

2

ENGINEERING CHANGE NOTICE

1. ECN **609625**

Page 1 of 2

Proj.
ECN

2. ECN Category (mark one) Supplemental <input type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. D. T. Lott, General Support Projects, R3-49, 372-2452		4. Date 8/15/94
	5. Project Title/No./Work Order No. Tank Farm Storage and Staging Facilities	6. Bldg./Sys./Fac. No. TBD	7. Approval Designator SQ
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-W402-CR-001-REV 0	9. Related ECN No(s). N/A	10. Related PO No. N/A

11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package No. N/A	11c. Modification Work Complete N/A _____ Cog. Engineer Signature & Date	11d. Restored to Original Condition (Temp. or Standby ECN only) N/A _____ Cog. Engineer Signature & Date
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12. Description of Change
 The Design Criteria for the Tank Farm Storage and Staging Facilities has been revised to reflect the division of the two facilities into two projects. The associated project number for each building will be W-402 for the 200 East Area facility and W-413 for the 200 West Area facility.

13a. Justification (mark one) Criteria Change <input checked="" type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>
As-Found <input type="checkbox"/>	Facilitate Const. <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>
Design Error/Omission <input type="checkbox"/>		

13b. Justification Details
 The document is being revise for clarification.

14. Distribution (include name, MSIN, and no. of copies) See distribution list.	RELEASE STAMP OFFICIAL RELEASE BY WHC DATE SEP 01 1994 STA 4
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15. Design Verification Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16. Cost Impact <table style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">ENGINEERING</td> <td style="width: 50%; text-align: center;">CONSTRUCTION</td> </tr> <tr> <td>Additional <input type="checkbox"/> \$</td> <td>Additional <input type="checkbox"/> \$</td> </tr> <tr> <td>Savings <input type="checkbox"/> \$N/A</td> <td>Savings <input type="checkbox"/> \$N/A</td> </tr> </table>	ENGINEERING	CONSTRUCTION	Additional <input type="checkbox"/> \$	Additional <input type="checkbox"/> \$	Savings <input type="checkbox"/> \$N/A	Savings <input type="checkbox"/> \$N/A	17. Schedule Impact (days) Improvement <input type="checkbox"/> Delay <input type="checkbox"/> N/A
ENGINEERING	CONSTRUCTION							
Additional <input type="checkbox"/> \$	Additional <input type="checkbox"/> \$							
Savings <input type="checkbox"/> \$N/A	Savings <input type="checkbox"/> \$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 <input type="checkbox"/>	Seismic/Stress Analysis <input type="checkbox"/>	Tank Calibration Manual <input type="checkbox"/>
Functional Design Criteria <input type="checkbox"/>	Stress/Design Report <input type="checkbox"/>	Health Physics Procedure <input type="checkbox"/>
Operating Specification <input type="checkbox"/>	Interface Control Drawing <input type="checkbox"/>	Spares Multiple Unit Listing <input type="checkbox"/>
Criticality Specification <input type="checkbox"/>	Calibration Procedure <input type="checkbox"/>	Test Procedures/Specification <input type="checkbox"/>
Conceptual Design Report <input type="checkbox"/>	Installation Procedure <input type="checkbox"/>	Component Index <input type="checkbox"/>
Equipment Spec. <input type="checkbox"/>	Maintenance Procedure <input type="checkbox"/>	ASME Coded Item <input type="checkbox"/>
Const. Spec. <input type="checkbox"/>	Engineering Procedure <input type="checkbox"/>	Human Factor Consideration <input type="checkbox"/>
Procurement Spec. <input type="checkbox"/>	Operating Instruction <input type="checkbox"/>	Computer Software <input type="checkbox"/>
Vendor Information <input type="checkbox"/>	Operating Procedure <input type="checkbox"/>	Electric Circuit Schedule <input type="checkbox"/>
OM Manual <input type="checkbox"/>	Operational Safety Requirement <input type="checkbox"/>	ICRS Procedure <input type="checkbox"/>
FSAR/SAR <input type="checkbox"/>	IEFD Drawing <input type="checkbox"/>	Process Control Manual/Plan <input type="checkbox"/>
Safety Equipment List <input type="checkbox"/>	Cell Arrangement Drawing <input type="checkbox"/>	Process Flow Chart <input type="checkbox"/>
Radiation Work Permit <input type="checkbox"/>	Essential Material Specification <input type="checkbox"/>	Purchase Requisition <input type="checkbox"/>
Environmental Impact Statement <input type="checkbox"/>	Fac. Proc. Samp. Schedule <input type="checkbox"/>	Tickler File <input type="checkbox"/>
Environmental Report <input type="checkbox"/>	Inspection Plan <input type="checkbox"/>	
Environmental Permit <input type="checkbox"/>	Inventory Adjustment Request <input type="checkbox"/>	

