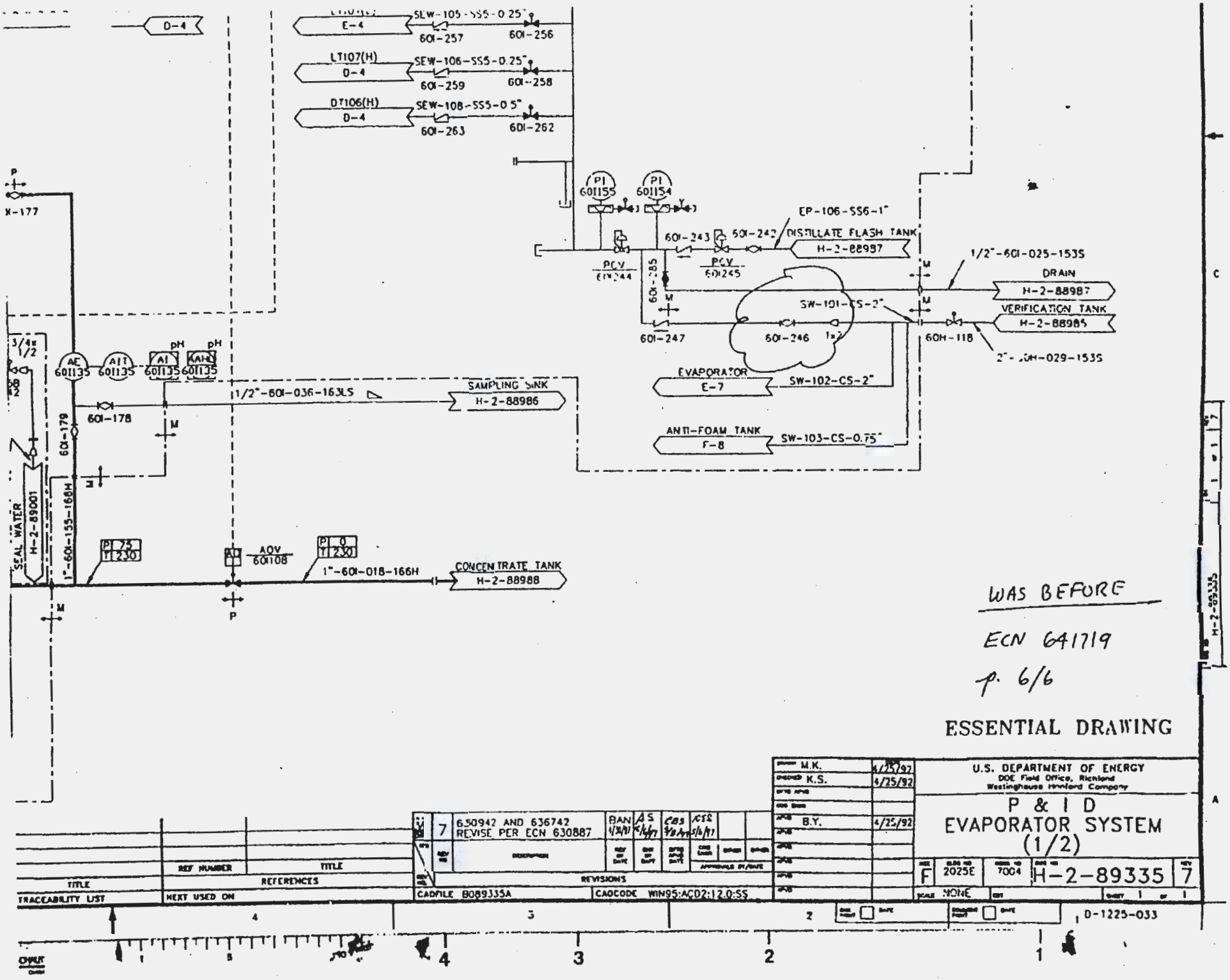
21. Approvals

Signature	Date	Signature	Date
Design Authority DE Scully DE Scully	6/2/97	Design Agent DE Scully DE Scully	6/2/97
Cog. Eng. DE Scully DE Scully	6/2/97	PE	
Cog. Mgr. NL Sullivan NJ Sullivan	6-2-97	QA	
QA		Safety	
Safety		Design	
Environ.		Environ.	
Other		Other	
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	


DISTILLATE FLASH TANK
H-2-88987
VT-103-SS1-2"
ENTRAINMENT SEPARATOR
2025E-601-DE-01
(316SS)
EV-101-SS1-12"
VAPOR COMPRESSOR
H-2-88987
D-4
AOV 601161
AOV 601162
AOV 601163
AOV 601164
SS1
SS4
DR-101-SS1-1"
SILENCER DRAIN PUMP
H-2-88987
PDAH 601120
PDI 601120
PDT 601120
601-167
601-292
601-190
601-189
EP-112-SS6-0.5"
EP-110-SS6-0.5"
DISTILLATE FLASH TANK
H-2-88987
EP-117-SS6-0.5"
DR-102-SS3-2"
601-191
NOTE 3
RE 601035
RIT 601035
AREA RI 601035
PAH 601035
OUTSIDE
WALL
6"-601-030-154
PSV 601168
601-170
601-169
601-168
601-171
LS 601118
D-2
WINDOW WASHER
EV-106-SS4-12"
LAH 601119
LS 601119
P 0
T 230
XJ-601002
LT 601107
LIC 601107
LAH 601107
EVAPORATOR VAPOR BODY
2025E-601-EV-01
(ALLOY625)
DT 601106
DI 601106
DAH 601106
DSH 601106
TE 601131
PDT120(L)
F-3
SEW-103-SS5-0.25"
601-253
601-252
PDT120(H)
E-3
SEW-104-SS5-0.25"
601-255
601-254
PT109
E-5
SEW-102-SS5-0.25"
601-251
601-250
DT106(L)
D-4
SEW-107-SS5-0.25"
601-261
601-260
LT107(L)
E-4
SEW-105-SS5-0.25"
601-257
601-256
LT107(H)
D-4
SEW-106-SS5-0.25"
601-259
601-258
DT106(H)
D-4
SEW-108-SS5-0.5"
601-263
601-262
CD-112-SS5-0.25"
601-316
601-315
D-4
TO WINDOW WASHER
IS NOW
H-2-89335, Rev. 7, Sht. 1
p. 3/6, ECN 641719
PI 601155
PI 601154
601-241
601-242
EP-106-SS6-1"
DISTILLATE FLASH TANK
E-102-SS1-1"
601-158
601-177
SS3-10"


DISTILLATE FLASH TANK
H-2-88987
VT-103-SS1-2"
ENTRAINMENT SEPARATOR
2025E-601-DE-01
(316SS)
EV-101-SS1-12"
VAPOR COMPRESSOR
H-2-88987
AREA
RE 601035
RIT 601035
RI 601035
RAH 601035
OUTSIDE
WALL
6"-601-030-154
PSV 601168
601-170
601-169
601-168
601-171
LS 601118
P T 230
XJ-601002
EVAPORATOR VAPOR BODY
2025E-601-EV-01
(ALLOY625)
TE 601111
D-4
PDAH 601120
PDI 601120
PDT 601120
601-167
SS1
LAH 601119
LS 601119
EV-106-SS4-12"
601-191
601-292
NOTE.3
LT 601107
LIC 601107
LAHL 601107
DT 601106
DI 601106
DAH 601106
DSH 601106
AOV 601161
AOV 601162
AOV 601163
AOV 601164
DR-101-SS1-1"
SILENCER DRAIN PUMP
H-2-88987
EP-110-SS6-0.5"
DISTILLATE FLASH TANK
H-2-88987
601-190
601-189
EP-112-SS6-0.5"
DR-102-SS3-2"
EP-117-SS6-0.5"
PDT120(L)
F-3
SEW-103-SS5-0.25"
601-253
601-252
PDT120(H)
E-3
SEW-104-SS5-0.25"
601-255
601-254
PT109
E-5
SEW-102-SS5-0.25"
601-251
601-250
DT106(L)
D-4
SEW-107-SS5-0.25"
601-261
601-260
LT107(L)
E-4
SEW-105-SS5-0.25"
601-257
601-256
LT107(H)
D-4
SEW-106-SS5-0.25"
601-259
601-258
DT106(H)
D-4
SEW-108-SS5-0.5"
601-263
601-262
M SS4
E-102-SS1-1"
601-158
601-177
S3-20"
PI 601155
PI 601154
EP-106-SS6-1"
601-243
601-242
DISTILLATE TANK
WAS BEFORE
H-2-89335, Rev. 7, Sht. 1
p. 4/4b, ECN 641719


601-261
LT107(L)
E-4
SEW-105-SS5-0.25"
601-257
601-256
LT107(H)
D-4
SEW-106-SS5-0.25"
601-259
601-258
DT106(H)
D-4
SEW-108-SS5-0.5"
601-263
601-262
D-4
PI 601155
PI 601154
EP-106-SS6-1"
601-243
601-242
DISTILLATE FLASH TANK
H-2-88987
PCV EON244
PCV 601245
601-285
1/2"-601-025-153S
DRAIN
H-2-88987
SW-101-CS-2"
VERIFICATION TANK
H-2-88985
601-247
601-246
1x2
60H-118
2"-60H-029-153S
EVAPORATOR
E-7
SW-102-CS-2"
ANTI-FOAM TANK
F-8
SW-103-CS-0.75"
601-177
3/4x 1/2
AE 601135
AIT 601135
AI 601135
AAHC 601135
pH
pH
1 1/2"-601-036-163LS
SAMPLING SINK
H-2-88986
601-178
601-179
SEAL WATER
H-2-89001
1"-601-153-166H
P 75 T1230
AOV 601108
P 0 T1230
1"-601-018-166H
CONCENTRATE TANK
H-2-88988
IS NOW
ECN 641719
p. 5/6
ESSENTIAL DRAWING
M.K. 4/25/92
K.S. 4/25/92
B.Y. 4/25/92
U.S. DEPARTMENT OF ENERGY
DOE Field Office, Richland
Westinghouse Hanford Company
P & I D
EVAPORATOR SYSTEM
(1/2)
F
2025E
7004
H-2-89335
7
NONE
7 630942 AND 636742 REVISE PER ECN 630887 BAN 4/S CBS AOE
REVISIONS
CADFILE B089335A
CADCODE WIN95;ACD2;12.0;SS
TITLE
TRACEABILITY LIST
REF NUMBER
REFERENCES
TITLE
NEXT USED ON
D-1225-033



WAS BEFORE

ECN 641719

p. 6/6

ESSENTIAL DRAWING

DRAWN	M.K.	4/25/92	U.S. DEPARTMENT OF ENERGY DOE Field Office, Richland Westinghouse Hanford Company
CHECKED	K.S.	4/25/92	
ENG APPR			P & I D EVAPORATOR SYSTEM (1/2)
PROJ APPR	B.Y.	4/25/92	

REV	DESCRIPTION	REVISIONS
7	630942 AND 636742 REVISE PER ECN 630887	BAN 4/24/97, AS 5/6/97, COS 5/8/97, KSS 5/8/97

TITLE	REF NUMBER	TITLE
TRACEABILITY LIST	REFERENCES	
	NEXT USED ON	

CADFILE B089335A CADCODE WIN95:ACD2:12.0:SS

SIZE F | CAGE NO 2025E | DWG NO 7004 | DWG NO H-2-89335 | REV 7

SCALE NONE | SHEET 1 OF 1

D-1225-033

S

CPG 1 6 1 H
CPP 1 PP

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 2

1. ECN 653080

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [ ] Direct Revisio [ ] Change ECN [ ] Temporary [X] Standby [ ] Supersedure [ ] Cancel/Void [ ]	DE SCULLY/32900/S6-72/372-3592	[ ] Yes [X] No	09/24/99
	6. Project Title/No./Work Order No. EVAPORATOR pH PROBE REMOVED	7. Bldg./Sys./Fac. No. 2025E/60I	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-89335, REV 11 SH 1	10. Related ECN No(s). 646658L 651583	11. Related PO No. NONE

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [X] No (NA Blks. 12b, 12c, 12d) DES 9/27/99	~~none~~ EL-99-00314 DES 9/27/99	DE Scully 9/27/99 Design Authority/Cog. Engineer Signature & Date	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [X] Yes [ ] No

Evaporator brine pH probe AE-60I135 has been removed from the recirculation line. A stainless steel pipe plug has been installed in its place.

AIT-60I135, the pH meter transmitter, has been left electrically ~~isolated.~~ active DES 9/24/99

The MCS graphic for the evaporator brine pH, AI-60I135, has been altered to indicate "out of service."

14a. Justification (mark one)

Criteria Change	[ ]	Design Improvement	[ ]	Environmental	[ ]	Facility Deactivation	[ ]
As-Found	[X]	Facilitate Const	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

14b. Justification Details

Enivronmental conditions at the probe location in the brine (high solids content, high temperature) are such that probe life was unacceptably short.

Temporary ECN 646658L was erroneously superceded via ECN 651583. This temporary ECN has been written to cover the temporary installation until the permanent modification in ECN 651583 is "work complete."

15. Distribution (include name, MSIN, and no. of copies)

TH Calihan	S6-71	1	DE Scully	S6-72	1*
NJ Sullivan	S6-72	1	DK Smith	S6-71	1
Mark Bowman	S6-72	1	CD Skogley	S6-72	1

*adv cy

RELEASE STAMP
DATE: SEP 27 1999
STA: 30
HANFORD RELEASE
ID: 18

A-7900-013-2 (05/96) GEF095

ENGINEERING CHANGE NOTICE	Page 2 of 2	1. ECN (use no. from pg. 1) 653080 L

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		N/A CONSTRUCTION		N/A	
[] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[X] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	N/A	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision

21. Approvals

	Signature	Date
Design Authority DE Scully	DE Scully	9/24/99
Cog. Eng. DE Scully	DE Scully	9/24/99
Cog. Mgr. NJ Sullivan (OSE Mgr)	NJ Sullivan	9-24-99
QA		
Safety		
Environ.		
Other		
OSE Lead		

Notes:
1) Review and approval of this ECN by the OSE Mgr will constitute design review.

	Signature	Date
Design Agent DE Scully	DE Scully	9/24/99
PE		
QA		
Safety		
Design		
Environ.		
Other		

DEPARTMENT OF ENERGY

ADDITIONAL

ENGINEERING CHANGE NOTICE

Page 1 of 9

1. ECN 641564

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental (●)	S.D. Ellingson FDNW 373-1151	○ Yes ● No	8/18/99
Direct Revision ○			
Change ECN ○			
Temporary ○			
Standby ○			
Supersedure ○			
Cancel/Void ○			

6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
Evaporator Drain Addition	2025E	QR
9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	**10. Related ECN No(s).**	**11. Related PO No.**
See block 13a	n/a	n/a

12a. Modification Work	12b. Work Package No.	12c. Modification Work Completed	12d. Restored to Original Condition (Temp. or Standby ECNs only)
● Yes (fill out Blk. 12b) ○ No (NA Blks. 12b, 12c, 12d)	EL-98-00120	Design Authority/Cog. Engineer Signature & Date	n/a Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? ○ Yes ○ No

1. H-2-89335, Sht 1, Rev 11
   Revise evaporator drain piping and add new water piping as shown on Page 3 this ECN.

2. H-2-88991, Sht 1, Rev 13
   Add new drain piping as shown on Page 4 this ECN.

FILE COPY

3. H-2-89183, Sht 1, Rev 4
   Add field reference note to field of drawing as shown on Page 5 this ECN.
   Add "Detail 2" and related details to field of drawing, or subsequent sheets, as shown on Page 6 and 7 this ECN.

Review and approval of this ECN by the OSE manager constitutes design review.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ○	The existing drain piping on the ETF evaporator skid is too small and plugs due to the properties of the contained material. This ECN depicts replacement of the drain with a larger drain and relocation of the shutoff valve closer to the recirculation piping.
Design Improvement ●	
Environmental ○	
Facility Deactivation ○	
As-Found ○	
Facilitate Const. ○	
Const. Error/Omission ○	
Design Error/Omission ○	

15. Distribution (include name, MSIN, and no. of copies)

M.W. Bowman	S6-72	S.D. Ellingson	S6-72
T.H. Calihan	S6-71	R.E. Palmer	E6-14
*D.E. Scully	S6-72	J.M. Isdell	B4-39
N.J. Sullivan	S6-72	*B.A. Messinger	B4-39
D.K. Smith	S6-71		
R.M. Szelmeczka	S6-72		
C.D. Skogley	S6-72		

*WCC Planning

* Advanced Copy

RELEASE STAMP

AUG 26 1999

DATE:

STA: 30

HANFORD RELEASE

ID: 18

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 641564

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
	ENGINEERING	CONSTRUCTION	
(●) Yes	Additional ○ $ n/a	Additional ○ $ n/a	Improvement ○ n/a
( ) No	Savings ○ $ n/a	Savings ○ $ n/a	Delay ○ n/a

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☒
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☒	Operating Procedure	☒	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	Tickler File	☐
Environmental Report	☐	Inspection Plan	☐	_____	☐
Environmental Permit	☐	Inventory Adjustment Request	☒	_____	☐

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
POP-60I-003, Rev AF-4		

21. Approvals

	Signature	Date
Design Authority	R E Sully	8/25/99
Cog. Eng.	R E Sully	8/25/99
Cog. Mgr. (OSE Mgr)	M J Hall	8-25-99
QA	M J Hall	8/26/99
Safety		
Environ.		
Other		
Rad Con	[illegible]	8-26-99

	Signature	Date
Design Agent	Scott Ewan	8/25/99
PE		
QA		
Safety		
Design		
Environ.		
Other		
CHECKED BY:	Scott Ewan	8/25/99
PREPARED BY:	ROD E. PALMER	—

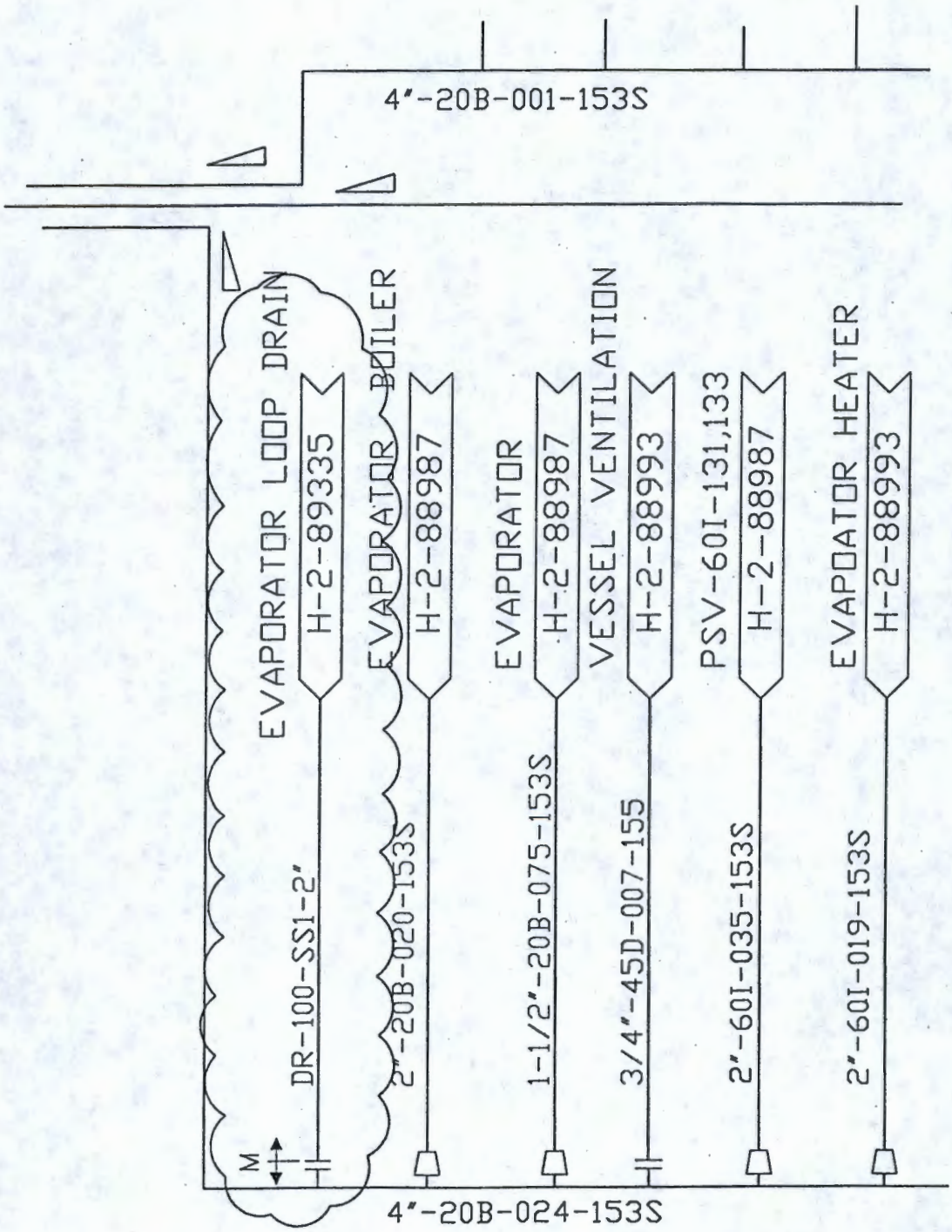
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

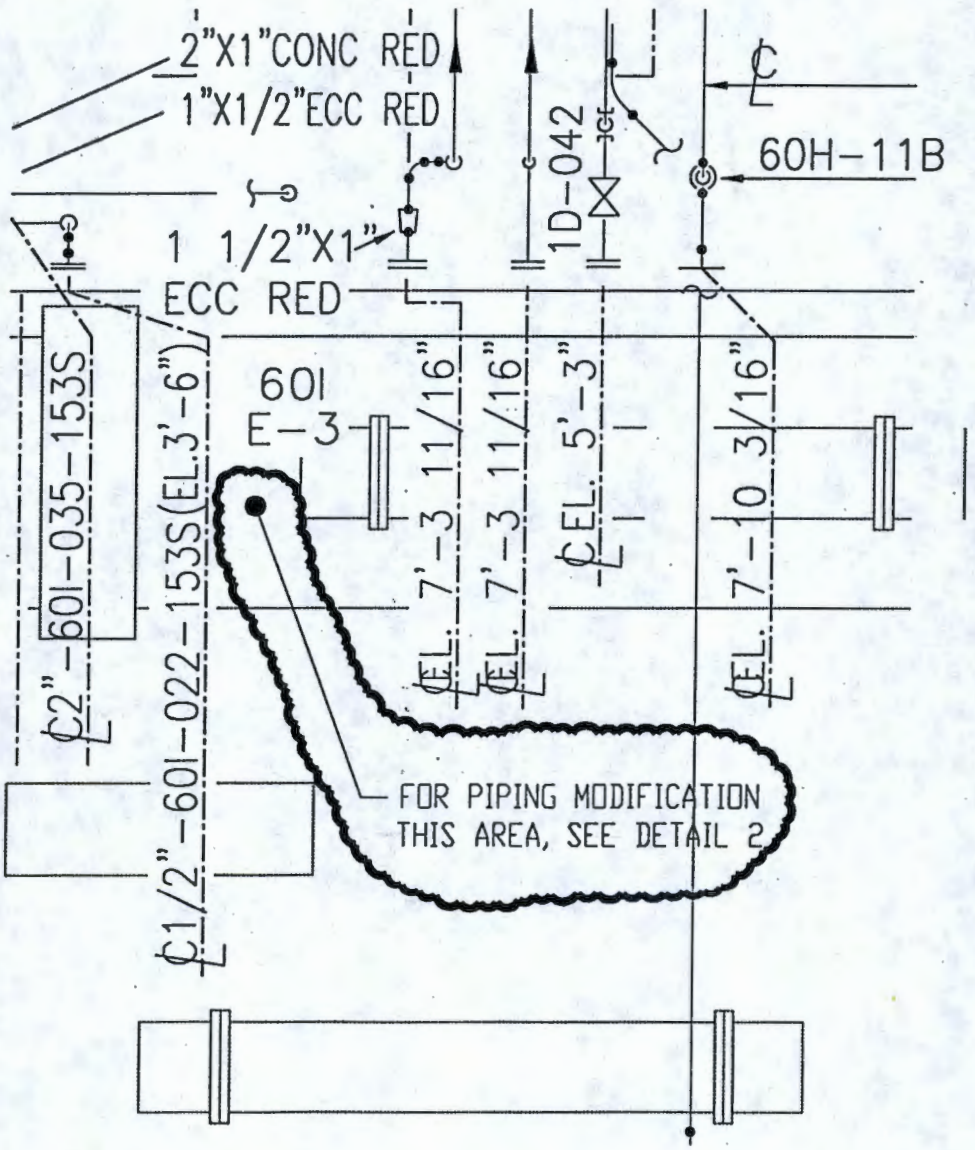
ADDITIONAL

ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-88991, SH 1	DATE 8/18/99	ECN 641564

REVISE AS SHOWN IN CLOUDED AREA BELOW, ZN-C4



ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-89183	DATE 8/18/99	ECN 641564



12. DESCRIPTION OF CHANGE CONT.

ITEM 3: DWG H-2-817969 SHT 3
a. Zone B-6,7; Remove gate and change notes as shown in sketch on page 9.

ITEM 4: DWG H-2-817969 SHT 4
a. Zone DEF-1,2,3,4; Remove TYP FENCE DETAIL and associated NOTES.

ITEM 5: DWG H-2-817969 SHT 5
a. Zone C-6; Add conduit to detail as shown in sketch on page 10.

ITEM 6: DWG H-2-817975 SHT 1
a. Zone C-1; Change note 6 to read as follows:

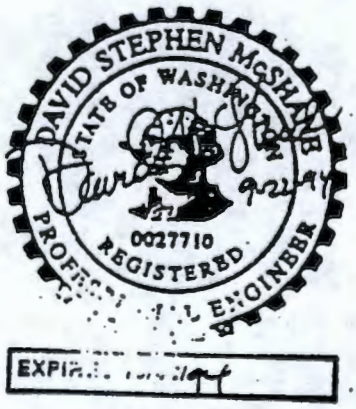
6. Pumps shall be supplied by ICF KH and installed by the Contractor IAW manufacturer's recommendations.

ITEM 7: CONSTRUCTION SPECIFICATION W-291H-C2, SECTION 02831
a. Delete Section 02831, Chain Link Fences and Gates.

ITEM 8: CONSTRUCTION SPECIFICATION W-291H-C2, SECTION 02831

a. Pipe Code A: Delete, FLEXIBLE COUPLINGS: COMPRESSION TYPE SLIP ON STEEL; DRESSER TYPE 38 OR 138.

b. Pipe Code C: Add, FLEXIBLE COUPLINGS: COMPRESSION TYPE SLIP ON STEEL; DRESSER TYPE 38 OR 138.



EXPIRATION DATE

13b. JUSTIFICATION DETAILS

ITEM 1:
a. AF, Sanitary Water line must be moved to avoid leak detection risers installed by project C-018. 4" lined installed by project C-018 is added.

ITEM 2:
a. AF, Same as Item 1a.
b. AF, 4" line installed by C-018 crosses line L-2 and is added to profile.
c. DI, Redundancy in note is removed.
d. FC, Pipe material as called out on the drawing made fabrication of pipe expensive and time consuming.

ITEM 3:
a. AF, Fence is no longer necessary, therefore installation of a gate is not needed.

ITEM 4:
a. AF, Fence is no longer necessary, therefore the installation of a gate is not needed.

ITEM 5.
a. DE/O, Conduit penetration was left off of detail.

ITEM 6:
a. DI, Pump installation note is made more clear.

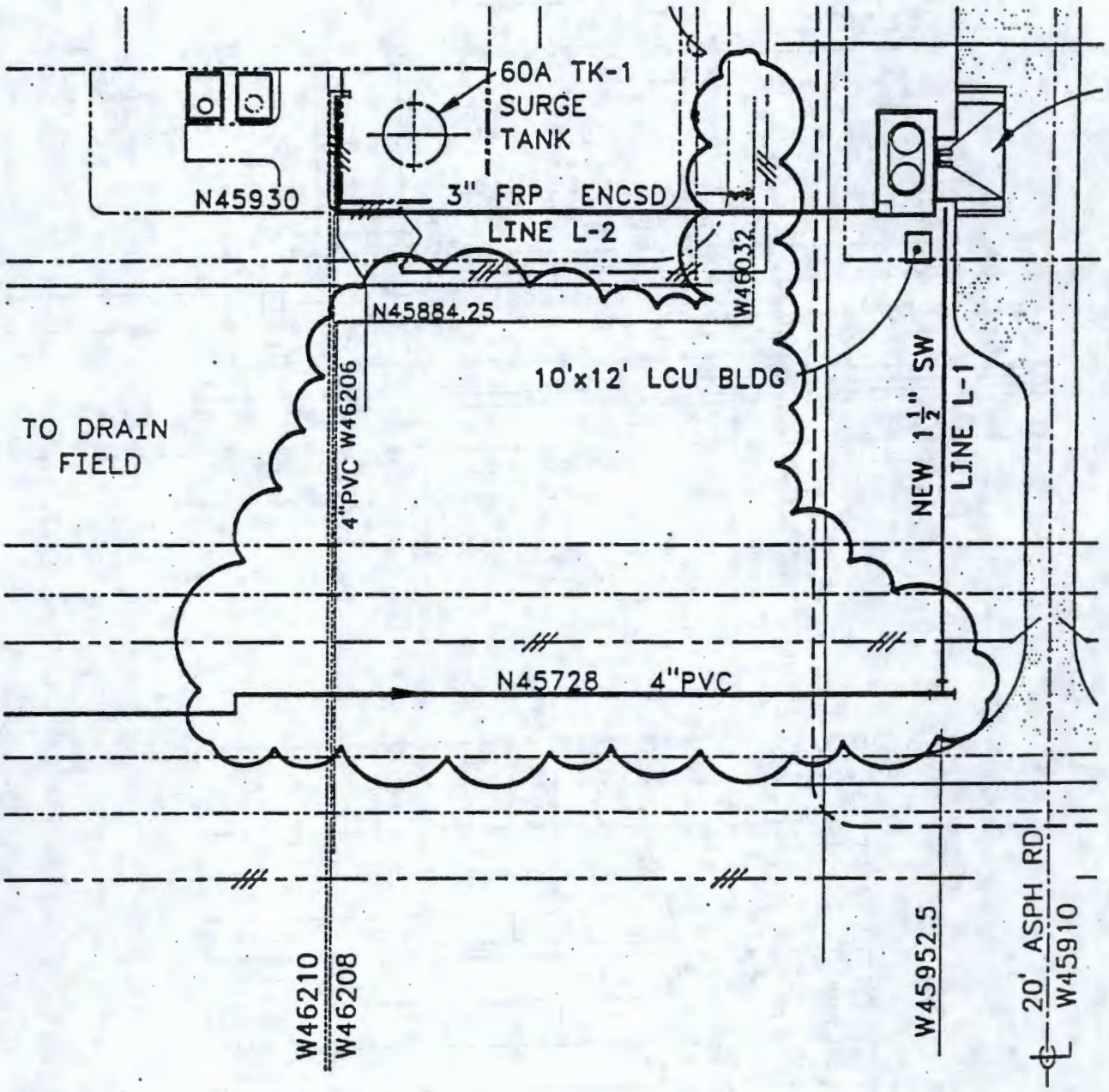
ITEM 7:
a. AF, Same as Item 3a and 4a.

ITEM 8:
a. FC; Because of Item 2d, Compression Coupling is no longer needed in Pipe Code A and is needed in Pipe Code C.

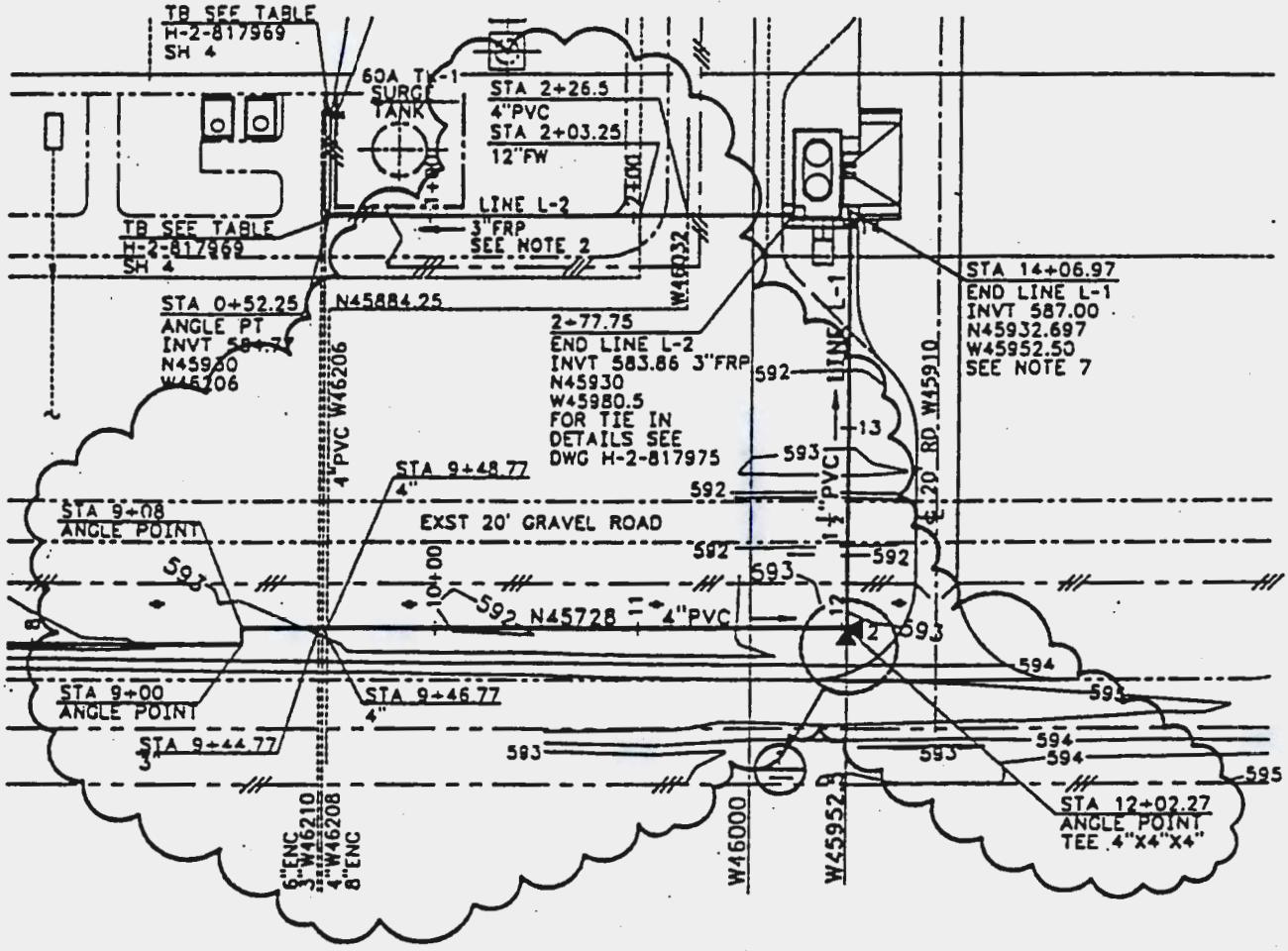
KAISER ENGINEERS
HANFORD

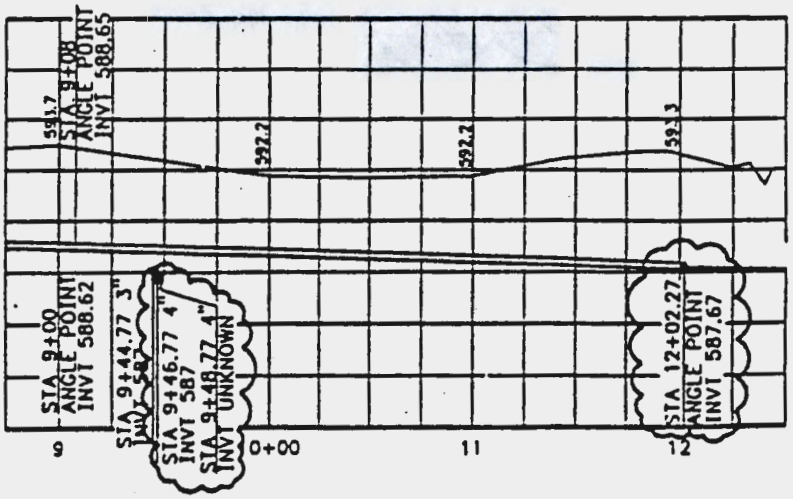
ENGINEERING CHANGE NOTICE SKETCH

Ref. Dwg.	Sh.	Rev.	Prepared By	Checked By	ECN No.	Page
H-2-817969	1	0	RC CROSKREY		W-291H-15	5

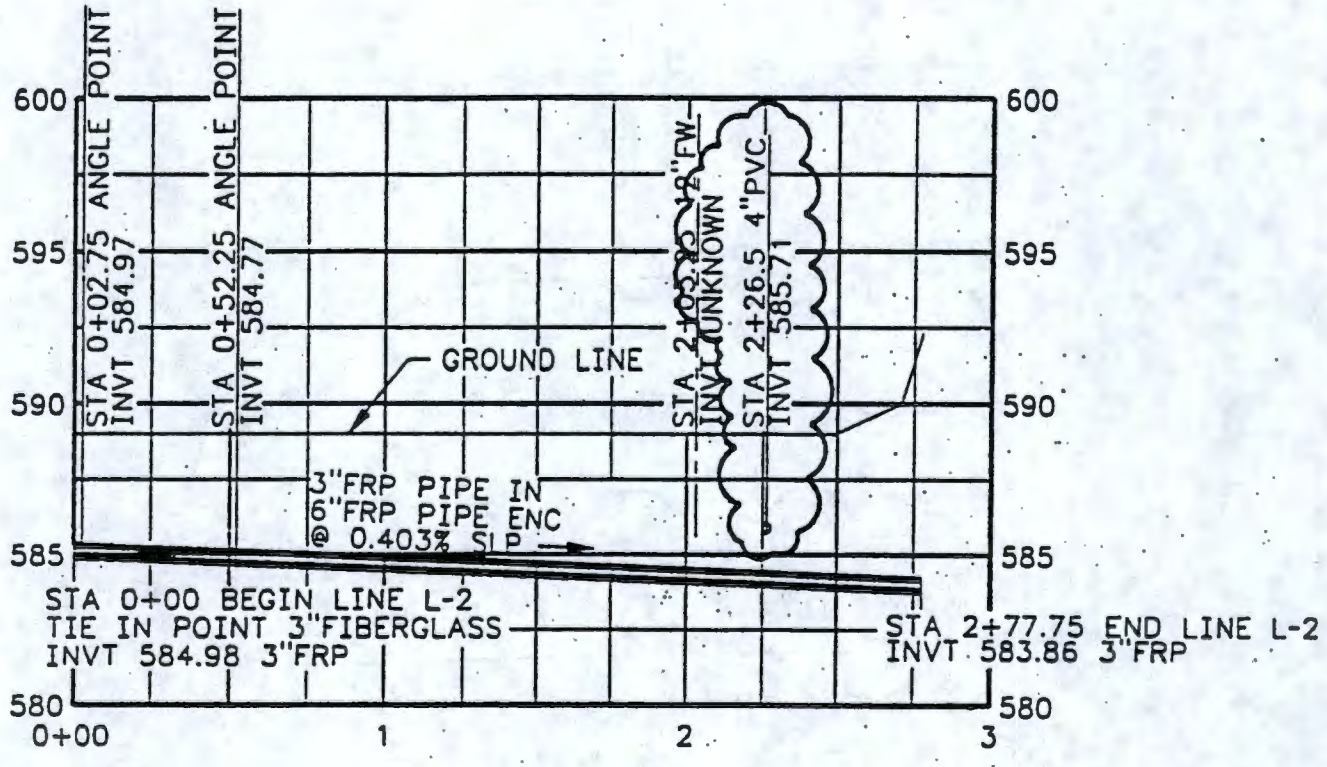


KAISER ENGINEERS HANFORD	ENGINEERING CHANGE NOTICE SKETCH					
Ref. Dwg.	Sh.	Rev.	Prepared By	Checked By	ECN No.	Page
H-2-817969	2	0	RC CROSKREY		W-291H-15	6





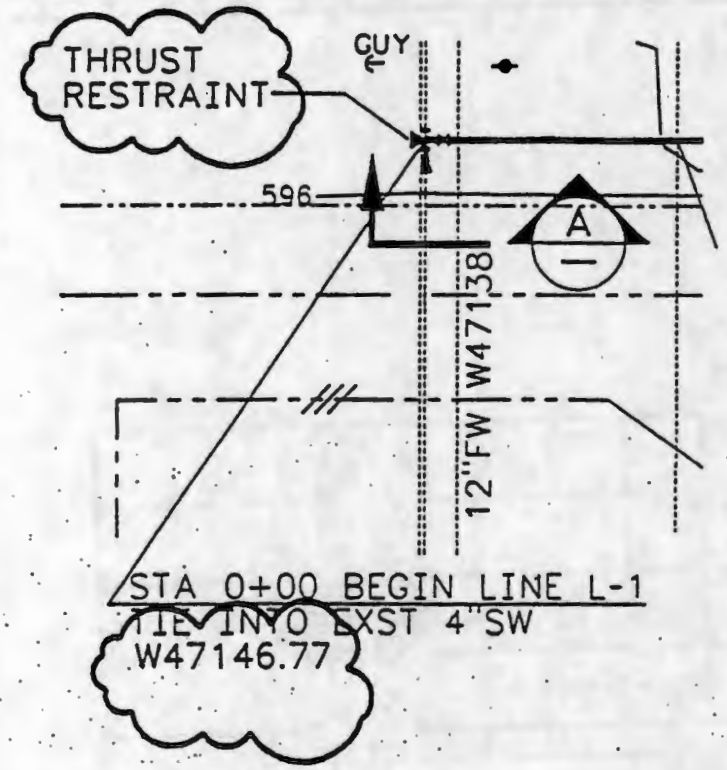
KAISER ENGINEERS HANFORD	ENGINEERING CHANGE NOTICE SKETCH					
Ref. Dwg.	Sh.	Rev.	Prepared By	Checked By	ECN No.	Page
H-2-817969	2	0	RC CROSKREY		W-291H-15	7/10

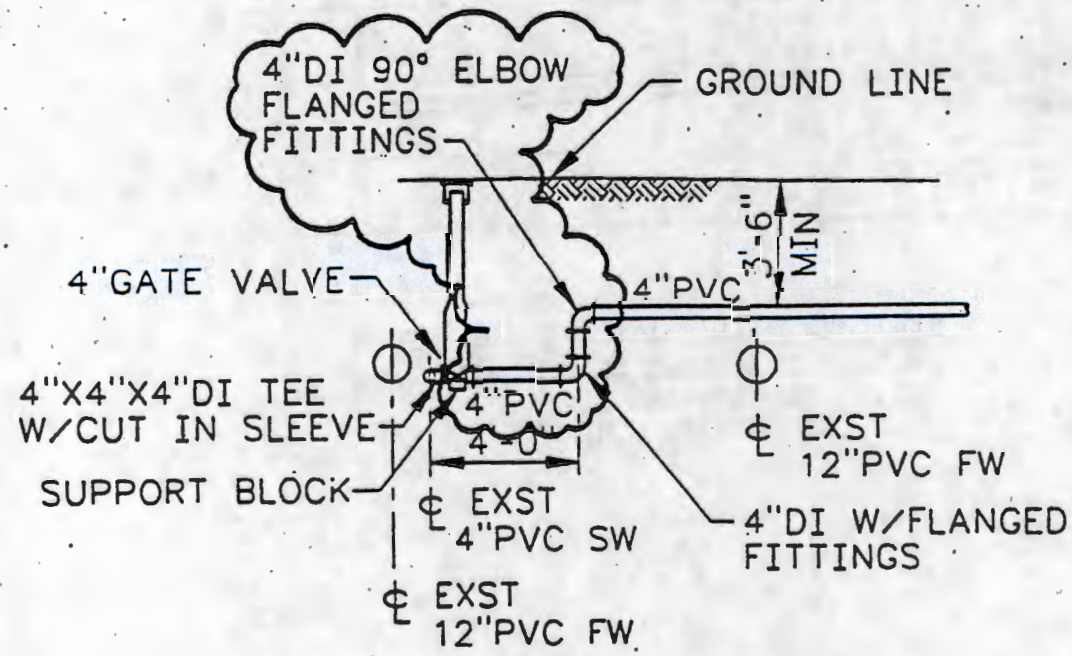


PROFILE LINE L-2

SCALE VERTICAL 1"=5'
HORIZONTAL 1"=50'

KAISER ENGINEERS HANFORD	ENGINEERING CHANGE NOTICE SKETCH					
Ref. Dwg. H-2-817969	Sh. 2	Rev. 0	Prepared By RC CROSKREY	Checked By	ECN No. W-291H-15	Page 8





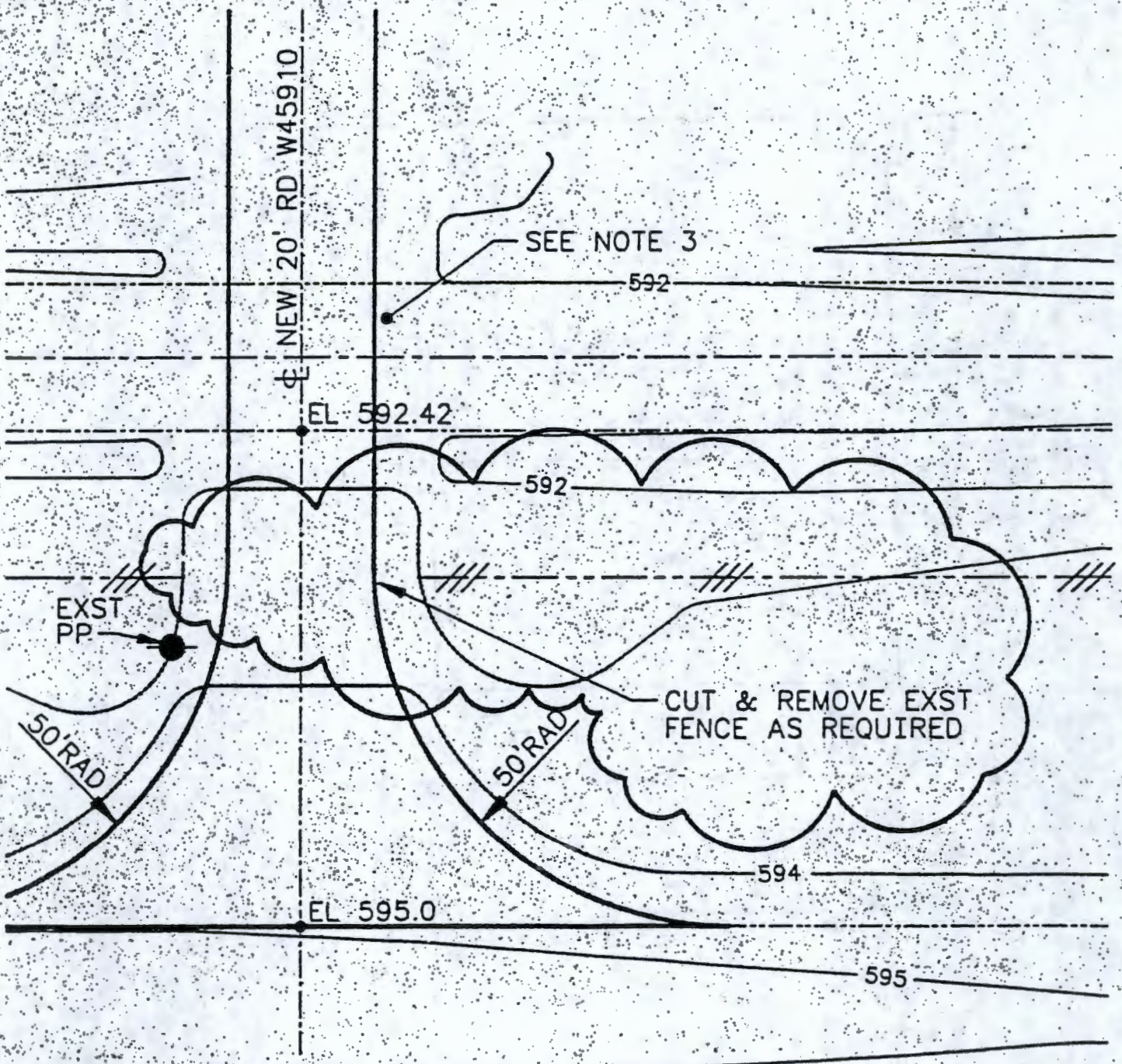
SECTION A

SCALE NONE

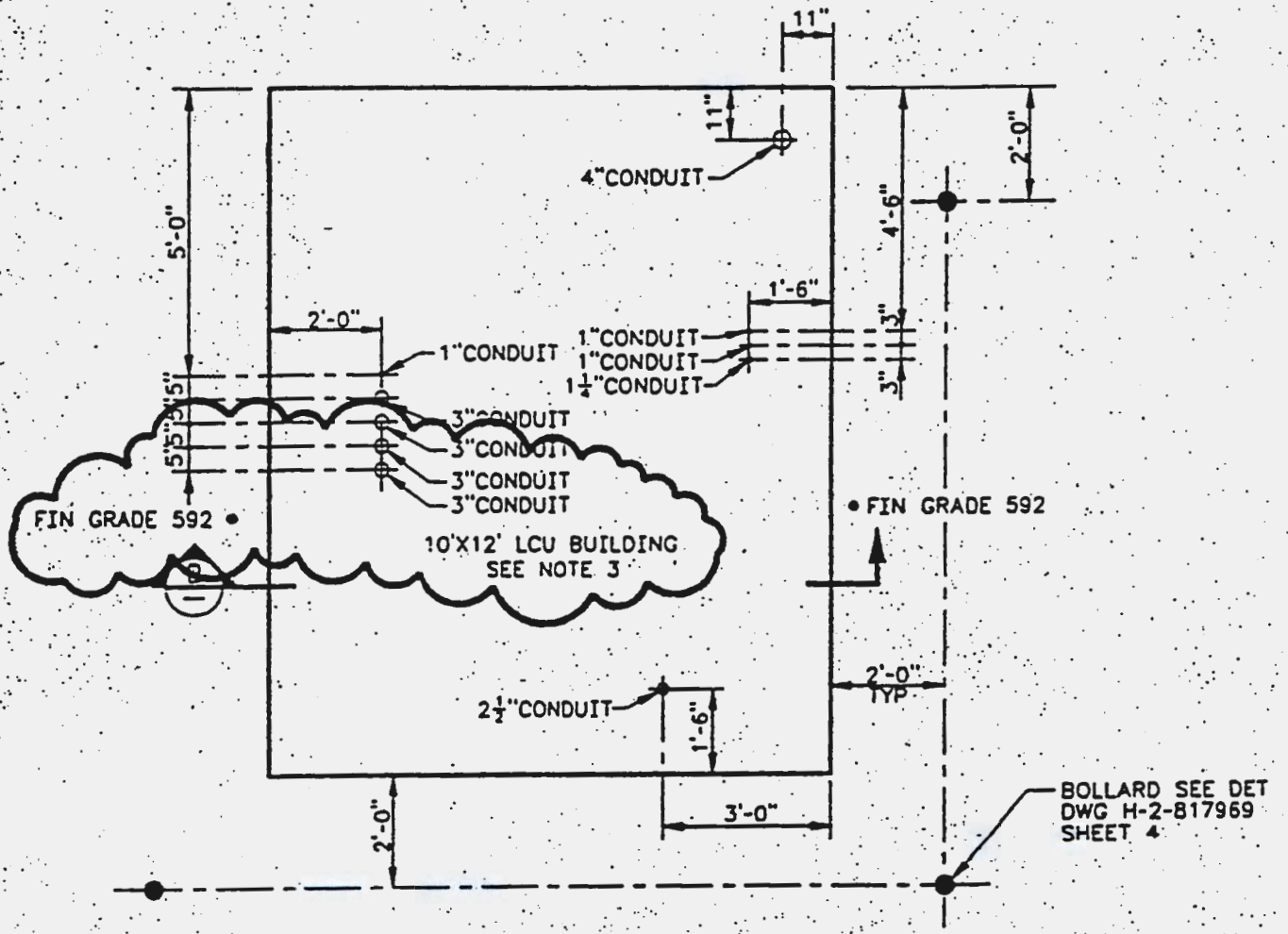
KAISER ENGINEERS
HANFORD

ENGINEERING CHANGE NOTICE SKETCH

Ref. Dwg.	Sh.	Rev.	Prepared By	Checked By	ECN No.	Page
H-2-817969	3	0	RC CROSKREY		W-291H-15	9/10



KAISER ENGINEERS HANFORD	ENGINEERING CHANGE NOTICE SKETCH					
Ref. Dwg.	Sh.	Rev.	Prepared By	Checked By	ECN No.	Page
H-2-817969	5	0	RC CROSKREY		W-291H-15	10/10



DETAIL (2) H-2-817969 SH 3
SCALE ½"=1'-0"

CPF 18

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 24

1. ECN 641703

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-71/376-4460	[] Yes [X] No	May 13, 1997
	6. Project Title/No./Work Order No. Misc. Mods and As-Builts for ETF Load-In Station	7. Bldg./Sys./Fac. No. 2025E/59A,60M/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13A	10. Related ECN No(s). N/A	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00208, EL-97-00343	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [X] Yes [] No

This ECN implements the following changes:

- Remove flow orifice in System 60M transfer line from Load-In Station.
- As-build sample valve and tanker vent valving.
- Add drain lines and valves to Load-In Station pump cases.
- Add bell-reducer funnels and valving to suction of Load-In Station pumps.
- Replace "Facility" with "Station" in all Load-In drawing titles.
- Identify status of Load-In Station drawings to Essential or Support.

Piping, fittings and jointing methods to meet the requirements of Hanford Site piping specification Class M-9. Install, inspect and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

- Remove flow orifice in transfer line from Load-In Station to increase flow rate.
- As-build sample valve and tanker vent valving for configuration control.
- Add drain lines and valves to Load-In Station pump cases for improved contamination control.
- Add bell-reducer funnels and valving to allow priming of Load-In Station pumps.
- Replace "Facility" with "Station" in drawing titles to reflect the status of the Load-In Station as part of the 200 Area ETF, rather than a stand-alone facility.
- Identify status of Load-In Station drawings to Essential or Support, as appropriate.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	S6-72	1
J. E. Geary	S6-71	2	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-71	2	S. P. Biglin*	S6-74	1
C. M. Towne	S6-74	1	E. A. McNamar*	S6-74	1
J. L. Vigue	S6-74	1	B. S. Darling	S6-72	1
J. F. Berger	S6-74	1	D. P. Nelsen	S6-71	1
T. W. Dallas	S6-71	1	Stations 3/4/5/15/16/30		

(* Advance Copies)

RELEASE STAMP
MAY 27 1997
HANFORD RELEASE
DATE
STA
30
ID
25

A-7900-013-2 (05/96) GEF095

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 641703

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
[X] Yes	ENGINEERING NA	CONSTRUCTION	NA
[ ] No	Additional [ ] $	Additional [ ] $	Improvement [ ]
	Savings [ ] $	Savings [ ] $	Delay [ ]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[ ]	Seismic/Stress Analysis	[ ]	Tank Calibration Manual	[ ]
Functional Design Criteria	[ ]	Stress/Design Report	[ ]	Health Physics Procedure	[ ]
Operating Specification	[ ]	Interface Control Drawing	[ ]	Spares Multiple Unit Listing	[ ]
Criticality Specification	[ ]	Calibration Procedure	[ ]	Test Procedures/Specification	[ ]
Conceptual Design Report	[ ]	Installation Procedure	[ ]	Component Index	[X]
Equipment Spec.	[ ]	Maintenance Procedure	[ ]	ASME Coded Item	[ ]
Const. Spec.	[ ]	Engineering Procedure	[ ]	Human Factor Consideration	[ ]
Procurement Spec.	[ ]	Operating Instruction	[ ]	Computer Software	[ ]
Vendor Information	[X]	Operating Procedure	[ ]	Electric Circuit Schedule	[ ]
OM Manual	[ ]	Operational Safety Requirement	[ ]	ICRS Procedure	[ ]
FSAR/SAR	[ ]	IEFD Drawing	[ ]	Process Control Manual/Plan	[ ]
Safety Equipment List	[ ]	Cell Arrangement Drawing	[ ]	Process Flow Chart	[ ]
Radiation Work Permit	[ ]	Essential Material Specification	[ ]	Purchase Requisition	[ ]
Environmental Impact Statement	[ ]	Fac. Proc. Samp. Schedule	[ ]	Tickler File	[ ]
Environmental Report	[ ]	Inspection Plan	[ ]		[ ]
Environmental Permit	[ ]	Inventory Adjustment Request	[ ]		[ ]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
JCS Database (Component Index)		

21. Approvals

	Signature	Date
Design Authority	R. N. Wagner	5/23/97
Cog. Eng.	R. N. Wagner	5/23/97
Cog. Mgr.	R. J. Nicklas for	5-23-97
QA		
Safety		
Environ.		
Other		

	Signature	Date
Design Agent		
PE		
QA		
Safety		
Design		
Environ.		
Other		

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

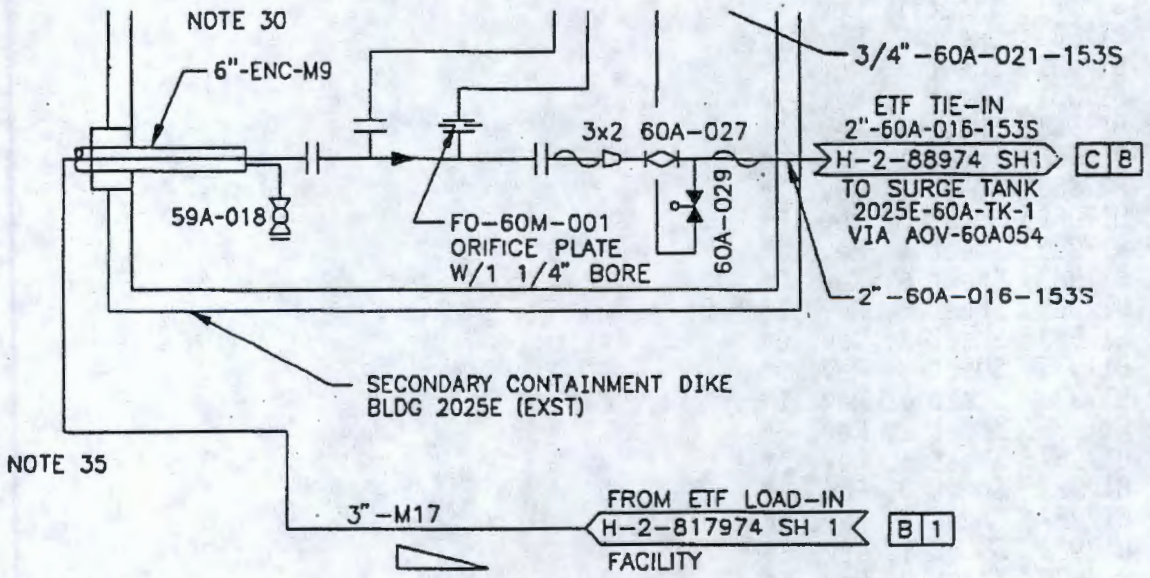
Documents changed by this ECN (also see attached drawing changes):

H-2-88766, Sheet 4, Rev. 2
H-2-88779, Sheet 4, Rev. 0
H-9-203, Sheet 1, Rev. 0
H-9-203, Sheet 4, Rev. 0
H-2-817968, Sheet 1, Rev. 1*
H-2-817969, Sheet 1, Rev. 1*
H-2-817969, Sheet 2, Rev. 1*
H-2-817969, Sheet 3, Rev. 1*
H-2-817969, Sheet 4, Rev. 1*
H-2-817969, Sheet 5, Rev. 1*
H-2-817970, Sheet 1, Rev. 1*
H-2-817970, Sheet 2, Rev. 1*
H-2-817971, Sheet 1, Rev. 1*
H-2-817971, Sheet 2, Rev. 1*
H-2-817972, Sheet 1, Rev. 1*
H-2-817973, Sheet 1, Rev. 1*
H-2-817974, Sheet 1, Rev. 2*
H-2-817975, Sheet 1, Rev. 1*
H-2-817976, Sheet 1, Rev. 1*
H-2-817977, Sheet 1, Rev. 1*
H-2-817978, Sheet 1, Rev. 1*
H-2-817980, Sheet 1, Rev. 1*
H-2-817981, Sheet 1, Rev. 1*
H-2-817981, Sheet 2, Rev. 1*
H-2-817981, Sheet 3, Rev. 1*
H-2-817981, Sheet 4, Rev. 1*
H-2-817981, Sheet 5, Rev. 1*
H-2-817983, Sheet 1, Rev. 0*
H-2-817983, Sheet 2, Rev. 1*
H-2-817983, Sheet 3, Rev. 0*
H-2-817983, Sheet 4, Rev. 1*
H-2-817983, Sheet 5, Rev. 0*
H-2-817983, Sheet 6, Rev. 1*
H-2-817983, Sheet 7, Rev. 0*
H-2-817983, Sheet 8, Rev. 0*
H-2-817985, Sheet 1, Rev. 1*
H-2-817985, Sheet 2, Rev. 1*
H-2-817987, Sheet 1, Rev. 1*
H-2-817987, Sheet 3, Rev. 1*
H-2-817987, Sheet 4, Rev. 1*
H-2-817988, Sheet 1, Rev. 1*
H-2-817988, Sheet 2, Rev. 1*
H-2-817988, Sheet 3, Rev. 1*
H-2-817989, Sheet 1, Rev. 1*
H-2-817990, Sheet 1, Rev. 1*
H-2-817991, Sheet 2, Rev. 1*

(* Title and/or Essential/Support status is changed for these drawings per this ECN.)

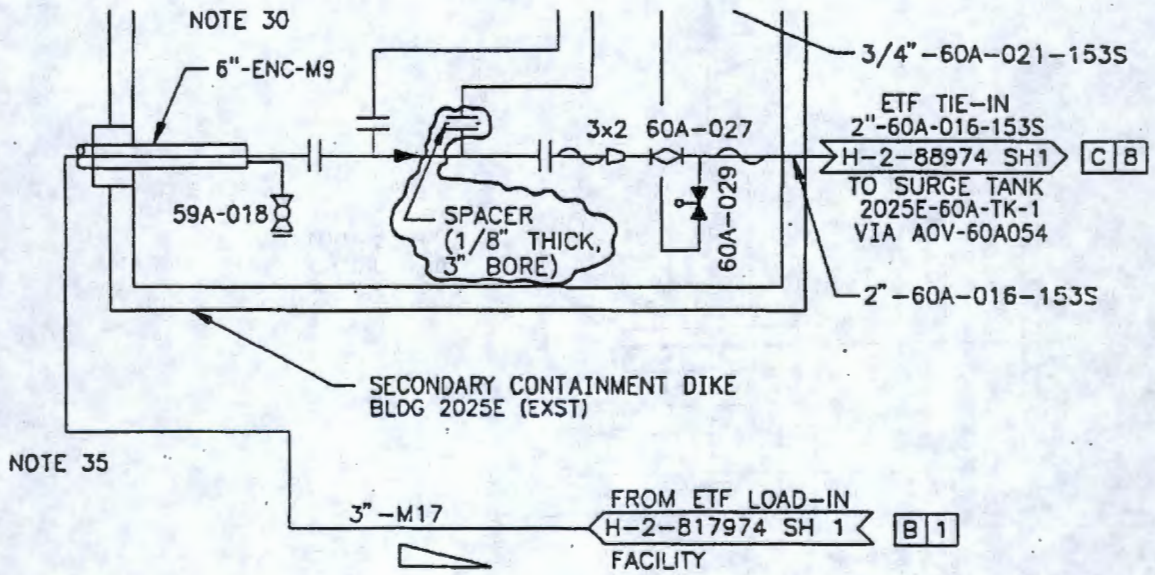
H-2-88766, Sheet 4, Rev. 2, Zone D-2

IS:



H-2-88766, Sheet 4, Rev. 2, Zone D-2

CHANGE TO:



H-2-88779, Sheet 4, Rev. 0, Zone B-2

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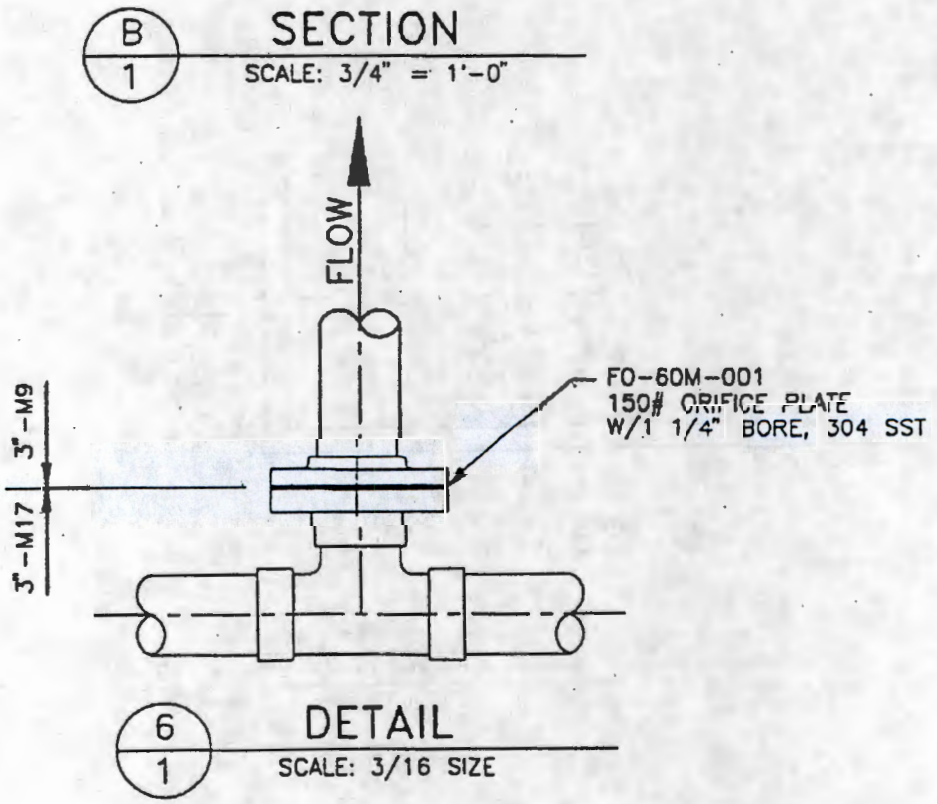
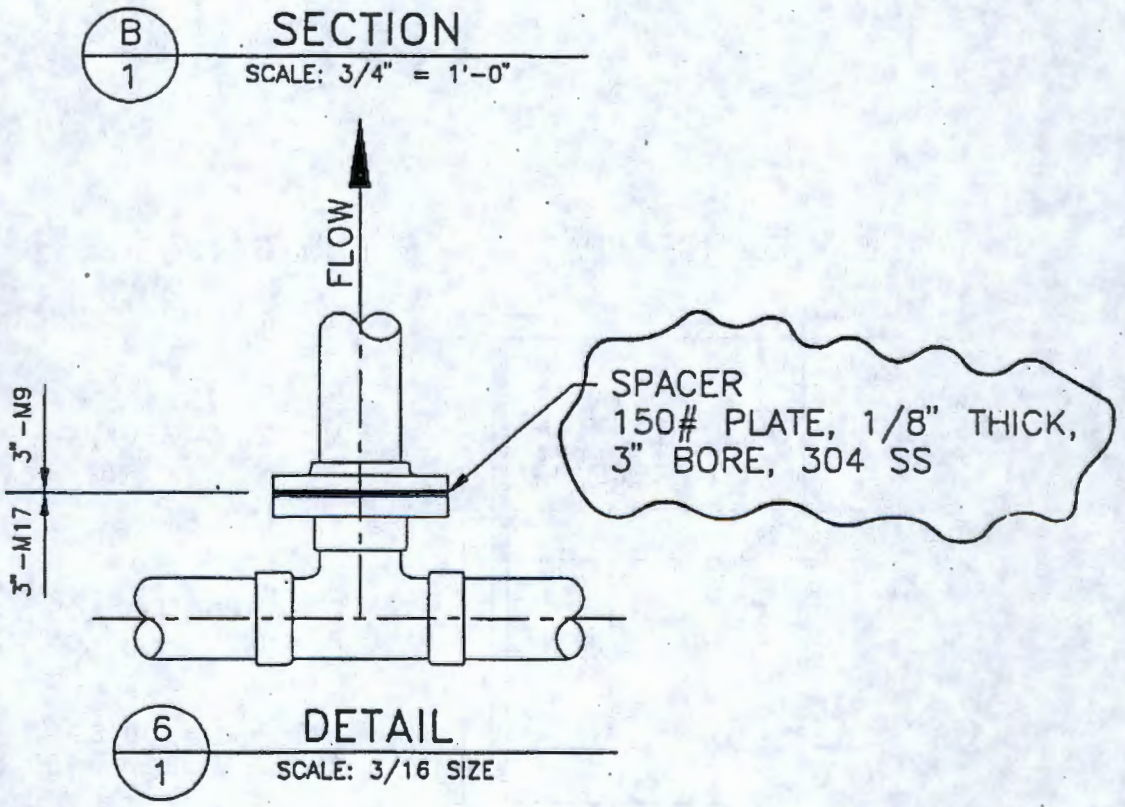


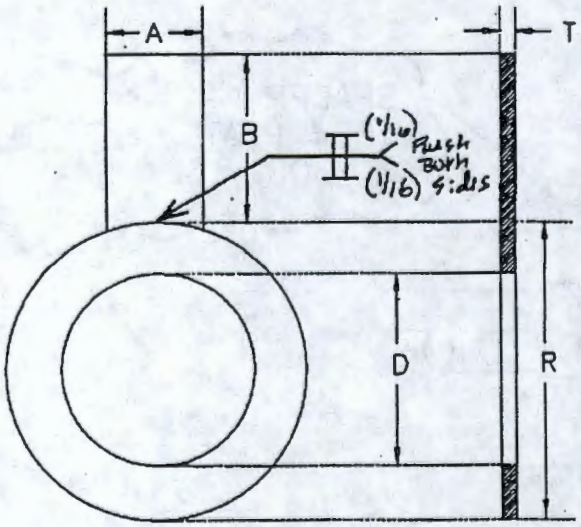
H-2-88779, Sheet 4, Rev. 0, Zone B-2

CHANGE TO:



Sketch for 3" spacer shown in above changes to H-2-88779 and H-2-88766

3" FLANGE SPACER FOR ECN 641703



T = 1/8" PLATE THICKNESS

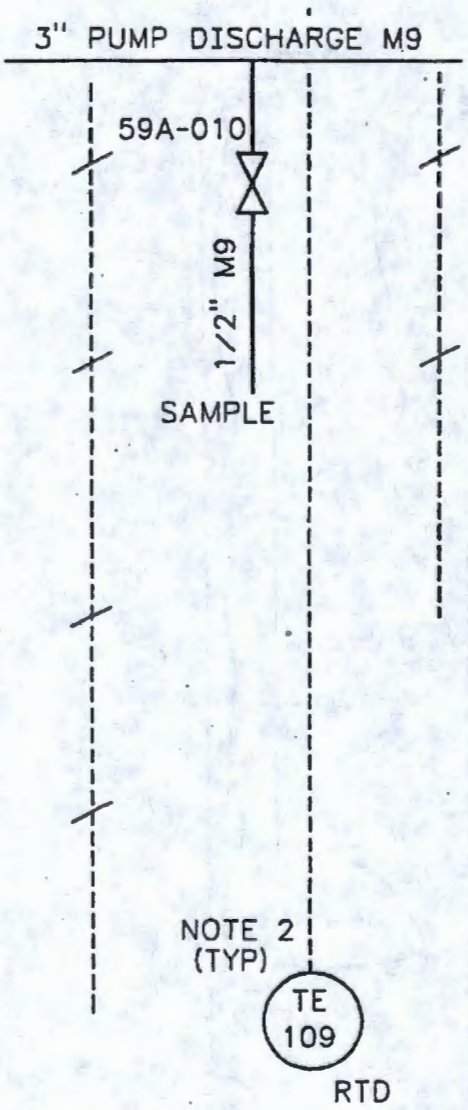
A = 2" (APPROX)
B = 3" (APPROX)

D = 3.00" +/- .05"
R = 5.25" +/- .05"

MATERIAL = 304SS
FLANGE CLASS = 150 LB

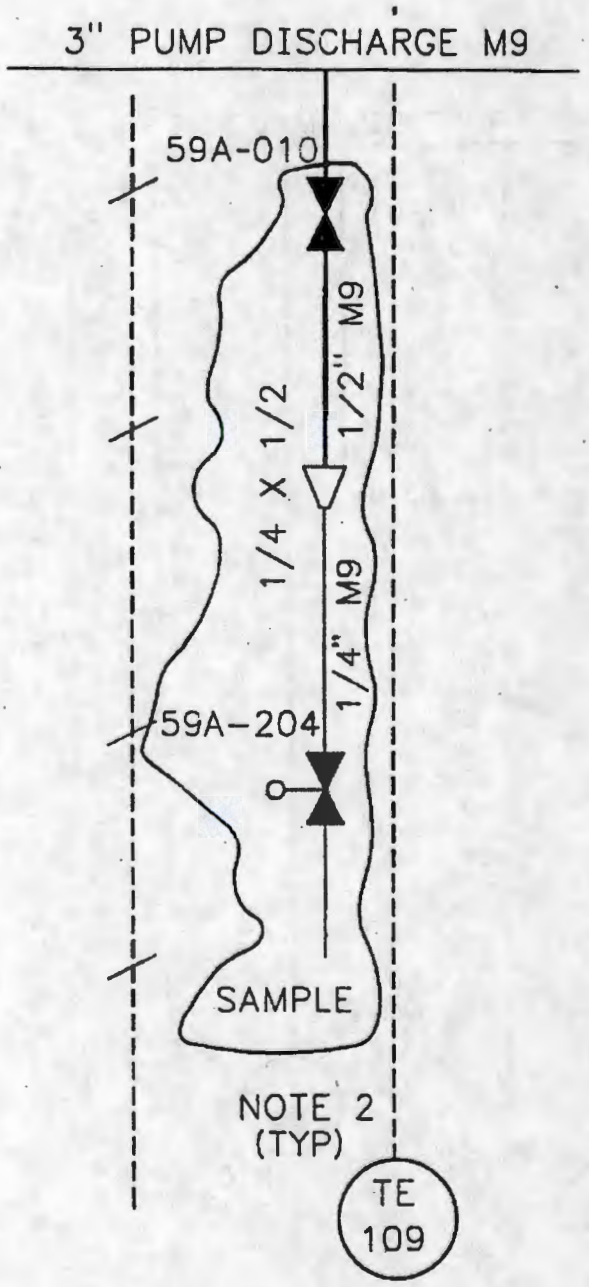
H-2-817974, Sheet 1, Rev. 2, Zone C-5

IS:



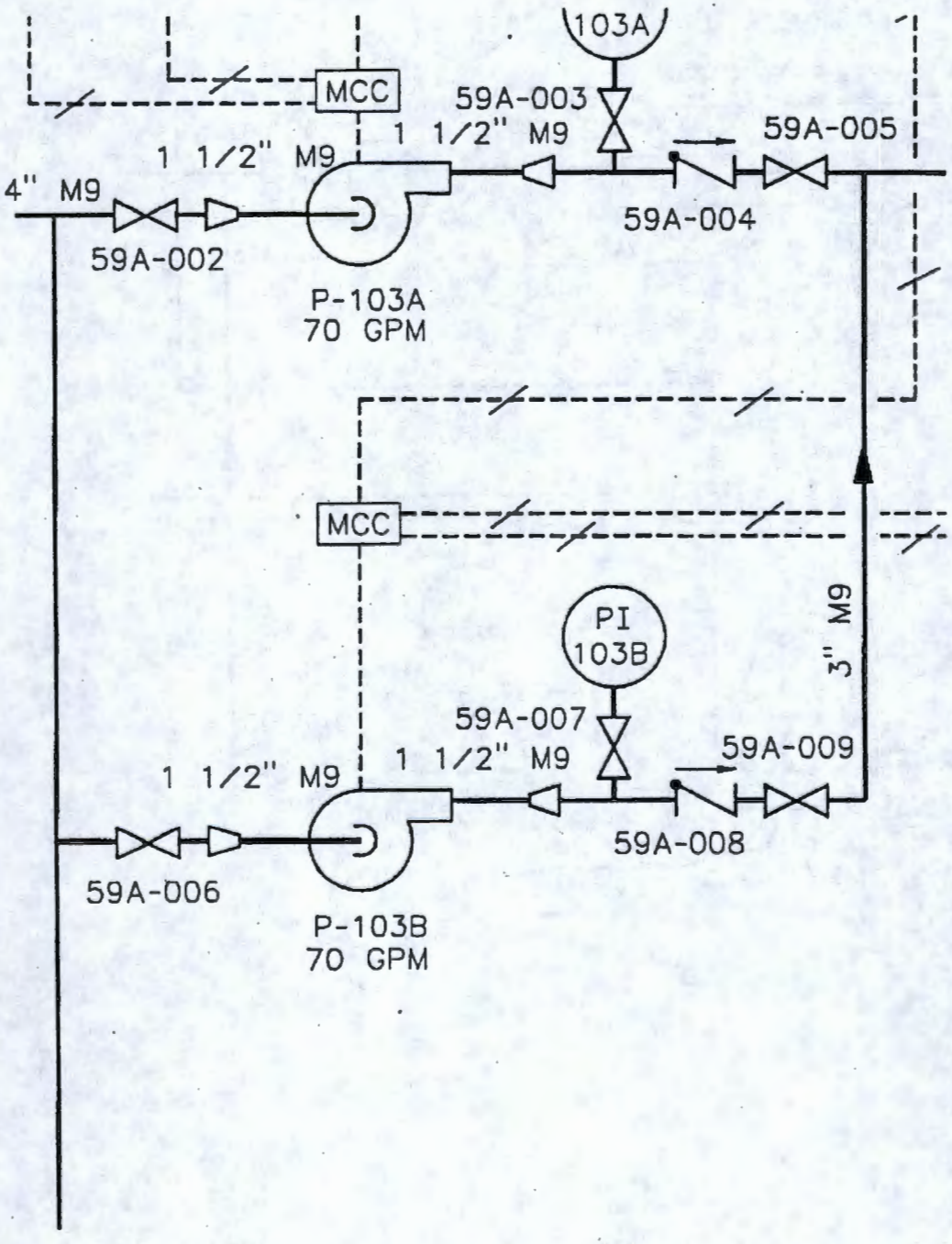
H-2-817974, Sheet 1, Rev. 2, Zone C-5

CHANGE TO:



