(67)

JUL 10 1995

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT

601873

2. To: (Receiving Organization) 300 Area Liquid Effluent Engineering	3. From: (Originating Organization) 300 Area Liquid Effluent Engineering	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: L-070	6. Cog. Engr.: C. M. Loll	7. Purchase Order No.: N/A
8. Originator Remarks: This document provides the final report for the acceptance testing of mechanical equipment and instrumentation for the L-070 Project. Key Words: L-070, ATR, Acceptance Test Report, 3906, Lift Station, 350-A, 300 Area Process Sewer.		9. Equip./Component No.: N/A
		10. System/Bldg./Facility: 300 Area Process Sewer
11. Receiver Remarks: None		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-L070-ATR-001		0	Acceptance Test Report For The L-070 Project	N/A	1,2	N/A	N/A

16.

KEY

Approval Designator (F)	Reason for Transmittal (G)		Disposition (H) & (I)	
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment	4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

(G)	(H)	17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)								(G)	(H)
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
1	1	Cog.Eng. C.M. Loll L6-04	<i>[Signature]</i>	6-27-95							
1	1	Cog. Mgr. D.L. Halgren L6-04	<i>[Signature]</i>	7/3/95							
3	NA	John F. Keller R3-35									
3	NA	Central Files									
3	NA	CDC									
18.		19.		20.		21. DOE APPROVAL (if required) Ctrl. No.					
C. M. Loll <i>[Signature]</i> 6-27-95		D. L. Halgren <i>[Signature]</i> N/A		D. L. Halgren <i>[Signature]</i> 7/3/95		☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments					
Signature of EDT Originator Date		Authorized Representative Date for Receiving Organization		Cognizant Manager Date							

BD-7400-172-2 (04/94) GEF097

BD-7400-172-1 (07/91)

Acceptance Test Report For The L-070 Project

C.M. Lo11

Westinghouse Hanford Company, Richland, WA 99352

U.S. Department of Energy Contract DE-AC06-87RL10930

EDT: 601873

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Key Words: 3906, 350-A, lift station, L-070 Project, 300 Area, process sewer, acceptance test procedure, ATP, acceptance test report, ATR

Abstract: This document contains the acceptance test report for the mechanical equipment and instrumentation installed per the L-070 Project. The systems that were tested were the pump controls for the 3906 Lift Station and the 350-A Lift Station. The verification of an alarm signal installed between the 3906 lift station and the 340 Facility (3707F Bldg.) was also performed.

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Release Approval _____ Date _____

Approved for Public Release

SUMMARY

ACCEPTANCE TEST PROCEDURE FOR THE L-070 PROJECT MECHANICAL EQUIPMENT AND INSTRUMENTATION, WHC-SD-L070-ATR-001, REV. 0, has been completed and is documented in this acceptance test report. All exceptions have either been accepted or transferred to the construction punchlist where they will be tracked to their completion. This summary identifies and explains changes and exceptions to the acceptance test procedure.

- The lift stations (3906 and 350-A) were not ready to be tested at the same time so they were signed off, ready-to-test, separately in section 4.1.
- The testing which was performed in the ATP was within the scope of the applicable pre-job safety analyses for power installation at both lift stations (this work was being performed the same day, just prior to testing, at both lift stations). The prerequisite for signing off on a pre-job roster was changed to having signed off on the pre-job safety analysis roster. The Job Safety Analyses and the signed off rosters are included as part of the ATR.

There were several exceptions/changes listed in the Exception/Change Log.

- Section 6.0, step 6.8, required the verification of a local readout on the 3906 Lift Station flowmeter, FIT-3906. This flowmeter was not working properly and did not register any flow during test performance. The correct operation of the flowmeter was included as a construction punchlist item. The flowmeter vendor came on site on 6/24/96. He determined that the flow transmitter was missing some components. He removed the transmitter and shipped it back to the factory. It will be shipped back to the vendor and he will return to the site in order to reinstall and program it.
- Section 6.0, step 6.9 (and step 8.7 for 350-A), tests the lead/lag switch ability between the sump pumps. This was supposed to be accomplished by switching the Hand/Off/Auto switch for the lead pump from Auto to Off and then back to Auto. This is not the way the lead/lag status works. The lead lag status on the 3906 and 350-A lift station pumps only switches when the sump has been pumped down and the low level shutoff switch is reached. Upon making the appropriate change to step 6.9, the lead/lag status switched appropriately.
- The alarm light was not working at the 3906 lift station when the ATP was performed, however, it was fixed within two days of the completion of the testing.
- During testing the hi hi level alarm at the 3906 lift station was not hooked up to be received at the 340 computer. This item was listed in the exceptions/change log and placed on the construction punchlist.