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. D. T. Lott	<i>[Signature]</i>	8/25/94	PE	_____
Cog. Mgr. J. B. Witt	<i>[Signature]</i>	8-25-94	QA	_____
QA M. S. Bhargoo	<i>[Signature]</i> FOR	8/25/94	Safety	_____
Safety O. M. Jaka	<i>[Signature]</i>	8/30/94	Design	_____
Environ. N/A			Environ.	_____
Other			Other	_____
R. B. Dunn	<i>[Signature]</i>	8/31/94		_____
G. D. Perales	<i>[Signature]</i>	8/25-94		_____
			DEPARTMENT OF ENERGY	
			Signature or a Control Number that tracks the Approval Signature	
			ADDITIONAL	

RELEASE AUTHORIZATION

Document Number: WHC-SD-W402-CR-001,-REV.1

Document Title: DESIGN CRITERIA TANK FARM STORAGE AND STAGING FACILITY

Release Date: 9/1/94

* * * * *

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

* * * * *

WHC Information Release Administration Specialist:



Kara Broz

(Signature)

9/1/94

(Date)

SUPPORTING DOCUMENT

1. Total Pages 14

2. Title

DESIGN CRITERIA TANK FARM STORAGE AND STAGING FACILITY

3. Number

WHC-SD-W402-CR-001

4. Rev No.

1

5. Key Words

Storage and staging facility, Tank Farm Facility, Storage Facility

6. Author

Name: D. T. Lott

Signature

Organization/Charge Code 7F510/N3BA1

APPROVED FOR PUBLIC RELEASE

KOB 9/1/94

7. Abstract


This document provides the design criteria for the design of the storage and staging buildings near 272AW and 272WA buildings.

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10. RELEASE STAMP

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9. Impact Level SQ

MASTER

J7D

Design Criteria
Tank Farm
Storage and Staging Facilities
WHC-SD-W402-CR-001
Rev. 1

AUGUST 1994

Prepared for the

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Richland Operations Office
Richland, Washington 99352

by


Westinghouse Hanford Company
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Richland, Washington

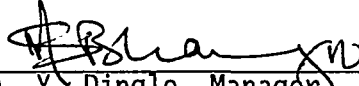
Design Criteria
Tank Farm
Storage and Staging Facilities
Projects W-402 and W-413


Revised by: 
D. T. Lott, Project Engineer
General Plant Projects

Contractor Approval:

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1.0 INTRODUCTION

1.1 Background

Tank Farms Operations must store/stage material and equipment until work packages are ready to work. Consumable materials are also required to be stored for routine and emergency work. Connex boxes and open storage is currently used for much of the storage because of the limited space at 272AW and 272WA. Safety issues based on poor housekeeping and material deteriorating due to weather damage has resulted from this inadequate storage space. It has been determined that a storage building in close proximity to the Tank Farm work force would be cost effective.