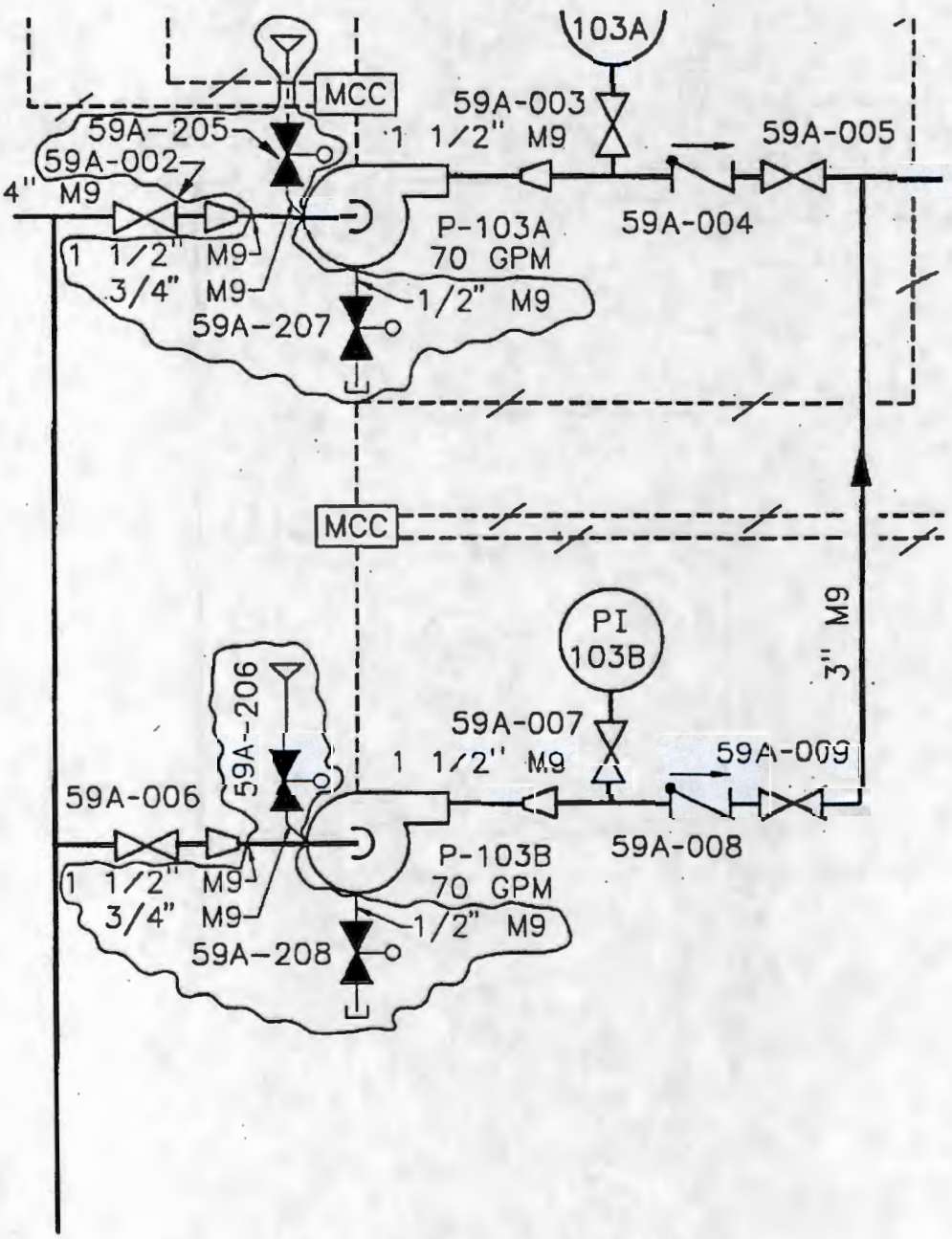
H-2-817974, Sheet 1, Rev. 2, Zone C-7 to D-7

IS:



H-2-817974, Sheet 1, Rev. 2, Zone C-7 to D-7

CHANGE TO:



H-9-203, Sheet 1, Rev. 0, Zone E-6

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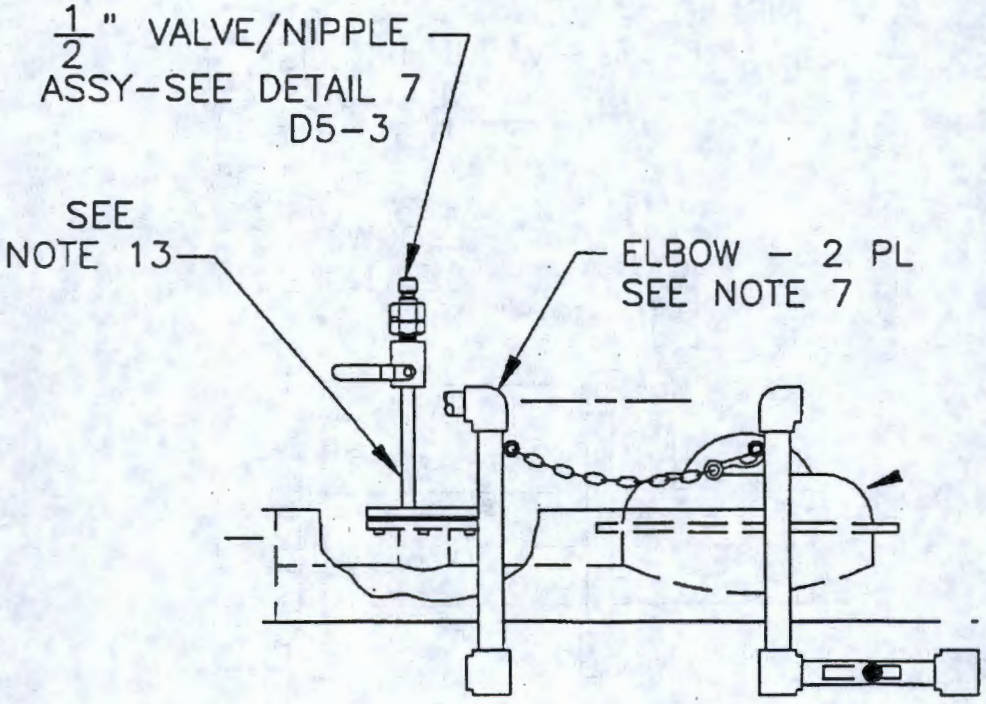
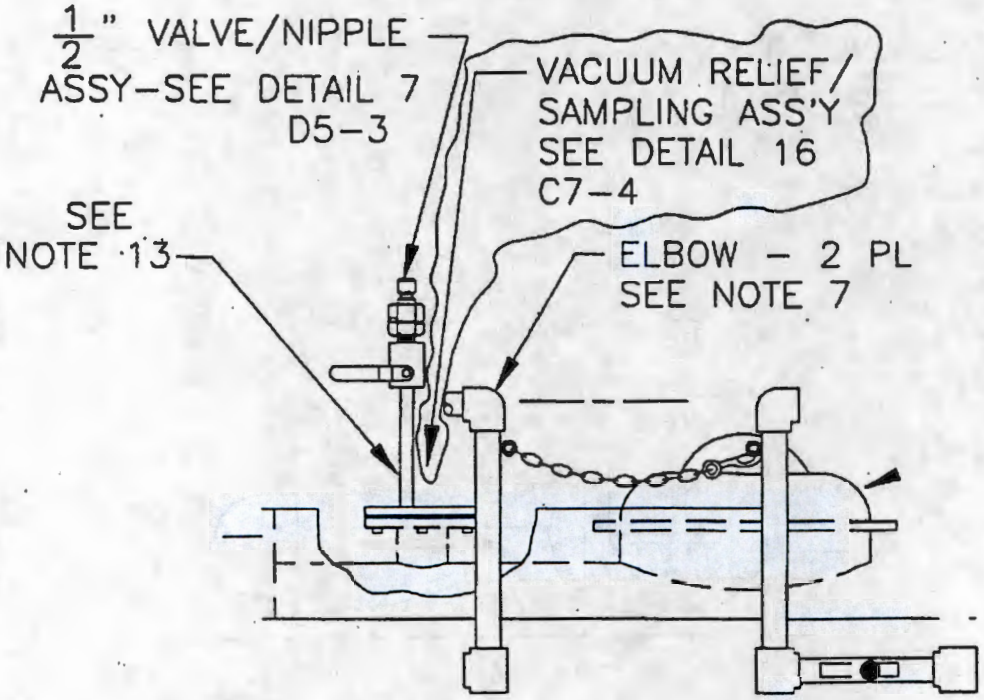


H-9-203, Sheet 1, Rev. 0, Zone E-6

CHANGE TO:



H-9-203, Sheet 4, Rev. 0, Zone D-7

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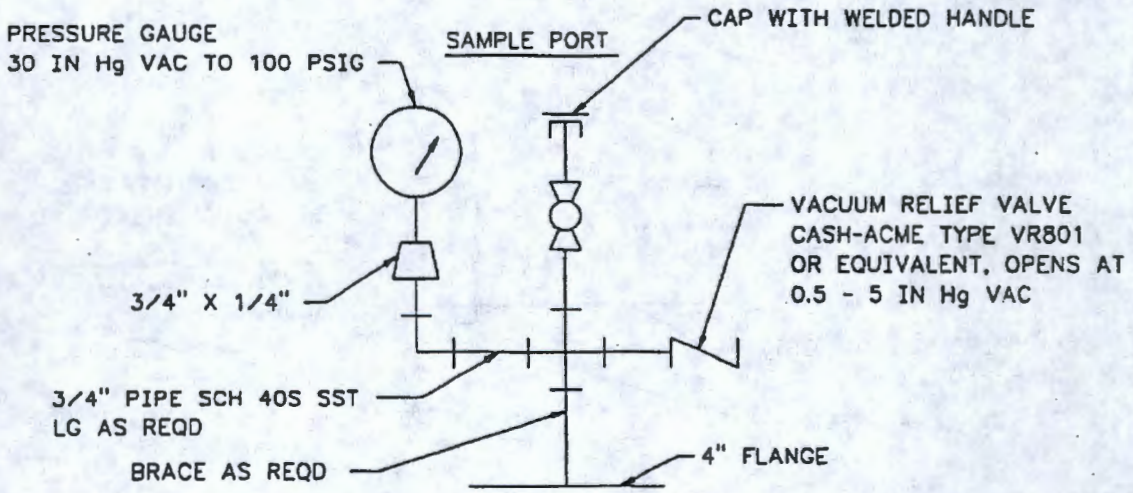
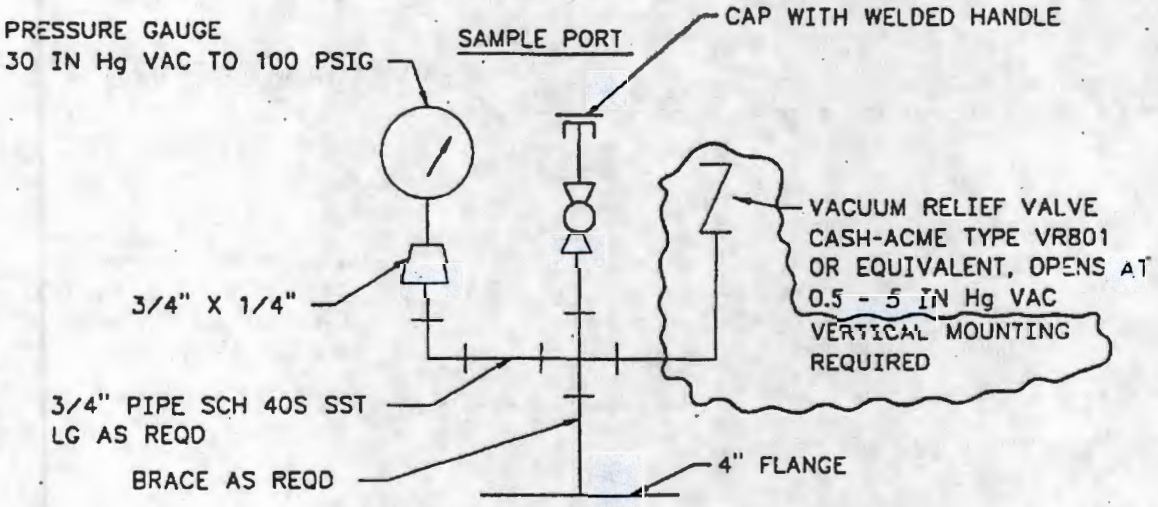


DETAIL 16 C6-2

SCALE: NONE

H-9-203, Sheet 4, Rev. 0, Zone D-7

CHANGE TO:



DETAIL 16 C6-2, E6-1

SCALE: NONE

H-2-817968, Sheet 1, Rev. 1, Title

IS: ETF TRUCK LOAD-IN FACILITY LOCATION PLAN & DWG LIST

CHANGE TO: ETF TRUCK LOAD-IN STATION LOCATION PLAN & DWG LIST

Drawing Status: ESSENTIAL

H-2-817969, Sheet 1, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY SITE PLAN

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION SITE PLAN

Drawing Status: SUPPORT

H-2-817969, Sheet 2, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY PLAN AND PROFILES

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION PLAN AND PROFILES

Drawing Status: SUPPORT

H-2-817969, Sheet 3, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY ENLARGED PLAN

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION ENLARGED PLAN

Drawing Status: SUPPORT

H-2-817969, Sheet 4, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY MISCELLANEOUS DETAILS

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION MISCELLANEOUS DETAILS

Drawing Status: SUPPORT

H-2-817969, Sheet 5, Rev. 1, Title

IS: CIVIL ETF TRUCK LOAD-IN FACILITY MISCELLANEOUS DETAILS

CHANGE TO: CIVIL ETF TRUCK LOAD-IN STATION MISCELLANEOUS DETAILS

Drawing Status: SUPPORT

H-2-817970, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY PLAN AND SECTIONS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION PLAN AND SECTIONS

Drawing Status: SUPPORT

H-2-817970, Sheet 2, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817971, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY STEEL PLAN & SECTIONS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION STEEL PLAN & SECTIONS

Drawing Status: SUPPORT

H-2-817971, Sheet 2, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY STEEL DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION STEEL DETAILS

Drawing Status: SUPPORT

H-2-817972, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817973, Sheet 1, Rev. 1, Title

IS: STRUCTURAL ETF TRUCK LOAD-IN FACILITY MISC SECTIONS AND DETAILS

CHANGE TO: STRUCTURAL ETF TRUCK LOAD-IN STATION MISC SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817974, Sheet 1, Rev. 2, Title

IS: P & ID ETF TRUCK LOAD-IN FACILITY

CHANGE TO: P & ID ETF TRUCK LOAD-IN STATION

Drawing Status: ESSENTIAL

H-2-817975, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY PLAN

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION PLAN

Drawing Status: ESSENTIAL

H-2-817976, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817977, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY DETAILS

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION DETAILS

Drawing Status: SUPPORT

H-2-817978, Sheet 1, Rev. 1, Title

IS: PIPING ETF TRUCK LOAD-IN FACILITY PIPE SUPPORTS

CHANGE TO: PIPING ETF TRUCK LOAD-IN STATION PIPE SUPPORTS

Drawing Status: SUPPORT

H-2-817980, Sheet 1, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LEGEND & SYMBOLS

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LEGEND & SYMBOLS

Drawing Status: SUPPORT

H-2-817981, Sheet 1, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 2, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 3, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 4, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817981, Sheet 5, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY LOOP DIAGRAM

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION LOOP DIAGRAM

Drawing Status: SUPPORT

H-2-817983, Sheet 1, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 2, Rev. 1, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 3, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 4, Rev. 1, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 5, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 6, Rev. 1, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 7, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817983, Sheet 8, Rev. 0, Title

CHANGE TO: Drawing Status: SUPPORT

H-2-817985, Sheet 1, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817985, Sheet 2, Rev. 1, Title

IS: INSTRUMENTATION ETF TRUCK LOAD-IN FACILITY SECTIONS AND DETAILS

CHANGE TO: INSTRUMENTATION ETF TRUCK LOAD-IN STATION SECTIONS AND DETAILS

Drawing Status: SUPPORT

H-2-817987, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY SITE PLAN

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION SITE PLAN

Drawing Status: SUPPORT

H-2-817987, Sheet 3, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY SECTIONS & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION SECTIONS & DETAILS

Drawing Status: SUPPORT

H-2-817987, Sheet 4, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY SECTIONS & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION SECTIONS & DETAILS

Drawing Status: SUPPORT

H-2-817988, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY PLAN, ONE-LINE & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION PLAN, ONE-LINE & DETAILS

Drawing Status: ESSENTIAL

H-2-817988, Sheet 2, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY PLAN, GND & HEAT TRACING

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION PLAN, GND & HEAT TRACING

Drawing Status: ESSENTIAL

H-2-817988, Sheet 3, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY PANEL SCHEDULE & DETAILS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION PANEL SCHEDULE & DETAILS

Drawing Status: ESSENTIAL

H-2-817989, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY ELEMENTARY DIAGRAM

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION ELEMENTARY DIAGRAM

Drawing Status: ESSENTIAL

H-2-817990, Sheet 1, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY WIRE & CONDUIT SCHEDULE

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION WIRE & CONDUIT SCHEDULE

Drawing Status: ESSENTIAL

H-2-817991, Sheet 2, Rev. 1, Title

IS: ELECTRICAL ETF TRUCK LOAD-IN FACILITY TELECOMMUNICATIONS

CHANGE TO: ELECTRICAL ETF TRUCK LOAD-IN STATION TELECOMMUNICATIONS

Drawing Status: SUPPORT

ENGINEERING CHANGE NOTICE

Page 1 of 6

1. ECN 649104

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32910, S6-72, 372-3152	[] Yes [x] No	2/16/99
	6. Project Title/No./Work Order No. Truck Load-in Filter/CACN 106883 COA EK00	7. Bldg./Sys./Fac. No. 2025E/59A/ETF	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13a	10. Related ECN No(s). 647275 648786	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00071/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [x] Yes [] No

Affected Drawings

H-2-817969, Sh 1, Rev 1
H-2-817969, Sh 2 Rev 1
H-2-817969, Sh 3 Rev 1
H-2-817970, Sh 1, Rev 1
H-2-817970, Sh 2, Rev 1

See attached continuation sheet for description of changes.

DAVID STEPHEN McSHANE STATE OF WASHINGTON 0027710 REGISTERED PROFESSIONAL ENGINEER 2-18-99

EXPIRES 10/06/00

Construction to be in accordance with the requirements of construction specification W-291H-C2.

14a. Justification (mark one)

Criteria Change	[x]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Supplemental offload and filtration capability is required to simultaneously accept liquid wastes containing solids while receiving existing waste generator shipments.

Informal design review performed by EA McNamar

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72 (1)	EA McNamar	S6-72 (1)	WCC Planning	S6-71 (1)*
BS Darling	T4-05 (1)	DB Powell	T3-07 (1)	(* = 1 Advance Copy)	
AF Crane	S6-72 (1)*	CD Skogley	T4-05 (1)		
DL Flyckt	S6-72 (1)	DK Smith	S6-71 (1)		
JM Isdell	B4-39 (1)*	NJ Sullivan	S6-72 (1)		

RELEASE STAMP
FEB 18 1999
DATE
STA: 30
ID: 18

A-7900-013-2 (05/96) GEF095

ENGINEERING CHANGE NOTICE	Page 2 of 8	1. ECN 649104

16. Design Verification Required	17. Cost Impact ----------> NA <---------- ENGINEERING		CONSTRUCTION		18. Schedule Impact (days) ----------> NA <----------	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Tank Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[NA]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec.	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[X]	Operating Procedure	[NA]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[NA]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac. Proc. Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

21. Approvals

Signature	Date	Signature	Date
Design Authority AF Crane AF Crane	2-18-99	Design Agent AF Crane AF Crane	2-16-99
Cog. Eng.		PE David McGlown	2-18-99
Cog. Mgr. NJ Sullivan NJ Sullivan	2-17-99	QA	
QA		Safety	
Safety		Design	
Environ. DL Flyckt D. L. Flyckt	2/11/99	Environ.	
Other		Other	
Operations DK Smith DK Smith	2-18-99		
EA McNamar E.A. McNamar	2/16/99		
Informal Design Review			
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

H-2-817969, Sh 1, Rev 1

Zone D-3: Add asphalt and concrete pad areas.

H-2-817969, Sh 2 Rev 1

Zone E-3: Add asphalt and concrete pad areas.

H-2-817969, Sh 3 Rev 1

Zone D-7: Add asphalt and concrete pad areas, and elevations.

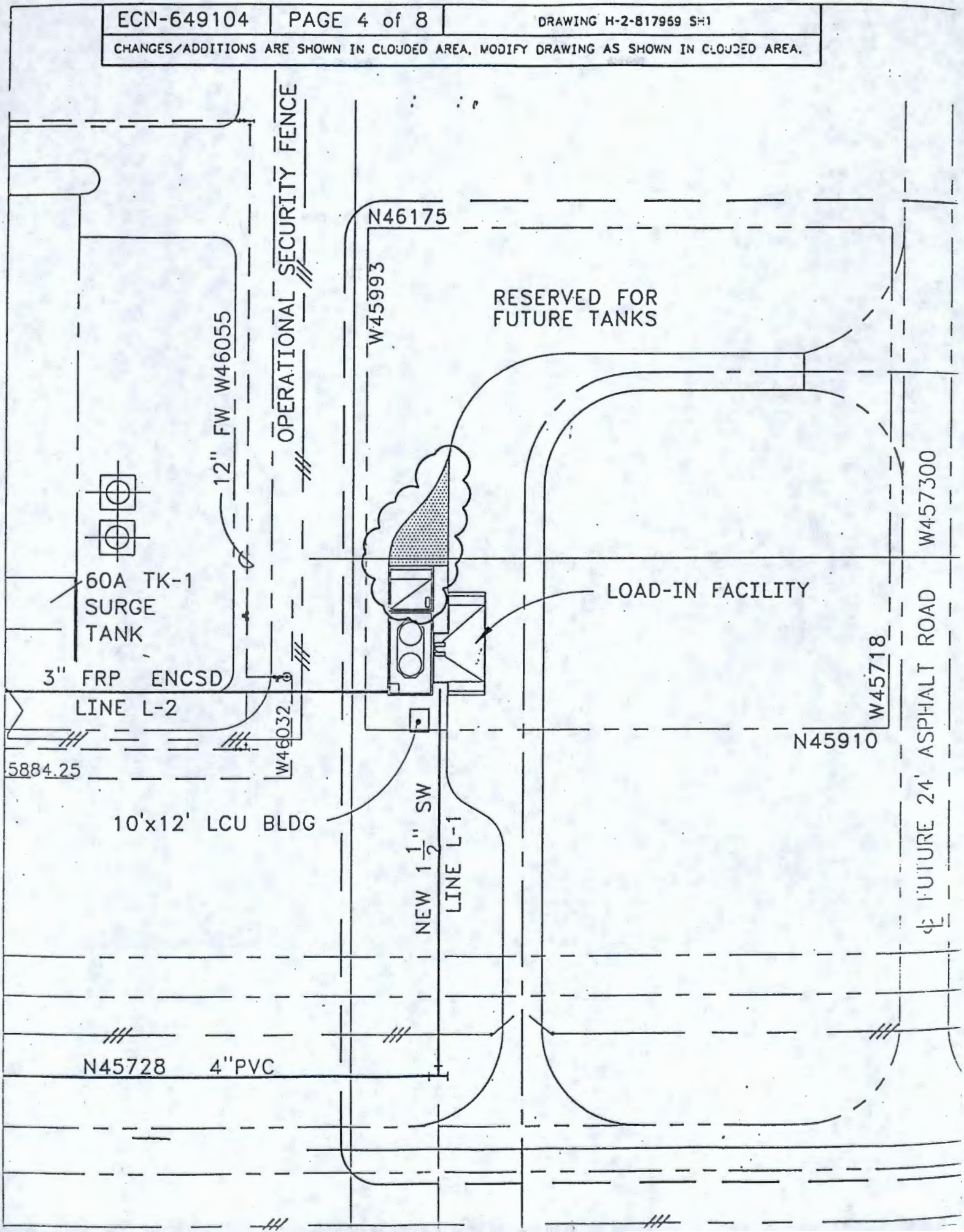
H-2-817970, Sh 1 Rev 1

Zones C/F-5/8: Add asphalt and concrete pad areas, filter skid, pump base, dimensional details and Section G reference.

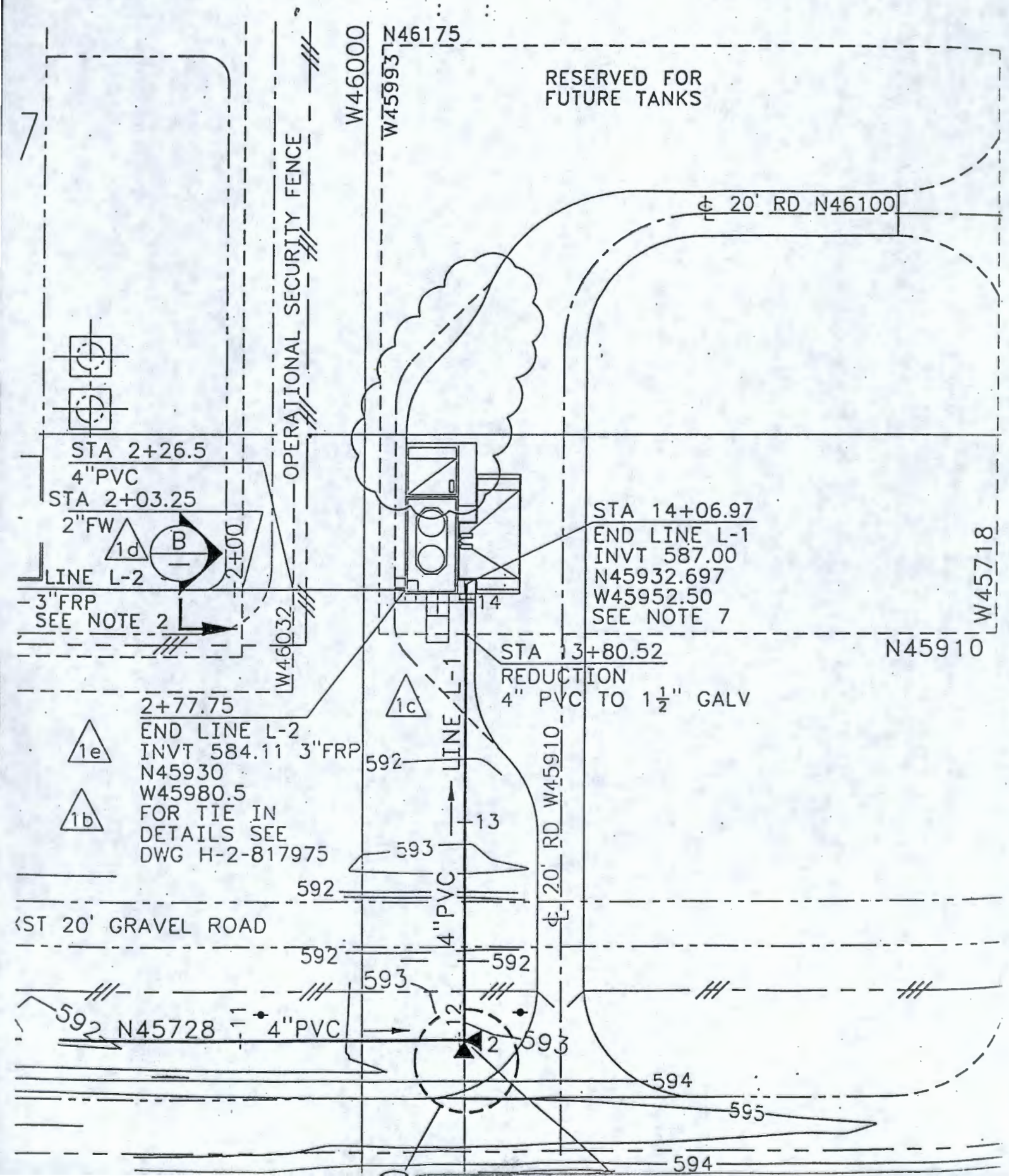
H-2-817970, Sh 2 Rev 1

Zones A/D-4/8: Add Sections F and G and Detail 6. Add note to Section E identifying elevations of respective pump pads.

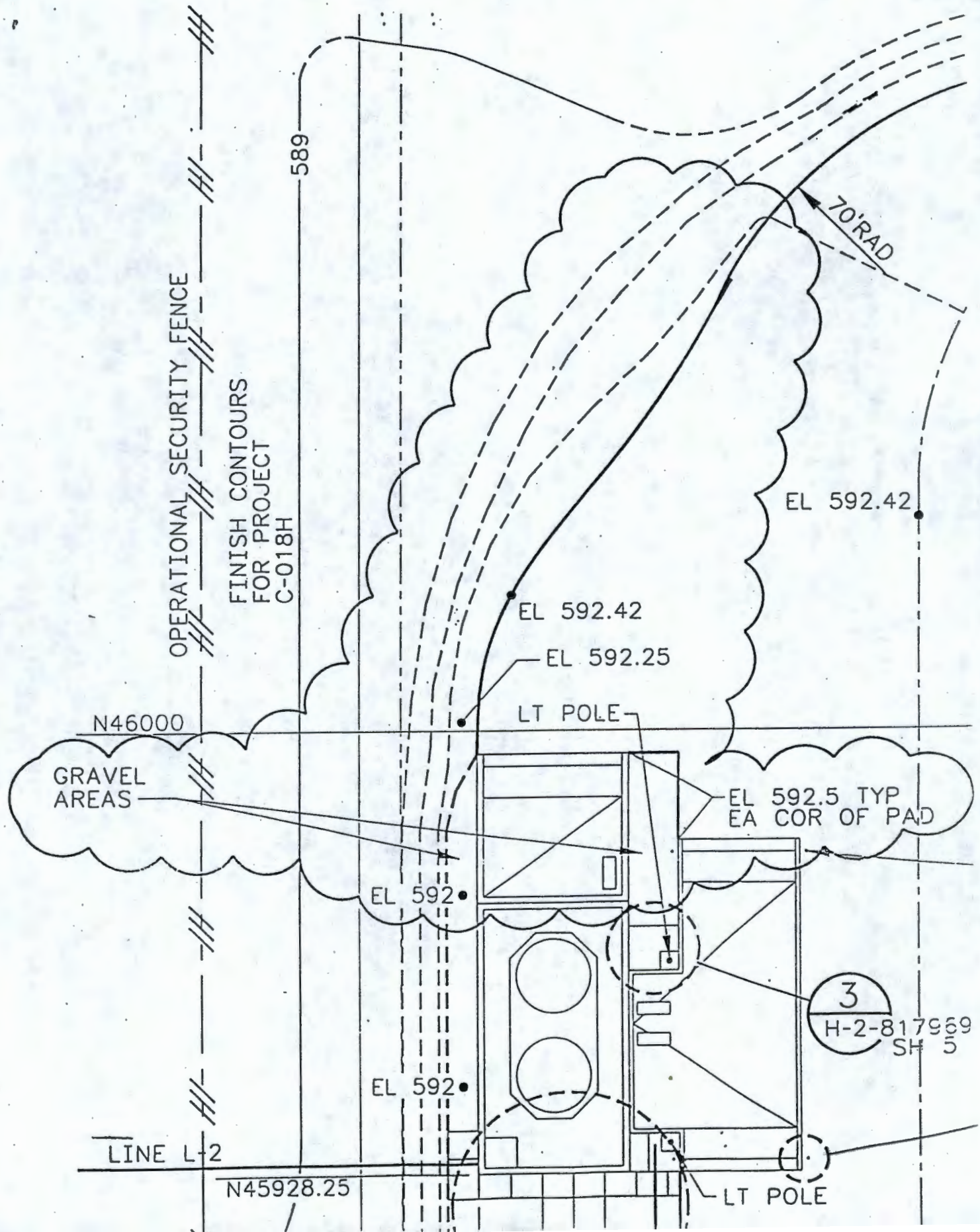
ECN-649104	PAGE 4 of 8	DRAWING H-2-817959 SH1
CHANGES/ADDITIONS ARE SHOWN IN CLOUDED AREA. MODIFY DRAWING AS SHOWN IN CLOUDED AREA.		



ECN-649104	PAGE 5 of 8	DRAWING H-2-817969 SH2
CHANGES/ADDITIONS ARE SHOWN IN CLOUDED AREA, MODIFY DRAWING AS SHOWN IN CLOUDED AREA.		



ECN-649104	PAGE 6 of 8	DRAWING H-2-817969 S-3
CHANGES/ADDITIONS ARE SHOWN IN CLOUDED AREA. MODIFY DRAWING AS SHOWN IN CLOUDED AREA.		



ECN Reference Notes. Do Not Add To Drawing

1. Unless otherwise indicated, piping, fittings and jointing methods for new pipe runs shall meet the requirements of ETF piping specification Class 163LS (same as RCC SS1), Class 166H (same as RCC SS3), and/or Class 153S (same as RCC SS6) where shown on the design.

2. Unless otherwise indicated, tubing, fittings and jointing methods for new tubing runs shall meet the requirements of ETF piping specification Class 153T (same as RCC SS5).

3. Install, inspect and test new tubing and piping in accordance with ASME B31.3-1993 edition and addenda per "Category D" fluid service.

4. Install new pipe insulation on the 2" Class SS1/SS3 drain line only. New materials shall be as follows:
   * Insulation, glass or mineral fiber, 1" thick, block type conforming to ASTM C612, Class 2, or molded pipe type conforming to ASTM C547.
   * Aluminum jacket, ASTM B209, alloy 3003, temper H14, ANSI H35.1, .016" thick.
   * Stainless steel bands, .020" thick, 3/8" wide, commercial.

   Note: All materials may be substituted with engineering approved equal products.

6. Salvage nuts, bolts and washers from existing flanges for re-use during system reassembly where applicable. Otherwise new nuts, bolts, washers, gaskets, etc, shall be as specified per the applicable pipe code Class.

7. Paint the new carbon steel angle iron bracket with one coat each (minimum) of shop primer and finish. Final color shall be white.

ATTACHMENT 2, AUTHORIZATION BASES REVIEW FORM

Part A:

REFERENCE ITEM # ECN 641564 Proposed Change/Discovery (circle one)

APPROVAL DESIGNATOR QR

TITLE Evaporator Drain Addition

DESCRIPTION Replace existing ½" drain piping for ETF evaporator recirculation piping with a 2" drain line.

R E Sully — Originator Signature — 8/24/99 — Date

Part B:

Does the referenced item:

		(check one)
A.	Increase risk from a hazard - to the workers &/or public beyond that previously analyzed, evaluated, and documented in the Authorization Bases?	NO ✓ Yes/Maybe__
B.	Reduce the reliability or effectiveness of features, controls, procedures, or processes used to mitigate hazards?	NO ✓ Yes/Maybe__
C.	Introduce a hazard not evaluated in the Authorization Bases?	NO ✓ Yes/Maybe__
D.	Reflect new information on existing hazards beyond that currently documented in the Authorization Bases?	NO ✓ Yes/Maybe__

DETERMINATION BASES: Record complete justification and reference information below. Use Attachment 3 for continuations. Maintain with submittal package.

The present ½" drain line frequently plugs due to length of cold leg and small diameter. Drainage is also slow & incomplete. The replacement 2" drain line will have a short cold leg, larger diameter, and built in back flush features.

PABI, Item Remains Open	No Impact, ABR Closed		
☐	☒	R E Sully — Authorization Bases Evaluator	8/24/99 — Date
☐	☐	Technical Support Group Manager	Date

ENGINEERING CHANGE NOTICE

Page 1 of 8

1. ECN 651583

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental ○	S.D. Ellingson FDNW 373-1151	○ Yes ◉ No	8/10/99
Direct Revision ○			
Change ECN ○			
Temporary ○			
Standby ○			
Supersedure ◉			
Cancel/Void ○			

6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
Distillate pH Monitor Installation on Evaporator Skid	2025E	Q
9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	**10. Related ECN No(s).**	**11. Related PO No.**
See block 13a	646658L	n/a

12a. Modification Work	12b. Work Package No.	12c. Modification Work Completed	12d. Restored to Original Condition (Temp. or Standby ECNs only)
◉ Yes (fill out Blk. 12b) ○ No (NA Blks. 12b, 12c, 12d)	EL-99-00314	Design Authority/Cog. Engineer Signature & Date	n/a Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? ◉ Yes ○ No

This ECN Supersedes ECN-646658L In Its Entirety!

1. H-2-89335, Sht 1, Rev 11
   Remove pH monitor "AE-60I-135" and instrumentation from line 1"-60I-155-166H as shown on Page 3 this ECN.

2. H-2-88987, Sht 1, Rev 16
   Add pH monitor "AE-60I-135", instrumentation and orifice FO-60I-111 to line EP-103-SS6-1" as shown on Page 4 this ECN.

3. H-2-89183, Sht 1, Rev 4
   Add field reference note to field of drawing as shown on Page 5 this ECN.
   Add "Detail 1" to field of drawing as shown on Page 6 this ECN.

FILE COPY

Review and approval of this ECN by the OSE manager constitutes design review.

See EDT 601865 for Orifice Sizing Design Analysis, HNF-4940.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ○	Monitoring of the evaporator distillate pH is required to prevent corrosion of vapor compressor internals. This design package depicts the installation of a pH monitor electrode assembly into line EP-103-SS6-1" of the evaporator skid piping system.
Design Improvement ◉	
Environmental ○	
Facility Deactivation ○	
As-Found ○	Coordinate with: Set-Values Basis Document ECN-653078
Facilitate Const. ○	Software ECN-647197
Const. Error/Omission ○	
Design Error/Omission ○	

15. Distribution (include name, MSIN, and no. of copies)

M.W. Bowman	S6-72	S.D. Ellingson	S6-72
T.H. Calihan	S6-71	R.E. Palmer	E6-14
*D.E. Scully	S6-72	J.M. Isdell	B4-39
M.J. Sullivan	S6-72	*B.A. Messinger	B4-39
K. Smith	S6-71		
R.M. Szelmeczka	S6-72		
C.D. Skogley	S6-72		

*WCC Planning

* Advanced Copy

RELEASE STAMP

AUG 10 1999

DATE:

STA: 30 HANFORD RELEASE ID: 18

A-7900-013-2 (10/97)

A-7900-013-1

Sup 1 ECN-646658L

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 651583

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
	ENGINEERING	CONSTRUCTION	
(●) Yes	Additional ( ) $ n/a	Additional ( ) $ n/a	Improvement ( ) n/a
( ) No	Savings ( ) $ n/a	Savings ( ) $ n/a	Delay ( ) n/a

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☒
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☒
Vendor Information	☒	Operating Procedure	☒	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☒	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	Tickler File	☐
Environmental Report	☐	Inspection Plan	☐	ARP-60I-001	☒
Environmental Permit	☐	Inventory Adjustment Request	☒	HNF-SD-ETF-OCD-001	☒

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
H-2-88987, Sht 1, rev 16		
H-2-89335, Sht 1, rev 11		
H-2-89183, Sht 1, rev 4		

21. Approvals

	Signature	Date		Signature	Date
Design Authority	D E Sully	8/10/99	Design Agent	S. D. Ellingson by D E Sully	8/10/99
Cog. Eng.	D E Sully	8/10/99	PE		
Cog. Mgr. (OSE Mgr)	M J Judd	8-10-99	QA		
QA	Donn R. Schell by D E Sully per telecon	8-10-99	Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		

DEPARTMENT OF ENERGY

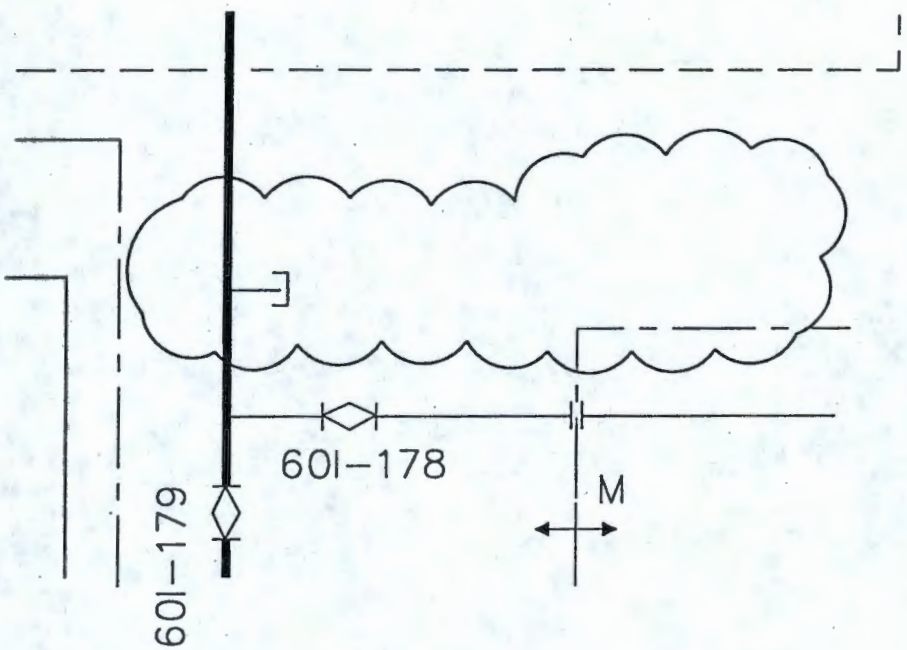
Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

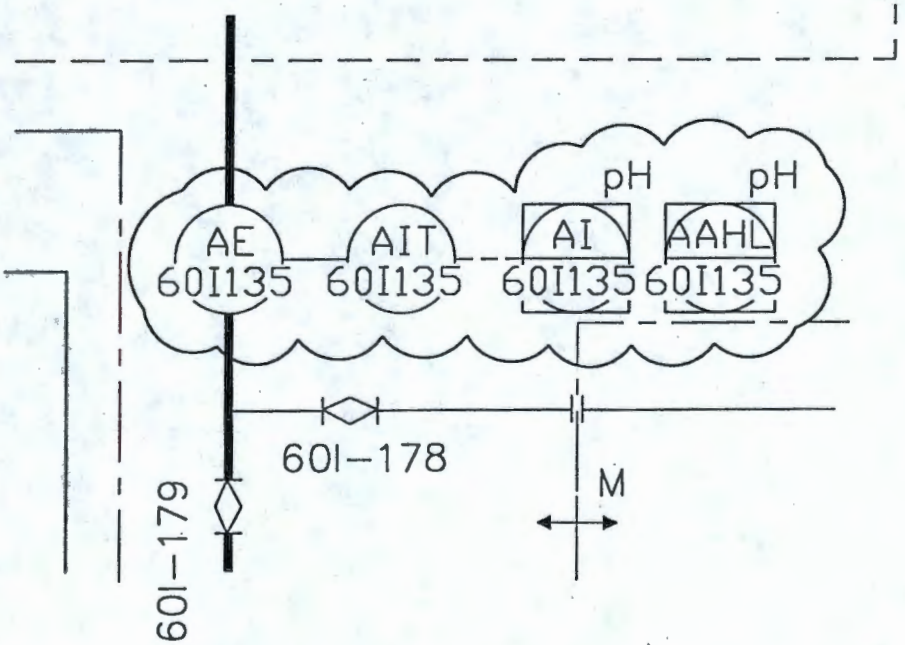
ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-89335	DATE 8/10/99	ECN 651583

REVISE AS SHOWN BELOW IN CLOUDED AREA. (ZN C4)

IS

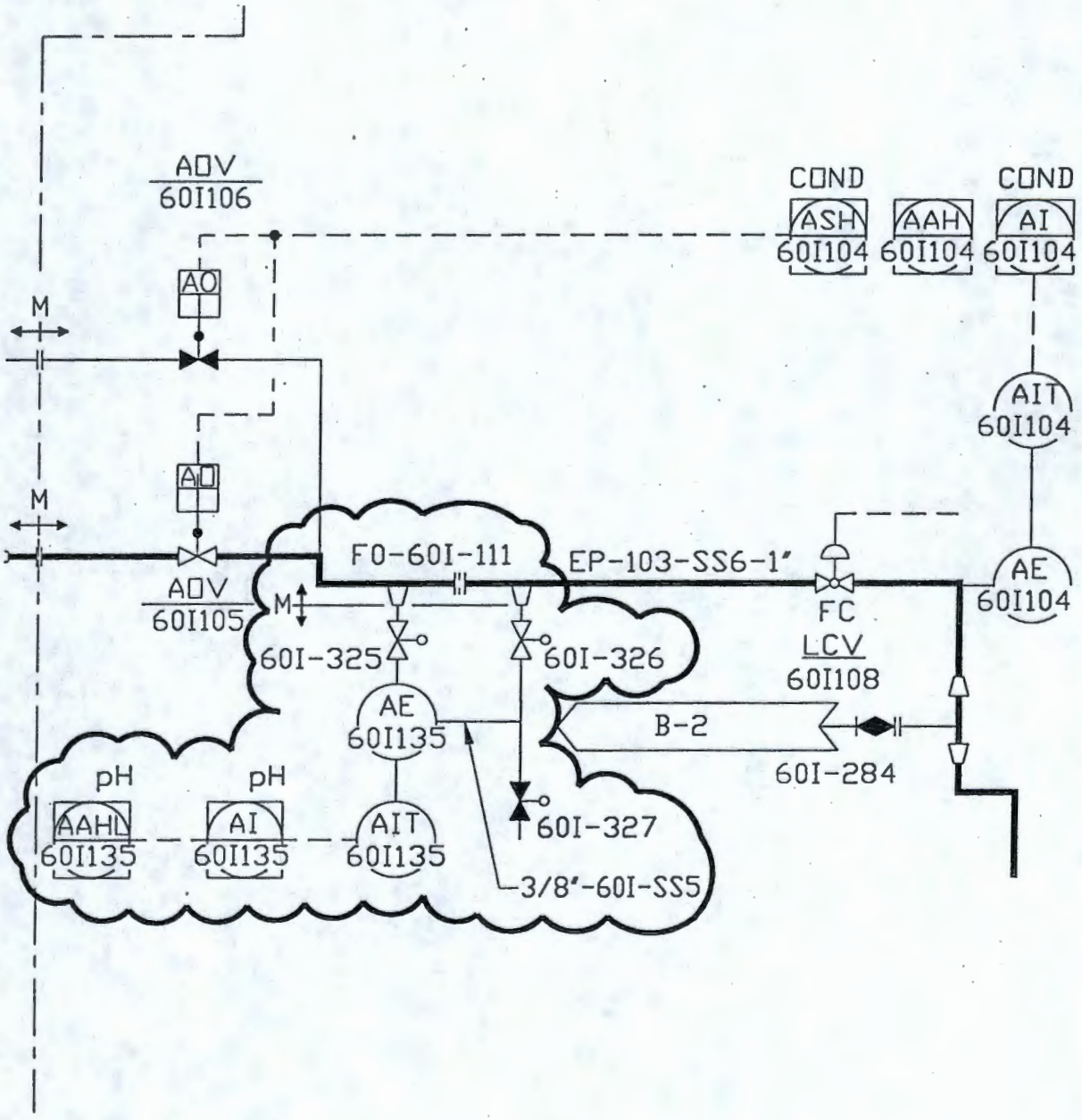


WAS



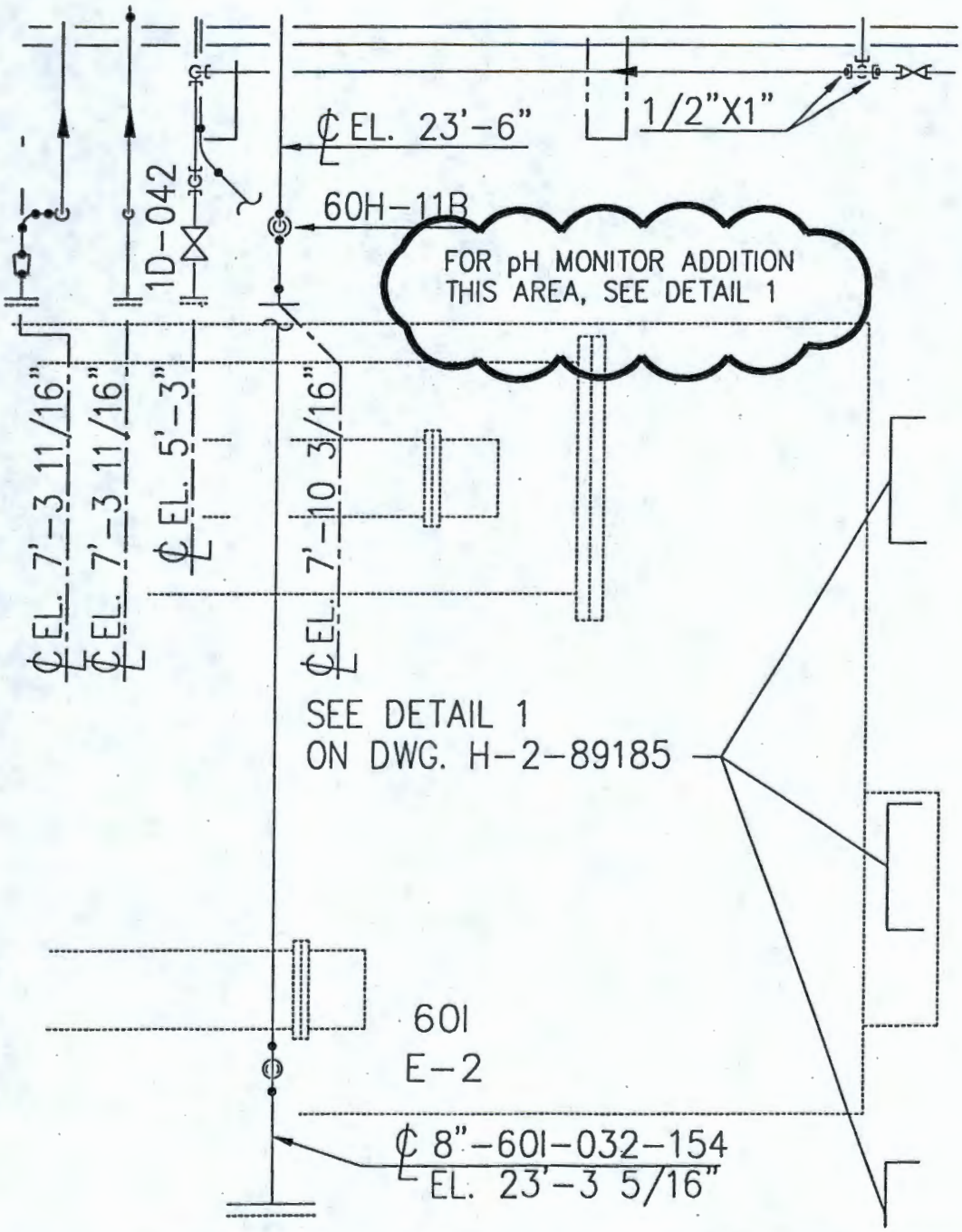
ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-88987, SH1	DATE 8/10/99	ECN 651583

ADD AS SHOWN BELOW IN CLOUDED AREA, ZN C7



ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-89183	DATE 8/10/99	ECN 651583

REVISE AS SHOWN BELOW IN CLOUDED AREA. (ZN E6)



ECN Reference Notes. Do Not Add To Drawing

1. Piping, fittings and jointing methods for new stainless steel pipe runs are to meet the requirements of ETF piping specification Class 156 (same as RCC spec Class SS6).

2. Piping, fittings and jointing methods for new stainless steel tubing runs are to meet the requirements of ETF piping specification Class 153T (same as RCC spec Class SS5).

3. Install, inspect and test new piping and tubing in accordance with ASME B31.3-1993 edition and addenda for Category "D" fluid service.

4. Salvage existing pipe insulation for reuse to the extent possible. Re-insulate the replaced 1" sch40 piping only. If new material are required, materials shall be:
   * Insulation, glass or mineral fiber, 1" thick, block type conforming to ASTM C612, Class 2, or molded pipe type conforming to ASTM C547.
   * Aluminum jacket, ASTM B209, alloy 3003, temper H14, ANSI H35.1, .016" thick.
   * Stainless steel bands, .020" thick, 3/8" wide, commercial.

   Note: All materials may be substituted with engineering approved equal products.

5. The design details depicted in this ECN (Page 6) reflect replacement of a short pipe spool piece between valves AOV-60I-105, AOV-60I-106 and LCV-60I-108 in order to incorporate pH monitor installation. Modification of the existing spool piece to incorporate the new tees and orifice flanges only is a field option. Implementation of either approach, ie; complete replacement or modify existing, is the prerogative of the craftsman performing the work.

6. Salvage nuts, bolts and washers from existing flanges for re-use during system reassembly.

7. Orifice plate FO-60I-111 can be commercially procured or fabricated on site. For either case, orifice handle shall be stamped with 1/8" minimum high characters depicting orifice identification (FO-60I-111), flange size (1"-150#) and internal diameter (.75").

ATTACHMENT 2, AUTHORIZATION BASES REVIEW FORM

Part A:

REFERENCE ITEM # ECN 651583

(Proposed Change/Discovery) (circle one)

APPROVAL DESIGNATOR Q

TITLE Distillate pH Monitor Installation on Evaporator Skid

DESCRIPTION Electrode assembly will be installed in a newly fabricated slipstream of cooled distillate.

N E Sully — Originator Signature — 8/10/99 — Date

Part B:

Does the referenced item:

		(check one)
A.	Increase risk from a hazard - to the workers &/or public beyond that previously analyzed, evaluated, and documented in the Authorization Bases?	(NO) Yes/Maybe__
B.	Reduce the reliability or effectiveness of features, controls, procedures, or processes used to mitigate hazards?	(NO) Yes/Maybe__
C.	Introduce a hazard not evaluated in the Authorization Bases?	(NO) Yes/Maybe__
D.	Reflect new information on existing hazards beyond that currently documented in the Authorization Bases?	(NO) Yes/Maybe__

DETERMINATION BASES: Record complete justification and reference information below. Use Attachment 3 for continuations. Maintain with submittal package.

This installation merely splits a stream of cooled (122°F) distillate for the on-line measurement of pH. Piping will be installed, inspected, and tested in accordance with ASME B31.3 for category "D" fluid service.

PABI, Item Remains Open	No Impact, ABR Closed		
☐	☒	N E Sully — Authorization Bases Evaluator	8/10/99 — Date
☐	☐	Technical Support Group Manager	Date

S

ENGINEERING CHANGE NOTICE ESSENTIAL

1. ECN 648765

Proj. ECN

CIPF 18

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	CARMICHAEL, SL, 32730, S6-74, 372-2272	[] Yes [X] No	08/17/98
	6. Project Title/No./Work Order No. REMOVE INSTRUMENTS FROM THIN FILM DRYER ROOM	7. Bldg./Sys./Fac. No. 2025E/60J	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). N/A	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00561/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [X] Yes [] No

H-2-89364 SH.1 REV.3 & H-2-89364 SH.4 REV.1:
REMOVE TEMPERATURE TRANSMITTERS, TT-60J-011, TT-60J-018, TT-60J-020 AND TT-60J038 FROM THE THIN FILM DRYER ROOM AND INSTALL THEM ON THE UPPER DECK OF THE THIN FILM DRYER. THE TEMPERATURE ELEMENTS FOR THESE TRANSMITTERS WILL REMAIN IN THE THIN FILM DRYER ROOM AT THEIR PRESENT LOCATIONS.
H-2-89364 SH.1 REV.3 & H-2-89319 SH.1 REV.1:
THE HVAC ROOM TEMPERATURE TRANSMITTER WILL BE MOVED TO THE OUTSIDE WALL BY THE STAIRS WITH THE SENSOR REMAINING IN THE THIN FILM DRYER ROOM.
H-2-88989 SH.1 REV.12 & H-2-89364 SH.2 REV.1:
REMOVE FLOW TRANSMITTER FT-60J-035 FROM THE THIN FILM DRYER ROOM AND LOCATE IT ON THE UPPER DECK OF THE THIN FILM DRYER ON THE POLISHER SIDE. THIS REQUIRES CUTTING THE CONDENSATER DISCHARGE LINE TO THE SURGE (1"-60J-145-153S) AND WELDING IN FLANGES FOR THE TRANSMITTER ORFICE PLATE. THE EXISTING ORFICE WILL BE REMOVED AND A SPACER OR SPOOL PIECE INSTALLED.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

CHANGES MADE TO ALLOW EASIER CALIBRATION OF INSTRUMENTS AND LIMIT THE REQUIRED ENTERIES INTO A RADIOLOGICALLY CONTROLLED AREA.

15. Distribution (include name, MSIN, and no. of copies)

N.J.SULLIVAN	S6-72	1	J.E.GEARY	S6-71	1
A.K.YOAKUM	S6-71	1	J.M.ISDELL	G3-17	1*
D.L.FLYCKT	S6-72	1	D.E.SCULLY	S6-72	1
S.L.CARMICHAEL	S6-74	1 *	WCC PLANNING	S6-72	1*
M.W.BOWMAN	S6-72	1	R.J.HUTH	S6-72	1

* ADVANCED COPY

RELEASE STAMP

AUG 18 1998

DATE: HANFORD RELEASE ID:

STA: 30 25

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 810	1. ECN (use no. from pg. 1) 648765

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[NA] $	Additional	[NA] $	Improvement	[NA]
[ ] No	Savings	[NA] $	Savings	[NA] $	Delay	[NA]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Tank Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[NA]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec.	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[NA]	Operating Procedure	[NA]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[NA]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac. Proc. Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[NA]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[NA]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
NONE		

21. Approvals

	Signature	Date
Design Authority D.E.SCULLY	for DES	8-17-98
Cog. Eng. D.E.SCULLY	for DES	8-17-98
Cog. Mgr. N.J.SULLIVAN		8-17-98
QA		
Safety		
Environ.		
Other		
INFORMAL REVIEW C.M.Toure		8/17/98
INFORMAL REVIEW S.L.Cambal		8/17/98

	Signature	Date
Design Agent	for DES	8-17-98
PE		
QA		
Safety		
Design		
Environ.		
Other		

DEPARTMENT OF ENERGY
Signature or a Control Number that tracks the Approval Signature

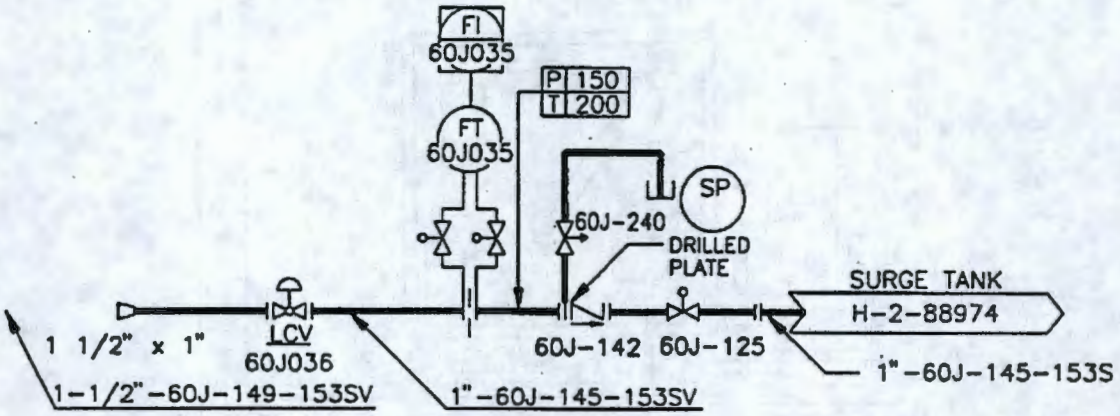
ADDITIONAL

^C

^GMACPATH^GEF1000^G

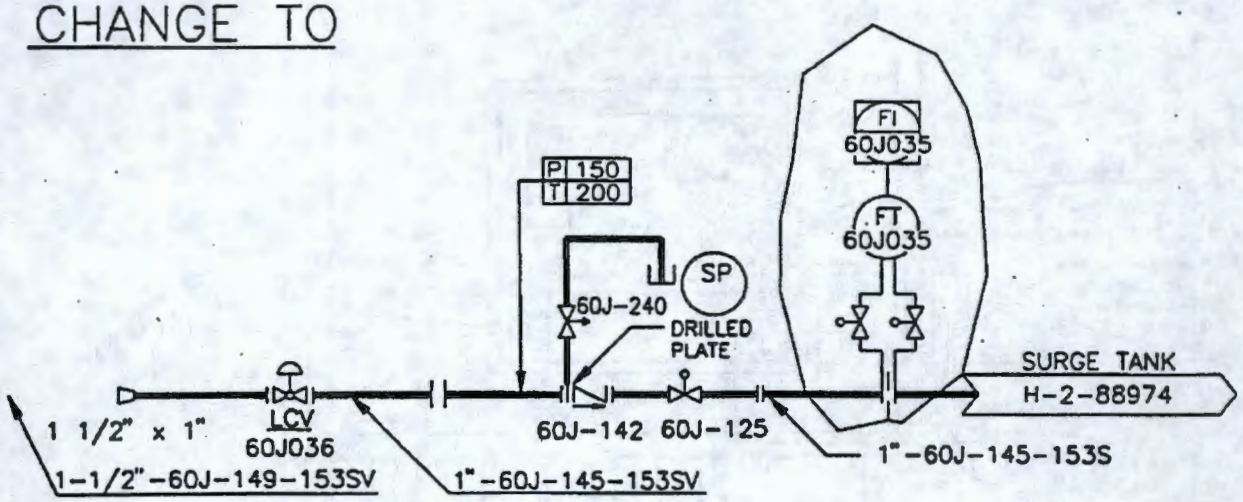
H-2-88989

WAS



DISTILLATE CONDENSER
2025E-60J-CND-01

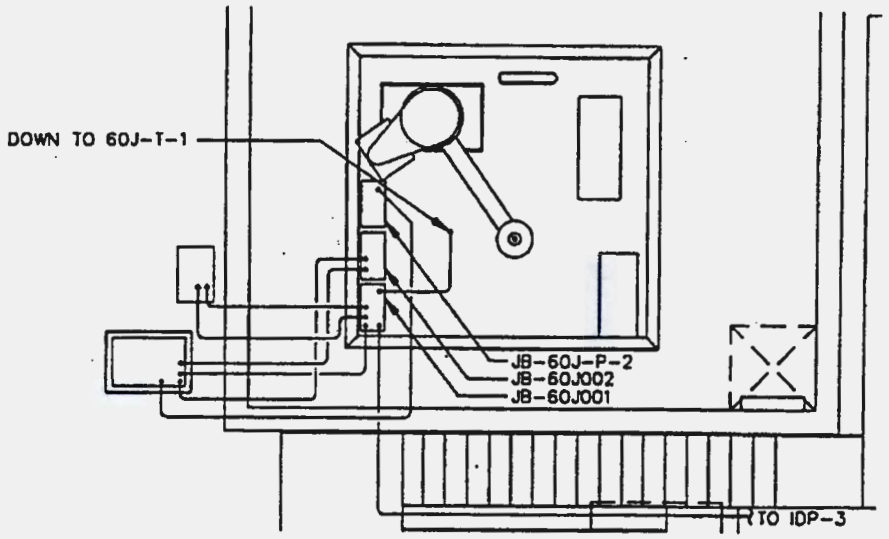
CHANGE TO



DISTILLATE CONDENSER
2025E-60J-CND-01

H-2-89364 Sht.2

WAS



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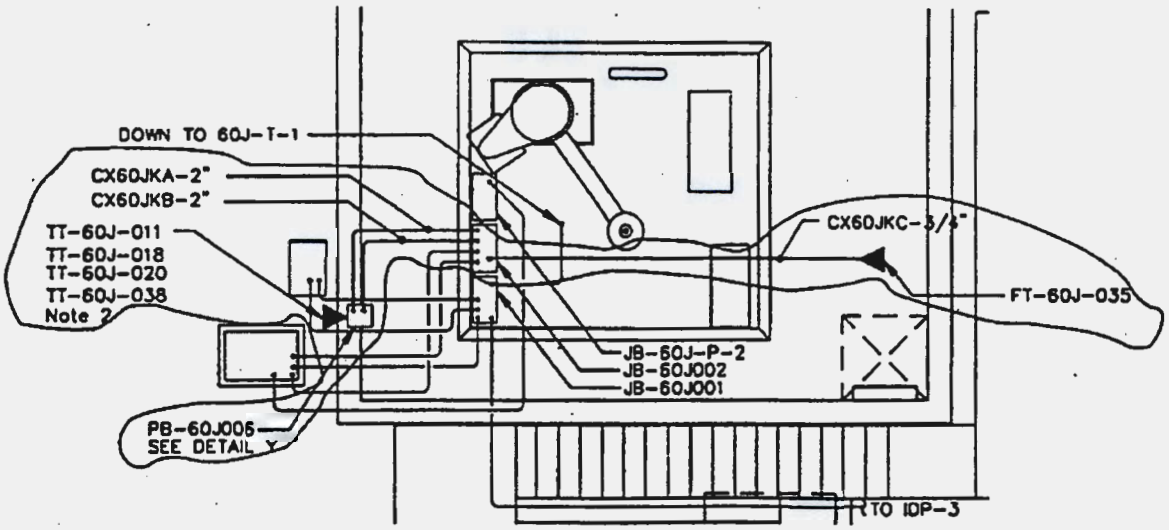


ENGINEERING CHANGE NOTICE CONTINUATION SHEET Page 5 of 10

ECN 648765 Date 08/17/98

H-2-89364 Sht.2

WAS

NOTE:

FOR PULLBOX CONDUIT DETAILS,
SEE SHEETS 3 & 4 OF THIS DRAWING.

CHANGE TO

NOTE:

1. FOR PULLBOX CONDUIT DETAILS,
   SEE SHEETS 3 & 4 OF THIS DRAWING.
2. TEMPERATURE SENSORS ARE LOCATED INSIDE TFD ROOM.

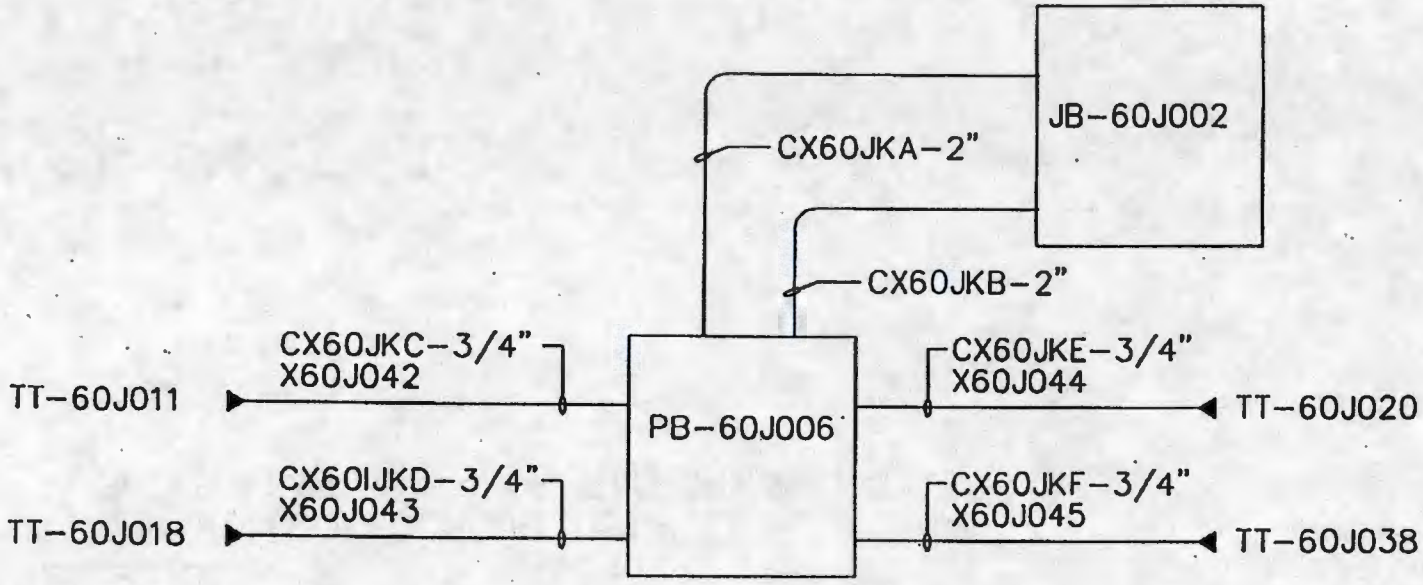
A-7900-0134 (04/94) GEF094

ENGINEERING CHANGE NOTICE CONTINUATION SHEET Page 6 of 10

ECN 648765 Date 08/17/98

H-2-89364 Sht.4

ADD



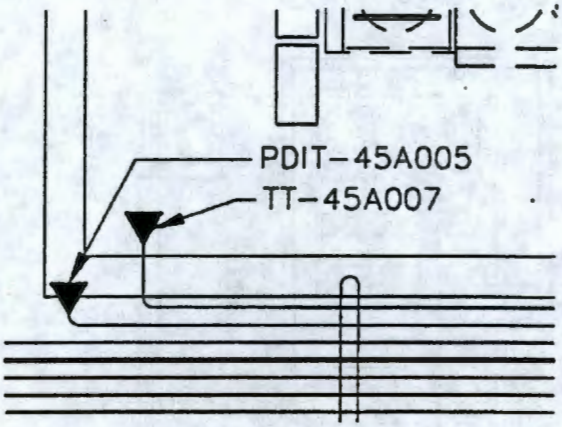
DETAIL Y

N.T.S.

A-7900-013-4 (04/94) GEF094

H-2-89364 Sht.1

WAS



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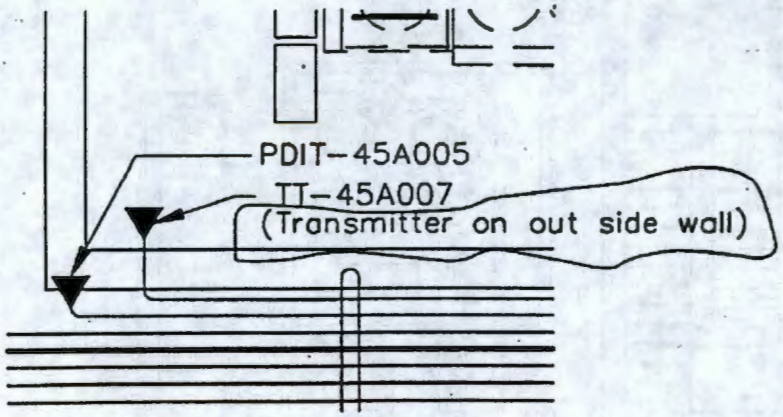
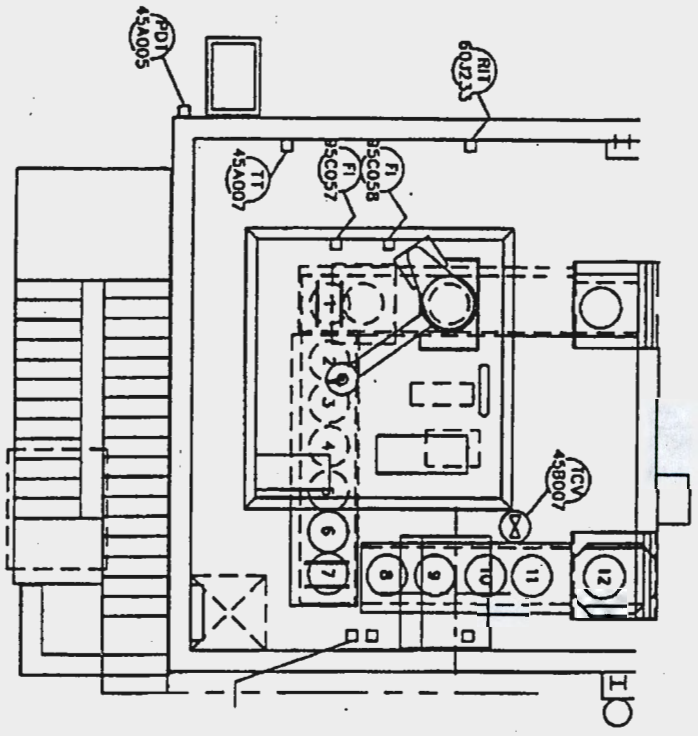
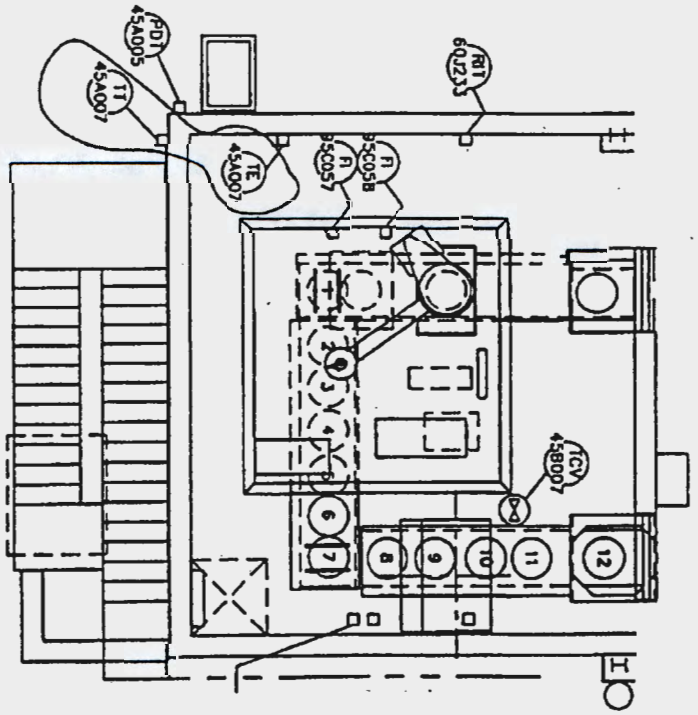


H-2-89319

WAS



CHANGE TO



INFORMATION ONLY: Add to the ETF Cable Schedule:

CABLE NO.	CABLE TYPE	FROM	TO	SERVICE	WIRING DIAGRAM	CABLE LENGTH
1.						
X60J042	1TSP18	JB-60J002	TT-60J011	INST		20
RACEWAYS: CX60JKA,CX60JKC						
2.						
X60J043	1TSP18	JB-60J002	TT-60J018	INST		20
RACEWAYS: CX60JKA, CX60JKD						
3.						
X60J044	1TSP18	JB-60J002	TT-60J020	INST		20
RACEWAYS: CX60JKA, CX60JKE						
4.						
X60J045	1TSP18	JB-60J002	TT-60J038	INST		20
RACEWAYS: CX60JKA, CX60JKF						

INFORMATION ONLY: Add to the ETF Raceway Schedule:

RACEWAY NO.	RACEWAY TYPE	FROM	TO	LENGTH (FT)	PERCENT FILL	REMARKS
5.						
CX60JKA	C200R	JB-60J002	PB-60J006	15	20%	
CABLES: X60J042, X60J043, X60J044, X60J045						
6.						
CX60JKB	C200R	JB-60J002	PB-60J006	15	20%	
CABLES: TE-60J011, TE-60J018, TE-60J020, TE-60J038						
7.						
CX60JKC	C075R	PB-60J006	TT-60J011	5	30%	
CABLES: X60J042, TE-60J011						
8.						
CX60JKD	C075R	PB-60J006	TT-60J018	5	30%	
CABLES: X60J043, TE-60J018						

9.

CX60JKE	C075R	PB-60J006	TT-60J020	5	30%	
CABLES: X60J044, TE-60J020						

10.

CX60JKF	C075R	PB-60J006	TT-60J038	5	30%	
CABLES: X60J045, TE-60J038						

ESSENTIAL

CPF18

ENGINEERING CHANGE NOTICE

Page 1 of 3

1. ECN 642797

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	DE SCULLY/32230/S6-72/373-3592	[] Yes [X] No	01/27/99
	6. Project Title/No./Work Order No. INSTALL ISOLATION VALVES ON 5 DRYER SKID PRESSURE INDICATORS/TRANSMITTERS	7. Bldg./Sys./Fac. No. 2025E/60J	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) 13 nw 2/4/99 H-2-88989, REV 6, Sht 1	10. Related ECN No(s). NONE	11. Related PO No. NONE

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00865/W	Design Authority/Cog. Engineer Signature & Date	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [X] Yes [] No

Install screwed carbon steel isolation gate valves just below the isolation diaphragms for the 4 steam pressure indicators/transmitter [PI(T)-60J-201, -202, -004, -032] as shown on p. 3 of this ECN .

Install a screwed 316 stainless steel isolation ball valve just below the isolation diaphragm for the brine pressure transmitter PT-60J-005 as shown on p. 3 of this ECN.

Install, inspect, and test the new piping installation in accordance with ASME B31.3 and addenda for ~~normal fluid service for valve 60J-202, and~~ category D fluid service. ~~for the remaining valves.~~ 109 & 1/27/99

Review and approval by the OSE lead will constitute design review.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

These isolation valves will allow the pressure indicators/transmitters to be calibrated in place.

15. Distribution (include name, MSIN, and no. of copies)

DK Smith	S6-72	1	DE Scully	S6-72	1*
NJ Sullivan	S6-72	1	WCC Planning	S6-71	1*
MW Bowman	S6-72	1			
CD Skogley	S6-71	1	JL Vigue	S6-72	1

RELEASE STAMP

DATE FEB 4 1999

STA: 4

HANFORD RELEASE

ID: 58

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 3	1. ECN (use no. from pg. 1) 647297

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
P0P-60J-001/P-6		

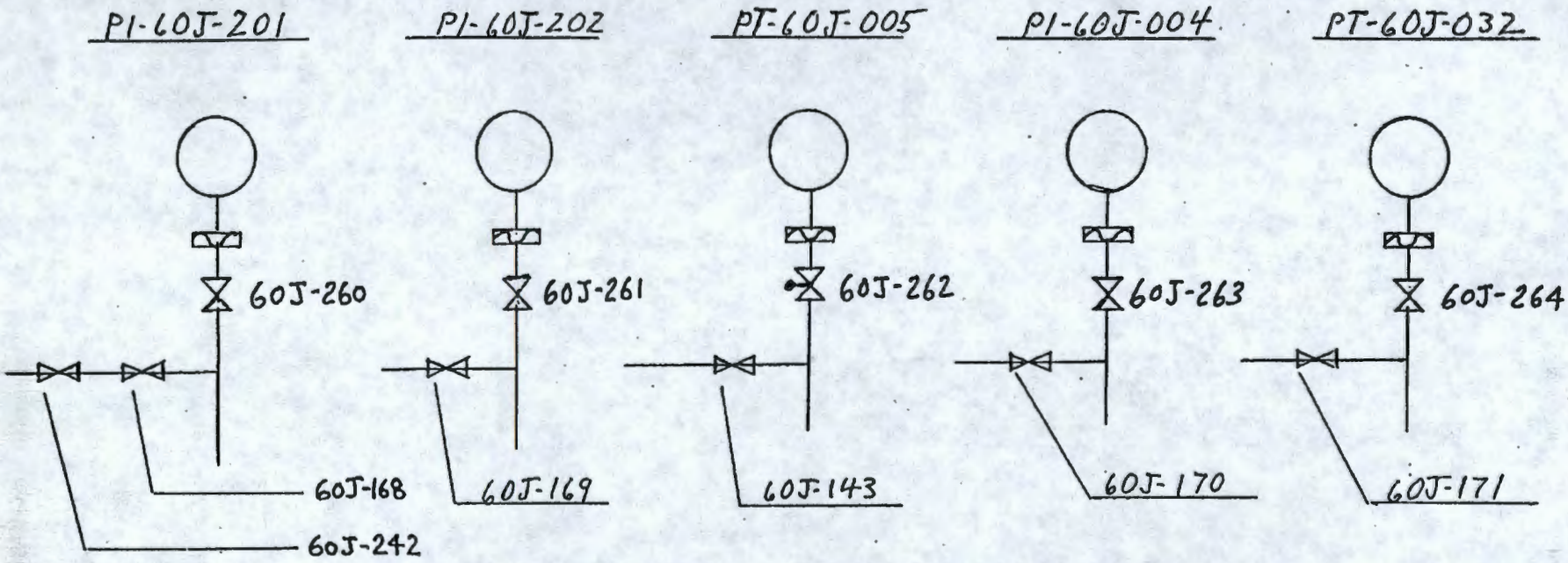
21. Approvals

	Signature	Date		Signature	Date
Design Authority DE Scully	DE Scully	1/27/99	Design Agent DE Scully	DE Scully	1/27/99
Cog. Eng. DE Scully	DE Scully	1/27/99	PE		
Cog. Mgr. NL Sullivan for RJ Nicklas	NL Sullivan	1-27-99	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
Systems Lead					

Notes:
1) The Systems Lead will provide design verification.

DEPARTMENT OF ENERGY

ADDITIONAL



The above values 60J-260, -261, -262, -263, and -264 are to be incorporated schematically on the P+ID, H-2-88989, rev. G. 13.

ECN 642797
p. 3/3

ENGINEERING CHANGE NOTICE

1. ECN ~~614443~~
Proj. ECN W-291H-~~0~~/15
DSM/SQA 9/27/94

FILE COPY Page 10

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	Joe Murphy, ICF KH, ER & SW, G3-17, 373-0867	9-19-94
	5. Project Title/No./Work Order No. W-291H 200 AREA BAT/AKART IMPLEMENTATION	6. Bldg./Sys./Fac. No. ETF TRUCK LOAD IN FACILITY	7. Approval Designator N/A
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-817969 SHT 1,2,3,4,5 ALL/0 REV H-2-817975 SHT 1 Construction Spec. W-291H-C2	9. Related ECN No(s). W291H-~~0~~/10 DSM/SQA 9/27/94	10. Related PO No. N/A/SC/3

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[ ] Yes (fill out Blk. 11b) [ ] No (NA Blks. 11b, unknown 11c, 11d)	UNKNOWN	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change SC/3

ITEM 1: DWG H-2-817969 SHT 1
a. ZONE C-4; Change alignment of line and add line as shown in sketch on page 5.