The hi hi level alarm circuit has since been completed and the testing was performed to close out the punchlist item.

ACCEPTANCE TEST PROCEDURE
FOR THE
L-070 PROJECT MECHANICAL EQUIPMENT
AND INSTRUMENTATION

WHC-SD-L070-ATP-001
REV 0

Author
Craig M. Loll
April 10, 1996

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1.0 PURPOSE

The purpose of the L-070 Project Acceptance Test Procedure is to verify the the proper functioning of 300 Area Process Sewer and Retention Process Sewer equipment required to be installed per L-070-C1, Construction Specification, 300 Area Process Sewer Upgrade.

Specifically, this ATP addresses the functionality of the 3906 Lift Station, 350-A Lift Station, and the receipt of the PS Manhole #72 flow signal at 300 Area TEDF.

2.0 PRECAUTIONS

2.1 PERSONNEL SAFETY

- 2.1.1 Manholes at the lift stations will need to be open in order to add water for testing. Anchored railings, or a means of keeping personnel at least six feet back from the opening will be present around manholes while they are open.
- 2.1.2 Work will be performed under the safety rules and information contained in the existing job safety analyses (JSA's) for construction activities.
- 2.1.3 All personnel performing ATP related work shall read and sign the JSA prior to the commencement of testing. The Test Engineer shall be responsible for ensuring that this requirement is met.

3.0 ADMINISTRATION AND AUTHORITY

3.1 TEST ENGINEER

The WHC ATP Test Engineer is responsible for directing performance of the ATP and for personnel and plant safety as related to the performance of the ATP. The Test Engineer directs contractor and WHC personnel assigned to the ATP. The Test Engineer is authorized to make field changes to the ATP.

3.2 TEST PERFORMERS/OPERATORS

WHC and contractor personnel assigned ATP related tasks are directly responsible for ATP performance and plant and personnel safety. Test performers report to the Test Engineer.

3.3 TAGOUTS

ICF Kaiser Hanford Company or its construction subcontractor shall be responsible for lock-and-tags and shall designate a tag custodian during ATP performance.

3.4 CHANGES

ATP changes required during testing may be made immediately in the field copy, provided that the changes cannot affect operating facility safety, function, or performance and will not compromise or influence test data. Any such change must be recorded in the change log as a change exception.

ATP changes that affect operating facility safety, function, or performance or will compromise or influence test data are made via an ECN to the ATP Supporting Document (SD).

3.5 TEST FAILURE

All steps in the ATP involving equipment operation or data verification must pass their acceptance criteria. Failures must be corrected and retested, or dispositioned with test engineer approval. The test engineer will decide whether to continue with the ATP in the event ATP steps fail.

3.6 TEST LOG

A log of changes or exceptions (appendix B) to testing activities is to be maintained by the test engineer.

3.7 EXCEPTIONS

The ATP may not be closed with open exceptions. All exceptions shall be recorded in appendix B, unless they are immediately correctable and retested. Prior to the close of the ATP each exception is dispositioned. When all exceptions are dispositioned then the ATP may be closed.

3.8 EXCEPTION DISPOSITION

Dispositioning of exceptions usually takes one of four forms as shown below. This does not prevent other means of dispositioning if agreed upon by WHC.

- a. The contractor corrects the exception.
- b. WHC accepts the exception as is.
- c. The exception is transferred to the project managers open item list.
- d. The exception is handled using a combination of a. through c. above.

Exceptions are closed when they have been dispositioned and signed by the Test Engineer.

3.9 SIGNATURES

Persons signing for performance steps certify that they have personally witnessed or performed the step (s) or that they have received a direct report of completion from test personnel.

4.0 PREREQUISITES

All of the following prerequisites must be completed before any testing is performed in the ATP. Other prerequisites must be completed in each major section and are identified as "Special Prerequisites".

- 4.1 The contractor certifies that all process equipment and controls associated with the ATP are ready for testing to commence. Exceptions will be noted in the test log and will have the concurrence of the Test Engineer.

