

# WASTEWATER STREAM CHARACTERIZATION FOR TA-41

at  
Los Alamos National Laboratory

## ENVIRONMENTAL STUDY

CHARACTERIZATION REPORT # 69

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WASTEWATER STREAM  
CHARACTERIZATION FOR  
TA-41

ENVIRONMENTAL STUDY

prepared for:  
THE LOS ALAMOS NATIONAL LABORATORY  
Los Alamos, New Mexico

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## EXECUTIVE SUMMARY

Buildings 1, 2, 3, 4, 6, 7, 8, 9, 16, 29, 30, 44, 47, 50, 51, 53, 54 and 56 in TA-41 were visited to document all drain piping and building outflows and to make permitting recommendations. The pipes exiting the building are as follows:

1. from building 41-1: one sanitary sewer connection (plugged) and three fire line drains,
2. buildings 41-2: one sanitary sewer connection,
3. from buildings 41-3, 6, 8, 9, 16, 29, 44, 47, 51 and 54: these building no not have any drains or any source of water.
4. from building 41-4: one sanitary sewer connection, two storm drains, six fire line drains, three heating system vents, one steam vent, one cooling unit water drain one sanitary sewer vent and four abandoned pipe drains,
5. building 41-7: one sewer connection (unknown destination) and one pump exhaust,
6. from building 41-30: one sanitary sewer connection, six storm drains, two condensed water drains, one sanitary sewer vent and one French drain,
7. from building 41-50: one sanitary sewer connection, one condensed water drain and one water heater pressure relief valve drain,
8. from building 41-53: one sanitary sewer connection and
9. from building 41-56 one sanitary sewer force-main connection.

Recommendations for repiping are provided to allow outfall consolidation to minimize permit maintenance requirements and to bring the facility into compliance with the Laboratory's NPDES Permit. Floor drain plugging is recommended where the potential of discharge of pollutants exists.

A Waste Stream Database has been prepared listing the waste water and flow rate for each outfall.

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## 1.0 INTRODUCTION

During January, 1993, Mark E. Wendt of Santa Fe Engineering (SFE) toured buildings 1, 2, 3, 4, 6, 7, 8, 9, 16, 29, 30, 44, 47, 50, 51, 53, 54 and 56 in TA-41. The purpose of this study is to identify building drain piping, locate outfalls which discharge into the environment and to characterize the wastewater flows and sources existing at the time of the visit. This report will not reflect any subsequent changes in piping or operations. The Waste Stream Characterization Policy of September 10, 1992 was followed for this study. The following tasks were performed for this purpose:

1. Building drains and all piping exiting the building were identified and laid out in schematic form;
2. Wastewater sources were identified at each drain and the wastewater was characterized according to the flow rate and quality. The location of outfalls and their potential sources of discharges were determined. Potential pollutants were also noted;
3. Permit applications for discharges of clean water were not prepared since these discharges do not require permitting at this time and
4. Potential problems were identified and recommendations were made for repiping, floor drain plugging and spill containment where deemed appropriate.

The field investigation proceeded by verifying drain schematic drawings prepared by SFE for the appropriate buildings (Figures 1 through 12) from drawings provided by Los Alamos National Laboratory (LANL) Facilities Engineering Division. The other buildings were visited to insure that no drains exist for the buildings. The following process was used to define drain piping and characterize the wastewater streams:

1. Laboratory engineering drawings were used to prepare the SFE drain piping schematic. The Solid Waste Stream Characterization conducted by IT Corporation was reviewed. The National Pollutant Discharge Elimination System (NPDES) Permit, the 1990 NPDES Permit Application submitted by Los Alamos National Laboratory (LANL) in September, 1990, the latest Federal Facilities Compliance Agreement (FFCA) between the Department of Energy (DOE) and the Environmental Protection Agency (EPA) and the Administrative Order (AO) Docket Number VI-92-1306 issued by EPA to the University of California were used for reference;
2. A site visit was performed to verify the SFE drain schematics and to identify potential outfall pipes exiting the building. The visit entailed a room by room inspection of wastewater sources and drains. Interviews with site personnel were conducted to assist in waste stream characterization and
3. SFE verified drain piping by dye checking.

## 2.0 FIELD INVESTIGATION

The pipes exiting the building have been assigned an Outlet Piping Number. The four part number, sequentially, identifies the Technical Area where the pipe is located, the building from which the pipe discharges, the letters OPN to indicate that it is an outlet piping number and the unique number for the pipe. The piping exiting the building will be labeled for easy identification in the future.

Each drain has a unique identification number. Each number consists of three parts. The first part is the floor the drain is on. The second part has letters that indicate the drain type (abbreviations used are summarized in Table 10). The final part is a unique number for each drain. For example, the floor drain numbering on the first floor would start with 1FD1. The roof drains do not have the number identifying the floor such as RD1 for Roof Drain 1.

The function of each pipe exiting from buildings are listed in Appendix 1, Tables 1 through 8, with non-drain recommendations listed in Table 9 and an abbreviations list in Table 10. Appendix 2 contains the wastestream characterization database output, listing wastewater source, flow rates and periodicity information for each outfall drain. Completed EPA forms are in Appendix 3 for appropriate outfalls. Appendix 4 provides information about the dye study of building drains. Flow schematics of the drains from each building are attached in Appendix 5 as Figures 2 through 12. A Site Plan is included in Appendix 5 as Figure 1 illustrating the locations of buildings included in this report.

### 3.0 RECOMMENDATIONS FOR BUILDING 41-1

Table 1 is a list of the drains to the building outfalls and Figure 2 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendations. This building is an underground storage facility which is part of the WX-5 "Ice House" and was used to store nuclear weapons parts. It is no longer used for this purpose but there still may be traces of tritium in the building according to the building manager Gary Secret.

A wet-pipe fire sprinkler system was installed during a past renovation. This system includes sprinkler heads in the building and valved sprinkler system drains to daylight next to the building. Because all of the floor drains have been plugged, if the sprinkler system was ever activated the building would become flooded and possible tritiated water would flow into passageway TA-41-6 which is adjacent to this building. Since this building is no longer used for hazardous materials storage and it is a steel and concrete structure located below grade, it is recommended the wet-pipe fire sprinkler system be completely removed or deactivated.

#### 3.1 Outfall 41-1-OPN-1

All drains and fixtures to this outfall have been plugged or removed and the sump pump abandoned-in-place. It is recommended this sump pump be investigated for contamination and cleaned if necessary by the responsible user group. No permitting is needed for this outfall and no EPA forms have been prepared.

### 3.2 Outfalls 41-1-OPN-2, 41-1-OPN-3 and 41-1-OPN-4

These outfalls are fire water system drains which discharge to daylight next to the building. These outfalls should be covered by a Notice Of Intent (NOI) to Discharge. No piping changes are recommended. No EPA forms were completed.

### 4.0 RECOMMENDATIONS FOR BUILDING 41-2

Table 2 is a list of the drains to building outfall and Figure 3 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This building is a guard house which has been abandoned and is no longer used. It has one sanitary floor drain, one lavatory and one toilet. The floor drain has been plugged and the toilet and lavatory have been removed. The destination of the discharge pipe from this building could not be traced. According to the Solid Waste Management Units (SWMUs) Report for TA-41 dated November, 1990, this building once drained to a septic tank which was abandoned in 1953. It is not known whether the discharge for this building was re-routed at that time or abandoned. If the building is ever put into operation and fixtures or floor drains are again utilized, then verification of the destination of the sewage discharge by the User would be recommended. No permitting is needed for this outfall and no EPA forms have been prepared.

### 5.0 RECOMMENDATIONS FOR BUILDINGS 41-3, 6, 8, 16, 29, 44, 47, 51 AND 54

Buildings TA-41-3, 6, 8, 16, 29, 44, 47, 51 and 54 were investigated and found to not have any drains and no sources of water. No permitting is required for these buildings and no EPA forms were prepared.

## 6.0 RECOMMENDATIONS FOR BUILDING 41-4

Table 3 is a list of the drains to the building outfalls and Figures 4, 5, 6 and 7 are schematics of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendations.

### 6.1 Outfall 41-4-OPN-1

This outfall is from sanitary facilities and flows into a sewer manhole which drains to the sewage lift station TA-41-56. This lift station then pumps the sewage to the TA-3 sewage collection system. No chemicals are drained into any of the drains or fixtures. There is an old evaporative cooler unit located at the southwest end of the utility tunnel which is no longer in use. It is recommended this unit and its associated piping to floor drain BFD2 be removed.

Area drain BAD1 located exterior of the building at the east entrance to the utility tunnel is currently draining storm water to the sanitary sump pump. It is recommended this drain be re-routed to the storm sewer system.

Mechanical room 128 has two air compressor units and one compressed air filter unit with blow-off lines discharging to floor drain 1FD3. Containing the liquid from the air compressors and compressed air filter unit is recommended.

Floor drain 1FD6 located in mechanical room 128 was not found and is believed to be under a make-up air unit in this room. Verification of the location and destination of this floor drain is recommended and should be performed by the

user group. No permitting is required for this outfall and no EPA forms were prepared.

#### 6.2 Outfall 41-4-OPN-2

This outfall is from roof drains on the building, area drain 1AD1 located at the west building entrance and various drop inlets around the building and drains storm water below grade to a discharge point at the creek bed south and east of the building. No permitting is needed for this outfall and no EPA forms were prepared.

#### 6.3 Outfalls 41-4-OPN-3, 41-4-OPN-4, 41-4-OPN-5, 41-4-OPN-6, 41-4-OPN-7 and 41-4-OPN-17

These outfalls are fire water system drains which discharge to daylight next to the building. These outfalls should be provided with an NOI. No piping changes are recommended for these outfalls and no EPA forms have been prepared.

#### 6.4 Outfall 41-4-OPN-8

This outfall is from roof drains on the building and discharges storm water to daylight next to the building. No permitting or piping changes are required for this outfall and no EPA forms were prepared.

#### 6.5 Outfall 41-4-OPN-9

This outfall is a heating boiler steam vent which discharges condensed water to the atmosphere next to the building. This outfall should be covered by an NOI. No permitting or piping changes are recommended for this outfall and no EPA forms have been prepared.

6.6 Outfall 41-4-OPN-10

This outfall is a sanitary sewer vent which discharges to the atmosphere next to the building. No permitting or piping changes are recommended for this outfall and no EPA forms have been prepared.

6.7 Outfalls 41-4-OPN-11, 41-4-OPN-12 and 41-4-OPN-13

These outfalls are heating system vent pipes which exhaust to the atmosphere next to the building. No permitting or piping changes are required for these outfalls and no EPA forms were prepared.

6.8 Outfalls 41-4-OPN-14 and 41-4-OPN-16

These are abandoned outfall pipes exiting the building and terminating to daylight. It is recommended these pipes be removed. No permitting is needed for these outfalls and no EPA forms have been prepared.

6.9 Outfall 41-4-OPN-15

This outfall is an evaporative cooler drain which discharges to daylight next to the building. This outfall should be covered by an NOI. No piping changes are recommended. No EPA forms were completed.

6.10 Outfalls 41-4-OPN-18 and 41-4-OPN-19

These outfalls are abandoned cooling unit condensate drain lines which terminate to daylight next to the building. It is recommended these outfall pipes be removed. No permitting is required for these outfalls and no EPA forms have been prepared.

## 7.0 RECOMMENDATIONS FOR BUILDING 41-7

Table 4 is a list of the drains to the building outfall and Figure 8 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This is the chlorine and sludge pump house building with an exterior Imhoff Tank unit both of which have been abandoned. This building was once part of a sanitary sewage treatment facility serving TA-2 and TA-41. The Imhoff tank is listed as a SWMU in the SWMU Report dated November, 1990 and should be handled accordingly.

### 7.1 Outfall 41-7-OPN-1

This outfall is a chlorine pump exhaust vent pipe which exhausts to the atmosphere next to the building. No permitting or piping changes are recommended for this outfall and no EPA forms have been prepared.

### 7.2 Outfall 41-7-OPN-2

This outfall is from a floor drain in the sludge pump house portion of the building. This drain, 1FD1, was not verified at the time of the site visit because there was not any water available for dye testing. It is believed that this floor drain discharges to the abandoned Imhoff Tank unit located immediately south of this structure. It is recommended that the floor drain be plugged. No piping changes are recommended for this outfall and no EPA forms were prepared.

## 8.0 RECOMMENDATIONS FOR STRUCTURE 41-8

TA-41-8 is an abandoned sanitary sewage chlorine contact chamber unit with an EPA permitted outfall numbered SSS-06S which has been permanently plugged (see Figure 8). This structure is listed as a SWMU in a report of the same name dated November, 1990 and should be handled accordingly. It is recommended EPA Permit SSS-06S be eliminated from the list of NPDES Permitted Outfalls. No piping changes are recommended and no EPA forms were prepared.

## 9.0 RECOMMENDATIONS FOR BUILDING 41-30

Table 5 is a list of the drains to the building outfalls and Figures 9 and 10 are schematics of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendations.