ITEM 2: DWG H-2-817969 SHT 2
a. Zone DE-3,4; Change alignment of line L-1 and add 4" line as shown in sketch on page 6.
b. Zone AB-7; Change and add line to profile as shown in sketch on page 7.
c. Zone D-7; Change notes as shown in sketch on page 8.
d. Zone B-6; Change detail as shown in sketch on page 8. Related ECN: W291H-~~0~~/10
e. Zone B-1; Change note 3 to read as follows:
3. The 4" PVC pipe for line L-1 shall be IAW pipe code A or B of section 02650 of the spec.

DSM/SQA 9/27/94

SEE CONTINUATION SHEET PAGE 3.

13a. Justification (mark one)		Criteria Change	[ ]	Design Improvement	[X]	Environmental	[ ]
As-Found	[X]	Facilitate Const.	[X]	Const. Error/Omission	[ ]	Design Error/Omission	[X]

13b. Justification Details
See Continuation Sheet Page 4.

14. Distribution (include name, MSIN, and no. of copies)

ICF KH DISTRIBUTION
Const Doc Cntl S2-53

WHC DISTRIBUTION
Project Files R1-28
M. C. Arntzen Jr. L4-93
J. K. Epperley R1-29
J. D. Fulcher S2-32
O. M. Jaka R3-08
E. A. McNarma K6-90
K. S. Pedersen (COG) R3-35
J. H. Rasmussen T6-20
B. T. Tabayoyon R3-35
R. L. Veilleux T3-28

RELEASE STAMP
OFFICIAL RELEASE BY WHC
DATE SEP 27 1994
Sta. 4
5

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1) W291H-9715 DSM/Sa 9/27/94

15. Design Verification Required	16. Cost Impact						17. Schedule Impact (days)		
	ENGINEERING			CONSTRUCTION					
[] Yes	Additional	[]	$ ϕ	Additional	[]	$ 5K	Improvement	[]	N/A
[] No	Savings	[]	$	Savings	[]	$	Delay	[]	

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision

20. Approvals

	Signature	Date
OPERATIONS AND ENGINEERING		
Cog. Eng.	K.A. Parker	9/26/94
Cog. Mgr.	[signature]	9/26/94
QA		
Safety		
Environ.		
Other		

	Signature	Date
ARCHITECT-ENGINEER		
PE	A.N. Aleman	9-23-94
QA N/A DSM		9-22-94
Safety N/A DSM		9-22-94
Design	David McGhee	9-22-94
Environ. N/A DSM		9-22-94
Other		
DEPARTMENT OF ENERGY		
Signature or a Control Number that tracks the Approval Signature		
ADDITIONAL		

APPENDIX 4A

ENGINEERING DRAWINGS

ENGINEERING DRAWINGS

CONTENTS

The drawings in Table 4A-1 are process and instrumentation diagrams for the systems at the 242-A Evaporator that contact mixed waste. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings will be provided annually to the Washington State Department of Ecology.

Table 4A-1. Process and Instrumentation Diagrams.

System	Drawing Number	Outstanding ECNs	Drawing Title
Vapor-Liquid Separator	H-2-98988 Sh. 1, Rev. 6	ECN-647922	P & ID Evap Recirc System
Reboiler/Recirculation Line	H-2-98988 Sh. 2, Rev. 5	ECN-613444	P & ID Evap Recirc System
Slurry System	H-2-98989 Sh. 1,Rev. 10	None	P & ID Slurry System
Condensate Collection Tank	H-2-98990 Sh. 1,Rev. 9	None	P & ID Process Condensate System
Secondary Containment Drain System	H-2-98995 Sh. 1, Rev. 11	None	P & ID Drain System
Secondary Containment Drain System	H-2-98995 Sh. 2, Rev. 5	None	P & ID Drain System
Condensers	H-2-98999 Sh. 1, Rev. 11	None	P & ID Vacuum Condenser System
Pump Room Sump	H-2-99002 Sh. 1, Rev. 5	ECN-647885	P & ID Jet Gang Valve System
Condensate Recycle System	H-2-99003 Sh. 1, Rev. 10	ECN-627940 ECN-647922	P & ID Filtered Raw Water System

ECN - engineering change notice.
P & ID - piping and instrumentation diagram.

The drawings in Table 4A-2 are for secondary containment systems for the 242-A Evaporator. Because secondary containment systems are the final barrier for preventing the release of dangerous waste into the environment, ECNs that affect the secondary containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4A-2. Drawing of 242-A Evaporator Secondary Containment Systems.

System	Drawing Number	Outstanding ECNs	Drawing Title
242-A Building	H-2-69277 Sh 1, Rev 2	None	Structural Foundation Plan Sections & General Notes - Areas 1 & 2
	H-2-69278 Sh 1, Rev 3	None	Structural Foundation Elevations & Details - Areas 1 & 2
	H-2-69279 Sh 1, Rev 3	None	Structural First Floor Plan & AMU - Areas 1 & 2
Pump Room Sump Drainage	H-2-69352 Sh 1, Rev 4	121216 121238 194242 610629 620353	Sections Process Waste Drainage
242-A Building Drainage	H-2-69354 Sh 1, Rev 4	194242 610629 620353	Plan Process Waste Drainage
Pump Room Sump	H-2-69369 Sh 1, Rev 1	None	Pump Room Sump Assembly & Details

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Hanford Facility RCRA Permit Modifications

Part III, Chapter 5 and Attachment 35
242-A Evaporator

Outstanding ECNs

Appendix 4A
Table 4A-1

CF F 13A B
n.PF 13 4
PF PF 7

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 4

1. ECN 647922

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-99-029 Rev 1.	08-09-99
	6. Project Title/No./Work Order No. Weight Factor Drip Water System Cap	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00443/M	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

H-2-98988 SH1 Rev 6
See Page 3 this ECN

H-2-99003 SH1 Rev 10
See Page 4 this ECN

13b. Design Baseline Document? [X] Yes [] No

Piping, fittings, and jointing methods to meet the requirements of 242-A piping specification M-9 and M-31 as appropriate. Install, inspect, and test the new piping installation in accordance with B31.1.

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The weight factor drip water system is inactive but not currently removed fromt he system. When pressurizing the dip tube legs for flushing the potential exists to inadventently damage the sight glasses on these lines. This ECN will cap the lines so that the sight glass is isolated.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72*	RF WEIS	S6-71
NJ SULLIVAN	S6-72	RS WEBER	S6-71
DK SMITH	S6-71	* = ADVANCED COPY	
J ISDELL	S6-17*		
MW BOWMAN	S6-72		

RELEASE STAMP

DATE: AUG 09 1999

STA: HANFORD RELEASE ID: 18

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 4	1. ECN (use no. from pg. 1) 647918

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $NA	Savings	[] $NA	Delay	[] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	None	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-600-010		

21. Approvals

	Signature	Date
Design Authority	TM GALIOTO JM Galioto	8-9-99
Cog. Eng.	JM Galioto	8-9-99
Cog. Mgr.	[signature]	8-9-99
QA		
Safety		
Environ.		
Informal Review	[signature]	8-9-99

	Signature	Date
Design Agent	JM Galioto	8-9-99
PE		
QA		
Safety		
Design		
Environ.		
Other		

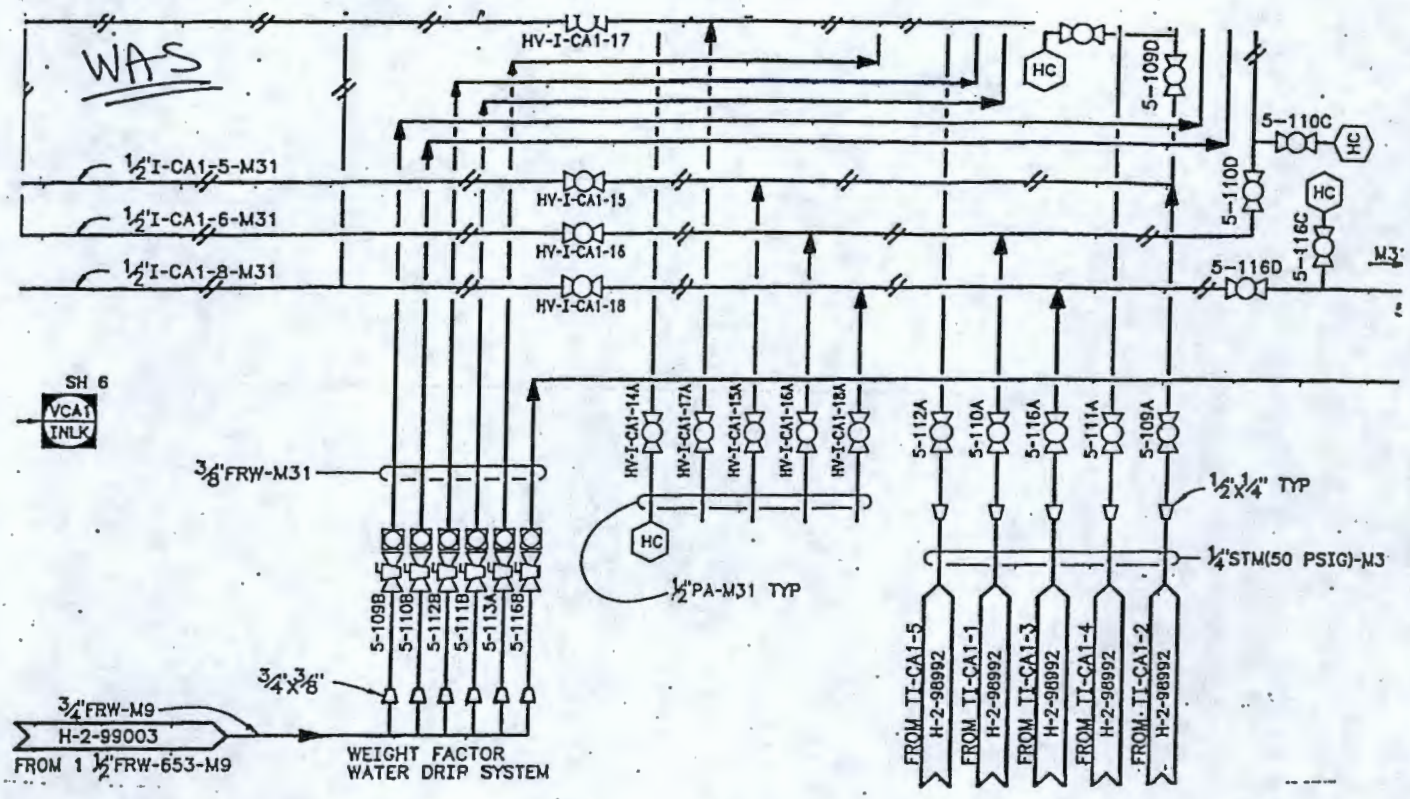
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

H-2-98988 SH 1 R6

WAS



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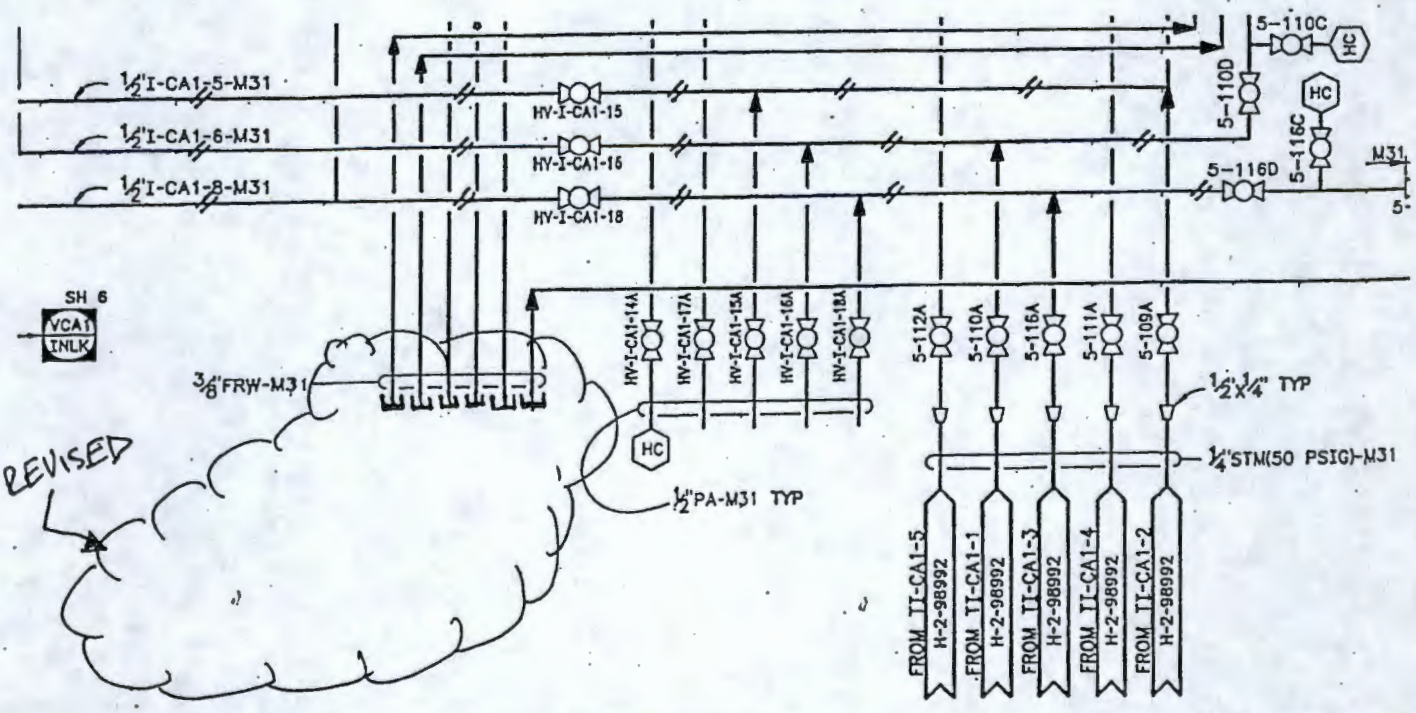

H-2-99003 SH1 Rev10

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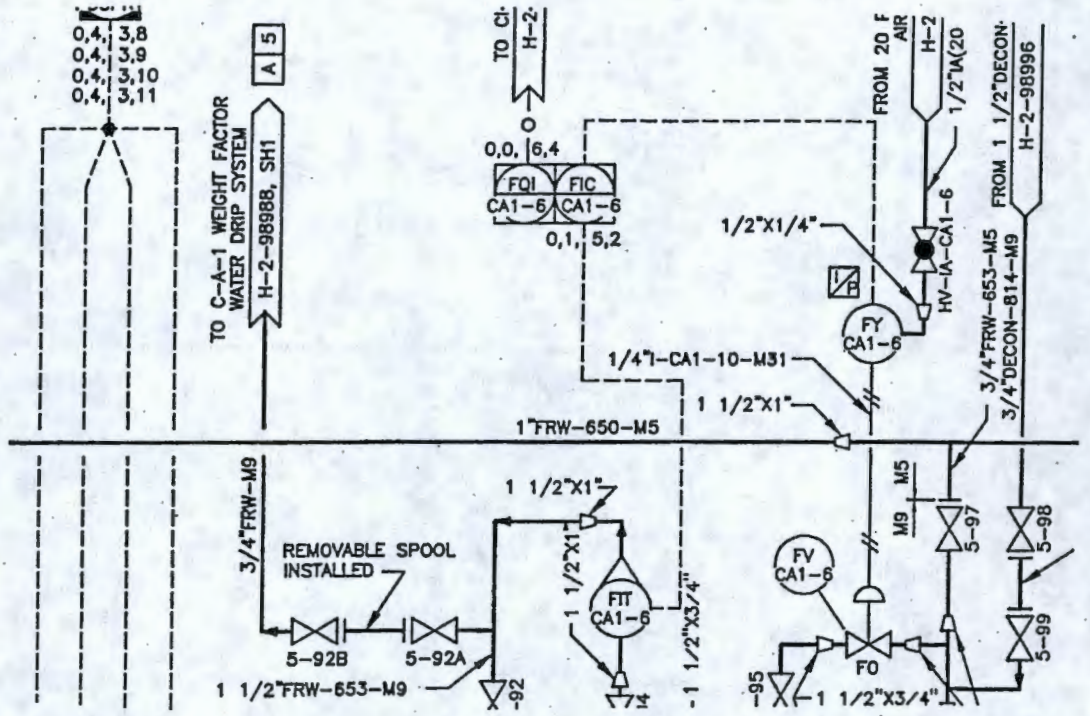

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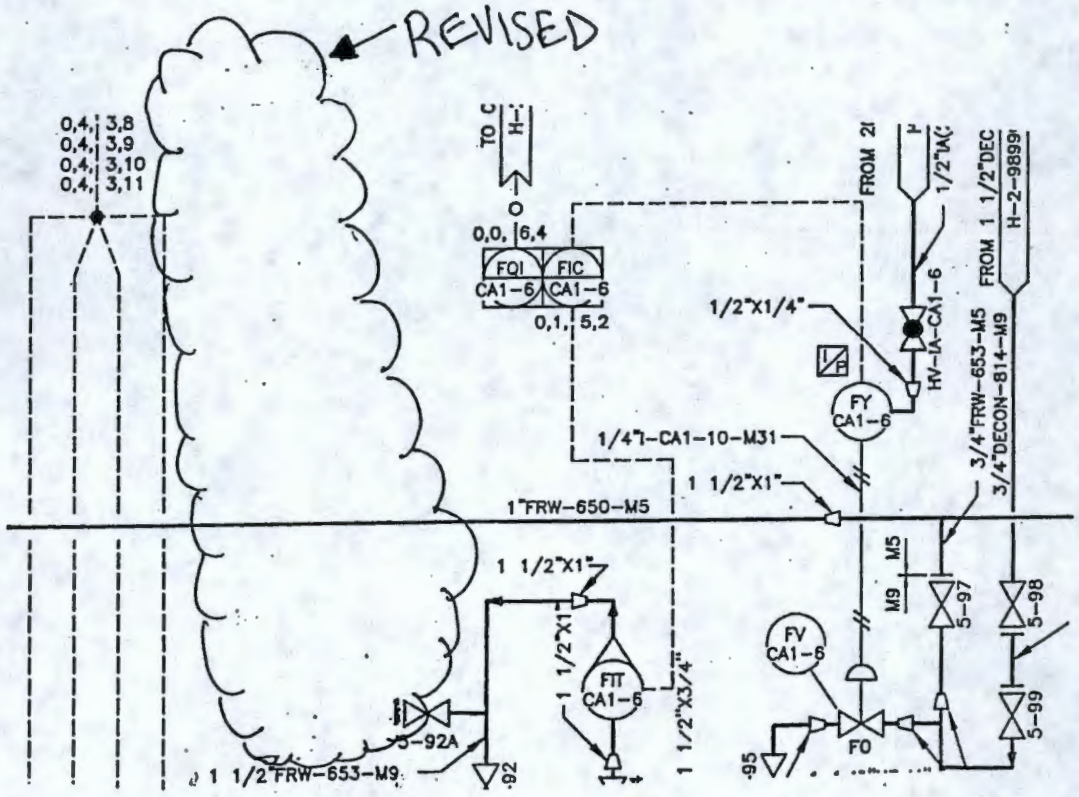
REVISED



ESSENTIAL

CPF 1-A FILE COPY

ENGINEERING CHANGE NOTICE

1. ECN 613444

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	DS HARING 74930, R1-43, 3-3154	[X] Yes [X] No D/H. 10/19/95	10/12/95
	5. Project Title/No./Work Order No. REMOVE THE FE/FT-CA1-7 FLOWMETER/ N1793	6. Bldg./Sys./Fac. No. 242-A	7. Approval Designator NA
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 12	9. Related ECN No(s). N/A	10. Related PO No. N/A

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-95-00313/M	Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

THIS ECN AFFECTS THE FOLLOWING DRAWINGS:

H-2-99009, SHT 1, REV 2 ~~2~~ 3 10/19/95
H-2-99048, SHT 2, REV ~~2~~ 2
H-2-99047, SHT 2, REV 1
H-2-99048, SHT 9, REV 1
H-2-99087, SHT 5, REV 1
H-2-99087, SHT 2, REV 2
H-2-98988, SHT 2, REV 3
H-2-99074, SHT 1, REV 23
H-2-99059, SHT 3, REV 5
H-2-99047, SHT 3, REV 1
H-2-99087, SHT 7, REV 3
H-2-99071, SHT 1, REV 2

CHANGE DRAWINGS AS SHOWN ON THE FOLLOWING ECN CONTINUATION PAGES.

13a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

The flow transmitter FE/FT-CA1-7 does not give accurate readings due to being located close to flow disturbances. Leakage was recently observed around the flow element head. Due to ALARA concerns associated with disassembling and repairing the flow element and the inability to obtain accurate readings from this transmitter, it has been decided to permanently remove the transmitter and element. This indication is not used by Operations or Engineering, therefore removal will not impact facility operation.

14. Distribution (include name, MSIN, and no. of copies)

DS HARING	R1-43	1
CM TOWNE	R1-43	1
RJ NICKLAS	R1-43	1
JE GEARY	S5-07	1

RELEASE STAMP

OFFICIAL RELEASE BY WHC
DATE OCT 19 1995

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	N/A	Additional	N/A	Improvement	N/A
[ ] No	Savings	N/A	Savings	N/A	Delay	N/A

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD N/A	[ ]	Seismic/Stress Analysis	[ ]	Tank Calibration Manual	[ ]
Functional Design Criteria	[ ]	Stress/Design Report	[ ]	Health Physics Procedure	[ ]
Operating Specification	[ ]	Interface Control Drawing	[ ]	Spares Multiple Unit Listing	[ ]
Criticality Specification	[ ]	Calibration Procedure	[ ]	Test Procedures/Specification	[ ]
Conceptual Design Report	[ ]	Installation Procedure	[ ]	Component Index	[ ]
Equipment Spec.	[ ]	Maintenance Procedure	[ ]	ASME Coded Item	[ ]
Const. Spec.	[ ]	Engineering Procedure	[ ]	Human Factor Consideration	[ ]
Procurement Spec.	[ ]	Operating Instruction	[ ]	Computer Software	[ ]
Vendor Information	[ ]	Operating Procedure	[ ]	Electric Circuit Schedule	[ ]
OM Manual	[ ]	Operational Safety Requirement	[ ]	ICRS Procedure	[ ]
FSAR/SAR	[ ]	IEFD Drawing	[ ]	Process Control Manual/Plan	[ ]
Safety Equipment List	[ ]	Cell Arrangement Drawing	[ ]	Process Flow Chart	[ ]
Radiation Work Permit	[ ]	Essential Material Specification	[ ]	Purchase Requisition	[ ]
Environmental Impact Statement	[ ]	Fac. Proc. Samp. Schedule	[ ]		[ ]
Environmental Report	[ ]	Inspection Plan	[ ]		[ ]
Environmental Permit	[ ]	Inventory Adjustment Request	[ ]		[ ]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog./Project Engineer David Henning	10/18/95	PE	
Cog./Project Engr. Mgr. [signature]	10/18/95	QA	
QA		Safety	
Safety		Design	
Security		Other	
Proj. Prog./Dept. Mgr.			
Def. React. Div.			
Chem. Proc. Div.			
Def. Wst. Mgmt. Div.		DEPARTMENT OF ENERGY	
Adv. React. Dev. Div.			
Proj. Dept.			
Environ. Div.		ADDITIONAL	
IRM Dept.			
Facility Rep. (Ops.)			
Other D M Hickman INFORMAL REVIEW	10/13/95		

CHANGE H-2-99047, SHT 2 AS FOLLOWS:

DELETE THE ROW PERTAINING TO "FE-CA1-7".

CHANGE H-2-99047, SHT 3 AS FOLLOWS:

DELETE THE ROW PERTAINING TO "FI-CA1-7".

CHANGE H-2-99048, SHT 9 AS FOLLOWS:

DELETE "ELEVATION R" FROM DRAWING.

CHANGE H-2-99087, SHT 7 AS FOLLOWS:

CHANGE WR 2019 AS FOLLOWS:
2019/1/18/2/MCS PCM 0 MUX 1/DCWW-2, PB150B, PB150A, P2028/JB223/SP

DELETE WR 2020 FROM THE WIRE RUN LIST.

DELETE CONDUIT P2013 AND P2027 FROM THE CONDUIT SCHEDULE.

CHANGE CONDUIT P2012 AS "SPARE" IN THE CONDUIT SCHEDULE.

ANGE H-2-99087, SHT 5 AS FOLLOWS:

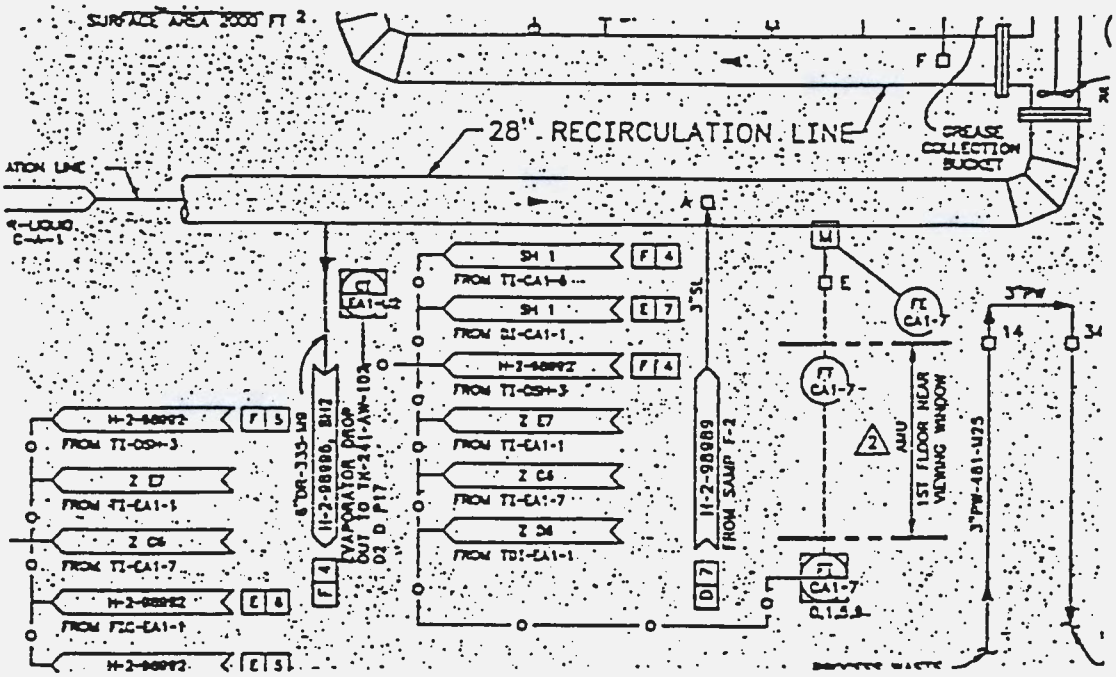
DELETE WR 364 FROM THE WIRE RUN LIST.

CHANGE H-2-99087, SHT 2 AS FOLLOWS:

DELETE CONDUIT P1230 FROM THE CONDUIT SCHEDULE.

H-2-98988, SHT. 2 (2000E)6-B):

WAS:



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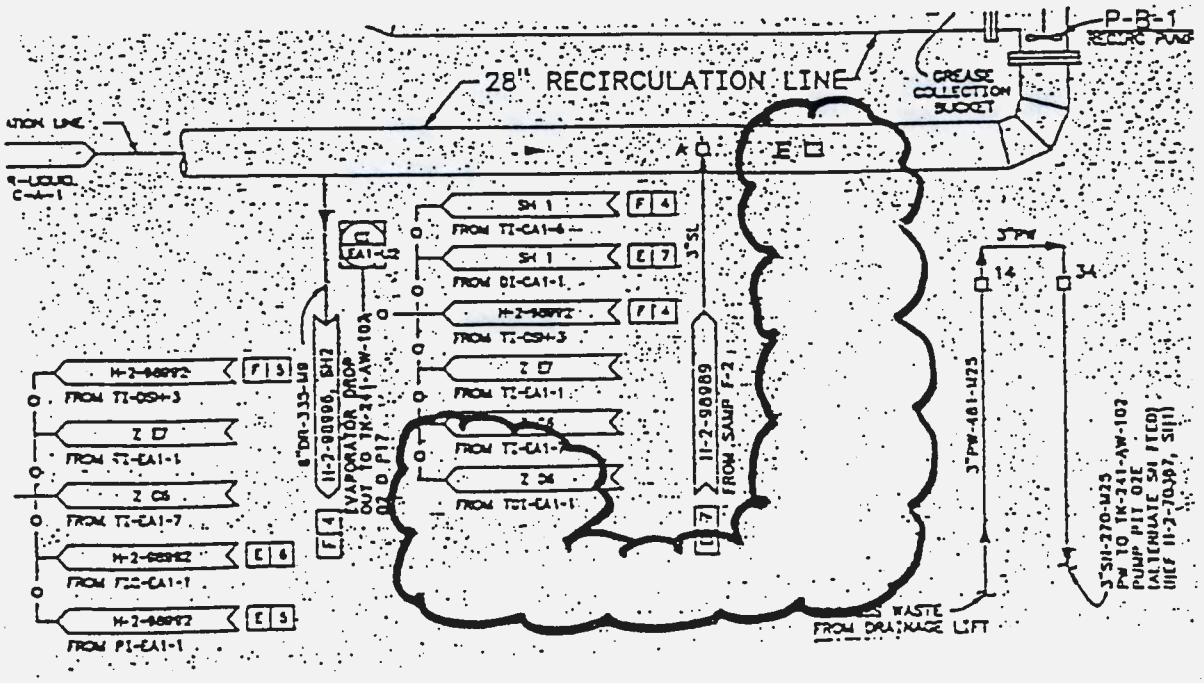

H-2-99059, SHT. 3 (ZONE 6-C):

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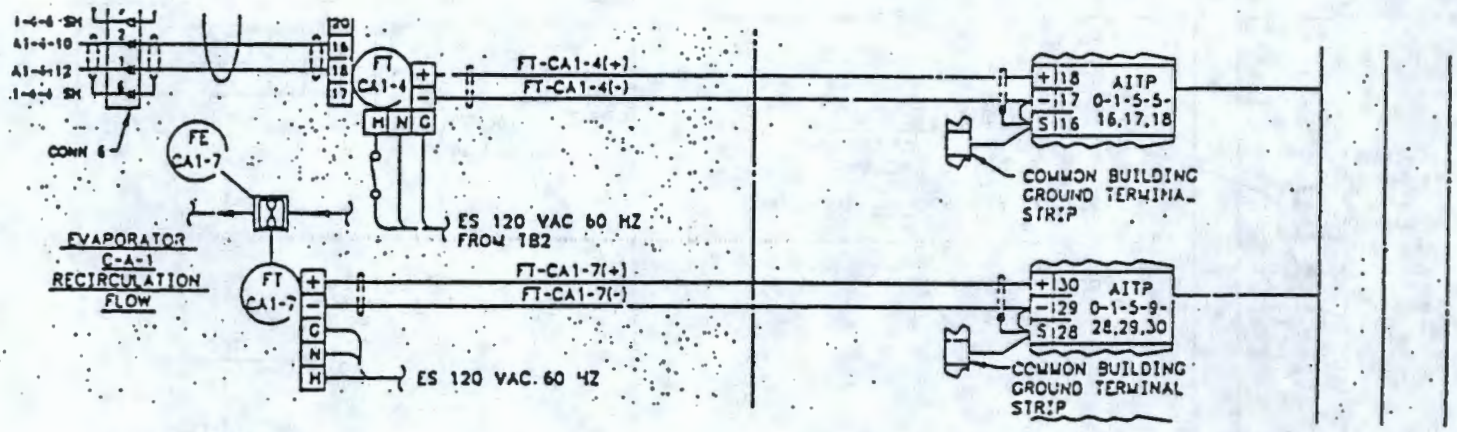

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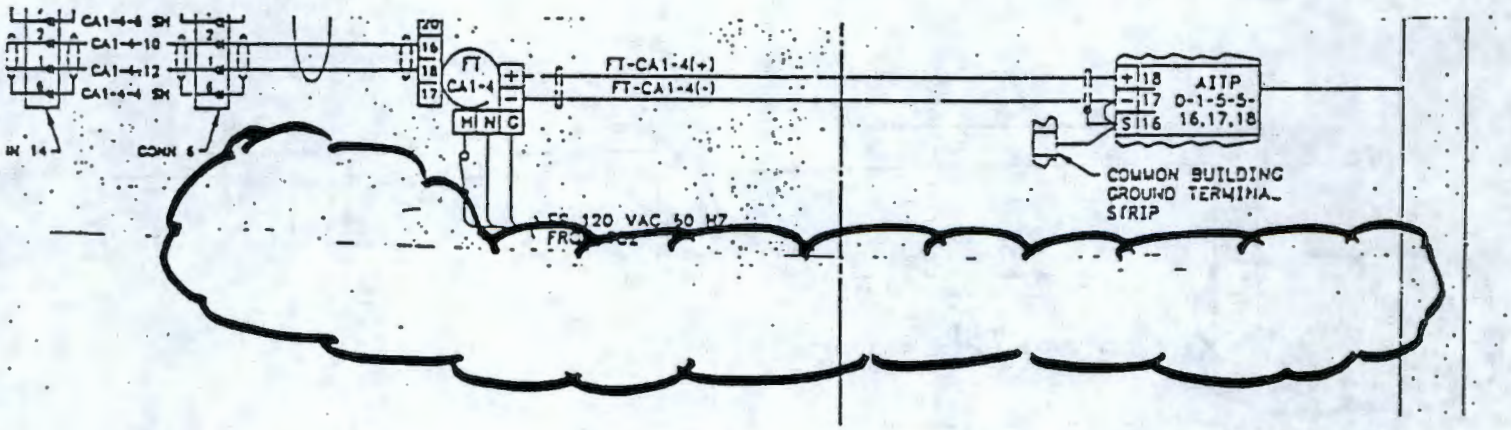
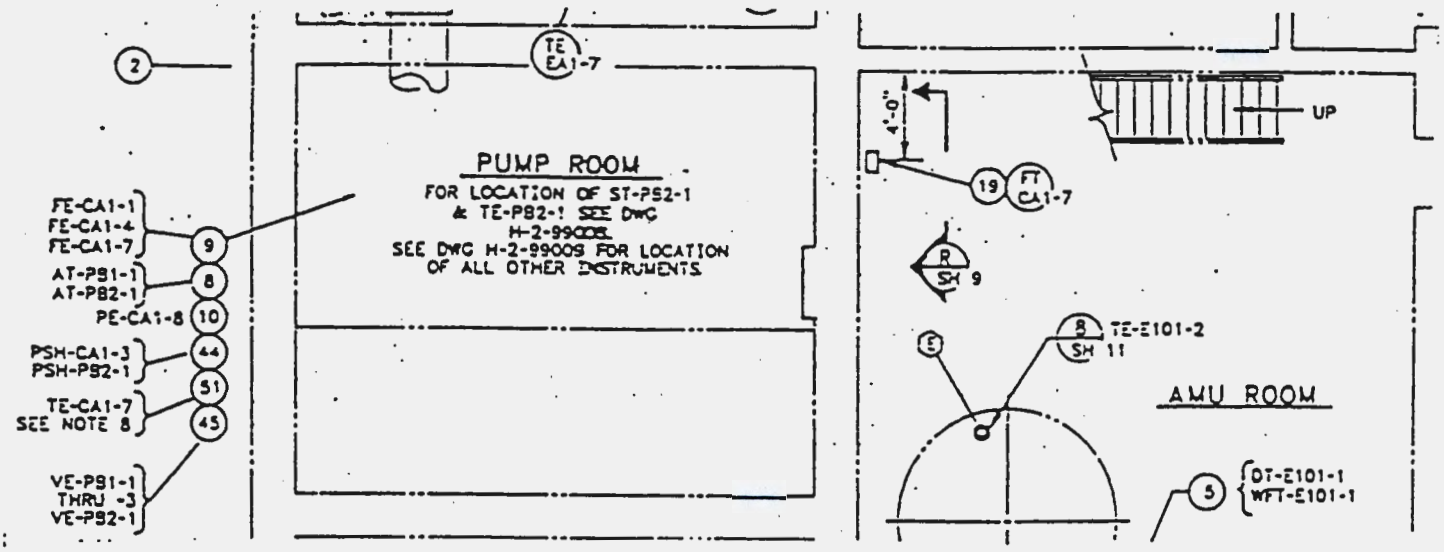


H2-99048, SHT 2 (ZONE 7-C):

WAS:



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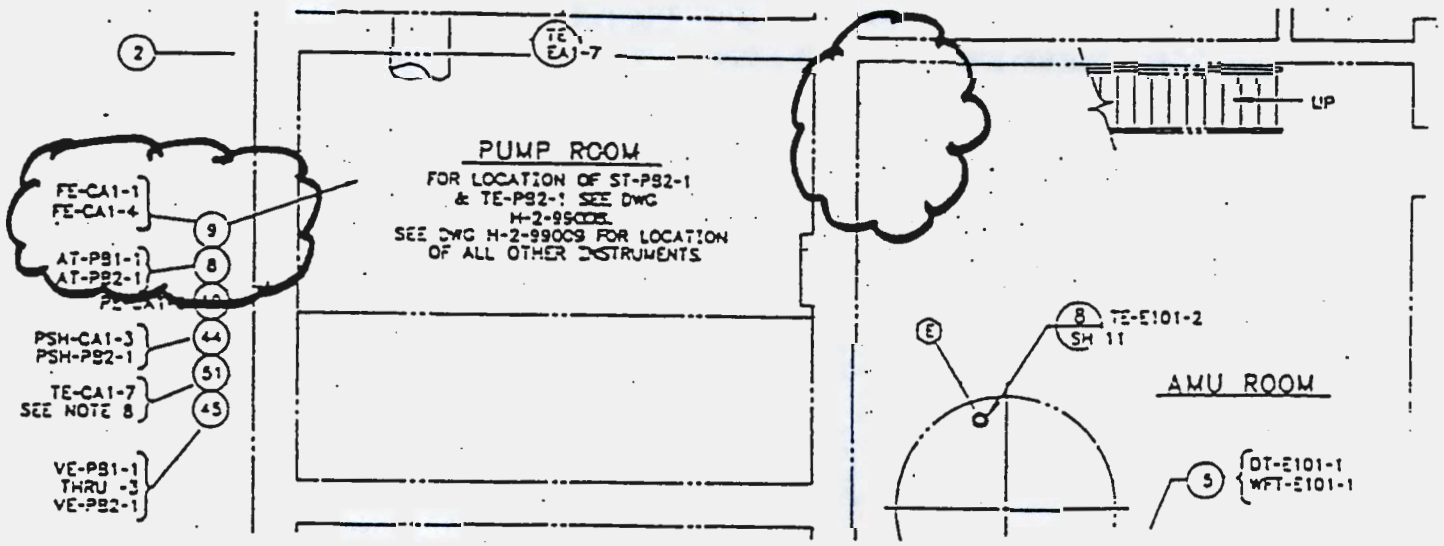
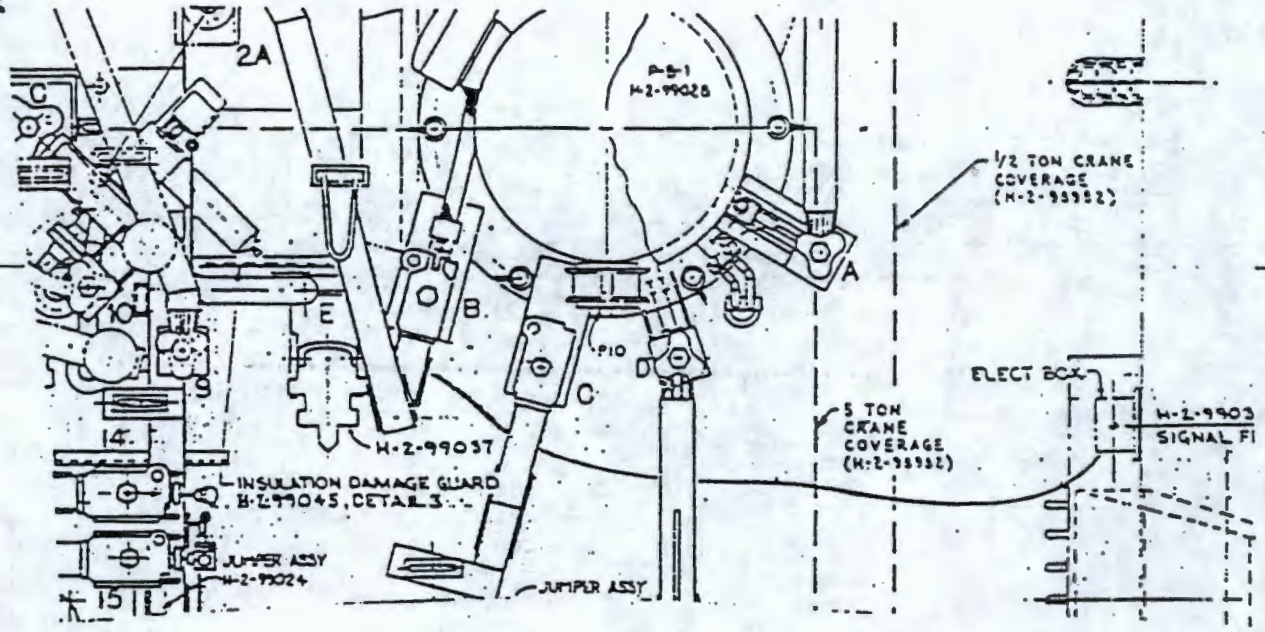


H-2-99009, SHT. 1 (ZONE 5-D):

WAS:



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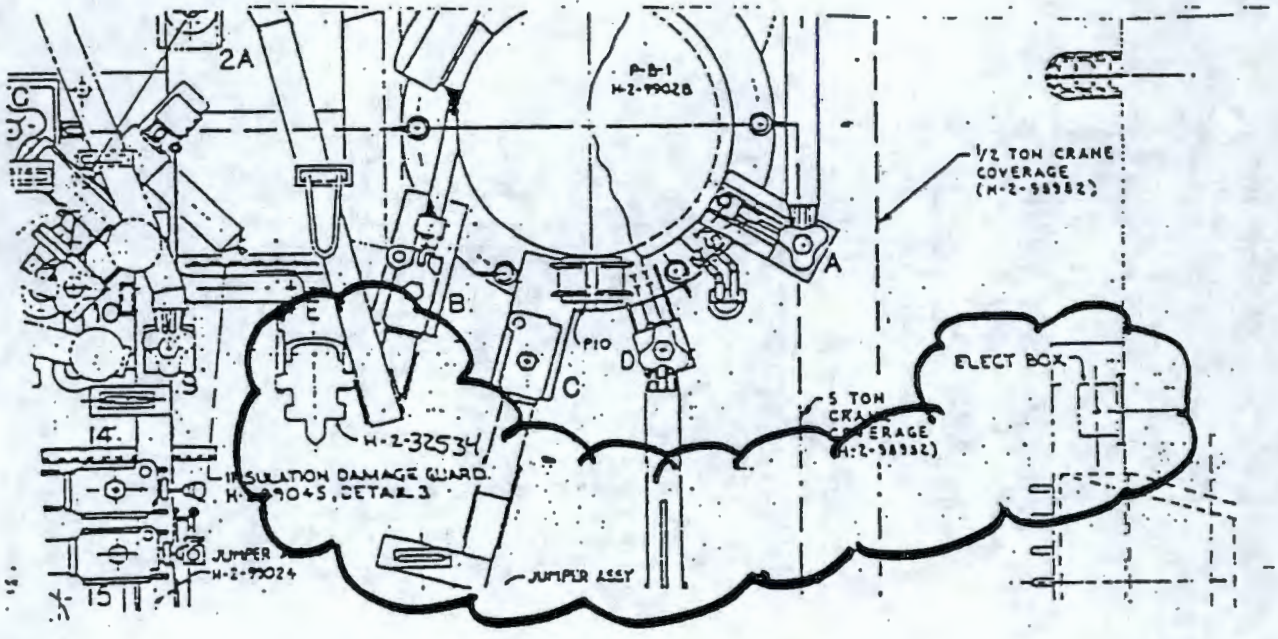
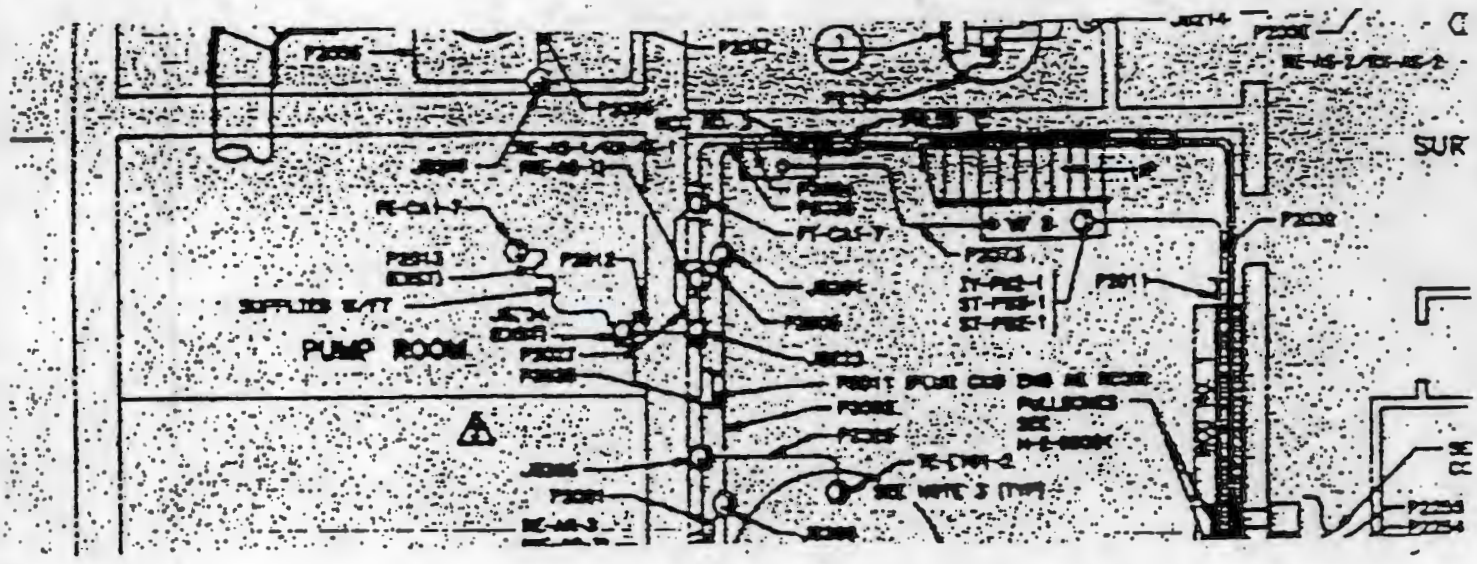


H-2-99074, SHT 1 (ZONE 6-D):

WAS:



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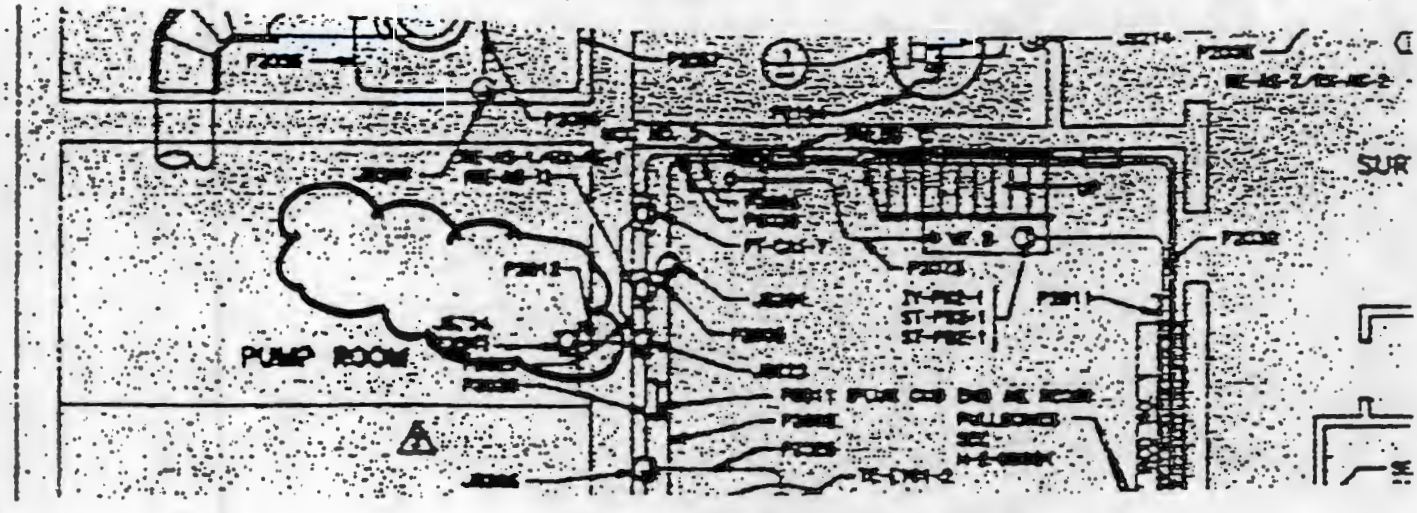

S

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 7

1. ECN 647885

Proj. ECN

CPF 13A, 13B

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-98-025	06-15-98
	6. Project Title/No./Work Order No. PT-CA1-5 UPDATE	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-97-00531	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change
H-2-99002 SH1 REV 5
SEE PAGE 4 THIS ECN

13b. Design Baseline Document? [X] Yes [] No

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details
The pressure transmitter is no longer used or required. It is being physically removed from service. The lines to and from the pressure transmitter will be capped.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72*	RF WEIS	S6-71
NJ SULLIVAN	S6-72	RS WEBER	S6-71
JE GEARY	S6-71	* = ADVANCED COPY	
J ISDELL	S6-17*		
MW BOWMAN	S6-72		
DL FLYCKT	S6-71		

*WCC PLANNING S6-72

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JUN 30 1998
DATE:
STA: 30
HANFORD RELEASE
ID: 25

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 647885

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $NA	Savings	[] $NA	Delay	[] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	None	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-6000-010		
EE-01553		

21. Approvals

	Signature	Date		Signature	Date
Design Authority	TM GALIOTO JM Galioto	6/15/98	Design Agent	JM Galioto	6/15/98
Cog. Eng.	JM Galioto	6/15/98	PE		
Cog. Mgr.	MJ Lawler	6-30-98	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Informal Review	MJ Lawler	6-30-98	Other		

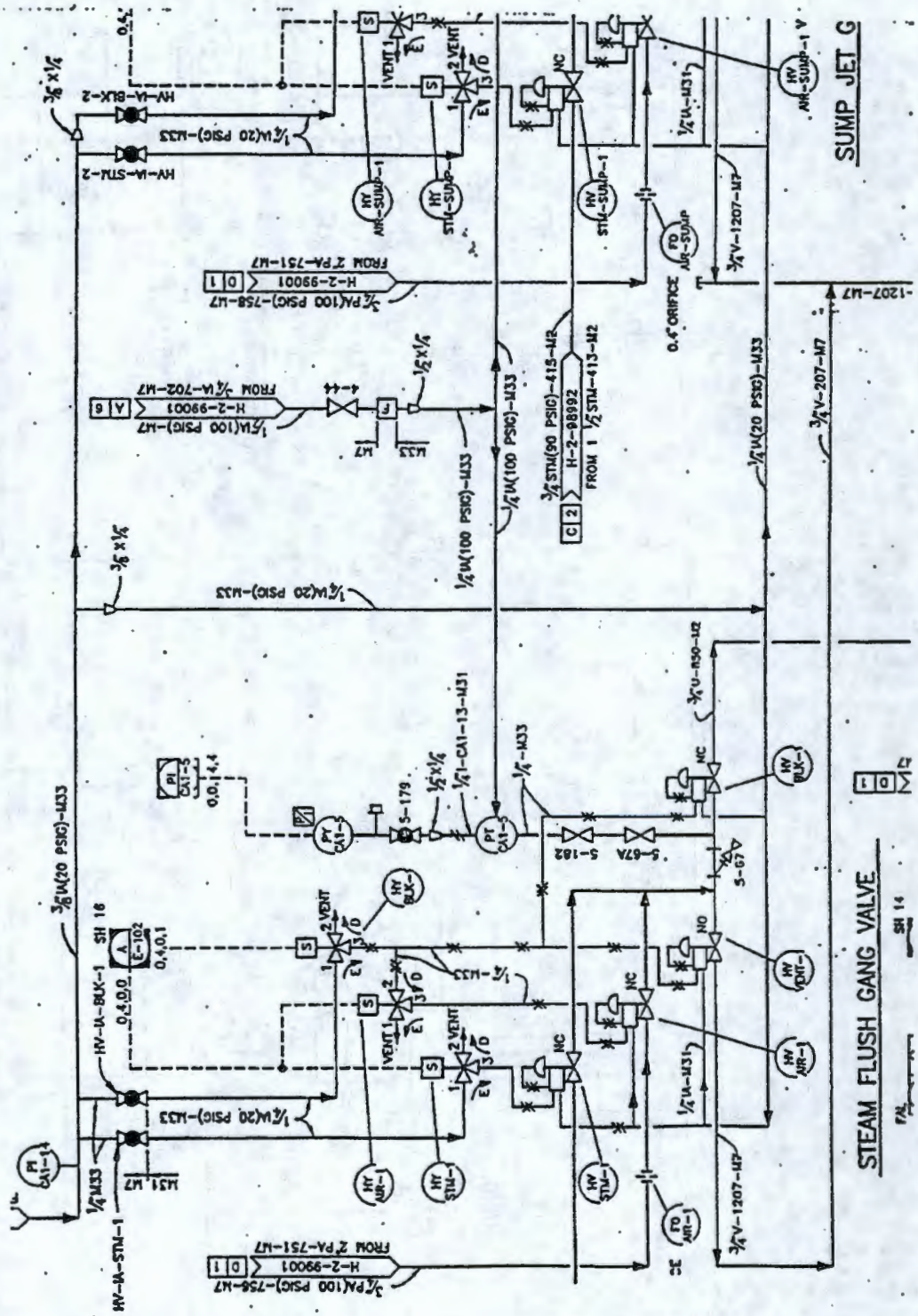
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

H-2-99002 Sh1 Rev5

WAS



ENGINEERING CHANGE NOTICE CONTINUATION SHEET

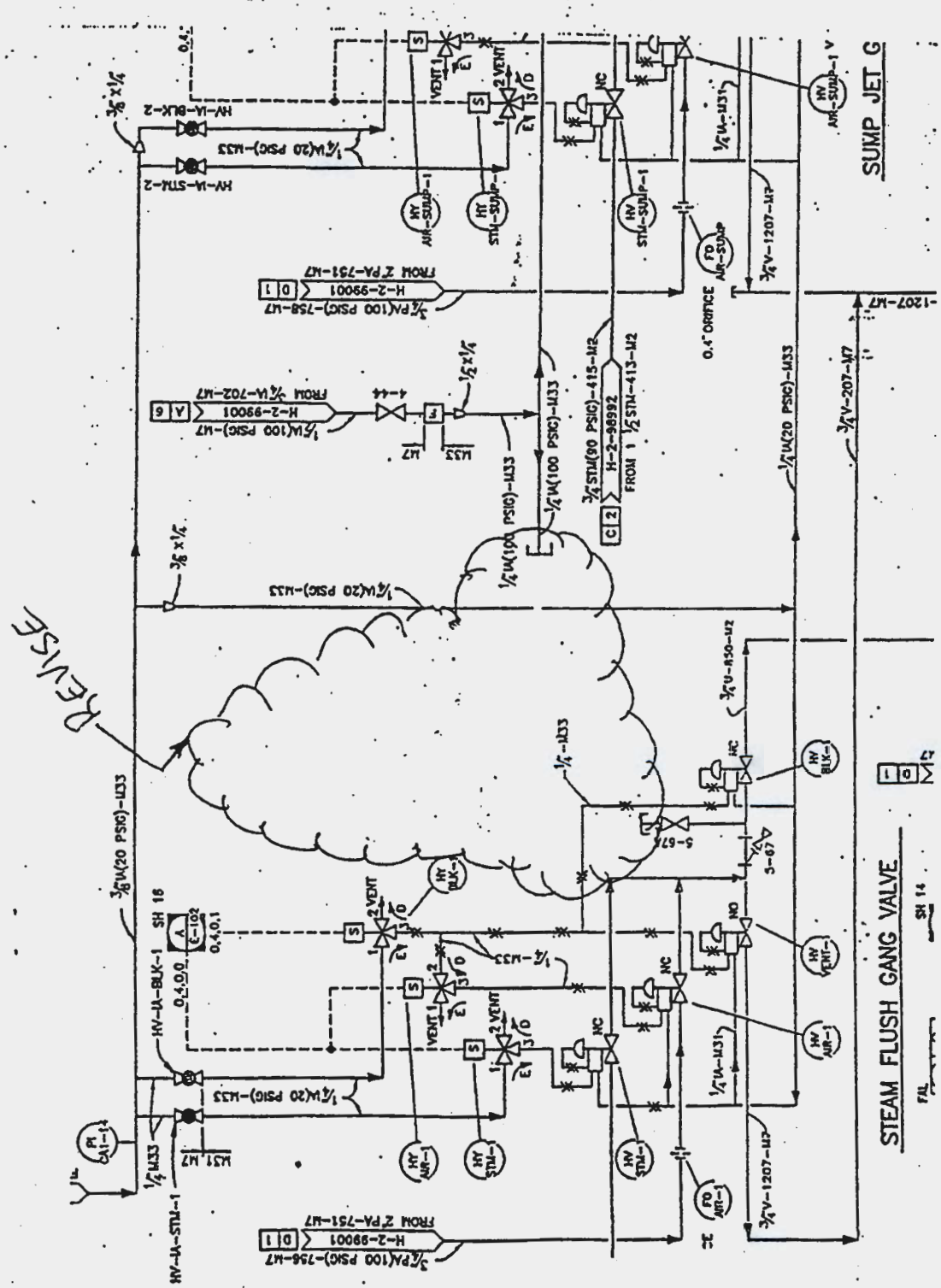
Page 4 of 7

ECN 647885

Date 6-10-98

H-2-99002 Sh1 Rev5

IS



Identification Number: LW-98-025	USQ EVALUATION	Page 1 of 3

Title: PT-CA1-5 Modification

Facility: 242-A Evaporator

ECN No. 647885 PCA No.

Work Pkg No. EL-97-00531 Other (Specify)

TITLE: PT-CA1-5 Modification

Description of the proposed activity/reportable occurrence or PIAB:
The pressure transmitter PT-CA1-5 is no longer used or required for process operations. This instrument was the pressure transmitter for the steam flush of the slurry line, and is not working and will be removed. The lines to the pressure transmitter will then be capped.

Introduction: The pressure transmitter was removed for calibration and unable to be calibrated or repaired. It was put into service then and not available for use. This pressure transmitter will be removed and have the lines leading to it capped. The pressure switch and associated equipment will be removed as well. The 242A authorization basis does not describe the details of the pressure transmitters nor does it contain any accidents pertaining to the transmitters.

Scope: This USQ document analyzes the impact of removing the PT-CA1-5 pressure transmitter and its associated equipment.

Authorization basis: The Authorization Basis for the 242-A Evaporator is the *242-A Evaporator Safety Analysis Report*, HNF-SD-WM-SAR-023, Rev. 3 (SAR). The pressure transmitter is included in Table 5-4, which lists the applications of instrument air at the Evaporator. This is the only discussion of the steam flush contained with the SAR.

Steam supply and distribution are discussed in section 5.4.5 of the SAR. Steam flushing is mentioned, but flushing of the slurry line is not specified. This section further states that "Steam supply is not a Safety Class/Safety Significant system nor is it required to mitigate environmental releases".

Compressed air is discussed in Section 5.4.4 of the SAR. This section states that "Compressed air is not a Safety Class or Safety Significant system nor is it required to mitigate environmental releases."

The slurry system is described is section 6.4.1.2. Slurry line flushing is discussed in section 6.4.1.2.9, but only includes flushing with water or a chemical solution from the decontamination header. Flushing using steam is not mentioned.

Conclusion: No DOE approval is necessary. This change may be made at contractor discretion.

Identification Number: LW-98-025	USQ EVALUATION	Page 2 of 3

Title: PT-CA1-5 Modification

References: None outside the Authorization Basis.

1. Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the probability of occurrence of an accident previously evaluated in the AUTHORIZATION BASIS documentation?
[X] No [ ] Yes/Maybe

BASIS: Accident analysis is contained in Section 9.3 of the SAR. There are no accidents associated with the pressure transmitters or slurry line flushing at the 242A Evaporator. Therefore the proposed change does not increase the probability of an accident previously evaluated in the Authorization basis document.

2. Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the consequences of an accident previously evaluated in the AUTHORIZATION BASIS documentation?
[X] No [ ] Yes/Maybe

BASIS: Accident analysis is contained in Section 9.3 of the SAR. There are no accidents associated with the pressure transmitters or slurry line flushing at the 242A Evaporator. Therefore the proposed change does not increase the consequences of an accident previously evaluated in the Authorization basis document.

3. Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the probability of occurrence of a malfunction of EQUIPMENT IMPORTANT TO SAFETY (ITS EQUIPMENT) previously evaluated in the AUTHORIZATION BASIS documentation?
[X] No [ ] Yes/Maybe

BASIS: The Preliminary Hazards Assessment is described in Section 9.2 of the SAR and summarized in Tables 9-4 through 9-8. None of these scenarios rely on slurry line steam flushing or instrumentation associated with steam flushing. Therefore, the proposed change does not increase the probability of a malfunction of ITS equipment as previously evaluated in the Authorization Basis.

4. Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the consequences of a malfunction of ITS EQUIPMENT previously evaluated in the AUTHORIZATION BASIS documentation?
[X] No [ ] Yes/Maybe

BASIS: The Preliminary Hazards Assessment is described in Section 9.2 of the SAR and summarized in Tables 9-4 through 9-8. None of these scenarios rely on slurry line steam flushing or instrumentation associated with steam flushing. Therefore, the proposed change will have no effect on the consequences of an ITS equipment malfunction.

5. Does the PROPOSED CHANGE, test, experiment or DISCOVERY create the possibility of an accident of a different type than any previously evaluated in the AUTHORIZATION BASIS documentation?
[X] No [ ] Yes/Maybe

BASIS: Steam flushing of the slurry line has not been performed in the recent past, and it is unlikely to be required in the future. As previously stated, neither the steam system nor the compressed air system are required for safety or environmental purposes. As the pressure transmitter is an air operated instrument on a steam line, removal of this instrument cannot create a new type of accident, but rather will decrease the potential for operational upset if the instrument were to malfunction during use.

Identification Number: LW-98-025	USQ EVALUATION	Page 3 of 3

Title: PT-CA1-5 Modification

6. Does the PROPOSED CHANGE, test, experiment or DISCOVERY create the possibility of a malfunction of ITS EQUIPMENT of a different type than any previously evaluated in the AUTHORIZATION BASIS documentation?
[X] No [ ] Yes/Maybe

BASIS: Steam flushing of the slurry line has not be performed in the recent past, and it is unlikely to be required in the future. As previously stated, neither the steam system nor the compressed air system are required for safety or environmental purposes. As the pressure transmitter is an air operated instrument on a steam line, removal of this instrument cannot create a new type of ITS equipment malfunction. It will, however, decrease the potential for operational upset if the instrument were to malfunction during use.

7. Does the PROPOSED CHANGE, test, experiment or DISCOVERY reduce the margin of safety as defined in the basis for any Technical Safety Requirement?
[X] No [ ] Yes/Maybe

BASIS: Operational Safety Requirements (OSRs) and their bases sections are specified in Chapter 11 of the SAR. The proposed change will not decrease the margin of safety for any OSR as described in its basis. There are no OSRs associated with the pressure transmitter or slurry line flushing as defined in the Authorization basis document.

8. Does the PROPOSED CHANGE, test, experiment or DISCOVERY require a new or revised Technical Safety Requirement?
[X] No [ ] Yes/Maybe

BASIS: The removal of the pressure transmitter will have no effect on the OSRs for the 242A Evaporator.

USQE #1 TM GALIOTO (Print Name)

Signature Date: 6-24-98

USQE #2 MD GUTHRIE (Print Name)

Signature Date: 6/24/98

ESSENTIAL

CF 13B

ENGINEERING CHANGE NOTICE

1. ECN 627940

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [X] Cancel/Void []	S.P. BIGLIN, EPPE, R1-43, 373-4623	[X] Yes [] No	12/13/95
	5. Project Title/No./Work Order No.: FIT REPLACEMENT	6. Bldg./Sys./Fac. No.: 242-A	7. Approval Designator: Q
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.): SEE BLOCK 12	9. Related ECN No(s.): 627938	10. Related PO No.: NA

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-00770	Cog. Engineer Signature & Date	NA Cog. Engineer Signature & Date

12. Description of Change

-THIS ECN SUPERSEDES ECN #627938 IN ITS ENTIRETY.
-DRAWINGS AFFECTED H-2-99003, SH 1, REV 8
H-2-99047, SH 3, REV 1

FILE COPY

-CHANGE REDUCER SIZE ON H-2-99003, SH 1 AS SHOWN ON PAGE 3 OF THIS ECN.
-CHANGE INFORMATION ON H-2-99047, SH 3 AS SHOWN ON PAGE 4 OF THIS ECN.
-INSTALL NEW FLOW INDICATING TRANSMITTER AND FABRICATE JUMPERS AS SHOWN ON PAGE 5 OF THIS ECN. FIELD FIT JUMPERS AND TRANSMITTER, ALLOW A MINNIMUM OF A 5 PIPE DIAMETER LENGTH FOR THE INLET SIDE AND A 2 PIPE DIAMETER LENGTH ON THE OUTLET SIDE. WELD AND INSPECT PER B31.1, VT WELDS ON FINAL PASS.
-REMOVE CONDUIT P1301, P2145, AND POWER SUPPLY. INSTALL FLEX CONDUIT FROM TBX-7 TO TRANSMITTER AND INSTALL FLEX CONDUIT FROM JB250 TO TRANSMITTER. USE EXISTING WIRING.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

THE CURRENT FLOW TRANSMITTER DOES NOT GIVE CONSISTANT READINGS. A MAG FLOW TRANSMITTER WILL GIVE MORE CONSISTANT READINGS AND PROVIDE BETTER EFFICIENCY.

14. Distribution (include name, MSIN, and no. of copies)

S.P. BIGLIN R1-43
D.S. HARING R1-43
J.E. GEARY S5-07

RELEASE STAMP

DATE: DEC 14 1995
STA: 4
HANFORD RELEASE ID: 2

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 627940

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	NA	Additional	NA	Improvement	NA
[ ] No	Savings	NA	Savings	NA	Delay	NA

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[ ]	Seismic/Stress Analysis	[ ]	Tank Calibration Manual	[ ]
Functional Design Criteria	[ ]	Stress/Design Report	[ ]	Health Physics Procedure	[ ]
Operating Specification	[ ]	Interface Control Drawing	[ ]	Spares Multiple Unit Listing	[ ]
Criticality Specification	[ ]	Calibration Procedure	[ ]	Test Procedures/Specification	[ ]
Conceptual Design Report	[ ]	Installation Procedure	[ ]	Component Index	[ ]
Equipment Spec.	[ ]	Maintenance Procedure	[ ]	ASME Coded Item	[ ]
Const. Spec.	[ ]	Engineering Procedure	[ ]	Human Factor Consideration	[ ]
Procurement Spec.	[ ]	Operating Instruction	[ ]	Computer Software	[ ]
Vendor Information	[ ]	Operating Procedure	[ ]	Electric Circuit Schedule	[ ]
OM Manual	[ ]	Operational Safety Requirement	[ ]	ICRS Procedure	[ ]
FSAR/SAR	[ ]	IEFD Drawing	[ ]	Process Control Manual/Plan	[ ]
Safety Equipment List	[ ]	Cell Arrangement Drawing	[ ]	Process Flow Chart	[ ]
Radiation Work Permit	[ ]	Essential Material Specification	[ ]	Purchase Requisition	[ ]
Environmental Impact Statement	[ ]	Fac. Proc. Samp. Schedule	[ ]	Tickler File	[ ]
Environmental Report	[ ]	Inspection Plan	[ ]	None	[X]
Environmental Permit	[ ]	Inventory Adjustment Request	[ ]		[ ]

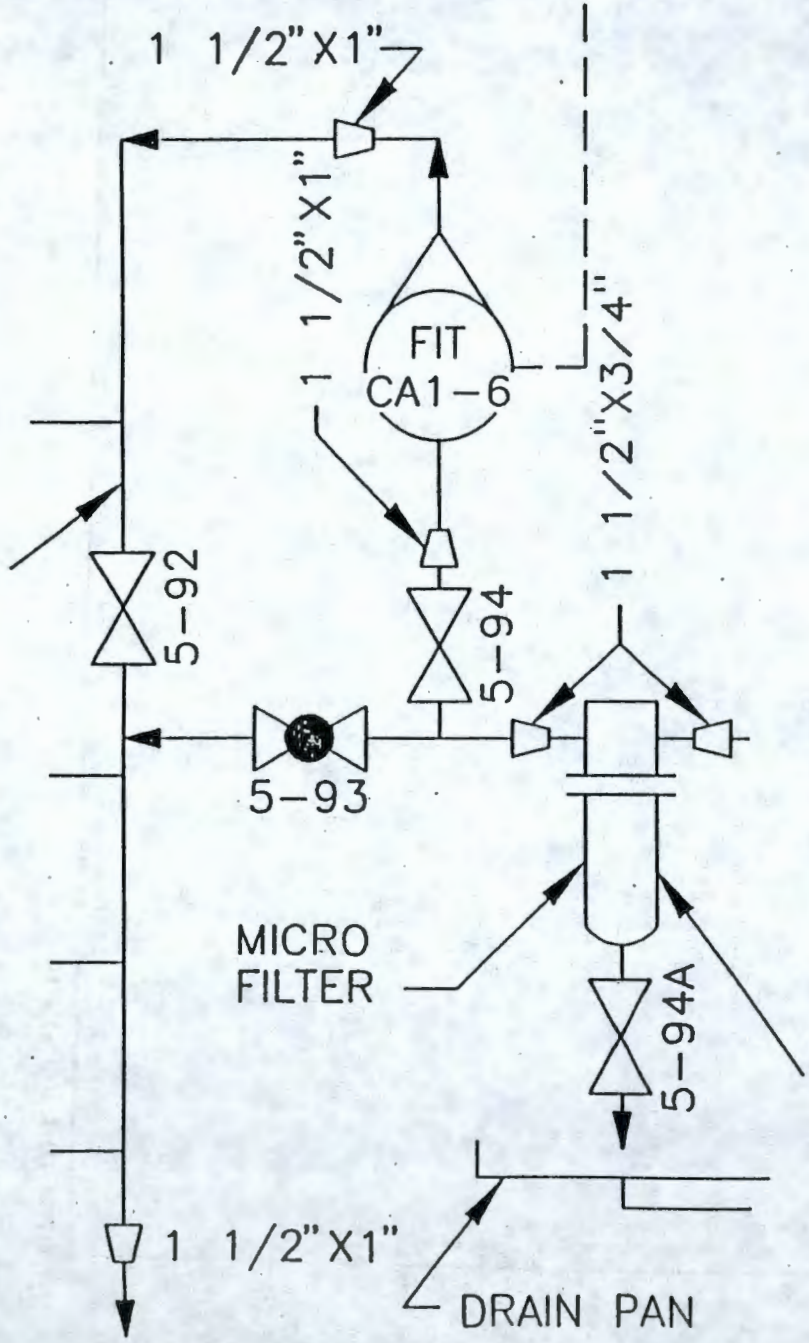
19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
NA		

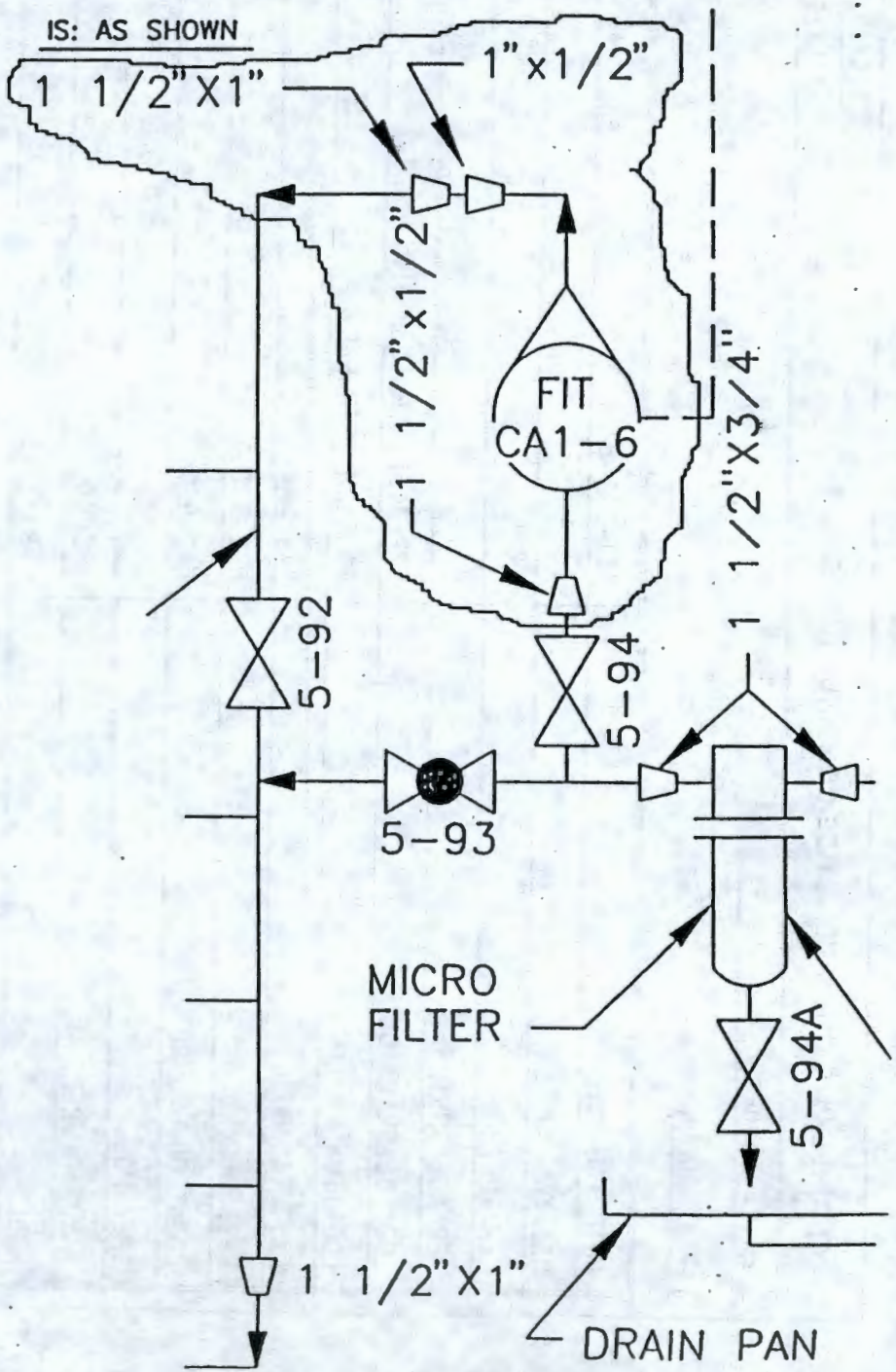
20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog. Eng. ~~Eric~~ Roger a Wallquist	12/14/95	PE	
Cog. Mgr. David Strang	12/14/95	QA	
QA W L Adams	12/14/95	Safety	
Safety		Design	
Environ.		Environ.	
Informal Review Navlet	12/14/95	Other	
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

WAS: H-2-99003, SH 1 REV 8



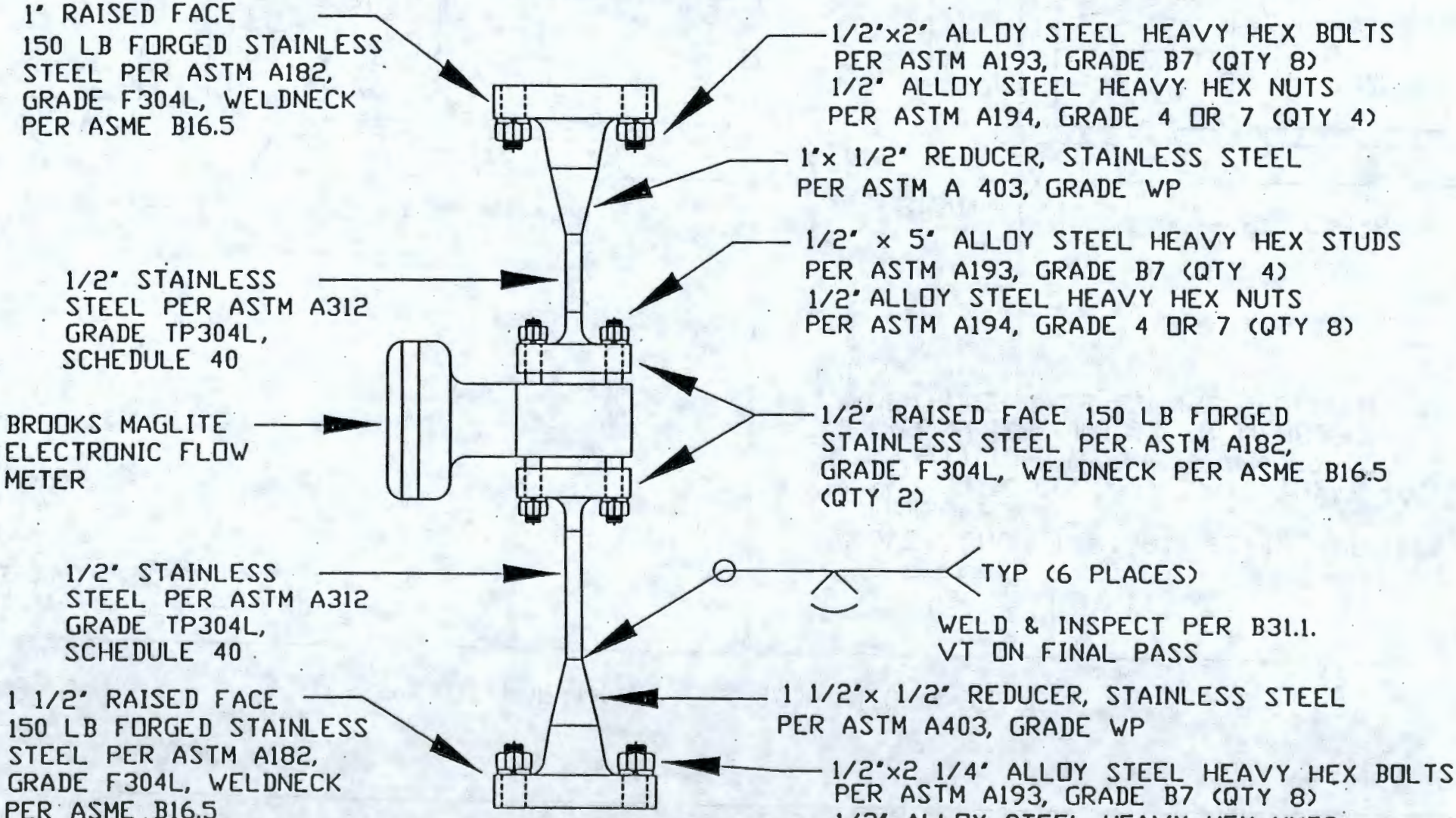
IS: AS SHOWN



WAS: H-2-99047, SH 3, REV 1

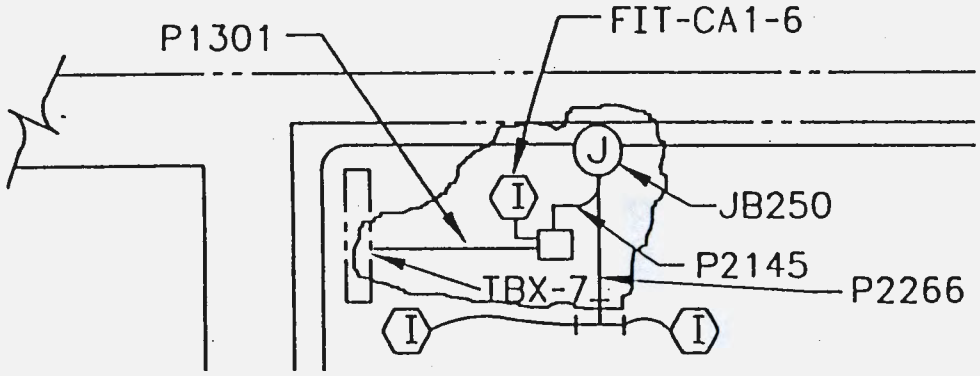
IS: AS SHOWN

P&ID TAG NUMBER	FIT-CA1-6
MCS TAG NUMBER	
NEW INSTR	
REPLACE INSTR	X
LOOP DESCRIPTION	UPPER DEENTRAINER SPRAY FLOW
LOCATION	COND RM (5TH FLR)
EXST TAG NO.	FIT-CA1-6
P&ID DWG NO.	H-2-99003
LOCATION DWG NO.	H-2-99049
SPEC NO.	
MANUFACTURER	BROOKS
MODEL	7485/3575
CVI NO.	
NOTE 1	


1" RAISED FACE
150 LB FORGED STAINLESS
STEEL PER ASTM A182,
GRADE F304L, WELDNECK
PER ASME B16.5
1/2"x2" ALLOY STEEL HEAVY HEX BOLTS
PER ASTM A193, GRADE B7 (QTY 8)
1/2" ALLOY STEEL HEAVY HEX NUTS
PER ASTM A194, GRADE 4 OR 7 (QTY 4)
1"x 1/2" REDUCER, STAINLESS STEEL
PER ASTM A 403, GRADE WP
1/2" x 5" ALLOY STEEL HEAVY HEX STUDS
PER ASTM A193, GRADE B7 (QTY 4)
1/2" ALLOY STEEL HEAVY HEX NUTS
PER ASTM A194, GRADE 4 OR 7 (QTY 8)
1/2" STAINLESS
STEEL PER ASTM A312
GRADE TP304L,
SCHEDULE 40
BROOKS MAGLITE
ELECTRONIC FLOW
METER
1/2" RAISED FACE 150 LB FORGED
STAINLESS STEEL PER ASTM A182,
GRADE F304L, WELDNECK PER ASME B16.5
(QTY 2)
1/2" STAINLESS
STEEL PER ASTM A312
GRADE TP304L,
SCHEDULE 40
TYP (6 PLACES)
WELD & INSPECT PER B31.1.
VT ON FINAL PASS
1 1/2" RAISED FACE
150 LB FORGED STAINLESS
STEEL PER ASTM A182,
GRADE F304L, WELDNECK
PER ASME B16.5
1 1/2"x 1/2" REDUCER, STAINLESS STEEL
PER ASTM A403, GRADE WP
1/2"x2 1/4" ALLOY STEEL HEAVY HEX BOLTS
PER ASTM A193, GRADE B7 (QTY 8)
1/2" ALLOY STEEL HEAVY HEX NUTS
PER ASTM A194, GRADE 4 OR 7 (QTY 4)

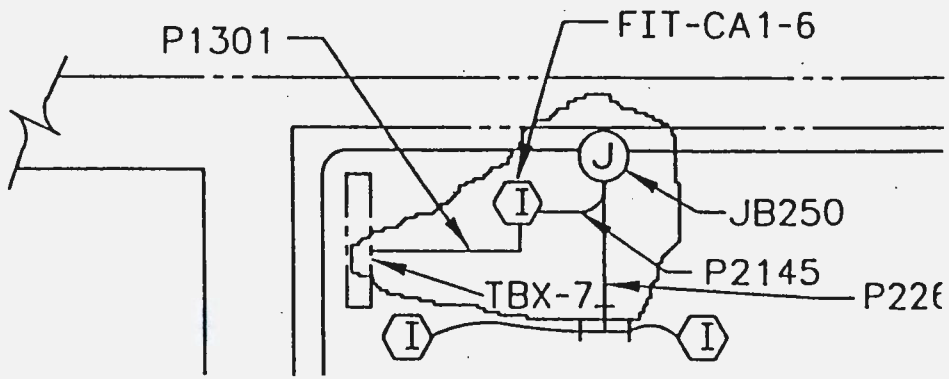
NOT FOR INCORPORATION INTO A DRAWING

WAS: AS FOUND



IS: AS SHOWN

REMOVE CONDUIT P1301, P2145 AND BOX POWER SUPPLY.
INSTALL FLEX CONDUIT FROM TBX-7 TO TRANSMITTER POWER PER VENDER INFO.
INSTALL FLEX CONDUIT FROM JB250 TO TRANSMITTER (MCS SIGNAL) PER VENDER INFO.