Changes by Craig M. Loh 5-3-96

[Signature] 5-3-96 - For 350-A Lift Station
Zygotech Construction Date

[Signature] 5-15-96 - For 3906 Lift Station
Zygotech Const. Date

Craig M. Loh 5-3-96 350-A
WHC Test Engineer Date

Craig M. Loh 5-15-96 3906
WHC Test Engineer Date

- 4.2 Identify the status (installed/incomplete) of the 350-A Lift Station. If the lift station has been installed, then it will be tested per this ATP. If the 350-A Lift Station has not been completely installed, Section 8.0 of this ATP does not have to be completed.

complete, *Craig M. Loh* 5-3-96
(complete/incomplete) Test Engineer Date

- 4.3 All danger and caution tags have been removed from equipment that will be tested or existing tagouts have been discussed with the contractor and their impact on the ATP is acceptable to proceed with testing.

Craig M. Loh 5-3-96
Test Engineer Date

- 4.4 A pre-job safety meeting has been held and all personnel involved in the ATP have signed off on the pre-job ~~roster~~.

Craig M. Loll, 5-3-96
WHC Test Engineer Date

safety analysis
CM 5-3-96

- 4.5 When all prerequisites are completed then sign below to formally authorize the commencement of testing activities.

Craig M. Loll, 5-3-96
WHC Test Engineer Date

5.0 GENERAL INSTRUCTIONS

This section provides general requirements that apply during the entire ATP performance. The test engineer and contractor test performers must read this section prior to performing any ATP testing.

Instructions

- 5.1 An exception will be logged (Appendix B) for any step not meeting the requirements of the ATP unless the exception can be corrected and retested during the present shift.
- 5.2 Each major section (X.0) is performed sequentially. The Test Engineer has authority to perform major sections out of sequence (without an ATP change) provided:
 1. The "Special Prerequisites" in that section are completed.
 2. Performing the section out of sequence will not adversely impact any unfinished (previous or subsequent) sections or adversely impact the ATP performance schedule.
- 5.3 The Test Engineer signoff of test steps certify that direct observation or inspection has been made or that a report was recieved from test personnel signifying that the step was performed.

- 5.4 LEAD/LAG ... The lift station pumps are controlled by a LEAD/LAG scheme that controls which piece of equipment will start next. When a piece of equipment shutdown then its status should change to LAG. When equipment with a LEAD status is taken out of AUTO then a LEAD status should be reassigned to the other piece of equipment if it is in AUTO.

6.0 LIFT STATION 3906 PUMP (LSP-1,2) TESTING

This section tests the sump pumps for proper operation. After this test is completed the sump controls may be left in automatic.

Special Prerequisites

- 6.1 Notify 310 Facility (373-5082) and 340 Facility (376-3420) personnel that testing will be performed on 3906 Lift Station and that they will receive an alarm signal.

- 6.2 When all prerequisites are completed then sign below.

Greg McCall 5-15-96 *1 - Signal from 3906 to 3707F
WHC Test Engineer Date not completed. cmg

Instructions

- 6.3 Ensure electrical supply breakers are open for both sump pumps.
- 6.4 Bump test each pump as follows:
- 6.4.1 Position the HAND/OFF/AUTO switch for the pump to OFF.
 - 6.4.2 Verify no obstructions are present that would hinder equipment operation.
 - 6.4.3 Close the electrical supply breaker.
 - 6.4.4 Position the HAND/OFF/AUTO switch for the pump to HAND and run the equipment for ~5 secs. then position to OFF.
 - 6.4.5 Verify the equipment is stopped.

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ACCEPTANCE TEST REPORT FOR THE
L-070 PROJECT

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6.5 Start filling sump with water.

6.6 Turn HAND/OFF/AUTO switches for both pumps to AUTO.

6.7 Verify that LSP-1 (LSP-2) pump starts as water rises approximately 2.25 feet from the bottom of the sump.

6.8 Verify that flow registers on FIT-3906, the local readout ^{*2} for the 3906 Lift Station discharge. (0-260 gpm)

~~6.9 Pump the sump down to the low level shutoff (approximately 1 foot).~~

#3 ~~6.9 Let LSP-1 (LSP-2) pump run until the water level is visibly below the 2.25 foot level (below the displacer) and then turn the HOA switch on the lead pump to OFF and then back to AUTO. (This should change the lead/lag status of the pumps)~~ *cm 8-15*

6.10 Fill the sump to the lead pump on level again (approximately 2.25 feet of water).

6.11 Verify that LSP-2 (LSP-1), previously in the lag position now starts up.

6.12 Turn both pump HOA switches to OFF.

6.13 Fill the sump to approximately 4.25 feet.

6.14 Verify that the local colored alarm light comes on.

6.15 Verify that the "High" level alarm signal is received at the 310 Building control room (phone: 373-5082) or one of the computer panels (3707F or 340 Control Room) at the 340 Facility (phone: 376-3420).