1.2 Justification

Although a dollar estimate is not available, significant damage to improperly stored equipment and material has resulted due to lack of adequate storage space. Project W-402 and W-413 will provide a storage/staging area in 200 East and West Areas by the construction of two new storage facilities. The new facilities will be used by Operations, Maintenance and Materials groups to adequately store material and equipment.

1.3 Scope

These projects will provide a metal storage building in both 200 East and 200 West Areas. Project W-402 shall construct the 200 East Area facility and Project W-413 shall construct the 200 west area facility. These projects will also furnish electrical services to the facilities for lighting and HVAC. Fire Protection shall be extended to the 200 East facility from 272AW if necessary.

2.0 DESIGN PARAMETERS

2.1 Functional Requirements

The space requirements for the facility in the 200 East Area is roughly 2,700 sq. ft. (45 feet wide by 60 feet long by 12 feet high). This facility shall have two double insulated steel doors located on the north and west sides of the building and a hard wall as shown in Appendix A-4.

The facility in 200 West Area is roughly 4,200 sq. ft. (60 feet wide by 70 feet long by 18 feet high) with a 30 foot fenced leanto area. This facility shall have two 14' X 14' steel curtain over-head doors with electric operators, a double insulated steel door extending into the leanto area and a caged area of

chain link fencing material with a 5 foot sliding gate as shown in Appendix A-4.

Both facilities shall be temperature controlled and insulated. The spacing requirements for the inside of the facilities is provided in Appendix A-4.

2.2 Equipment Requirements

Neither project shall provide any additional equipment. The facilities shall not be provided with access to HLAN or phone lines. Supplies for ongoing operations will not be part of these projects.

3.0 GENERAL DESIGN REQUIREMENTS

The facilities design shall conform to DOE Order 6430.1A, "General Design Criteria" of a non-nuclear Department of Energy (DOE) facility.

3.1 Site Requirements

The facilities shall be sited in the vicinity of the 272-AW and 272-WA buildings. Selection of the site will be determined by Facility Management, North Area and Site Planning prior to definitive design.

3.2 Architectural and Structural

Both facilities shall provide the specific requirements as listed below:

- The building shall be installed on a concrete foundation and the ground floor shall be above grade and incorporate storm runoff features to prevent water intrusion.
- Lighting shall be at levels recommended in the Illuminating Engineering Society Lighting (IES) Handbook.
- The building floor shall withstand a 1,000 LB wheel load capacity.
- The building in 200 East shall have a fire protection system.
- The building in 200 West shall have a 30' fenced leanto area.

3.3 Utilities

These projects shall provide for electrical hookup from an existing facility or shall provide design for new installation. The electrical system shall conform with applicable safety codes. The facility in 200 East Area shall have Fire Protection extended from the existing 272AW Building or a fire wall between the buildings.

3.4 Energy Conservation

Both facilities shall be heated and cooled. Storage areas shall be capable of maintaining temperature at approximately 60 degrees fahrenheit, dry bulb, in the heating seasons and approximately 90 degrees fahrenheit, dry bulb, in the cooling seasons.

3.5 Natural Forces

The facilities shall be designed and constructed in accordance with DOE Order 6430.1A and the Hanford Standard Design Criteria (SDC) 4.1 "Design Loads for Facilities," as a Safety Class 4 structure.

Design for live loads shall be in accordance with DOE Order 6430.1A and ASCE-7-1988. Design for snow loads shall be in accordance with ASCE-7-1988. Design for volcanic ash loads are not required since these are Safety Class 4 facilities.

3.6 Safeguards and Security

The facilities provided by these projects shall be within the 200 East and West Areas. The facilities shall be controlled with normal lock and key doors. Security provisions shall be required by DOE Order 5632.4, Chapter VII, "Physical Protection of DOE Property and Unclassified Facilities," and WHC-CM-4-33, "Security Manual."

These projects shall not require nor provide any additional security other than complying with the Tank Farm Master Key Plan as described in the Tank Farm Security Plan.