DATE: 12/13/95

UNREVIEWED SAFETY QUESTION SAFETY REVIEW FORM
(Per WHC-IP-0842, 15.9)

REFERENCE DOCUMENT(S):

ECN No. 627940 PCA No.

Work Pkg No. EE-95-00770 Other (Specify)

TITLE: FIT-CA1-6 REPLACEMENT

Background: FIT-CA1-6 provides an indication of flow for the upper deentrainer spray pads. The instrument currently in place at the evaporator does not provide proper readings to show that the correct flow is maintained for the spray pads. This instrument consistently shows fluctuations in flow and gives false flow readings when the flow is turned off. The new FIT is a mag flow type which will provide the correct readings to sufficiently monitor the flow to the deentrainer pads.

Does the PROPOSED CHANGE:

A. Represent a change to the facility as described in the AUTHORIZATION BASIS documentation?

[] N/A [X] No [] Yes/Maybe

Basis: The type of instrument used is not discussed in the AUTHORIZATION BASIS (WHC-SD-WM-SAR-023, Rev 1B). Replacing the present transmitter with the Brooks transmitter will improve reliability for monitoring the upper deentrainer spray in the 242-A Evaporator, therefor the instrument replacement does not represent a change to the facility as described in the AUTHORIZATION BASIS.

B. Represent a change to procedures as described in the AUTHORIZATION BASIS?

[] N/A [X] No [] Yes/Maybe

Basis: Replacing the Flow Indicating Transmitter with a new mag flow type transmitter will not change any operating procedures for the system. Procedures for operating the System are not referenced in the 242-A SAR (WHC-SD-WM-SAR-023 Rev 1B) therefore any changes to the existing procedure will not affect any procedure referenced in the AUTHORIZATION BASIS.

C. Represent a test or experiment not described in the AUTHORIZATION BASIS documentation?

[] N/A [X] No [] Yes/Maybe

Basis: This is not a test or experiment (see above background).

DATE: 12/13/95

UNREVIEWED SAFETY QUESTION SAFETY REVIEW FORM
(Continued)

D. Does the change impact:

- Implemented OSRs or IOSRs? [] N/A [X] No [] Yes/Maybe
- Approved IOSR Compliance Implementation Plans? [X] N/A [] No [] Yes/Maybe

Basis: The new Brooks provide provides the same function as the existing transmitter. The Filtered Raw Water System and PB-1, PB-2 Seal Water System are not associated with any OSR or IOSR instrumentation therefore the installation of a new transmitter will not impact any OSRs or IOSRs.

Based on the above, a Safety Evaluation [] DOES [X] DOES NOT need to be performed for this change

USQE No. 1 SP BIGLIN
Print Name

Signature Date 12/14/95

USQE No. 2 M A White
Print Name

Signature Date 12/14/95

cf f 13A B
nPF 13 4
PF 1PF 7

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 4

1. ECN 647922

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-99-029 Rev 1.	08-09-99
	6. Project Title/No./Work Order No. Weight Factor Drip Water System Cap	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00443/M	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

H-2-98988 SH1 Rev 6
See Page 3 this ECN

H-2-99003 SH1 Rev 10
See Page 4 this ECN

13b. Design Baseline Document? [X] Yes [] No

Piping, fittings, and jointing methods to meet the requirements of 242-A piping specification M-9 and M-31 as appropriate. Install, inspect, and test the new piping installation in accordance with B31.1.

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The weight factor drip water system is inactive but not currently removed fromt he system. When pressurizing the dip tube legs for flushing the potential exists to inadventently damage the sight glasses on these lines. This ECN will cap the lines so that the sight glass is isolated.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72*	RF WEIS	S6-71
NJ SULLIVAN	S6-72	RS WEBER	S6-71
DK SMITH	S6-71	* = ADVANCED COPY	
J ISDELL	S6-17*		
MW BOWMAN	S6-72		

RELEASE STAMP

DATE: AUG 09 1999

STA: HANFORD RELEASE ID: 18

ENGINEERING CHANGE NOTICE	Page 2 of 4	1. ECN (use no. from pg. 1) 647918

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $NA	Savings	[] $NA	Delay	[] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	None	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-600-010		

21. Approvals

	Signature	Date
Design Authority	TM GALIOTO JM Galioto	8-9-99
Cog. Eng.	JM Galioto	8-9-99
Cog. Mgr.	[illegible]	8-9-99
QA		
Safety		
Environ.		
Informal Review	[illegible]	8-9-99

	Signature	Date
Design Agent	JM Galioto	8-9-99
PE		
QA		
Safety		
Design		
Environ.		
Other		

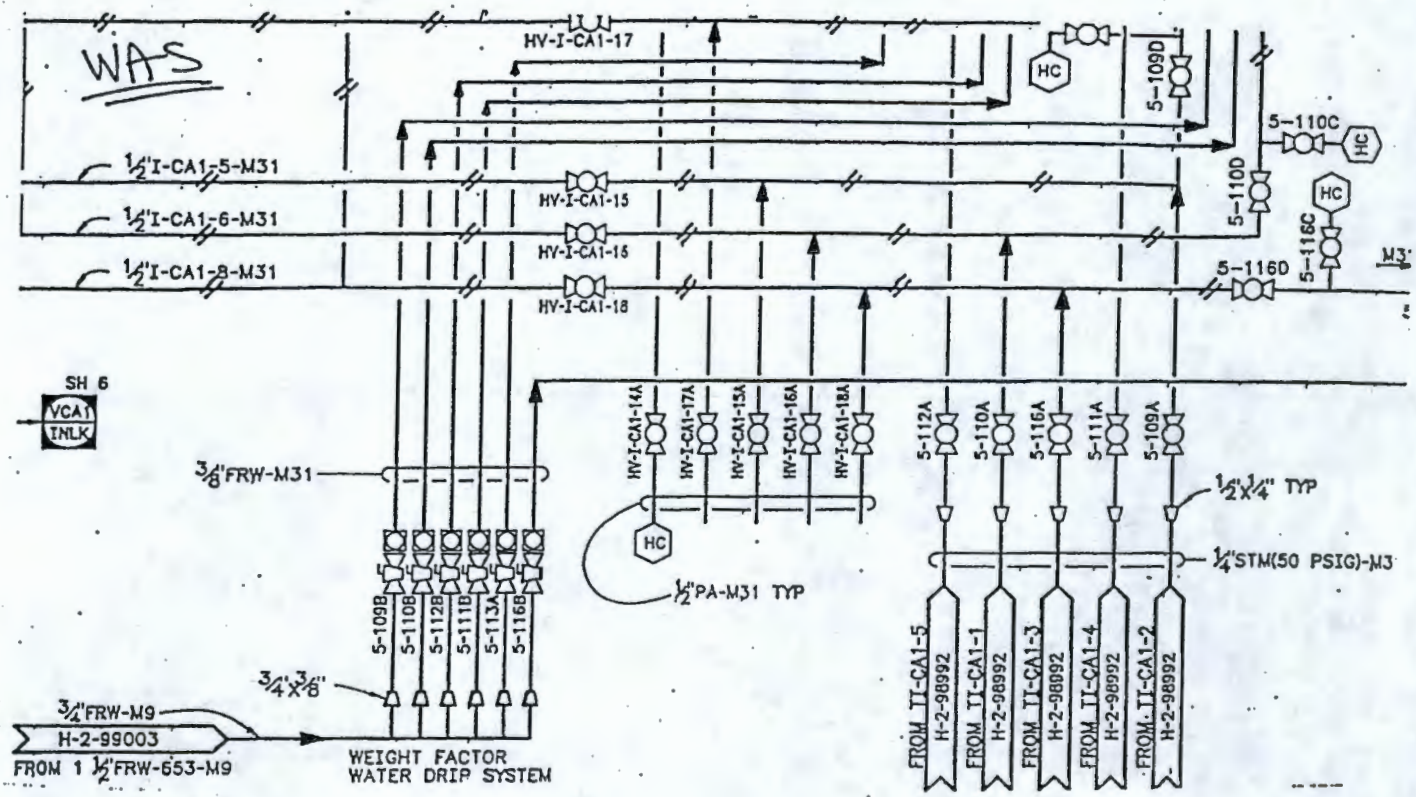
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

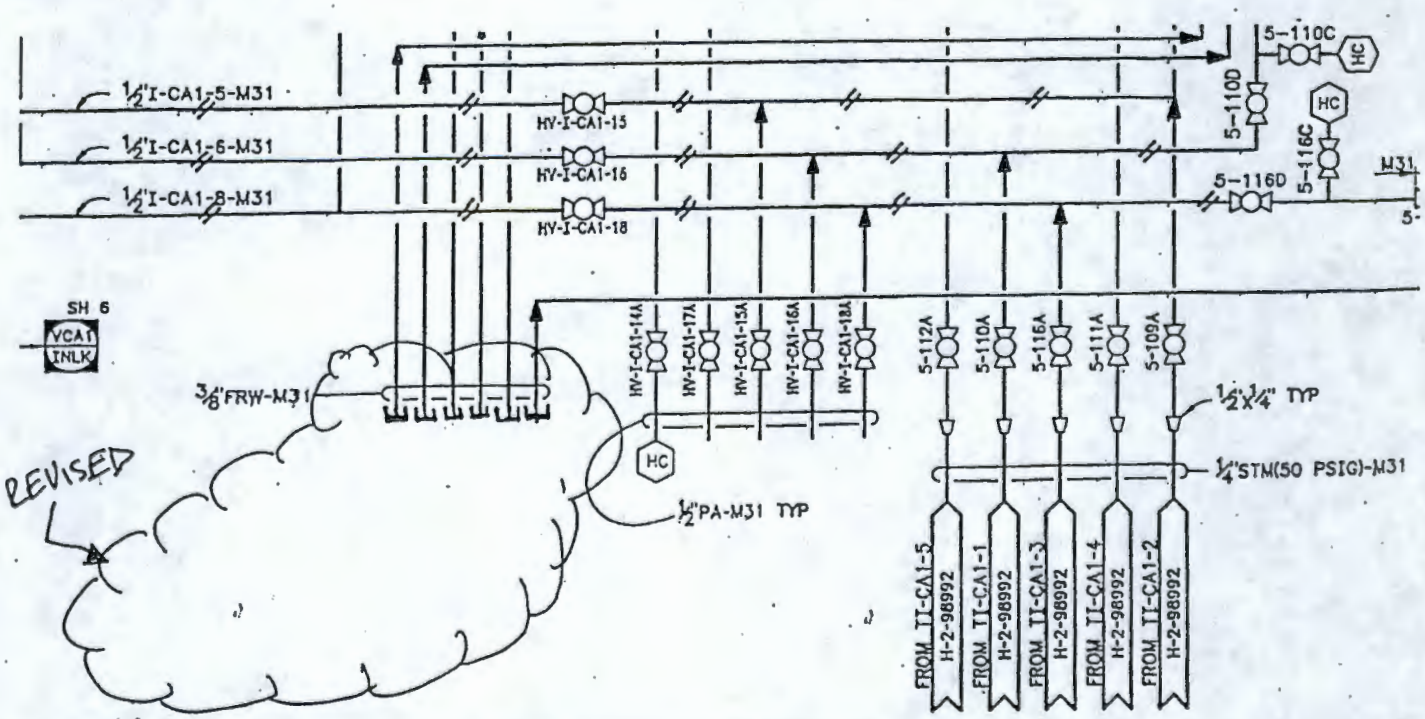
ADDITIONAL

H-2-98988 SH 1 R6

WAS

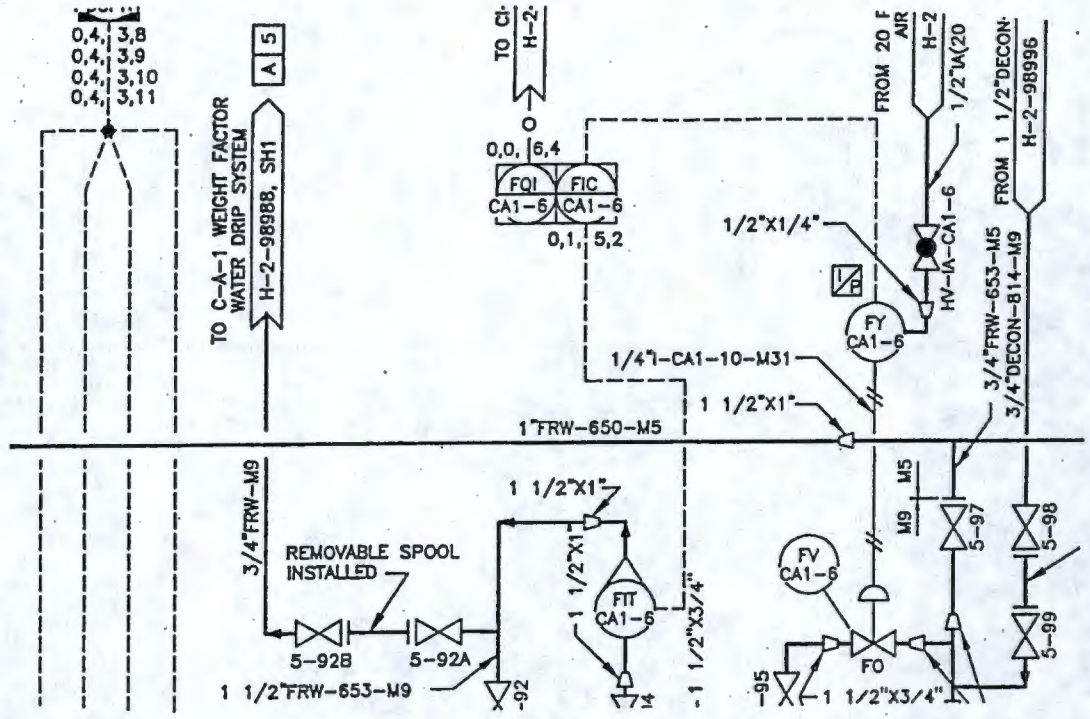


IS



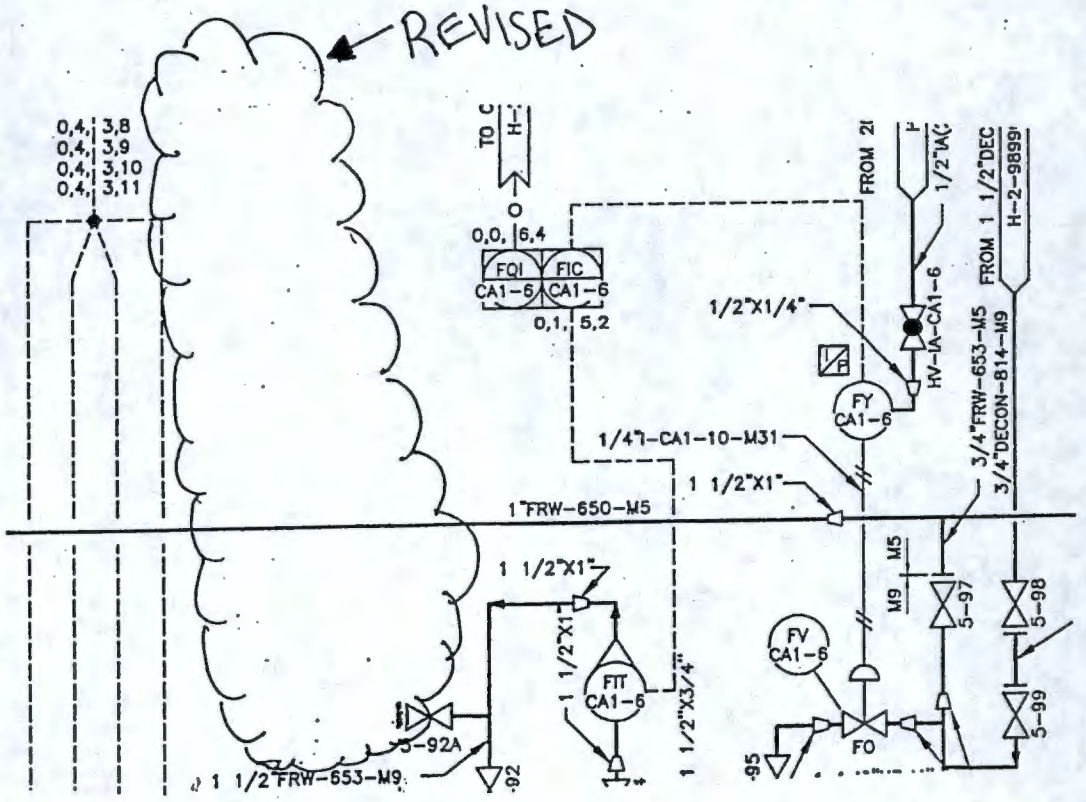
H-2-99003 SH1 Rev10

WAS



IS

REVISED



Hanford Facility RCRA Permit Modifications

Part III, Chapter 5 and Attachment 35
242-A Evaporator

Outstanding ECNs

Appendix 4A
Table 4A-2

PDC 214

ENGINEERING CHANGE NOTICE

SS/CEN

Page 1 of 2

1. ECN 121238
Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental ☐ Direct Revision ☐ Change ECN ☐ Temporary ☐ Supersedure ☒ Discovery ☐ Cancel/Void ☐	N.A. Hertelendy 82531 S2-02 7-4010 MO-047	5-29-90

5. Project Title/No./Work Order No.	6. Bldg./Sys./Fac. No.	7. Impact Level
Repair AMU Floor Drain TF-90-026 WB7CE	242-A	4

8. Document Number Affected (include rev. and sheet no.)	9. Related ECN No(s).	10. Related PO No.
H-2-69352 SHT-1 REV-4	121237 121216	—

11a. Modification Work	11b. Work Package Doc. No.	11c. Complete Installation Work	11d. Complete Restoration (Temp. ECN only)
☒ Yes (fill out Blk. 11b) ☐ No (NA Blks. 11b, 11c, 11d)	2E-89-01979/0	Cog. Engineer Signature & Date	Cog. Engineer Signature & Date

12. Description of Change This ECN supersedes ECN 121237 in its entirety and changes ECN 121216 in part.

1.) 150# RF Flange Per ASTM A105 (Was ASTM A-216)

2.) Bolts Should be 5/8" Dia x 3" lng (Was 3/4" Dia x 3 3/4 lng)

3.) Gasket should be 1/8" thk (No thickness was given)

13a. Justification (mark one)

- Criteria Change ☐
- Design Improvement ☐
- Environmental ☐
- As-Found ☐
- Facilitate Const. ☐
- Const. Error/Omission ☐
- Design Error/Omission ☒

13b. Justification Details

Gasket thickness was not given, and Flange type was not identified. This constituted more then 20% change prompting the supersedure

14. Distribution (include name, MSIN, and no. of copies)

G.T. Frater S2-02
N.A. Hertelendy S2-02
Pa. Rhodes R1-51

RELEASE STAMP

OFFICIAL RELEASE BY WHC
DATE MAY 29 1990
Sta. 3
16

A-7900-013 (11.88)

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1) 121238

15. Design Verification Required	16. Cost Impact		17. Schedule Impact (days)
	ENGINEERING	CONSTRUCTION	
☑ Yes	Additional ☐ $ _____	Additional ☐ $ _____	Improvement ☐ _____
☐ No	Savings ☐ $ _____	Savings ☐ $ _____	Delay ☐ _____

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	_____	☐
Environmental Report	☐	Inspection Plan	☐	_____	☐
Environmental Permit	☐	Inventory Adjustment Request	☐	_____	☐

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision

Approvals

	Signature	Date		Signature	Date
OPERATIONS AND ENGINEERING			ARCHITECT-ENGINEER		
X Cog./Project Engineer	James E. Geary	5-29-90	PE		
X Cog./Project Engr. Mgr.	T. L. Tanner for R.W.	5-29-90	QA		
QA			Safety		
Safety			Design		
Security			Other		
Proj./Prog./Dept. Mgr.					
Def. React. Div.					
Chem. Proc. Div.					
Def. Wst. Mgmt. Div.			DEPARTMENT OF ENERGY		
Adv. React. Dev. Div.					
Proj. Dept.					
Environ. Div.			ADDITIONAL		
IRM Dept.					
Facility Rep. (Ops)					
Other ~~Technical~~					
Technical reviewer					
Richard T. Roach		5/29/90			

FILE COPY

FILE COPY

1F 24,13a

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 4

1. ECN 194242

Proj. ECN

ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental ☒	P.D. RHODES, W.T.E., S5-10, 3-4730 N1176/7C241	12-28-92
Direct Revision ☐		
Change ECN ☐		
Temporary ☐		
Standby ☐		
Supersedure ☐		
Cancel/Void ☐		

5. Project Title/No./Work Order No.	6. Bldg./Sys./Fac. No.	7. Impact Level
DELETE HEPA FILTER IN 2" VENT	242A	(TR) 3S

8. Document Numbers Changed by this ECN (includes sheet no. and rev.)	9. Related ECN No(s).	10. Related PO No.
AS LISTED, THIS ECN BLOCK 12	NA	NA

11a. Modification Work	11b. Work Package No.	11c. Modification Work Completed	11d. Restored to Original Condition (Temp. or Standby ECNs only)
☒ Yes (fill out Blk. 11b) ☐ No (NA Blks. 11b, 11c, 11d)	2E -	OCT 20 1995 10/19/95 Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

H-2-69352 Sht. 1 Rev. 4 → SEE PAGE 4, THIS ECN.
H-2-69354 Sht. 1 Rev. 4 → SEE PAGE 3, THIS ECN.
H-2-98995 Sht. 1 Rev. 3 → SEE PAGE 3, THIS ECN.

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Justification (mark one)	13b. Justification Details
Criteria Change ☒	2" M24 VENT CHANGED DISCHARGE PER B-534 PROJECT. REF. CHANGE SHOWN ON H-2-99031 Sht. 2, SECTION "Q" and ON H-2-99032 Sht. 1, SECTION "Q". HEPA FILTER NO LONGER REQ'D. SINCE AFFECTED 2" VENT LINE NO LONGER VENTS OUTSIDE CONDENSER ROOM.
Design Improvement ☐	
Environmental ☐	
As-Found ☐	
Facilitate Const. ☐	
Design Error/Omission ☐	
Design Error/Omission ☐	

Distribution (include name, MSIN, and no. of copies)

RHODES — S5-10 — 2
FEARY — A1-43 — 1
[illegible] — S5-15 — 1

RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)

DATE JAN 07 1993

Sht. 4

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 194242

Design Verification Required: ☒ Yes ☐ No

16. Cost Impact

	ENGINEERING	CONSTRUCTION
Additional	☐ $ NA	☒ $
Savings	☐ $	☐ $

17. Schedule Impact (days)

Improvement ☐ NA

Delay ☐

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	_____	☐
Environmental Report	☐	Inspection Plan	☐	_____	☐
Environmental Permit	☐	Inventory Adjustment Request	☐	_____	☐

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

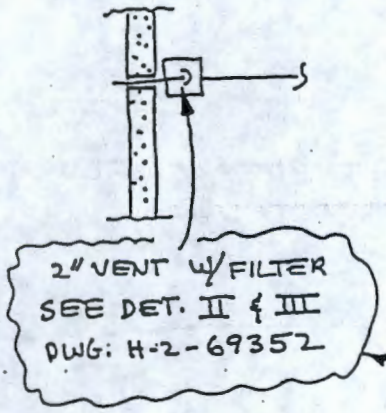
Document Number/Revision	Document Number/Revision	Document Number/Revision

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
X Cog. Engineer [signature]	1-7-93	PE	
X Cog. Mgr. [signature]	12/28/92	QA	
QA NA		Safety	
NUCL X Safety [signature]	7 JAN 93	Design	
Security		Environ.	
Environ.		Other	
Projects/Programs			
Tank Waste Remediation System			
WMRE X Facilities Operations		DEPARTMENT OF ENERGY	
Restoration & Remediation		Signature or Letter Number	
Operations & Support Services			
IRM		ADDITIONAL	
X Other INDEPENDENT/INFORMAL REVIEW: [signature]	12/28/92		

ON H-2-69354 (SHT. 1) : CO-ORD [D-9] :

WAS :



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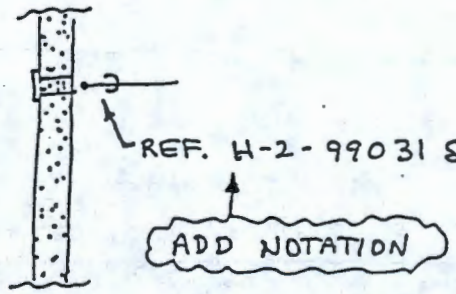

DELETE NOTATION & DEFLECTION of FILTER BOX.

ON H-2-98995 SHT. 1 : CO-ORD [D-5] :

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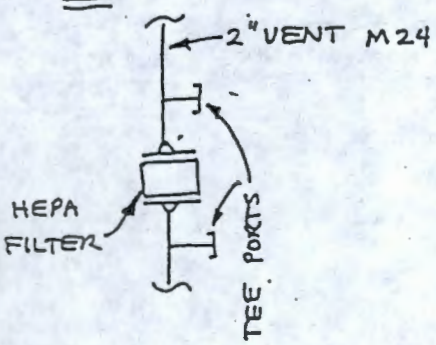

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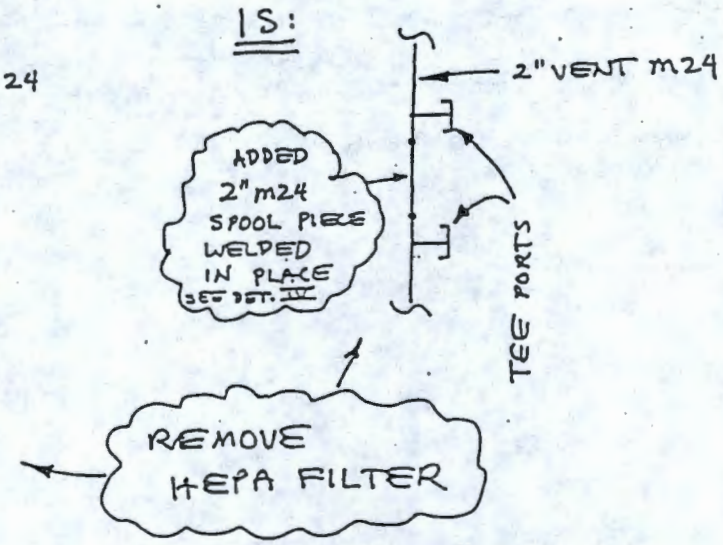


ON H-2-69352 Sht.1 :

@ DETAIL III ← WAS (AS SHOWN)

DELETE DETAIL III ENTIRELY. ← IS

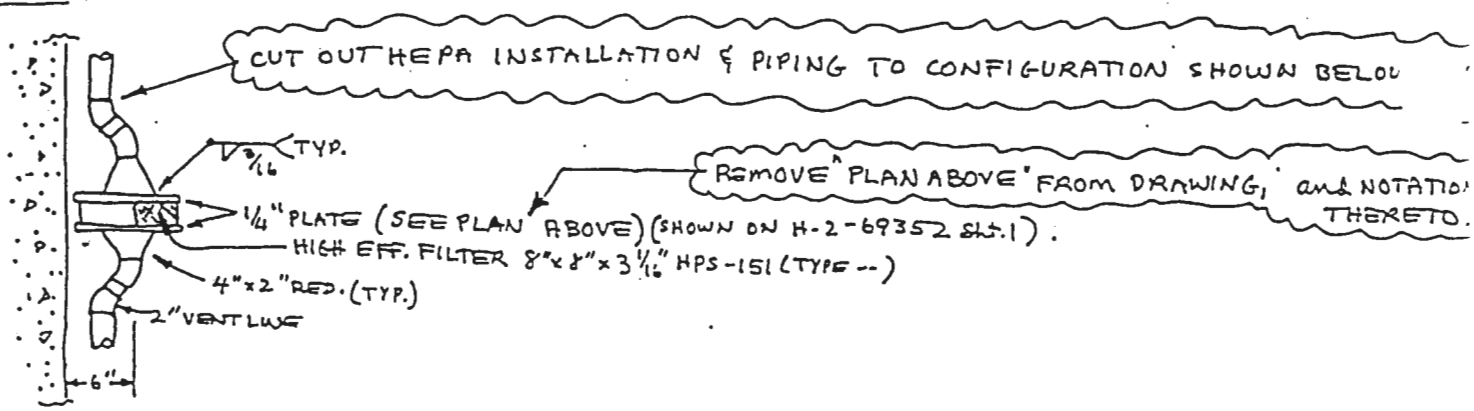
) DETAIL II :

CHANGE 2" VENT M24 TO REFLECT REMOVAL of HEPA FILTER and NOTATIONS THERETO. STRAIGHT PIPE CONFIGURATI PER DETAIL IV.

REFERENCE DETAIL IV, THIS ECN

② DETAIL IV :

WAS :



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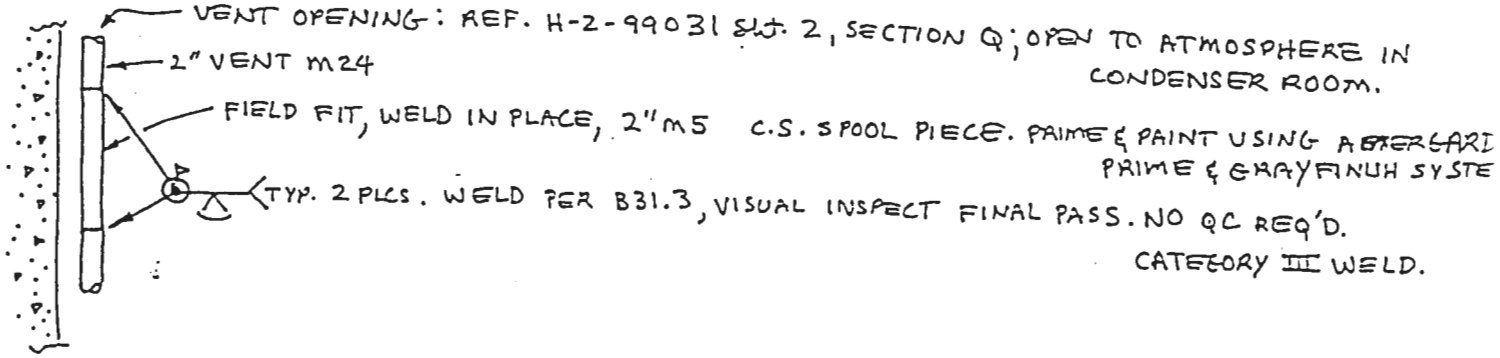


FILE COPY

ENGINEERING CHANGE NOTICE

Page 1 of 46

1. ECN 610629

Proj. ECN

2. ECN Category (mark one)

Supplemental	[X]
Direct Revision	[]
Change ECN	[]
Temporary	[]
Standby	[]
Supersedure	[]
Cancel/Void	[]

3. Originator's Name, Organization, MSIN, and Telephone No.: VA SMITH / 7CF40 / R1-43 / 373-4054 - N1176

4. Date: 10/6/94

5. Project Title/No./Work Order No.: 242-A EVAPORATOR: C-100 PUMP REPLACEMENT

6. Bldg./Sys./Fac. No.: 242-A /PROCESS CONDENSATE SYS.

7. Approval Designator: Q — DH 12/7/94 N/A

8. Document Numbers Changed by this ECN (includes sheet no. and rev.): H-2-99031, SHEET 3, REV 1

9. Related ECN No(s).: 610627

10. Related PO No.: 399810

11a. Modification Work: [X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)

11b. Work Package No.: EE-94-00711

11c. Modification Work Complete: JM Galioto 4/17/95 (5) — Cog. Engineer Signature & Date APR 17 1995

11d. Restored to Original Condition (Temp. or Standby ECN only): N/A — Cog. Engineer Signature & Date

12. Description of Change

REMOVE EXISTING P-C100 KONTRO PUMP AND REPLACE WITH NEW INGERSOLL-RAND PUMP. THE CHANGE REQUIRES THE REMOVAL OF EXISTING ASSOCIATED PIPING SYSTEMS AND GROUT FROM EXISTING PUMP BASE AND PREPARING EXISTING CEMENT PUMP BASE FOR INSTALLATION OF NEW PUMP AS SHOWN ON SHEETS 3 AND 4 OF THIS ECN.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]		
As-Found	[]	Facilitate Const.	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

TO PROVIDE A MORE RELIABLE PUMP FOR THE OPERATION OF THE 242-A EVAPORATOR.

14. Distribution (include name, MSIN, and no. of copies)

VA SMITH,	R1-43,	(1)	#1	S5-59
DS HARING,	R1-43,	(1)	#16	S5-00
JE GEARY,	S5-14,	(1)	#20	T4-08
RJ NICKLAS,	R1-43,	(1)	IPFH4	S5-85
BS DARLING,	S0-14,	(1)		
GALIOTO,	R1-43,	(1)		
DG MARKHAN,	S5-09,	(1)		
R. THIE	S1-57			

RELEASE STAMP

OFFICIAL RELEASE (2)
BY WHO
DATE DEC 15 1994
#4

A-7900-013-2 (06/94) GEF095

A-7900-013-1 (06/92)

ENGINEERING CHANGE NOTICE	Page 2 of 16	1. ECN (use no. from pg. 1) 610629

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[X]
[] No	Savings	[] $	Savings	[] $	Delay	[]

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

N/A

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

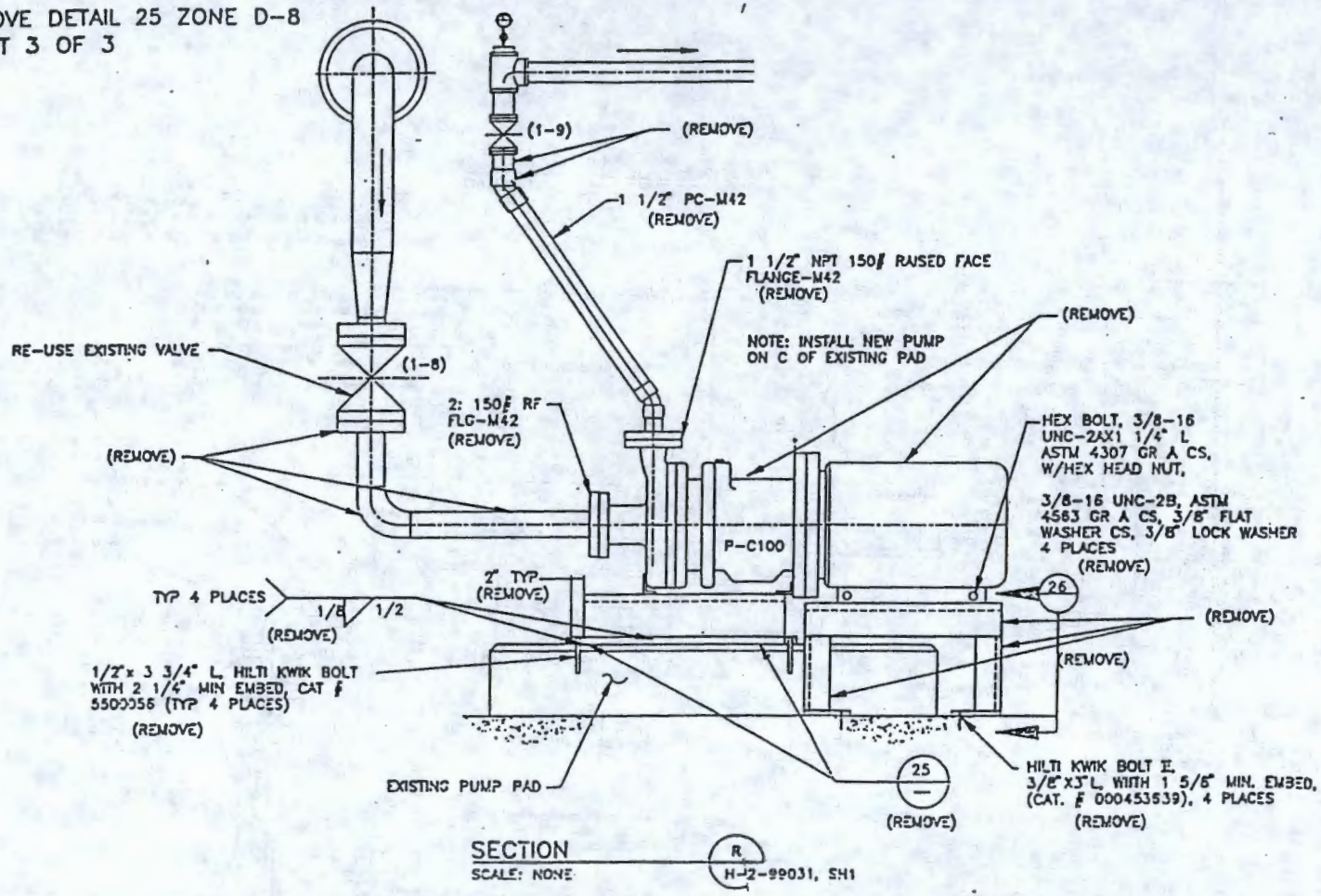
Document Number/Revision	Document Number/Revision	Document Number Revision

N/A

20. Approvals

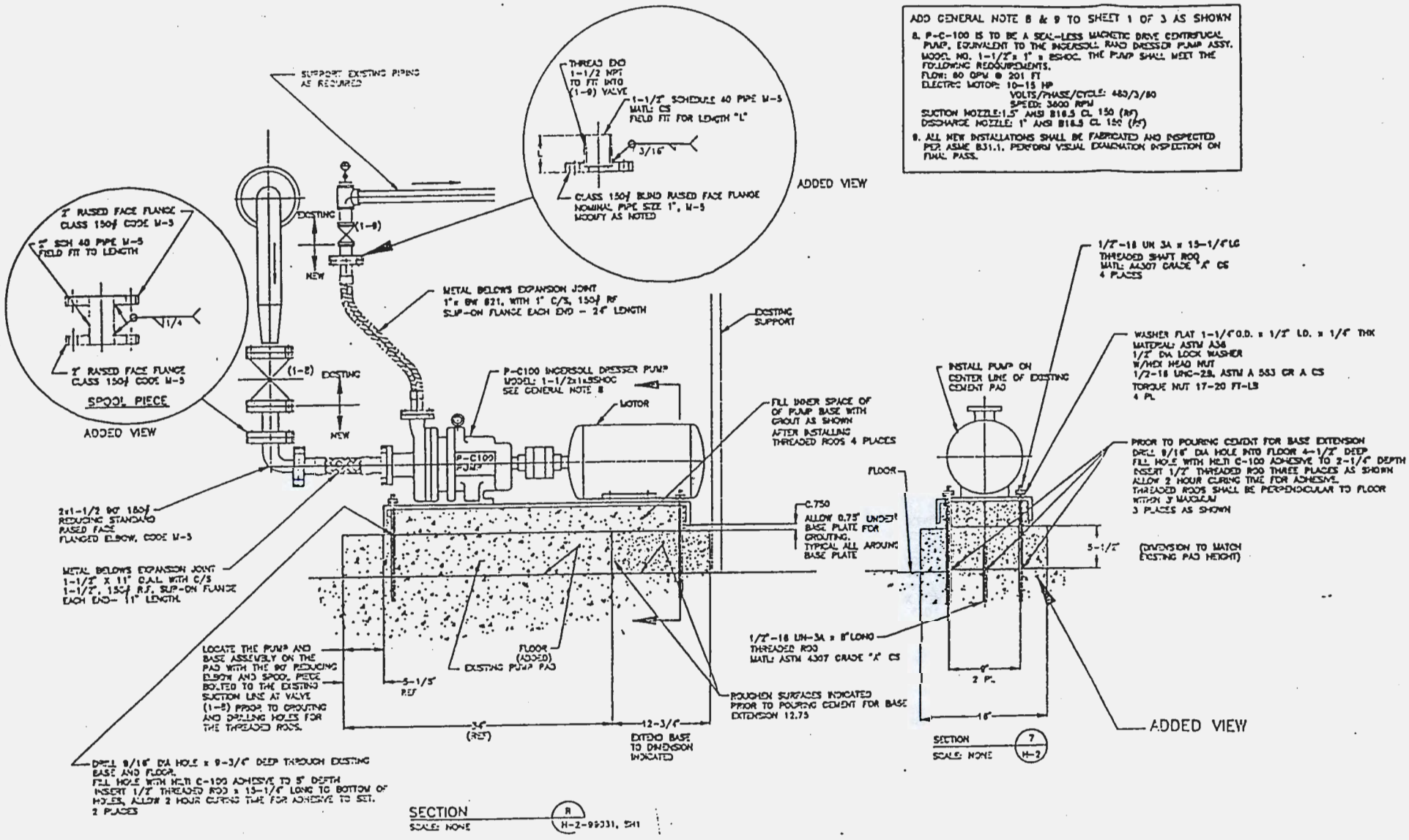
Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog. Eng. VA SMITH V. A. Smith	11/15/94	PE	
Cog. Mgr. RJ NICKLAS RJ Nicklas	12/15/94	QA	
QA R.R. TRUE R.R. True	12-14-94	Safety	
Safety		Design	
Environ.		Environ.	
Other D HARING David Haring	12/6/94	Other	
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

1. REMOVE EXISTING KONTRO PUMP AND ASSOCIATED PIPING AS SHOWN FROM 242-A CONDENSER ROOM BASEMENT
2. REMOVE MOTOR FRAME IN ITS ENTIRETY AS INDICATED AND VIEW (26) FROM FACE OF DRAWING SHOWN IN ZONE F-1 OF SHEET 3 OF 3.
3. REMOVE DETAIL 25 ZONE D-8 SHEET 3 OF 3



(WAS)

ECN ~~610296~~ 610629
SHEET 3 OF 6



(IS)

ECN ~~61029~~ 610629
SHEET 4 OF 6

UNREVIEWED SAFETY QUESTION SAFETY REVIEW FORM (Per WHC-IP-0842, 15.9)	Page 5 of 6

REFERENCE DOCUMENT(S):

ECN No. 610629 PCA No. N/A

Work Pkg No. Other (Specify)

TITLE: REPLACE EXISTING KONTRO C-100 PROCESS CONDENSATE PUMP WITH THE EQUIVALENT INGERSOLL DRESSER PUMP.

BACKGROUND:

The C-100 Process Condensate Pump is used to pump the process condensate from the 242-A Evaporator to the LERF facility.

The existing C-100 Process Condensate Pump manufactured by KONTRO PUMP CO. has a history of failure while operating in the 242-A Evaporator. The failure are the result of a marginal none-coupling design between the electric drive motor and the pump drive shaft and the result of the hard plumbing at the suction and discharge flanges of the pump. This induces torisonal piping loads into the pump body to cause the pump to bind and seize. The installation of the new INGERSOLL DRESSER RAND PUMP with its positive coupling between the electric motor drive and pump drive shaft, combined with flexible bellows at the suction and discharge lines of the pump will eliminate the present hard line plumbing problem to resolve the present pump failure occurrence. The replacement pump will perform the same function as the existing pump.

Does the PROPOSED CHANGE:

A. Represent a change to the facility as described in the AUTHORIZATION BASIS documentation?

[] N/A [X] No [] Yes/Maybe

Basis: The detail design is not discussed in the AUTHORIZATION BASIS, (WHC-SD-WM-SAR-023, Rev 1B, Chap 5 and 11; WHC-SD-SEL-028, Rev 0, Sec 4.1). Replacing the present KONTRO pump with the INGERSOLL pump will improve the reliability of the C-100 pump operation in the 242-A Evaporator, therefore this pump replacement does not represent a change to the facility as described in the AUTHORIZATION BASIS.

B. Represent a change to procedures as described in the AUTHORIZATION BASIS?

[] N/A [X] No [] Yes/Maybe

Basis: This pump replacement will not require any procedure changes to be performed, therefore this pump replacement does not represent a change to procedures described in the AUTHORIZATION BASIS.

C. Represent a test or experiment not described in the AUTHORIZATION BASIS documentation?

[] N/A [X] No [] Yes/Maybe

Basis: This pump replacement does not represent a test or experiment.

D. Does the change impact:

- Implemented OSRs or IOSRs? [] N/A [X] No [] Yes/Maybe
- Approved IOSR Compliance Implementation Plans? [X] N/A [] No [] Yes/Maybe

ECN No. 610629

UNREVIEWED SAFETY QUESTION SAFETY REVIEW FORM (Continued)	Page 6 of 6

Basis: The new INGERSOLL PUMP provides the same function as the existing pump therefore changes to the 242-A LCOs will not be required, (WHC-SD-WM-SAR-023, Rev 1B, Chap 11).

Based on the above, a Safety Evaluation need to be performed for this change [ ] DOES [X] DOES NOT

USQE No. 1	DS Haring		USQE No. 2	VA Smith	
	Print Name			Print Name	
David Haring		12/8/94	Vincent A Smith		12/8/94
Signature		Date	Signature		Date

IPF 4.10 CPF #13a

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 7

1. ECN No 620353

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [] Change ECN [X] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, WTSE, R1-43, 3-4894	[] Yes [X] No	2/15/95
	5. Project Title/No./Work Order No. PC100 PUMP REPLACEMENT	6. Bldg./Sys./Fac. No. 242A/PROCESS COND. SYSTEM	7. Approval Designator NA
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 12	9. Related ECN No(s). 610629	10. Related PO No.

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-711	Cog. Engineer Signature & Date	NA Cog. Engineer Signature & Date

12. Description of Change

ECN #610629 SHEET 4 WILL HAVE THE EXISTING SUPPORT SEPARATED AND MOVED COUNTERCLOCKWISE AROUND THE TANK. ALSO, THE 1" DRAIN LINE WILL BE PLUGGED AND CUTOFF LEVEL WITH THE LOOR AS SHOWN ON PAGES 3-7 OF THIS ECN.

DRAWINGS ALSO CHANGED BY THIS ECN INCLUDE:
H-2-79865 SH 3,6 REV1
H-2-98995 SH 1 REV6
H-2-69352 SH1 REV4
H-2-69354 SH1 REV4

DRAWINGS INADVERTENTLY LEFT OF BLOCK 8 OF ECN 610629.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

THE DELUGE SPRAY RING SUPPORT NEEDS TO BE MOVED TO ALLOW BETTER ACCESS TO THE NEWLY INSTALLED P-C-100 PUMP. THE DRAIN WILL NO LONGER BE NEEDED AND MUST BE ELIMINATED SO THAT NEW PUMP MAY BE INSTALLED AS SHOWN ON ECN 610629.

14. Distribution (include name, MSIN, and no. of copies)

DS HARING	R1-43
TM GALIOTO	R1-43
J NICKLAS	R1-43
AL BEIREIS	S5-14

RELEASE STAMP

OFFICIAL RELEASE (5)
BY WHO
DATE FEB 15 1995

A-7900-013-2 (11/94) GEF095

ENGINEERING CHANGE NOTICE	Page 2 of 7	1. ECN (use no. from pg. 1) 620353

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[] NA
[] No	Savings	[] $NA	Savings	[] $NA	Delay	[] NA

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	NONE	[X]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
N/A		

20. Approvals

OPERATIONS AND ENGINEERING	Signature	Date
Cog. Eng.	[signature]	2/15/95
Cog. Mgr.	[signature] for RS Nichols	2/15/95
QA		
Safety		
Environ.		
Other Marsh INFORMA REVIEW		2/15/95

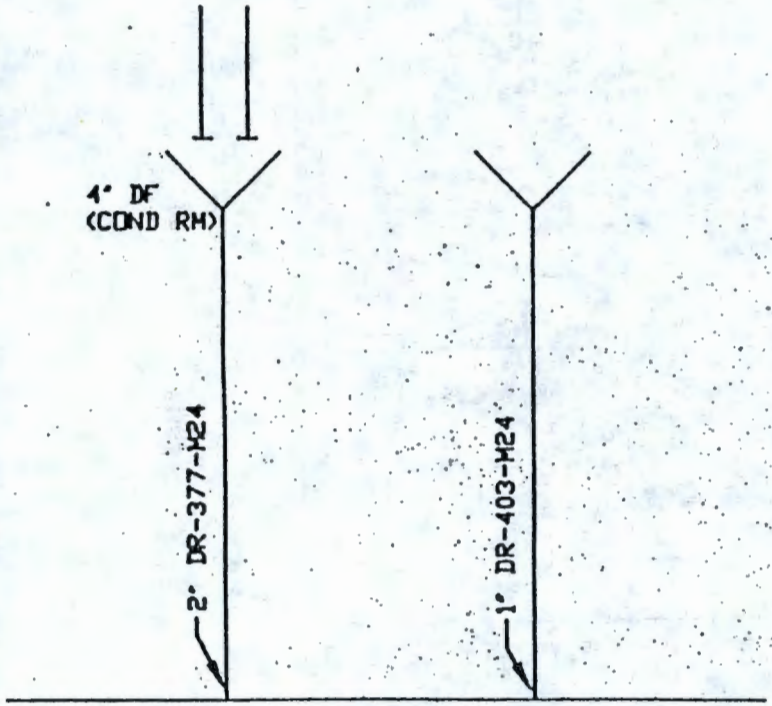
ARCHITECT-ENGINEER	Signature	Date
PE		
QA		
Safety		
Design		
Environ.		
Other		

DEPARTMENT OF ENERGY

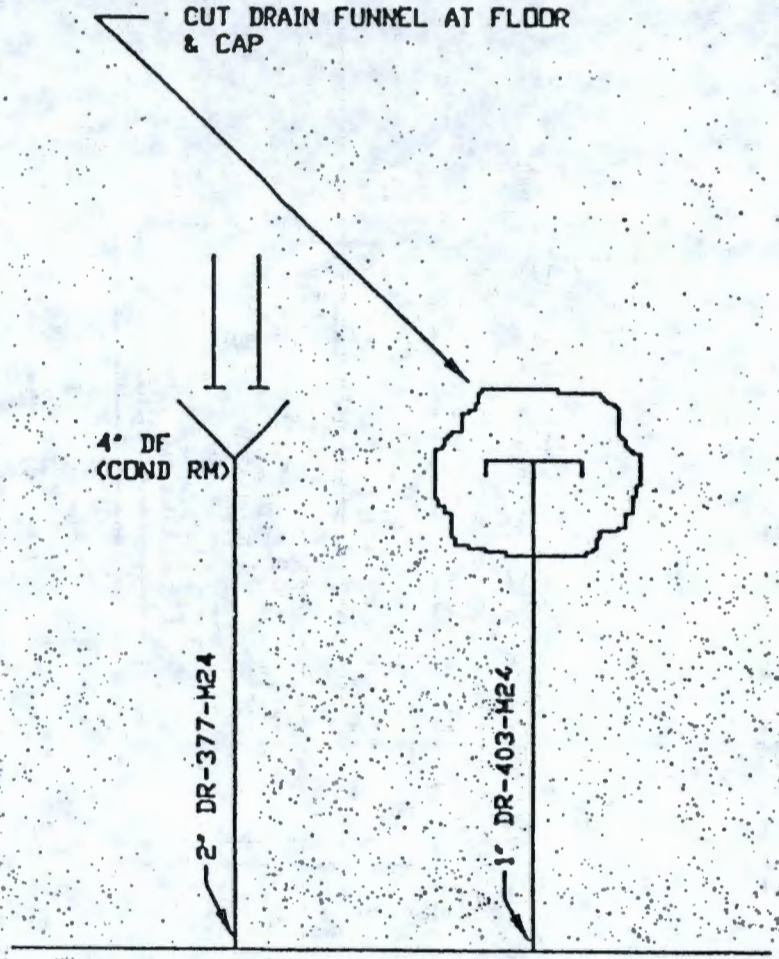
Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

AS: H-2-98995, SH 1, REV 6



IS: AS SHOWN



ECN 620353
Sht 3 of 7

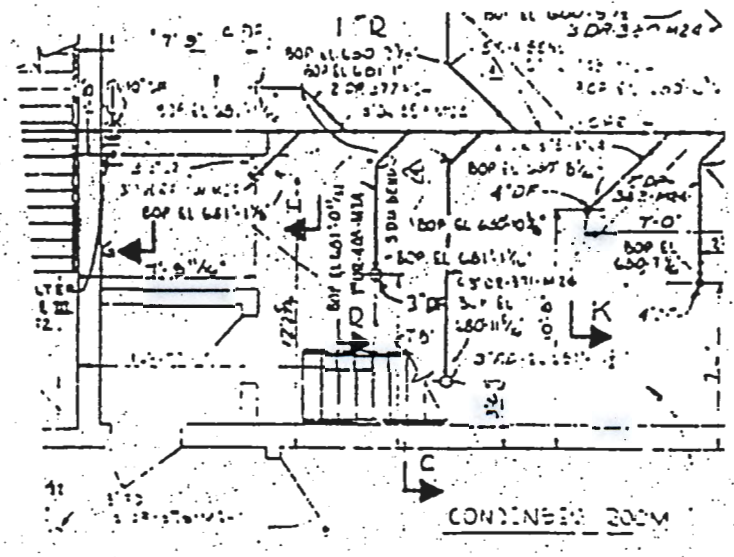
A-7800-01-1

A-7900-013-3 (11/94) GEF096

11-2-69354, Sh 1, Rev 4, Zone D-7

ECN 620353
Sht 4 of 7

WAS:



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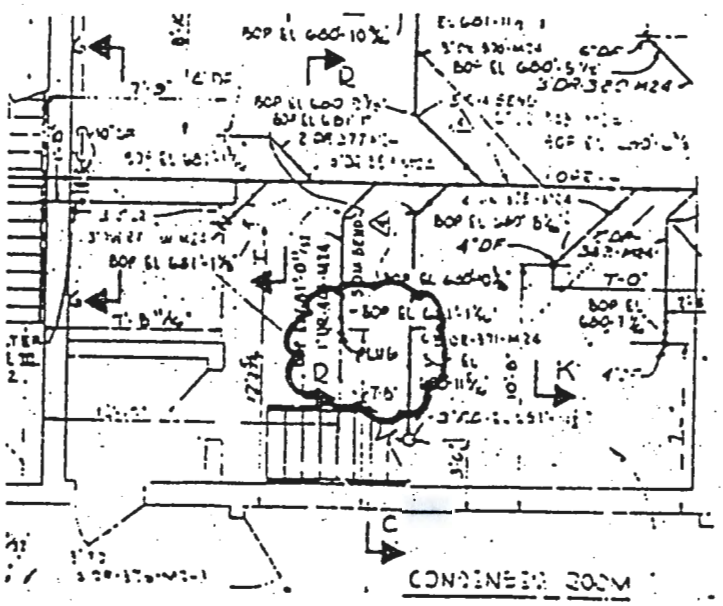

ECN 620353
Sht 5 of 7

CUT 1"DR-403-M24 OFF AT FLR EL 682'-0", PLUG, AND
ANDON IN PLACE AS SHOWN BELOW:

H-2-69352, Rev 4, Sh 1, Zone A-B/7-8

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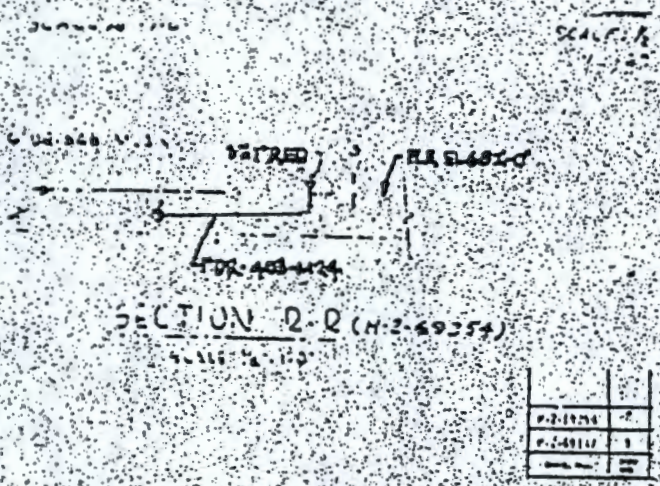

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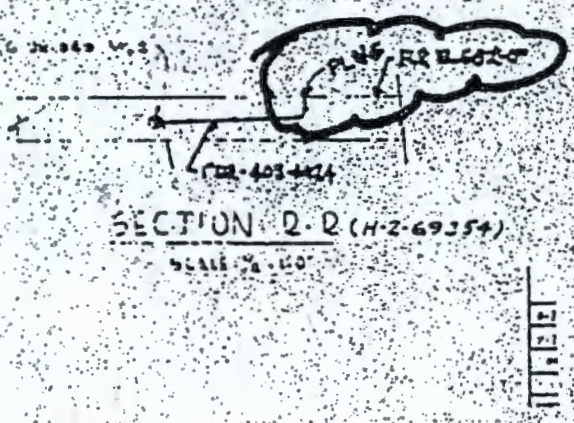
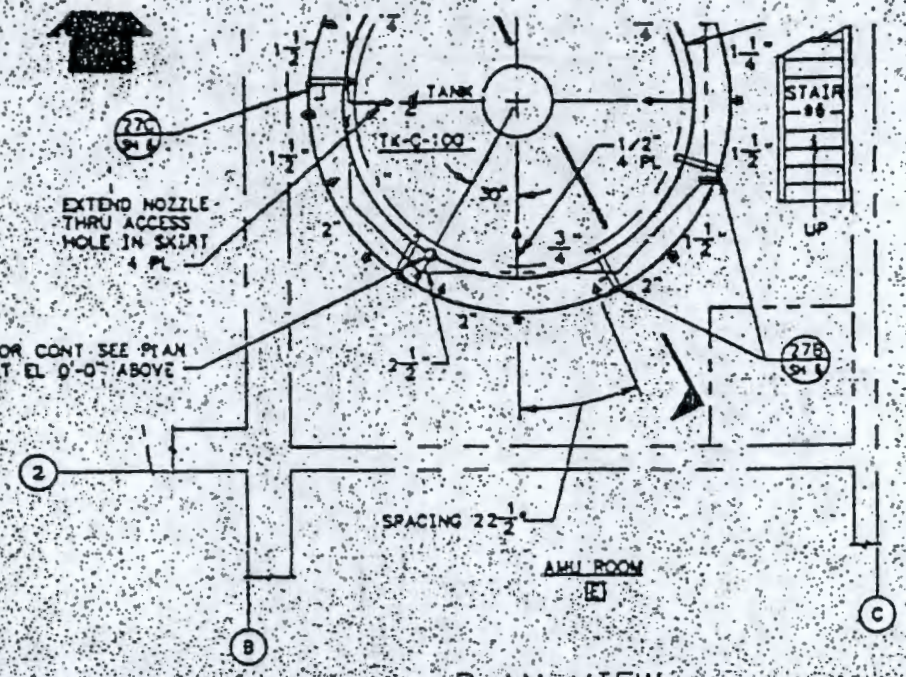


H-2-79865, Sht 3, Rev 1, (ZONE A-7):

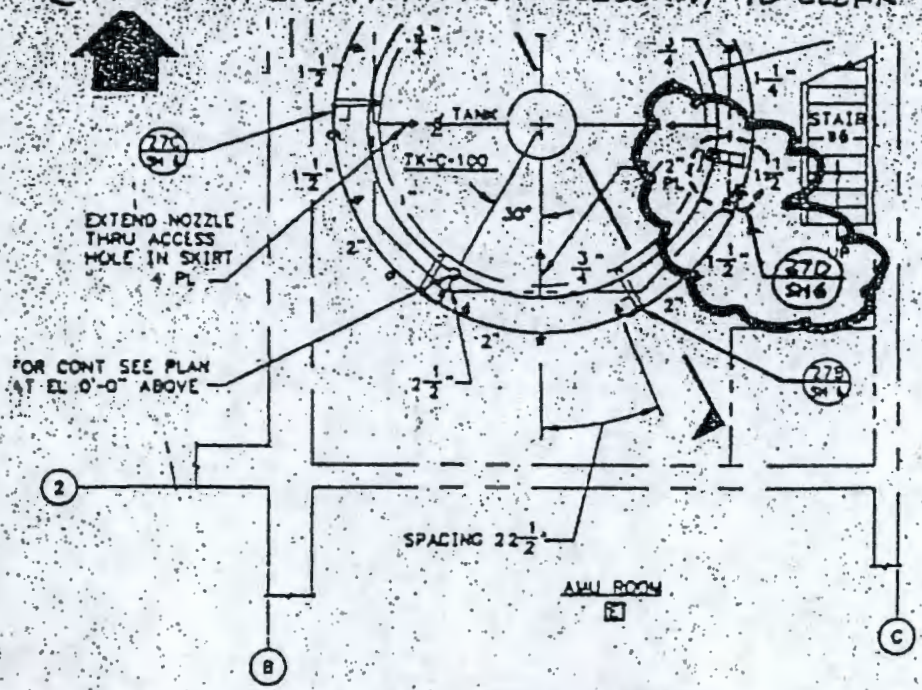
WAS:



PLAN VIEW
CONDENSER ROOM BELOW EL 0'-0"

VIEW SHOWS PIPING FROM -1'-0" TO 0'-0" LEVEL (EL 692'-0"-0'-0")
SCALE: 1/4" = 1'-0"

IS: (CUT EXISTING SUPPORT AND RELOCATE BOTTOM DELUGE SYSTEM PIPE SUPPORT AS NECESSARY TO CLEAR P-C100 MOTOR.)

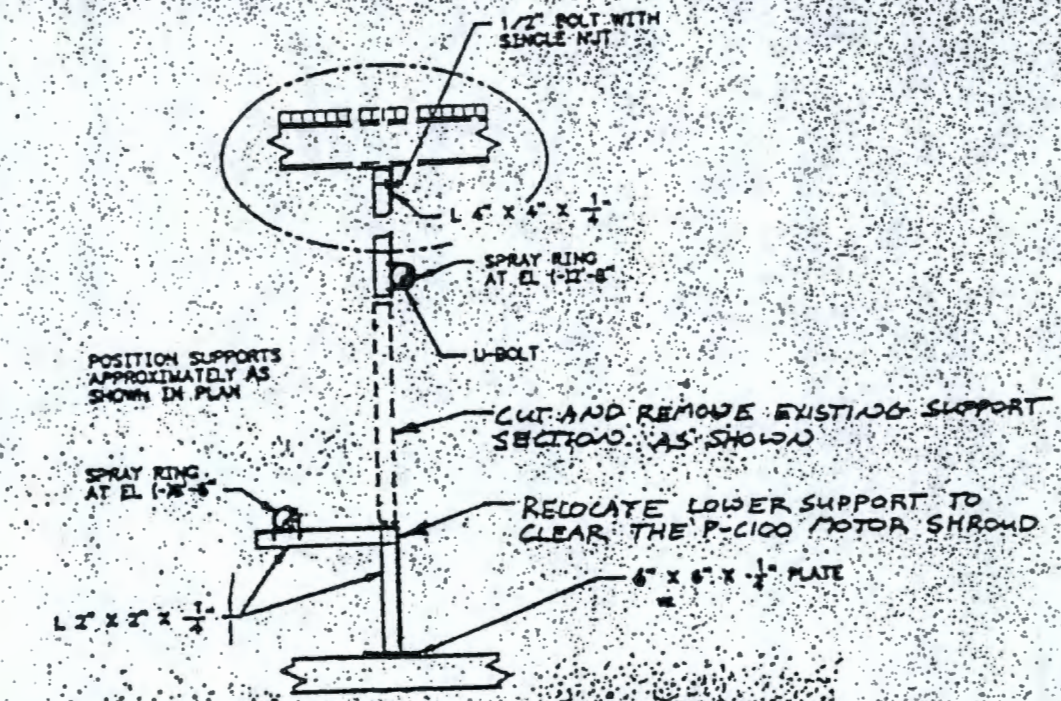


PLAN VIEW
CONDENSER ROOM BELOW EL 0'-0"

VIEW SHOWS PIPING FROM -1'-0" TO 0'-0" LEVEL (EL 692'-0"-0'-0")
SCALE: 1/4" = 1'-0"

H-2-79865, Sht 6, Rev. 1

ADD THE FOLLOWING SECTION 27D TO DRAWING:



This plan covers the following buildings and structures:

200 Area Effluent Treatment Facility (ETF),
Liquid Effluent Retention Facility (LERF),
200 Area Treated Effluent Disposal Facility (TEDF), and
200 Area Effluent Treatment Facility Groundwater Transfer System (GTS).

Approved:

Facility Management — Date: 3/29/00

Environmental Compliance Officer — Date: 3/29/00

Emergency Preparedness — Date: 3/29/00

Hanford Fire Department — Date: 3/29/00

This document will be reviewed annually and updated if necessary by the Facility Management unless Hanford Facility RCRA Permit coordination requirements provides otherwise. The document will be approved by Facility Management and approved by the Manager of Emergency Preparedness (or delegate) and the Hanford Fire Department.

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1.0 GENERAL INFORMATION

The 200 Area Effluent Treatment Facility (ETF) and the Liquid Effluent Retention Facility (LERF) are located in the northeast portion of the 200 East Area. The 200 Area Treated Effluent Disposal Facility (TEDF) and 200 Area ETF Groundwater Transfer System (GTS) are operated from the 2025E Building. Transfer piping systems for both TEDF and GTS are located in the 200 East and 200 West Areas. 200 East and 200 West Areas are located near the center of the Hanford Site, a 560-square-mile U.S. Department of Energy (DOE) site in southeastern Washington State. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for response to emergency events. This plan contains a description of facility specific emergency planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*. Response to events is performed using facility specific and/or site-level emergency procedures.

1.1 Facility Names: U.S. Department of Energy Hanford Site
200 Area Effluent Treatment Facility (ETF)
Liquid Effluent Retention Facility (LERF)
200 Area Treated Effluent Disposal Facility (TEDF)
200 Area ETF Groundwater Transfer System

1.2 Facility Locations: Benton County, Washington; within the 200 East and 200 West Areas.

ETF Buildings/facilities covered by this plan are:

2025E Building, Effluent Treatment Facility
2025EA Building, ETF Administration Building
MO-269, Materials Control Trailer
(2025ECT1) Load-in Station, Tanker truck load-in station

LERF Buildings/facilities covered by this plan are:

Basins 42, 43, and 44, Liquid Effluent Retention Facility
MO-727 Change Trailer, Located directly between Basins 42 and 43
242AL71 Instrument Building, Located north between Basins 42 and 43
Electrical Power Substation, North side of LERF
242AL11 Storage Building, "LERF Garage"

TEDF and GTS Buildings/facilities covered by this plan are:

Transfer piping, 200 East and West areas
225W Building, Pump House 1 - 200 West Area
225E Building, Pump House 2 - 200 East Area
6653A Building, Pump House 3 - 200 East Area
6653 Building, Disposal Sampling Building

1.3 **Owner:** U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, Washington 99352

FACILITY MANAGER: Waste Management Project
P.O. Box 700
Richland, Washington 99352

ORGANIZATION: 200 Area Liquid Waste Processing Facilities (LWPF)

1.4 Description of the Facility and Operations

1.4.1 Effluent Treatment Facility

The ETF treats various aqueous wastes generated at the Hanford site prior to discharging the effluent to a State Approved Land Disposal Site (SALDS), located adjacent to the 200 West Area.

The ETF operations structure is comprised of the following:

- Process area in 2025E Building
- Administration areas in 2025E and 2025EA Buildings
- Load-in Station 291
- External tank storage area.

The 2025E Building is a two story structure, with a control room on the second level overlooking the process area. The process area is a high bay, single story area of the 2025E Building. The process area is a Radiological Buffer Area (RBA). The RBA is a posted area and contains various Contamination Areas. The entire 200 East Area is classified as a Radiological Controlled Area..

The external tank storage area is inside the fenced area immediately outside of the 2025E Building. The 200 East Area security fence encloses the ETF except for the discharge line from the verification tanks to the SALDS. This fence is used to control personnel access and exclude deer and other large animals from the facility.

Figure 1 shows the evacuation routes from the 2025E Building.

Figure 2 shows the ETF/LERF site staging areas.

1.4.2 Liquid Effluent Retention Facility

The LERF consists of three identical surface impoundments constructed with primary and secondary composite liners, a leachate detection, collection, and removal system between liners, and a floating cover. The LERF basins act as an interim storage location for aqueous waste from the 242-A Evaporator, groundwater, and other site remediation projects prior to treatment at ETF.

The LERF is a basin operations structure comprised of the following:

- Excavation and dikes (basins)
- Primary and secondary composite liners
- Leachate detection, collection, and removal system
- Cover
- Piping and pumps
- MO-727 - Change trailer
- 242AL71 Instrument Building
- 242AL11 Storage Building

1.4.3 200 Area Treated Effluent Disposal Facility and Groundwater Transfer System

The 200 Area TEDF transports the 200 East and West Area facility effluents to a common disposal system. TEDF consists of approximately 62,000 feet of collection and transfer system piping, three pump stations, a sample building, and two 5-acre disposal ponds located southeast of ETF. The TEDF accepts liquid effluents from numerous sources in the 200 East and 200 West Areas that meet environmental permit requirements for disposal in the disposal ponds.

The GTS transfers groundwater extracted from the 200-UP-1 Operable Unit for interim storage at LERF and subsequent treatment at ETF. The system boundary begins at the first flowmeter from the 200-UP-1 pumps in the 200 West Area and ends at the connection to the LERF basins sample riser.

Figure 3 shows the major facility structures and liquid effluent sources for the SALDS, TEDF, and GTS.

1.5 Building Evacuation Routing

Figures 1 and 2 show building evacuation routes and staging areas.

1.5.1 Effluent Treatment Facility

The 2025E Building evacuation routes are shown in Figure 1. Primary and Alternate staging areas are shown in Figure 2.

1.5.2 Liquid Effluent Retention Facility

Primary and alternate staging areas are shown in Figure 2.

1.5.3 Treated Effluent Disposal Facility

Figure 3 shows the TEDF location.

1.5.4 Groundwater Transfer System

Figure 3 shows the GTS location.