### 9.1 Outfalls 41-30-OPN-1, 41-30-OPN-2, 41-30-OPN-3 and 41-30-OPN-11

These outfalls are from roof drains on the building and discharge storm water to daylight next to the building. No permitting is needed for these outfalls and no EPA forms have been prepared.

### 9.2 Outfall 41-30-OPN-4

This outfall is from sanitary facilities and flows below grade to a manhole which drains to the sanitary sewage lift station TA-41-56 located approximately 100 yards to the east of building 41-4. From there it is pumped by underground pipeline to the TA-3 sewage collection system. No chemicals are drained into any of the drains or fixtures. Area drains 1AD1 and 1AD2 are receiving storm water flow and are

currently draining to the sanitary sewer system. It is recommended these two drains be re-routed to the storm sewer system.

Mechanical room 105 has an air compressor unit with a blow-off line discharging to floor drain 1FD2. Containing the liquid from the air compressor unit is recommended.

Sump pump 1SP1 located in mechanical room 105 was plugged with debris at the time of the field investigation. The building manager was informed of this at that time and said he would get it fixed. Verification of this repair by the user group is recommended. No permitting is required for this outfall. No EPA forms were prepared.

#### 9.3 Outfalls 41-30-OPN-5 and 41-30-OPN-6

These outfalls are mechanical cooling equipment condensed water drains which discharge to daylight next to the building. These outfalls should be covered by an NOI. No piping changes are recommended. No EPA forms were completed.

#### 9.4 Outfalls 41-30-OPN-7 and 41-30-OPN-8

These outfalls are from roof gutter drains. The down spouts drain to daylight next to the building. No permitting is needed for these outfalls and no EPA forms have been prepared.

#### 9.5 Outfall 41-30-OPN-9

This outfall is a sanitary sewer vent discharging to the atmosphere next to the building. No piping changes are recommended. No EPA forms were completed.

#### 9.6 Outfall 41-30-OPN-10

This outfall is from a floor drain located in the elevator pit which discharges straight down to a French drain below the floor. It is recommended a secondary containment berm be constructed around the floor drain. No permitting or piping changes are recommended. No EPA forms were completed.

### 10.0 RECOMMENDATIONS FOR BUILDING 41-50

Table 6 is a list of the drains to the building outfalls and Figure 11 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendation.

#### 10.1 Outfall 41-50-OPN-1

This outfall is a furnace cooling coil condensed water drain which discharges to daylight next to the building. This outfall should be covered by an NOI. No piping changes are recommended. No EPA forms have been prepared.

#### 10.2 Outfall 41-50-OPN-2

This outfall is from a water heater pressure relief valve and discharges to daylight next to the building. This outfall should be covered by an NOI. No piping changes are recommended. No EPA forms were completed.

#### 10.3 Outfall 41-50-OPN-3

This outfall is from sanitary facilities and flows below grade to a manhole which drains to the sanitary sewage lift station TA-41-56 located approximately 100 yards to the east

of building 41-4. From there it is pumped by underground pipeline to the TA-3 sewage collection system. No chemicals are drained into any of the drains or fixtures. No permitting is required for this outfall and no EPA forms were prepared.

#### **11.0 RECOMMENDATIONS FOR BUILDING 41-53**

Table 7 is a list of the drains to the building outfall and Figure 12 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. No chemicals are drained into any of the drains or fixtures. The one outfall receives flow from one lavatory and one toilet and drains to a sanitary sewer manhole which flows to the sewage lift station TA-41-56 located on the east side of this technical area. From there it is pumped by underground pipeline to the TA-3 sewage collection system. No permitting is required for this outfall and no EPA forms were prepared.

#### **12.0 RECOMMENDATIONS FOR BUILDING 41-56**

Table 8 is a list of the drains to the building outfall and Figure 8 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This structure is the sanitary sewage lift station which receives flow from all sanitary drains and fixtures in TA-41 and TA-2 and pumps it by way of an underground pipeline to the TA-3 sanitary sewage collection system. No permitting is required for this outfall and no EPA forms have been completed.

### 13.0 CONCLUSION

This document provides the information to characterize all of TA-41.

EPA Permitted outfall SSS-06S has been permanently plugged and should be eliminated from the list of permitted outfalls.

Permitting is not recommended for the following outfalls, as itemized below.

#### Discharges to TA-3 Sewage Collection System:

- |                |                |                |
|----------------|----------------|----------------|
| 1. 41-1-OPN-1  | 2. 41-2-OPN-1  | 3. 41-4-OPN-1  |
| 4. 41-30-OPN-4 | 5. 41-50-OPN-3 | 6. 41-53-OPN-1 |
| 7. 41-56-OPN-1 |                |                |

#### Discharge from the fire system:

- |               |               |                |
|---------------|---------------|----------------|
| 1. 41-1-OPN-2 | 2. 41-1-OPN-3 | 3. 41-1-OPN-4  |
| 4. 41-4-OPN-3 | 5. 41-4-OPN-4 | 6. 41-4-OPN-5  |
| 7. 41-4-OPN-6 | 8. 41-4-OPN-7 | 8. 41-4-OPN-17 |

#### Discharges of storm water:

- |                |                 |                |
|----------------|-----------------|----------------|
| 1. 41-4-OPN-2  | 2. 41-4-OPN-8   | 3. 41-30-OPN-1 |
| 4. 41-30-OPN-2 | 5. 41-30-OPN-3  | 6. 41-30-OPN-7 |
| 7. 41-30-OPN-8 | 8. 41-30-OPN-11 |                |

#### Discharges of condensed water:

- |                |                |                |
|----------------|----------------|----------------|
| 1. 41-4-OPN-7  | 2. 41-30-OPN-5 | 3. 41-30-OPN-6 |
| 4. 41-50-OPN-1 |                |                |

#### Discharges from water heater pressure relief valves:

1. 41-50-OPN-2

#### Discharges from heating boiler exhaust vents:

- |                |                |                |
|----------------|----------------|----------------|
| 1. 41-4-OPN-9, | 2. 41-4-OPN-11 | 3. 41-4-OPN-12 |
| 4. 41-4-OPN-13 |                |                |

#### Abandoned discharges:

- |                |                |                |
|----------------|----------------|----------------|
| 1. 41-4-OPN-14 | 2. 41-4-OPN-16 | 3. 41-4-OPN-18 |
| 4. 41-4-OPN-19 |                |                |

Miscellaneous discharges:

- |                |                 |               |
|----------------|-----------------|---------------|
| 1. 41-4-OPN-15 | 2. 41-7-OPN-1   | 3. 41-7-OPN-2 |
| 4. 41-30-OPN-9 | 5. 41-30-OPN-10 |               |

Buildings with no drains:

- |              |             |             |
|--------------|-------------|-------------|
| 1. TA-41-3   | 2. TA-41-6  | 3. TA-41-8  |
| 4. TA-41-9   | 5. TA-41-16 | 6. TA-41-29 |
| 7. TA-41-44  | 8. TA-41-47 | 9. TA-41-51 |
| 10. TA-41-54 |             |             |

Recommended corrective actions are outlined in Tables 1 through 9 as well as in the above text. Corrective action should be performed as soon as practicable to minimize the chance of unpermitted discharge of pollutants.

TABLE 1: TA 41-1 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-1-OPN-1 (SANITARY)	1FD1	STORAGE ROOM	103	PLUGGED	NO
	1FD2	STORAGE CELLS	104	PLUGGED	
	1LV1	CORRIDOR	101	REMOVED	
	1SD1	STORAGE ROOM	103	PLUGGED	
	1SD2	STORAGE CELLS	104	REMOVED	
	1SP1	EXTERIOR	N/A	VERIFY	
	1TL1	CORRIDOR	101	REMOVED	
41-1-OPN-2	N/A	FIRE LINE DRAIN	101	NOI	NO
41-1-OPN-3	N/A	FIRE LINE DRAIN	101	NOI	NO
41-1-OPN-4	N/A	FIRE LINE DRAIN	101	NOI	NO

TABLE 2: TA 41-2 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-2-OPN-1 (SANITARY)	1FD1	ELECTRICAL ROOM	100	PLUGGED	NO
	2LV1	RESTROOM	200A	REMOVED	
	2TL1	RESTROOM	200A	REMOVED	

TABLE 3: TA 41-4 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-4-OPN-1 (SANITARY)	BAD1	UTIL. TUNNEL ENTRY	N/A	RE-PIPE	NO
	BFD1	UTILITY TUNNEL	N/A	NO CHANGE	
	BFD2	UTILITY TUNNEL	N/A	NO CHANGE	
	BFD2	COOLING UNIT	N/A	REMOVE	
	BFD3	UTILITY TUNNEL	N/A	NO CHANGE	
	BSP1	UTILITY TUNNEL	N/A	NO CHANGE	
	1FD1	MECHANICAL ROOM	130	NO CHANGE	
	1FD2	MECHANICAL ROOM	130	NO CHANGE	
	1FD3	MECHANICAL ROOM	128	NO CHANGE	
	1FD3	(2) AIR COMP. DRAIN	128	CONTAINERIZE	
	1FD3	AIR FILTER DRAIN	128	CONTAINERIZE	
	1FD4	UTILITY TUNNEL	N/A	NO CHANGE	
	1FD5	UTILITY TUNNEL	N/A	NO CHANGE	
	1FD6	MECHANICAL ROOM	128	VERIFY	
	1FD7	MECHANICAL ROOM	128	NO CHANGE	

TABLE 3: TA 41-4 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-4-OPN-1 (SANITARY) CONT.	1FD8	CORRIDOR	127D	PLUGGED	NO
	1FD9	MECHANICAL ROOM	128	NO CHANGE	
	1FD10	STORAGE BAY	127	PLUGGED	
	1FD11	STORAGE ROOM	127A	PLUGGED	
	1FD12	STORAGE BAY	127	PLUGGED	
	1FD13	OFFICE	115	PLUGGED	
	1FD14	UTILITY TUNNEL	N/A	NO CHANGE	
	1LV1	RESTROOM	127C	NO CHANGE	
	1LV2	RESTROOM	127C	NO CHANGE	
	1LV3	BATHROOM	109	NO CHANGE	
	1LV4	BATHROOM	109	NO CHANGE	
	1LV5	BATHROOM	107	NO CHANGE	
	1LV6	BATHROOM	107	NO CHANGE	
	1SD1	OFFICE	122	NO CHANGE	
	1SD2	OFFICE	121	REMOVED	
	1SD3	OFFICE	118	NO CHANGE	
	1SD4	OFFICE	116	NO CHANGE	
	1SD5	JANITOR'S CLOSET	109JC	NO CHANGE	
	1SD6	OFFICE	106	REMOVED	
	1SH1	BATHROOM	109	NO CHANGE	
	1SH2	BATHROOM	109	NO CHANGE	
	1SH3	BATHROOM	109	NO CHANGE	
	1SH4	BATHROOM	107	NO CHANGE	
	1SH5	BATHROOM	107	NO CHANGE	
	1TL1	RESTROOM	127C	NO CHANGE	
	1TL2	BATHROOM	109	NO CHANGE	
	1TL3	BATHROOM	109	NO CHANGE	
	1TL4	BATHROOM	107	NO CHANGE	
	1UR1	BATHROOM	109	NO CHANGE	
	1UR2	BATHROOM	109	NO CHANGE	
	1WF1	CORRIDOR	100	NO CHANGE	
	2CD1	LABORATORY	254	PLUGGED	
	2ED1	UTILITY AREA	236D	NO CHANGE	
	2FD1	EQUIPMENT ROOM	244	PLUGGED	
	2FD2	CORRIDOR	244	PLUGGED	
	2FD3	HIGH PRESS. LAB	262	NO CHANGE	
	2FD4	HIGH PRESS. LAB	260	NO CHANGE	
	2FD5	HIGH PRESS. LAB	258	NO CHANGE	
	2FD6	BATHROOM	232A	NO CHANGE	
	2FD7	LABORATORY	233	NO CHANGE	
2FD8	MECHANICAL ROOM	223	NO CHANGE		