6.16 Position both the pump HAND/OFF/AUTO switches to AUTO

6.17 Verify that both pumps start and run.

6.18 Verify that both pumps shut off at approximately 1 foot of water.

- 6.19 Record the status (auto/secured) of the sump system below.

auto UMI
(auto/secured) Initials

- 6.20 When testing in this section is completed then sign below.

UMI 5-15-96
WHC Test Engineer Date

7.0 MANHOLE PS-72 SIGNAL

This section provides Verification that the flow signal from the PS-72 ISCO Flowmeter is being received on the Waste Collection Sump screen on CP-1, at the 310 Building.

Special Prerequisites

- 7.1 Signal wires have been connected per ICF Kaiser Hanford Co. Drawing H-3-304724, sheet 1 of 1, rev. 0.
- 7.2 When all prerequisites are completed then sign below.

Craig M. Hall 5-3-96
WHC Test Engineer Date

Instructions

- 7.3 Verify that a flowrate for the PS-72 flowmeter is being displayed on the CP-1 computer screen at the 310 Facility control room. (Phone: 373-5082)

Craig M. Hall 5-3-96
WHC Test Engineer Date

8.0 LIFT STATION 350-A PUMP (LSP-1,2) TESTING

If prerequisite 4.2 has been signed off as INSTALLED, perform this section. If it has been signed off as INCOMPLETE, N/A steps 8.1, 8.16 and sign 8.17.

This section tests the sump pumps for proper operation. After this test is completed the sump controls will be left in the "OFF," position.

Special Prerequisites

- 8.1 When all prerequisites are completed then sign below.

Craig M. Lott
WHC Test Engineer

5-3-96
Date

Instructions

- 8.2 Verify electrical supply breakers are open for both sump pumps.
- 8.3 Bump test each pump as follows:
- 8.3.1 Position the HAND/OFF/AUTO switch to OFF.
 - 8.3.2 Verify no obstructions are present that would hinder equipment operation.
 - 8.3.3 Close the electrical supply breaker.
 - 8.3.4 Position the HAND/OFF/AUTO switch to HAND and run the equipment for 5 secs. then position to OFF.
 - 8.3.5 When bump testing is completed verify the equipment is stopped.
- 8.4 Start filling sump with water.
- 8.5 Turn HAND/OFF/AUTO switches for both pumps to AUTO.
- 8.6 Verify that LSP-1 (LSP-2) starts as water reaches the "lead pump on," level (approximately 2.5 feet).

*3 8.7 Pump the sump down to the low level/shutoff (approximately 1 foot).
~~8.7 Let the pump run until the water level is below the 2.5 foot~~
level and then turn the HOA switch on the lead pump to OFF
and then back to AUTO. (This should change the lead/lag
status of the pumps) *5-3-96*

- 8.8 Fill the sump to the "lead pump on" level again.
- 8.9 Verify that LSP-2 (LSP-1), previously in the lag position, starts up.
- 8.10 Turn both pump HOA switches to OFF.
- 8.11 Fill the sump to the "alarm," level, which is approximately three inches below the horizontal section of the discharge piping from the sump pumps.
- 8.12 Verify that the local colored alarm light comes on.
- 8.13 Position both the pump HAND/OFF/AUTO switches to AUTO
- 8.14 Verify that both pumps start and run.
- 8.15 Verify that both pumps shut off at approximately 6 inches above the bottom of the sump.
- 8.16 Position both the pump HAND/OFF/AUTO switches to OFF.
- 8.17 Position the electrical supply breakers to the "OPEN," position.
- 8.18 When testing in this section is completed then sign below.

Craig M. Zell
WHC Test Engineer*5-3-96*
Date

Appendix A: Instructions for completing Exceptions Log

Instructions

1. If the proposed change affects personnel safety then change the ATP JSA instead of changing the ATP.
2. If the change affects equipment function or performance or compromises or influences test data then an ECN must be issued prior to making a change.
3. If the change does not effect function or performance or compromises or influences test data or if an ECN has been approved then the ATP change is performed per the following instructions using the ATP change form on the next page.
 - A. Enter the next sequential exception\change serial number in appendix B.
 - B. Enter a detailed description of the exception\change including section, page etc. or the change may be attached to the form that shows the "as is" conditions and the "should be" conditions.
 - D. Enter the change in the ATP. New typewritten pages may be substituted for pages that do not contain data or signatures. Pages being replaced that contain data or signatures must be saved in appendix P. The ATP change number, date and initials of the person making the change must appear on each page or in the vicinity of the change.
 - E. Sign the ATP exception/change form indicating the change has been made and insert the form in appendix F.