Figure 1, Evacuation Routes from 2025E

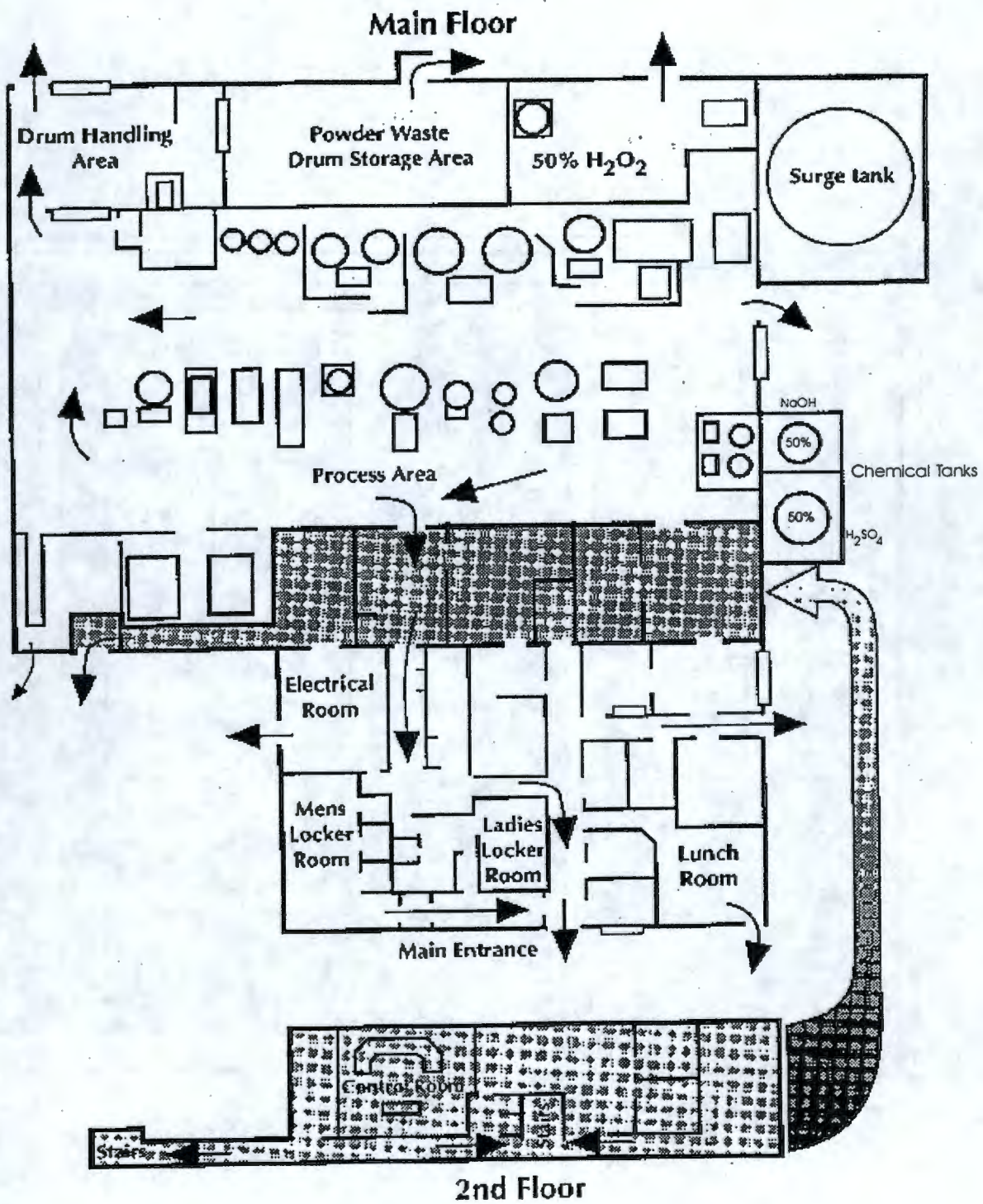
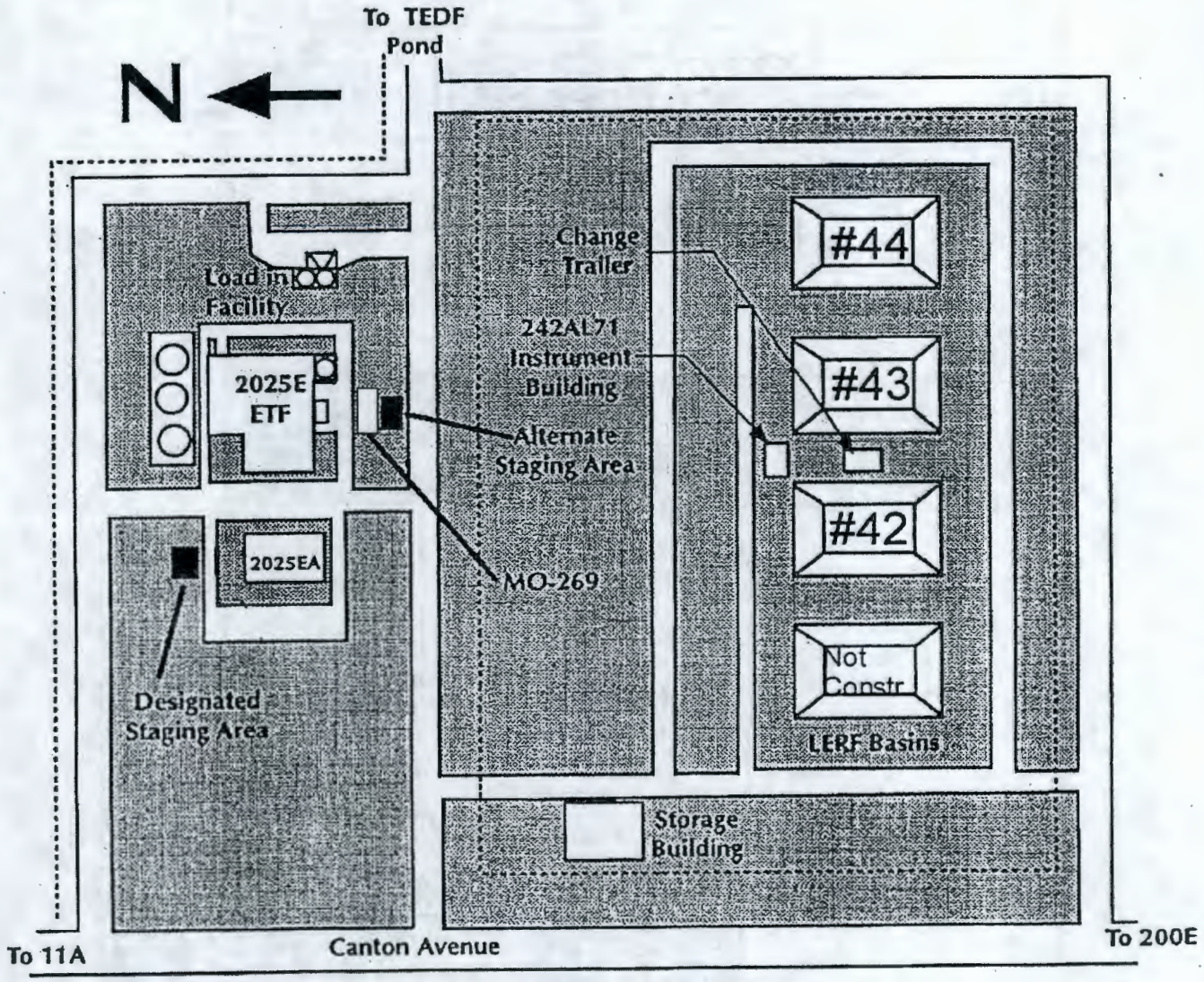


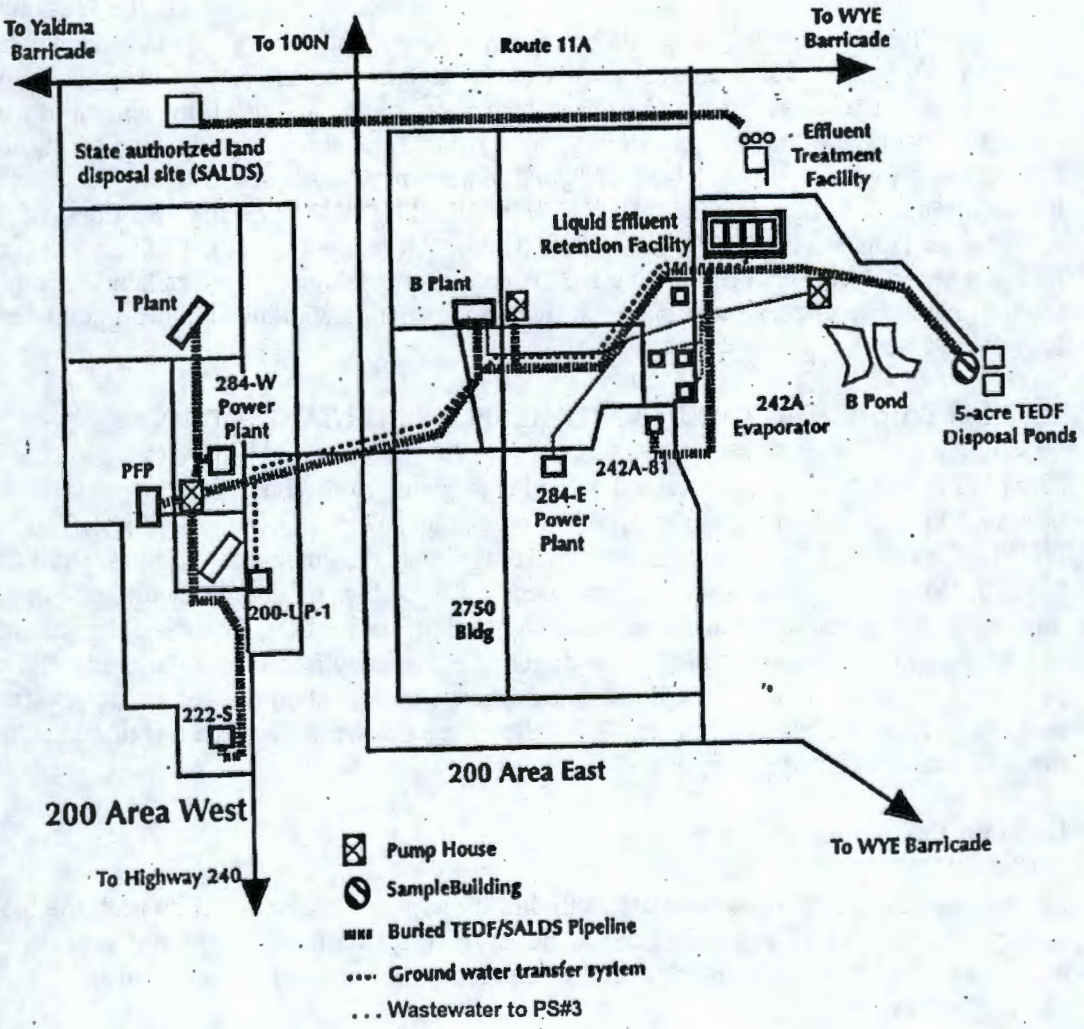
Figure 2, ETF/LERF Site Plan



Staging Area

ETF or LERF site evacuation routes will be determined by the Building Emergency Director dependent on event location and wind direction

Figure 3, 200 Area LWPF SALDS, TEDF, Ground Water Transfer System



2.0 PURPOSE

This plan describes both the facility hazards and the impacts of upset and/or emergency conditions. "Emergency" as used in this document includes events meeting the Washington Administrative Code (WAC) 173-303 definition of Emergency as well as U.S. Department of Energy (DOE) Order 232.1 categories of Unusual Occurrence and Emergency. These events include spills or releases, fires and explosions, transportation activities, movement of materials, packaging, storage of hazardous materials, and natural and security contingencies. When used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*, this plan meets the requirements for contingency planning as required by WAC 173-303. Sections 1.5, 3.1, 4.0 1st paragraph, 7.1, 7.2, 7.3, 8.1, 8.2, 8.3, 8.4, 9.0 (9.1-9.6), 11.0, 12.0, and 13.0 of the BEP are enforceable sections meeting RCRA contingency planning requirements. Enforceable sections cannot be changed without coordinating the change with the Hanford Facility RCRA Permit modification process.

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

The LWPF is staffed 24 hours each day, and is prepared to respond to emergencies through designated personnel with specific primary, on-call and alternate responsibilities. The ETF/LERF Building Emergency Director (BED) directs the emergency response until the Incident Commander arrives at the event scene. The BED is on duty 24 hours each day. The on-duty Shift Operations Manager is the designated primary BED. There is a designated alternate BED on day shift available for directing emergency response if required. Other personnel required as part of the building emergency organization are also on duty with either primary or alternate responsibilities. The following paragraphs describe this organization and the duties of designated personnel.

3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander arrives. The incident command system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Emergency Preparedness maintains a listing of BED names and work and home telephone numbers at the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

3.2 Other Members

As a minimum, Facility Management appoints and ensures training is provided to individuals to perform as Personnel Accountability Aides and Staging Area Managers. The accountability aides facilitate the implementation of protective actions (evacuation or take cover) and the accountability of personnel after the protective actions have been implemented. Staging Area Managers coordinate/conduct activities at the staging area. In addition, the BED may identify additional support personnel (Radiological Control, Maintenance, Engineering, Hazardous Material Coordinators, etc.) to be part of the Facility/Building Emergency Response Organization. Section 13.0 of this plan discusses the location of information regarding positions, names, and telephone numbers. Copies are distributed to appropriate facility locations and to the Hanford Site Emergency Preparedness organization.

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of the WAC, this plan will be cconsidered implemented when the BED has determined that a release, fire, or explosion which could threaten human health or the environment (RCRA Emergency) has occurred at the facility. The RCRA Emergency determination process is described in DOE/RL-94-02, Section 4.2.

The BED must assess each incident to determine the response necessary to protect personnel, facility, and the environment. If emergency assistance from Patrol, Fire, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

5.0 FACILITY HAZARDS

Facility hazards and potential targets are identified and evaluated in the hazards assessment required by DOE Orders for the ETF/LERF. The hazards assessment is not used in the Hanford Facility contingency planning program. The objective of this section of the emergency plan is to document all known hazards that pose significant risks to human health or to the environment and identify quantitative values for those significant risks.

Certain information in this plan pertains only to DOE Order considerations (e.g., discussions pertaining to hazards from hazardous materials and radioactive-only materials). Terms such as Emergency Response Protective Guidelines (ERPG), Alert Emergencies, Site Area Emergencies, and General Emergencies pertain only to DOE Order planning considerations. These hazards and terms are not part of the Hanford Facility contingency planning program. The only portion of this section that is part of the Hanford Facility contingency planning program are the chemical constituent hazards discussed in Section 5.3.

5.1 ETF Hazards

5.1.1 Hazardous Materials

Material Safety Data Sheets (MSDSs) are located in building 2025EA, rooms 101 and A1, and in the ETF Control Room.

Potentially hazardous materials at the ETF include chemicals added as part of the treatment process, chemicals added to prevent corrosion, and anti-foaming agents added to the evaporator. There are no explosives in the system, although some chemicals can react or decompose violently. Hazardous chemicals in the process liquid are discussed in Section 5.1.3.

Hazardous process chemicals identified in the hazards assessment are given in Table 1, including the associated American Industrial Hygiene Association ERPG values. DOE Order emergency planning ensures that appropriate protective actions are taken for the full range of events from a release of hazardous material that has the potential to exceed limits.

Table 1. ETF HAZARDOUS PROCESS CHEMICALS

Hazardous Chemical	ERPG Values		
	1	2	3
50% hydrogen peroxide	10 ppm	50 ppm	100 ppm
92% sulfuric acid	2 mg/m^3	10 mg/m^3	30 mg/m^3
50% sodium hydroxide	2 mg/m^3	40 mg/m^3	100 mg/m^3

ppm-parts per million; mg-milligram; m^3-cubic meter

5.1.2 Industrial Hazards

The industrial hazards associated with the facility include electrical equipment, rotating equipment, confined spaces, compressed gas cylinders, and propane tanks. The industrial hazards associated with the facility do not pose a threat to the human health or the environment. Industrial hazards are addressed in the building health and safety plan and maintenance programs.

5.1.3 Radioactive/Dangerous/Mixed Waste

5.1.3.1 Solid Form

There are three types of solid mixed wastes at ETF:

- Secondary waste powder - A dry powder with a low radioactivity level that may contain ammonium, sodium, sulfates, silicon, nitrates, calcium, magnesium, and trace metals. The ETF Process Run Plan will document the characterization of the waste streams. The process drum capacity is 55 gallons. Locations include the thin film dryer room, drum handling area, and the

process drum storage area. Maximum radiological source terms and hazardous materials for the secondary waste powder are below the levels requiring evaluation for emergency preparedness concerns.

- Indirect Waste - Materials that are used in the treatment process. These materials include spent resin beads, spent reverse osmosis membranes, spent high efficiency particulate air (HEPA) cartridges, carbon filter medium, and spent filter elements. Storage locations could include all staged maintenance areas or satellite accumulation areas.

- Dry active waste - Small quantities of waste from routine operations and maintenance activities (i.e., rags, sampling media, etc.). Locations include the process area, external tank area, staged maintenance areas, and satellite accumulation areas.

5.1.3.2 Liquid Form

The aqueous waste treated at ETF may contain low levels of radioactivity and/or dangerous chemical constituents. The radioactive/dangerous/mixed waste is evaluated in the hazards assessment as required by DOE Orders. Maximum radiological source term and dangerous waste materials are evaluated in the ETF Process Run Plan. The amount present must be below the levels requiring reevaluation for emergency preparedness concerns prior to treatment.

The influent aqueous waste to the ETF is treated in the primary treatment train to remove and/or destroy contaminants to allow discharge to the ground in accordance with the Washington State Waste Discharge Permit. Removed contaminants are concentrated in the secondary treatment train and are addressed in Section 5.1.3.1.

Emergency planning activities include implementing instructions that evaluate conditions and consequences associated with abnormal radiation levels, as well as release of waste water. For the purposes of field measurements, the site boundary is defined as 100 meters from the facility buildings.

5.1.3.3 Gaseous Form

Airborne effluent streams are produced through the following:

- Radiological control area Heating Ventilation Air Conditioning (HVAC) system - exhaust from radiologically controlled areas.

- Vessel offgas system - Vapors and gases from the various tanks and treatment systems.

The vessel offgas HEPA filters remove particulates from the air stream before discharge to the radiologically controlled area HVAC system. The combined air stream passes through another HEPA filter and is monitored for radiation. Analysis

shows that potential radioactive release levels are less than the values requiring event classification.

5.1.4 Criticality

A criticality is not a credible hazard at ETF.

5.2 LERF Hazards

5.2.1 Hazardous Materials

No hazardous material is stored at LERF. Small quantities of hazardous material could be used in maintenance and sampling activities. Any release of these materials would not be classed as a WAC 173-303 or DOE emergency.

5.2.2 Industrial Hazards

The industrial hazards associated with LERF include electrical equipment, rotating equipment, confined spaces, compressed gas cylinders, and propane tanks. The industrial hazards associated with the facility do not pose a threat to the health and safety of the general public or environment. Industrial hazards are addressed in the building health and safety plan and maintenance programs.

5.2.3 Radioactive/Dangerous/Mixed Waste

5.2.3.1 Solid Form

Small quantities of low radioactivity mixed waste from routine operations and maintenance activities (i.e., rags, sampling media, etc.). Locations include sampling areas, staged maintenance areas, and satellite accumulation areas. Any release of these materials would not be classed as a WAC 173-303 or DOE emergency.

5.2.3.2 Liquid Form

The aqueous waste stored in the LERF basins may contain low levels radioactivity with dangerous chemical constituents and is evaluated in the hazards assessment as required by DOE Orders. Maximum radiological source terms for LERF are below the levels requiring evaluation for emergency preparedness concerns. The chemical constituent of concern, based on worst case scenarios for process condensate from the 242-A Evaporator, is ammonia. American Industrial Hygiene Association ERPG values are shown in Table 2.

Table 2 LERF WASTE CHEMICAL CONSTITUENTS OF CONCERN

Constituent	ERPG Values		
	1	2	3
Process liquid - Ammonia	25 ppm	200 ppm	1000 ppm

5.2.3.3 Gaseous Form

Airborne effluent streams produced from the wastewater in the basins is vented through the basin vent system. Analysis shows that potential for gaseous release levels are less than the values requiring event classification.

5.2.4 Criticality

A criticality is not a credible hazard at LERF.

5.3 TEDF and Ground Water Transfer System Hazards

The hazards associated with the TEDF and the GTS are industrial hazards only. Industrial hazards to facility personnel are addressed in the building health and safety plan and maintenance programs.

5.3.1 Hazardous Materials

Only small amounts of sample preservative chemicals are stored at the TEDF. There are no hazardous materials associated with the TEDF or GTS that would pose a threat to human health or the environment. However, maintenance and sampling activities might require the use of small quantities of hazardous materials. Hazards associated with maintenance and sampling activities are addressed in the health and safety plan and maintenance programs.

5.3.2 Industrial Hazards

The industrial hazards associated with the TEDF include electrical equipment, rotating equipment, confined spaces, compressed gas cylinders, and propane tanks. A propane storage tank for the pump house #2 Standby Power Generator is the only hazard above common industrial hazards. Response to an event involving the propane tank would be as a result of fire or explosion. The industrial hazards associated with the TEDF or GTS do not pose a threat to human health or the environment.

5.3.3 Radioactive/Dangerous/Mixed Waste

The level of radioactive/dangerous materials in the influent to TEDF allows for disposal as a nondangerous waste. The total inventory of the GTS is based on the volume of the transfer line and the concentration of contaminants in the 200-UP-1 groundwater. The radioactive/dangerous material inventories associated with the aqueous waste in the TEDF or GTS are sufficiently low that there is no threat to human health or the environment.

5.3.4 Criticality

A criticality accident is not credible at the TEDF or GTS.

6.0 POTENTIAL EMERGENCY CONDITIONS

The objective of this section is to identify WAC 173-303 and DOE Order potential emergency conditions and to identify the appropriate DOE Order emergency classification level. Protective action responses based on these classifications are discussed in Section 7.0. Technical justification for the values and limits identified in this section are provided in the hazards assessment required by DOE Orders for the ETF/LERF. The hazards assessment is not used in the Hanford Facility contingency planning program.

Potential emergency conditions fall into three basic categories: operational (process upsets, fires and explosions, loss of utilities, spills, and releases), natural phenomena (earthquakes and storms), and security contingencies (bomb threats, hostage situations). For operational emergencies, event frequency coupled with accident severity provide the criteria for emergency plan response.

Potential radioactive/dangerous/mixed waste release modes include fires, explosions, spills, or environmental releases. These events are evaluated based on the potential impact to operations and subsequent release of waste or hazardous materials. Potential consequences to human health or the environment are the ultimate criteria for event classification and protective response actions. Additionally, prolonged small releases are evaluated for their potential to impact human health or the environment.

6.1 Facility Operations Emergencies

Operations emergencies for each facility are discussed in the following section.

6.1.1 ETF Operations Emergencies

6.1.1.1 Loss of Utilities

Loss of utilities would interrupt the treatment processes but would not be classed as a WAC 173-303 or DOE Order defined emergency.

6.1.1.2 Major Process Disruption/Loss of Plant Control

Process disruption/loss of plant control would interrupt the treatment processes but would not be classed as a WAC 173-303 or DOE Order defined emergency.

6.1.1.3 Pressure Release

The ETF has low pressure compressed air and steam systems. Loss of the compressed air or steam system(s) could result in loss of plant control or a process disruption. Process disruption/loss of plant control would interrupt the treatment processes .

Compressed gas cylinders are used at the ETF. Failure of compressed gas bottles could cause flying debris hazards and are addressed as part of fire and/or explosion, Section 6.1.1.4

A process system pressure release is categorized as a condensate spray release. This is addressed as a radioactive/dangerous/mixed waste spill, Section 6.1.1.6.

6.1.1.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes. Flying debris might result from explosions and compressed gas cylinder failure. Process system disruption, loss of plant control, and breach of process system boundaries could result from the flying debris.

6.1.1.5 Hazardous Material Spill

Hazards associated with process chemical spills include potential exposure to corrosive, oxidizing, or toxic materials, as well as potential environmental damage by the release of these materials to the air, water, or soil column. The hazards assessment required by DOE Orders identifies sulfuric acid and hydrogen peroxide spills as events that could pose significant risk or consequences to warrant emergency planning.

6.1.1.6 Dangerous/Mixed Waste Spill

The ETF inventories include large quantities of process liquid, secondary powder waste, indirect waste, and dry active waste. The hazards assessment has evaluated that there are no events that could pose significant risk or consequences to warrant emergency planning. ETF has the potential for minor exposures to radioactive material, corrosive, oxidizing or toxic materials, as well as localized environmental damage by their release to air, water, or soil column. Therefore, response for dangerous/mixed waste releases are included in the scope of emergency planning.

6.1.1.7 Transportation and/or Packaging Incidents

A transportation and/or packaging incident involving chemicals, dangerous/mixed waste, or samples could result in exposure to hazardous materials (corrosive, oxidizer, toxic) and/or low levels of radioactivity, as well as potential environmental damage by their release to the air, water, or soil column.

6.1.1.8 Radiological Material Release/Abnormal Radiation level

The ETF inventories include large quantities of process liquid, secondary powder waste, indirect waste, and dry active waste. Radioactive materials will accumulate in various treatment systems and in secondary waste powder. ETF has the potential for concentrating radioactive materials, therefore, response for abnormal radiation levels and radioactive material release are included in the scope of emergency planning.

6.1.1.9 Criticality

A criticality is not a credible accident at the ETF.

6.1.2 LERF Operations Emergencies

6.1.2.1 Loss of Utilities

Loss of utilities would interrupt the pumping and automatic sampling processes.

6.1.2.2 Major Process Disruption/Loss of Plant Control

Major process disruption/loss of plant control would interrupt the pumping and automatic sampling processes.

6.1.2.3 Pressure Release

The are no high pressure systems at LERF. A piping system breach is addressed as a radioactive/dangerous/mixed waste spill (Section 6.1.2.6).

6.1.2.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes.

6.1.2.5 Hazardous Material Spill

Process liquid releases are addressed in Section 6.1.2.6. Small quantities of hazardous material could be used in maintenance and sampling activities. A spill of these materials would not be classed as a WAC 173-303 or DOE emergency.

6.1.2.6 Dangerous/Mixed Waste Spill

The LERF inventories include large quantities of process liquid. The hazards at LERF could pose significant risks or consequences and warrant emergency planning. LERF has the potential for exposures to radioactive material, corrosive, oxidizing or toxic materials, as well as environmental damage by their release to air, water, or soil column. Therefore response for dangerous/mixed waste release are included in the scope of emergency planning.

6.1.2.7 Transportation and/or Packaging Incidents

A transportation and/or packaging incident involving hazardous chemicals, radioactive/dangerous/mixed waste, or samples could result in exposure to hazardous materials (corrosive, oxidizer, toxic) and/or low levels of radioactivity, as well as potential environmental damage by their release to the air, water, or soil column.

6.1.2.8 Radiological Material Release/Abnormal Radiation Level

Refer to Section 6.1.2.6.

6.1.2.9 Criticality

A criticality is not a credible accident at LERF.

6.1.3 TEDF and GTS Operations Emergencies

6.1.3.1 Loss of Utilities

Loss of utilities would interrupt the pumping and automatic sampling processes but would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.2 Major Process Disruption/Loss of Plant Control

Process disruption/loss of plant control could cause an inadvertent discharge of treated effluent or nontreated groundwater to a nonpermitted area. Discharge to an unauthorized area would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.3 Pressure Release

There are no high pressure systems at the TEDF or GTS. A piping system breach is addressed in section 6.1.3.6.

6.1.3.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes.

6.1.3.5 Hazardous Material Spill

No hazardous material is stored in the TEDF pump houses. Small quantities of hazardous material could be used in maintenance and sampling activities. This would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.6 Dangerous/Mixed Waste Spill

Influent to TEDF is a nondangerous waste. TEDF and groundwater releases would not be classed as a WAC 173-303 or DOE emergency. LWPF surveillance serves as leak detection.

6.1.3.7 Transportation and/or Packaging Incidents

There are transportation and/or packaging activities at TEDF or GTS.

6.1.3.8 Radiological Material Release/Abnormal Radiation level

TEDF process liquid meets discharge limits. A groundwater release would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.9 Criticality

A criticality is not a credible accident at TEDF or the GTS.

6.2 Natural Phenomena

6.2.1 Seismic Event

Depending on the magnitude of the seismic event, severe structural damage could occur at ETF/LERF, resulting in serious injuries or fatalities and the release of hazardous or radioactive materials to the environment. Damaged electrical circuits and wiring could result in the initiation of fires.

6.2.2 Ashfall/Snow Fall Roof Overloading

Ash or snow accumulations can cause actual roof or other structural damage to buildings containing hazardous material or radioactive/dangerous/mixed waste. There should be ample warning of an approaching large ashfall to allow the facilities to be placed in a stable condition.

6.2.3 High Winds/Tornados

Hazards associated with high winds or tornado include loss of electrical power, damage caused by flying objects, or structural damage.

6.2.4 Flood

A flood is not a credible accident at ETF/LERF because the facility is not within the Columbia River flood plain.

6.2.5 Range Fire

In the event that a range fire threatens any ETF/LERF building containing hazardous material or radioactive/dangerous/mixed waste, emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.K.

6.2.6 Aircraft Crash

If an aircraft crash occurs into or near ETF/LERF, emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.K.

6.3 Security Contingencies

6.3.1 Bomb Threat/Explosive Device

A bomb threat may be received by anyone who answers a telephone or receives mail. Bomb threats may pose a fire or explosion hazard. Fire or explosion from a bomb could lead to the release of hazardous constituents or materials and exposure or bodily harm to personnel. If the device explodes, classification of the event will be performed as stated in Section 6.1.1.4, 6.1.2.4, or 6.1.3.4.

6.3.2 Hostage Situation/Armed Intruder

A hostage situation or the entry of an armed hostile intruder(s) at ETF/LERF could pose an emergency situation if there is the potential to adversely impact the facility.

6.3.3 Suspicious Object

The major effect on the facility due to recognizing a suspicious object is that the facility should be placed in a safe configuration, if time permits, and the facility evacuated.

7.0 INCIDENT RESPONSE

The initial response to any emergency is to immediately protect the health and safety of persons in the immediate area. Identification of released material is essential to determine appropriate protective actions. Containment, event notification, treatment, and disposal assessment are secondary responses.

The following sections describe the process for implementing basic protective actions as well as descriptions of response actions for the events listed in Section 6.0. DOE/RL-94-02, Section 1.3, provides concept of operations for emergency response on the Hanford Site

Incident responses are coordinated from the ETF control room or a designated alternate location.

7.1 Protective Actions Responses

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility because of an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation will be directed by the BED when conditions warrant and will apply to all personnel not actively involved in the event response or emergency plan-related activities.

The BED will initiate the evacuation by directing an announcement be made to evacuate along with the evacuation location over a public address system, facility radios, and, as conditions warrant, by activating the 200 Area site evacuation alarms by calling the POC using 911 or

373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 2), or other safe upwind location, as determined by the BED. The BED will determine the operating configuration of the facility and identify any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel will conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability will be performed at the staging area. The BED will assign personnel as accountability aides and staging managers with the responsibility to ensure that evacuation actions are taken at all occupied buildings at the ETF or LERF complexes. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers will provide a status report to the BED. The BED will provide status to the Incident Commander.

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous materials, or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED will initiate the take cover by directing an announcement be made over the public address system, facility radios, and, as conditions warrant, by activating the 200 Area site take cover alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Actions to complete a facility take-cover will be directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover response is based on plant operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard will be minimized. The BED will assign personnel as accountability aides with responsibility to ensure that take-cover actions are taken at all occupied buildings at the ETF complex. All implementing actions executed by the aides/managers are directed by the emergency response procedure in attachment A. When take cover actions are complete the aides/manager will provide the BED with a status report.

7.2 Response to Facility Operations Emergencies

If there is a potential for categorization of an Occurrence or classification into an Alert, Site Area or General Emergency, in the following facility operations emergency sections, reference shall be made to the site facility occurrence reporting procedure or the event recognition and classification procedure using the following statement,
"Depending on the severity of the following events, the BED reviews the site-wide procedures and facility specific procedure (s) and, as required, categorizes and classified the event. If necessary, the BED initiates area protective actions and site emergency response organization activation." The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events. Attachment A provides a list of procedures.

7.2.1 Loss of Utilities

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE emergency. .

7.2.2 Major Process Disruption/Loss of Plant Control

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE emergency.

7.2.3 Pressure Release

The hazards assessment has determined that a pressure release does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE emergency. Hazardous material release and radioactive/dangerous/mixed waste releases are addressed in Section 7.2.5.

7.2.4 Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire alarm pull station, contacts 911 to request fire fighting assistance, and contacts the ETF control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The BED interfaces with the Incident Commander and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.

b. Location and severity of fire.

c. Known hazardous (radiological and nonradiological) conditions.

d. Facility operating status.

e. Utility systems status.

f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).

g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).

h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

An incident requiring evacuation of personnel or the summoning of emergency response units does not necessarily indicate that the contingency plan has been implemented.

7.2.5 Hazardous Material, Radioactive/Dangerous/Mixed Waste Spills or Releases

The ETF and LERF have engineering controls to contain or minimize spills. These controls include, containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. LWPF procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazard induced by the presence of radioactive materials.

If a spill or release is discovered, the discoverer performs the following actions:

- Notifies the ETF control room - BED and initiates **SWIMS** response:
- Stops work,
- Warns others in the vicinity
- Isolates the area,
- Minimizes the spill if possible, and
- Requests the BED Secure unfiltered ventilation.
- The BED determines whether to activate the Incident Command System (ICS) based on classification of the spill and injured personnel; and evaluates the need to perform additional protective actions.

- If the ICS is not activated, the spill is mitigated with resources identified by the BED and proper notifications are made.
- If the ICS is requires activation, the BED calls 911 or 373-3800 using a cellular phone.
- The BED sends out a representative to meet the Hanford Fire Department.
- The BED provides formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste, mixed waste, or radioactive material quantities released to the environment.
- If operations are stopped, the BED ensures that the plant is put in safe shutdown configuration.
- Hanford Fire Department stablizes spill as needed.

7.2.5.1 Damaged, Unacceptable Hazardous Material, Dangerous and/or Mixed Waste Shipments

When a damaged shipment of hazardous material or dangerous waste arrives at the ETF and the shipment is unacceptable for receipt, actions will be taken to rectify the problem. If required, actions described in Section 7.2.5 are taken.

7.2.6 Radiological Material Release

At a minimum, actions described in Section 7.2.5 are taken. Abnormal radiation actions also may be implemented if conditions are warranted.

7.2.7 Criticality

The hazards assessment has determined that a criticality is not credible for ETF or LERF.

7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, as part of the incident command system, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED will take measures, where applicable, to stop processes and operations, collect and contain released waste, and remove or isolate containers. The BED also monitors for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment, whenever this is appropriate.

7.4 Response to Natural Phenomena

Depending on the severity of the event, the BED reviews occurrence reporting procedure or the facility event recognition and classification procedure and, as required, categorizes or classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation.

7.4.1 Seismic Event

The Hanford Site emergency response organization's primary role in a seismic event is coordinating the initial response to injuries, fires, and fire hazards, and acting to contain or control radioactive and/or hazardous material releases.

Individuals should remain calm and stay away from windows, steam lines, and hazardous material storage locations. Once the shaking has subsided, individuals evacuate carefully and assist personnel needing help. The locations of any trapped individuals are reported to the BED or are reported to 911 or 373-3800 (if using a cellular phone).

The BED takes whatever actions are necessary to minimize damage and personnel injuries, including:

- Coordinating searches for personnel and potential hazardous conditions (fires, spills, etc.),
- Conducting personnel accountability,
- Securing utilities and facility operations,
- Arranging for rescue efforts, and notifying 911 or 373-3800 (if using a cellular phone) for assistance,
- Determining if hazardous materials were released,
- Determining current local meteorological conditions,
- Warning other facilities and implementing protective actions if release of hazardous materials poses a danger,
- Providing personnel and resource assistance to other facilities.

7.4.2 Volcanic Eruption/Ashfall

When notified of an impending ashfall, the BED implements measures to minimize the impact of the ashfall, including the following:

- Installing filter media over building ventilation intakes,
- Installing filter media or protective coverings on outdoor equipment that could

be adversely affected by the ash (diesel generators, equipment rooms etc.),

- Shutting down some or all operations and processes,
- Sealing secondary use exterior doors,

7.4.3 High Winds/Tornados

On notification of impending high winds, the BED takes steps necessary to secure all outside doors and windows, and secure all outdoor waste and hazardous material handling activities. All doors and windows are shut, and personnel are warned to use extreme caution when entering or exiting the building.

7.4.4 Flood

The hazard assessment determined that flooding at the LERF/ETF is not credible.

7.4.5 Range Fire

Responses to range fires are handled by preventive measures (i.e., keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the facility boundary, the response is as described for a fire.

7.4.6 Aircraft Crash

Response to an aircraft crash would be appropriate for the condition created. For example: A fire due to explosion or electrical shorts would initiate the fire response actions specified in Section 7.2.4.

7.5 Security Contingencies

Depending on the severity of the event, the BED reviews occurrence reporting procedure or the facility event recognition and classification procedure and, as required, categorizes or classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation.

7.5.1 Bomb Threat/Explosive Device

7.5.1.1 Telephone Threat

Personnel receiving telephoned threats attempt to get as much information as possible from the caller. A form is available for personnel to keep by their telephone to use as a guide for getting useful information from the caller. On conclusion of the call, personnel notify the BED and Security.

The BED evacuates the facility and questions personnel at the staging area regarding any suspicious objects in the facility. When Security personnel arrive, their instructions are followed.

7.5.1.2 Written Threat

Receivers of written threats handle the letter as little as possible and notify the BED and Security. Depending on the content of the letter, the facility may or may not be evacuated. The letter is turned over to Security personnel and their instructions are followed.

7.5.2 Hostage Situation/Armed Intruder

The discoverer of a hostage situation/armed intruder reports the situation to the BED and to the POC via 911 or 373-3800 (if using a cellular phone), if possible. The BED, after conferring with Security personnel, may covertly evacuate areas of the facility not observable by the hostage taker(s)/intruder. No alarms will be sounded.

Security will determine the remaining response actions and will activate the Hostage Negotiating Team, if necessary.

7.5.3 Suspicious Object

The discoverer of an suspicious object reports it to the BED and to the POC via 911 or 373-3800 (if using a cellular phone), and, if possible, ensures that the object is not disturbed.

The BED orders evacuation of the facility and (based on the description provided by the discoverer) attempts to determine the identity or owner of the object. This may be done by questioning facility personnel at the staging area.

If the identity/ownership of the object cannot be determined, then Security assumes command of the incident. The canine unit is used to determine if the package contains explosives. If there is a positive indication of explosives or it cannot be assured that there are no explosives, then the Richland Police Department's Emergency Ordinance Disposal Team is dispatched to the facility to properly dispose of the device.

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS

The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 9.0, describes these considerations. The extent by which these actions are employed is based upon the incident classification of each event. In addition, DOE/RL-94-02 contains considerations for the management of incompatible wastes, which may apply.

8.1 Termination of Event

For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the Hanford-EOC is not activated, the incident command system and staff declare event termination.

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a RCRA emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1 discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.

2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford-EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

8.4 Post Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumable and disposed materials are restocked. Fire extinguishers are recharged or replaced.

The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc.

9.0 EMERGENCY EQUIPMENT

Hanford Site emergency resources and equipment are described and listed in DOE/RL-94-02, Appendix C.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Safety shower/eye wash stations (ETF only)	1 - 2025E Rm 122 Decon Station 1 - 2025E South Wall of Process Area 1 - 2025E Rm 134 1 - Outside south 2025E near acid/caustic tanks 1 - Outside at Load-in station 1 - 2025E Rm 112 Laboratory	Assist in flushing chemicals/materials from the body and/or eyes and face of personnel.
Wet pipe sprinkler (ETF only)	Throughout the ETF except those areas protected by pre-active sprinklers.	Assist in the control of a fire.
Preactive sprinkler (ETF only)	Control room, communications room, electrical equipment room	Assist in the control of a fire. Maintained dry to prevent accidental damage to equipment.
Fire alarm pull boxes (ETF only)	All high traffic areas in operations administration and support areas, truck bay, and process area	Activate the local fire alarm
E-lights	Throughout ETF	1 hour temporary lighting

9.2 Portable Emergency Equipment

PORTABLE EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire extinguisher ABC type	Throughout ETF (Administrative/Support areas), LERF, and TEDF	Fire suppression for Class A, B, and C fires
Fire extinguisher BC type	Throughout ETF (process area and electrical room)	Fire suppression for Class B and C fires
Portable safety showers and Eye Wash Stations	As needed for special evolutions and maintenance	Assist in flushing chemicals/ materials from the body and/or eyes and face of personnel.

9.3 Communications Equipment/Warning Systems

COMMUNICATIONS EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire alarms (ETF only)	Corridors, locker rooms, process area, drum storage, and truck bay	Audible throughout ETF
Take cover/evacuation	Site Emergency Alarm System	Audible outside buildings and inside administrative buildings
Public address system (ETF Only)	Throughout the ETF	Audible throughout ETF

Portable radios	Operations and maintenance personnel	Communication to control room
Telephone	ETF - control room, 2025E, 2025EA offices, MO-269, 2025EC71. LERF - MO-727 and 242AL71 instrument building LERF Garage 242AL11 TEDF - 225E(pump house 1), 225W (pump house 2), 6653 (sample building), 6653A (pump house 3)	Internal and external communications. Allows notification off outside resources (POC, HFD, Hanford Patrol, etc,.)
Crash alarms (ETF only)	Control room, 2025EA Rm 101	Audible in ETF control room
Area Radiation Monitors, Continuous Air Monitors	Evaporator skid and drum loadout area	Equipment only activated during potentially higher radiological campaigns

9.4 Personal Protective Equipment

PERSONAL PROTECTIVE EQUIPMENT		
Self contained breathing apparatus (SCBA)	4 - 2025E Rm 116	Breathable air for initial response to emergency, and recovery activities when required for radiological protection
Acid suits	3 each included in the spill response cabinets in 2025E.	Chemical protection for personnel during containment and isolation.
Respirators	2025E Rm 107A	Filtered air for recovery of known hazards.

9.5 Spill Control and Containment Supplies

SPILL KITS AND SPILL CONTROL EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Spill bag	1 - TEDF 6653 Disposal Sampling Building. 1 - 90-day storage CONEX East of 2025E building	Support containment and cleanup of 6 gallons of acids or bases.
Drum spill kit	2 - 2025E building in process area. 1 - MO-727 Change Trailer	Support containment and cleanup of 51 gallons of acids or bases.
Spill cart	2 - 2025E building in process area	Support containment and cleanup of 77 gallons of acids or bases.
Spill response cabinet	1 - 2025E Rm 122 1 - outside southeast side of 2025E.	Support equipment for spill response.
Spill bag	1 - 2025E Rm 112 1 - 2025E upper level process area.	Support containment and cleanup of 10 gallons of acids or bases.

9.6 Incident Command Post

For emergencies not requiring evacuation, the BED and support personnel will assemble in the ETF control room or other location as identified by the BED.

10.0 COORDINATION AGREEMENTS

DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Section 3, Table 3-1.

11.0 REQUIRED REPORTS

Post incident, written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Section 5.1.

12.0 PLAN LOCATION

Copies of this plan are maintained at the following locations:

- ETF control room
- 242-A Evaporator control room
- Operations Managers office (Building 2025EA, room 101)
- 200 LWPF regulatory file

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

TITLE	WORK LOCATION	WORK PHONE
Shift Operation Manager (SOM)	2025E Building - ETF control room or 242-A Evaporator control room	373-9000 373-2737
Operations Manager		373-5533

Names and home telephone numbers of the BEDs and alternates are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

14.0 REFERENCES

DOEOrder 232.1, "Occurrence Reporting and Processing of Operations Information," U.S. Department of Energy, Washington D.C.

DOE/RL-94-02, *Hanford Emergency Management Plan*

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington, as amended.

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

NIOSH, *Pocket Guide to Chemical Hazards*, National Institute of Occupational Safety and Health, U.S. Department of Health and Human Resources, Public Health Service, Centers for Disease Control, Washington, D.C.

Hanford Facility RCRA Permit, Dangerous Waste Portion, Washington State Department of Ecology, Olympia, Washington, as amended.

ATTACHMENT A

Listing of Procedures and Documents

Site-Wide Procedures

DOE-0223, *Emergency Plan Implementing Procedures*:

- RLEP-1.1, "Hanford Incident Command System and Event Recognition and Classification," Appendix 1-2.K;
- RLEP-3.4, "Emergency Termination, Reentry, and Recovery."

Facility-Specific Emergency Response Procedures and Guides

EP-85B-001	Safety Shutdown
EP-85B-002	Minor Spill
EP-85B-003	Major Chemical Spill
EP-85B-004	Abnormal Radiation Levels
EP-85B-005	Fire/Explosion
EP-85B-006	Loss of AC Electrical Power
EP-85B-007	Take Cover
EP-85B-008	Evacuation
EP-85B-011	MCS Failure Safety Shutdown

Hanford Facility RCRA Permit Modification Notification Forms
for
305-B Storage Facility
Part III, Chapter 2, Attachment 18

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Hanford Facility RCRA Permit Modification Notification Form	
Unit: **305-B Storage Facility**	Permit Part & Chapter: **Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.2:
Additional storage cabinets have been added to this cell to assist in the segregation and storage of acids, basis, and flammables

4.1.1.6.2 Poisons and Class 9 Cell. The poisons and Class 9 cell (cell 2) is located just south of the acids and oxidizers cell along the west wall of the high bay. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. ~~Three~~ Six storage cabinets and several sets of open shelving are positioned in the cell to allow storage of various sizes of containers. The northeast corner of the cell is sectioned off with a 6" spill retention berm to allow PCB storage for disposal complying with 40 CFR 761.65(b). The secondary containment volume of the individual sump for this cell is 117 gallons, and the total containment volume of the cell is 782 gallons. A diagram of this cell is provided in Figure 4-2.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
A.K. Ikenberry	3/16/00	R.F. Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form	
Unit: **305-B Storage Facility**	Permit Part & Chapter: **Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.5.a.:
This is a correction to the reference showing the location of the Flammable liquids storage module.

4.1.1.6.5.a. Flammable Liquids Storage Module. The flammable liquid storage module is a self-contained storage module (cell 8) that allows additional storage space for flammable wastes. Located on the southeast wall, it is connected to the buildings fire suppression system. The flammable storage module has a 2-hour fire rated containment system so that according to the UFC, an unlimited capacity is allowed. However, the flammable waste storage capacity of the flammable liquid storage module is limited by the 240-gal capacity of the module's secondary containment system. No more than 240 gal of any combination of flammable liquid classes will be stored in the module. This flammable waste storage capacity is in addition to the flammable storage limits for the highbay. A diagram ~~of the module is provided in Figure 4-10~~ showing the module location in the highbay is provided in Figure 4-7.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
   1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Alice K. Ikenberry	3/16/00	R.F. Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

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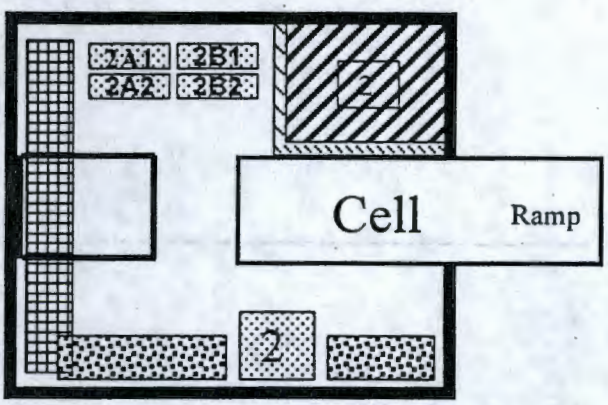
[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Figure 4-2:



2A1 Poisons, Acidic (P.G. II and P.G. III) (~~Large~~ Small Cabinet)
2A2 Poisons, Neutral/Basic (P.G. II and P.G. III) (Small Cabinet)
2B1 Poisons, Neutral/Basic (P.G. I) (~~Large~~ Small Cabinet)
2B2 Poisons, Acidic (P.G. I) (Small Cabinet)
2C Class 9 (nonreactive) (Large and Small Shelf)
2D Class 9 (reactives) (Large Cabinet)
2E PCB's

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
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Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
A.K. Ikenberry	3/16/00 Date	R.F. Christensen	4/5/00 Date	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit Modification Notification Form	
Unit: **305-B Storage Facility**	Permit Part & Chapter: **Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.9:
Alkaline is a more accurate description of the material being stored in the cell. This change also provides consistency with the description of the other alkaline storage cell (4.1.1.6.3.) in the facility.

4.1.1.6.9. ~~*Caustic*~~ ***Alkaline*** ***Waste Drum Storage Area.*** A fourth section of the high bay (cell 14) has been designated for storage of drum quantities of ~~caustic~~ alkaline waste prior to offsite shipment. The area is approximately 22'x15' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident. Sump containment capacity in this area is approximately 110 gallons and total containment capacity is approximately 380 gallons. Maximum storage in this area is thirty-two 55-gallon drums. The location of the area is shown on the High Bay Storage Area diagram Figure 4-7.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
Alice K. Ikenberry 3/16/00	R F Christensen 4/5/00		
A.K. Ikenberry Date	R.F. Christensen Date	J. J. Wallace Date	L.E. Ruud Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

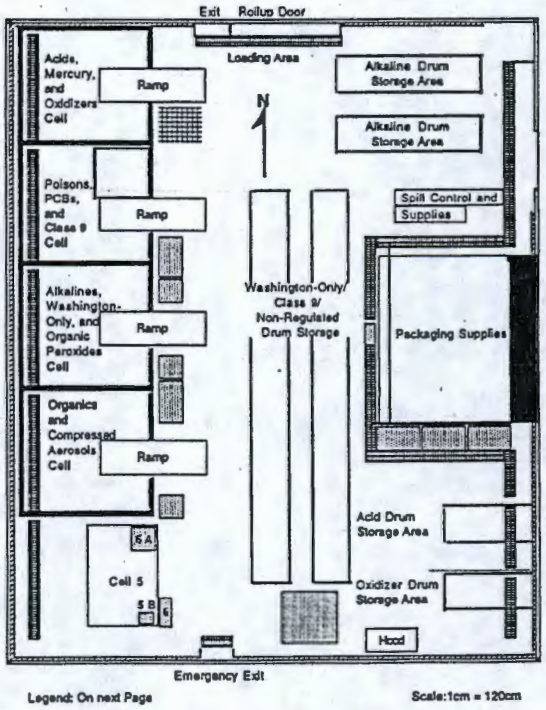
Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:

Chapter 4, Figure 4-7:

Updated figure of the highbay storage area showing changes from Caustic to Alkaline in cell 14.



Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

B. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
A.K. Ikenberry 3/16/10	R.F. Christensen 4/5/10		
A.K. Ikenberry Date	R.F. Christensen Date	J. J. Wallace Date	L.E. Ruud Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form	
Unit: **305-B Storage Facility**	Permit Part & Chapter: **Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.12:
Text to the section is being added referencing the containment pan figure

4.1.1.6.12 RMW Storage Area. Radioactive mixed waste that is not flammable per UFC (i.e., flash point above 100 F) is stored in a special area in the basement of 305-B. For additional segregation capability, there are eight small chemical storage cabinets and four 62" x 62" x 6" (157cm x 157cm x 15 cm stainless steel "container pans", with an approximate volume of 91 gallons (346 liters). The total area within the curbing is 1246 gallons (4716 liters). The containment pans are mounted to the floor or wall of the cell to provide segregated storage for potentially incompatible mixed waste streams. A diagram of the RMW storage cell secondary containment pan installation is provided in Figure 4-10. Drums stored in this area are stored on pallets to prevent potential contact with spilled waste in containment during an emergency. A diagram of this area is provided in Figure 4-9.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

C. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
A.K. Ikenberry 3/16/00	R.F. Christensen 4/5/00		
A.K. Ikenberry Date	R.F. Christensen Date	J. J. Wallace Date	L.E. Ruud Date

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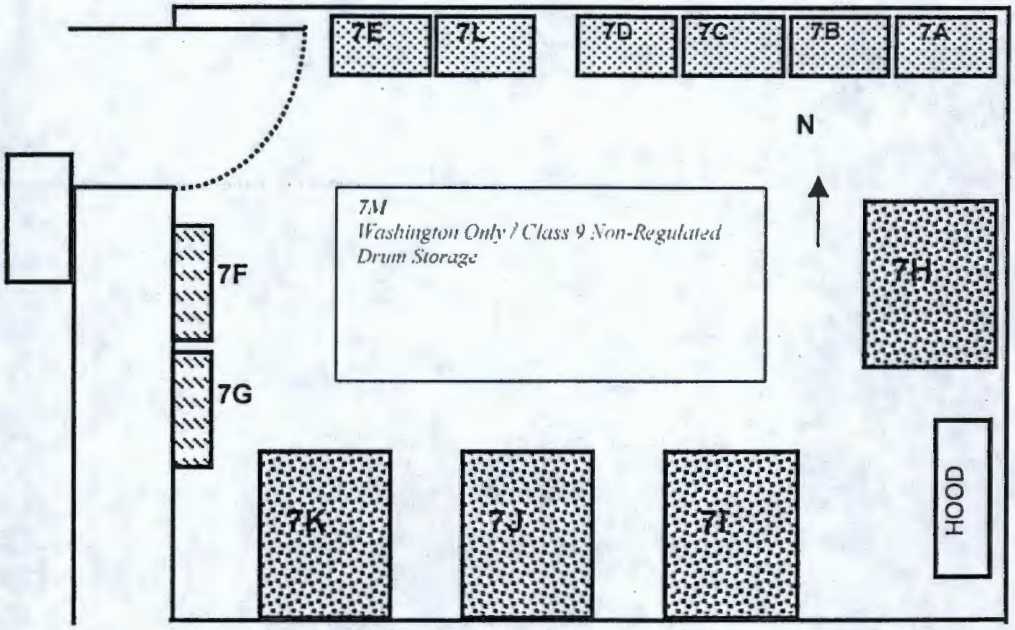
Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Figure 4-9:
Legends for storage cabinets 7A, 7B, 7C, and 7D have been added to the cabinets in the Figure.



Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

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Alice K. Ikenberry	3/16/00	R.F. Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

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Hanford Facility RCRA Permit

305-B Storage Facility
Part III, Chapter 2, and Attachment 18

Replacement Chapter

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Chapter 4

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4.0 PROCESS INFORMATION [D]

4.1 CONTAINERS [D-1]

The following sections describe the types of containers stored at the 305-B Storage Unit.

4.1.1 Containers With Free Liquids [D-1a]

Containers with free liquids are discussed below.

4.1.1.1 Description of Containers [D-1a(1)]

Most wastes stored at the 305-B Storage Unit are received in their original, as-procured containers. Containers of hazardous materials entering 305-B are inspected before being accepted for storage. Generating units are responsible for placing the materials in adequate containers. Repackaged materials must be placed in containers that are new and compatible with the materials to be stored.

Containers in poor condition or inadequate for storage are not accepted at the unit. If transport is by unit personnel, such containers are not accepted for transport. See Section 6.4.1 for inspection prior to transport performed by unit personnel. "Container in poor condition or inadequate for storage" means a container which is not intact or undamaged and which is not securely sealed to prevent leakage during storage, transport and ultimate offsite disposal. Examples of acceptable packaging include laboratory reagent bottles, DOT containers, spray cans, sealed ampules with spetums, paint cans, leaking containers which have been overpacked, etc. Unit operations personnel have the authority to determine whether a container is in poor condition or inadequate for storage, using the criteria of WAC 173-303-190 and professional judgement whether the packaging may leak during handling, storage and/or disposal.

As with all wastes, repackaged containers of dangerous waste are marked and/or labeled to describe the contents of the container and the major hazards of the waste, as required under WAC 173-303. Containers are also marked with a unique identifying number assigned by the unit's computerized waste tracking system.

All flammable liquid wastes are stored in compatible DOT-specified shipping containers and/or in Underwriter's Laboratory (UL)-listed and Factory Mutual (FM)-approved flammable storage cabinets. Solid chemicals are stored on shelving in specifically designated areas based on the DOT hazard classification.

All containers utilized for offsite transport of dangerous wastes at the unit are selected and shall comply with all applicable criteria found in WAC 173-303-190.

4.1.1.2 Container Management Practices [D-1a(2)]

Management practices and procedures for containers of dangerous waste are in place at the 305-B Storage Unit to assure the safe receipt, handling, preparation for transport, and transportation of wastes. These practices and procedures are summarized below.

Inspection of Containers. A system of daily, weekly, monthly, and yearly inspections is in place to ensure container integrity, check for proper storage location, prevent capacity overrun, etc. These inspection procedures are detailed in Section 6.2.

Container Handling. All unit staff are instructed in proper container handling safeguards as part of their training (see Section 8.1.2 for further details). For example, employees are instructed to open all high-vapor-pressure liquids in the flammable liquid bulking module to avoid buildup of vapors in the unit. Containers are always kept closed except when adding or removing waste, in accordance with WAC 173-303-630(5)(a).

Containers are not opened, handled or stored in a manner, which would cause the container to leak or rupture. Small containers (five gallons or less capacity) are stored on ventilated shelving or in approved flammable liquid storage lockers (if appropriate). Containers over five gallons capacity are stored on the floor of the appropriate storage cell, in cabinets, or stored in the appropriate containment area on the high bay floor under Section 4.3.2. Unnecessary handling not required for redistribution or preparation for transport and disposal by either labpacking or bulking (see below) is minimized. Drums are moved manually, by crane or chain hoist, or with an electric forklift. For manual movement, hand trucks specifically designed for drum handling are used. Crane and chain hoist operations are performed using a choker chain or drum hoist. When using the forklift, a drum hoist is used or the drums are carried on pallets. Drums are never carried on the forks or "speared" by slipping the forks under the chime. When waste handling operations are conducted, a minimum of two persons are present in the unit.

Lab Packing. One of the major functions of the 305-B Storage Unit is the preparation of lab packs for offsite recycling, treatment and/or disposal of small quantity lab wastes generated by DOE-RL/PNNL activities.

Lab packs are prepared in compliance with WAC 173-303-161, 49 CFR 173.12, other applicable regulations, and permit conditions of the planned receiving facility (recycler, treatment facility, or disposal facility). Permit conditions affecting preparation of lab packs might include types of absorbent materials to be used (e.g., no vermiculite).

Lab packs are prepared in the storage cell containing the hazard class(es) to be placed in the lab pack. The elephant trunk ventilator system may be used to minimize respirable dusts from the absorbent material being used (usually vermiculite. Lab packs may also be prepared in the flammable liquid bulking module if appropriate; for instance, if compatible materials from more than one storage cell are being combined in a single lab pack drum. Lab packs may be prepared in the high bay storage area if storage of the completed lab pack is permitted there per Section 4.3.2.

Partial and completed lab packs are closed, labeled, and the contents list documented. Labpacks are stored in the cell from which the containers inside were drawn, or in the high bay if appropriate.

Unit personnel wear appropriate protective clothing while handling containers being placed in lab packs. At a minimum this includes labcoats, safety glasses or other protective eyewear, and chemical resistant gloves. More stringent requirements, including use of respiratory protection, may be imposed if appropriate.

Bulking. In order to promote greater recycling or treatment of wastes and reduce land disposal, some liquid wastes are "bulked" into larger containers, typically 30- or 55-gallon closed head drums. Bulking operations for chemicals which are respiratory or flammability hazards are performed in the "flammable liquid bulking module" (Also referred to as cell 5.) located in the southwest corner of the unit. Bulking of nonvolatile, low hazard wastes such as saline solutions or ethylene glycol may be done within the containment areas of the appropriate storage cell or high bay.

Compatibility of wastes to be bulked is determined using the information from generating unit designation information, process knowledge, laboratory analyses, and/or the compatibility determinations described in Section 6.5.

Containers are transported by hand or forklift to the flammable liquid bulking module area. The receiving drum (typically 30- or 55-gallon capacity) is placed in the module and the ventilation system is activated. A large chemically- resistant funnel (either metal or plastic, depending on material to be introduced) is used to pour the material into the drum. The contents of the smaller containers are then poured, one at a time, into the larger drum. The receiving drum is monitored by unit personnel to make sure no incompatibility is observed (e.g., fuming, bubbling, or heat generation). If such incompatibility

is observed, no further material is added and the worker leaves the area, closing the module and leaving the ventilation on. The unit supervisor is notified to evaluate implementation of the contingency plan.

Glass containers, which have been emptied (as defined by WAC 173-303-160(2)), as a result of bulking activities are crushed onsite by an electric glass crusher, which mounts on a 55-gallon drum. If an emptied glass container held acutely hazardous waste, as defined by WAC 173-303-040(2), the container is rinsed at least three times with an appropriate cleaner or solvent prior to being destroyed. The rinsates are managed as dangerous waste. Crushed glass is managed as solid waste in accordance with WAC 173-303-160(3).

Once bulking is complete, the bulk container is closed, labeled, and the contents list documented. Containers of bulked waste are stored in the cell from which the containers inside were drawn, or in the high bay if appropriate.

Unit personnel wear appropriate protective clothing while bulking containerized liquid wastes. At a minimum this includes coveralls, disposable splash-resistant apron, eye protection, and chemical resistant gloves. More stringent requirements, including use of respiratory protection, may be imposed if appropriate.

4.1.1.3 Secondary Containment System Design and Operation [D-1a(3)]

Several design features have been engineered into the construction of the 305-B Storage Unit as added safeguards for containment of dangerous waste spills or leaks. Design drawings for 305-B are included in Appendix 4A. The following subsections comment briefly on each of the design features.

4.1.1.4 Requirement for Base or Liner to Contain Liquids [D-1a(4)]

The base of the facility consists of a 6-in. reinforced, poured concrete slab with no cracks or gaps. The concrete was mixed in accordance with ASTM 094, Section 5.3, Alternate 2, and all exposed surfaces were finished with a smooth troweled surface. Expansion joint material is Sonneborn "Sonoflex F™" polyethylene filler. The bonding compound used at the expansion joints was Sonneborn "Sonobond™" two-part epoxy. All edges and corners were sealed with a continuous bead of polysulfide sealant.

A chemically resistant sealant paint was applied in February 1989 to the storage cells and high bay floor, and in October 1990 to drum storage areas noted in Sections 4.1.1.6.6, 4.1.1.6.7, and 4.1.1.6.8. Specific areas of 1989 application are shown on Plate 4-1 and painting methods (surface preparation and application of coatings) are described on Plate 4-2 of Appendix 4A of this permit application. The surface coating is Coronado #101-1 (101 Series) Polyamide Epoxy Coating. Estimated service life of the coating material is 14 years per manufacturer's literature. Performance specifications and a compatibility chart are provided in Appendix 4B.

The condition of the floor coating is inspected weekly per Section 6.2.1.1, and repairs are made as needed. Immediate repairs are indicated whenever the coating is observed to have been chipped, bubbled up, scraped, or otherwise damaged in a manner which would significantly impact the ability of the coating to contain spilled materials. Minor nicks and small chips resulting from normal operations will be repaired on a periodic basis. Repairs are performed in accordance with procedures provided by the manufacturer in Appendix 4B.

4.1.1.5 Containment System Drainage [D-1a(5)]

The concrete floors in each high bay storage cell are canted toward individual secondary containment trenches within those cells. These trenches are isolated from each other in order to prevent interaction, reactions, or offsite migration of spilled materials. This provides protection even during simultaneous spills.

The floors in the high bay area are also canted toward a separate sump system, which is sealed with epoxy and blocked to prevent drainage. Drums stored in this area are also stored on pallets to prevent contact with spilled material in the event of a release. Segregated storage areas for incompatible materials have been set up in the high bay storage area to prevent commingling of spilled wastes during a catastrophic (multi-drum) spill incident. Each area has its own containment trench separated from other trenches with concrete and epoxy.

The flammable liquids bulking module, along with its purpose of providing a ventilated area for bulking of compatible hydrocarbon wastes, is used as an independent storage cell. The walls of the module provide secondary containment, which have been sealed at the floor joint by use of grout coated with epoxy paint.

For protection of the basement RMW storage area, curbing/diking is provided to prevent migration. Drums are stored on pallets to prevent container contact with spilled materials and drip pans are provided to segregate RMW by dangerous waste characteristic as described in Section 4.1.1.6.11. This area has no drainage.

Flammable RMW is stored within its own secondary containment devices. The description and capacity of the flammable RMW storage area is provided in 4.1.1.6.11.

4.1.1.6 Containment System Capacity [D-1a(6)]

Secondary containment is provided for all dangerous wastes stored at the 305-B unit. Storage limits for all chemicals are listed in Table 4-1 (1988 Uniform Building Code) All floors in the high bay area are sloped toward sumps which have no drains and are covered with grating to prevent safety hazards. In addition, all floors in the high bay area are coated with an epoxy based coating as described in Section 4.1.1.4. Inspection of the containment system to maintain integrity is described in Section 6.2. Individual secondary containment systems are configured as follows:

4.1.1.6.1 Acids and Oxidizers Cell. The acids and oxidizers cell (cell 1) is located at the northwest corner of the 305-B unit high bay floor. The cell is constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump at the west end of the cell. Six cabinets, open shelving, and a large-container storage area are provided within the cell to allow storage of various sizes of containers. The secondary containment volume of the individual sump for this cell is 67 gallons, and the total containment volume of the cell is 774 gallons. A diagram of the cell is provided in Figures 4-1.

4.1.1.6.2 Poisons and Class 9 Cell. The poisons and Class 9 cell (cell 2) is located just south of the acids and oxidizers cell along the west wall of the high bay. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. Six storage cabinets and several sets of open shelving are positioned in the cell to allow storage of various sizes of containers. The northeast corner of the cell is sectioned off with a 6" spill retention berm to allow PCB storage for disposal complying with 40 CFR 761.65(b). The secondary containment volume of the individual sump for this cell is 117 gallons, and the total containment volume of the cell is 782 gallons. A diagram of this cell is provided in Figure 4-2.

4.1.1.6.3. Alkaline, Washington State Criteria Wastes, Organic Peroxides, and Non-Regulated Waste Cell. The alkaline, Washington State Criteria waste, and non-regulated waste cell (cell 3) is located South of the poisons and Class 9 cell on the west wall of the high bay area. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. Four storage cabinets, 3 sets of open shelving, and 1 explosion proof refrigerator, are positioned in the cell to allow storage of various sizes of containers. The secondary containment volume of the individual sump for this cell is 137 gallons, and total containment volume of the cell is 764 gallons. A diagram of this cell is provided in Figure 4-3.

4.1.1.6.4 Flammable Cell. The flammable-cell (cell 4) is located south of the alkaline, Washington State Criteria waste, and non-regulated waste cell. As with the other three cells described above, this cell is constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. The secondary containment volume of the individual sump for this cell is 119 gallons, and total containment volume of the cell is 687 gallons. A diagram of this cell is provided in Figure 4-4.

Ignitable organic waste materials are stored in this cell that also exhibit the characteristics of corrosivity, toxicity as well as reactivity. Three Factory Mutual-approved flammable liquid storage cabinets are utilized for storage of various classes of flammable liquids as defined by the UFC. The capacities of the various cabinets are shown in Table 4-2. The following cabinets also are used for storage in this cell: one for combustibles, one for aerosols, two for flammable solids, and one for overflow from one of the other cabinets.

Total ignitable Waste Storage capacity of the 305-B highbay, including the organics cell, Cell 5, Ignitable drum storage area, and highbay storage area is limited by the following UBC restrictions for Class B occupancy:

- Class 1A flammable liquids: 120 gallons
- Class 1B flammable liquids: 240 gallons
- Class 1C flammable liquids: 360 gallons
- Maximum Class 1A, 1B, and 1C at any one time: 480 gallons
- Maximum Class 1A, 1B and 1C stored in Cell 8 self contained storage module for flammable liquids is 240 gallons
- Class 2 combustible liquids: 480 gallons
- Class 3A combustible liquids: 1320 gallons
- Combustible fibers, loose: 100 cubic feet
- Combustible fibers, baled: 1000 cubic feet
- Flammable gases in any one cylinder: 3000 cubic feet
- Liquefied flammable gases: 60 gallons

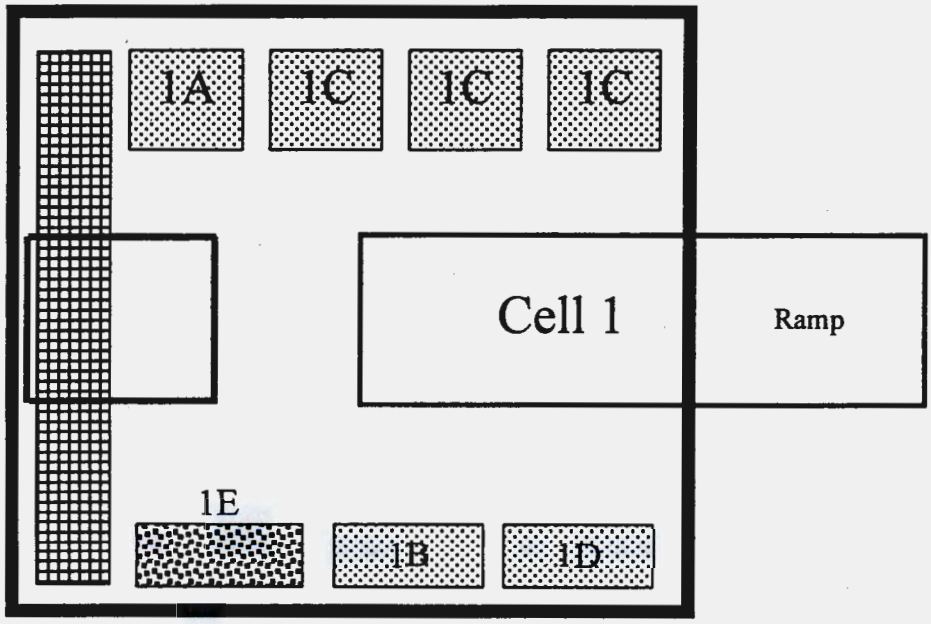
To maintain required aisle spaces and functional usability, the liquid capacity of the organics cell (cell 4) is set at 1000 gallons.

4.1.1.6.5. Flammable Liquids Bulking Module. The flammable liquids bulking module (cell 5), along with its purpose of providing a ventilated area for bulking of compatible ignitable wastes, is used as an independent storage cell. The walls of the module provide secondary containment, which have been sealed at the floor joint by use of grout coated with epoxy paint. Flammable gases in cylinders, liquefied flammable gases, and oxidizing gases will be stored in the bulking module.

Nontransient storage of flammable liquids in the module is 55 gallons. A diagram of the module is provided in Figure 4-5.

4.1.1.6.5.a. Flammable Liquids Storage Module. The flammable liquid storage module is a self-contained storage module (cell 8) that allows additional storage space for flammable wastes. Located on the southeast wall, it is connected to the buildings fire suppression system. The flammable storage module has a 2-hour fire rated containment system so that according to the UFC, an unlimited capacity is allowed. However, the flammable waste storage capacity of the flammable liquid storage module is limited by the 240-gal capacity of the module's secondary containment system. No more than 240 gal of any combination of flammable liquid classes will be stored in the module. This flammable waste storage capacity is in addition to the flammable storage limits for the highbay. A diagram showing the module location in the highbay is provided in Figure 4-7.

Figure 4-1. Acids and Oxidizers Cell



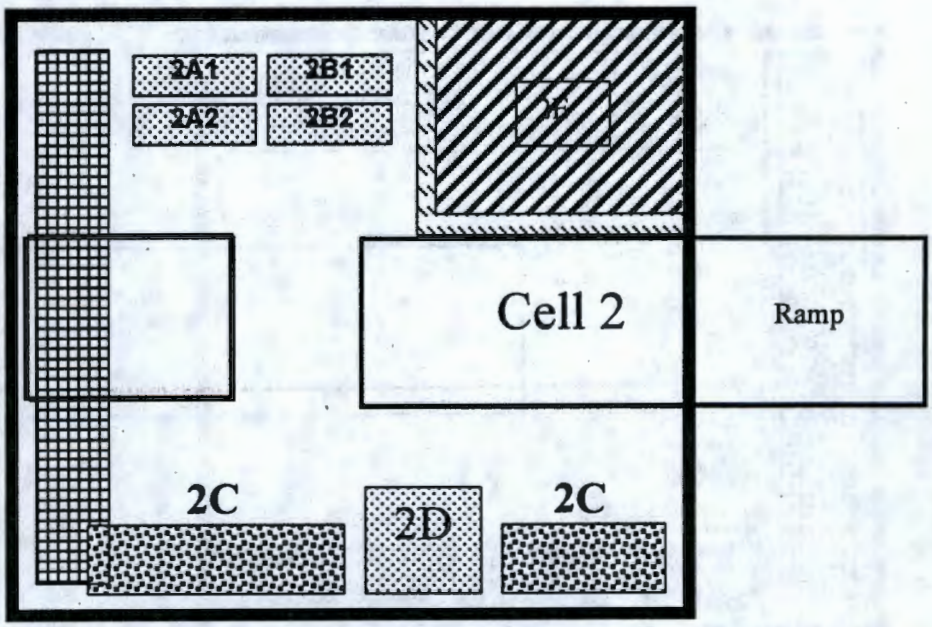
1A Liquid Oxidizers (Medium Cabinet)
1B Solid Oxidizers (Small Cabinet
1C Inorganic Acids (Medium Cabinet)
1D Organic Acids (corrosive) (Small Cabinet)
1E Mercury/Corrosive Solids (Small Shelf)

15.24cm W x 127CM H epoxy coated concrete block wall

Secondary Containment Trench

Drum and Carboy Storage Area

Figure 4-2. Poisons and Class 9 Cell



1cm = 60cm

2A1	Poisons, Acidic (P.G. II and P.G.III) (Small Cabinet)
2A2	Poisons, Neutral/Basic (P.G. II and P.G.III) (Small Cabinet)
2B1	Poisons, Neutral/Basic (P.G. I) (Small Cabinet)
2B2	Poisons, Acidic (P.G. I) (Small Cabinet)
2C	Class 9 (nonreactive) (Large and Small Shelf)
2D	Class 9 (reactives) (Large Cabinet)
2E	PCB's

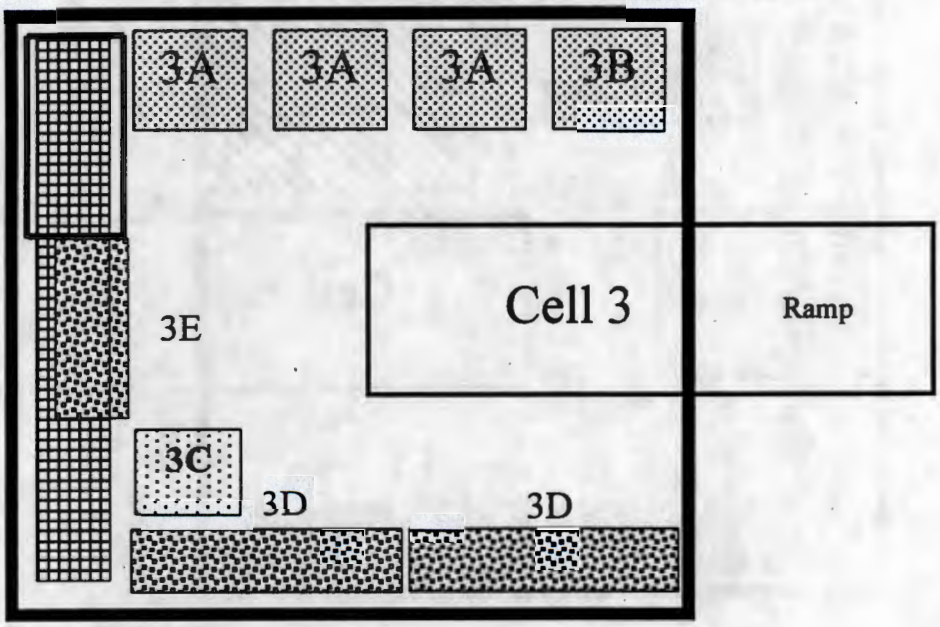
15.2cm W x 127cm H epoxy coated concrete block wall

Secondary Containment Trench

313.69cm L x 8.89cm W x 15.24 cm H epoxy coated angle iron, sealed to the floor

Drum and Carboy Storage Area

Figure 4-3. Alkaline, Washington State Criteria Waste, Organic Peroxides, and Non-Regulated Waste Cell



1cm = 60cm

3A	Alkaline (liquids and solids) (Medium Cabinet)
3B	Alkaline/Oxidizers (Small Cabinet)
3C	Organic Peroxides and temperature sensitive (refrigerator)
3D	Washington State Criteria Waste (2 Large Shelves)
3E	Non-Regulated Liquids/Solids (Small Shelf)

15.24cm W x 127CM H epoxy coated concrete block wall

Secondary Containment Trench

Drum and Carboy Storage Area

4.1.1.6.6 Ignitable Waste Drum Storage Area. An additional section of the high bay (cell 8) has been dedicated to storage of drum quantities of ignitable waste prior to offsite shipment. The area is bordered on the north and south sides by angle iron (3½"x6") bolted to the floor (see Plate 2, Appendix 4A for detail) and sealed to provide secondary containment. The area is approximately 15'x7'. To further enhance containment and to allow greater storage capacity, the drums stored in this area are stored in flammable liquid drum storage cabinets.

Sump containment capacity of this area is approximately 224 gallons and total containment capacity is approximately 431 gallons. Maximum storage in this area is approximately six 55-gallon drums and 12 five-gallon drums. A diagram of this area is included in Figure 4-6. Additional ignitable waste storage is provided for in cell 4, organics cell, and the in the Highbay storage area. The high bay storage area has five additional flammable liquid drum storage cabinets located along the west side of the high bay (see Figure 4-7). All of this ignitable waste storage is provided for utilizing flammable liquid storage cabinets for added safety.

4.1.1.6.7 Oxidizer Waste Drum Storage Area. A second section of the high bay (cell 12) has been dedicated to storage of drum quantities of oxidizer waste prior to offsite shipment. The area is 10'x7' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident.

Sump containment capacity in this area is approximately 55 gallons and total containment capacity is approximately 255 gallons. Maximum storage in this area will be eight 55-gallon drums. A diagram of this area is included in Figure 4-6.

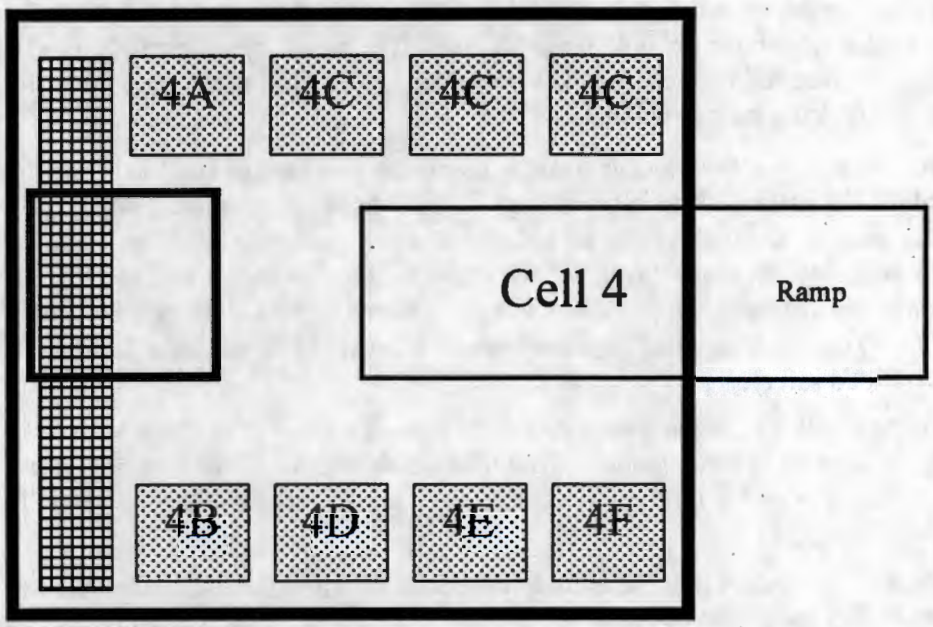
4.1.1.6.8 Acid Waste Drum Storage Area. A third section of the high bay (cell 13) has been designated for storage of drum quantities of acid waste prior to offsite shipment. The area is approximately 10'x10' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident. Bulked drums containing acids, with oxidizers as a secondary hazard, will be placed in the cell 1 drum area, to prevent any possibility of a reaction with surrounding hazards in the high bay drum storage area. A diagram of this area is included in Figure 4-6.

4.1.1.6.9. Alkaline Waste Drum Storage Area. A fourth section of the high bay (cell 14) has been designated for storage of drum quantities of alkaline waste prior to offsite shipment. The area is approximately 22'x15' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident. Sump containment capacity in this area is approximately 110 gallons and total containment capacity is approximately 380 gallons. Maximum storage in this area is thirty-two 55-gallon drums. The location of the area is shown on the High Bay Storage Area diagram Figure 4-7.

4.1.1.6.10 High Bay Storage Area. The high bay storage area, along with its partitioned areas mentioned above, is itself a secondary containment area for loading, unloading, and storage of dangerous wastes. The high bay floor is "crowned" in the center and sloped at ¼" per foot, with drainage to sumps on the east and west sides of the unit. Sump locations are indicated in Figure 4-7.

Due to space limitations in the individual cells, and for ease of mechanical handling, the high bay floor is typically used for storage of nonradioactive chemicals in drums (see Figure 4-7).

Figure 4-4. Organics Cell



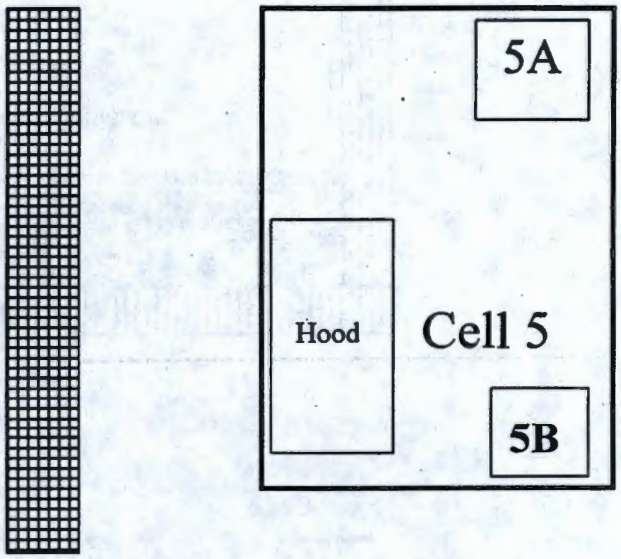
4A	Combustible Liquids (Large Cabinet)
4B	Aerosols (Large Cabinet)
4C	Flammable Liquids (Large Cabinet)
4D	Flammable Solids (Dangerous When Wet) (Large Cabinet)
4E	Flammable Solids (w/ water. Spontaneously Combustible) (Large Cabinet)
4F	Floating Cabinet (Large Cabinet)

15.24 cm W x 127 H epoxy coated concrete block wall

Secondary Containment Trench

Drum and Carboy Storage Area

Figure 4-5. Flammable Liquid Bulking Module and Compressed Gases (Cell 5)



5A Compressed Gases
5B Oxidizing Gases
Hood – Walk-in flammable liquid bulking, 1 drum maximum.