TABLE 3: TA 41-4 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-4-OPN-1 (SANITARY) CONT.	2LV1	BATHROOM	232A	NO CHANGE	NO
	2LV2	RESTROOM	232B	NO CHANGE	
	2LV3	RESTROOM	232B	NO CHANGE	
	2LV4	RESTROOM	209	NO CHANGE	
	2LV5	RESTROOM	209	NO CHANGE	
	2LV6	RESTROOM	207	NO CHANGE	
	2LV7	RESTROOM	207	NO CHANGE	
	2SD1	LABORATORY	256	NO CHANGE	
	2SD2	LABORATORY	254	PLUGGED	
	2SD3	LABORATORY	254	NO CHANGE	
	2SD4	LABORATORY	250	NO CHANGE	
	2SD5	LABORATORY	238	REMOVED	
	2SD6	MACHINE SHOP	241	NO CHANGE	
	2SD7	MACHINE SHOP	240	NO CHANGE	
	2SD8	JANITOR'S CLOSET	228	NO CHANGE	
	2SD9	LABORATORY	236A	REMOVED	
	2SD10	LABORATORY	236	REMOVED	
	2SD11	LABORATORY	236	REMOVED	
	2SD12	COMPUTER ROOM	221	NO CHANGE	
	2SD13	BREAK ROOM	218	NO CHANGE	
	2SD14	RESTROOM	207	NO CHANGE	
	2SD15	OFFICE	203	NO CHANGE	
	2SH1	BATHROOM	232A	NO CHANGE	
	2TL1	BATHROOM	232A	NO CHANGE	
	2TL2	RESTROOM	232B	NO CHANGE	
	2TL3	RESTROOM	232B	NO CHANGE	
	2TL4	RESTROOM	209	NO CHANGE	
	2TL5	RESTROOM	209	NO CHANGE	
	2TL6	RESTROOM	207	NO CHANGE	
	2TL7	RESTROOM	207	NO CHANGE	
2UR1	RESTROOM	232B	NO CHANGE		
2UR2	RESTROOM	232B	NO CHANGE		
2UR3	RESTROOM	207	NO CHANGE		
2WF1	LABORATORY	250	NO CHANGE		
2WF2	CORRIDOR	200	NO CHANGE		
41-4-OPN-2 (STORM WTR)	1AD1	EXTERIOR ENTRY	N/A	NO CHANGE	NO
	RD1	ROOF	N/A	NO CHANGE	
	RD2	ROOF	N/A	NO CHANGE	
	RD3	ROOF	N/A	NO CHANGE	
	RD6	ROOF	N/A	NO CHANGE	

TABLE 3: TA 41-4 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-4-OPN-2 (STORM WTR) CONT.	RD7	ROOF	N/A	NO CHANGE	NO
	RD8	ROOF	N/A	NO CHANGE	
	RD9	ROOF	N/A	NO CHANGE	
	RD10	ROOF	N/A	NO CHANGE	
	RD11	ROOF	N/A	NO CHANGE	
	RD12	ROOF	N/A	NO CHANGE	
41-4-OPN-3	N/A	FIRE LINE DRAIN	101	NOI	NO
41-4-OPN-4	N/A	FIRE LINE DRAIN	N/A	NOI	NO
41-4-OPN-5	N/A	FIRE LINE DRAIN	130	NOI	NO
41-4-OPN-6	N/A	FIRE LINE DRAIN	130	NOI	NO
41-4-OPN-7	N/A	FIRE LINE DRAIN	130	NOI	NO
41-4-OPN-8 (STORM WTR)	RD4	ROOF	N/A	NO CHANGE	NO
	RD5	ROOF	N/A	NO CHANGE	
41-4-OPN-9	N/A	STEAM VENT	130	NOI	NO
41-4-OPN-10	N/A	SAN. SEWER VENT	128	NO CHANGE	NO
41-4-OPN-11	N/A	HEAT'G BOILER VENT	128	NO CHANGE	NO
41-4-OPN-12	N/A	HEAT'G BOILER VENT	128	NO CHANGE	NO
41-4-OPN-13	N/A	HEAT'G BOILER VENT	128	NO CHANGE	NO
41-4-OPN-14	N/A	ABANDONED PIPE	123	REMOVE	NO
41-4-OPN-15	N/A	COOL'G UNIT DRAIN	EXTER.	NOI	NO
41-4-OPN-16	N/A	ABANDONED PIPE	122	REMOVE	NO
41-4-OPN-17	N/A	FIRE LINE DRAIN	122	NOI	NO
41-4-OPN-18	N/A	ABANDONED PIPE	118	REMOVE	NO
41-4-OPN-19	N/A	ABANDONED PIPE	118	REMOVE	NO

TABLE 4: TA 41-7 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-7-OPN-1	N/A	CHLOR. PUMP EXH.	N/A	NO CHANGE	NO
41-7-OPN-2	1FD1	PUMP ROOM	N/A	PLUG	NO

TABLE 5: TA 41-30 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-30-OPN-1 (STORM WTR)	RD3	ROOF	N/A	NO CHANGE	NO
	RD4	ROOF	N/A	NO CHANGE	
41-30-OPN-2 (STORM WTR)	RD5	ROOF	N/A	NO CHANGE	NO
	RD6	ROOF	N/A	NO CHANGE	
41-30-OPN-3 (STORM WTR)	RD7	ROOF	N/A	NO CHANGE	NO
	RD8	ROOF	N/A	NO CHANGE	
41-30-OPN-4 (SANITARY)	1AD1	EXTERIOR ENTRY	N/A	RE-PIPE	NO
	1AD2	EXTERIOR ENTRY	N/A	RE-PIPE	
	1FD1	MECHANICAL ROOM	105	NO CHANGE	
	1FD2	MECHANICAL ROOM	105	CONTAINERIZE	
	1SP1	MECHANICAL ROOM	105	REPAIR	
	1WF1	EXERCISE ROOM	115	NO CHANGE	
	2FD1	MACHINE SHOP	264	NO CHANGE	
	2FD2	MACHINE SHOP	264	NO CHANGE	
	2FD3	RESTROOM	234	NO CHANGE	
	2FD4	RESTROOM	228	NO CHANGE	
	2FS1	MACHINE SHOP	264	PLUGGED	
	2LV1	RESTROOM	234	NO CHANGE	
	2LV2	RESTROOM	234	NO CHANGE	
	2LV3	RESTROOM	228	NO CHANGE	
	2SD1	MACHINE SHOP	264	NO CHANGE	
	2SD2	OFFICE	242	NO CHANGE	
	2SD3	OFFICE	238	REMOVED	
	2SD4	JANITOR'S CLOSET	230	NO CHANGE	
	2SD5	BREAK ROOM	214	NO CHANGE	
	2TL1	RESTROOM	234	NO CHANGE	
	2TL2	RESTROOM	234	NO CHANGE	
	2TL3	RESTROOM	228A	NO CHANGE	
	2UR1	RESTROOM	234	NO CHANGE	
	2UR2	RESTROOM	234	NO CHANGE	
	2WF1	MACHINE SHOP	264	NO CHANGE	
	2WF2	CORRIDOR	200	NO CHANGE	
	3FD1	RESTROOM	334	NO CHANGE	
	3FD2	RESTROOM	328A	NO CHANGE	
	3LV1	RESTROOM	334	NO CHANGE	
	3LV2	RESTROOM	334	NO CHANGE	
	3LV3	RESTROOM	338A	NO CHANGE	
	3SD1	JANITOR'S CLOSET	330	NO CHANGE	
	3SD2	CADD ROOM	310	NO CHANGE	
3SH1	RESTROOM	328	NO CHANGE		

TABLE 5: TA 41-30 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-30-OPN-4 (SANITARY) CONT.	3TL1	RESTROOM	334	NO CHANGE	NO
	3TL2	RESTROOM	334	NO CHANGE	
	3TL3	RESTROOM	328A	NO CHANGE	
	3UR1	RESTROOM	334	NO CHANGE	
	3UR2	RESTROOM	334	NO CHANGE	
	3WF1	CORRIDOR	300	NO CHANGE	
41-30-OPN-5	N/A	CONDENSED WATER	209A	NOI	NO
41-30-OPN-6	N/A	CONDENSED WATER	209A	NOI	NO
41-30-OPN-7	N/A	ROOF	N/A	NO CHANGE	NO
41-30-OPN-8	N/A	ROOF	N/A	NO CHANGE	NO
41-30-OPN-9	N/A	SAN. SEWER VENT	105	NO CHANGE	NO
41-30-OPN-10	N/A	ELEV. EQUIP. PIT	N/A	MODIFY	NO
41-30-OPN-11 (STORM WTR)	RD1	ROOF	N/A	NO CHANGE	NO
	RD2	ROOF	N/A	NO CHANGE	

TABLE 6: TA 41-50 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-50-OPN-1	N/A	CONDENSED WATER	105A	NOI	NO
41-50-OPN-2	N/A	WATER HTR DRAIN	105A	NOI	NO
41-50-OPN-3 (SANITARY)	1LV1	RESTROOM	103	NO CHANGE	NO
	1LV2	RESTROOM	103A	NO CHANGE	
	1TL1	RESTROOM	103	NO CHANGE	
	1TL2	RESTROOM	103A	NO CHANGE	
	1UR1	RESTROOM	103	NO CHANGE	
	1WF1	CORRIDOR	100	NO CHANGE	

TABLE 7: TA 41-53 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-53-OPN-1 (SANITARY)	1LV1	RESTROOM	101A	NO CHANGE	NO
	1TL1	RESTROOM	101A	NO CHANGE	

TABLE 8: TA 41-56 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
41-56-OPN-1	1SLS1	SAN. SEW. LIFT STA.	N/A	NO CHANGE	NO

**TABLE 9: NON-DRAIN RECOMMENDATIONS**

<b>TA #</b>	<b>BLDG. #</b>	<b>ROOM/AREA</b>	<b>RECOMMENDATION</b>
41	1	ALL	REMOVE/DEACTIVATE FIRE SPRINKLER SYSTEM
41	2	ALL	VERIFY DESTINATION IF EVER REUSED
41	7	IMHOFF TANK	SWMU SITEHANDLE ACCORDINGLY
41	8	EAST SIDE OF TA	PERMIT'D OUTFALL PLUGGED ELIMINATE PERMIT SSS-06S
41	9	EAST SIDE OF TA	S.W.M.U. (HANDLE ACCORDINGLY)

**TABLE 10  
SUMMARY OF  
ABBREVIATIONS**

ABBREVIATION	MEANING
AD	Area Storm Drain
CD	Cup Drain
ED	Equipment Drain
FD	Floor Drain
FS	Floor Sink
LV	Lavatory
MH	Manhole
RD	Roof Drain
--- SD ---	Storm Drain Pipe
SD	Sink
SH	Shower
SLS	Sewage Lift Station
--- SS ---	Sanitary Sewer Pipe
SP	Sump Pump
TL	Toilet
UR	Urinal
WF	Water Fountain

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	1	41-1-OPN-1	06S/SWSC	1FD1	103	ICE HOUSE - STORAGE		NO FLOW	No	NONE (PLUGGED)
41	1	41-1-OPN-1	06S/SWSC	1FD2	104	ICE HOUSE - STORAGE		NO FLOW	No	NONE (PLUGGED)
41	1	41-1-OPN-1	06S/SWSC	1LV1	101	ICE HOUSE - STORAGE		NO FLOW	No	NONE (REMOVED)
41	1	41-1-OPN-1	06S/SWSC	1SD1	103	ICE HOUSE - STORAGE		NO FLOW	No	NONE (REMOVED)
41	1	41-1-OPN-1	06S/SWSC	1SD2	104	ICE HOUSE - STORAGE		NO FLOW	No	NONE (REMOVED)
41	1	41-1-OPN-1	06S/SWSC	1TL1	101	ICE HOUSE - STORAGE		NO FLOW	No	NONE (REMOVED)
41	1	41-1-OPN-2	DAYLIGHT	N/A	101	ICE HOUSE - STORAGE		ONCE ANNUALLY	No	FIRE SYSTEM DRAIN
41	1	41-1-OPN-3	DAYLIGHT	N/A	101	ICE HOUSE - STORAGE		ONCE ANNUALLY	No	FIRE SYSTEM DRAIN
41	1	41-1-OPN-4	DAYLIGHT	N/A	101	ICE HOUSE - STORAGE		ONCE ANNUALLY	No	FIRE SYSTEM DRAIN
41	2	41-2-OPN-1	06S/SWSC	1FD1	100	GUARD STATION		NO FLOW	No	NONE (PLUGGED)
41	2	41-2-OPN-1	06S/SWSC	2LV1	200A	GUARD STATION		NO FLOW	No	NONE (REMOVED)
41	2	41-2-OPN-1	06S/SWSC	2TL1	200A	GUARD STATION		NO FLOW	No	NONE (REMOVED)
41	3	TA-41-3	ND	N/A	N/A	FILTER HOUSE		N/A	No	NONE
41	4	41-4-OPN-01	06S/SWSC	1FD01	130	MECHANICAL ROOM	1089 GPD	MOSTLY SUMMER	Yes	COOLING TOWER BLOWDOWN
41	4	41-4-OPN-01	06S/SWSC	1FD02	130	MECHANICAL ROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	1FD03	128	MECHANICAL ROOM		FLOW IS NIL	No	(2) COMPR. AIR DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD03	128	MECHANICAL ROOM		FLOW IS NIL	No	(1) AIR FILTER DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD04	N/A	UTILITY TUNNEL		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	1FD05	N/A	UTILITY TUNNEL		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	1FD06	128	MECHANICAL ROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	1FD07	128	MECHANICAL ROOM		FLOW IS NIL	No	EXPANSION TANK DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD07	128	MECHANICAL ROOM		FLOW IS NIL	No	WATER HTR PRESS. RELIEF
41	4	41-4-OPN-01	06S/SWSC	1FD07	128	MECHANICAL ROOM		FLOW IS NIL	No	COOLING COIL DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD07	128	MECHANICAL ROOM		FLOW IS NIL	No	(2) BOILER DRAINS
41	4	41-4-OPN-01	06S/SWSC	1FD08	127D	CORRIDOR		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	1FD09	128	MECHANICAL ROOM		FLOW IS NIL	No	PRESSURE SENSOR DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD09	128	MECHANICAL ROOM		FLOW IS NIL	No	(2) STEAM PRESS RELIEF VALVE
41	4	41-4-OPN-01	06S/SWSC	1FD09	128	MECHANICAL ROOM		FLOW IS NIL	No	EXPANSION TANK DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD09	128	MECHANICAL ROOM		FLOW IS NIL	No	WATER BACKFLOW PREV DRAIN
41	4	41-4-OPN-01	06S/SWSC	1FD09	128	MECHANICAL ROOM		FLOW IS NIL	No	(3) STEAM VESSEL DRAINS
41	4	41-4-OPN-01	06S/SWSC	1FD10	127	STORAGE BAY		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	1FD11	127A	STORAGE ROOM		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	1FD12	127	STORAGE BAY		NO FLOW	No	NONE (PLUGGED)