[illegible]

JOB SAFETY ANALYSIS

Page 1 of 2

Job No. L-070 Work Order No. 300 Area 300 Bldg.
 By ERIC PETERSON Date 11-13-95 KEH No. KH-5508
 Job/Description: POWER INSTALLATION FOR LIFT STATIONS 1 & 2.
 Emergency Contact Person(s): Primary: CHRIS GRAY 539-1476 / 378-8818
 Secondary: JEFF SIMUNDSON 544-8116
 Emergency Radio/Phone No.: 911
 Specific Work Location(s): LIFT STATIONS 1 & 2.

KNOWN OR POTENTIAL HAZARDS

	Yes	No	Reference			Yes	No	Reference	
			ICF KH	Contractor				ICF KH	Contractor
Radiation Area Work	☒	☐	RAD 1		10. Respiratory Hazards	☒	☐	10H 10	
Hazardous Waste Operation	☒	☐	CFV1.2		11. Electrical Hazards	☐	☒	IS 10L	CSH 27
Confined Space	☒	☐	IS 10C	CSH 14	12. Lock and Tag	☒	☐	IS 10S	CSH 13
Welding/Burning	☐	☒	IS 10K		13. Scaffolding	☐	☒	IS 10A	
Roof Work	☐	☒	IS 10V		14. Aerial Lifts	☐	☒	IS 10B	
Fall Hazards (> ☒ 6')	☐	☒	IS 10E	CSH 9	15. Asbestos Removal	☒	☐	CFV1.3	
Excavation/Trenching	☒	☐	IS 10D	CSH 24	16. Electrical NEC Compliance	☒	☐	NEC	
Asbestos Inspection Report	☐	☒	IS 3		☒ = Formal training required ☒ = Items that require a permit/form/report				
Hazardous Materials	☒	☐	IS 10D						

Other Hazards:		Yes	No	Control Measures
Temperature Extremes	☒	☐	☒	DRESS PROPERLY FOR COLD WEATHER CONDITIONS.
Lighting	☐	☒	☐	
Pests/Insects	☒	☐	☐	BE WATCHFUL
Process Chemicals/Steam	☐	☒	☐	
Dust	☐	☒	☐	
Flammable/Combustible Materials	☐	☒	☐	
Ladders	☐	☒	☐	
Wet/Sloppy Floors	☐	☒	☐	
Uneven Terrain	☒	☐	☐	STEP CAREFULLY
Open Excavations/Trenches	☒	☐	☐	BARRICADE AREA.
Adjacent Water Hazard	☐	☒	☐	
Vehicle Traffic	☐	☒	☐	
Heavy Equipment	☐	☒	☐	
Rigging Operation	☐	☒	☐	
Manual Lifting	☒	☐	☐	LIFT WITH LEGS. GET HELP IF NEEDED.
Power Tools	☒	☐	☐	INSPECT CORDS/GUARDS. USE GFCI.
Pinch Points	☒	☐	☐	KEEP HANDS CLEAR. WEAR LEATHER GLOVES.
Falling Objects	☐	☒	☐	
Sharp Objects	☒	☐	☐	WEAR LEATHER GLOVES.
Overhead Obstructions	☐	☒	☐	
Site Control (Signs/Barricades)	☒	☐	☐	BARRICADE CONSTRUCTION AREA.
Remote Work Area	☐	☒	☐	
Other:	☒	☐	☐	SEE PAGE 2.

DRESS REQUIREMENTS: Hard Hat, Safety Glasses, Proper Footwear, Full Length Pants, Shirt with Sleeves

APPROVALS

Continuation of the job steps, associated hazards, or safety measures need to be performed? Yes ☒ No ☐

Supervisor: [Signature] Date: 11/15/95 Industrial Safety Representative: [Signature] Date: 11-17-95 Industrial Hygiene, if required: [Signature]

JOB SAFETY ANALYSIS (Continued)

Page 2 of 2

WORK ACTIVITY

HAZARDS PRESENT

REQUIRED SAFETY MEASURES/PPE

LOCK & TAG.
ELECTRICAL TIE-INS.

SHOCK / INJURY

FOLLOW CISH 13.
DO ZERO ENERGY CHECK.

POWER TOOLS

INJURIES.