Secondary Containment Trench

Figure 4-6. Segregated High Bay Drum Storage Areas

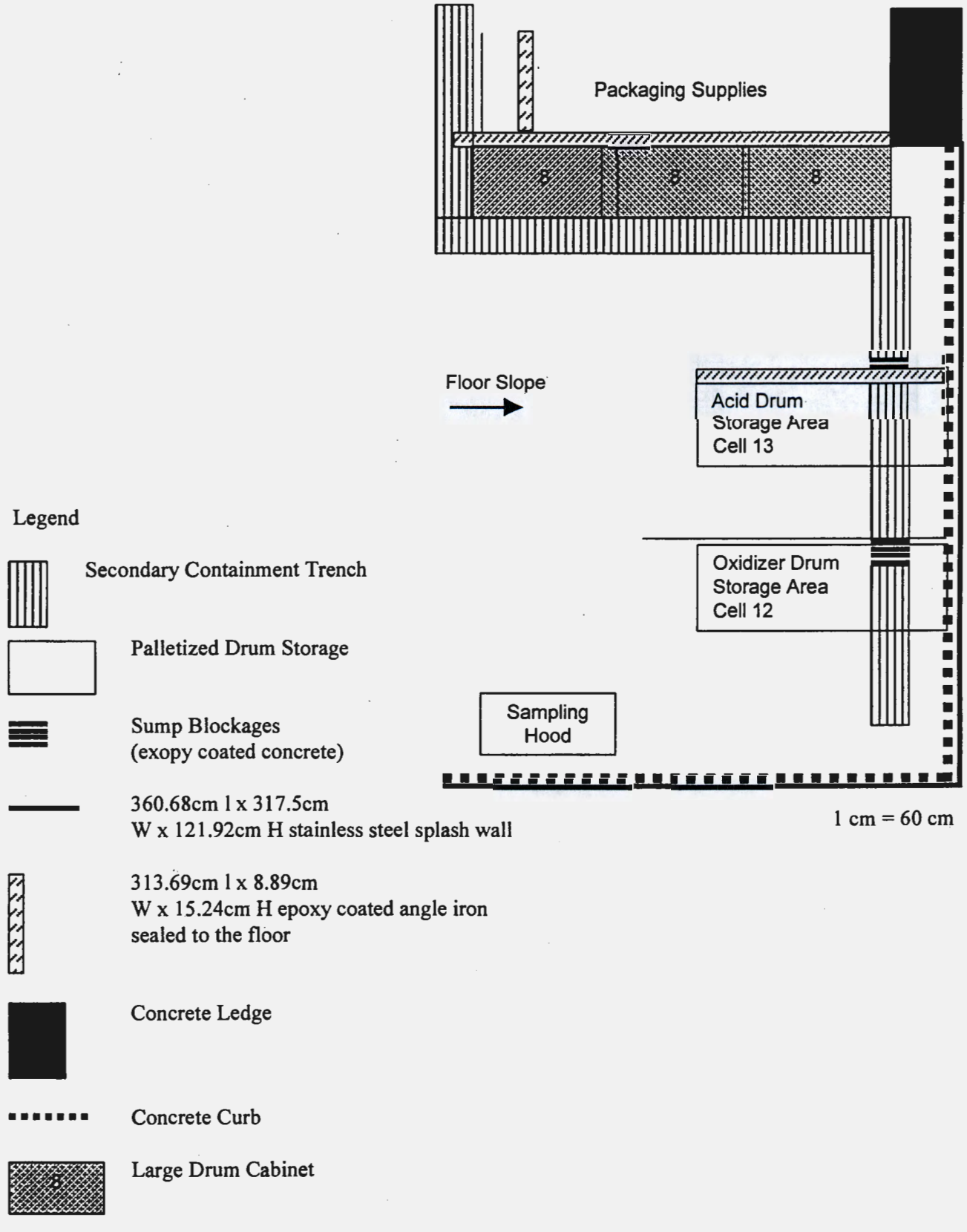
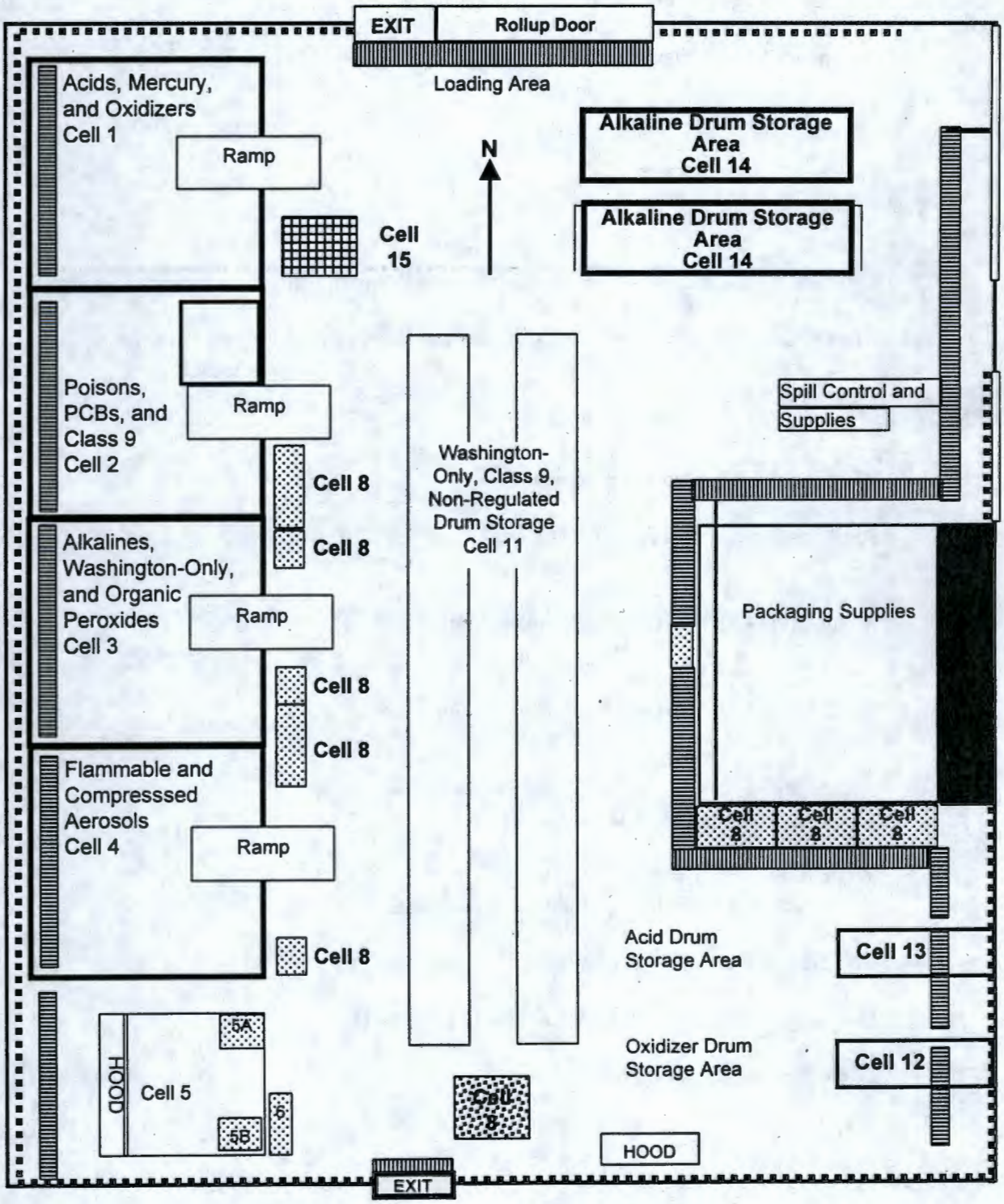


Figure 4-7. High Bay Storage Area

(Page 1 of 2)



Legend: On next page

Scale: 1cm = 120 cm

Figure 4-7. High Bay Storage Area
(Page 2 of 2)

Legend: High Bay Storage Area Diagram


Secondary Containment Trench


Palletized Drum Storage

360.68 cm L x 3.175 W x 10.16cm Stainless Steel Splash wall

313.69cm L x 8.89cm W x 15.24cm H epoxy coated angle iron sealed to the follr


Concrete Ledge

22.86cm overhang from condrete wall

Asbestos Storage (Small Cabinet)


Small Drum Cabinet (flammable waste storage)


Large Drum Cabinet (flammable waste storage)


Flammable Storage Module

Cell 5 Flammable Liquid Building Module and Compressed Gases

Compressed Gases (Large Cabinet)

Oxidizing Gases (6.985cm w X 45.72cm D x 88cm H)


Explosives Magazine

The high bay floor is also used to store labpacks and bulked waste containers prior to offsite shipment to licensed treatment, disposal, or recycling facilities. Generally, only corrosives, oxidizers, toxic organic solvent mixtures (typically halogenated solvents), antifreeze mixtures, contaminated water which is toxic DW, nonliquid wastes, ORMs, or state-only dangerous waste materials are stored in the high bay storage area.

If wastes incompatible with the foregoing are stored in the high bay storage area, they are kept separated by at least ten feet of distance and stored in individual drip pans for segregation in case of simultaneous accidental spillage. Compatibility of the materials is determined prior to acceptance in accordance with Section 3.2.

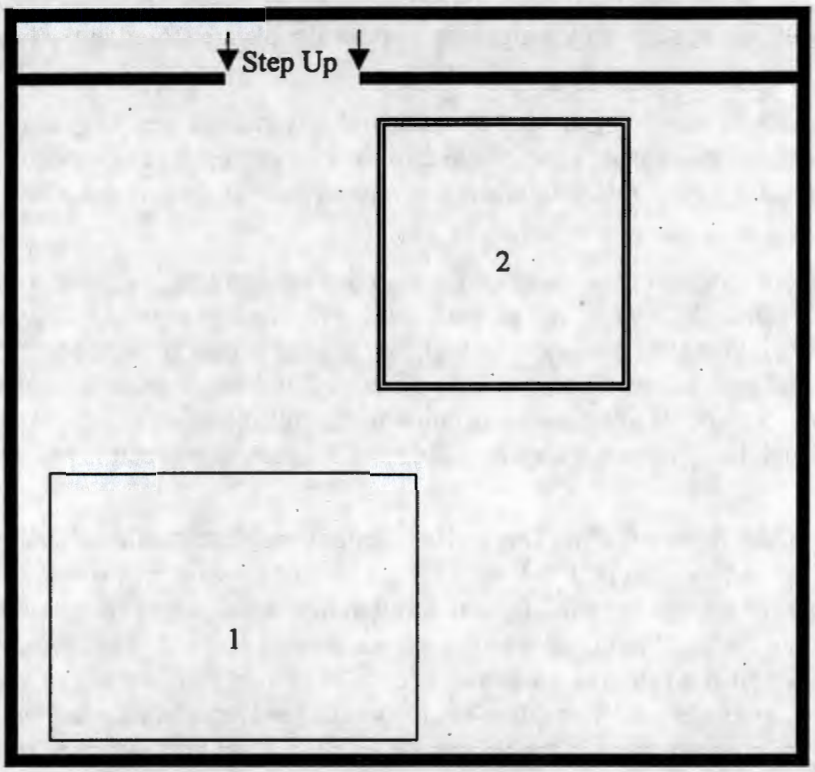
The secondary containment volume of the sumps in the high bay storage area, exclusive of the sumps within individual areas described above, is 565 gallons. Maximum storage in the high bay storage area is thus approximately 5650 gallons (102 drums). The high bay storage is also governed by the building occupancy maximums of Table 4-1, which includes the inventory of the individual storage cells described above. In order to provide additional separation from spilled liquids and for ease of handling, all drums stored on the high bay floor are stored on pallets. A diagram of this cell is provided in Figure 4-7.

4.1.1.6.11 Flammable RMW Storage Area. Due to UBC restrictions, flammable radioactive mixed waste cannot be stored in the basement of 305-B with the other radioactive mixed waste. The flammable RMW received by 305-B for storage prior to disposal is stored in a separate area above grade in the east portion of the building in a 7'x 7'x 7' flammable liquid storage module (cell 7). The module is Factory Mutual approved and has four-hour fire rated walls and doors. The module has a self-contained internal dry chemical fire suppressant system. The module has a 90-gallon polyethylene coated sump. The module is lag bolted to the concrete floor in the flammable RMW storage area indicated in Figure 4-8. The module has a storage capacity of four 55-gallon drums, or up to 250 gallons of total capacity of all containers stored, whichever is greater. This storage area meets the requirements of a one year PCB storage area as defined in 40 CFR 761.65, so flammable mixed waste, also regulated as PCB waste, may be stored in this location. A diagram of this cell is provided in Figure 4-8.

4.1.1.6.12 RMW Storage Area. Radioactive mixed waste that is not flammable per UFC (i.e., flash point above 100 F) is stored in a special area in the basement of 305-B. For additional segregation capability, there are eight small chemical storage cabinets and four 62" x 62" x 6" (157cm x 157cm x 15 cm stainless steel "container pans", with an approximate volume of 91 gallons (346 liters). The total area within the curbing is 1246 gallons (4716 liters). The containment pans are mounted to the floor or wall of the cell to provide segregated storage for potentially incompatible mixed waste streams. A diagram of the RMW storage cell secondary containment pan installation is provided in Figure 4-10. Drums stored in this area are stored on pallets to prevent potential contact with spilled waste in containment during an emergency. A diagram of this area is provided in Figure 4-9.

In normal use, the storage capacity of this area is limited by the radionuclide limits imposed by the DOE for "low inventory facilities." These limitations are defined in DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports, and are included in the radiation work permit for the mixed waste storage area.

Figure 4-8. Flammable Radioactive Mixed Waste Storage Area



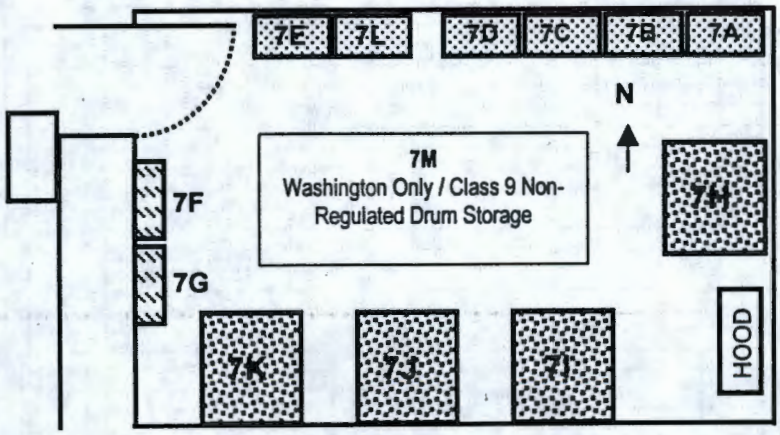
LEGEND

1 Flammable RMW Storage Module

2 Removable hatch cover for basement access (surrounded by railing)

All PCB waste stored in Cell 9 shall be stored in trays, or drum overpacks that meet all the requirements of 40 CFR 761.65(b).

Figure 4-9. Radioactive Mixed Waste Storage



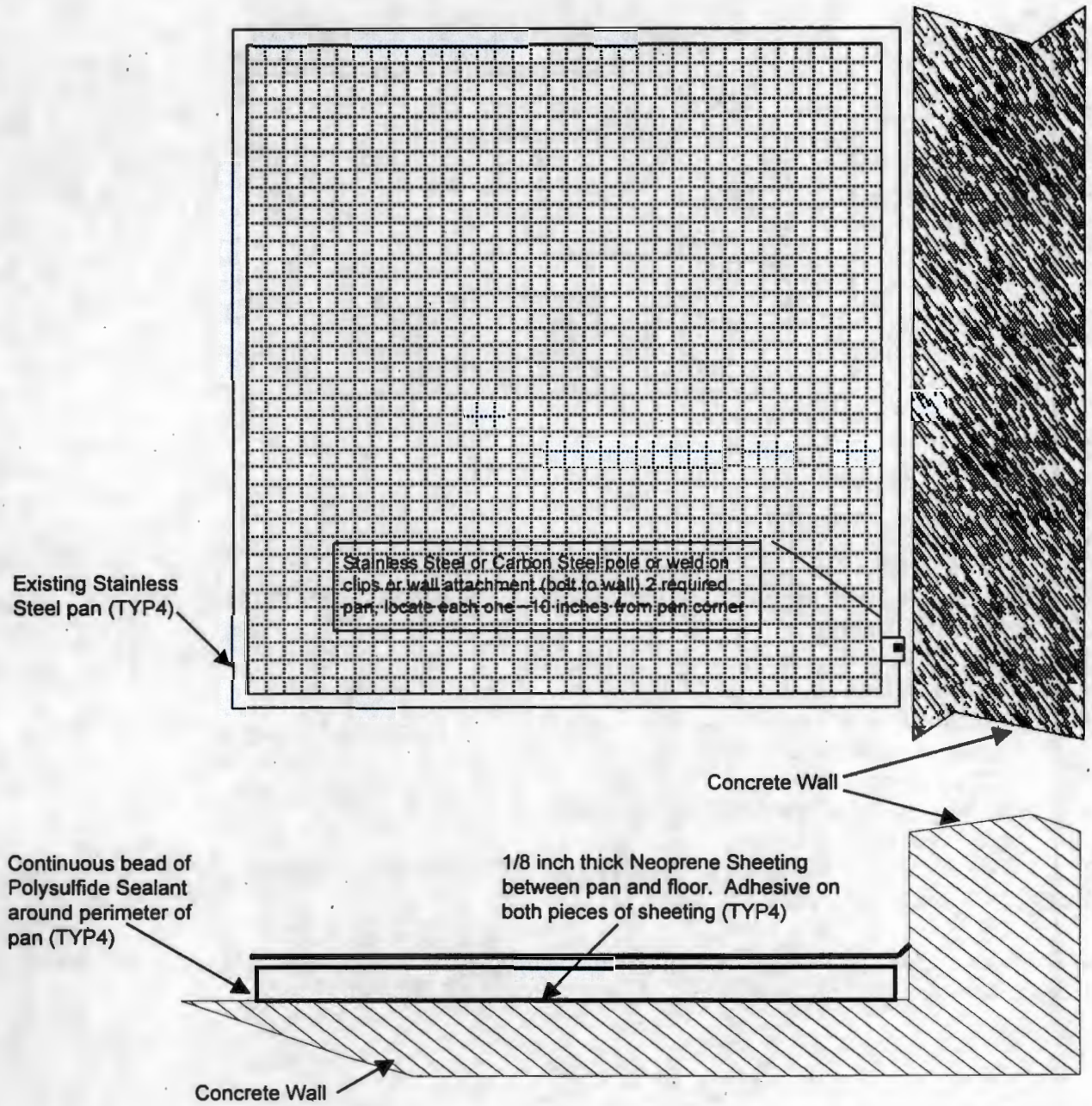
Cell 7 Legend

7A	Poisons
7B	Oxidizers
7C	Class 9/Combustible
7D	Washington Only/Combustible
7E	Flammable Solids
7F	Corrosive Base/Combustible
7G	Corrosive Acid/Combustible
7H	Corrosive/PCB's/Combustible
7I	Corrosive Acid/PCB's/Combustible
7J	PCB's/Combustible
7K	Washington Only/Class 9/PCB's/Combustible
7L	Non-Regulated/Combustible
7M	Washington state Waste/ Class 9/ Non-Regulated/Combustible/Compatibles

HOOD 121.9cm L x 54.2cm D x 228.6cm H

All PCB waste stored in Cell 7 will be segregated according to chemical compatibility, and stored in any of the four stainless steel container pans complying with 40 CFR 761.65(b)

Figure 4-10. RMW Storage Cell Containment Pan Installation



PAN TOP & SIDE VIEW

Non Flammable RMW Cell Secondary Containment Pan Installation

1 **Table 4-1. Exempt Amounts of Hazardous Materials, Liquids & Chemicals Presenting a Physical Hazard**

BASIC QUANTITIES PER CONTROL AREA[1]

When two units are given values within parentheses are in cubic feet (Cu.Ft.) or pounds (Lbs.)

CONDITION		STORAGE[2]			USE[2]—CLOSED SYSTEMS			USE[2]—OPEN SYSTEMS		
MATERIAL	CLASS	Solid Lbs. (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)	Solid Lbs. (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)	Solid Lbs. (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)
1.1 Combustible liquid[3]	II	—	120[4 5]	—	—	120[4]	—	—	30[4]	—
	III-A	—	330[4 5]	—	—	330[4]	—	—	80[4]	—
	III-B	—	13,200[5 6]	—	—	13,200[6]	—	—	3,300[6]	—
1.2 Combustible dust lbs./1000 Cu.Ft.		1[7]	—	—	1[7]	—	—	1[7]	—	—
1.3 Combustible fiber			—	—		—	—		—	—
(loose)		(100)			(100)			(20)		
(baled)		(1,000)			(1,000)			(200)		
1.4 Cryogenic, flammable or oxidizing			45	—	—	45	—	—	10	—
2.1 Explosives		1[5 8 9]	(1)[5 8 9]	—	¼[8]	(¼)[8]	—	¼[8]	(¼)[8]	—
3.1 Flammable solid		125[4 5]	—	—	25[4]	—	—	25[4]	—	—
3.2 Flammable gas										—
(gaseous)		—	—	750[4 5]	—	—	750[4 5]	—	—	—
(liquefied)		—	15[4 5]	—	—		—	—	—	
3.1 Flammable liquid[3]		—	30[4 5]	—	—	30[4]	—	—	10[4]	—
		—	60[4 5]	—	—	60[4]	—	—	15[4]	—
		—	90[4 5]	—	—	90[4]	—	—	20[4]	—
Combination I-A, I-B, I-C		—	120[4 5 10]	—	—	120[4 10]	—	—	30[4 10]	—
4.1 Organic peroxide, unclassified detonable		1[5 8]	(1)[5 8]	—	¼[8]	(¼)[8]		¼[8]	(¼)[8]	—
4.2 Organic peroxide	I	5[4 5]	(5)[4 5]	—	(1)[4]	(1)[4]	—	1[4]	1[4]	—
	II	50[4 5]	(50)[4 5]	—	50[4]	(50)[4 5]	—	10[4]	(10)[4]	—
	III	125[4 5]	(125)[4 5]	—	125[4]	(125)[4 5]	—	25[4]	(25)[4]	—
	IV	500	(500)	—	500[4]	(500)	—	100	(100)	—
	V	N.L.	N.L.	—	N.L.	N.L.	—	N.L.	N.L.	—
4.3 Oxidizer	4	1[5 8]	(1)5[8]	—	¼[8]	(¼)[8]	—	¼[8]	(¼)[8]	—
	3	10[4 5]	(10)[4 5]	—	2[4]	(2)[4]	—	2[4]	(2)[4]	—
	2	250[4 5]	(250)[4 5]	—	250[4]	(250)[4]	—	50[4]	(50)[4]	—
	1	1,000[4 5]	(1,00)[4 5]	—	1,000[4]	(1,000)[4]	—	200[4]	(200)[4]	—
4.1 Oxidizer -- Gas										
(gaseous)		—	—	1,500[4 5]	—	—	1,500[4 5]	—	—	—
(liquefied)		—	15[4 5]	—	—	15[4 5]	—	—	—	—
5.1 Pyrophoric		4[5 8]	(4)[5 8]	50[5 8]	1[8]	(1)[8]	10[5 8]	0	0	0
6.1 Unstable (reactive)	4	1[5 8]	(1)[5 8]	10[5 8]	¼[8]	(¼)[8]	2[4 5]	¼[8]	(¼)[8]	0
	3	5[4 5]	(5)[4 5]	50[4 5]	1[4]	(1)[4]	10[4 5]	1[4]	1[4]	0
	2	50[4 5]	(50)[4 5]	250[4 5]	50[4]	(50)[4]	250[4 5]	10[4]	(10)[4]	0
	1	125[4 5]	(125)[4 5]	750[4 5]	125[4]	(125)[4]	750[4 5]	25[4]	(25)[4]	0
7.1 Water (reactive)	3	5[4 5]	(5)[4 5]	—	5[4]	(5)[4]	—	1[4]	(1)[4]	—
	2	50[4 5]	(50)[4 5]	—	50[4]	(50)[4]	—	10[4]	(10)[4]	—
	1	125[5 6]	(125)[5 6]	—	125[6]	(125)[5 6]	—	25[6]	(25)[6]	—

[1] Control area is a space bounded by not less than a one-hour fire-resistive occupancy separation within which the exempted amounts of hazardous materials may be stored dispensed, handled or used. The number of control areas within a building used for retail and wholesale stores shall not exceed two. The number of control areas in buildings with other uses shall not exceed four.

[2] The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

[3] The quantities of alcoholic beverages in retail sales uses are unlimited provided the liquids are packaged in individual containers not exceeding four liters. The quantities of medicines, foodstuffs and cosmetics containing not more than 50 percent of volume of water-miscible liquids and with the remainder of the solutions not being flammable in retail sales or storage occupancies are unlimited when packaged in individual containers not exceeding four litters.

[4] Quantities may be increased 100 percent in sprinklered buildings. When Footnote 5 also applies, the increase for both footnotes may be applied.

[5] Quantities may be increased 100 percent when stored in approved storage cabinets or safety cans as specified in the fire code. When Footnote 4 also applies, the increase for both may be applied.

[6] The quantities permitted in a sprinklered building are not limited.

[7] A dust explosion potential is considered to exist if 1 pound or more of combustible dust per 1,000 cubic feet of volume is normally in suspension or on horizontal surfaces inside buildings or equipment and which could be put into suspension by an accident, sudden force or small explosion.

[8] Permitted in sprinklered buildings only. None is allowed in unsprinklered buildings.

[9] One pound of black sporting powder and 20 pounds of smokeless powder are permitted in sprinklered or unsprinklered buildings.

[10] Containing not more than the exempt amounts of Class I-A, Class I-B, Class I-C flammable liquids.

Table 4-1. Exempt Amounts of Hazardous Materials, Liquids & Chemicals Presenting a Physical Hazard

(cont.)

MAXIMUM QUANTITIES PER CONTROL AREA [1] [2]

When two units are given, values within parentheses are in pounds (Lbs.)

MATERIAL[3]	STORAGE[4]			USE[3]–CLOSED SYSTEMS			USE[3]–OPEN SYSTEMS		
	Solid (Lbs.)[5 6]	Liquid Gallons (Lbs.)[5 6]	Gas (Cu.Ft.)[5]	Solid (Lbs.)[5]	Liquid Gallons (Lbs.)[5]	Gas (Cu.Ft.)	Solid (Lbs.)[5]	Liquid Gallons (Lbs.)[5]	Gas (Cu.Ft.)
1. Corrosives	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
2. Highly Toxics[7]	1	(1)	20[8]	1	(1)	20[7]	¼	(¼)	—
3. Irritants	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
4. Sensitizers	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
5. Other Health Hazards	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—

[1] Control area is a space bounded by not less than one-hour five resistive occupancy separation within which the exempted amounts of hazardous materials may be stored. Dispensed, handled or used. The number of control areas within retail and wholesale stores shall not exceed two and the number of control areas in other uses shall not exceed four

[2] The quantities of medicines, foodstuffs and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, in retail sales uses are unlimited when packaged in individual containers not exceeding 4 liters.

[3] The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

[4] For carcinogenic and radioactive materials, see the Fire Code.

[5] Quantities may be increased 100 percent in sprinklered buildings. When Footnote 6 also applies, the increase for both footnotes may be applied.

[6] Quantities may be increased 100 percent when stored in approved storage cabinets or safety cans as specified in the fire code. When Footnote 5 also applies, the increase for both footnotes may be applied.

[7] For special provisions, see the Fire Code.

[8] Permitted only when stored in approved exhausted gas cabinets, exhausted enclosures or fume hoods.

4.1.1.6.13 Explosives Storage Area. Due to UBC restrictions, wastes classified as explosive by DOT regulations are stored in a 3' x 3'x 3' explosives magazine, with a 8 cubic foot interior, outside cell 1. The magazine is constructed of steel and is certified to have been fabricated per Institute of Makers of Explosives (IME) SLP22, type 2 day box requirements. No more than 1 lb. of explosives is stored in the magazine at one time. The location of the magazine is indicated in Figure 4-7.

4.1.1.7 Control of Run-On [D-1a(7)]

The 305-B Storage Unit was designed to eliminate the likelihood of on-site, or for that matter, off-site migration via run-on and run-off. The facility is completely enclosed (i.e., complete roof and WA, 1981.)no open walls) and has been constructed upon a foundation so that precipitation cannot cause either run-on or run-off problems.

4.1.1.8 Removal of Liquids from Containment System [D-1a(8)]

Upon discovery of liquid accumulation in the containment resulting from a spill or other release, the BED must be contacted in accordance with the 305-B contingency plan (Chapter 7). The BED may determine that the contingency plan should be implemented. If the incident is minor, and the BED approves, removal of the liquids will commence immediately following a safety evaluation. Appropriate protective clothing and respiratory protection will be worn during removal activities; a PNNL industrial hygienist may be contacted to determine appropriate personnel protection requirements and any other safety requirements that may be required, such as chemical testing or air monitoring. In addition, ventilation of the spill-impacted area may be performed if determined to be safe and if appropriate monitoring of the air discharge(s) is performed.

Spills are normally contained either within the storage cabinet, within the cell, or within a secondary containment trench or berm as described in Section 4.1.1.5. In any case, spilled material will be recovered to the extent possible by pumping recovered liquids with a pump made of nonreactive materials (either steel or PVC) to intact containers selected in accordance with the container selection procedure in Section 4.1.1.1. Nonrecoverable liquids will be absorbed with an appropriate absorbent (after appropriate chemical reaction to neutralize reactivity in the case of reactive waste, or neutralization in the case of corrosive materials); see Table 6.2 for list of available materials for this purpose. The absorbent material will then be recovered and placed in a container selected in accordance with Section 4.1.1.1, using nonsparking shovels in the case of ignitable waste. The floor, cabinets and any other impacted containers may be cleaned with dry rags, soap and water, or a compatible solvent if necessary to remove external contamination. Contaminated rags and other cleanup material will be disposed of in an appropriate manner. Verification sampling shall be carried out in accordance with Section 11.1.4.4. (Methods for sampling and testing to demonstrate success of decontamination).

4.1.2 Containers Without Free Liquid That Do Not Exhibit Ignitability or Reactivity [D-1b]

This section is not applicable to 305-B because the storage area is used to store containers both with and without free liquids. 305-B does not meet the conditions for reduced requirements for storing only containers without free liquid; therefore, the facility is subject to the full requirements for containment.

4.2 PROTECTION OF EXTREMELY HAZARDOUS WASTE IN CONTAINERS [D-2]

All wastes are stored inside of 305-B, within the storage areas described in Section 4.1.1.6. These locations are completely enclosed from the weather, as described in Section 4.1.1.7, meeting the requirements of WAC 173-303-630(7)(d).

4.3 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES IN CONTAINERS [D-3]

The following sections provide information on the management of ignitable, reactive, and incompatible waste in containers. Additional information on this subject can be found in Section 6.5.

4.3.1 Management of Ignitable or Reactive Wastes in Containers [D-3a]

Ignitable and reactive wastes are stored in compliance with Uniform Fire Code Division II regulations for Container and Portable Tank Storage Inside Buildings (International Conference of Building Officials 1988). Containers of ignitable and reactive waste are stored in individual flammable material storage cabinets within the storage cells.

4.3.2 Management of Incompatible Wastes in Containers [D-3b]

Section 6.5.2 describes procedures used at 305-B to determine the compatibility of dangerous wastes so that incompatible wastes are not stored together. Chemical wastes stored in 305-B are separated by compatibility, chemical makeup and hazard class and stored in areas having appropriate secondary containment, as described in Section 4.1.1.6.

As shown in Figures 4-2 through 4-11, each storage area has individual storage configurations; secondary containment structures are provided to assure that incompatible materials will not commingle if spilled. Further segregation is provided by chemical storage cabinets located throughout the facility in various areas as shown in Figures 4-1 through 4-10. Cabinet types are noted in those figures and capacities described in Table 4-2. Incompatible wastes are never placed in the same container, or in unwashed containers that previously held incompatible waste.

Compliance with WAC 173-303-395(1)(b) is assured utilizing the reactivity groupings given in A Method for Determining the Compatibility of Hazardous Waste (EPA 1980). Use of this system, and the procedure for handling ignitable or reactive waste and mixing of incompatible waste, as described in Section 6.5.2. fulfills the requirements of WAC 173-303-395(1)(c)Tank System [D-3c]

This section is not applicable to the 305-B Storage Unit because wastes are not managed in tanks.

4.3.3 Waste Piles [D-3d]

This section is not applicable to the 305-B Storage Unit because wastes are not managed in waste piles.

4.3.4 Surface Impoundments [D-3e]

This section is not applicable to the 305-B Storage Unit because wastes are not placed in surface impoundments.

4.3.5 Incinerators [D-3f]

This section is not applicable to the 305-B Storage Unit because wastes are not incinerated.

4.3.6 Landfills [D-3g

This section is not applicable to the 305-B Storage Unit because wastes are not placed in landfills.

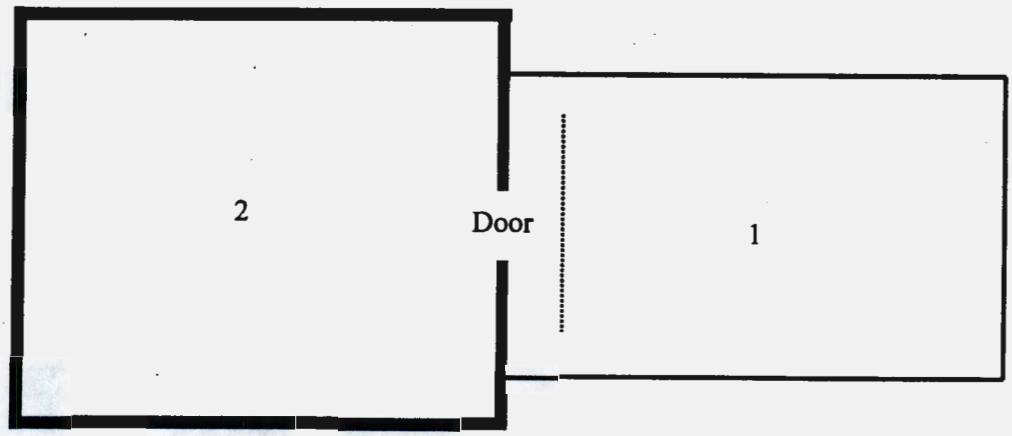
4.3.7 Land Treatment [D-3h]

This section is not applicable to the 305-B Storage Unit because wastes are not treated in land treatment units.

Table 4-2. Storage Devices Used at the 305-B Unit

Storage Device	Typical Use	External Dimensions (in.)	Capacity (gal/ft^3.)
Small Cabinet	Storage of containers (5 gallons or less capacity)	43w x 18d x 65h	50 max
Medium Cabinet	Storage of containers (18.93 liter [5 gal] or less capacity	31w x 31d x 65h	60 max
Large Cabinet	Storage of containers (5 gallons or less capacity)	34w x 34d x 65h	80 max
Small Drum Cabinet	Storage of drums (5 to 55 gallons capacity)	34w x 34d x 65h	65 max
Large Drum Cabinet	Storage of drums (5 to 55 gallons capacity)	59w x 34d x 65h	130 max
Small Shelving	Storage of containers (5 gallons or less capacity)	47w x 18d x 62h	65 max
Large Shelving	Storage of containers (5 gallons or less capacity)	72w x 18d x 62h	100 max
Flammable Storage Module	18.93 liter [5 gal] to 208.18 liter [55 gal] capacity	78w x 73d x 100h	240 max
Refrigerator/ Freezer	Storage of containers of organic peroxides and other temperature sensitive wastes	34w x 29d x 67h	25 Cu.Ft.
Explosives Magazine	Storage of containers containing DOT classified explosives	36w x 36d x 36h	8 Cu.Ft.

Figure 4-11. Flammable Liquids Storage Module



LEGEND

1 Loading Ramp

2 Drum/Container Storage Area (Flammable liquid storage, 240 gallon max,)

Hanford Facility RCRA Permit Modification Notification Forms

Part III, Chapter 5 and Attachment 35
242-A Evaporator

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Description of Modification:

Chapter 2, Section 2.1.2.1.:

2/08/00

2.1.2.1. The 207-A Retention Basins

The 207-A retention basins consist of six basins constructed of reinforced concrete, each having about 265,000 liters capacity. The north three basins ~~are~~were used to temporarily store non-contact steam condensate from the 242-A Evaporator for sampling before discharge. Subsequently, the steam condensate was routed directly to the 200 Area Treated Effluent Disposal Facility (TEDF) and the 207-A retention basins are no longer used. The three north basins are included in the 242-A Evaporator waste management unit. The three south basins previously held process condensate mixed waste for sampling and discharge. These basins have been removed from service, emptied, and will be closed under a separate closure plan.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

1. General Permit Provisions
   A. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
12/13/99		02/07/00	3/2/10
E. S. Aromi Date	R. F. Guercia Date	R. J. Julian Date	L.E. Ruud Date

DEJ

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

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242-A Evaporator	Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 4.0.

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion involving dangerous waste or dangerous waste constituents that could threaten human health or the environment (WAC 173-303-350, Emergencies) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan will be implemented~~. The incident classification process is described in DOE/RL-94-02, Section 4.2 STD

Under DOE guidance, this plan will be implemented whenever the BED determines that one of the incidents listed in Section 6.0 of this plan has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment ~~(DOE Unusual Occurrence or Emergency)~~.

DOE Declared Emergencies are assigned one of three classifications which in the order of increasing severity are: 1) Alert Emergency, 2) Site Area Emergency, and 3) General Emergency. The 242-A Evaporator implements responses to these DOE emergencies through this plan and criteria identified in DOE-0223, RLEP 1.1, Appendix 1-2.M, and other documents listed in Attachment A of this plan.

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) is used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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E. S. Aromi Date	R. F. Guercia Date	R. J. Julian Date	L.E. Ruud Date

[1] Class 1 modifications requiring prior Agency approval.

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242-A Evaporator	Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 7.2.4.:

7.2.4. Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire alarm pull station, contacts 911 to request fire fighting assistance, and contacts the 242-A Evaporator control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the Incident ~~event~~ command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The ~~Shift Operations Manager~~ Building Emergency Director interfaces with the Hanford Fire Department and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.
b. Location and severity of fire.
c. Known hazardous (radiological and nonradiological) conditions.
d. Facility operating status.
e. Utility systems status.
f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).
g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).
h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

2/14/00

~~If incident command, accountability of personnel, the summoning of emergency response units does not necessarily indicate that the continency plan has been implemented.~~

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

1. General Permit Provisions
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12/13/99		04/4/00	3/24/00
E. S. Aromi Date	R. P. Guercia Date	R. J. Julian Date	L.E. Ruud Date
	DEC 27 1999		

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 14.0:

14.0 REFERENCES

~~DOE-0223, *Emergency Plan Implementing Procedures:*~~

~~DOE-0232~~ DOE-232.1, "Occurrence Reporting and Processing of Operations Information", U.S. Department of Energy, Washington D.C.

DOE/RL-94-02, Hanford ~~Site Emergency Response Plan~~ Emergency Management Plan

~~DOE Order 5500.1B, *Emergency Management Systems Plan*~~ DOE-151-1 Comprehensive Emergency Management Systems

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington.

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

NIOSH, *Pocket Guide to Chemical Hazards*, National Institute of Occupational Safety and Health, U.S. Department of Health and Human Resources, Public Health Service, Centers for Disease Control, Washington, D.C.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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   A. Administrative and Informational changes.

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E. S. Aromi 12/13/99 Date	R. F. Guercia DEC 27 1999 Date	R. J. Julian 2/14/00 Date	L.E. Ruud 3/2/00 Date

[1]Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 4A, Table 4A-1:

The drawings in Table 4A-1 are process and instrumentation diagrams for the systems at the 242-A Evaporator that contact mixed waste. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings will be provided annually to the Washington State Department of Ecology.

Table 4A-1. Process and Instrumentation Diagrams.

System	Drawing Number	Outstanding ECNs	Drawing Title
Vapor-Liquid Separator	H-2-98988 Sh. 1, Rev. ~~65~~	ECN-647922 ~~ECN-647911~~ ~~ECN-647883~~	P & ID Evap Recirc System
Reboiler/Recirculation Line	H-2-98988 Sh. 2, Rev. ~~5-4~~	ECN-613444	P & ID Evap Recirc System
Slurry System	H-2-98989 Sh. 1,Rev. ~~109~~	None	P & ID Slurry System
Condensate Collection Tank	H-2-98990 Sh. 1,Rev. ~~98~~	None ~~ECN-642198~~	P & ID Process Condensate System
Secondary Containment Drain System	H-2-98995 Sh. 1, Rev. ~~1110~~	None	P & ID Drain System
Secondary Containment Drain System	H-2-98995 Sh. 2, Rev. ~~5-4~~	None	P & ID Drain System
Condensers	H-2-98999 Sh. 1, Rev. 11	None	P & ID Vacuum Condenser System
Pump Room Sump	H-2-99002 Sh. 1, Rev. 5	ECN-647885	P & ID Jet Gang Valve System
Condensate Recycle System	H-2-99003 Sh. 1, Rev. ~~109~~	ECN-627940 ECN-647922	P & ID Filtered Raw Water System

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
3/22/00		APR 0 6 2000					
E. S. Aromi	Date	R. E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 3.1:

3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander (IC) arrives. The incident command system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. ~~Emergency Preparedness maintains a listing of BED~~ Names and ~~work and~~ home telephone numbers of the BEDs are available from ~~at~~ the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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E. S. Aromi Date	R. E. Guercia Date	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 4.0:

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion involving dangerous waste or dangerous waste constituents that could threaten human health or the environment (~~WAC 173-303-350, Emergencies~~ RCRA Emergency) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan will be implemented.~~ The ~~incident classification~~ RCRA Emergency determination process is described in DOE/RL-94-02, Section 4.~~0~~2.

~~Under DOE guidance, this plan will be implemented whenever the BED determines that one of the incidents listed in Section 6.0 of this plan has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment.~~

~~DOE Declared Emergencies are assigned one of three classifications which in the order of increasing severity are: 1) Alert Emergency, 2) Site Area Emergency, and 3) General Emergency. The 242-A Evaporator implements responses to these DOE emergencies through this plan and criteria identified in DOE 0223, RLEP 1.1, Appendix 1 2.M, and other documents listed in Attachment A of this plan~~.

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) ~~is~~ must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 7.1.1:

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility due to an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation is directed by the BED when conditions warrant and applies to all personnel not actively involved in the event response or in emergency plan-related activities.

The BED initiates the evacuation by directing an announcement be made to evacuate along with the evacuation location over the public address system and facility radios, activate the evacuation siren (steady siren) for three minutes, and, as conditions warrant, by activating the 200 Area evacuation alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 1), or other safe upwind location, as determined by the BED. The BED determines the operating configuration of the facility and identifies any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability is performed at the staging area. The BED assigns personnel as accountability aides and staging area managers with the responsibility to ensure that evacuation actions are taken at the 242-A and 242-AB Buildings. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers provide a status report to the BED. The BED provides status to the Incident Commander.

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 7.1.2:

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED initiates the take cover by directing an announcement be made over the public address system and facility radios, by activating the take cover siren (wavering siren) for three minutes, and, as conditions warrant, by activating the 200 Area take cover alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Actions to complete a facility take cover order are directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover actions is based on operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard are minimized. The BED assigns personnel as accountability aides with responsibility to ensure that take cover actions are taken at all occupied buildings at the 242-A Evaporator. All implementing actions executed by the aides/managers are directed by the emergency response procedures in Attachment A. When take cover actions are complete the aides/managers provide the BED with a status report.

Modification Class: [1,2,3] Please check one of the Classes:	Class 1	Class [1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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[1]Class 1 modifications requiring prior Agency approval.

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[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 7.2:

7.2 Response to Facility Operationsal Emergencies

Depending on the severity of the following events, the BED reviews the site-wide procedures and facility-specific procedure(s) and, as required, categorizes and classified the event. If necessary, the BED initiates area protective actions and site emergency response organization activation. The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events. ~~Operational activities to isolate, contain, and mitigate the event can be performed in parallel with classification and protective action implementation. The responses are structured to allow parallel activity with clearly established priorities. The division of actions and workload between various personnel is such that coordinated team responses result in the successful implementation of both emergency operating actions and emergency planning requirements. Specific event mitigation strategy for each type of accident is provided in the following sections.~~

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 8.1:

8.1 Termination of Event

For events where the ~~DOE-RL~~ Hanford Emergency Operations Center (~~RL~~ Hanford-EOC) is activated, the ~~DOE-RL~~ RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the ~~RL~~ Hanford-EOC is not activated, the incident command system and staff declare event termination.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 8.2:

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a ~~WAC~~ RCRA emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1 discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.
2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the ~~RL~~ Hanford EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 8.3:

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

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[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 9.6:

9.6 ~~Emergency Response Center~~ **Incident Command Post**

For emergencies not requiring evacuation, the BED and support personnel will assemble in the 242-A Evaporator control room, or other location as identified by the BED.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 13

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

~~BED~~	TITLE	WORK LOCATION	WORK PHONE
~~Primary~~	Shift Operation Manager (SOM)	242-A Evaporator control room or 200 Area Effluent Treatment Facility Control Room	373-2737, Evap control room ~~373-4446, Evap shift office~~ ~~373-0993, ETF shift office~~ 373-9000, ETF control room
~~Alternate~~	~~BED Qualified Shift Technical Authority~~ Operations Manager	~~2025E~~	373-5533~~372-0000~~

~~The complete building emergency organization listing of positions, names, work locations and telephone numbers for essential LWPF personnel is maintained in the organization administrative procedures. Copies are distributed to appropriate facility locations and to Emergency Preparedness. In addition, work~~ Names and home telephone numbers of the BEDs ~~and alternates~~ are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1] [2] [3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

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Hanford Facility RCRA Permit Modifications

Part III, Chapter 5 and Attachment 35
242-A Evaporator

Replacement Sections

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Appendix 7A

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2.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS [B AND E]

The 242-A Evaporator is an existing waste management unit located in the 200 East Area (Chapter 1.0).

The 242-A Evaporator treats mixed waste from the Double-Shell Tank System (DST System) (DOE/RL-90-39) by removing water and most volatile organics. The mixed waste is separated into a slurry stream and a process condensate stream.

A more detailed discussion of waste types and manifesting, and the identification of the processes and equipment, are provided in Chapters 3.0 and 4.0 respectively. Although the treatment, storage, and/or disposal of radioactive waste (i.e., source, special nuclear, and by-product materials as defined by the *Atomic Energy Act of 1954*) are not within the scope of *Resource Conservation and Recovery Act* (RCRA) *of 1976* or WAC 173-303, information is provided for general knowledge.

2.1 242-A EVAPORATOR DESCRIPTION [B-1]

The following sections provide general descriptions of the 242-A Evaporator process components (Figure 2-1). Detailed process information for each component is provided in Chapter 4.0.

2.1.1 Process Buildings

The principle process components of the 242-A Evaporator system are located in the 242-A and 242-AB Buildings (Figure 2-2), along with supporting service and operating areas. These buildings enclose the following areas that handle mixed waste:

- Evaporator room
- Condenser room
- Pump room
- Loadout and hot equipment storage room
- Loading room
- Ion exchange column room.

In addition, 242-A and 242-AB Buildings enclose the following areas that do not contain or handle mixed waste.

- Control room (242-AB Building)
- Aqueous makeup (AMU) room
- Heating, ventilation, and air conditioning (HVAC) room
- Miscellaneous offices, lunch room, lavatories, and change rooms.

Figures 2-3 and 2-4 provide floor plans for the first and second floors of the 242-A and 242-AB Buildings and Figure 2-5 provides building elevations.

2.1.1.1 Control Room

The new control room, located in the 242-AB Building, contains the centralized monitoring and control system (MCS). The MCS computer monitors process parameters and controls the parameters where required. Once the configuration parameters and other process control functions are set, the MCS functions independently of the operator, maintaining process parameters within specified ranges by sending output signals that operate specific pieces of equipment (e.g., control valves).

The control room also has instrumentation that monitors alarms at 241-AW, 241-AN, 241-AP, 241-A, and 242-AX Tank Farms, as well as computer terminals for the computer automated surveillance system (CASS) and the laboratory computer system (for access to sample results).

2.1.1.2 Aqueous Makeup Room

The AMU room, located on the south end of the 242-A Building, is used for receiving and mixing chemicals and transferring these into the process. The room contains the antifoam tank (E-102), a 378-liter (100-gallon) tank used to hold antifoam added to the process, the eluant tank (E-101), a 15,900-liter tank that is no longer used, and the decontamination tank (E-104), a 2,350-liter tank used to hold decontamination solutions, such as water or citric acid.

2.1.1.3 Evaporator Room

The evaporator room contains the vapor-liquid separator where evaporative separation and concentration take place, and the reboiler, which heats process solution to the required temperature. The room is set 3.0 meters belowgrade and extends approximately five stories abovegrade with work platforms located at each level.

Personnel entries to the evaporator room are made only for nonroutine maintenance and inspections. Such entries require that the evaporator vessel be drained and flushed with water or decontamination solution to reduce radiation exposure to personnel.

2.1.1.4 Condenser Room

The condenser room, like the adjacent evaporator room, is approximately five stories abovegrade, with the floor set 3.0 meters belowgrade. Condensed vapors from three condensers drain by gravity to the condensate collection tank located on the bottom floor. The condenser room also houses the vacuum condenser system, process condensate pump, condensate recycle pump, process instrumentation, and other equipment.

Also located in the condenser room is the vessel ventilation system. The vessel ventilation system is used to filter and exhaust noncondensable vapors from the 242-A Evaporator process vessels. The system consists of a deentrainment unit, prefilter, heater, high-efficiency particulate air (HEPA) filters, and an exhauster.

2.1.1.5 Pump Room

The pump room is located directly south of the evaporator room and houses the recirculation pump and slurry pump. Equipment in the pump room is designed to be maintained remotely using a bridge-type service crane. Concrete cover blocks (that can be moved by the crane) cover the pump room to provide confinement of contaminants.

A portion of the pump room floor is set 3.0 meters belowgrade to contain potential spills. Located in this section of the floor is a 1.5-meter by 1.5-meter by 1.8-meter deep sump lined with stainless steel to collect spills from various floor drains.

2.1.1.6 Loadout and Hot Equipment Storage Room

The loadout and hot equipment storage room is located adjacent to the pump room and is open to the overhead crane gallery. Failed pump room equipment (pumps, jumpers, etc.) are placed here by crane, decontaminated, and either repaired or packaged for disposal.

A shielded sampling enclosure is located within the room along a portion of the wall that is common with the pump room. Sampling lines run from the pump room to this enclosure. Valve handles outside the enclosure and a shielded viewing window allows the remote collection of feed and slurry samples.

2.1.1.7 Loading Room

The loading room is located in the southwest corner of the 242-A Building. The ceiling of the loading room is formed by a rollup, nylon-vinyl curtain-type door enclosure that can be rolled open to allow transfer of equipment between the loading room and the loadout and hot equipment storage room using the overhead crane.

2.1.1.8 Heating, Ventilation, and Air Conditioning Room

The HVAC room is located on the second floor, directly above the AMU room. The HVAC room contains the supply ventilation equipment for the 242-A Building.

2.1.1.9 Ion Exchange Column Room

The ion exchange enclosure is a small area that holds the ion exchange column for process condensate treatment. The enclosure is located on the north wall of the condenser room.

2.1.1.10 Miscellaneous Offices, Lunch Room, Lavatories, and Change Rooms

The offices, lunch room, lavatories, and change rooms are located on the first floor away from contaminated areas.

2.1.2 External Equipment and Structures

In addition to the equipment and structures housed within the 242-A and 242-AB Buildings, some external equipment and structures are required for 242-A Evaporator operation. These external units include the following:

- The 207-A retention basins
- Steam service supply
- Ventilation exhaust fans and HEPA filter housing
- Raw water service building.

2.1.2.1 The 207-A Retention Basins

The 207-A retention basins consist of six basins constructed of reinforced concrete, each having about 265,000 liters capacity. The north three basins were used to temporarily store non-contact steam condensate from the 242-A Evaporator for sampling before discharge. Subsequently, the steam condensate was routed directly to the 200 Area Treated Effluent Disposal Facility (TEDF) and the 207-A retention basins are no longer used. The three north basins are included in the 242-A Evaporator waste management unit. The three south basins previously held process condensate mixed waste for sampling and discharge. These basins have been removed from service, emptied, and will be closed under a separate closure plan.

2.1.2.2 Steam Service Supply

Steam needed for the 242-A Evaporator process currently is supplied by the 200 East Area powerhouse, 284-E Building, which supplies a high-pressure steam loop serving many units in the 200 East Area. A 6-inch steam line supplies 1,550 kilopascals gauge pressure steam to the 242-A Evaporator Building. In the future, the 284-E Building will be shut down and steam will be provided to units in the 200 East Area (including the 242-A Evaporator) by several package boilers. The 284-E Building and the package boilers are not part of the 242-A Evaporator.

2.1.2.3 Ventilation Exhaust Fans and Filter Housing

The exhaust fans and the HEPA filter system are located north of the 242-A Evaporator. There is no dangerous or mixed waste associated with this exhaust system, which ventilates the various rooms within the building for contamination control.

2.1.2.4 Raw Water Service Building

The raw water service building (242-A-81) houses the valves and strainers for routing raw process water to the 242-A Evaporator. Columbia River water is supplied to the water service building from the 284-E Water Supply Reservoir. Water used to backflush strainers in the water service building is routed to TEDF. No dangerous or mixed waste is present in the raw water service building. The 284-E Water Supply Reservoir is not considered part of the 242-A Evaporator.

2.1.3 Other Environmental Permits

All environmental permits that are required to support operation of the 242-A Evaporator are identified in the *Annual Hanford Site Environmental Permitting Status Report* (e.g., DOE/RL-96-63).

2.1.4 Construction Schedule

Any proposed new construction for mixed waste operations will be managed as described in the Hanford Facility RCRA Permit.

2.2 TOPOGRAPHIC MAP [B-2]

A topographic map (Drawing H-13-000039) is located in Appendix 2A.

2.3 ROADWAY TRAFFIC TO THE 242-A EVAPORATOR [B-4]

General traffic information for the Hanford Facility is presented in the General Information Portion (DOE/RL-91-28). Access to the 242-A Evaporator is provided by 4th Street to the south and Canton Avenue to the east. These roads are constructed of bituminous asphalt that provides satisfactory all-weather access. Paved parking areas are provided for 242-A Evaporator personnel.

2.4 RELEASE FROM SOLID WASTE MANAGEMENT UNITS [E]

Information concerning releases from solid waste management units is discussed in the General Information Portion (DOE/RL-91-28).

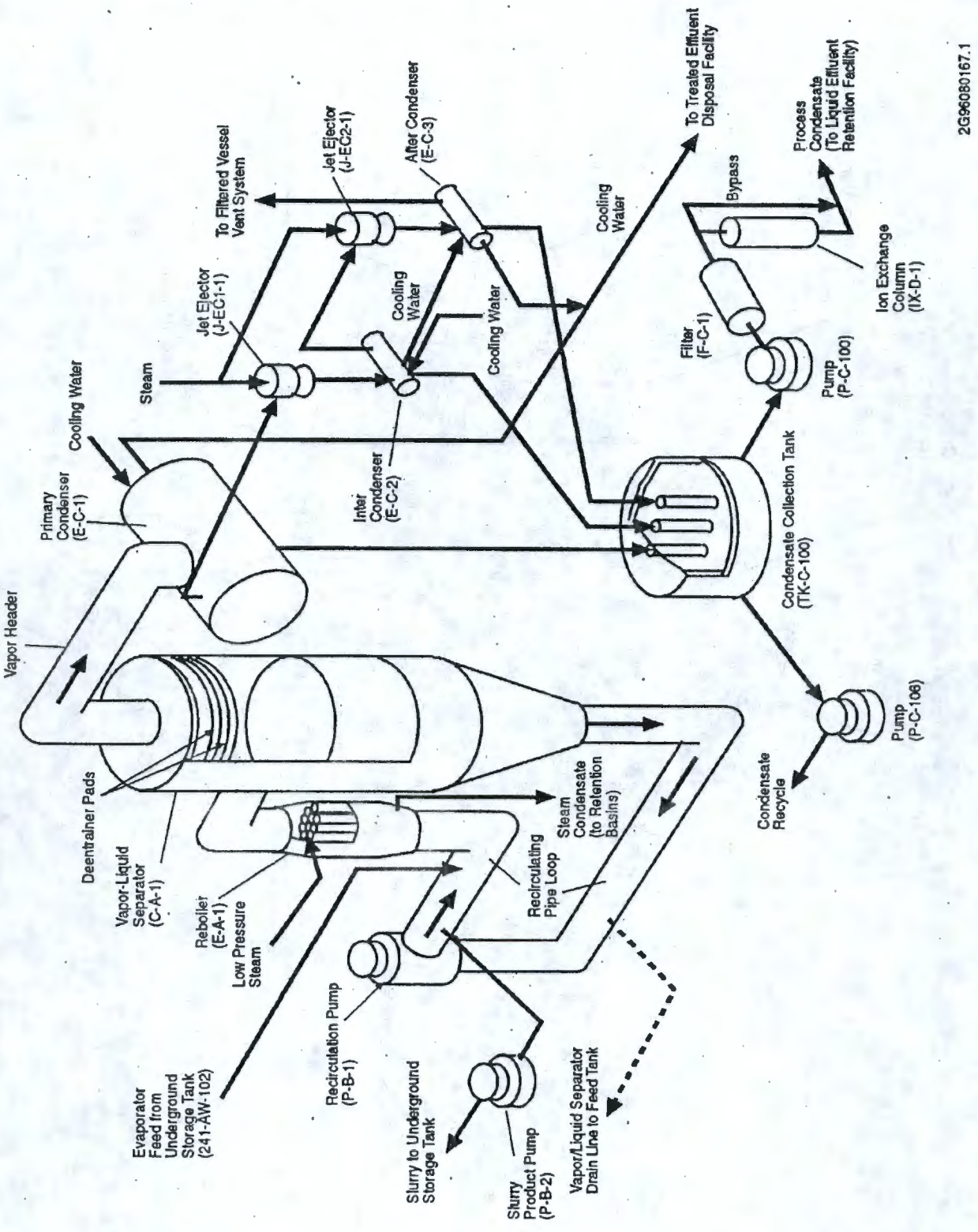

Figure 2-1. 242-A Evaporator Simplified Schematic.

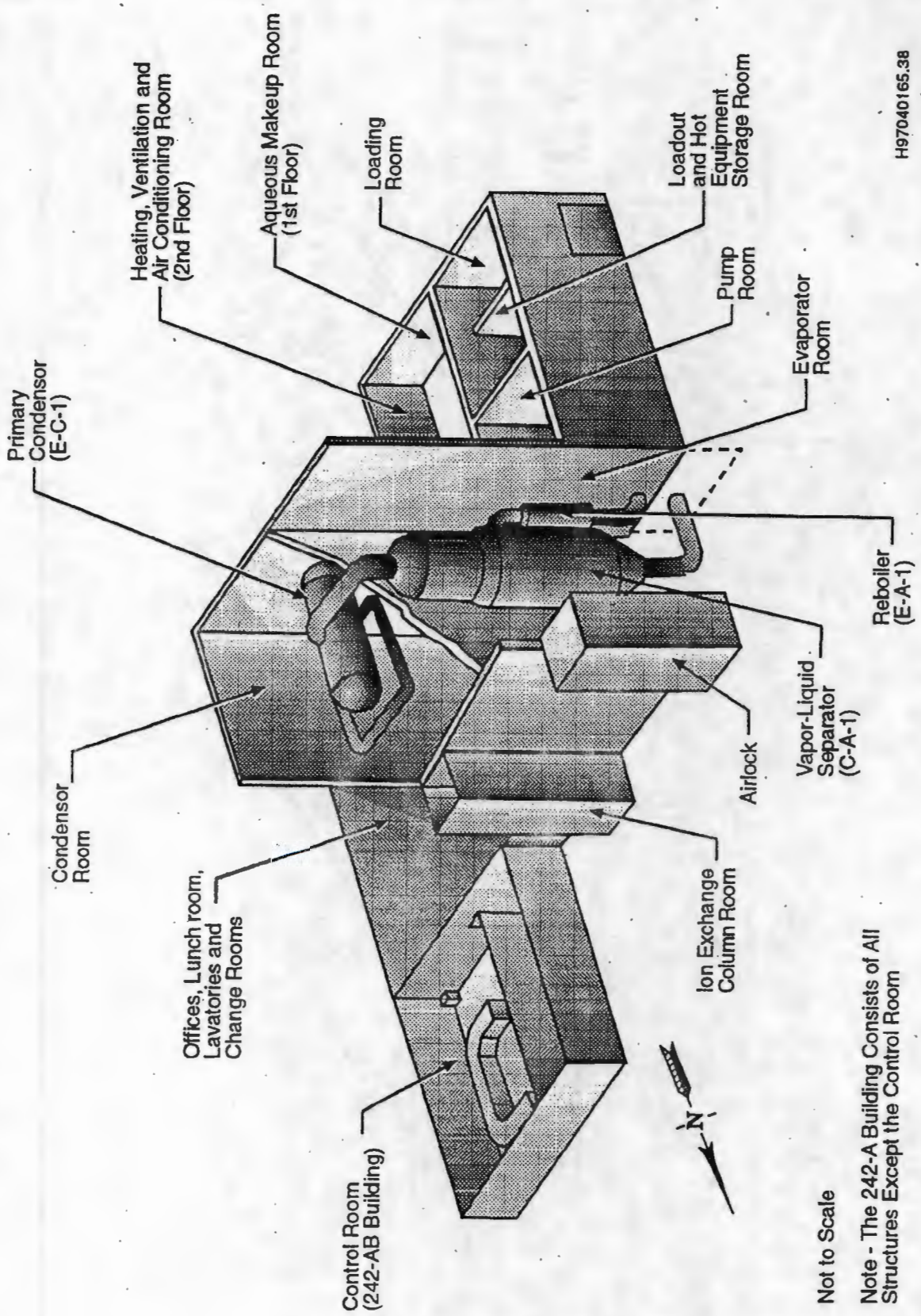

Figure 2-2. 242-A Evaporator Perspective.

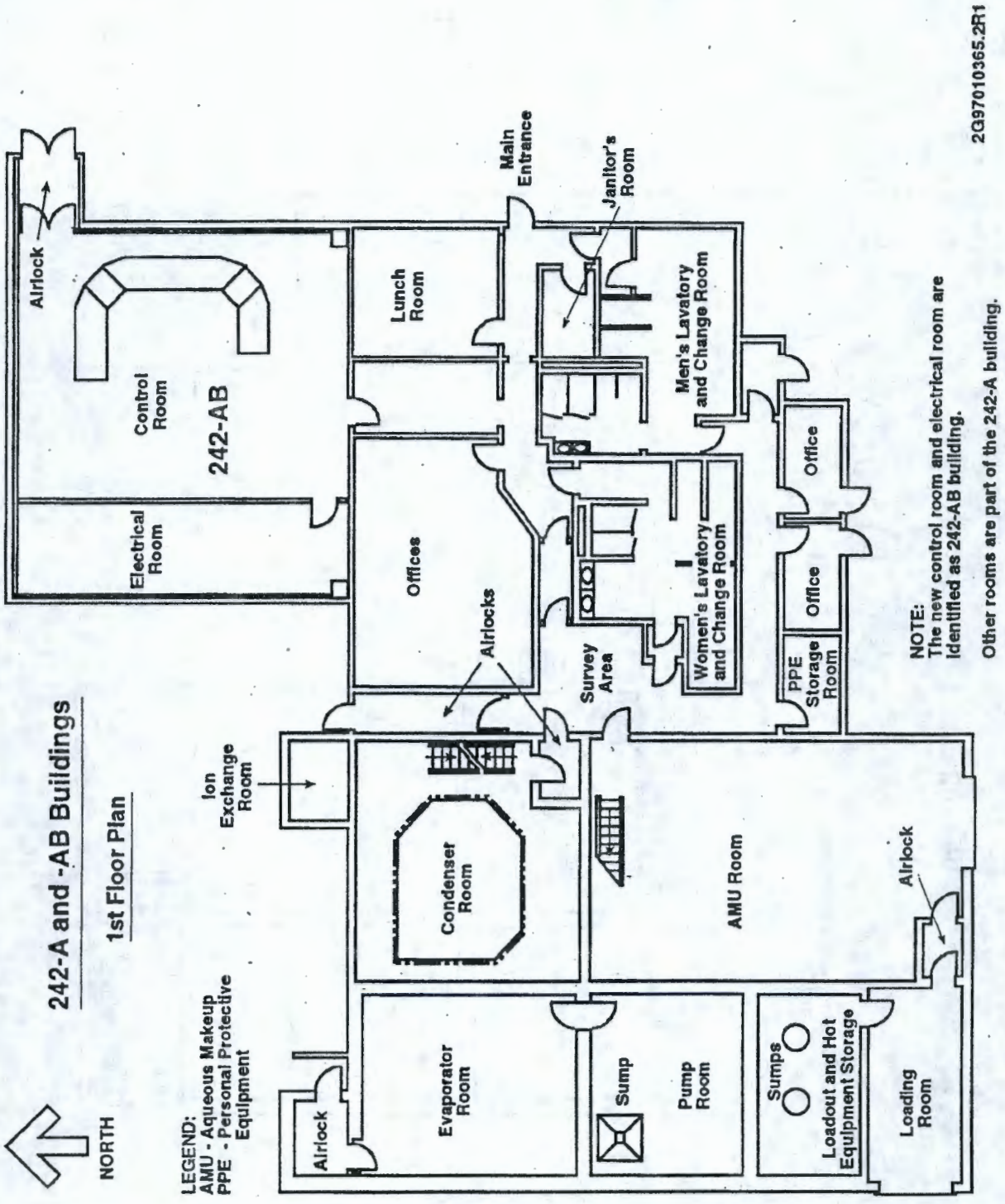

Figure 2-3. 242-A Evaporator First Floor Plan.

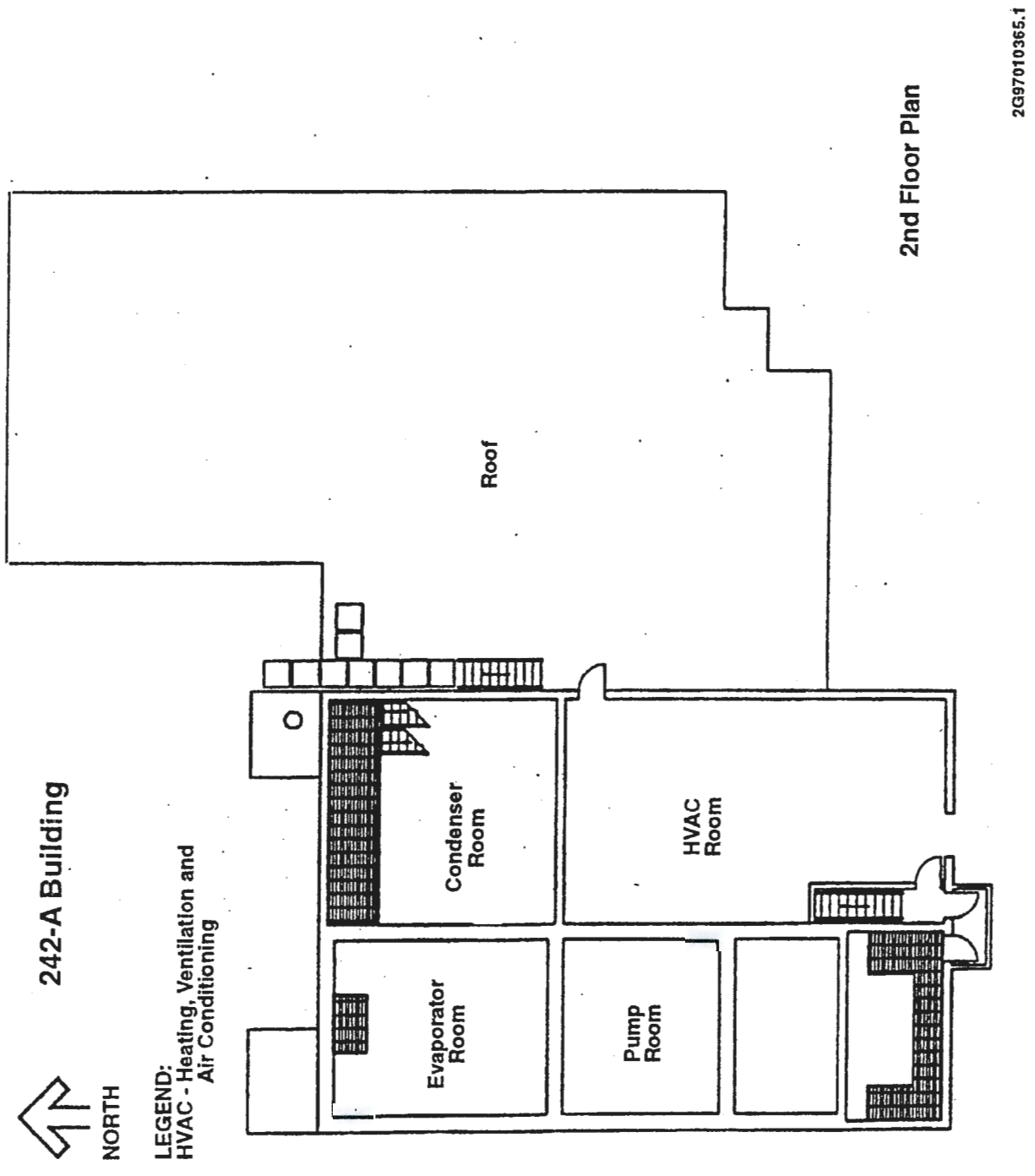

Figure 2-4. 242-A Evaporator Second Floor Plan.

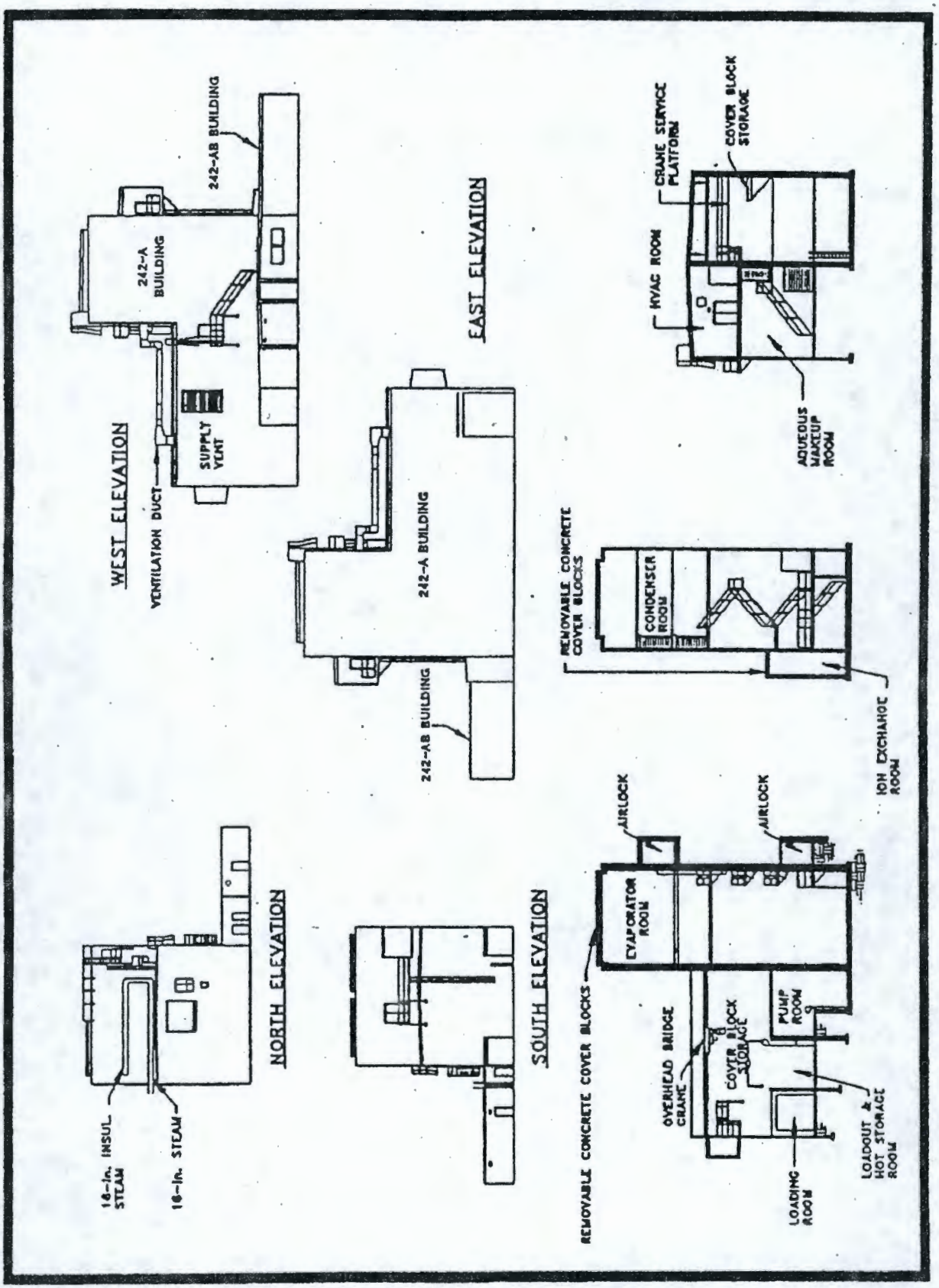

Figure 2-5. Side View of 242-A and 242-AB Buildings.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	**Part III, Chapter 6 and Attachment 36**

Description of Modification:

Chapter 11:

Replace Chapter 11. Chapter 11was converted to Microsoft Word. No changes were made to the text.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Mick Ikenberry 3/16/00		RF Christensen 4/5/00					
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

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Chapter 11

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11.0 CLOSURE AND FINANCIAL ASSURANCE [I]

This chapter discusses the planned activities and performance standards for closure of the 325 HWTUs in accordance with the requirements of WAC 173-303-610. No postclosure activities currently are applicable or required because the 325 HWTUs are proposed to be clean closed.

To clean close the 325 HWTUs, it will be demonstrated that dangerous waste has not been left onsite at levels above the closure performance standard for removal and decontamination. Regulations and laws will be reviewed periodically and the closure plan modified as necessary. If it is determined that clean closure is not possible or is environmentally impractical, the closure plan will be modified to address required postclosure activities.

11.1 CLOSURE PLAN [I-1]

The 325 HWTUs are planned to be clean closed.

11.1.1 Closure Performance Standard [I-1a]

The 325 HWTUs will be clean closed in a manner that will minimize the need for further maintenance and will eliminate postclosure release of dangerous waste or dangerous waste constituents. This standard will be met by removing dangerous waste and any dangerous waste residues from the units.

If the 325 Building ceases operations (i.e., utilities are disconnected and routine personnel access is not allowed), a decision will be made whether to implement this closure plan, or if continued operating authority will be sought.

After closure, the building areas formerly occupied by the HWTUs will be in a condition suitable for use in support of ongoing or future research and development activities. This use will be consistent with other land use activities in the 300 Area.

If there is any evidence of spills or leaks from the unit into the environment, further remediation will be deferred to the final disposition of the 325 Building. A postclosure monitoring plan will then be developed.

Clean closure decontamination standards for structures, equipment, bases, liners, etc., will be those specified for hazardous debris in 40 CFR 268.45, Table 1. The "clean debris surface" will be the performance standard for metal and concrete surfaces. This standard is consistent with Ecology guidance (Ecology 1994b) for achieving clean closure.

Attainment of a clean debris surface will be verified by a visual inspection in accordance with the standard that states, "A clean debris surface means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5% of each square inch of surface area." (40 CFR 268.45, Table 1).

Some unit equipment such as pumps, cartridge filters, and pipes may not be sufficiently visible for in-place contamination evaluation and waste designation. Equipment that cannot be designated in-place must be removed and then designated.

Equipment and structures will be decontaminated using the procedures in Sections 11.2.3 and 11.3.3. If decontamination is impracticable, components will be removed, designated, and disposed of. All residues resulting from decontamination will be sampled and analyzed as described in Sections 11.2.4 and 11.3.6 to determine whether they are dangerous waste. Residues containing listed waste, having dangerous waste characteristics, or exceeding dangerous waste designation limits will be managed in accordance

with all applicable requirements of WAC 173-303-170 through 173-303-203. [Reference WAC 173-303-610(5)].

11.1.2 Closure Activities [I-1b]

This closure plan describes the steps necessary to perform final closure of the 325 HWTUs. Closure activities will involve removing dangerous waste from the units and decontaminating associated structures and equipment in the units as necessary. These activities, which are discussed in subsequent sections, could be implemented at any point during the life of the 325 HWTUs.

Partial closure could involve closing either the SAL, the HWTU, or the RLWS tank individually or closing a portion of a unit, such as the SAL tank system, which includes the tank; associated piping, valves and pumps; and the secondary containment. Except for the timing of the closure activities, these closure activities would remain identical to those described in this closure plan.

11.1.3 Maximum Extent of Operation [I-1b(1)]

The 325 HWTUs consist of three units, all within the 325 Building, located in the 300 Area on the Hanford Facility. The SAL is located in Rooms 32, 200, 201, 202, and 203. The HWTU is located in Rooms 520 and 528, and the fire water containment tank located in the basement beneath Room 520. The RLWS currently collects radioactive liquid waste from the SAL and the HWTU. Once the RLWS load out tank system is complete, the RLWS will collect radioactive liquid waste from the SAL, the HWTU, and the other hot cells in the 325 Building. The RLWS runs throughout the 325 Building as depicted on Figures 2.3a and 2.3b. The SAL, the HWTU and the RLWS represent the maximum extent of operations for the 325 HWTUs to date as indicated in the Part A permit application, Form 3. If additional operations are added to the unit, the closure plan will be modified to reflect closure of the new areas.

11.2 CLOSURE OF THE HAZARDOUS WASTE TREATMENT UNIT

The following sections address the activities required to conduct closure of the HWTU.

11.2.1 Removing of Dangerous Waste, Disposal, or Decontamination of Equipment, Structures, and Soils

Steps for inventory removal, decontamination, and disposal of all dangerous waste containers, residues, and contaminated equipment are described in the following sections.

11.2.2 Removing Dangerous Waste [I-1b(2)]

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present at the HWTU at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations at the HWTU.

All dangerous waste will be placed in containers that meet specifications stated in Chapter 4.0, Section 4.1. To the extent possible, waste will be bulked into larger containers. If waste is bulked, containers will be emptied in compliance with WAC 173-303-160 so that the containers can be considered a solid nondangerous waste. Small-quantity laboratory chemicals that cannot be bulked will be packaged in labpack containers in compliance with the requirements of WAC 173-303-161. All containers of dangerous waste will be manifested and transferred to the custody of a dangerous waste transporter having a proper dangerous waste identification number. All containers of dangerous waste will be transferred to an appropriate onsite unit permitted to manage the waste and that will ensure proper handling and disposal.

Equipment and structural components in the HWTU requiring decontamination will be decontaminated using the methods described in Section 11.2.3. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.2.4 to determine whether the residue is mixed, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a Treatment, Storage, and Disposal (TSD) unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be managed in accordance with all applicable requirements of WAC 173-303-170 through 173-303-203. [Reference WAC 173-303-610(5)].

11.2.3 Decontaminating Structures, Equipment, and Soil [I-1b(3)]

All equipment and structures in dangerous waste storage and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a "clean debris surface" prior to starting closure activities. These will be considered decontaminated and receive to further decontamination. Initial closure activities will entail decontamination of all piping and equipment that is known to have contacted the waste. Equipment and structures to be decontaminated include the following:

- Waste handling and treatment equipment
- Glove boxes
- Open-face hoods
- Storage cabinets
- Floors, walls, and ceilings of Rooms 520 and 528
- Fire water containment tank (beneath Room 520).

Decontamination methods for equipment and structures will be selected from appropriate technologies (40 CFR 268.45, Table 1) such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection will be conducted for the purpose of monitoring the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the HWTU during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before final closure of the units. All cleaning and decontamination waste will be collected and analyzed as described in Section 11.2.4. Any disposable equipment will be placed in a container and disposed at an appropriate unit based on the status of the waste as dangerous, mixed, radioactive, or nonhazardous. Dangerous waste placed in containers will be managed in accordance with Chapter 4.0.

All waste-handling equipment in the HWTU will be decontaminated by washing with water or a solvent to a clean debris surface as defined in Section 11.1.1. If additional decontamination is necessary a decontamination technique will be selected from appropriate technologies (40 CFR 268.45, Table 1) such as high-pressure water wash. If adequate cleaning is not possible, the equipment will be disposed of as dangerous waste. The decision to dispose or decontaminate equipment will be made at the time of closure. The option that is the most environmentally and economically feasible will be chosen. Adequate decontamination will be determined by a visual inspection for a "clean debris surface" as described in Section 11.1.1. All waste water will be collected in sumps or portable containers, pumped to chemically compatible, closed-top containers, and transported and managed as described in Section 11.2.4.

The time required for decontamination of waste-handling equipment and the amount of waste water generated by these methods will depend on the amount of equipment that needs to be decontaminated. At this time, minimal time and effort are anticipated. The waste water to be generated through decontamination is not anticipated to exceed approximately 378 liters. The volume of solid waste generated will depend on the extent of decontamination necessary.

The radiological conditions of the unit will be established prior to starting closure activities. If a "clean debris surface" is present at the time that closure activities are started, the area will be considered clean closed. In this case, housekeeping measures may be undertaken and could include sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a high-efficiency particulate air (HEPA) filter. The vacuum cleaner bag containing captured particulates will be disposed appropriately. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe also will be disposed appropriately. HEPA filters from installed equipment and vacuum cleaners will be assessed for radiological condition, designated and managed as described in Section 11.2.4. The volume of solid waste (e.g., personal protective clothing/equipment, wipes, HEPA filters, vacuum bags) generated will depend on the extent of decontamination necessary.

Minimal time will be required for setup of the decontamination equipment. Labor requirements for the process should be moderate. Minimal time also will be required for packaging debris and dismantling and removing cleaning equipment. Small quantities of waste water (only the contents of buckets used in the decontamination procedure) will be generated. However, if a clean debis surface is not present, more sophisticated decontamination methods will be implemented. The surfaces in the HWTU that do not have a "clean debris surface" will be treated extensively using an appropriate decontamination technology such as water washing (40 CFR 268.45, Table 1). The contaminated surfaces will be decontaminated to remove all residues from the surfaces. The contaminated waste generated by this activity will be contained by the designed spill controls already in place for the unit (i.e., fire water containment tank and associated drain lines/sumps) or by disposable absorbent pads that might be placed around the area to be water washed. Pumps or vacuums will be used to empty the waste water from the containment area into chemically compatible, closed-top containers. Containers of waste water will be managed as described in Section 11.2.4.