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	4	41-4-OPN-01	06S/SWSC	1FD13	115	OFFICE		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	1FD14	N/A	UTILITY TUNNEL		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	1LV1	127C	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	1LV2	127C	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	1LV3	109	BATHROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	1LV4	109	BATHROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	1LV5	107	BATHROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	1LV6	107	BATHROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	1SD1	122	OFFICE		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	1SD2	121	OFFICE		NO FLOW	No	NONE (REMOVED)
41	4	41-4-OPN-01	06S/SWSC	1SD3	118	OFFICE		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	1SD4	116	OFFICE		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	1SD5	109JC	JANITOR'S CLOSET		5 DAYS PER WEEK	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	1SD6	106	OFFICE		NO FLOW	No	NONE (REMOVED)
41	4	41-4-OPN-01	06S/SWSC	1SH1	111	BATHROOM		5 DAYS PER WEEK	No	SHOWER
41	4	41-4-OPN-01	06S/SWSC	1SH2	111	BATHROOM		5 DAYS PER WEEK	No	SHOWER
41	4	41-4-OPN-01	06S/SWSC	1SH3	111	BATHROOM		5 DAYS PER WEEK	No	SHOWER
41	4	41-4-OPN-01	06S/SWSC	1SH4	107	BATHROOM		5 DAYS PER WEEK	No	SHOWER
41	4	41-4-OPN-01	06S/SWSC	1SH5	107	BATHROOM		5 DAYS PER WEEK	No	SHOWER
41	4	41-4-OPN-01	06S/SWSC	1TL1	127C	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	1TL2	109	BATHROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	1TL3	109	BATHROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	1TL4	107	BATHROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	1UR1	109	BATHROOM		5 DAYS PER WEEK	No	URINAL
41	4	41-4-OPN-01	06S/SWSC	1UR2	109	BATHROOM		5 DAYS PER WEEK	No	URINAL
41	4	41-4-OPN-01	06S/SWSC	1WF1	100	CORRIDOR		5 DAYS PER WEEK	No	WATER FOUNTAIN
41	4	41-4-OPN-01	06S/SWSC	2CD1	254	LABORATORY		NO FLOW	No	NONE
41	4	41-4-OPN-01	06S/SWSC	2ED1	236D	UTILITY AREA		FLOW IS NIL	No	CONDENSED WATER
41	4	41-4-OPN-01	06S/SWSC	2FD1	244	EQUIPMENT ROOM		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	2FD2	244	CORRIDOR		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	2FD3	262	HIGH PRESSURE LABORAT		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	2FD4	260	HIGH PRESSURE LABORAT		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	2FD5	258	HIGH PRESSURE LABORAT		FLOW IS NIL	No	FLOOR WASHINGS

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	4	41-4-OPN-01	06S/SWSC	2FD6	232A	BATHROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	2FD7	233	LABORATORY		NO FLOW	No	NONE (PLUGGED)
41	4	41-4-OPN-01	06S/SWSC	2FD8	223	MECHANICAL ROOM		FLOW IS NIL	No	COOLING COIL DRAIN
41	4	41-4-OPN-01	06S/SWSC	2LV1	232A	BATHROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2LV2	232B	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2LV3	232B	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2LV4	209	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2LV5	209	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2LV6	207	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2LV7	207	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	4	41-4-OPN-01	06S/SWSC	2SD01	256	LABORATORY		5 DAYS PRE WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD02	254	LABORATORY		NO FLOW	No	NONE
41	4	41-4-OPN-01	06S/SWSC	2SD03	254	LABORATORY		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD04	250	LABORATORY		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD05	238	LABORATORY		NONE	No	NONE (REMOVED)
41	4	41-4-OPN-01	06S/SWSC	2SD06	241	MACHINE SHOP		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD07	240	MACHINE SHOP		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD08	228	JANITOR'S CLOSET		5 DAYS PER WEEK	No	FLOOR WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD09	236A	LABORATORY		NO FLOW	No	NONE (REMOVED)
41	4	41-4-OPN-01	06S/SWSC	2SD10	236	LABORATORY		NO FLOW	No	NONE (REMOVED)
41	4	41-4-OPN-01	06S/SWSC	2SD11	236	LABORATORY		NO FLOW	No	NONE (REMOVED)
41	4	41-4-OPN-01	06S/SWSC	2SD12	221	COMPUTER ROOM		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD13	218	BREAK ROOM		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD14	207	RESTROOM		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SD15	203	OFFICE		5 DAYS PER WEEK	No	HAND WASHING
41	4	41-4-OPN-01	06S/SWSC	2SH1	232A	BATHROOM		5 DAYS PER WEEK	No	SHOWER
41	4	41-4-OPN-01	06S/SWSC	2TL1	232A	BATHROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	2TL2	232B	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	2TL3	232B	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	2TL4	209	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	2TL5	209	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	2TL6	207	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	4	41-4-OPN-01	06S/SWSC	2TL7	207	RESTROOM		5 DAYS PER WEEK	No	TOILET

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	4	41-4-OPN-01	06S/SWSC	2UR1	232B	RESTROOM		5 DAYS PER WEEK	No	URINAL
41	4	41-4-OPN-01	06S/SWSC	2UR2	232B	BATHROOM		5 DAYS PER WEEK	No	URINAL
41	4	41-4-OPN-01	06S/SWSC	2UR3	207	BATHROOM		5 DAYS PER WEEK	No	URINAL
41	4	41-4-OPN-01	06S/SWSC	2WF1	250	LABORATORY		5 DAYS PER WEEK	No	WATER FOUNTAIN
41	4	41-4-OPN-01	06S/SWSC	2WF2	200	CORRIDOR		5 DAYS PER WEEK	No	WATER FOUNTAIN
41	4	41-4-OPN-01	06S/SWSC	BAD1	N/A	UTILITY TUNNEL ENTRY		MOSTLY SUMMER	No	STORM WATER
41	4	41-4-OPN-01	06S/SWSC	BFD1	N/A	UTILITY TUNNEL		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	BFD2	N/A	UTILITY TUNNEL		FLOW IS NIL	No	FLOOR WASHINGS
41	4	41-4-OPN-01	06S/SWSC	BFD3	N/A	UTILITY TUNNEL		FLOW IS NIL	No	FIRE LINE DRAIN/FLR. WASHING
41	4	41-4-OPN-01	06S/SWSC	BSP1	N/A	UTILITY TUNNEL		7 DAYS PER WEEK	No	SANITARY EFFLUENT
41	4	41-4-OPN-02	DAYLIGHT	1AD1	N/A	EXTERIOR ENTRY AREA		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD01	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD02	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD03	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD06	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD07	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD08	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD09	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD10	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD11	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-02	DAYLIGHT	RD12	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-03	DAYLIGHT	N/A	130	MECHANICAL ROOM		ONCE ANNUALLY	No	FIRE LINE DRAIN
41	4	41-4-OPN-04	DAYLIGHT	N/A	130	MECHANICAL ROOM		ONCE ANNUALLY	No	FIRE LINE DRAIN
41	4	41-4-OPN-05	DAYLIGHT	N/A	130	MECHANICAL ROOM		ONCE ANNUALLY	No	FIRE LINE DRAIN
41	4	41-4-OPN-06	DAYLIGHT	RD4	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-06	DAYLIGHT	RD5	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	4	41-4-OPN-07	DAYLIGHT	N/A	N/A	MECHANICAL ROOM		NO FLOW	No	STEAM VENT
41	4	41-4-OPN-08	DAYLIGHT	N/A	N/A	MECHANICAL ROOM		NO FLOW	No	SANITARY SEWER VENT
41	6	TA-41-6	ND	N/A	N/A	COVERED PASSAGEWAY		N/A	No	NONE
41	7	41-7-OPN-1	ATMOSPHERE	N/A	N/A	CHLORINE PUMP HOUSE		7 DAYS PER WEEK	No	PUMP EXHAUST
41	7	41-7-OPN-2	N/A	1FD1	N/A	SLUDGE PUMP ROOM		NO FLOW	No	NONE
41	8	TA-41-8	13S/SWSC	N/A	N/A	CONTACT TANK (ABANDO		NO FLOW	No	NONE (PLUGGED)
41	9	TA-41-9	ND	N/A	N/A	DRYING BED (ABANDONED)		NO FLOW	No	NONE

REPORT #

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	16	TA-41-16	ND	N/A	N/A	GUARD HOUSE		N/A	No	NONE
41	29	TA-41-29	ND	N/A	N/A	PASSAGEWAY		N/A	No	NONE
41	30	41-30-OPN-01	DAYLIGHT	RD3	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-01	DAYLIGHT	RD4	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-02	DAYLIGHT	RD5	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-02	DAYLIGHT	RD6	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-03	DAYLIGHT	RD7	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-03	DAYLIGHT	RD8	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-04	06S/SWSC	1AD1	N/A	EXTERIOR ENTRY		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-04	06S/SWSC	1AD2	N/A	EXTERIOR ENTRY		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-04	06S/SWSC	1FD1	105	MECHANICAL ROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	1FD2	105	MECHANICAL ROOM		FLOW IS NIL	No	AIR COMPRESSOR DRAIN
41	30	41-30-OPN-04	06S/SWSC	1SP1	105	MECHANICAL ROOM		7 DAYS PER WEEK	No	SANITARY EFFLUENT
41	30	41-30-OPN-04	06S/SWSC	1WF1	115	EXERCISE ROOM		5 DAYS PER WEEK	No	WATER FOUNTAIN
41	30	41-30-OPN-04	06S/SWSC	2FD1	264	MACHINE SHOP		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	2FD2	264	MACHINE SHOP		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	2FD3	234	RESTROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	2FD4	228	RESTROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	2FS1	264	MACHINE SHOP		NO FLOW	No	NONE (PLUGGED)
41	30	41-30-OPN-04	06S/SWSC	2LV1	234	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	30	41-30-OPN-04	06S/SWSC	2LV2	234	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	30	41-30-OPN-04	06S/SWSC	2LV3	228	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	30	41-30-OPN-04	06S/SWSC	2SD1	264	MACHINE SHOP		5 DAYS PER WEEK	No	HAND WASHING
41	30	41-30-OPN-04	06S/SWSC	2SD2	242	OFFICE		5 DAYS PER WEEK	No	HAND WASHING
41	30	41-30-OPN-04	06S/SWSC	2SD3	238	OFFICE		NO FLOW	No	NONE (REMOVED)
41	30	41-30-OPN-04	06S/SWSC	2SD4	214	JANITOR'S CLOSET		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	2SD5	214	BREAK ROOM		FLOW IS NIL	No	DISH WASHING
41	30	41-30-OPN-04	06S/SWSC	2TL1	234	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	30	41-30-OPN-04	06S/SWSC	2TL2	234	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	30	41-30-OPN-04	06S/SWSC	2TL3	228A	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	30	41-30-OPN-04	06S/SWSC	2UR1	234	RESTROOM		5 DAYS PER WEEK	No	URINAL
41	30	41-30-OPN-04	06S/SWSC	2UR2	234	RESTROOM		5 DAYS PER WEEK	No	URINAL
41	30	41-30-OPN-04	06S/SWSC	2WF1	264	MACHINE SHOP		5 DAYS PER WEEK	No	WATER FOUNTAIN