3.7 Maintenance

Ease and minimization of maintenance shall be considered in the design of these projects.

3.8 Operating Personnel

The facilities shall not provide any permanent space for personnel. The facilities may provide temporary work area while staging material. No additional personnel will be required for these facilities.

3.9 Decontamination and Decommissioning

These projects require no decontamination or decommissioning (D&D) of any existing facilities. The facility shall not contain radioactive material. Consequently, the facility shall not require any special D&D features.

3.10 Environmental Assurance

The design and construction associated with the facilities shall be conducted in accordance with WHC-CM-7-5, "Environmental Compliance Manual." Specific consideration shall be given to WHC-CM-7-5, Section 9, "New and Modified Facilities." NEPA documentation to cover these facilities shall be prepared and issued prior to construction of facilities.

3.11 Design Life

The design life for the facilities shall either meet or exceed the Industry Standards for modular building construction or be constructed for a design life of not less than 30 years.

4.0 QUALITY ASSURANCE

Quality Assurance (QA) activities for all contractors involved with the design, construction, testing and inspection of the proposed facilities will be based on the direction provided on an Letter of Instruction (Quality Assurance Requirements).

5.0 SAFETY

The risks associated with the construction of the projects are those associated with the adjacent facilities in both 200 East and West Areas. The location of the facility in both areas are in the vicinity of the Waste Storage Tanks, and the other process facilities. The existing site work procedures now in effect are adequate for construction safety.

The operation of this facility will not present any hazards or hazardous material other than those normally accepted by the majority of the public for similar storage installations. There are no nuclear, or explosive materials associated or required with the facility.

Safety classification for the project shall comply with the Westinghouse Hanford Company, WHC-CM-1-3, MRP 5.46, "Safety Classification of Systems, Components and Structures." The highest Safety Classification to be applied to the systems, structures, and/or components of this project, shall be

"Safety Class 3" for the fire protection system. The buildings and all other components shall be "Safety Class 4". This facility will not present any hazards other than those normally accepted by the vast majority of the public for similar storage installations. Therefore, per WHC-CM-4-46, Section 2.0, 3.3, these projects are exempted from the requirements for Preliminary Safety Evaluations, Safety Analysis Reports and Safety Analysis Document.

6.0 CODES AND STANDARDS

The facilities provided by these projects shall comply with the general design criteria in DOE Order 6430.1A for a storage facilities. No nuclear, special materials or processes will be associated with the facilities. The DOE Order 6430.1A requirements for Special Facilities (Part 0110.99 and Division 1300) shall not apply to these projects.

The following outline defines the appropriate Codes, Standards, Regulations, Guidelines, Orders, etc., that are not defined or referenced within DOE Order 6430.1A, for these projects. The most recent issue shall apply.

- DOE-RL Order 4700.1A, Project Management Systems
- DOE-RL Order 5440.1A, Implementation of the National Environmental Policy Act at the Richland Operations Office
- DOE-RL Order 5480.1B, Environmental, Safety, and Health program for DOE Operations
- DOE-RL Order 5480.3, Environmental, Safety, and Health Program for DOE Operations
- DOE-RL Order 5480.7A, Fire Protection
- DOE-RL Order 5480.9, Construction Safety and Health Programs
- DOE-RL Order 5480.10A, Industrial Hygiene Program
- DOE-RL Order 5632.6, Physical Protection of DOE Property and Unclassified facilities
- DOE-RL Order 5700.6C, 10 CFR 830.120, Quality Assurance
- DOE-RL Order 6430.1C, Hanford Plant Standards (HPS) Program
- WHC-CM-1-3, Management Requirements and Procedures
- WHC-CM-4-2, Quality Assurance Manual

- WHC-CM-4-3, Industrial Safety Manual
- WHC-CM-4-33, Security Manual
- WHC-CM-4-40, Industrial Hygiene Manual
- WHC-CM-4-41, Fire Protection Program Manual
- WHC-CM-4-46, Non-Reactor Facility Safety Manual
- WHC-CM-6-1, Standard Engineering Practices
- WHC-CM-6-2, Project Department Management Manual
- WHC-CM-7-5, Environmental Compliance

In addition to the above, applicable "National Consensus" codes and standards and pertinent state and local codes and standards shall be applied in the design of these projects.