Although this method will require more time than the dusting, vacuuming, and wiping procedures outlined previously, time requirements are still considered to be minimal for the water washing approach. Waste water generated by this method is not anticipated to exceed 500 liters.

If necessary, further decontamination methods such as sandblasting or other appropriate technologies could be used effectively to clean contaminated structure surfaces. All residues from the decontamination effort will be collected for sampling and proper subsequent disposal as described in Section 11.2.5 4. Following completion of decontamination, additional visual inspections will be performed to determine that the "clean debris surface" standard has been achieved. In the unlikely event that structures cannot be cleaned using the methods described, these structures might be demolished, removed, and managed as dangerous waste.

The collection sumps and secondary containment system will be decontaminated by water washing. Waste water collected from the cleaning process in each sump and containment system will be pumped into chemically compatible, closed-top containers and analyzed as described in Section 11.2.4 to determine if the waste water is a dangerous waste under WAC 173-303-070. If the waste water is determined to be a dangerous waste, the waste water will be managed and disposed at an appropriate permitted unit. If the waste water is not a dangerous waste, the waste water will be discharged to the 300 Area retention process sewer system. The water washing of all sumps should take minimal time and should generate less than 500 liters of waste water. Additional decontamination techniques such as grit

blasting, scabbling, or chipping might be used if necessary. The volume of solid waste generated will depend on the extent of decontamination necessary.

The radiological condition of the fire water containment tank will be established prior to starting closure activities. The internal surface of the fire water containment tank will be visually inspected. If a "clean debris surface" is present at the beginning of the closure process the fire water containment tank will be considered clean closed. If the surface of the liner does not meet the "clean debris surface" standard then the fire water containment tank for the HWTU and ancillary equipment could be flushed with water, and if flushed, the water could be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents from the tank. In all cases, the final decontamination rinse water will be tested. To demonstrate decontamination, the interior surface of the tank liner will be visually inspected to determine if the "clean debris surface" standard has been achieved. If this proves to be impractical or impossible the tank liner will be removed and disposed. Runoff of decontamination solutions and waste water will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

If water flushing is unsuccessful at removing dangerous waste and dangerous waste constituents, other decontamination processes will be employed, including appropriate technologies such as aquablasting and high-pressure water jet scarifiers. The actual equipment used will consist of an appropriate combination of equipment that will be the most effective as determined by sampling results. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

Management of decontamination residues is provided in Section 11.2.4. The time requirements for decontamination of the tank are expected to be minimal, and waste water generated by this procedure is not expected to exceed 757 liters.

All dangerous waste storage and treatment operations at the 325 HWTUs will be conducted indoors, which will minimize potential contamination of the soil and groundwater. Unit design and administrative controls minimize the possibility of loss of waste to the soil and contamination of the groundwater. The potential for degradation of surface water quality also is very low due to the building design and administrative controls employed. Additional details on spill prevention and emergency response are provided in Chapter 7.0.

11.2.4 Management of Decontamination Waste from HWTU

Decontamination waste from the HWTU will be placed in containers and sampled to determine disposal requirements. Samples from each container will be analyzed for the following:

- Corrosivity using the methods described in EPA SW-846 (Methods 9040/9045)
- Ignitability using methods described in EPA SW-846 (Methods 1010/1020)
- Toxicity characteristic using the Toxicity Characteristic Leaching Procedure (TCLP) described in 40 CFR 261 Appendix II (Method 1311) [including analysis for metals; volatile organics; and semivolatile organics, which includes chlorinated pesticides, using methods identified in the waste analysis plan (Appendix 3A)]
- Total radioactivity using gross alpha, gross beta, and gamma scan (Method 9310).

Other analyses might be performed based on process knowledge to determine the presence of a listed waste. The results of sample analyses will be used to determine how to dispose of decontamination waste. (Background levels will be determined by analysis of the tap water used for makeup of the decontamination solutions.) The results of the ignitability, corrosivity, and toxicity characteristic analyses will be used to determine if the waste is characteristic dangerous waste (WAC 173-303-090). The results

of the radiological analyses will be used to determine whether any of the waste generated during the HWTU closure is low-level liquid radioactive waste or mixed waste. Depending on designation, decontamination waste will be managed as follows:

- Dangerous waste--Manifested and shipped and/or transferred to a permitted TSD unit
- Mixed waste--Manifested and shipped to a TSD unit as available, or treated and disposed onsite
- Low-level radioactive waste and nonregulated waste--Handled in accordance with the Liquid Effluent Consent Order (No. DE91NM-177) and Milestone M-17 of the Tri-Party Agreement.

11.2.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)]

The radiological condition of the unit will be determined prior to starting closure activities. Attainment of a clean debris surface will be verified by a visual inspection in accordance with the standard that states, "A clean debris surface means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5% of each square inch of surface area." (40 CFR 268.45, Table 1).

Areas of degraded surface material, such as significant concrete cracking or heavily gouged steel, will be evaluated by non-destructive or destructive means to determine depth of significant surface defects, amount of contamination present in the defects, and to determine if environmental contamination has resulted from the material defect.

11.3 CLOSURE OF THE SHIELDED ANALYTICAL LABORATORY

The activities required for the closure of the SAL are described in the following sections.

11.3.1 Removing Dangerous Waste, Disposal and Decontamination of Equipment, Structures, and Soils

Steps for inventory removal, decontamination, or removal of all dangerous waste containers, residues, and contaminated equipment are described in the following sections.

11.3.2 Removing Dangerous Waste [I-1b(2)]

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present at the SAL at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations at the SAL.

At the SAL, liquid waste either will be treated and packaged to meet requirements for disposal in onsite units or will be transferred through the SAL tank to the RLWS. Liquid dangerous waste in the SAL tank will be transferred to the RLWS. If, for some reason, the RLWS closes prior to the SAL tank, the contents of the SAL tank will be loaded into containers and managed in accordance with Section 11.2.2. Any other suitable RCRA-permitted units that might exist when the SAL tank is closed could be used as a storage alternative. Liquid waste handling, packaging, transportation, and manifesting procedures will follow those used during normal operation of the SAL.

Equipment and structural components in the 325 HWTUs will be decontaminated using appropriate methods described in Sections 11.2.3 and 11.3.3. If decontamination is impracticable, components will be removed, designated, and disposed of. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.3.6 to determine whether the residue is mixed,

dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be disposed of properly.

11.3.3 Decontaminating Equipment, Structures, and Soils [I-1b(3)]

All equipment and structures in dangerous waste storage and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a "clean debris surface" prior to starting closure activities. These will be considered decontaminated and receive no further decontamination. Initial closure activities will entail decontamination of all piping and equipment that is known to have contacted the waste. Equipment and structures to be decontaminated include the following:

- Floors, walls, and ceilings of the SAL front face (Room 201), hot cells, back face (Rooms 200, 202, and 203), and associated airlocks
- Floors, walls, and ceiling of the basement of Room 32 in the SAL
- SAL tank and ancillary equipment
- Secondary and tertiary containment pans
- Interior surfaces of all secondary containment trenches.

Decontamination methods for equipment and structures will be selected from appropriate technologies such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the units during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before final closure of the units. All cleaning and decontamination waste will be collected and packaged as described in Section 11.3.6. Any disposable equipment will be containerized and disposed of based on the status of the waste as dangerous, radioactive, or nondangerous waste.

Initial gross decontamination of the hot cells will be necessary prior to entry of personnel into the hot cells for the visual inspection of the cell liners. The high radiation levels in the cells will preclude personnel entry into the cells, and configuration of the cells precludes thorough visual inspection of the interior surfaces of the cells. This decontamination will be accomplished using high-pressure water sprays or other appropriate decontamination techniques operated by means of the manipulators.

If a "clean debris surface" is present at the time that closure activities are started, decontamination procedures will consist of sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commerc ial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particulates will be appropriately disposed. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe also will be appropriately disposed. The volume of solid waste generated will depend on the extent of decontamination necessary.

Moderate time will be required for setup of the decontamination equipment. However, labor requirements for the process will be extensive for radioactively contaminated areas and particularly for the hot cells where radiation levels will be very high, and will, at least initially, require remote operations. Moderate time also will be required for packaging debris and dismantling and removing cleaning

equipment. Moderate quantities of waste water will be generated by this procedure. However, if a clean debris surface is not present, more sophisticated decontamination methods will be implemented. The dangerous waste management portions of the SAL will be treated extensively using an appropriate decontamination technique (40 CFR 268.45, Table 1). The ceiling, walls, and floor will be treated by applying the decontamination technique to remove all residues from the surfaces. The contaminated waste generated by this activity will be collected in the SAL and will be managed as described in Section 11.3.6. The volume of waste generated by this procedure is anticipated to be on the order of 2,000 liters.

If necessary, more aggressive decontamination methods, such as sandblasting or other appropriate technologies, could be used effectively to clean contaminated structure surfaces. All residues from the decontamination effort will be collected for sampling and proper subsequent disposal as described in Section 11.3.6. Following completion of decontamination, additional visual inspections will be performed to determine that the "clean debris surface" standard has been achieved. In the unlikely event that structures cannot be cleaned using the methods described, these structures might be demolished, removed, and managed as dangerous waste.

The hot cells in the SAL also include two other areas that might require decontamination. These are the storage rooms 200, 202 and 203 in the backside of SAL and the operating area (gallery). It is expected that the level of contamination will be minimal based on the operations performed. Accordingly, the level of the decontamination effort also is expected to be minimal. For example, decontamination efforts in the operating gallery might be limited to decontamination and removal of the fume hood. If a "clean debris surface" is present at the time that closure activities are started, decontamination procedures will consist of sweeping, dusting, vacuuming, and wiping with soap and water.

All dangerous waste storage and treatment operations at the 325 HWTUs will be conducted indoors, which will minimize potential contamination of the soil and groundwater. Unit design and administrative controls minimize the possibility of loss of waste to the soil and contamination of the groundwater. The potential for degradation of surface water quality also is very low due to the building design and administrative controls employed. Additional details on spill prevention and emergency response are provided in Chapter 7.0.

If contaminated soil is found and if practical, it may be excavated, removed, and disposed as dangerous waste. Extensive soil contamination may be deferred to the closure of the 325 Building and to the CERCLA RI/FS process for the 300-FF-2 and 300-FF-5 operable units.

11.3.4 Decontamination of Hot Cell Trough

The collection trough in the interconnected SAL hot cells will be decontaminated using an appropriate decontamination technique (40 CFR 268.45, Table 1). Any waste water collected in each sump from the cleaning process will be collected in the SAL waste tank system and analyzed to determine if the waste water is a dangerous waste. If the waste water is a dangerous waste, it will be managed and disposed at an appropriate permitted facility. If the waste water is not a dangerous waste, the waste water will be discharged to an appropriate radioactive waste disposal facility. The decontamination of the hot cell collection trough should take moderate time and should generate less than 500 liters of waste. Additional decontamination techniques, such as grit blasting or chemical cleaning, could be used if necessary. The volume of solid waste generated will depend on the extent of decontamination necessary.

11.3.5 Decontamination of the Shielded Analytical Laboratory Tank System

The SAL tank and ancillary equipment, tank secondary containment, tank tertiary containment pan, and associated tank piping will be flushed with water; the water will then be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents. In all cases, the final decontamination rinse water will be tested to determine whether cleaning activities are effective. Run-off of decontamination solutions and waste water will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

If water flushing is unsuccessful at removing dangerous waste and dangerous waste constituents, other decontamination processes will be employed, including appropriate technologies such as, aquablasting, sandblasting, and high-pressure water jet scarifiers. The actual equipment used will be selected based on what the sampling results indicate will be the most effective. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

Management of decontamination residues is provided in Section 11.3.6. The time requirements for decontamination of the SAL tank system are expected to be moderate, and waste water generated by this procedure is not expected to exceed 1,200 liters. The volume of solid waste generated will depend on the extent of decontamination necessary.

On completion of decontamination activities, the SAL tank either will remain in place for other uses within the 325 Building, will be moved for other uses on the Hanford Facility, or will be demolished and disposed as scrap (if its usefulness is determined to be complete).

11.3.6 Management of Decontamination Waste from SAL

Decontamination liquid from the SAL hot cells will be sent to the RLWS. All nonliquid waste generated during decontamination operations and the equipment used (e.g., sandblast grit, personnel protective equipment and clothing, disposable equipment) will be collected in 208-liter, open-head containers and stored onsite. Samples of the waste could be collected and analyzed as described in Section 11.2.4.

11.3.7 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)]

Methods to demonstrate success of decontamination will be the same as described in Section 11.2.5 for the HWTU.

11.4 CLOSURE OF THE RADIOACTIVE LIQUID WASTE TANK SYSTEM

The activities required for the closure of the RLWS load out tank system in the 325 Building are described in the following sections. The RLWS load out tank system includes the storage tank, chemical addition tanks, associated pipes, valves, pumps, filters, and secondary containment system. Activities for partially closing the existing RLWS prior to beginning operations of the RLWS load out tank system are also described.

11.4.1 Removing Dangerous Waste [I-1b(2)]

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present in the RLWS system at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations of the RLWS.

Liquid waste will be transferred from the RLWS to the transfer cask and transported to the DSTs. Liquid waste handling, packaging, transportation,and manifesting procedures will follow those used during normal operation of the RLWS.

Equipment and structural components in the 325 HWTUs will be decontaminated using the methods described in Sections 11.2.3, 11.3.3 and 11.4.3. If decontamination is impractical, components will be removed, designated, and disposed of in accordance with WAC 173-303. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.4.4 to determine whether the residue is mixed, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be disposed of properly.

11.4.2 Decontaminating Equipment, Structures, and Soils [I-1b(3)]

All equipment and structures in dangerous waste handling, storage, and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a "clean debris surface" prior to starting closure activities. These will be considered decontaminated and receive no further decontamination (see 11.3.3, pg. 11.9).

There are two sections of piping that are currently being utilized in the existing RLWS but will not be utilized in the new RLWS load out tank system. Both sections of piping are located in the northeastern portion of the building; one runs in a north-south direction and the other runs in an east-west direction. These sections of piping will be capped and left in place when the modified RLWS system begins operations. Decontamination and other closure activities for these abandoned pipelines will be conducted along with final closure activities for the RLWS load out tank system.

Decontamination methods for equipment and structures will be selected from appropriate technologies such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the units during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before the final closure of the units. All cleaning and decontamination waste will be collected and packaged as described in Section 11.4.4. Any disposable equipment will be containerized and disposed of based on the status of the waste as dangerous, radioactive, or nondangerous waste.

The radiological conditions of the unit will be established prior to starting closure activities. If a "clean debris surface" is present at the time that closure activities are started, the area will be considered clean closed. For these instances, housekeeping measures may be undertaken and could include sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particles will be appropriately disposed. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe will also be appropriately disposed. The volume of solid waste generated will depend on the extent of decontamination necessary.

11.4.3 Decontamination of Radioactive Liquid Waste Tank System

The RLWS tank, chemical addition tanks, ancillary equipment, tank secondary containment pan (tank pit liner), and associated tank piping will be flushed with water; the water will then be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents.

In all cases, the final decontamination rinse water will be tested to determine whether cleaning activities are effective. Run-off of decontamination solutions and waste water will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

If water flushing is unsuccessful at removing dangerous waste and dangerous waste constituents, other decontamination processes will be employed, including appropriate technologies such as aquablasting, sandblasting, and high-pressure water jet scarifiers. The actual equipment used will be selected based on what the sampling results indicate will be the most effective. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

Some unit material such as pumps, cartridge filters, and pipes may not be sufficiently visible for in-place waste designation. Material that cannot be designated in-place must be removed and then designated.

Management of decontamination residues is provided in Section 11.4.4. The time requirements for decontamination of the RLWS load out tank system are expected to be moderate, and waste water generated by this procedure is not expected to exceed 34,065 liters. The volume of solid waste generated will depend on the extent of decontamination necessary.

On completion of decontamination activities, the RLWS tank either will remain in place for other uses within the 325 Building, will be moved out for other uses on the Hanford Facility, or will be demolished and disposed as scrap (if its usefulness is determined to be complete).

11.4.4 Management of Decontamination Waste from RLWS Tank System

Decontamination liquid from the RLWS load out tank system will be sent to the DSTs via the approved shielded cask system. All nonliquid waste generated during decontamination operations and the equipment used (e.g., sandblast grit, personal protective equipment and clothing, disposable equipment) will be collected in 208-liter, open-head containers and dispositioned according to the following criteria: material that is dangerous waste (only) will be disposed of at an offsite TSD Facility; mixed waste will be transferred to the Central Waste Complex for interim storage and future treatment or disposal; and low-level radioactive waste will be disposed onsite in the 200 Area. Samples of the waste could be collected and analyzed as described in Section 11.2.4.

11.4.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)]

Methods to demonstrate success of decontamination will be the same as described in Section 11.2.5 for the HWTU.

11.5 MAXIMUM WASTE INVENTORY [I-1c]

The 325 HWTUs are used to store and treat a variety of different research-and-operations-related dangerous waste. The maximum inventory of waste that could be present at any one time in the 325 HWTUs is constrained by the following factors.

- The maximum inventory of dangerous waste stored in containers will not exceed the limits listed in the Part A permit application, Form 3.
- The maximum inventory of dangerous waste in tank storage in the SAL will not exceed 12,574 liters in accordance with the design capacity of the SAL and the RLWS tanks and the Part A permit application, Form 3.
- The total amount of dangerous waste at any one time will not exceed Uniform Building Code hazardous material quantity restrictions (Chapter 4.0).

11.6 SCHEDULE FOR CLOSURE [I-1f]

Completion of closure activities is expected to take up to two years from the date of receipt of the final volume of waste at the units. This extended time period for closure is necessary due to the high radiation levels and radiological contamination present in the facility, particularly the six interconnected hot cells. Safety systems needed to protect the environment will continue to operate during the closure process. Ecology personnel will be notified by the DOE-RL at least 45 days before the final closure activities are to begin. Closure activities are summarized in Table 11.2, and a detailed schedule of closure activities is provided in Table 11.3.

11.7 EXTENSION FOR CLOSURE TIME [I-1g]

An extension of the time for removal of the inventory of dangerous waste from the unit designated for closure is requested for the 325 HWTUs. This extension is necessitated by the high levels of radioactive materials that are present, particularly in the six interconnected hot cells. The expected time needed to remove all waste from the units is two years.

The extended period for removal of the inventory of dangerous waste is needed to accomplish the procedures that are needed to safely work with the levels of radioactive materials that are present in the SAL. All activities required to remove the inventory of dangerous waste will be conducted in accordance with applicable permit conditions and all safety systems will continue to be operated. The removal of the inventory of dangerous waste will be conducted following procedures that are designed to be protective of the workers and the environment.

An extension of the closure time is requested for the 325 HWTUs. This extension is necessitated by the high levels of radioactive materials that are present, particularly in the six interconnected hot cells. The expected time needed to close the units is two years.

Decontamination of hot cells is a slow and labor-intensive operation, complicated by the fact that most of the work must be done remotely using manipulators because of the very high radiation levels that are present in the hot cells. Even after radiation levels in the hot cells have been reduced enough to allow personnel entry, work is hampered by the extensive personal protective equipment that staff are required to wear, and the strict procedures that are enforced to ensure that both workers and the environment are protected from contamination with radioactive material.

Most equipment located in the hot cells must be packaged in shielded containers. Typically, this requires extensive remotely operated size reduction of the equipment. Removal of hot cell equipment, such as is located in the SAL, usually takes many months to a year or more to complete.

The extended closure period is needed to accomplish the procedures that are needed to safely work with the levels of radioactive materials that are present in the SAL. All closure activities will be conducted in accordance with applicable permit conditions and all safety systems will continue to be operated. The closure activities will be conducted following procedures that are designed to be protective of the workers and the environment.

11.8 CLOSURE COST ESTIMATE [I-1h]

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status will be submitted to Ecology in accordance with WAC 173-303-390 by October 31 of each year.

1 **Table 11-1. Analysis Parameters for Closure of the 325 Hazardous Waste Treatment Units**

Parameter and EPA SW-846a Analytical Method	Equipment and Structures Wipe Samples	Decontamination Waste Water Samples	Soil Samples (if determined to be contaminated)
pH for corrosivity (Method 9040 or 9045)		X	
Ignitablity (Method 1010 or 1020)		X	
TCLP (Extraction Method 1311) ▪ Metals (Method 6000 and/or 7000 series) ▪ Volatile organics (Method 8240) ▪ Semivolatile organics (Method 8270) ▪ Chlorinated pesticides (Method 8080)		X	
Total metals: antimony, arsenic, beryllium, boron, cadmium, chromium, lead, mercury, nickel, selenium, silver, and thallium (Method 6000 and/or 7000 series)	X		X
Volatile organics (Method 8240)	X		X
Semivolatile organics (Method 8270)	X		X
Radioactivity[b] ▪ Gross alpha (Method 9310) ▪ Gross beta (Method 9310)	X	X	X

(a) SW-846 = EPA Test Methods for Evaluating Solid Wastes (Third Edition, latest update, 1986).

(b) Characterization of radionuclides is not within the scope of WAC 173-303 or of this permit application. The information on radionuclides is provided for general knowledge where appropriate.

2

Table 11-2. Summary of Closure Activities for the 325 Hazardous Waste Treatment Units

Closure Activity Description	Expected Duration(a)
Receive final volume of dangerous waste	N/A
Notify Ecology that closure activities will commence (at least 45 days before final closure activities begin)	N/A
Remove waste inventory and package, manifest, and transport all dangerous waste for treatment, storage, and/or disposal	80 days
Initial decontamination of the hot cells	120 days
Remove equipment from hot cells	270 days
Visual inspection of structural surfaces, equipment, troughs, and tanks in the HWTU and SAL to identify areas of contamination and to determine levels and methods of decontamination required	30 days
Decontaminate structural surfaces, equipment, troughs, and tanks at the HWTU and SAL using methods determined after visual inspection	180 days
Decontaminate front face and rear face	120 days
Reinspect surfaces to verify thoroughness of decontamination	2 days
Evaluate best methods for treatment and disposal of waste resulting from decontamination	25 days
Dispose of waste resulting from decontamination	80 days
Submit certification of closure to Ecology (within 60 days of completion of final closure activities)	N/A
(a) Some activities are performed concurrently.	

Table 11-3. Closure Schedule for the 325 Hazardous Waste Treatment Units

Action	Schedule
Date of receipt of last volume of waste	Day 0
Waste inventory removal	Day 90
Equipment decontamination or disposal and visual inspection of structural surfaces to identify areas of contamination and to determine level of decontamination needed	Day 530
HWTU and SAL structural decontamination	Day 635
HWTU sump and fire water containment tank and SAL hot cells trough decontamination	Day 650
Visual inspection to determine effectiveness of decontamination	Day 690
Further decontamination and visual inspection, if necessary, and disposal of all decontamination waste based on results of waste analyses	Day 720
Clean closure certification	Day 780

This plan covers the following buildings and structures:

242-A Building, 242-AB Building, 242-A-81 Water Service Building,
207-A Retention Basins.

Approved:

Facility Management — Date 3/29/00

Environmental Compliance Officer — Date 3/29/00

Emergency Preparedness — Date 3/29/00

Hanford Fire Department — Date 3/29/00

This document will be reviewed annually and updated if necessary by Facility Management unless Hanford Facility RCRA Permit coordination requirements provides otherwise. The document will be approved by Facility Management and approved by the Manager of Emergency Preparedness (or delegate) and the Hanford Fire Department.

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1.0 GENERAL INFORMATION

The 242-A Evaporator, which is part of the 200 Area Liquid Waste Processing Facilities (LWPF), is located on the Hanford Site, a 560-square-mile U.S. Department of Energy (DOE) site in southeastern Washington State. The 242-A Evaporator is located in the southeast portion of the 200 East Area near the center of the Hanford Site. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for response to emergency events. This plan contains a description of facility specific emergency planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*. Response to events is performed using facility specific and/or site-level emergency procedures.

1.1 Facility Name: U.S. Department of Energy Hanford Site,
200 Area Liquid Waste Processing Facility,
242-A Evaporator.

1.2 Facility Location: Benton County, Washington; within the 200 East Area.

Buildings/facilities covered by this plan are:

242-A Building
242-AB Building
242-A-81 Water Service Building
207-A Retention Basins

1.3 Owner:
U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, Washington 99352

FACILITY MANAGER:
Flour Hanford, Inc.
P. O. Box 1000
Richland, Washington 99352

1.4 Description of the Facility and Operations

The 242-A Building is a five-story, concrete structure consisting of a main process area (i.e., pump room, load-out room, evaporator room, condenser room), support system area (i.e., aqueous makeup room, heating ventilation and air conditioning (HVAC) room, etc.), and the adjacent office area (i.e., lunch room, lavoratories, offices, etc.). The main process and support system areas are designed and constructed to withstand a 0.25 g horizontal acceleration seismic event, and a 100-mile-per-hour, high wind/tornado.

The 242-AB Building was constructed to house the upgraded 242-A Evaporator monitoring and control system. This building adjoins the 242-A Building and includes the control room (room 18) and electrical room (room 19).

The 207-A Retention Basins are located east of the 242-A Building, and north of the AP Tank Farm. The Water Service Building (242-A-81) is located directly south of the 242-A Building.

The 242-A Evaporator is connected to Double-Shell Tank (DST) system tanks and valve pits through underground piping that is used for transferring feed and slurry solutions and miscellaneous drainage.

There is a satellite accumulation area located south of the 242-A Building.

1.5 Building Evacuation Routing

Figure 1 shows 242-A Evaporator evacuation routes. Figure 2 shows 242-A Evaporator staging areas.

2.0 PURPOSE

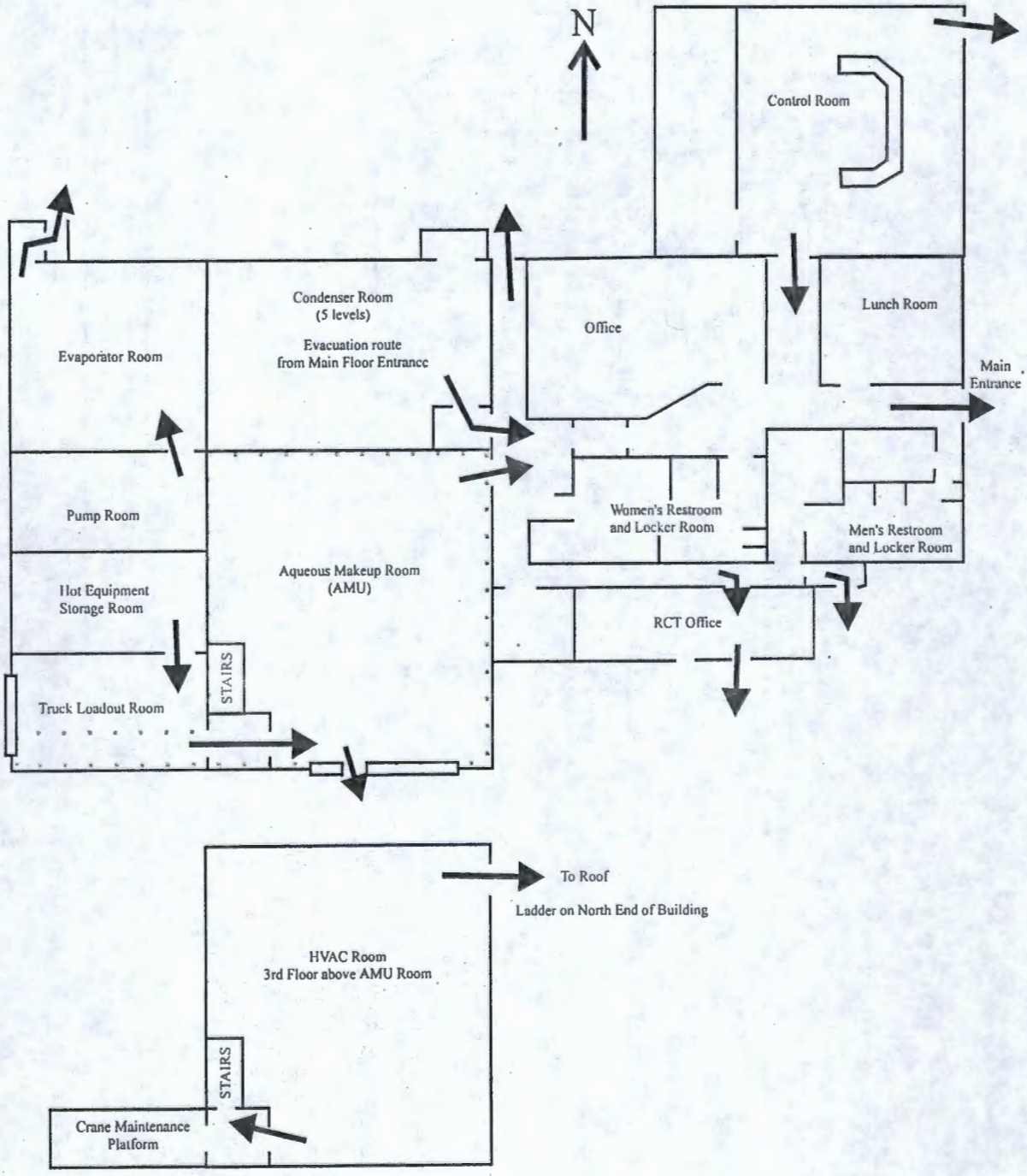
This plan describes both the facility hazards and the impacts of upset and/or emergency conditions. "Emergency" as used in this document includes events meeting the Washington Administrative Code (WAC) 173-303 definition of Emergency as well as some DOE-232.1, "Occurrence Reporting and Processing of Operations Information," categories of Unusual Occurrence and Emergency. These events include spills or releases, fires and explosions, transportation activities, movement of materials, packaging, storage of hazardous materials, and natural and security contingencies. When used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*, this plan meets the requirements for contingency planning as required by WAC 173-303.

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

The 242A LWPF is staffed 24 hours each day, and is prepared to respond to emergencies through designated personnel with specific primary, on-call and alternate responsibilities. The 242-A Building Emergency Director (BED) directs the emergency response until the Incident Commander arrives at the event scene. The BED is on duty 24 hours each day. The on-duty Shift Operations Manager is the designated primary BED. There is a designated alternate BED on day shift available for directing emergency response if required. Other personnel required as part of the building emergency organization are also on duty with either primary or alternate responsibilities. The following paragraphs describe this organization and the duties of designated personnel.

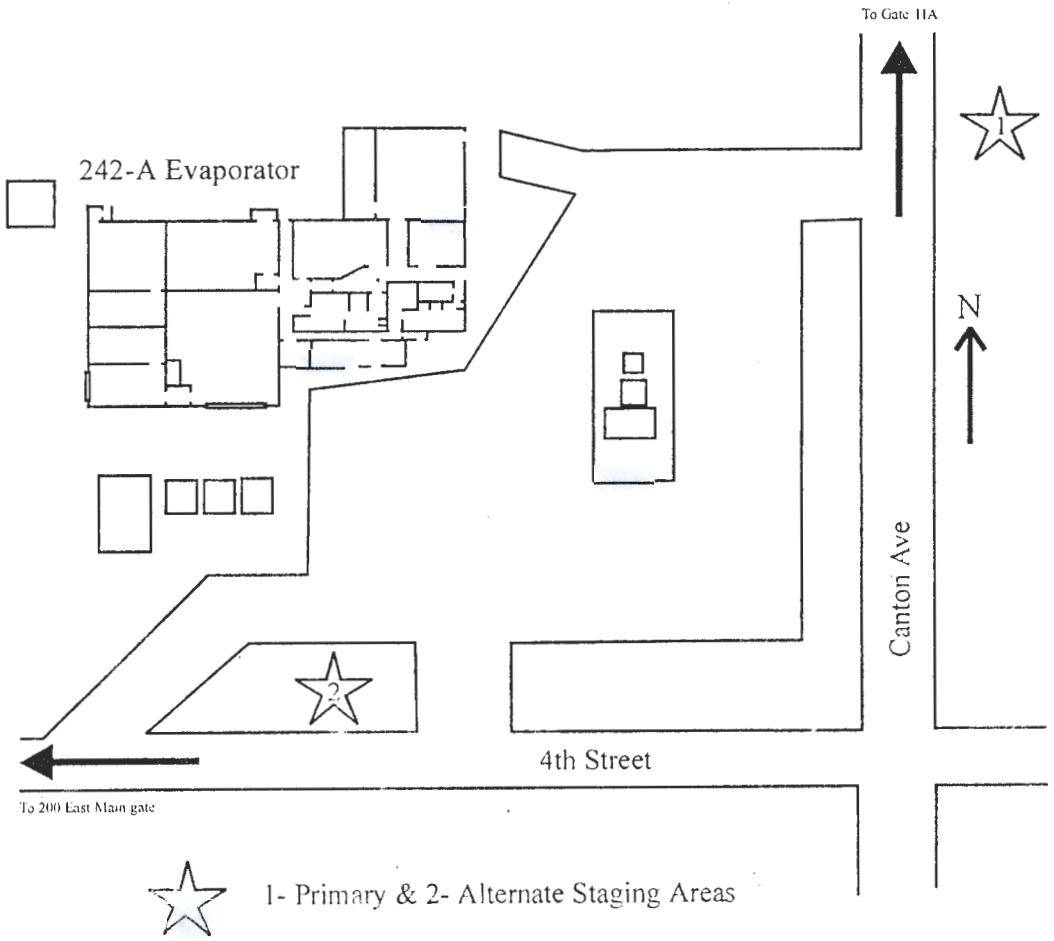
Figure 1, 242-A Evaporator Evacuation Routes

RCT: radiation control technologist



HVAC: heating, ventilation, and air conditioning

Figure 2, 242-A Evaporator Staging Areas



3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander (IC) arrives. The incident command system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Names and home telephone numbers of the BEDs are available from the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

3.2 Other Members

As a minimum, Facility Management appoints and ensures training is provided to individuals to perform as Personnel Accountability Aides and Staging Area Managers. The accountability aides are responsible for facilitating the implementation of protective actions (evacuation or take cover) and the accountability of personnel after the protective actions have been implemented. Staging Area Managers coordinate/conduct activities at the staging area. Staging Area Managers and Personnel Accountability Aids are trained annually and are required to participate in two drills per year. In addition, the BED may identify additional support personnel (Radiological Control, Maintenance, Engineering, Hazardous Material Coordinators, etc.) to be part of the Facility/Building Emergency Response Organization. Sections 13.0 of this plan discusses the location of information regarding positions, names, and telephone numbers. Copies are distributed to appropriate facility locations and to the Hanford Site Emergency Preparedness organization.

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion which could threaten human health or the environment (RCRA Emergency) has occurred at the facility. The RCRA Emergency determination process is described in DOE/RL-94-02, Section 4.2.

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911)

must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

5.0 FACILITY HAZARDS

This section describes hazards that pose significant risks to human health or the environment and identify quantitative values for those risks.

5.1 Hazardous Materials

Potentially hazardous materials at the 242-A Evaporator are used for normal maintenance and support functions. These could include acids, caustics, oils, diesel fuel and solvents. Diesel fuel also presents a flammability hazard. A significant release of materials would be classed as a WAC 173-303 or DOE Emergency.

Material Safety Data Sheets (MSDSs) are at the following locations:

- 2025EA Building:
  - Room 101
  - Room 104
- 2025E Building
  - Maintenance Shop, Room 103
  - Control Room
- 242-A Evaporator Control Room.

5.2 Industrial Hazards

Industrial hazards associated with the 242-A Evaporator include electrical equipment, pressurized equipment, high temperature equipment, rotating equipment, confined spaces, and compressed gas cylinders. These industrial hazards do not pose a threat to the health and safety of the general public or the environment. Industrial hazards are addressed in the building health and safety plan and maintenance programs.

5.3 Dangerous/Mixed Waste Hazards

5.3.1 Solid Form

Dangerous/mixed waste is generated at the 242-A Evaporator during sampling, decontamination, and maintenance activities. This waste is accumulated in a designated accumulation area south of the 242-A Building and transported to a 90-day accumulation area when required.

5.3.2 Liquid Form

Highly radioactive mixed waste solution is processed at the 242-A Evaporator and contained in the vapor-liquid separator, C-A-1, and ancillary equipment. Low radioactive, mixed waste solution is contained in the condensate collection tank, C-100, and ancillary equipment.

Although the mixed waste solution contains chemicals that are hazardous (primarily ammonia and sodium hydroxide), the bounding consequence for spills or releases of this waste are based on its radiological components. Major radioactive isotopes and potential concentrations in the waste are shown in Table 1.

Table 1. Major Contributors to the 242-A Evaporator Waste Bounding Source Term

Isotope	Bq/L	Ci/L
Sr-90	8.14E+09	2.20E-01
Ru-106	1.96E+09	5.30E-02
Cs-137	5.55E+10	1.50E+00
Pu-239	5.92E+06	1.60E-04
Pu-241	5.55E+08	1.50E-02
Am-241	3.70E+07	1.00E-03

The total volume of the vapor-liquid separator and recirculation loop (85,000 to 95,000 liters) is used to determine the potential radiological hazard. Sr-90 and Cs-137, along with their daughter products (Y-90 and Ba-137m), are the primary radiological hazards. Ru-106, Pu-239, Pu-241, and Am-241 also are significant contributors.

5.3.3 Gaseous Form

A waste blending error in the DST system potentially could generate large amounts of ammonia gas from the 242-A Evaporator vent system during processing.

5.4 Radioactive Materials

Radioactive material in solid form consists of waste materials which have not contacted mixed waste solutions. Radioactive waste materials removed from radiation areas are packaged and transported to an approved radioactive waste storage facility.

Radioactive materials in liquid form are mixed wastes and are described in Section 5.3.2.

Radioactive materials in gaseous form are emitted from the vessel vent and building exhaust ventilation systems. These systems have HEPA filters to remove radioactive particulate, reducing emissions to acceptable discharge levels. Failure of HEPA filters could result in a loss of confinement as described in Section 6.1.8.

5.5 Criticality

A criticality is not a credible accident at the 242-A Evaporator.

6.0 POTENTIAL EMERGENCY CONDITIONS

Potential emergency conditions, under both WAC 173-303 and DOE guidance, may include one of three basic categories: operations (process upsets, fires and explosions, loss of utilities, spills, and releases), natural phenomena (earthquakes and storms), and security contingencies (bomb threats, hostage situations, etc.). The following are conditions that may lead to an emergency situation (WAC or DOE defined) at the 242A Evaporator and require the implementation of this plan.

Potential radioactive/dangerous/mixed waste release modes include fires, explosions, spills, or releases. These events are evaluated based on the potential impact to operations and subsequent release of waste materials. Potential consequences to human health or the environment are the ultimate criteria for event classification and protective response actions. Additionally, prolonged small releases are evaluated for their potential to impact human health or the environment.

6.1 Operations Emergencies

The conditions for operations emergencies are present only when mixed waste is present in the vapor-liquid separator, C-A-1, recirculation loop, and ancillary equipment.

6.1.1 Loss of Utilities

6.1.1.1 Loss of Electrical Power

A loss of electrical power could lead to a loss of compressed air, causing the vapor-liquid separator, C-A-1, drain valves to open and suddenly dump the contents to DST system tank 241-AW-102. A potential over pressurization and subsequent radiological release could occur from that tank. Mitigating actions for a radiological release from the DST system are taken per the tank farms emergency procedures.

A loss of electrical power would interrupt processing but would not produce an emergency event at the 242-A Evaporator.

6.1.1.2 Loss of Compressed Air

A loss of compressed air would cause the vapor-liquid separator, C-A-1, drain valve to open and suddenly dump the contents to DST system tank 241-AW-102. A potential over pressurization and subsequent radiological release could occur from that tank. Mitigating actions for a radiological release from the DST system are taken per the tank farms emergency procedures.

A loss of compressed air would interrupt processing but would not produce an emergency event at the 242-A Evaporator.

6.1.1.3 Loss of Raw Water

Raw water can be used as seal water for the mechanical seals on P-B-1 recirculation pump and P-B-2 slurry pump when the normal supply of process condensate is not available. If raw water is supplied to the seals, and loss of raw water occurs, failure of mechanical seals could occur, causing a spray release of mixed waste into the facility.

The spray release scenario is discussed in Section 6.1.8. Interlocks are provided to stop the pumps on low seal water flow.

Raw water supplies cooling water to the EC-1, EC-2, and EC-3 condensers. Loss of raw water during facility operation will cause high temperatures in TK-C-100, which will result in a major process upset.

Raw water supplies cooling to the air compressors, with sanitary water available as a backup. If loss of raw water occurs, and backup cooling by sanitary water is not initiated within 15 to 20 minutes, the air compressors could overheat, causing a loss of compressed air. A loss of compressed air is discussed in section 6.1.1.2.

6.1.1.4 Loss of Sanitary Water

If sanitary water is supplying cooling to the air compressors with raw water unavailable, the air compressors could overheat causing a loss of compressed air. A loss of compressed air is discussed in section 6.1.1.2.

6.1.1.5 Loss of K1 or Vessel Ventilation System

The K1 ventilation system maintains contaminated areas of the 242-A Building at a negative pressure (with respect to atmospheric) to prevent contamination spread to uncontaminated areas. The ventilation system includes two stages of high efficiency particulate air (HEPA) filters, two exhaust fans, and stack sampling and monitoring equipment. Both fans are electrically powered, however the backup fan can be powered by a diesel powered standby generator. The fans are interlocked so that if primary electrical power is lost, the backup fan automatically starts once the generator is on line. The K1 ventilation system is interlocked to shut down the primary fan and prevent the secondary fan from starting if high radioactive particulate level is detected in the exhaust stream.

The vessel ventilation system maintains the condenser vent system and the C-100 tank under vacuum to prevent contamination spread from the processing equipment to the rooms. The vessel vent system includes a demister, prefilter, heater, two HEPA filters in series, an exhaust fan, and stack sampling and monitoring equipment. The vessel ventilation monitoring system alarms in the control room if high radiation is detected.

The K1 and vessel ventilation systems are required for 242-A Evaporator processing. A loss of either ventilation system would require the 242-A Evaporator to be shut down but would not result in an emergency condition. A ventilation system shutdown due to a radiological material release is discussed in section 6.1.8.1. A loss of confinement is discussed in section 6.1.8.3.

6.1.1.6 Loss of Steam

A loss of steam would interrupt the processing but would not produce an emergency event. Emergency planning is not required.

6.1.2 Major Process Disruption/Loss of Plant Control

A major process disruption/loss of plant control can be caused by failure of the Monitor and Control System (MCS) computer. A loss of MCS could cause the vapor-liquid separator, C-A-1, drain valve to open and suddenly dump the contents to DST system tank 241-AW-102. A potential over pressurization and subsequent radiological release could occur from that tank. Mitigating actions for a radiological release from the DST system are taken per tank farms emergency procedures.

6.1.3 Pressure Release

Consequences of a pressure release of mixed waste during processing are radiological in nature and are discussed in Section 6.1.8.

6.1.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes. Flying debris could result from explosions or compressed gas cylinder failure. Process system disruption, loss of plant control, and breach of process system boundaries could result from the flying debris.

If mixed waste is present in the vapor-liquid separator, C-A-1, process recirculation loop, and ancillary equipment, and a fire occurs in the control room, aqueous makeup room, HVAC room, condenser room, pump room, or evaporator room lasting longer than 30 minutes and requiring fire department actions for suppression, emergency classification should be made per criteria stated in DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

If an explosion is confirmed to have occurred at the 242-A Evaporator and the explosion threatens areas containing hazardous chemicals and/or radioactive material, or if the explosion breaches the external 242-A Building walls when the vapor-liquid separator contains solution, emergency classifications are per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.5 Hazardous Material Spill or Release

A waste blending error in the DST system potentially could generate large amounts of ammonia gas from the 242-A Evaporator vent system during processing. Ammonia stack releases of more than 5 grams per second (40 pounds per hour and ammonia stack releases of more than 38 grams per second (300 pounds per hour) meet emergency criteria stated in DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.6 Radioactive/Mixed Waste Spill

The hazards consequences for mixed waste releases are radiological. Radiological releases are discussed in Section 6.1.8.

6.1.7 Transportation and/or Packaging Incidents

A transportation and/or packaging incident involving hazardous chemicals or samples could result in exposure to hazardous and radioactive materials. Potential environmental damage by their release could also occur.

6.1.8 Radiological Material Release

6.1.8.1 Ventilation System Release

If a mixed waste release causes K1 ventilation or vessel ventilation system high radiation, it is necessary to quickly assess whether any radioactive material was released. If there is a release of radioactive material, emergency classification will be made per criteria stated in DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.8.2 Release of Mixed Waste into Facility

A catastrophic release of mixed waste into the Pump or Evaporator rooms would necessitate an emergency classification per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.8.3 Loss of Confinement

If a loss of confinement in the 242-A Building occurs, along with a loss of negative pressure in radiation areas, emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.9 Criticality

A criticality is not a credible accident at the 242-A Evaporator.

6.2 Natural Phenomena

Natural phenomena are discussed in the following sections.

6.2.1 Seismic Event

Depending on the magnitude of the seismic event, severe structural damage could occur at the 242-A Evaporator, resulting in serious injuries or fatalities and the release of hazardous or radioactive materials to the environment. Damaged electrical circuits and wiring could result in the initiation of fires.

Any seismic event that is felt by personnel, with some minor facility damage, and disturbance of tall objects at the 242-A Evaporator locations that house hazardous chemicals and/or radioactive materials requires classification per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. An emergency classification upgrade could occur based on facility conditions

and/or actual hazardous material or radioactive/dangerous/mixed waste releases determined by personnel assessing quake damage.

6.2.2 Ashfall/Snow Fall Roof Overloading

Ash or snow accumulation causing actual roof or other structural damage to buildings containing hazardous material or radioactive/dangerous/mixed waste requires classification per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. There should be ample warning of an approaching large ashfall to allow the facilities to be placed in a stable condition.

6.2.3 High Winds/Tornados

When sustained wind speeds in excess of 40 meters per second (90 miles per hour) are observed and cause degradation of the facility safety equipment/confinement barriers, emergency classification is made per *DOE-0223, Emergency Plan Implementing Procedure*, Appendix 1-2.M. An emergency classification upgrade could occur based on actual facility damage or release of hazardous materials, radioactive/dangerous/mixed waste.

6.2.4 Flood

A flood is not a credible accident at 242-A Evaporator because the facility is not within the Columbia River flood plain.

6.2.5 Range Fire

In the event that a range fire threatens any 242-A Evaporator building containing hazardous material or radioactive/dangerous/mixed waste, emergency classification is made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.2.6 Aircraft Crash

If an aircraft crash occurs into or near the 242-A Evaporator, emergency classification is made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. An emergency classification upgrade could occur based on actual facility damage or release of hazardous material or radioactive/dangerous/mixed waste.

6.3 Security Contingencies

6.3.1 Bomb Threat/ Explosive Devices

Bomb threats may pose a fire or explosion hazard. Fire or explosion from a bomb could lead to the release of hazardous constituents or materials and exposure and bodily harm to personnel. Emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. If an explosive device detonates, classification of the event will be performed as stated in Section 6.1.4.

6.3.2 Hostage Situation/Armed Intruder

A hostage situation or the entry of an armed hostile intruder(s) at the 242-A Evaporator can pose an emergency if either of these conditions has the potential to adversely affect facility operations. An emergency classification upgrade could occur based on actual facility damage or release of hazardous material or radioactive/dangerous/mixed waste.

6.3.3 Suspicious Object

The major effect on the facility due to recognizing a suspicious object is that the facility should be placed in a safe configuration, if time permits, and the facility evacuated.

7.0 INCIDENT RESPONSE

The initial response to any emergency is to immediately protect the health and safety of persons in the immediate area. Identification of released material is essential to determine appropriate protective actions. Containment, event notifications, treatment, and disposal assessment are secondary responses.

The following sections describe the process for implementing basic protective actions as well as descriptions of response actions for the events listed in Section 6.0 of this plan. DOE/RL-94-02, Section 1.3, provides concept of operations for emergency response on the Hanford Site.

Incident responses are coordinated from the 242-A Evaporator control room or a designated alternate location.

7.1 Protective Actions Responses

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility due to an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation is directed by the BED when conditions warrant and applies to all personnel not actively involved in the event response or in emergency plan-related activities.

The BED initiates the evacuation by directing an announcement be made to evacuate along with the evacuation location over the public address system and facility radios, activate the evacuation siren (steady siren) for three minutes, and, as conditions warrant, by activating the 200 Area evacuation alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 1), or other safe upwind location, as determined by the BED. The BED determines the operating configuration of the facility and identifies any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability is performed at the staging area. The BED assigns personnel as accountability aides and staging area managers with the responsibility to ensure that evacuation actions are taken at the 242-A and 242-AB Buildings. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers provide a status report to the BED. The BED provides status to the Incident Commander.

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED initiates the take cover by directing an announcement be made over the public address system and facility radios, by activating the take cover siren (wavering siren) for three minutes, and, as conditions warrant, by activating the 200 Area take cover alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Actions to complete a facility take cover order are directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover actions is based on operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard are minimized. The BED assigns personnel as accountability aides with responsibility to ensure that take cover actions are taken at all occupied buildings at the 242-A Evaporator. All implementing actions executed by the aides/managers are directed by the emergency response procedures in Attachment A. When take cover actions are complete the aides/managers provide the BED with a status report.

7.2 Response to Facility Operations Emergencies

If there is a potential for categorization of an Occurrence or classification into an Alert, Site Area or General Emergency, in the following facility operations emergency sections, reference shall be made to the site facility occurrence reporting procedure or the event recognition and classification procedure using the following statement,
"Depending on the severity of the following events, the BED reviews the site-wide procedures and facility-specific procedure (s) and, as required, categorizes and classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation." The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events.

7.2.1 Loss of Utilities

7.2.1.1 Loss of Electrical Power

Should there be a loss of electrical power to the 242-A Evaporator, all personnel are evacuated from radiation areas due to the potential loss of radiation monitoring equipment (i.e., continuous air monitors, area radiation monitors). In addition, all non-

essential personnel leave the facility. Access into the radiation and adjacent areas is restricted to response personnel who are properly clothed and equipped. Radiation monitoring by radiological control personnel is established, and facility operations are properly shutdown to a safe configuration.

If back-up power is not automatically placed in service, the diesel powered standby generator is manually placed in service. Operation of the Backup K1 Ventilation system exhaust fan is checked and, if not operating, actions are taken to start the fan (K1-5-2), or to secure the confinement area. If an exhaust fan is operating, verification is made that the exhaust stack radiation monitor is returned to service.

If the evaporator is in operation mode and a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending pressurization of DST system tank 241-AW-102. The 200 East Area Tank Farms Shift Manager is notified of the event as is the 242-A Evaporator plant management.

All implementing actions executed by the aides/managers are directed by the emergency response procedures in Attachment A.

7.2.1.2 Loss of Compressed Air

Upon loss of the compressed air at the 242-A Evaporator, restoration of the air supply system is immediately attempted. If this fails, non-essential personnel are notified to exit the facility. Automatic dumping of the C-A-1 vessel is stopped; the vessel could dump later when air pressure that holds the drain valve fails open. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending pressurization of DST system tank 241-AW-102.
Plant conditions are monitored as components fail and shutdown interlocks activate, and the facility is placed into a safe shutdown condition. The K1 ventilation system is monitored for potential failure due to loss of damper control (caused by loss of air supply), and plant management is notified of the facility condition. A backup air compressor is placed in service as soon as possible.

7.2.1.3 Loss of Raw Water

On loss of the raw water system, 242-A Evaporator personnel are immediately notified, and non-essential personnel are directed to leave the facility. Essential personnel are directed to the 242-A Evaporator control room for support as required. The P-B-1 and P-B-2 pumps are shutdown to prevent damage to the mechanical seals. If seal water is being supplied by the process condensate system, pump operation may continue through a controlled shutdown. The compressors are placed on sanitary water cooling. If air compressor failure occurs due to loss of cooling water, the automatic dumping of the C-A-1 vessel is terminated; the vessel could dump later when air pressure that holds the drain valve fails open. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102. The 200 East Area Tank Farms Shift Manager is notified of the facility condition.

Facility operations are properly shutdown, and plant management is notified of the facility condition.

7.2.1.4 Loss of Sanitary Water

On loss of the sanitary water, 242-A Evaporator Operations personnel perform the following:

1. Notify facility personnel
2. Ensure all air compressors are placed on raw water cooling
3. Ensure all chemical operations are terminated until safety showers and eye wash stations are operational (i.e., return of sanitary water system).

7.2.1.5 Loss of K1 Ventilation System

On loss of the K1 ventilation system, restoration of the primary or backup K1 ventilation exhaust fan is immediately attempted. If the K1 ventilation system cannot be restored immediately, personnel are notified to exit contaminated areas, and non-essential personnel are directed to exit the facility. Essential personnel report to the 242-A control room for support as required. Continued adequate contamination control is ensured by having the K2 ventilation system operating. The K2 ventilation system maintains positive pressure in non-contaminated areas. If the primary and backup K1 ventilation system exhaust fans are not running, actions are taken to shutdown the facility and restrict access to contamination areas. Plant management is notified of facility conditions.

7.2.2 Major Process Disruption/Loss of Plant Control

Upon loss of the MCS, the 242-A Evaporator Shift Operations Manager is notified while an attempt is made to return the MCS to service. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102. Non-essential personnel exit the 242-A Evaporator facility.

The system condition is assessed, and corrective actions are implemented. Operations are placed on recirculation by securing the slurry pump and waste feed to the plant. Facility shutdown is accomplished by performing manual, localized actions such as system isolation, equipment shutdown, etc.

7.2.3 Pressure Release

If mixed waste release occurs, perform actions identified in Section 7.2.5.

7.2.4 Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire

alarm pull station, contacts 911 to request fire fighting assistance, and contacts the 242-A Evaporator control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The Building Emergency Director interfaces with the Hanford Fire Department and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.

b. Location and severity of fire.

c. Known hazardous (radiological and nonradiological) conditions.

d. Facility operating status.

e. Utility systems status.

f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).

g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).

h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

7.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spills or Releases

The 242A Evaporator has engineering controls to contain or minimize spills. These controls include containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. The 242A Evaporator procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazard induced by the presence of radioactive materials.

If a spill or release is discovered, the discoverer performs the following actions:

1. Notifies the 242-A Evaporator control room and evacuates to a safe area

2. Remains available for consultation with the BED, Hanford Fire Department, or other emergency response personnel.

The control room operator performs the following actions:

1. Uses the public address system to notify the facility occupants of the event

2. Notifies the BED/HFD and relays information received from the event scene

3. Places the facility in a safe condition

4. Remains available to support further notification and response activities

The BED performs or arranges for personnel to perform the following actions:

1. Coordinates response activity and establishes a command post at a safe location

2. Obtains all available information pertaining to the incident and determines if the spill or release warrants implementation of the contingency plan in accordance with Sections 4.0, 6.1.5, and 6.1.8. In the case of ammonia releases, described in Section 6.1.5, this information includes monitoring stack ammonia concentrations.

3. Determines need for assistance from outside agencies and arranges for their mobilization and response

4. Initiates the appropriate announcements, if building or area evacuations are necessary

5. Arranges for care of any injured persons

6. Requests activation of the affected area emergency sirens/crash alarm system if a threat to surrounding facilities

7. Provides for event notification

8. Maintains access control at the incident site by keeping unauthorized personnel and vehicles away from the area. Security personnel can be used to assist in site control if control of the boundary is difficult. In determining controlled access areas, considers environmental factors such as wind speed and direction

9. Arranges for proper remediation of the incident after evaluation

10. Remains available for HFD, Hanford Patrol, and other authorities on the scene and provide all required information

11. Enlists the assistance of alternate BED(s), if around-the-clock work is anticipated

12. Ensures the use of proper protective equipment, remedial techniques (including ignition source control for flammable spills), and decontamination procedures by all involved personnel, if remediation is performed by 242-A Evaporator personnel

13. Remains at the incident command post to oversee activities and to provide information, if remediation is performed by the HFD Hazardous Materials Response Team or other response teams

14. Ensures proper containerization, packaging, and labeling of recovered spill materials and overpack containers

15. Ensures decontamination (or restocking) and restoration of emergency equipment used in the spill remediation before resuming operations

16. Provides required reports after the incident.

7.2.5.1 Damaged and/or Unacceptable Shipments

The 242-A Evaporator does not receive dangerous or mixed waste shipments.

7.2.6 Radiological Material Release

7.2.6.1 K1 Ventilation or Vessel Ventilation System Release

If high radiation alarms or HEPA filter failure indicate a radiological material release from the K1 ventilation or vessel ventilation system, the ventilation system is immediately shutdown. A near contact radiation survey is performed on a ventilation system sample filter to determine extent of the radiological material released. The actions described in Section 7.2.5 are then performed.

7.2.6.2 Release of Mixed Waste into Facility

If a catastrophic dumping of mixed waste from vapor-liquid separator C-A-1 occurs, the facility is immediately shutdown. AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102. The 200 East Area Tank Farms Shift Manager is notified of facility condition. The actions in Section 7.2.5 are then performed.

If a catastrophic dumping of the vapor-liquid separator causes high radiation alarm on the K1 ventilation system, the actions described in Section 7.2.6.1 are performed.

7.2.6.3 Loss of Confinement

If a loss of confinement occurs, the proper operation and lineup of the K1/K2 ventilation systems are verified. The actions described in Section 7.2.5 are performed. If the high radiation alarm on the K1 ventilation system is actuated, the actions described in Section 7.2.6.1 are performed. If the loss of confinement results in a radiological release outside the facility, the actions described in Section 7.1.2 are performed.

7.2.7 Criticality

A criticality is not a credible accident at the 242-A Evaporator.

7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, in coordination with emergency response organizations, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The area of the initial incident is isolated by shutting off power, closing off ventilation systems, etc. The affected area containment is inspected for leaks, cracks, or other damage and for toxic vapor generation. Released material and waste remaining inside of containment structures are removed as soon as possible, and residual waste material is contained and isolated using dikes and adsorbents. Outside areas where residual released materials remain are covered or otherwise stabilized to prevent migration or spread from wind or precipitation run-off.

New structures, systems, or equipment are installed as required based on engineering evaluations to enable better management of hazardous materials or dangerous waste. Adjacent operations in affected areas are reactivated only after residual waste materials are removed to levels acceptable to control contamination spread.

7.4 Response to Natural Phenomena

Depending on the severity of the event, the BED reviews the facility event recognition and classification procedure and, if required, classifies the event and initiates area protective actions and site emergency response organization activation. If other emergency conditions arise as a result of a natural phenomena event, response is appropriate for the condition created. For example: A fire due to lightning initiates the fire response actions and a spill of hazardous material due to an earthquake initiates spill response actions.

7.4.1 Seismic Event

The Hanford Site emergency response organization's primary role in a seismic event is coordinating the initial response to injuries, fires, and fire hazards, and acting to contain or control radioactive and/or hazardous material releases.

Individuals should remain calm and stay away from windows, steam lines, and hazardous material storage locations. Once the shaking has subsided, individuals evacuate carefully and assist personnel needing help. The locations of any trapped individuals are reported to the BED or are reported to 911 or 373-3800.

The BED takes whatever actions are necessary to minimize damage and personnel injuries, including:

- Coordinating searches for personnel and potential hazardous conditions (fires, spills, etc.),
- Conducting personnel accountability,
- Securing utilities and facility operations,
- Arranging for rescue efforts, and notifying 911 or 373-3800 for assistance,
- Determining if hazardous materials were released,
- Determining current local meteorological conditions,
- Warning other facilities and implementing protective actions if release of hazardous materials poses a danger,
- Providing personnel and resource assistance to other facilities.

7.4.2 Volcanic Eruption/Ashfall

When notified of an impending ashfall, the BED implements measures to minimize the impact of the ashfall, including the following:

- Installing filter media over building ventilation intakes,
- Installing filter media or protective coverings on outdoor equipment that could be adversely affected by the ash (diesel generators, equipment rooms etc.),
- Shutting down some or all operations and processes,
- Sealing secondary use exterior doors,

7.4.3 High Winds/Tornados

On notification of impending high winds, the BED takes steps necessary to secure all outside doors and windows, and secure all outdoor waste and hazardous material handling activities. All doors and windows are shut, and personnel are warned to use extreme caution when entering or exiting the building.

7.4.4 Flood

Flooding of the 242-A Evaporator is not credible.

7.4.5 Range Fire

Responses to range fires are handled by preventive measures (i.e., keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the facility boundary, the response is as described for a fire.

7.4.6 Aircraft Crash

Response to an aircraft crash is appropriate for the condition created. For example, a fire due to explosion or electrical shorts, initiates the fire response actions specified in Section 7.2.4.

7.5 Security Contingencies

Depending on the severity of the event, the BED reviews the facility event recognition and classification procedure and, if required, classifies the event and initiates area protective actions and site emergency response organization activation.

7.5.1 Bomb Threat/ Explosive Device

7.5.1.1 Telephone Threat

Personnel receiving telephoned threats attempt to get as much information as possible from the caller. A form is available for personnel to keep by their telephone to use as a guide for getting useful information from the caller. On conclusion of the call, personnel notify the BED and Security.

The BED evacuates the facility and questions personnel at the staging area regarding any suspicious objects in the facility. When Security personnel arrive, their instructions are followed.

7.5.1.2 Written Threat

Receivers of written threats handle the letter as little as possible and notify the BED and Security. Depending on the content of the letter, the facility may or may not be evacuated. The letter is turned over to Security personnel and their instructions are followed.

7.5.2 Hostage Situation/Armed Intruder

The discoverer of a hostage situation/armed intruder reports the situation to the BED and to the POC via 911 or 373-3800, if possible. The BED, after conferring with Security personnel, may covertly evacuate areas of the facility not observable by the hostage taker(s)/intruder. No alarms will be sounded.

Security will determine the remaining response actions and will activate the Hostage Negotiating Team, if necessary.

7.5.3 Suspicious Object

The discoverer of a suspicious object reports it to the BED and to the POC via 911 or 373-3800, and, if possible, ensures that the object is not disturbed.

The BED orders evacuation of the facility and (based on the description provided by the discoverer) attempts to determine the identity or owner of the object. This may be done by questioning facility personnel at the staging area.

If the identity/ownership of the object cannot be determined, then Security assumes command of the incident. The canine unit is used to determine if the package contains explosives. If there is a positive indication of explosives or it cannot be assured that there are no explosives, then the Richland Police Department's Emergency Ordinance Disposal Team is dispatched to the facility to properly dispose of the device.

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS

The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 9.0, describes these considerations. The extent by which these actions are employed is based upon the incident classification of each event. In addition, DOE/RL-94-02 contains considerations for the management of incompatible wastes, which may apply.

8.1 Termination of Event

For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the Hanford-EOC is not activated, the incident command system and staff declare event termination.

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a RCRA emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1 discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.

2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that

Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford-EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

8.4 Post-Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumable and disposed materials are restocked. Fire extinguishers are recharged or replaced.

The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc.

9.0 EMERGENCY EQUIPMENT

Hanford Site emergency resources and equipment are described and listed in DOE/RL-94-02, Appendix C.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT

TYPE	LOCATION	CAPABILITY
Safety shower/eye wash station	1 - Aqueous makeup room - south side. Next to truck load-in airlock and chem storage tank. 1 - Condenser room basement, SE corner. 1 - Condenser room 4th floor	Assist in flushing chemicals/materials from body and/or eyes and face.
Wet pipe sprinkler system	Located throughout the facility.	Assist in the control of fire.
Fire alarm pull boxes	Located throughout the facility.	Activates the building fire alarm and notifies the HFD.
Emergency lighting - (lanterns)	Located throughout the facility	Provide 1 hour of temporary lighting.
Back-up diesel generator	50 ft SE of the 242-A main entrance	Provide back-up power.

9.2 Portable Emergency Equipment

PORTABLE EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITIES
General purpose fire extinguishers	Throughout the 242-A Evaporator facility.	Fire suppression for class A,B,C, fires.
Halon fire extinguishers	Two in control room.	Suppress electrical fires.

9.3 Communications Equipment/Warning Systems

COMMUNICATIONS EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire alarms	Located throughout the facility in halls, corridors, and locker rooms.	Audible throughout the 242-A Evaporator Building
Roof siren	242-A Evaporator roof	Provide warning to personnel to take cover or evacuate.
Operations process alarms (from MCS or hard wired alarm panels)	242-A Evaporator control room	Audible in the 242-A Evaporator control room.
Public address system (PAX)	Located throughout the 242-A Evaporator Building (except in pump and evaporator rooms)	Provides communications and public address capabilities.
Portable Radios	242-A control room	Communication to the 242-A control room.
Telephone	242-A control room, office area's, AMU room, and condenser room.	Internal and external communications. Allows notification of outside resources (HFD, Hanford Patrol, etc.)
Crash alarm	242-A control room	Audible in the 242-A control room

9.4 Personal Protective Equipment

PERSONNEL PROTECTIVE EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Self-contained breathing apparatus (SCBA)	Two located in the 242-A Evaporator control room	Provides breathable air for initial response to emergency, and recovery activities when required
Respirators	242-A respirator storage room	Filtered air for recovery of known hazards

9.5 Spill Control and Containment Supplies

SPILL KITS AND SPILL CONTROL EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Organic and inorganic spill kits.	Survey area next to personnel protective equipment storage room, wall mounted	Provides spill control for organic and inorganic materials

9.6 Incident Command Post

For emergencies not requiring evacuation, the BED and support personnel will assemble in the 242-A Evaporator control room, or other location as identified by the BED.

10.0 COORDINATION AGREEMENTS

DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Section 3, Table 3-1.

11.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Section 5.1.

12.0 PLAN LOCATION

Copies of this plan are maintained at the following locations:

- 242-A Evaporator Control Room
- 200 Area Effluent Treatment Facility Control Room
- Operations Managers Office (Building 2025EA Room 101)
- 200 Area LWPF Regulatory File

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

TITLE	WORK LOCATION	WORK PHONE
Shift Operation Manager (SOM)	242-A Evaporator control room or 200 Area Effluent Treatment Facility Control Room	373-2737, Evap control room 373-4446, Evap shift office 373-0993, ETF shift office 373-9000, ETF control room
BED Qualified Shift Technical Authority	2025E	372-0000

Names and home telephone numbers of the BEDs and alternates are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

14.0 REFERENCES

DOE-232.1, "Occurrence Reporting and Processing of Operations Information," U.S Department of Energy, Washington D.C.

DOE/RL-94-02, *Hanford Emergency Management Plan.*

DOE-151.1 "Comprehensive Emergency Management System"

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington.

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

NIOSH, *Pocket Guide to Chemical Hazards*, National Institute of Occupational Safety and Health, U.S. Department of Health and Human Resources, Public Health Service, Centers for Disease Control, Washington, D.C.

ATTACHMENT A

Listing of Procedures and Documents

Site-Wide Procedures

DOE-0223, *Emergency Plan Implementing Procedures*:

- RLEP-1.1, "Hanford Incident Command System and Event Recognition and Classification," Appendix 1-2.M;

- RLEP-3.4, "Emergency Termination, Reentry, and Recovery."

Facility-Specific Emergency Response Procedures

- TO-685-001 Emergency Shutdown of Utility Support Systems
- TO-685-002 242A Evaporator Loss of Electrical Power
- TO-685-003 242A Evaporator Loss of Raw Water Systems
- TO-685-004 242A Evaporator Loss of K-1 Ventilation Systems
- TO-685-005 242A Evaporator Loss of the Steam Systems
- TO-685-006 242A Evaporator Loss of Compressed Air System
- TO-685-007 242A Evaporator Loss of MCS Control
- TO-685-008 242A Evaporator Pressure Hazards
- TO-685-009 Process Upset

- EP-685-010 242A Evaporator Evacuation
- EP-685-020 242A Evaporator Take Cover
- EP-685-030 242A Evaporator Volcanic Eruption and Ashfall
- EP-685-040 242A Evaporator Seismic Event
- EP-685-050 242A Evaporator Fire and/or Explosion
- EP-685-060 242A Evaporator High Radiation Area
- EP-685-070 242A Evaporator Bomb Threat
- EP-685-080 242A Natural Emergency/Security Contingency Event

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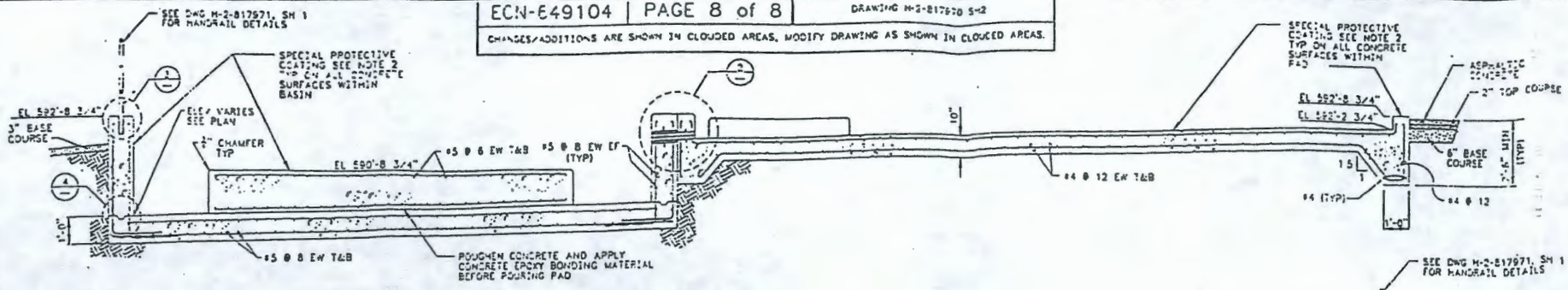

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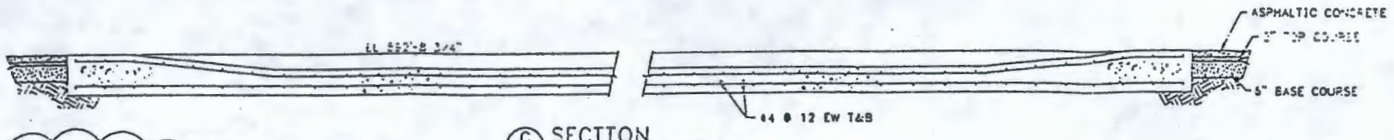

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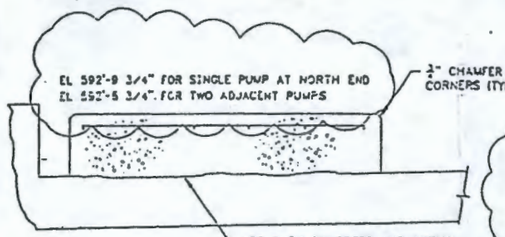

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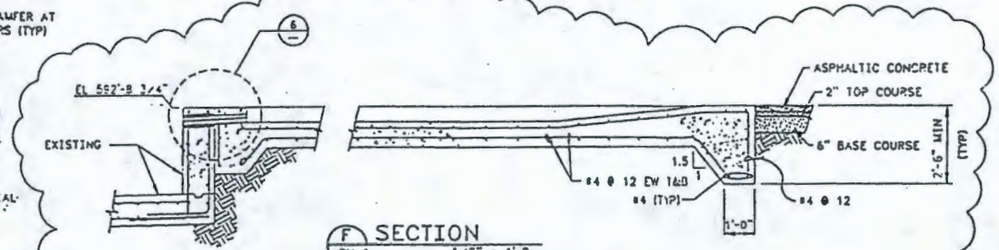

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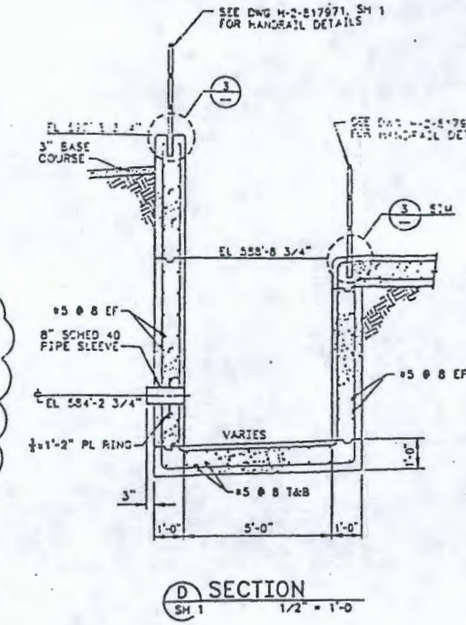

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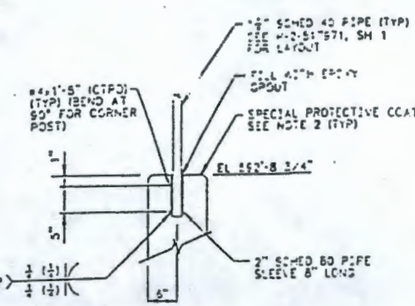

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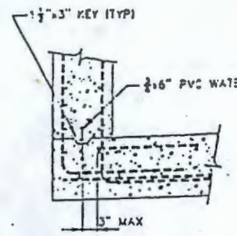

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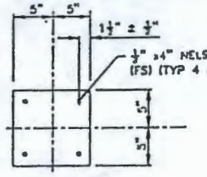

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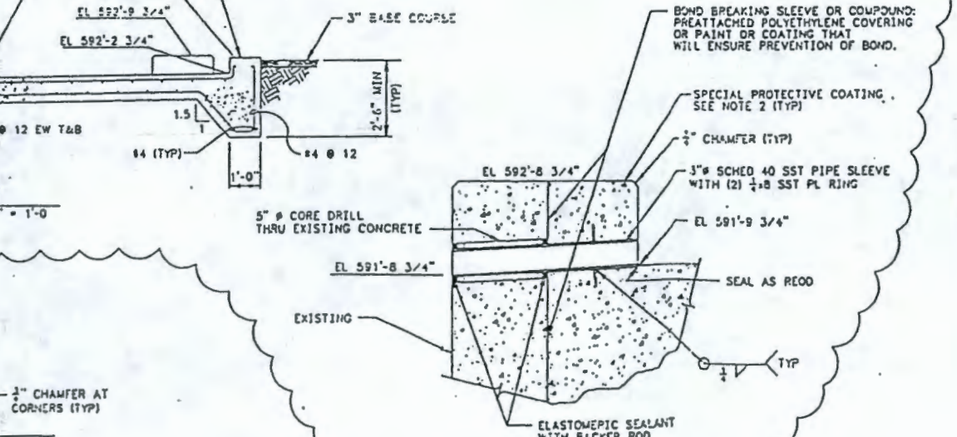

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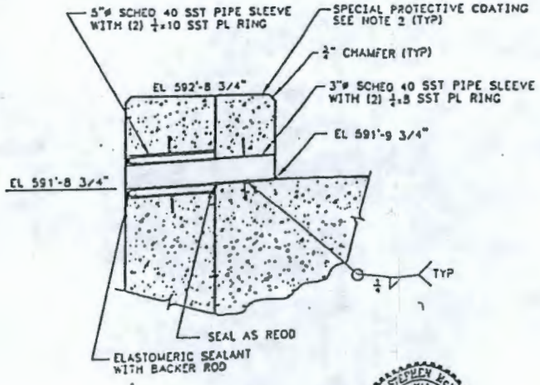

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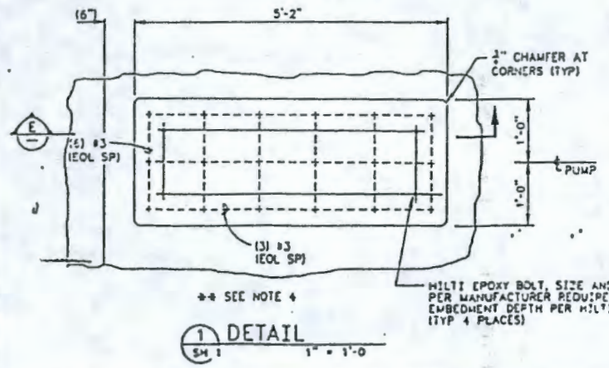

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NOTES

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2. SPECIAL PROTECTIVE COATING SHALL CONFORM TO SECTION 09805 OF THE SPECIFICATION.
3. WATERSTOPS SHALL BE PROVIDED CONTINUOUS AT ALL WALL CONSTRUCTION JOINTS BELOW ELEV 592'-8 3/4". SEE DETAIL 4
4. SEE DWG H-2-817988, SH 1 FOR CONDUIT PENETRATIONS.
5. SEE DWG H-2-817988, SH 2 FOR EMBEDDED GROUNDING GRID CABLE.

DAVID STEPHEN MCSHANE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 10/04/96

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AS-BUILT

U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
FOR KAISER HANFORD COMPANY

STRUCTURAL
ETF TRUCK LOAD-IN FACILITY
SECTIONS AND DETAILS

PROJECT W-291H 200 AREA EFFLUENT TREATMENT FACILITY

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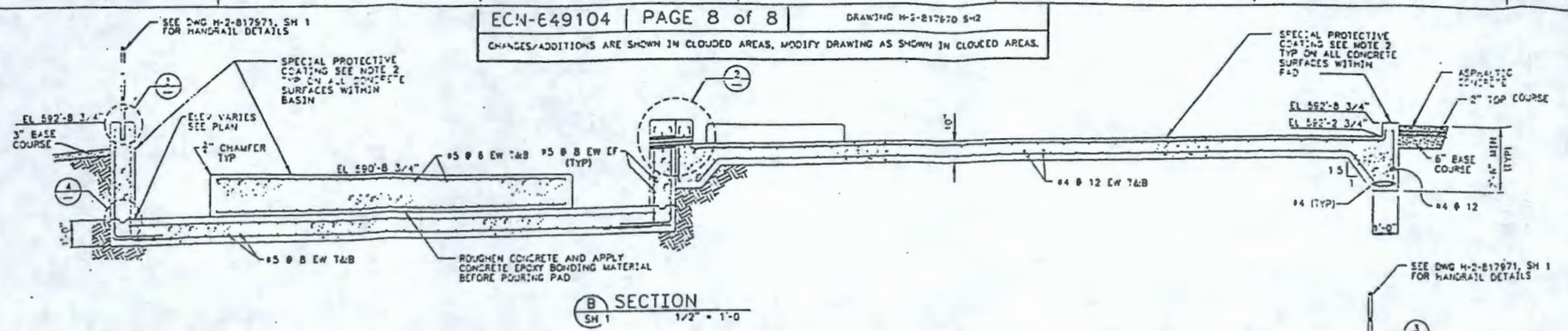

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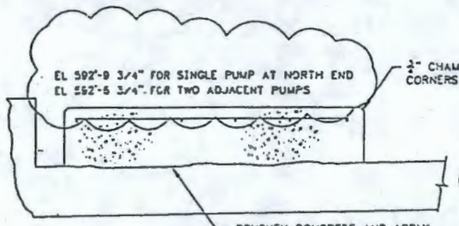

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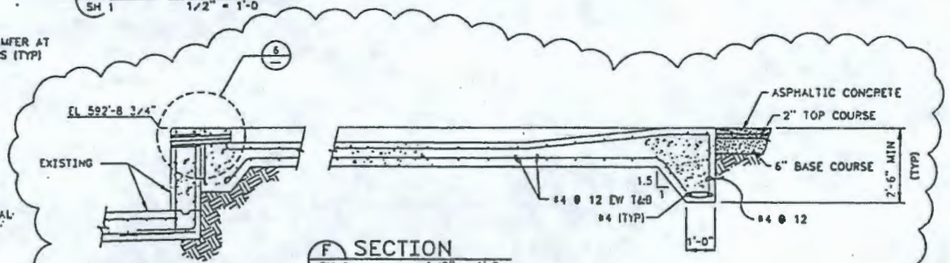

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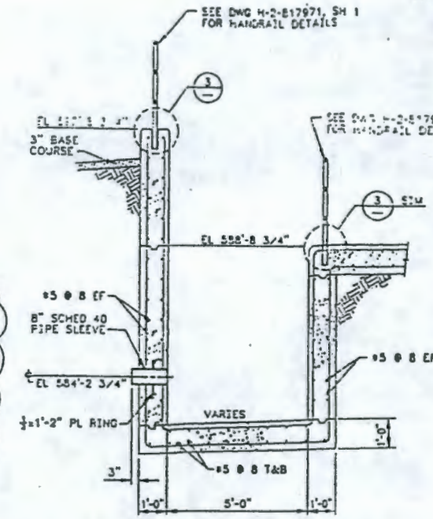

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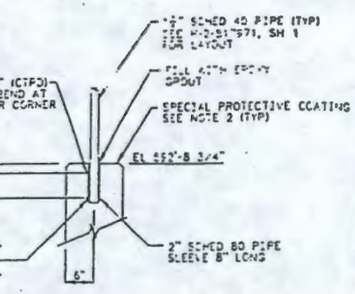

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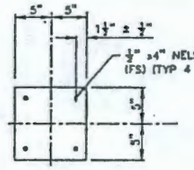

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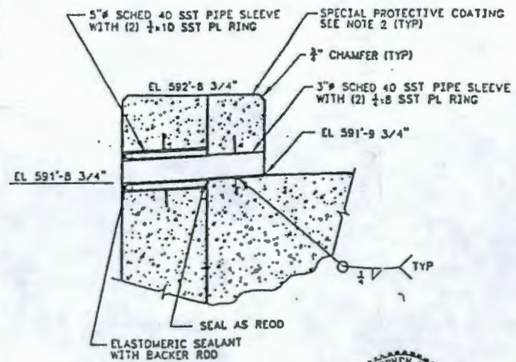

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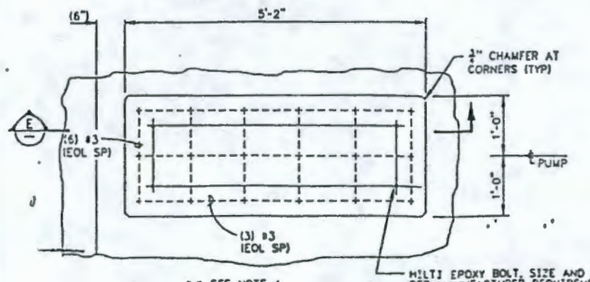

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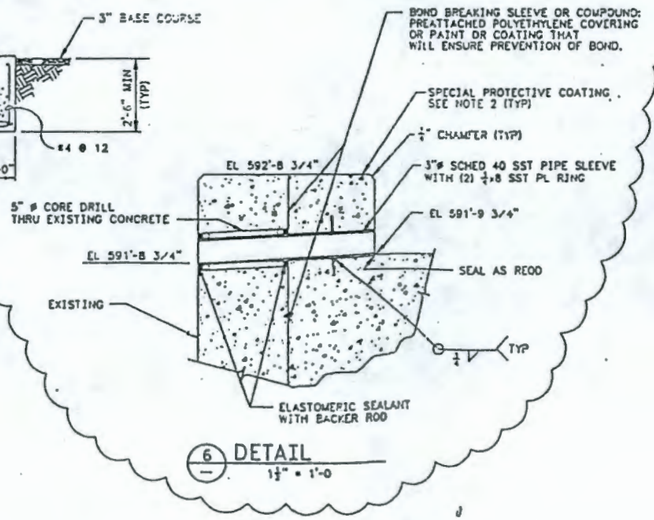

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5. SEE DWG H-2-817988, SH 2 FOR EMBEDDED GROUNDING GRID CABLE.