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	30	41-30-OPN-04	06S/SWSC	2WF2	200	CORRIDOR		5 DAYS PER WEEK	No	WATER FOUNTAIN
41	30	41-30-OPN-04	06S/SWSC	3FD1	334	RESTROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	3FD2	328A	RESTROOM		FLOW IS NIL	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	3LV1	334	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	30	41-30-OPN-04	06S/SWSC	3LV2	334	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	30	41-30-OPN-04	06S/SWSC	3LV3	338A	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	30	41-30-OPN-04	06S/SWSC	3SD1	330	JANITOR'S CLOSET		5 DAYS PER WEEK	No	FLOOR WASHINGS
41	30	41-30-OPN-04	06S/SWSC	3SD2	310	CADD ROOM		5 DAYS PER WEEK	No	HAND WASHING
41	30	41-30-OPN-04	06S/SWSC	3SH1	328	RESTROOM		5 DAYS PER WEEK	No	SHOWER
41	30	41-30-OPN-04	06S/SWSC	3TL1	334	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	30	41-30-OPN-04	06S/SWSC	3TL2	334	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	30	41-30-OPN-04	06S/SWSC	3TL3	328A	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	30	41-30-OPN-04	06S/SWSC	3UR1	334	RESTROOM		5 DAYS PER WEEK	No	URINAL
41	30	41-30-OPN-04	06S/SWSC	3UR2	334	RESTROOM		5 DAYS PER WEEK	No	URINAL
41	30	41-30-OPN-04	06S/SWSC	3WF1	300	CORRIDOR		5 DAYS PER WEEK	No	WATER FOUNTAIN
41	30	41-30-OPN-05	DAYLIGHT	N/A	209A	OFFICE		6 MONTHS/YEAR	Yes	CONDENSED WATER
41	30	41-30-OPN-06	DAYLIGHT	N/A	209A	OFFICE		6 MONTHS/YEAR	Yes	CONDENSED WATER
41	30	41-30-OPN-07	DAYLIGHT	N/A	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-08	DAYLIGHT	N/A	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-09	ATMOSPHERE	N/A	105	MECHANICAL ROOM		7 DAYS PER WEEK	No	SANITARY SEWER VENT
41	30	41-30-OPN-10	FRENCH DRAIN	1FD3	N/A	ELEVATOR PIT		FLOW IS NIL	No	NONE
41	30	41-30-OPN-11	DAYLIGHT	RD1	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	30	41-30-OPN-11	DAYLIGHT	RD2	N/A	ROOF		MOSTLY SUMMER	Yes	STORM WATER
41	44	TA-41-44	ND	N/A	N/A	STORAGE BUILDING		N/A	No	NONE
41	47	TA-41-47	ND	N/A	N/A	EXHAUST STACK		N/A	No	NONE
41	50	41-50-OPN-1	DAYLIGHT	N/A	105A	UTILITY CLOSET		6 MONTHS /YEAR	Yes	COOLING COIL COND. WATER
41	50	41-50-OPN-2	DAYLIGHT	N/A	105A	UTILITY CLOSET		FLOW IS NIL	No	WATER HTR PRESS. RELIEF
41	50	41-50-OPN-3	06S/SWSC	1LV1	103	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	50	41-50-OPN-3	06S/SWSC	1LV2	103A	RESTROOM		5 DAYS PER WEEK	No	LAVATORY
41	50	41-50-OPN-3	06S/SWSC	1TL1	103	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	50	41-50-OPN-3	06S/SWSC	1TL2	103A	RESTROOM		5 DAYS PER WEEK	No	TOILET
41	50	41-50-OPN-3	06S/SWSC	1UR1	103	RESTROOM		5 DAYS PER WEEK	No	URINAL
41	50	41-50-OPN-3	06S/SWSC	1WF1	100	CORRIDOR		5 DAYS PER WEEK	No	WATER FOUNTAIN

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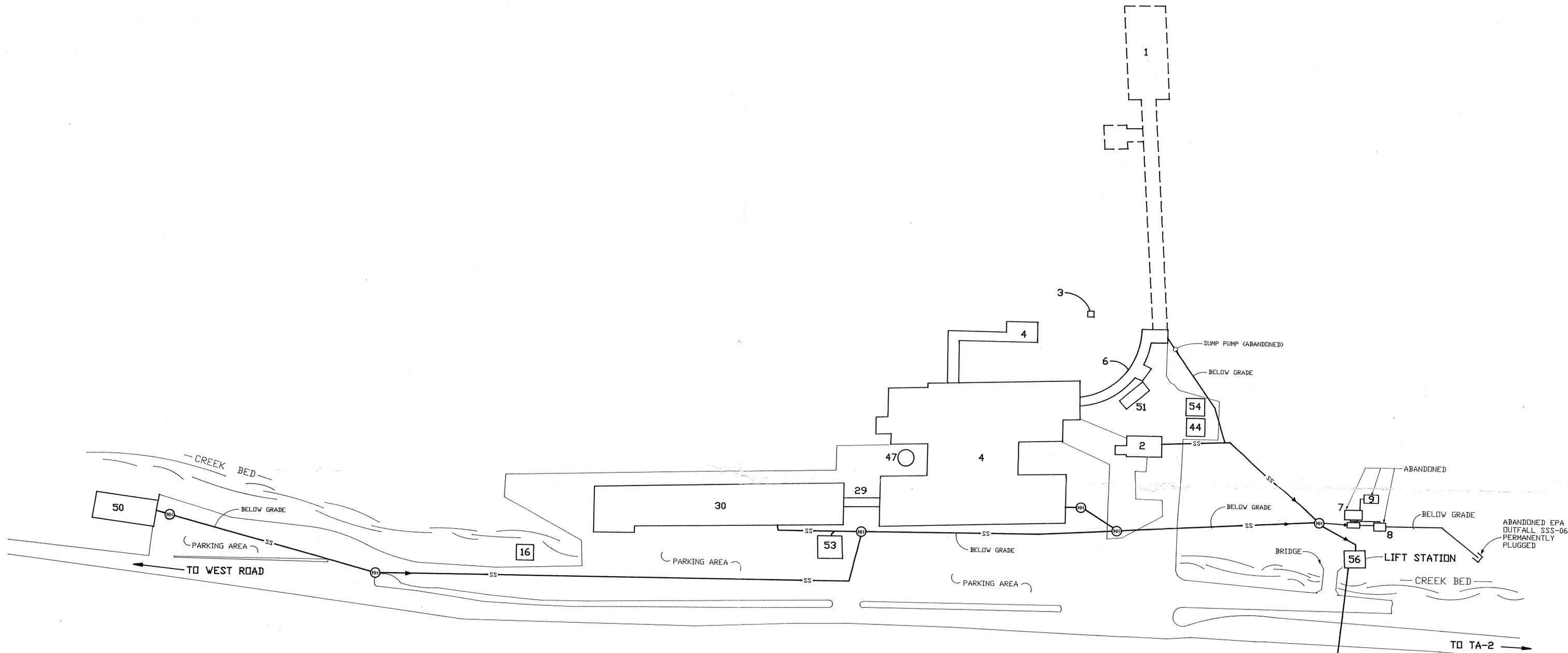
TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
41	51	TA-41-51	ND	N/A	N/A	OFFICE TRAILER		N/A	No	NONE
41	53	41-53-OPN-1	06S/SWSC	1LV1	101A	RESTROOM		7 DAYS PER WEEK	No	LAVATORY
41	53	41-53-OPN-1	06S/SWSC	1TL1	101A	RESTROOM		7 DAYS PER WEEK	No	TOILET
41	54	TA-41-54	ND	N/A	N/A	STORAGE BUILDING		N/A	No	NONE
41	56	41-56-OPN-1	06S/SWSC	N/A	N/A	SANITARY LIFT STATION		7 DAYS PER WEEK	No	SANITARY SEWAGE EFFLUENT

**NO**

**EPA FORMS**

## DYE STUDY INFORMATION

BUILDIN NUMBER	DRAIN NUMBER	DID DYE REACH EXPECTED DESTINATION?	COMMENTS
41-4	BFD1	YES	NONE
41-4	1FD1	YES	NONE
41-4	1FD7	YES	NONE
41-4	1SD1	YES	NONE
41-4	1TL2	YES	NONE
41-4	2SD4	YES	NONE
41-4	2SD7	YES	NONE
41-4	2SD14	YES	NONE
41-4	2TL2	YES	NONE
41-30	1FD1	YES	NONE
41-30	2SD1	YES	NONE
41-30	2TL2	YES	NONE
41-30	3TL2	YES	NONE
41-50	1TL2	YES	NONE
41-53	1TL1	YES	NONE



### TA-41-SITE PLAN

NOT TO SCALE

NOTE:  
THIS TECHNICAL AREA IS LOCATED IN  
THE BOTTOM OF LOS ALAMOS CANYON.

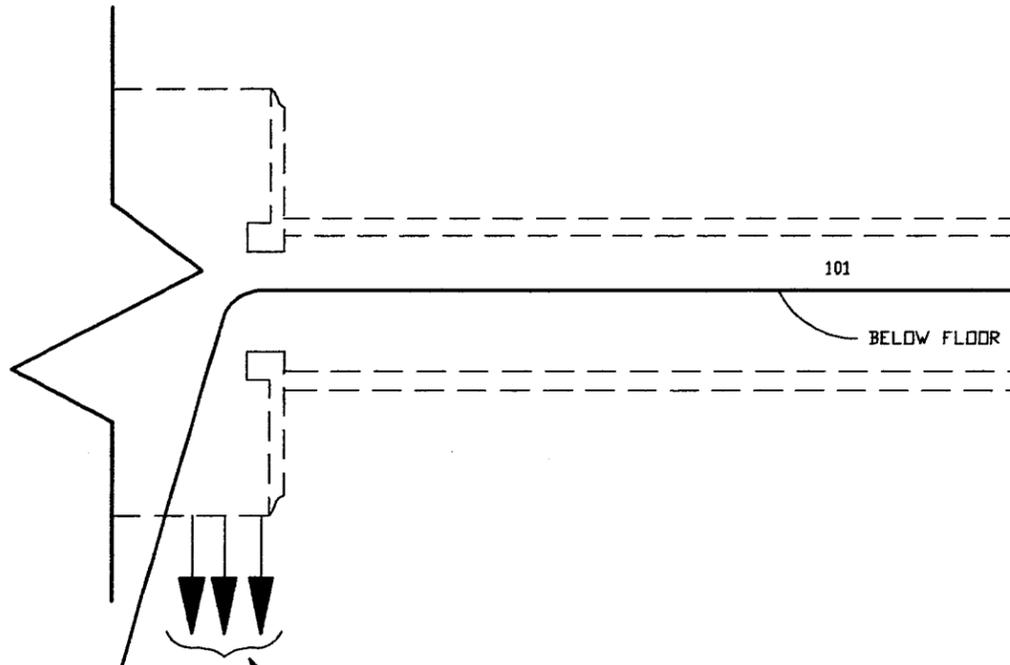
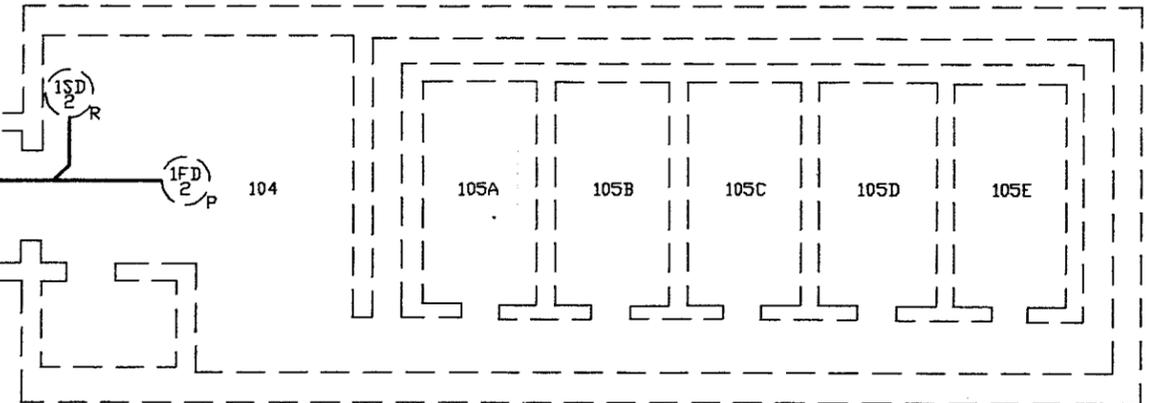
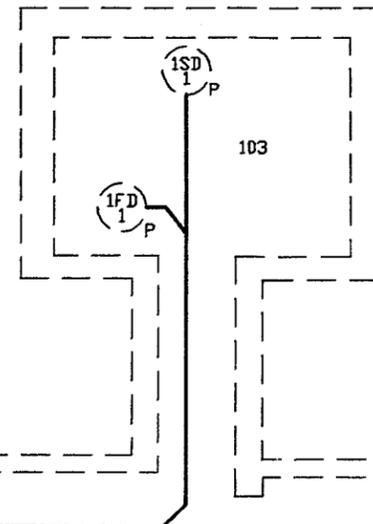
NOTE:  
THIS SITE SCHEMATIC WAS DERIVED FROM L.A.N.L.  
DRAWINGS C-31741, C-43854 AND SITE VISITS.