APPENDIX A
PROPOSED SITE LOCATIONS



NOTE: FOR CONTINUATION
OF PREVIOUS DRAWINGS SEE
SHEET 2

Proposed Maintenance/Operations
Storage/Staging Facility
200 East

TANK FARM
OPERATIONS
SUPPORT FACILITY
272-RN-BLDG



N-40-000

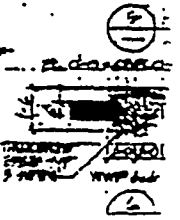
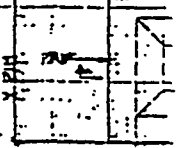
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FOUNDATION
BASE COURSE
LEVELING
COURSE AND
ASPHALTIC
CONCRETE

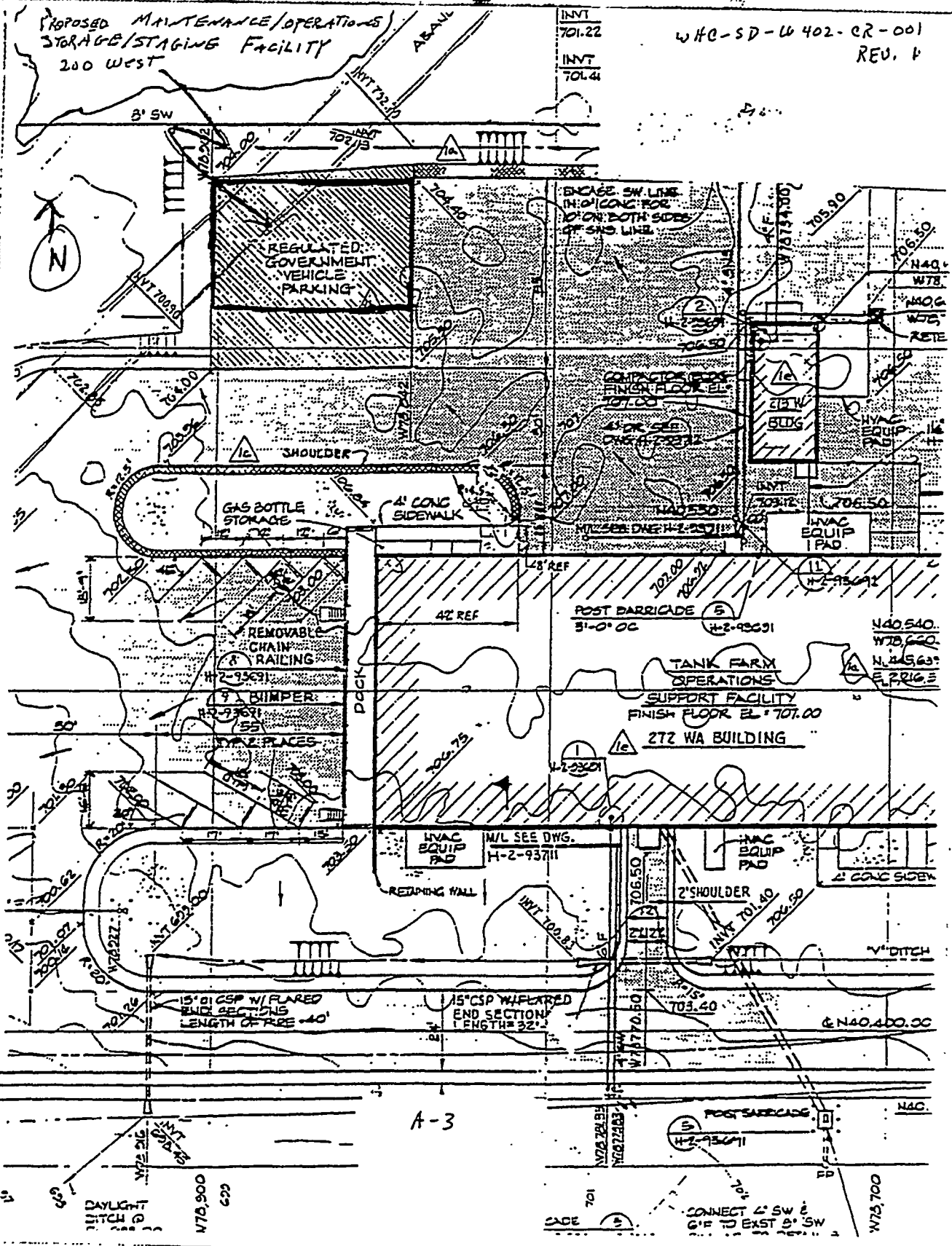
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