DAVID STEPHEN MCSHANE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 10/06/98

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LEAD DESIGNER	DAVID MCSHANE	
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ENGINEERING CHANGE NOTICE CONTINUATION SHEET

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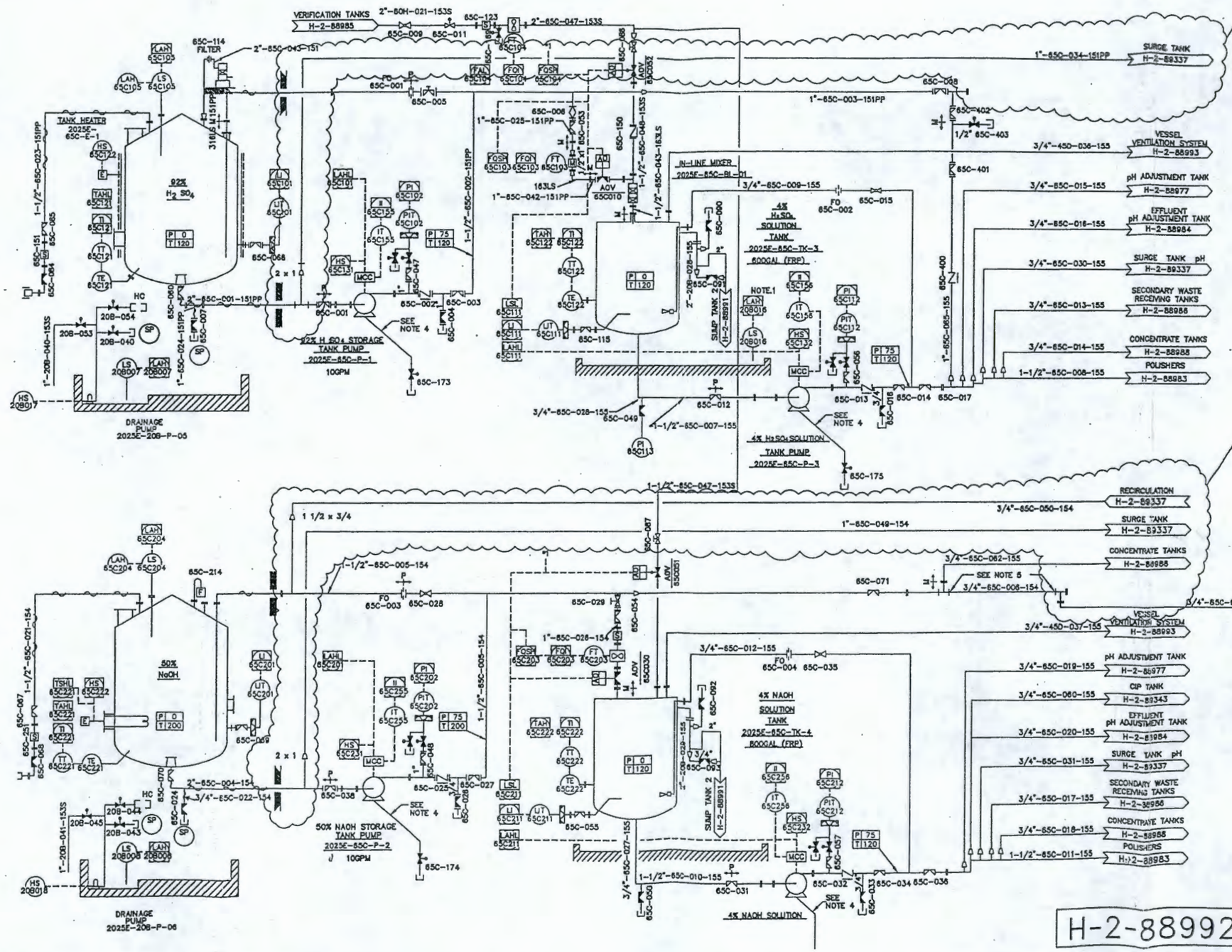

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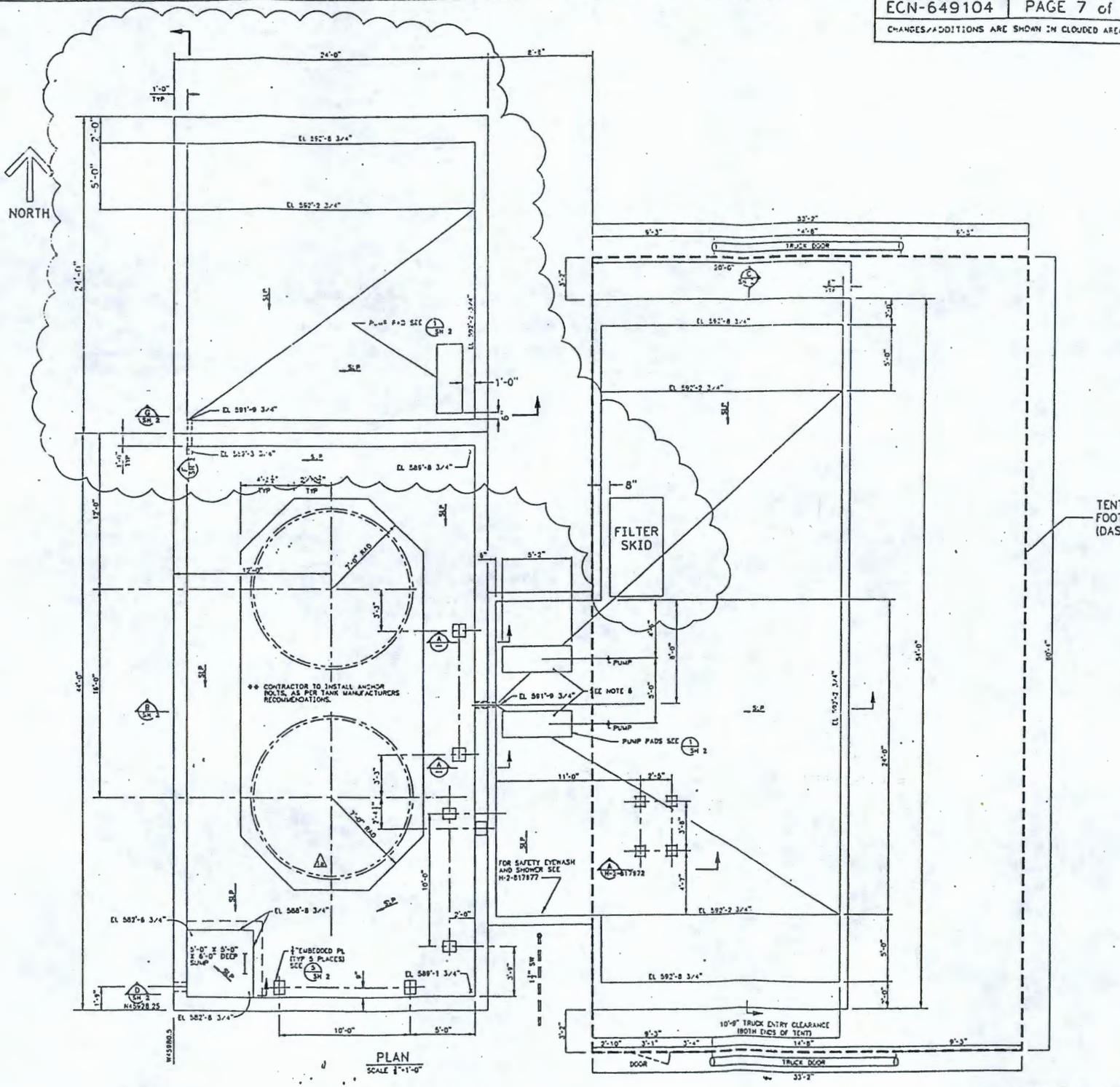

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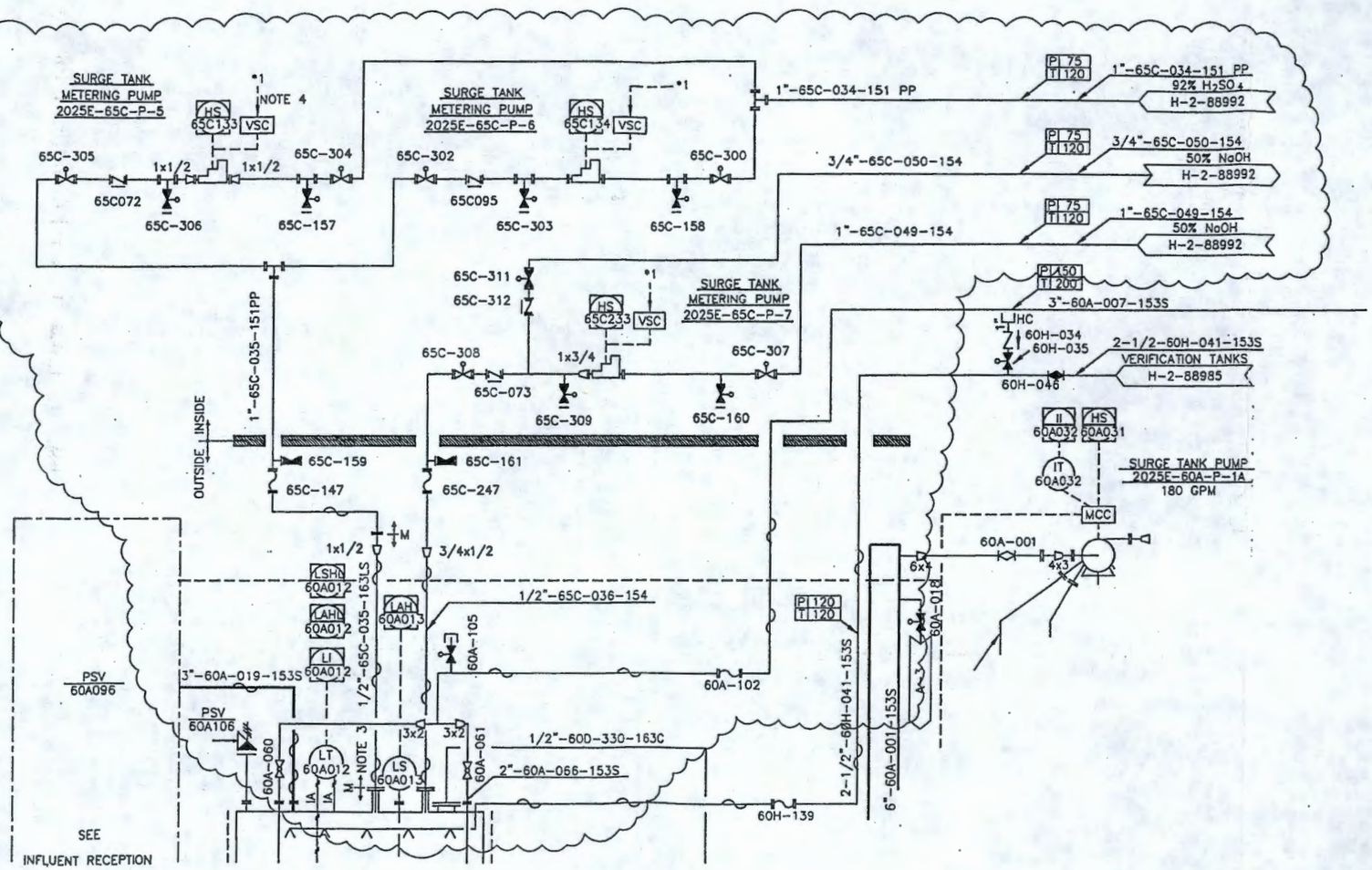
B817970A	2J:\BM_ACD2:12.0\H2		

B Hollenbeck		3	AS-BUILT
JOE MURPHY	6/14	U.S. DEPARTMENT OF ENERGY	
CA LISLE	6/14	RICHLAND OPERATIONS OFFICE	
SEE DR/AT FORM		JCP KAISER HANFORD COMPANY	
SEE DR/AT FORM		STRUCTURAL	
SEE DR/AT FORM		ETF TRUCK LOAD-IN FACILITY	
DAVID MCSHANE	6/14	PLAN AND SECTIONS	
		12	
		W291H 200 AREA EFFLUENT BAT/SAART IMPLEMENTATION	
		F 2025 EC 0900	H-2-817970 1
WHC		SHOWN	CR1134

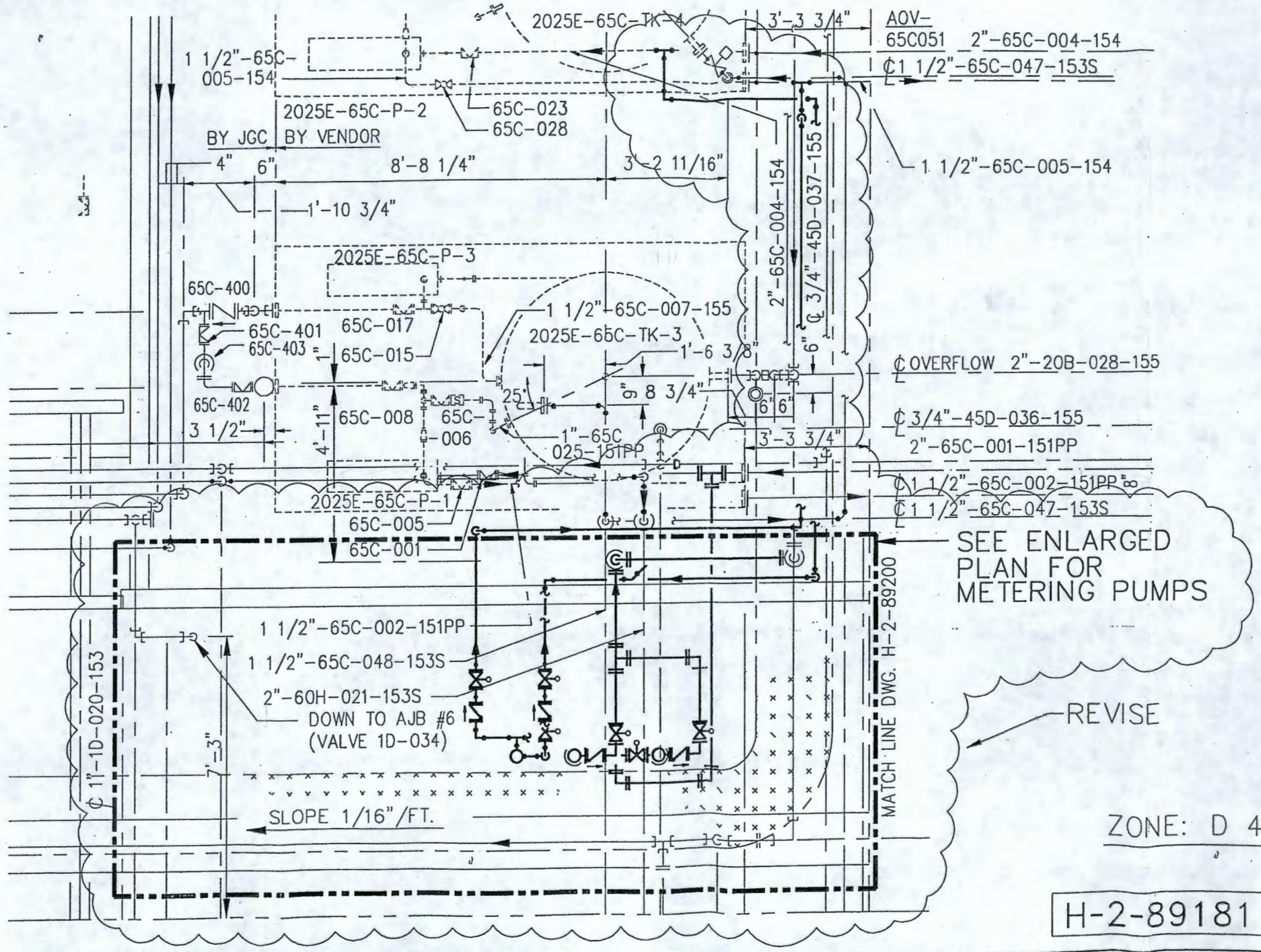
2 PLOT SCALE: 1=4 KEMCAD

REVISE



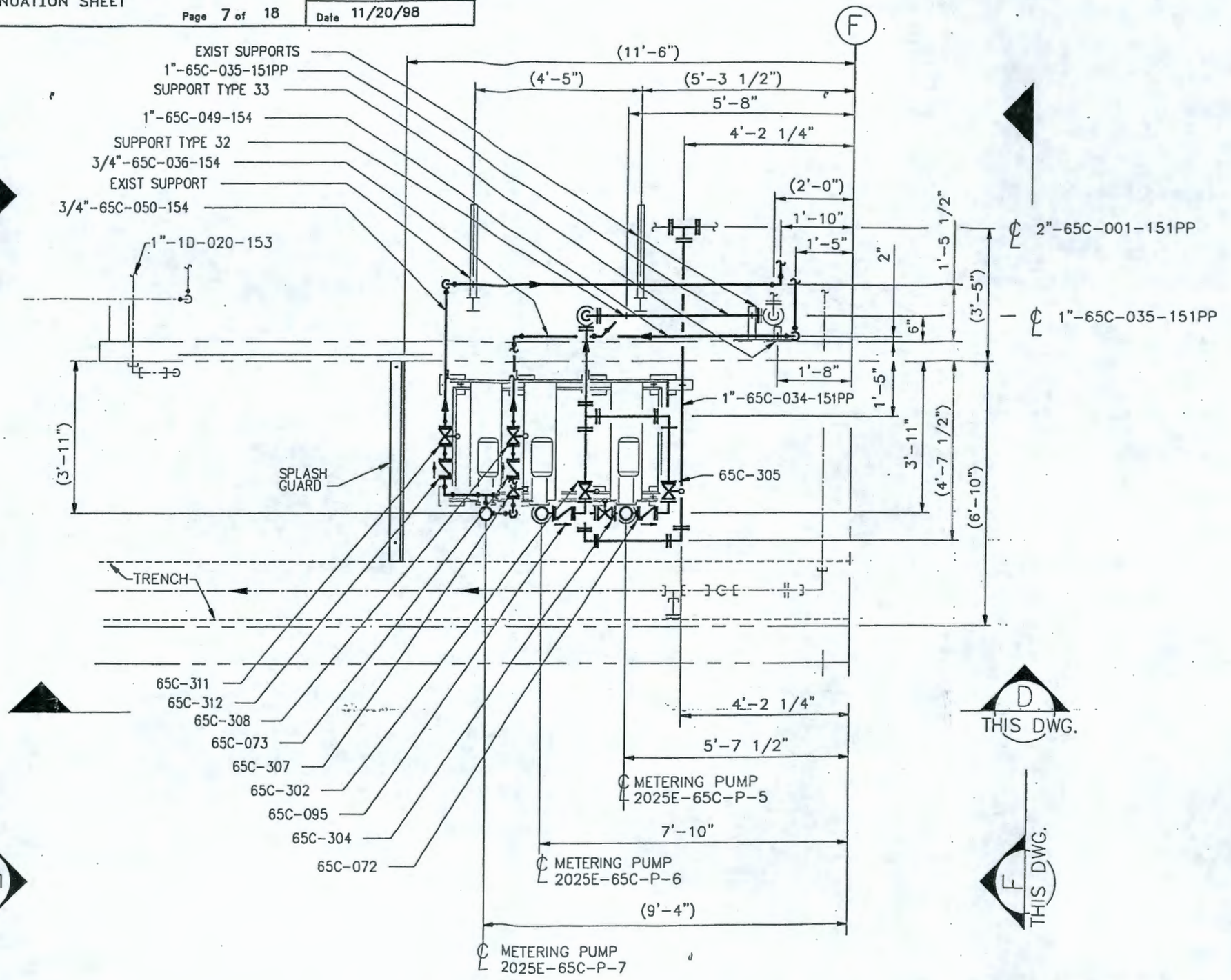
ZONE: E/F 6/7

H-2-89337 SH1, REV 10



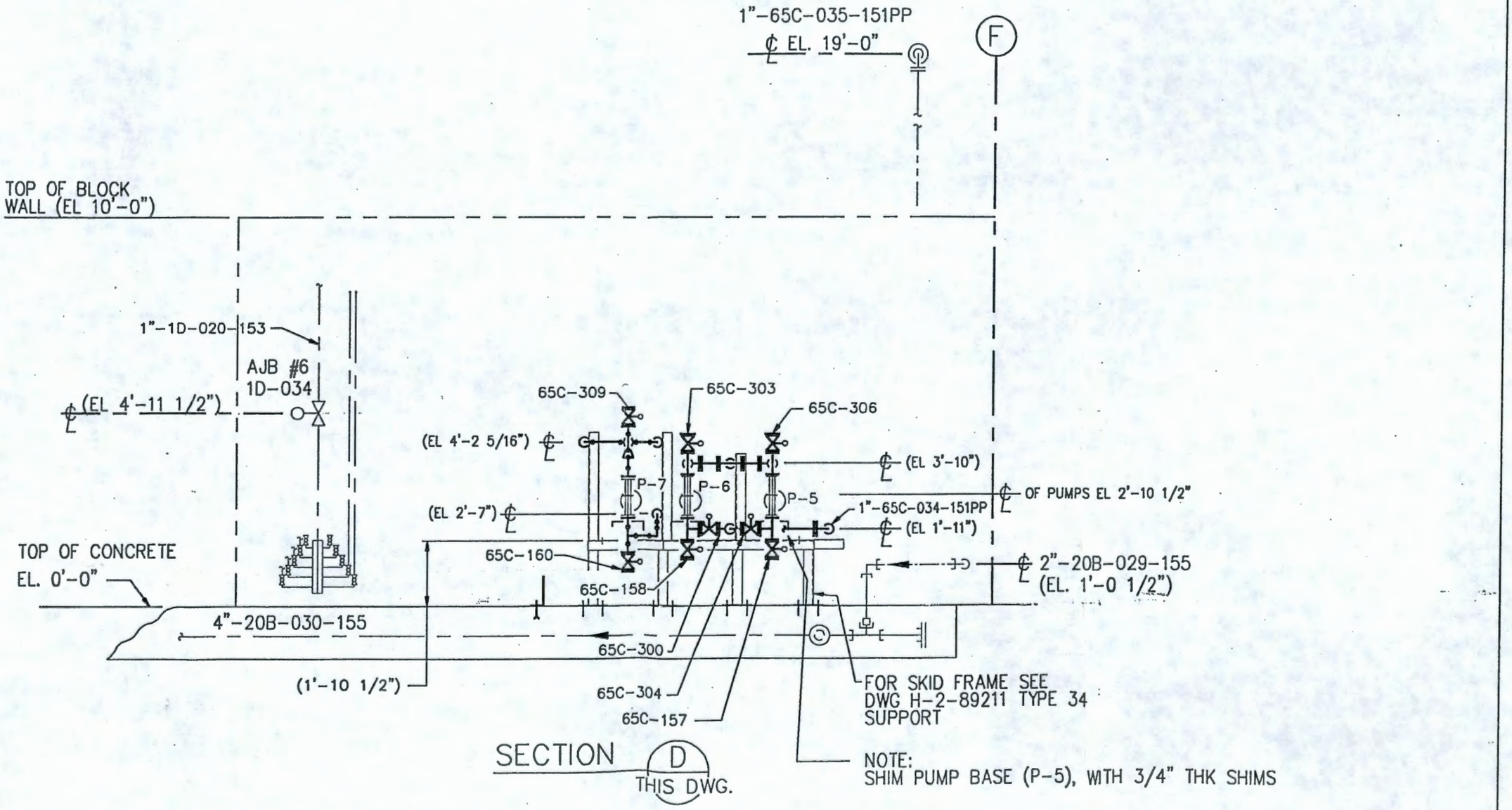
ZONE: D 4/6

H-2-89181 SH1, REV 5



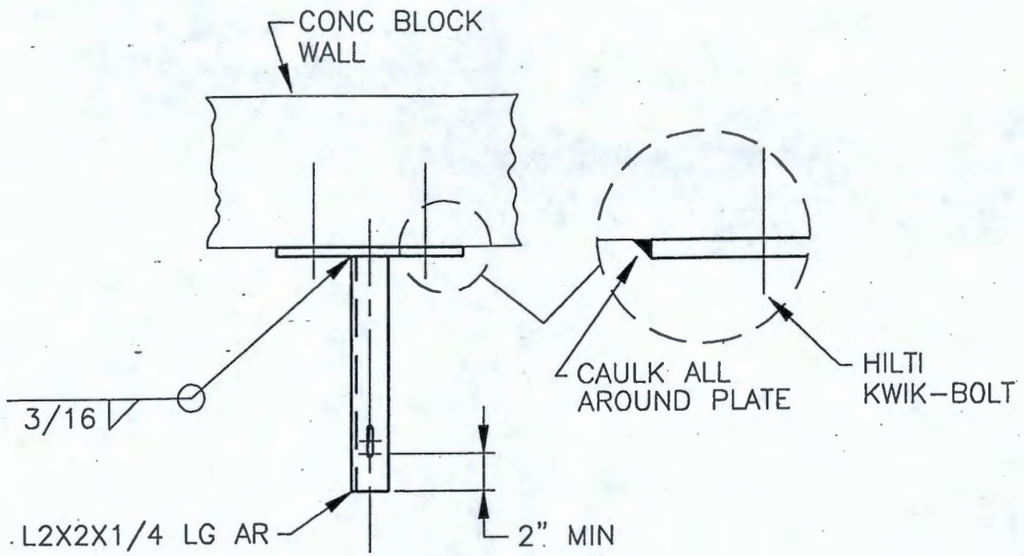
ENLARGED PLAN

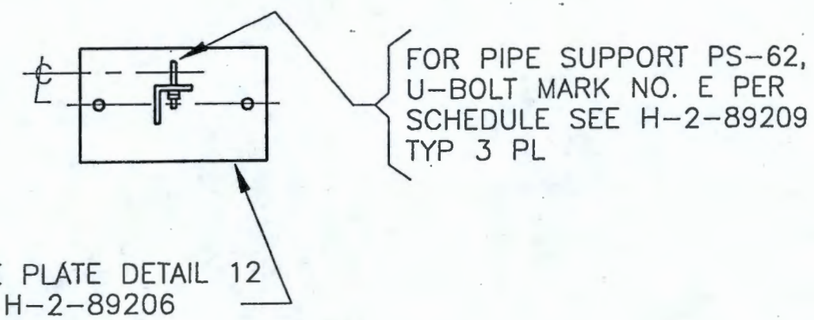
H-2-89181 SH1, REV 5



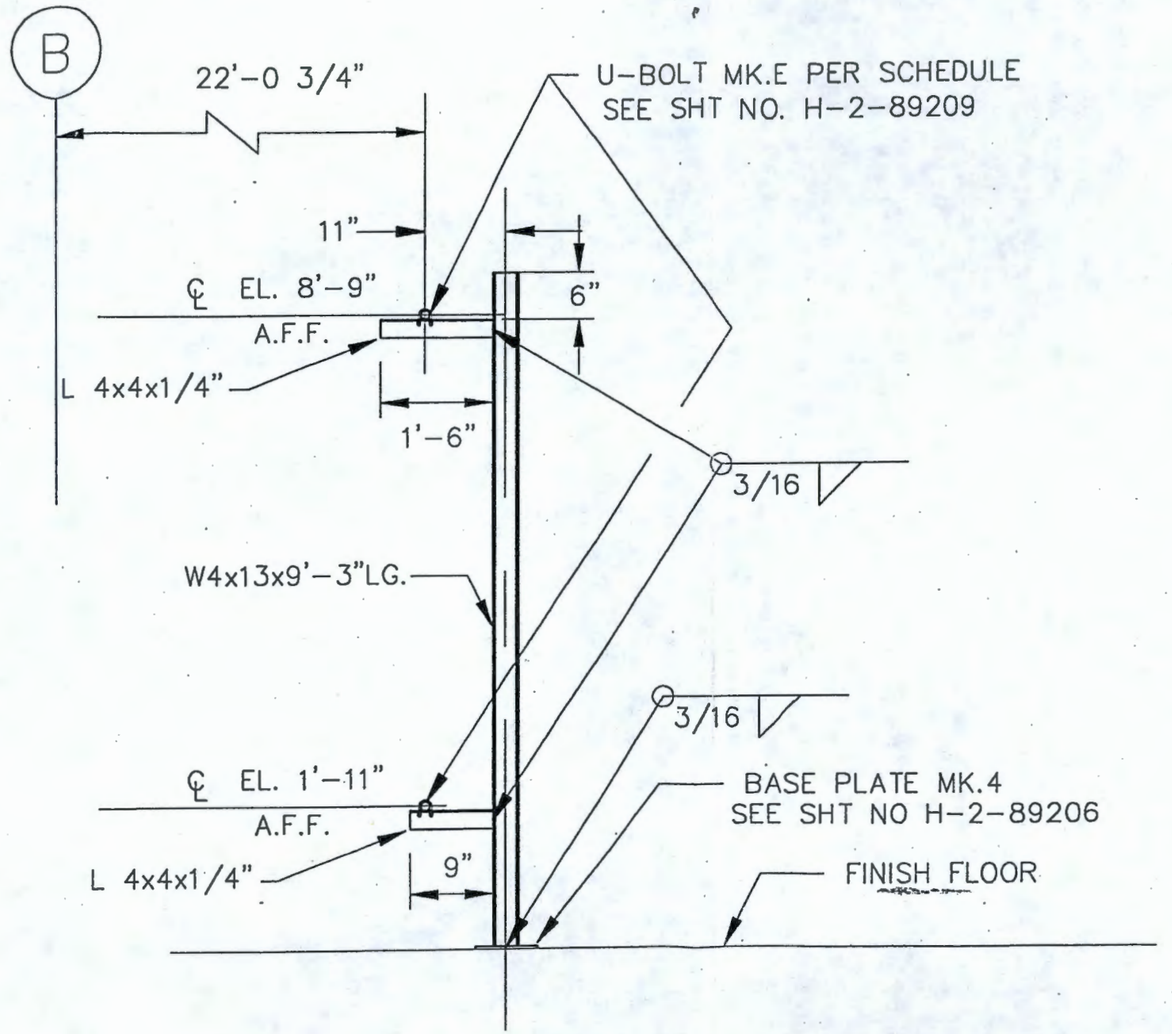
SECTION D
THIS DWG.

H-2-89181 SH1, REV 5





TYPE 33
(1 REQD)

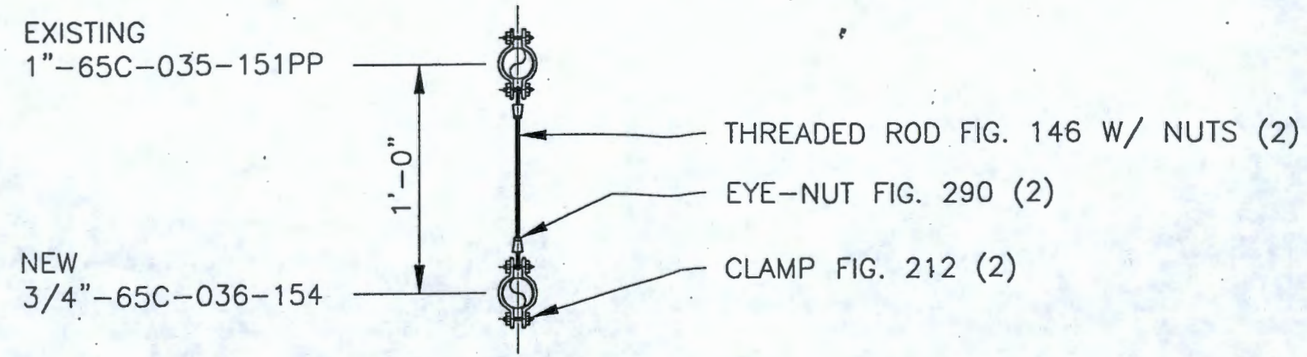


TYPE 26 (NON-TYPICAL)

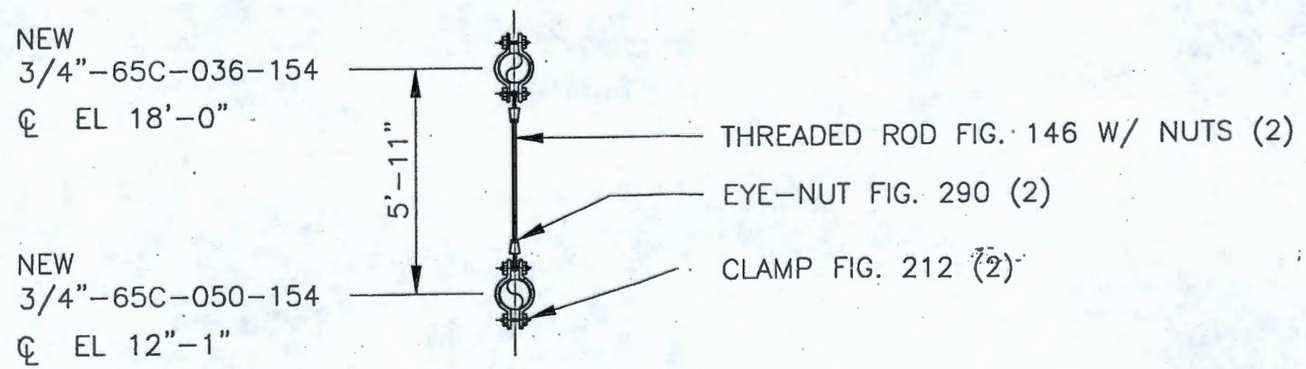
ELEV. LKG. EAST

1/2" = 1'-0"

H-2-89211 SH1, REV 1

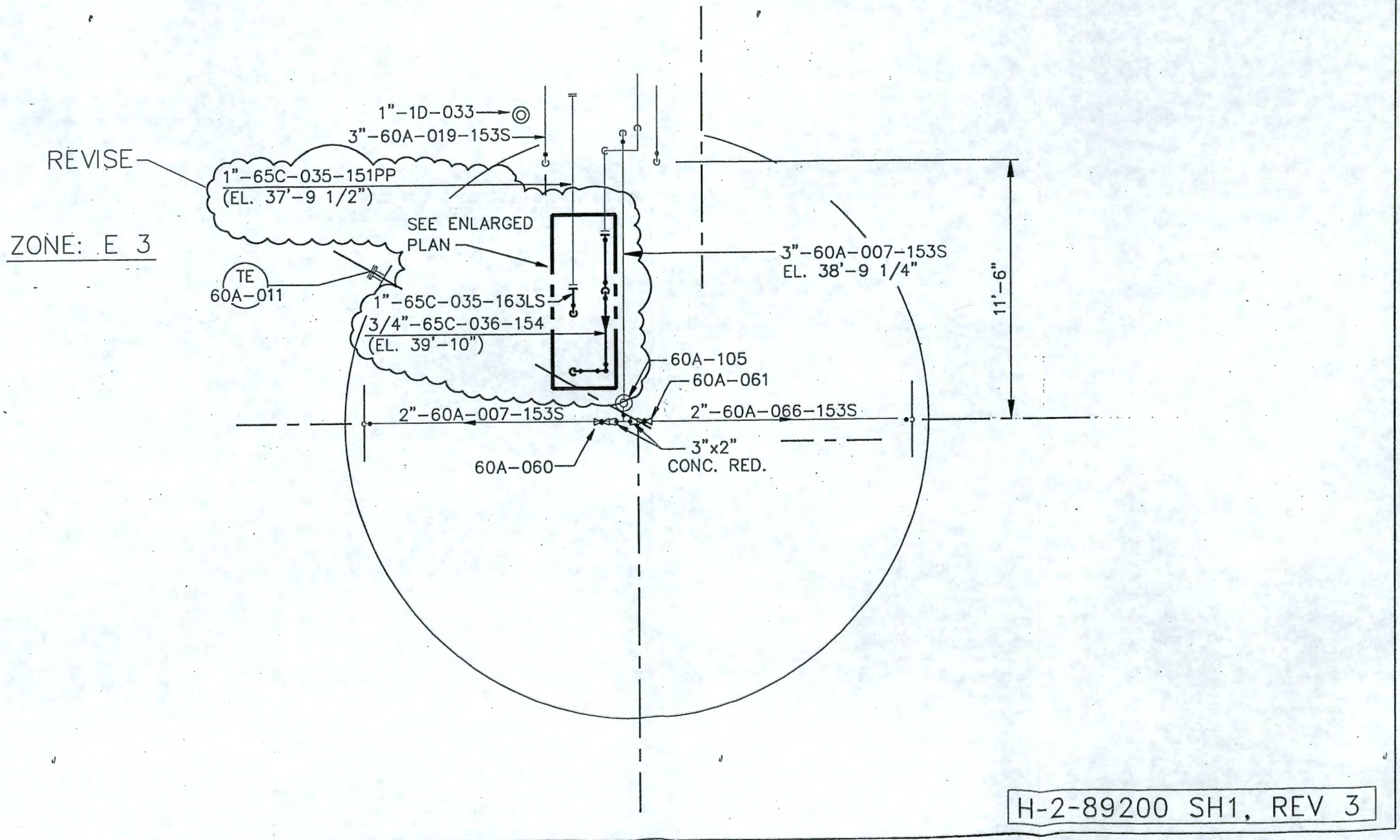


TYPE 32
(12 REQD)

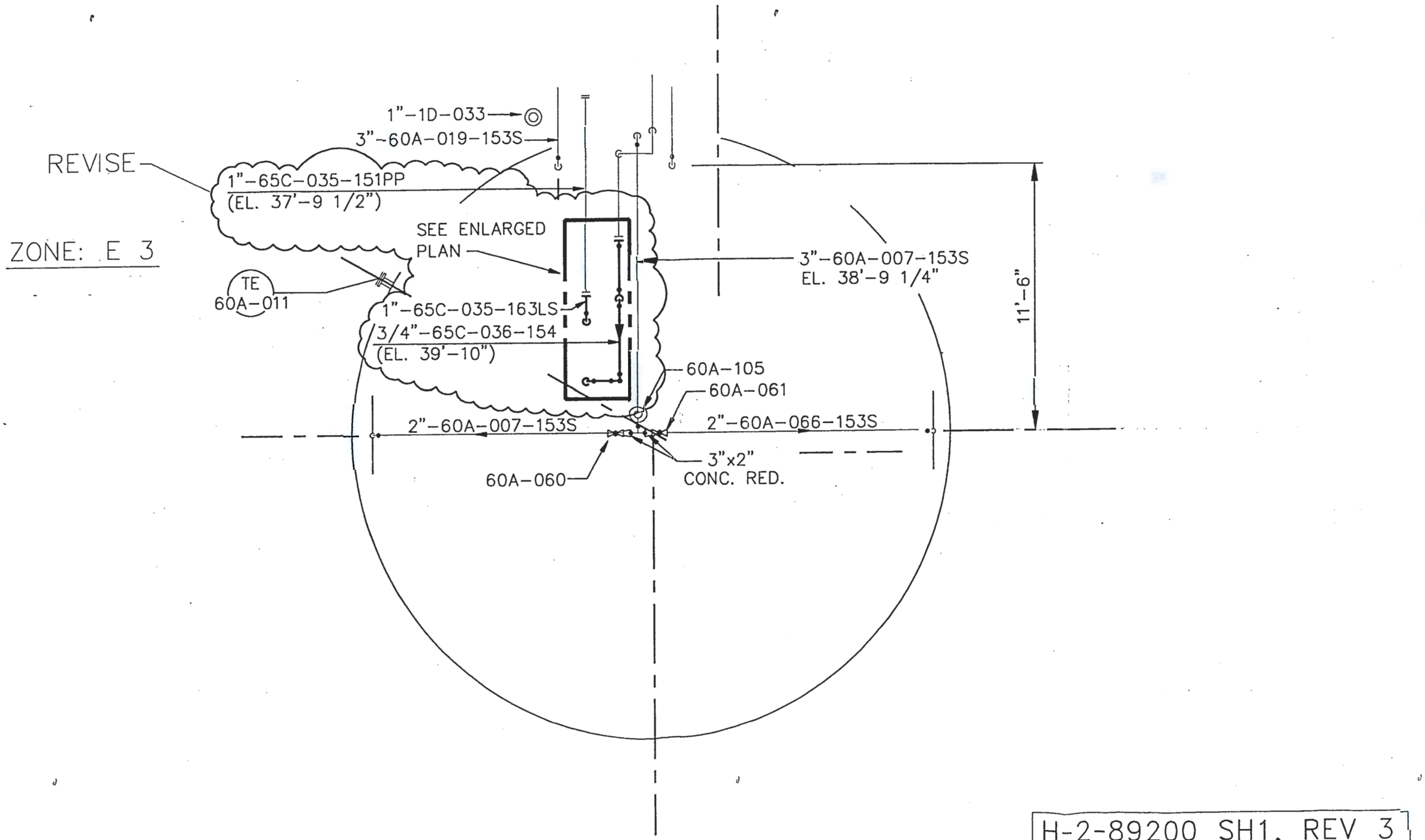


TYPE 35
(1 REQD)

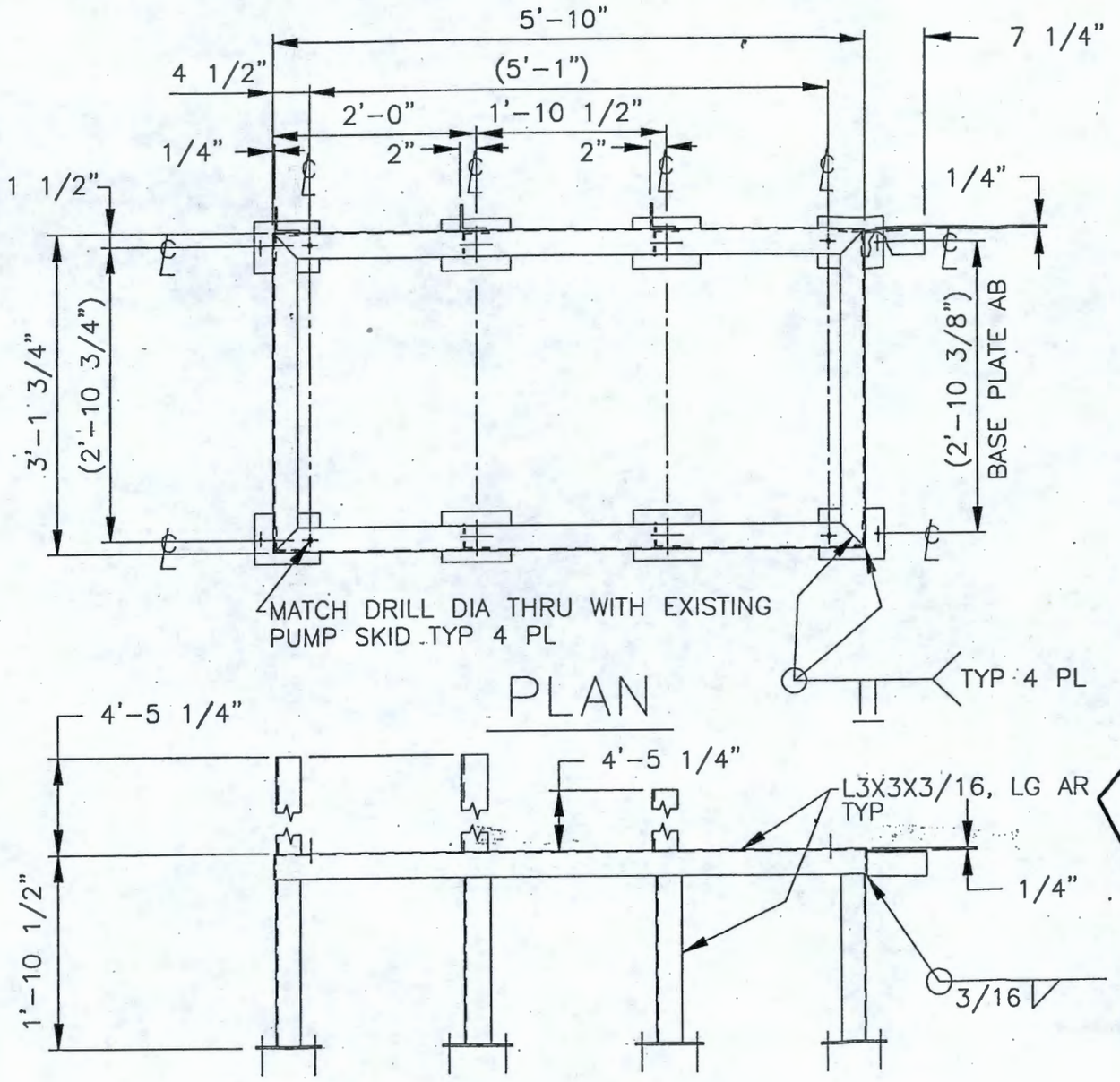
H-2-89211 SH1, REV 1

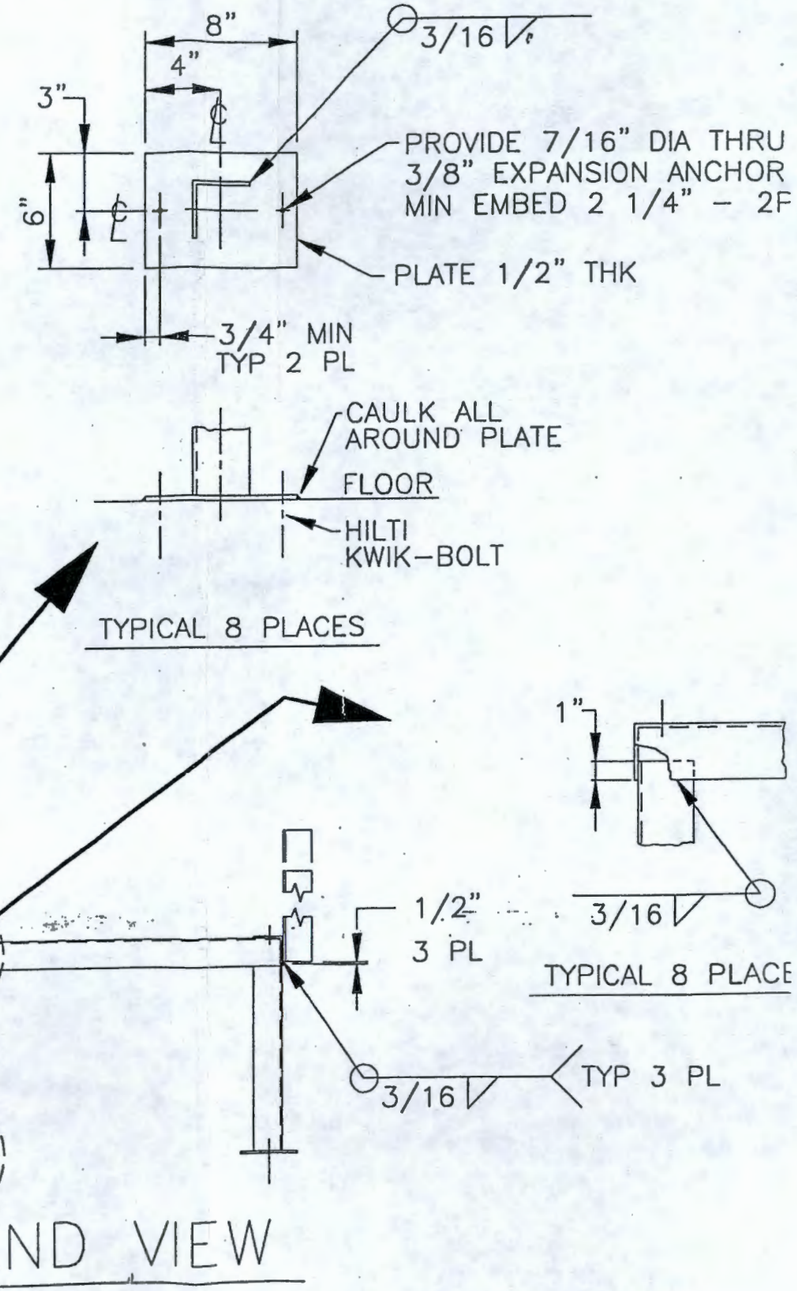


H-2-89200 SH1, REV 3



H-2-89200 SH1, REV 3

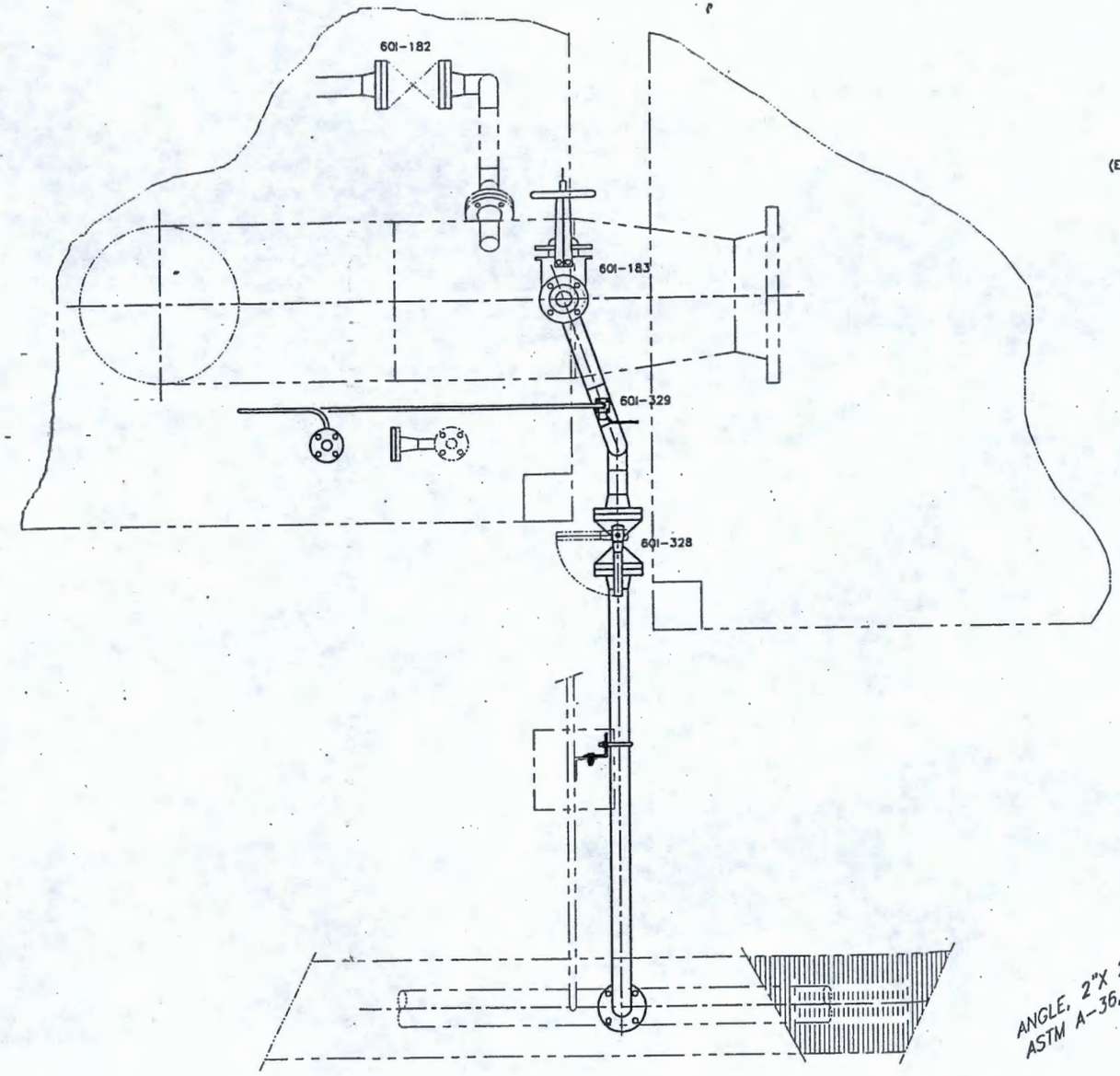




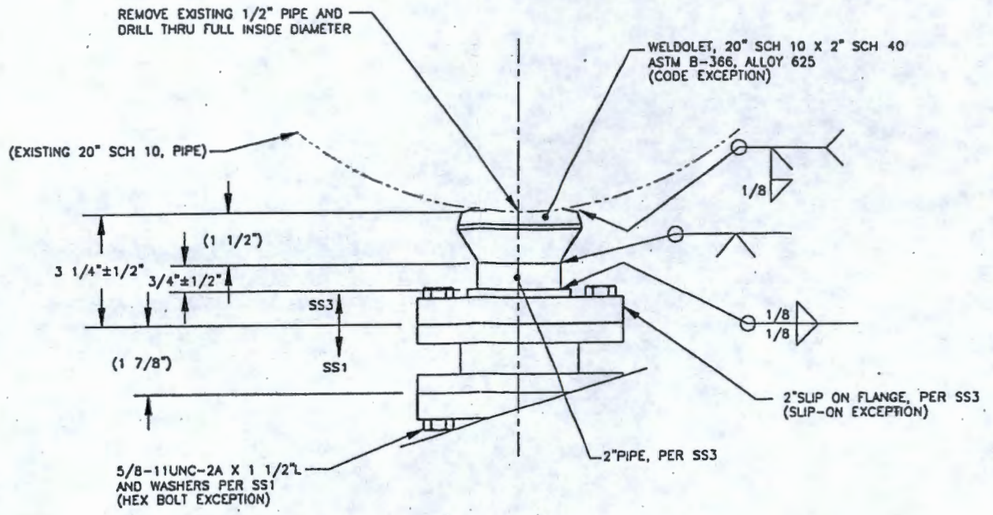
TYPE 34

H-2-89211 SH1, RE

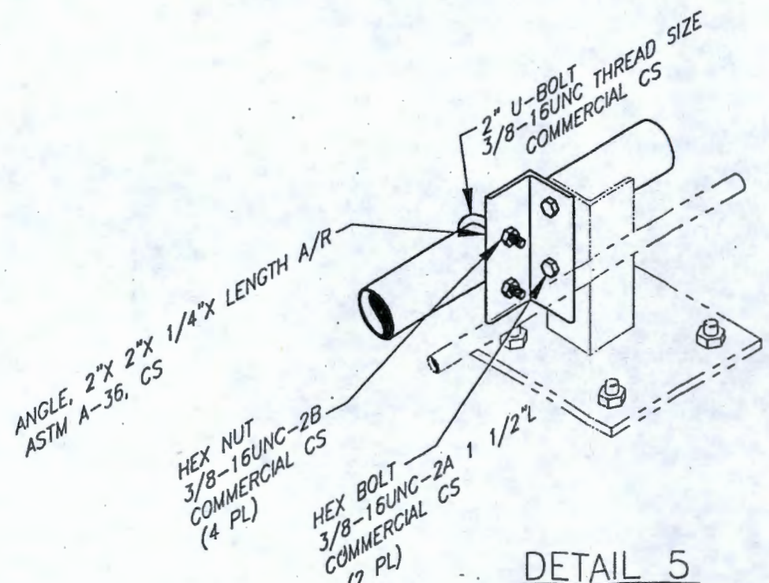
ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-89183	DATE 8/18/99	ECN 641564



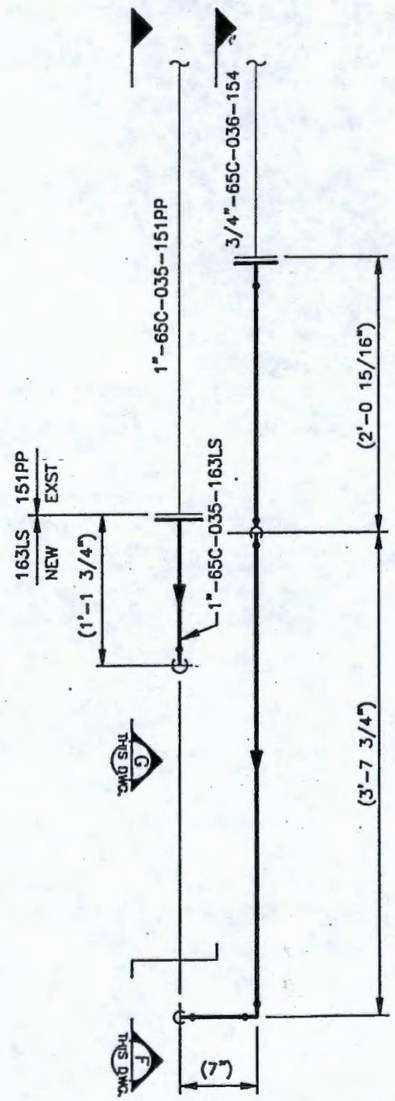
PLAN VIEW



DETAIL 4

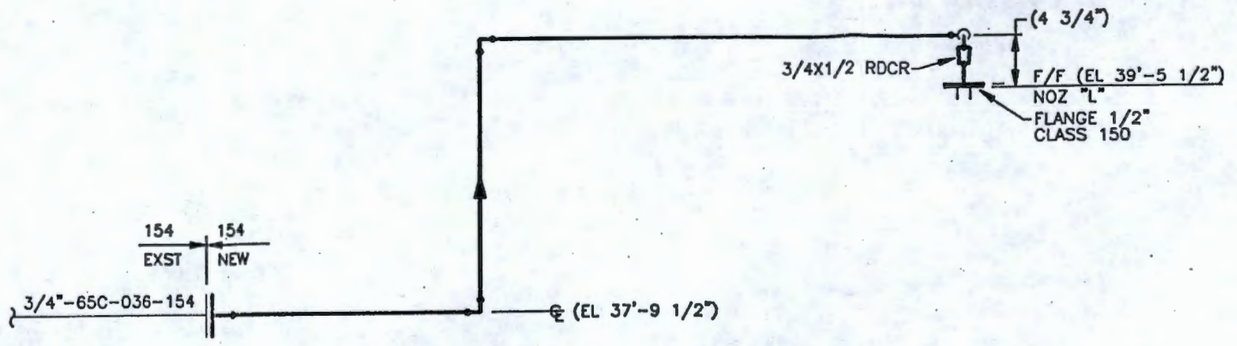


DETAIL 5

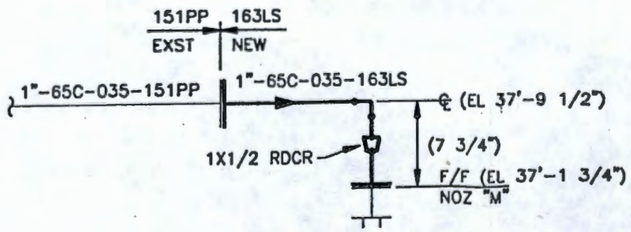


ENLARGED PLAN
SCALE: NONE

NOTE:
FIELD VERIFY DIMENSIONS
BEFORE FABRICATION



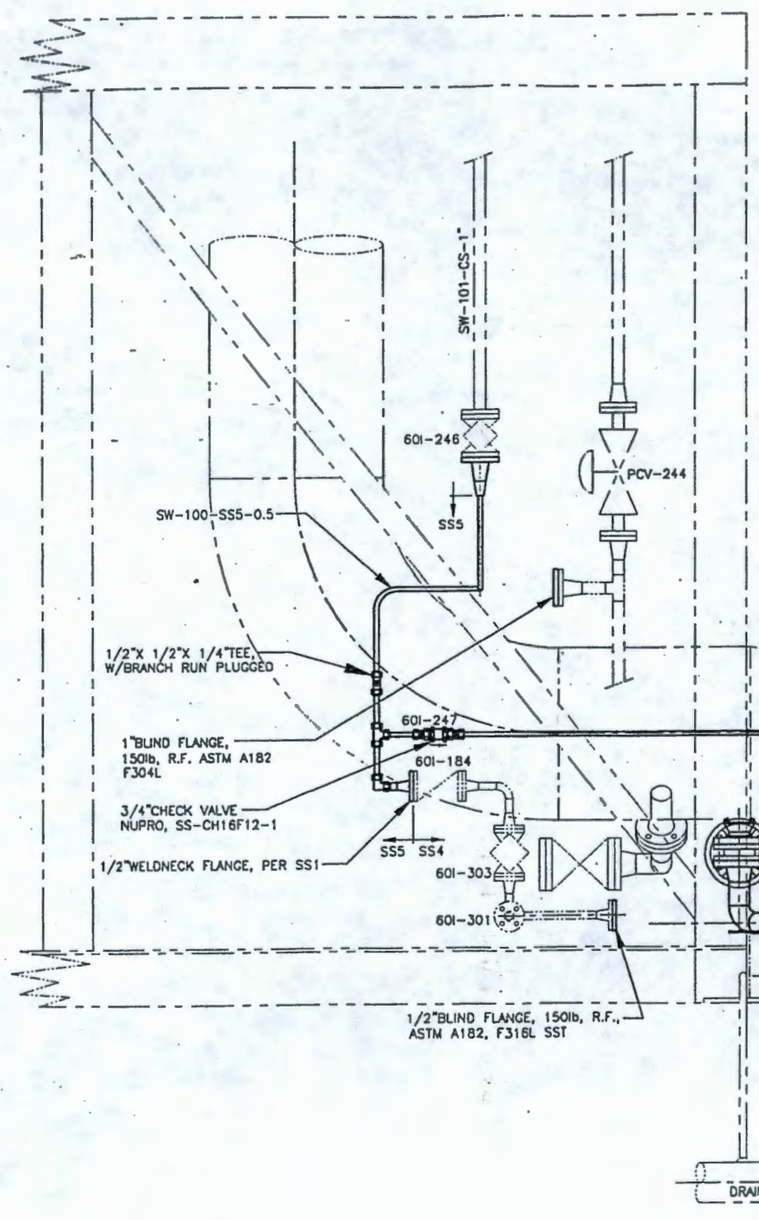
SECTION F
SCALE: NONE THIS DWG.



SECTION G
SCALE: NONE THIS DWG.

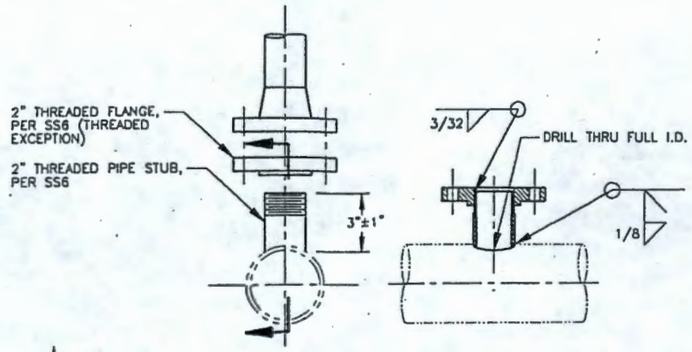
H-2-89200 SH1, REV 3

ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-89183	DATE 8/18/99	ECN 641564

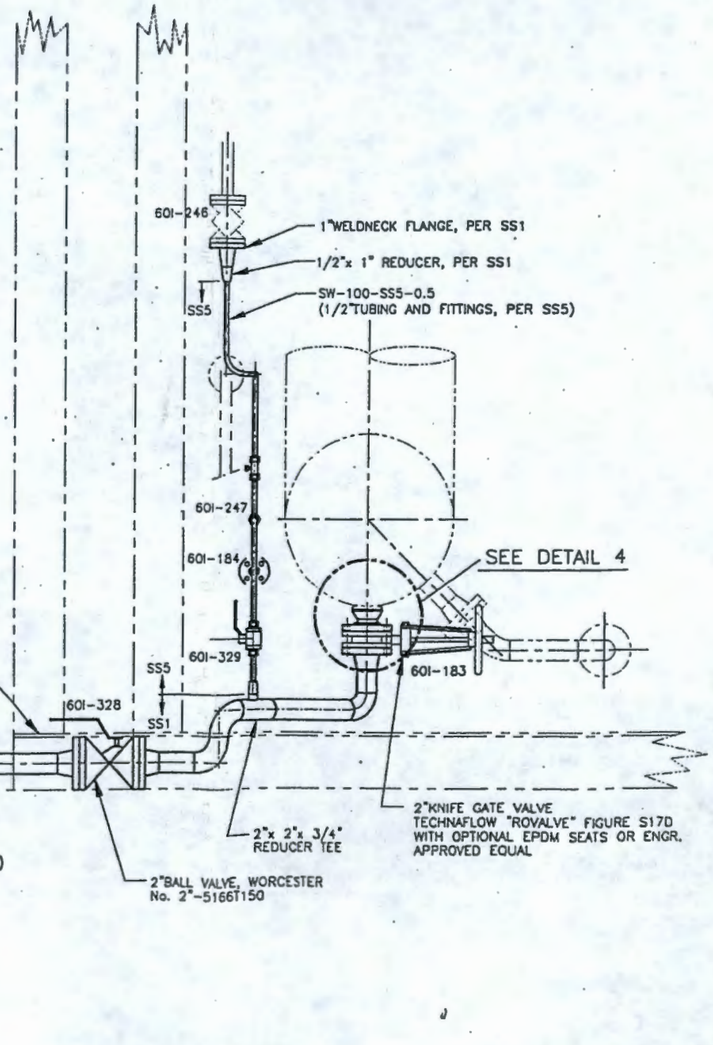


DETAIL 2

REF: VI-22366, PAGES V-135A-004-318, 381 AND 382

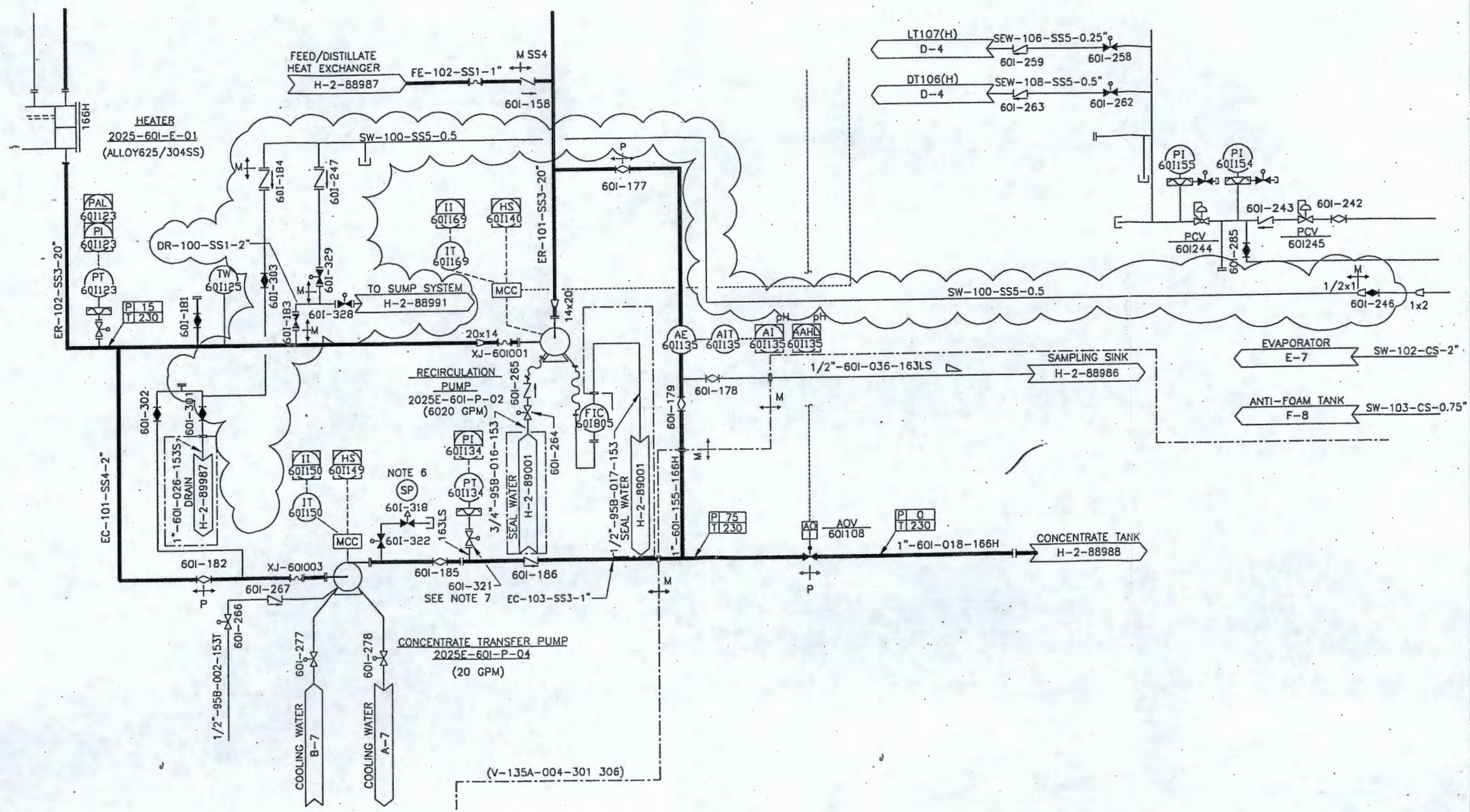


DETAIL 3



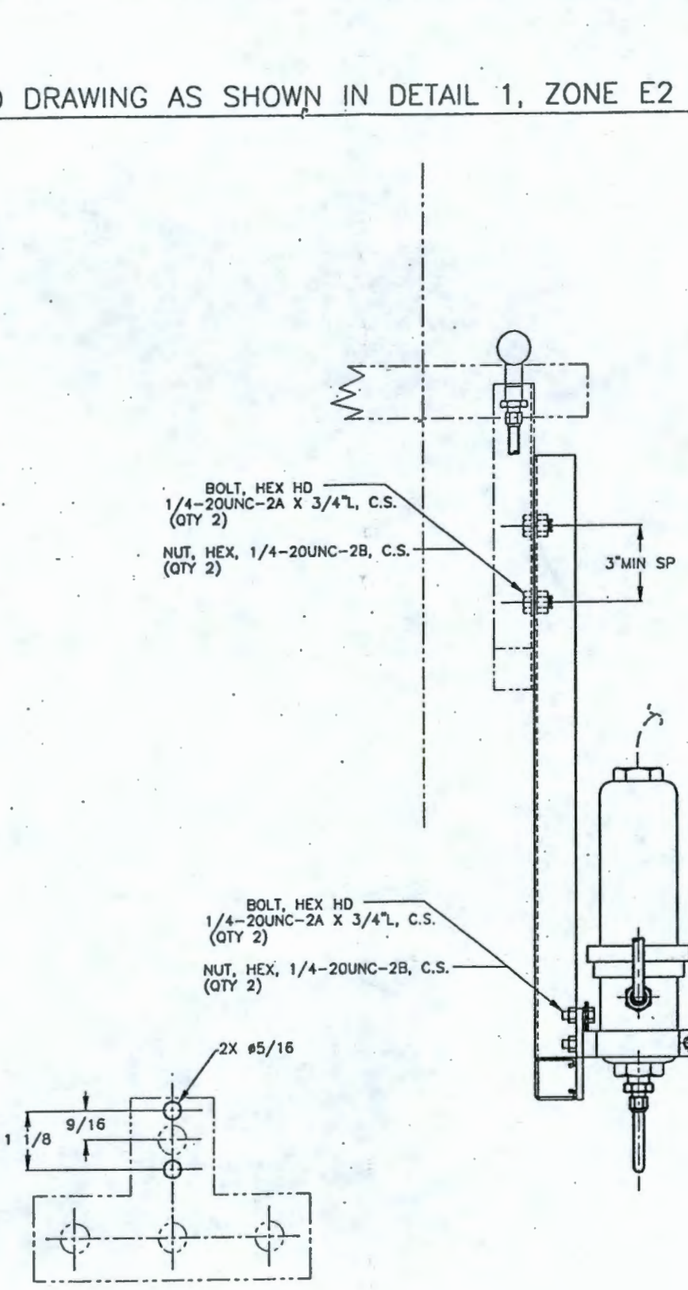
DETAIL 4

ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO. H-2-89335	DATE 8/18/99	ECN 641564

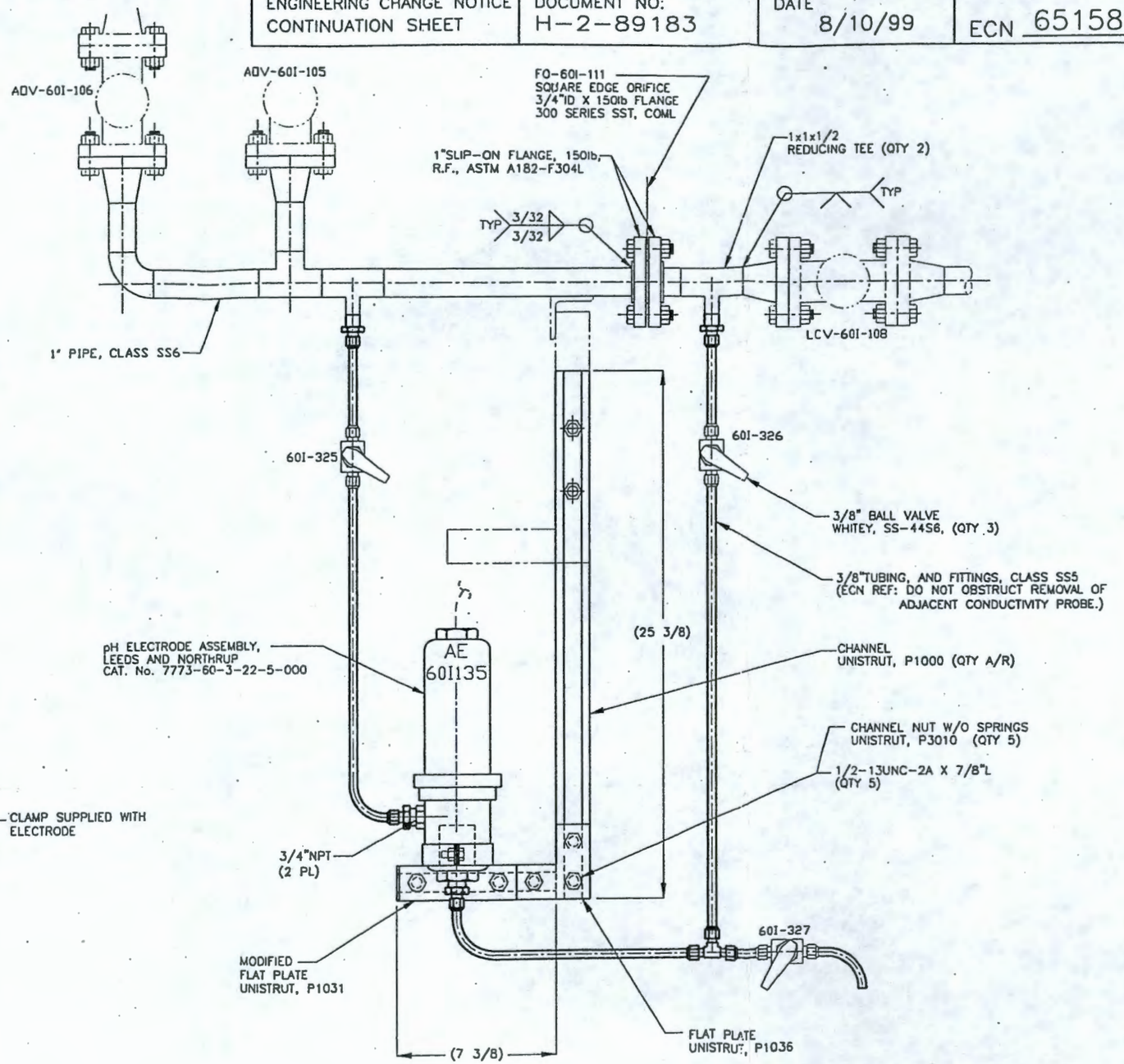


ENGINEERING CHANGE NOTICE CONTINUATION SHEET	DOCUMENT NO: H-2-89183	DATE 8/10/99	ECN 651583

ADD TO DRAWING AS SHOWN IN DETAIL 1, ZONE E2



MODIFIED UNISTRUT FLAT PLATE



DETAIL 1

REF VI-22366, DOC'S V-135A-004-381 AND 382

NORTH

FILTER SKID

TENT FOOTPRINT (DASHED)

** CONTRACTOR TO INSTALL ANCHOR BOLTS AS PER TANK MANUFACTURERS RECOMMENDATIONS.

FOR SAFETY EYEWASH AND SHOWER SEE H-2-817977

SEE NOTE 6

PUMP PADS SEE 1/SH 2

10'-0" TRUCK ENTRY CLEARANCE (BOTH SIDES OF TENT)

TRUCK DOOR

DOOR

PLAN
SCALE 1"=1'-0"

PL ¾"x10'-0"x10" W/ (4) ¾"ø" NELSON WELD STUD SIMILAR TO 3/SH 2

SECTION A
3/4" = 1'-0

B Hollenbeck	3	AS-BUILT	
JOE MURPHY		U.S. DEPARTMENT OF ENERGY	
GA LISLE		RICHLAND OPERATIONS OFFICE	
SEE DRAFT FORM		ICF KAISER HANFORD COMPANY	
SEE DRAFT FORM		STRUCTURAL	
SEE DRAFT FORM		ETF TRUCK LOAD-IN FACILITY	
DAVID MCSHANE	12	PLAN AND SECTIONS	
		W-251H 200 AREA EFFLUENT TREATMENT FACILITY	
		F 2035 EC 0930 H-2-817970 1	
		WHC SHOWN CR1134 1 OF 2	

H-2-817968 DRAWING LIST

1 AS-BUILT FOR PROJ W-251H E6,7 C4,6 E-F5 ΔKCN W-251H-S8 Z A-B5,6-8 ΔKCN W-251H-S2 Z B1,7 C6,7 RSC 4/95

B817970A 2J:\BU\AC02120.DGN