SYMBOL LEGEND	
MH	MANHOLE
—SS—	SANITARY SEWER PIPE

15307-A

SANTA FE ENGINEERING, LTD.			
<b>TA-41 SITE PLAN</b>		DRAWN	D.A.H.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
<b>Los Alamos</b> Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET	1 OF 1
CLASSIFICATION	REVIEWER	DATE	REV.
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	
REQUESTING GROUP	11056-69	ETC/IDE 1	

STORAGE TUNNEL  
TA-41-1  
BELOW GRADE



41-1-OPN-2  
41-1-OPN-3  
41-1-OPN-4  
FIRE LINE DRAINS

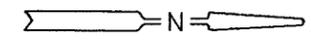
41-1-OPN-1  
ABANDONED  
IN PLACE

101  
BELOW FLOOR

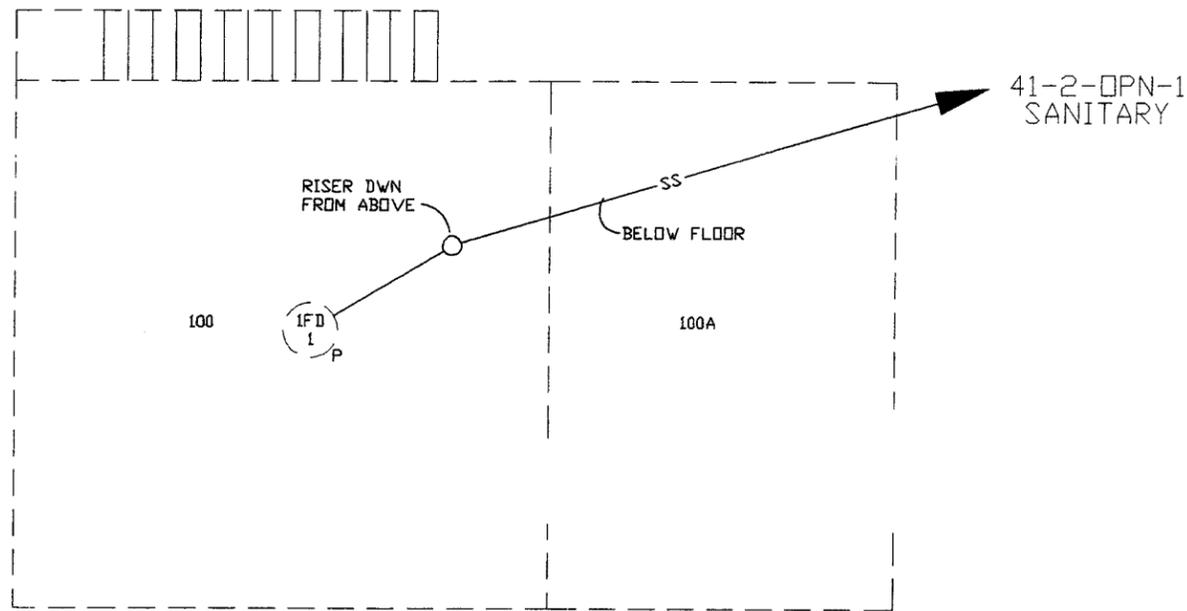
NOTE  
THIS DRAIN SCHEMATIC WAS DERIVED FROM LANL  
DRAWING

SYMBOL LEGEND	
FD	FLOOR DRAIN
LV	LAVATORY
SD	SINK DRAIN
SP	SUMP PUMP
TL	TOILET

DRAIN HAS BEEN PLUGGED  
 DRAIN HAS BEEN REMOVED

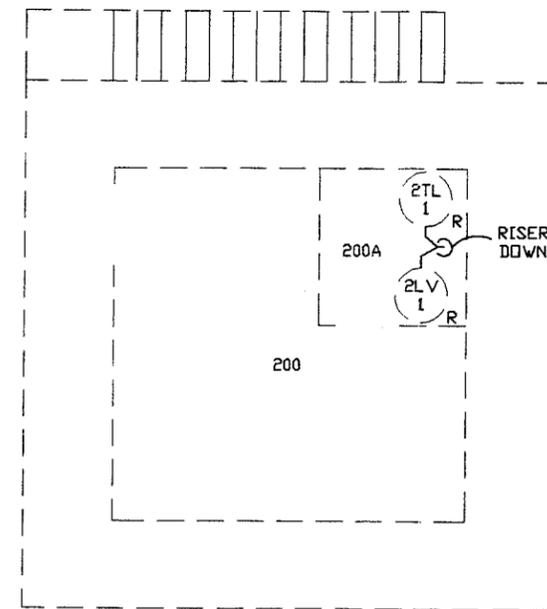


SANTA FE ENGINEERING, LTD.			
<b>TA-41-1 DRAIN SCHEMATIC</b>		DRAWN	D.A.H.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 1 OF 1
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-69	FIGURE 2	



## FIRST FLOOR

NOT TO SCALE



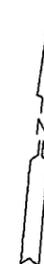
## SECOND FLOOR

NOT TO SCALE

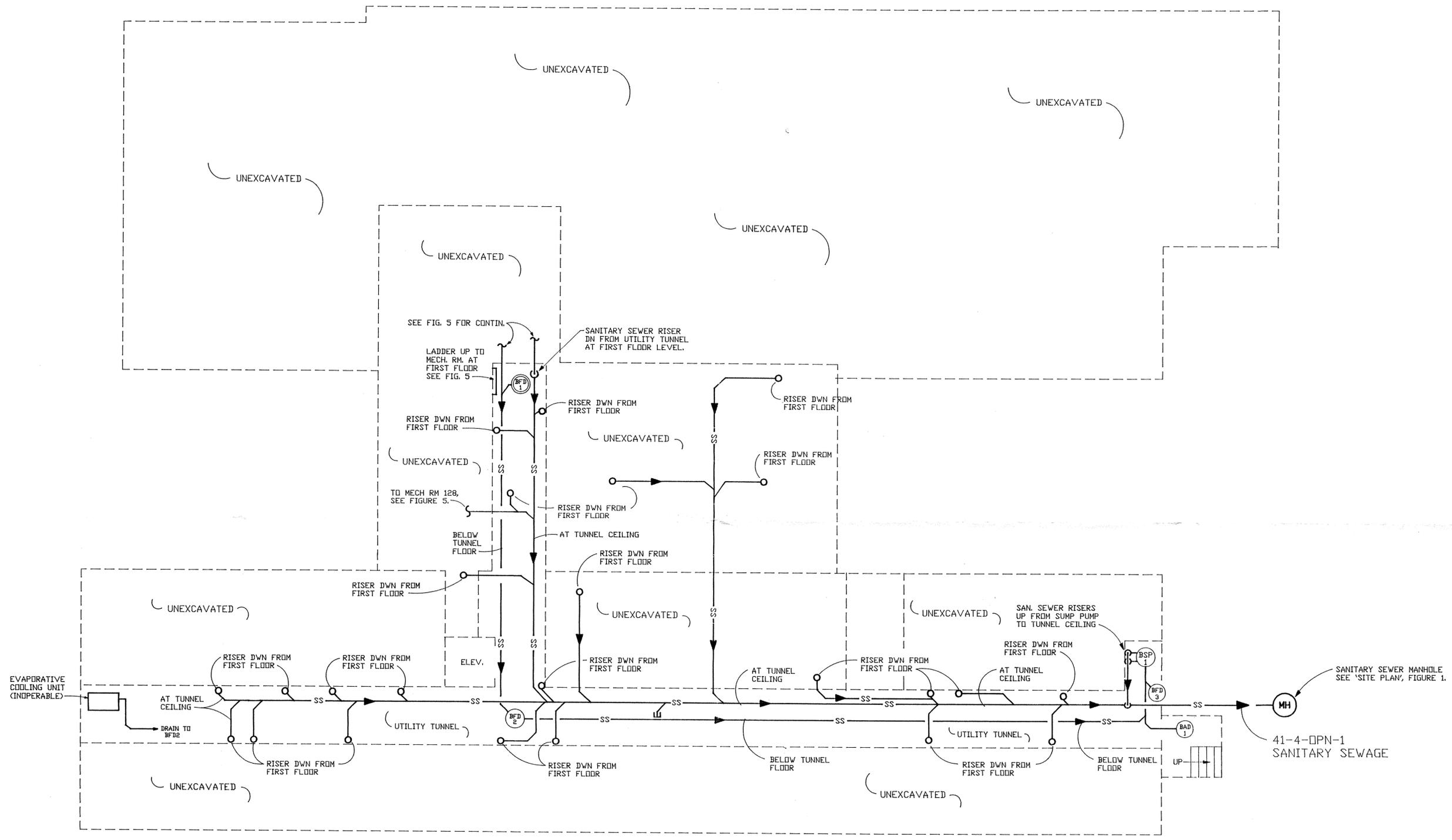
SYMBOL LEGEND	
FD	FLOOR DRAIN
LV	LAVATORY
TL	TOILET

 DRAIN IS PLUGGED

 FIXTURES WAS REMOVED



SANTA FE ENGINEERING, LTD.			
<b>TA-41-2 DRAIN SCHEMATIC</b>		DRAWN	D.A.H.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
<b>Los Alamos</b> Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET	1 OF 1
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-69	FIGURE 3	



**BASEMENT**

NOT TO SCALE

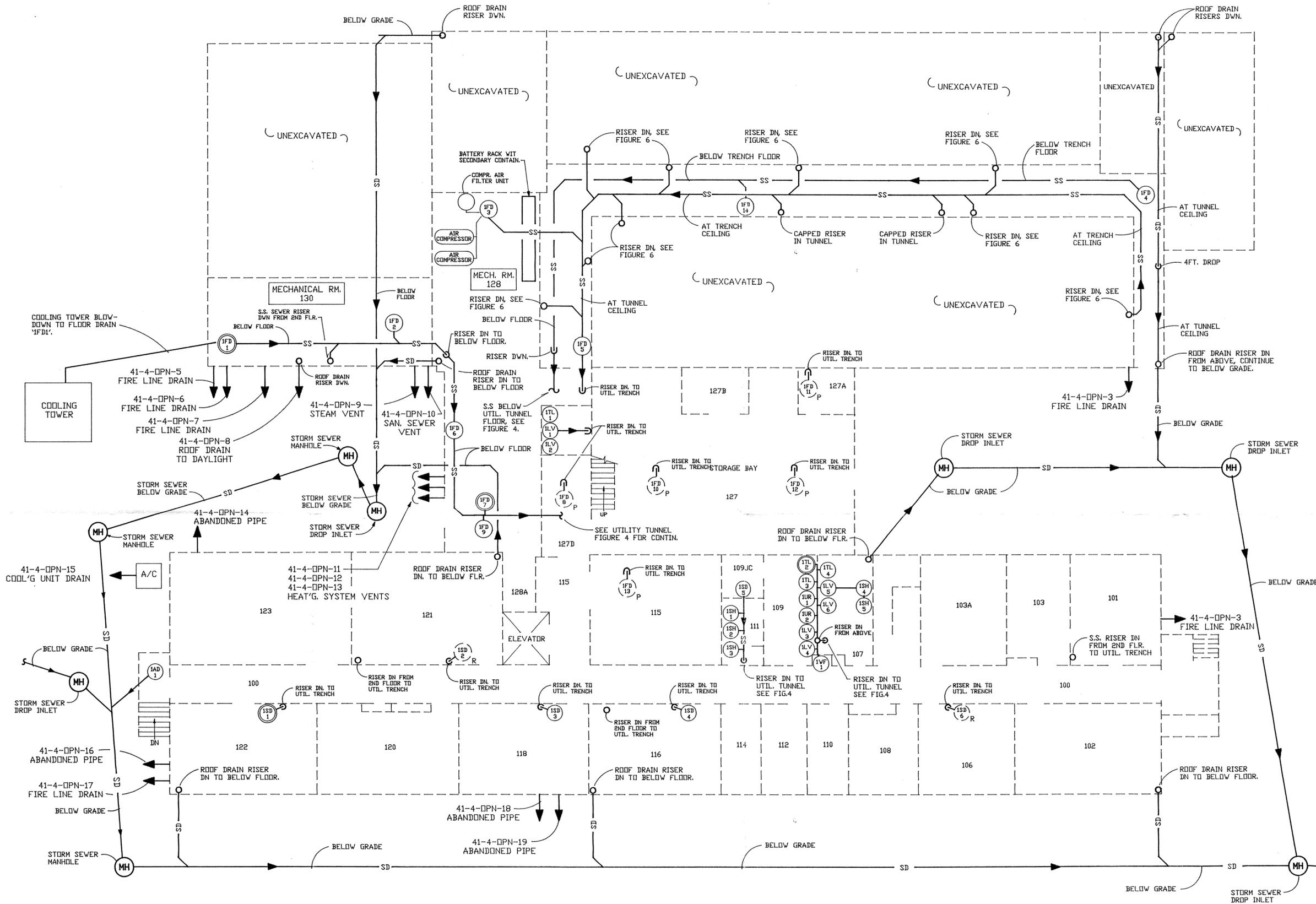
SYMBOL LEGEND	
AD	AREA DRAIN
FD	FLOOR DRAIN
MH	MANHOLE
—SD—	STORM DRAIN PIPE
—SP—	SUMP PIT W/PUMP
—SS—	SANITARY SEWER PIPE

○ DYE TESTED DRAIN

**15307-B**

NOTE:  
THIS DRAIN SCHEMATIC WAS DERIVED FROM L.A.N.L. DRAWINGS C-15129, ALL C-43664 DRAWINGS, C-44994 AND SITE VISITS.