USE ONLY WITH GFCI.
INSPECT DAILY.
CORDS TO HAVE GROUND PINS.
GUARDS TO BE IN PLACE.

GENERAL WORK.

INJURIES.

WEAR P.P.E.
HARD HATS. STEEL-TOED
BOOTS.
SAFETY GLASSES.

CONDUIT INSTALLATION

INJURIES.

HAVE CURRENT MSDS FOR
PVC GLUE. GLUE IN WELL
VENTILATED AREA.

GENERAL

FALL HAZARDS OVER
6' IN HEIGHT

SEE FALL PROTECTION
WORK PLAN

CONFINED SPACE
(LIFT STATION MAN HOLES)

SEE CONFINED SPACE
ENTRY PERMIT.

ROTOR HAMMER TO
INSTALL DROP IN

SILICA DUST

USE WET METHOD

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KEH 2175.00 (09/92)

JOB SAFETY ANALYSIS

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Project No. L-070	Work Order No.	Area 300	Bldg. 350A
Prepared By MILES TAKAKI	Date 3/25/96	KEH No. 5508	
Scope/Description: ELECTRICAL INSTALLATION			
Emergency Contact Person(s) Primary: CHRIS GRAY 539-1976			
Secondary: JEFF SIMUNOSON 544-8116			
Emergency Radio/Phone No.: 911			

Specific Work Locations(s): **LIFT STATION NO. 1 @ PAINT SHOP 350A BLDG**

KNOWN OR POTENTIAL HAZARDS

	Yes	No	Reference		Yes	No	Reference	
			KEH	CONTRACT			KEH	CONTRACTOR
1. Radiation Area Work ✓		✓				✓		
2. Hazardous Waste Operation ✓		✓				✓		
3. Confined Space ✓	✓	✓	CESH 22			✓	CESH 23A & 23B	
4. Welding/Burning		✓			✓		CESH 24	
5. Hazardous Work		✓				✓		
6. Roof Work		✓				✓		
7. Fall Hazards (>= 6' = 10')	✓	✓	CESH 14			✓		
8. Excavation/Trenching		✓				✓		
9. Asbestos Inspection Report	✓	✓				✓		
					✓ = Formal training required * = Items that require a permit/form/report			
10. Hazardous Materials ✓		✓				✓		
11. Respiratory Hazards ✓		✓				✓		
12. Electrical Hazards		✓				✓		
13. Lock and Tag ✓		✓				✓		
14. Scaffolding		✓				✓		
15. Aerial Lifts ✓		✓				✓		
16. Asbestos Removal ✓		✓				✓		

Other Hazards	Yes	No	Control Measures
1. Temperature Extremes		✓	
2. Noise	✓	✓	USE HEARING PROTECTION AS REQUIRED
3. Poor Lighting		✓	
4. Animals/Insects	✓	✓	BE AWARE / FIRST AID KIT AVAILABLE
5. Process Chemicals/Steam		✓	
6. Dust		✓	
7. Flammable/Combustible Materials		✓	
8. Ladders	✓	✓	SECURE PROPER FOOTING FOR STEPLADDERS/EXTENSION LADDERS
9. Wet/Slippery Floors		✓	
10. Uneven Terrain		✓	
11. Open Excavations/Trenches		✓	
12. Adjacent Water Hazard		✓	
13. Vehicle Traffic		✓	
14. Heavy Equipment		✓	
15. Piping Operation		✓	
16. Manual Lifting	✓	✓	USE PROPER LIFTING TECHNIQUES
17. Power Tools	✓	✓	USE LEATHER GLOVES/USE WITH GUARDS IN PLACE & GFCI
18. Pinch Points		✓	
19. Falling Objects		✓	
20. Sharp Objects	✓	✓	WEAR LEATHER GLOVES/WATCH FOR BURS ON CONDUIT
21. Overhead Obstructions	✓	✓	WEAR HARD HATS
22. Site Control (Signs/Barricades)		✓	
23. Remote Work Area		✓	
24. Other:		✓	

MINIMUM DRESS REQUIREMENTS: Hard Hat, Safety Glasses, Proper Footwear, Full Length Pants, Shirt with Sleeves

APPROVALS Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? If yes, continue job safety analysis on the following pages.		Yes No
Supervision	Safety Representative 4/3/96	Industrial Hygiene 4-9

SFS No.

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I have read the attached Prejob Plan, Hazardous Work Permit and/or JSA and understand the hazards associated with this job.

Job Location LIFT STATION #1

[illegible]