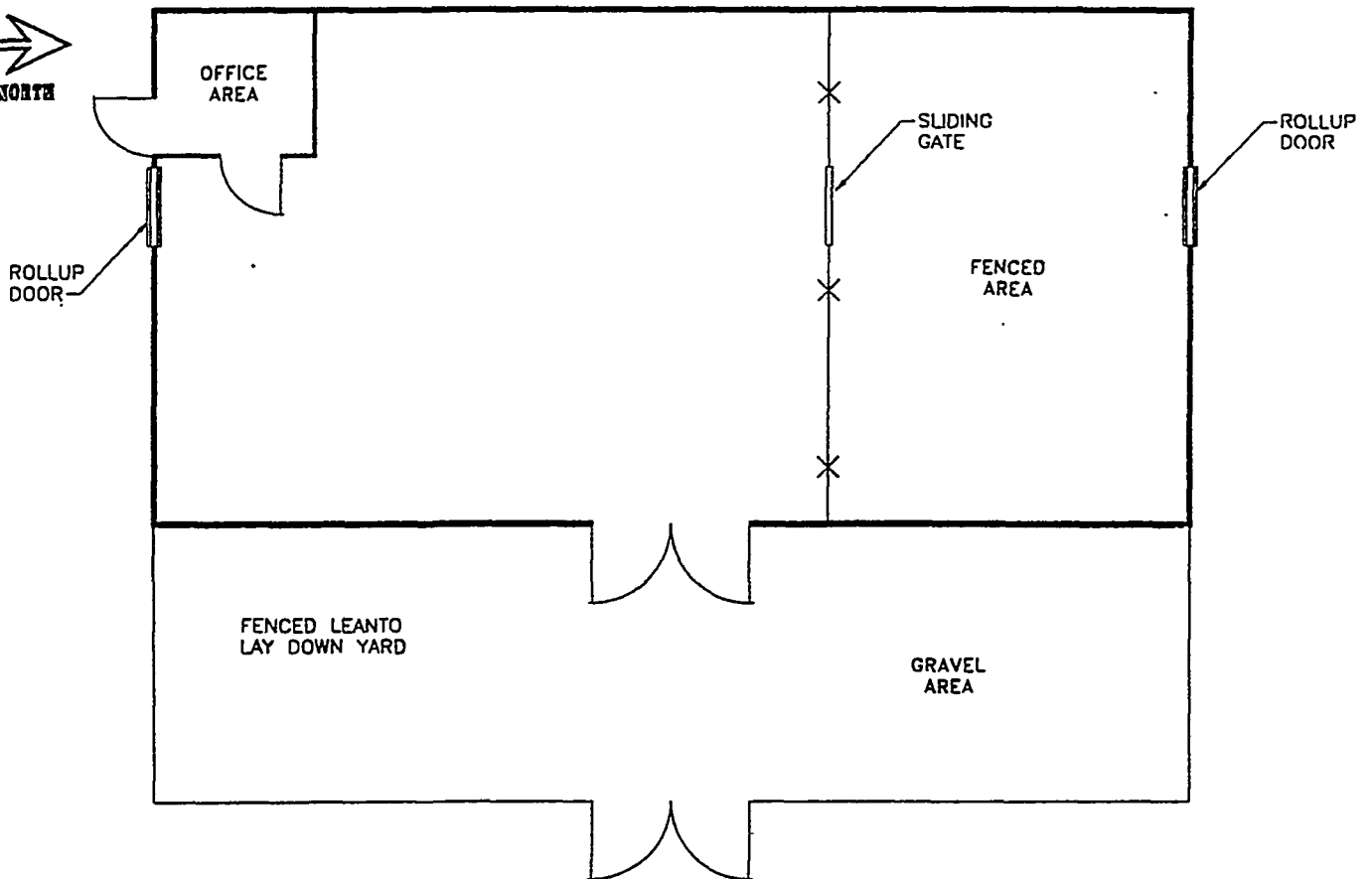
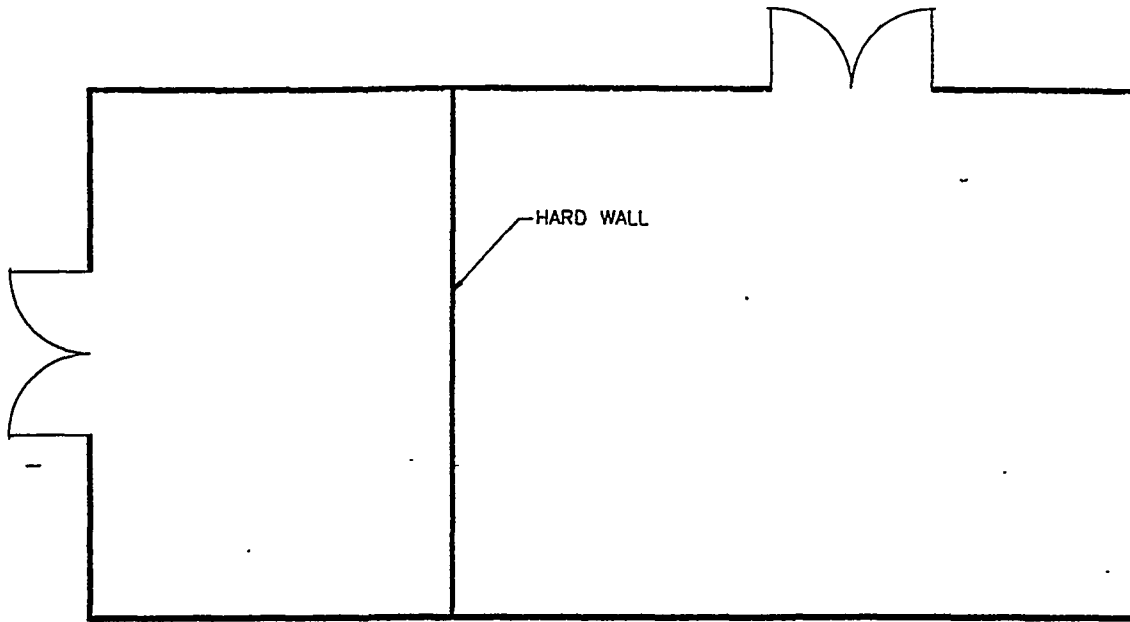
PROPOSED MAINTENANCE/OPERATIONS
STORAGE/STAGING FACILITY
200 WEST

WHC-SD-W 402-CR-001
REV. 4

INVT
701.22
INVT
701.41



A-3



PROPOSED BUILDING CONFIGURATION