SANTA FE ENGINEERING, LTD.			
<b>TA-41-4</b>		DRAWN	D.A.H.
<b>BASEMENT</b>		DESIGN	M.E.W.
<b>DRAIN SCHEMATIC</b>		CHECKED	P.E.B.
DATE	4-5-93	APPROVED	
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory	SHEET 1 OF 4
Los Alamos, New Mexico 87545		Los Alamos National Laboratory	Los Alamos, New Mexico 87545
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP	11056-69	FIGURE 4	
EM-8			



SYMBOL LEGEND	
AC	AIR CONDITIONING UNIT
AD	AREA DRAIN
FD	FLOOR DRAIN
LV	LAVATORY
MH	MANHOLE
SD	SINK DRAIN
—SD—	STORM DRAIN LINE
SH	SHOWER
—SS—	SANITARY SEWER LINE
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN

- P DRAIN HAS BEEN PLUGGED
- R DRAIN HAS BEEN REMOVED
- DYE TESTED DRAIN

### FIRST FLOOR

NOT TO SCALE

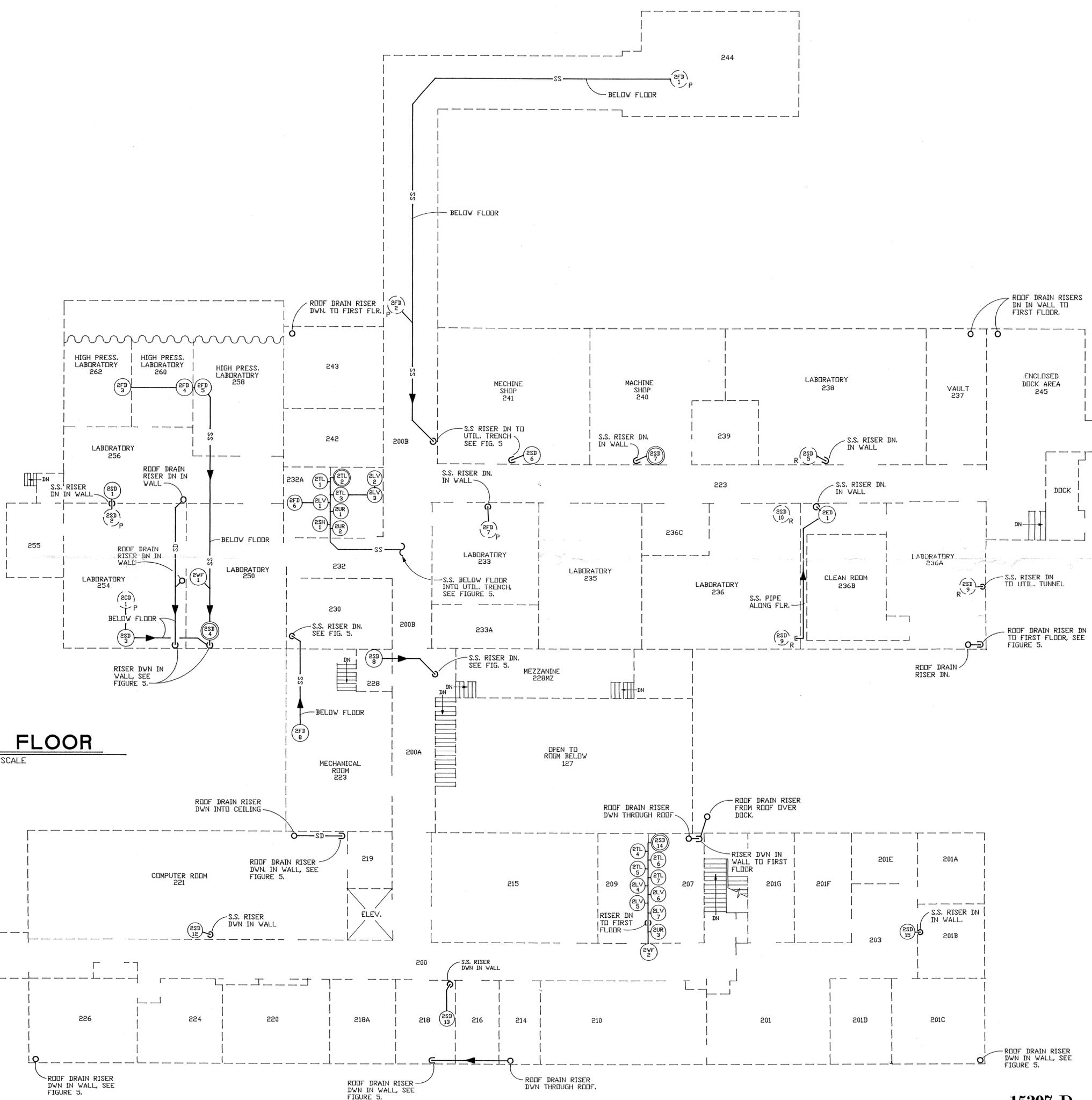
NOTE:  
THIS DRAIN SCHEMATIC WAS DERIVED FROM L.A.N.L. DRAWINGS C-15129, ALL C-43664 DRAWINGS, C-44994 AND SITE VISITS.

15307-C

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<b>TA-41-4</b>		DRAWN	D.A.H.
<b>FIRST FLOOR</b>		DESIGN	M.E.W.
<b>DRAIN SCHEMATIC</b>		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 2 OF 4
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-69	FIGURE 5	

# SECOND FLOOR

NOT TO SCALE



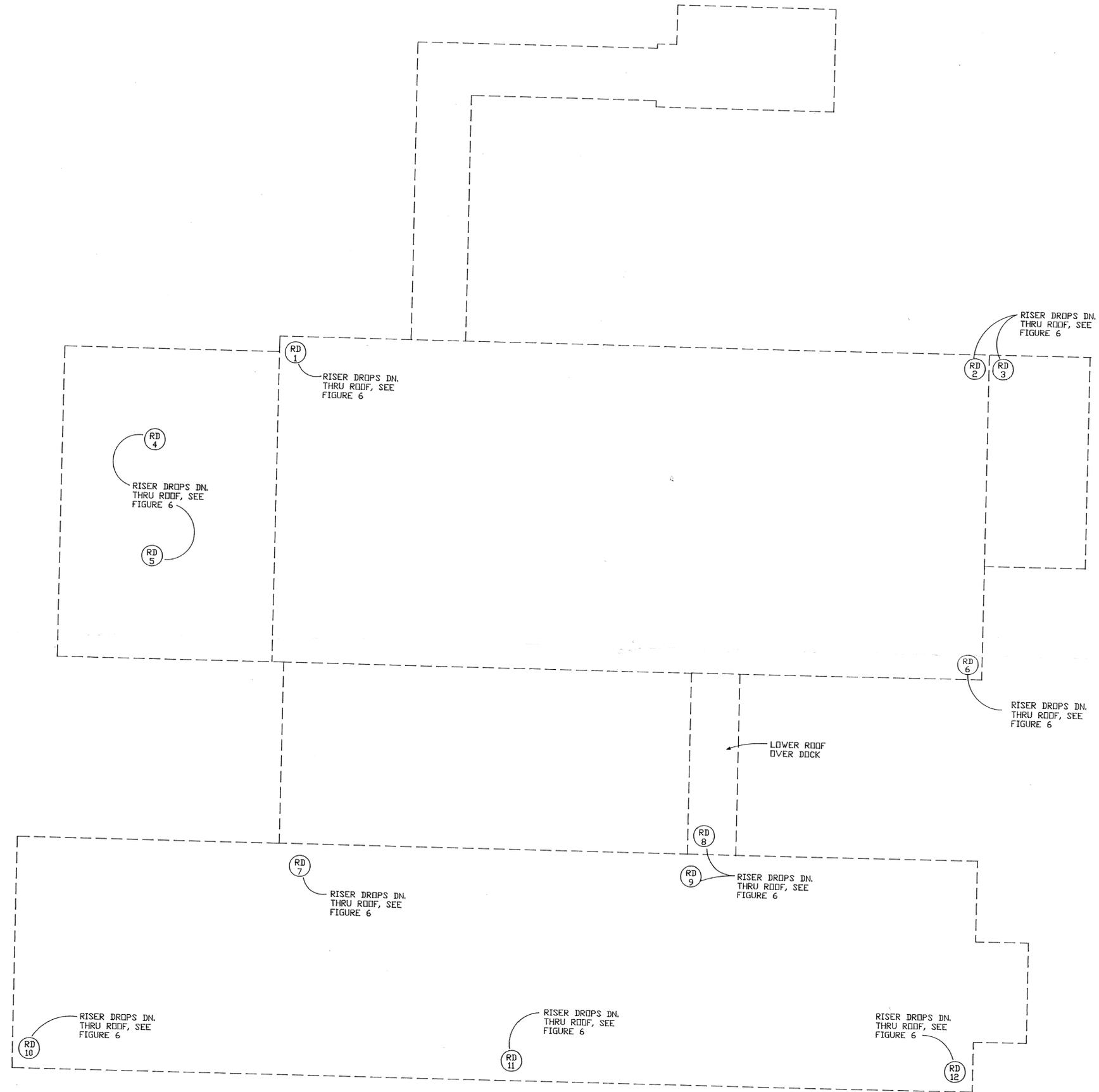
SYMBOL LEGEND	
CD	CUP DRAIN
ED	EQUIPMENT DRAIN
FD	FLOOR DRAIN
LV	LAVATORY
SD	SINK DRAIN
—SD—	STORM DRAIN LINE
SH	SHOWER
—SS—	SANITARY SEWER LINE
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN

- DRAIN HAS BEEN PLUGGED
- DRAIN HAS BEEN REMOVED
- DYE TESTED DRAIN

NOTE:  
THIS DRAIN SCHEMATIC WAS DERIVED FROM L.A.N.L. DRAWINGS C-15129, ALL C-43664 DRAWINGS, C-44994 AND SITE VISITS.

SANTA FE ENGINEERING, LTD.			
<b>TA-41-4</b>		DRAWN	D.A.H.
<b>SECOND FLOOR</b>		DESIGN	M.E.W.
<b>DRAIN SCHEMATIC</b>		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 3 OF 4
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-69	FIGURE 6	

15307-D



# ROOF PLAN

NOT TO SCALE

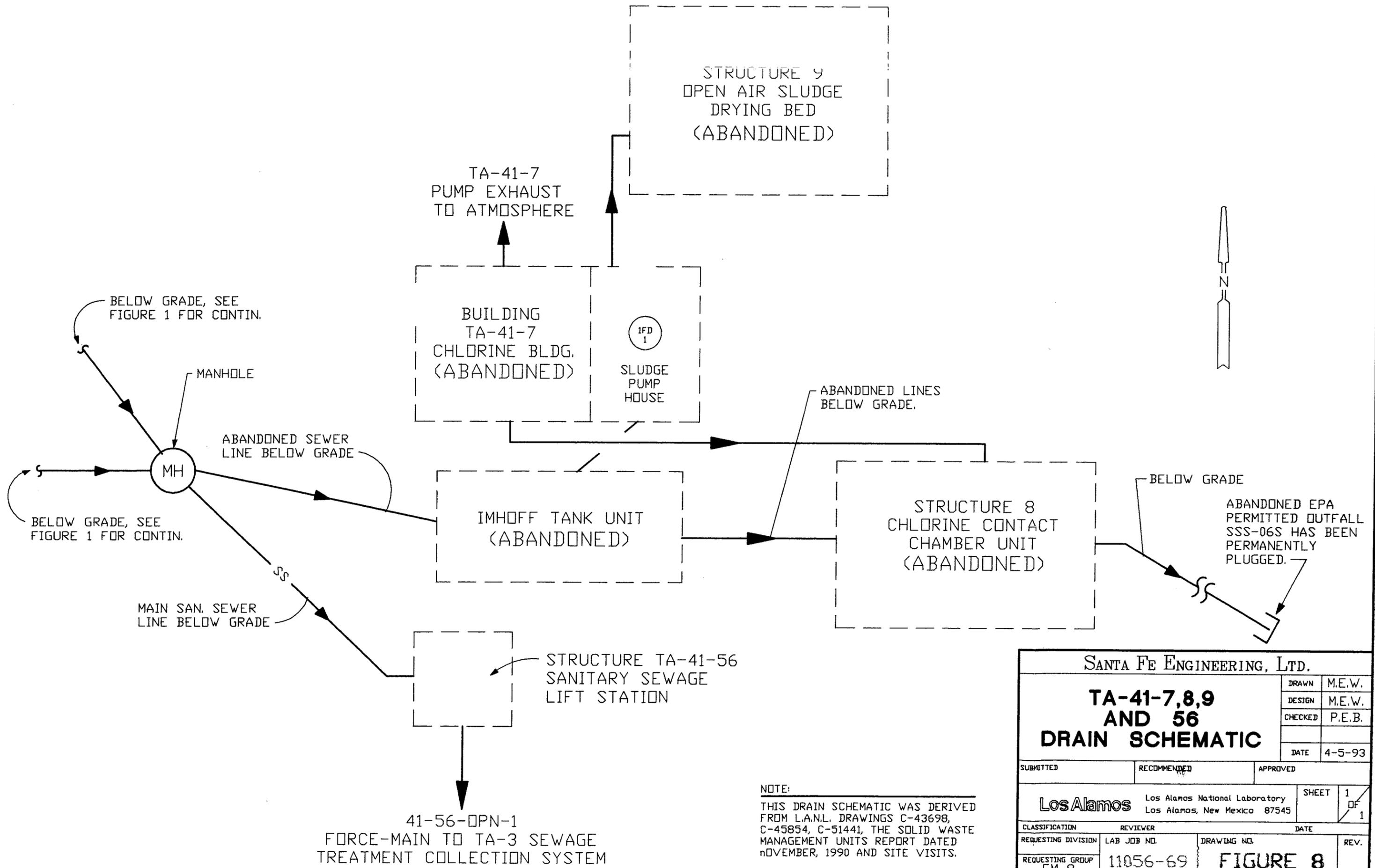


SYMBOL LEGEND	
RD	ROOF DRAIN

**15307-E**

NOTE:  
THIS DRAIN SCHEMATIC WAS DERIVED FROM L.A.N.L. DRAWINGS C-15129, ALL C-43664 DRAWINGS, C-44994 AND SITE VISITS.

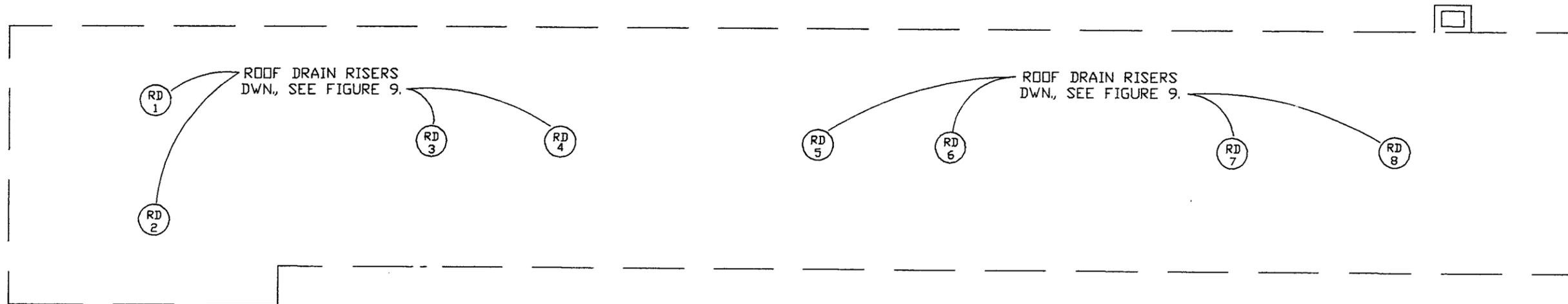
SANTA FE ENGINEERING, LTD.			
<b>TA-41-4</b>		DRAWN	D.A.H.
<b>ROOF PLAN</b>		DESIGN	M.E.W.
<b>DRAIN SCHEMATIC</b>		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 4 OF 4
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.



NOTE:  
 THIS DRAIN SCHEMATIC WAS DERIVED FROM L.A.N.L. DRAWINGS C-43698, C-45854, C-51441, THE SOLID WASTE MANAGEMENT UNITS REPORT DATED NOVEMBER, 1990 AND SITE VISITS.

SANTA FE ENGINEERING, LTD.			
<b>TA-41-7,8,9 AND 56 DRAIN SCHEMATIC</b>		DRAWN	M.E.W.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
CLASSIFICATION	REVIEWER	DATE	SHEET 1 OF 1
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP	11056-69	FIGURE 8	



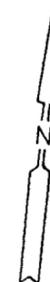


**ROOF PLAN**  
NOT TO SCALE

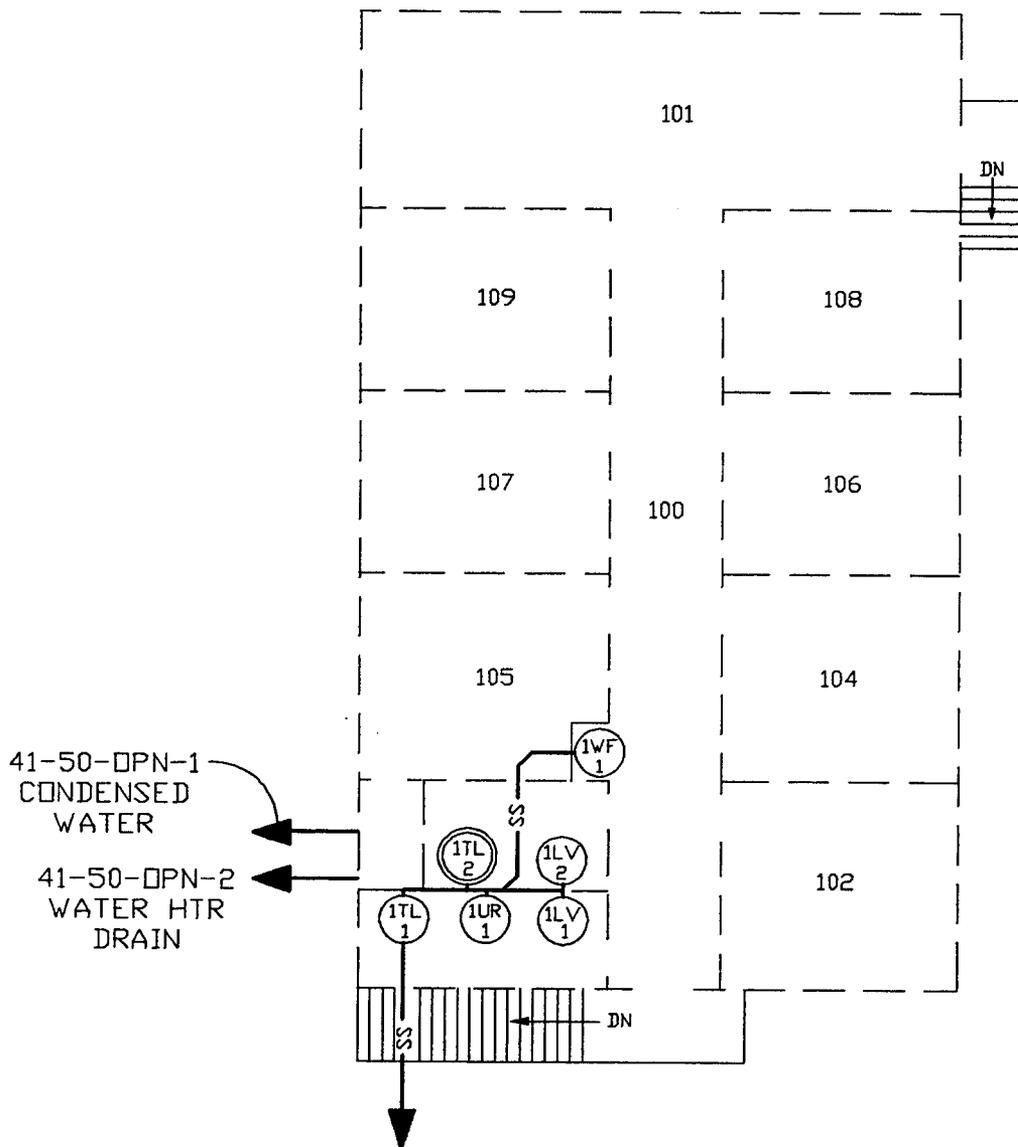
NOTE:

THIS DRAIN SCHEMATIC WAS DERIVED FROM L.A.N.L. DRAWINGS C-19025, C-19026, C-19027, C-19028, C-19029, C-19030, C-23882, C-23883, C-23884, C-44186, R-3145, R-3146, R-3147 AND SITE VISITS.

SYMBOL LEGEND	
RD	ROOF DRAIN



SANTA FE ENGINEERING, LTD.			
<b>TA41-30 ROOF DRAIN SCHEMATIC</b>	DRAWN	G.S.	
	DESIGN	M.E.W.	
	CHECKED	P.E.B.	
	DATE	4-5-93	
SUBMITTED	RECOMMENDED	APPROVED	
<b>Los Alamos</b>		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 2 OF 2
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-69	FIGURE 10	



41-50-OPN-3  
TO SANITARY  
SEWER MANHOLE

NOTE:  
THIS DRAIN SCHEMATIC WAS DERIVED  
FROM A SITE VISIT.

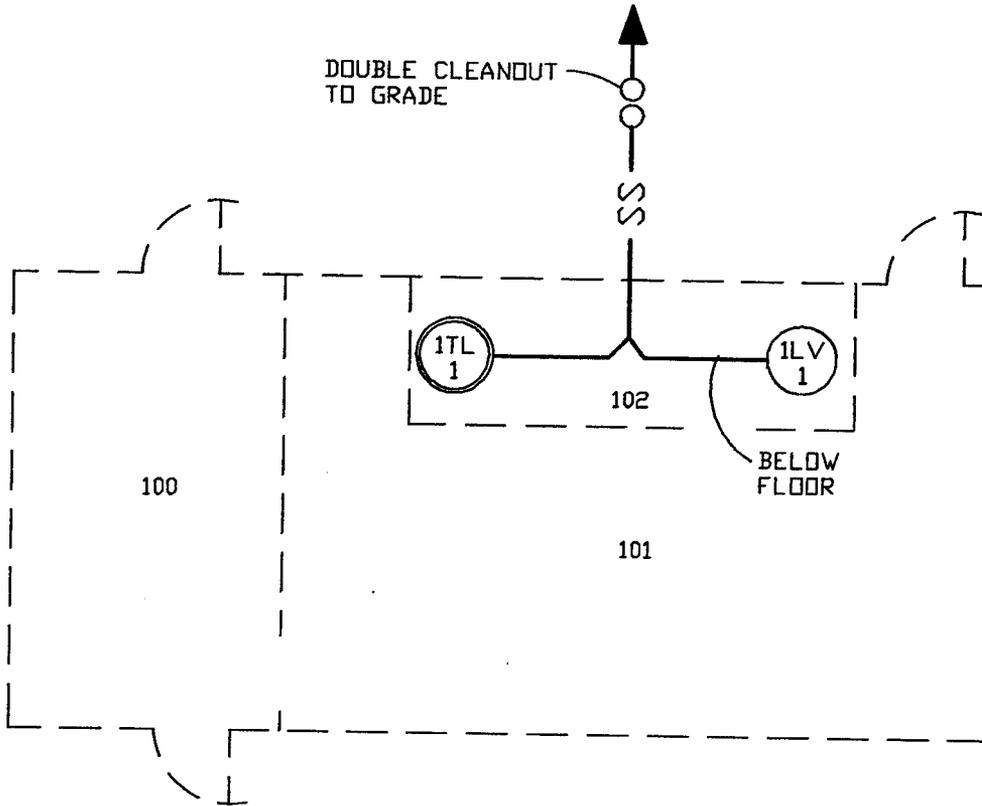
SYMBOL LEGEND	
LV	LAVATORY
—SS—	SANITARY SEWER PIPE
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN

○ DYE TESTED DRAIN

SANTA FE ENGINEERING, LTD.			
<h1>TA41-50 DRAIN SCHEMATIC</h1>		DRAWN	M.E.W.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		RELEASED	
		DATE	4-5-93
SUBMITTED	RECOMMENDED	APPROVED	
<b>Los Alamos</b>		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 1 OF 1
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-69	FIGURE 11	

41-53-OPN-1  
TO SANITARY  
SEWER MANHOLE

DOUBLE CLEANDOUT  
TO GRADE



NOTE:

THIS DRAIN SCHEMATIC WAS DERIVED  
FROM A SITE VISIT.

SYMBOL LEGEND

LV	LAVATORY
—SS—	SANITARY SEWER PIPE
TL	TOILET
○	DYE TESTED DRAIN



DYE TESTED DRAIN

SANTA FE ENGINEERING, LTD.

TA41-53  
DRAIN SCHEMATIC

DRAWN	G.S.
DESIGN	M.E.W.
CHECKED	P.E.B.
DATE	4-5-93

SUBMITTED	RECOMMENDED	APPROVED
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545
CLASSIFICATION	REVIEWER	DATE
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.
REQUESTING GROUP EM-8	11056-69	FIGURE 12
SHEET 1 OF 1		REV.