

# REMEDIAL DESIGN

CONTRACT DRAWINGS

CONTRACT NO. D004478

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FOR THE  
WEST SIDE CORPORATION SITE OPERABLE UNIT NO. 1  
NYSDEC SITE 2-41-026  
JAMAICA, QUEENS COUNTY, NEW YORK



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Prepared for:

NEW YORK STATE  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
625 Broadway, Albany, New York

Erin Crotty, Commissioner

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DIVISION OF ENVIRONMENTAL REMEDIATION

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JUNE 2004

**URS** Corporation

Group Consultants

640 Ellicott Street  
Buffalo, New York 14203  
(716)856-5636 phone - (716)856-2545 fax







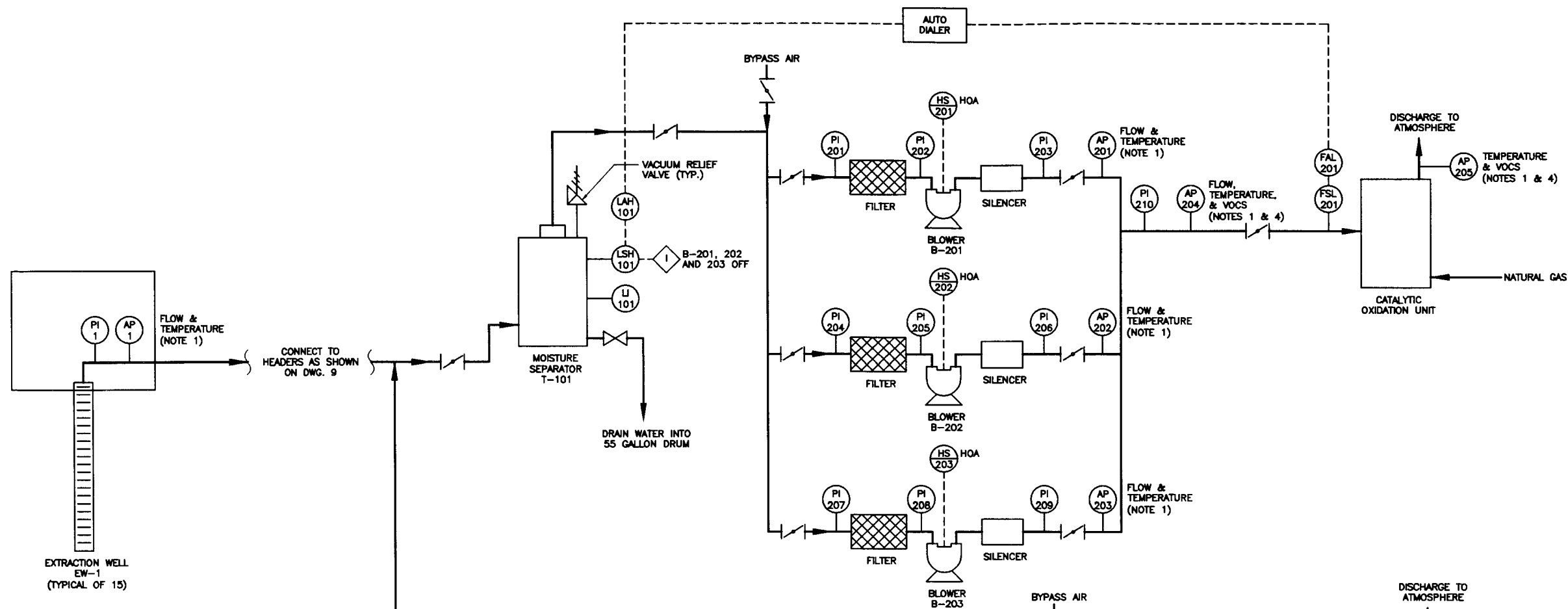




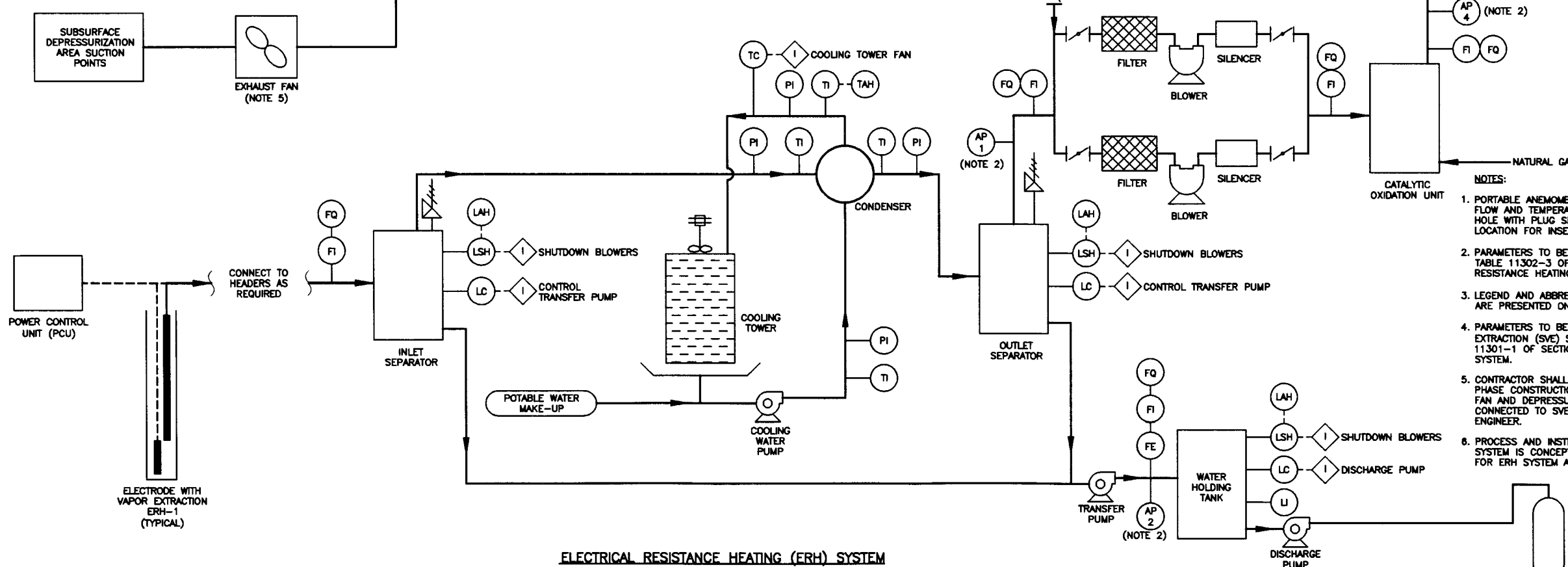








SOIL VAPOR EXTRACTION (SVE) SYSTEM

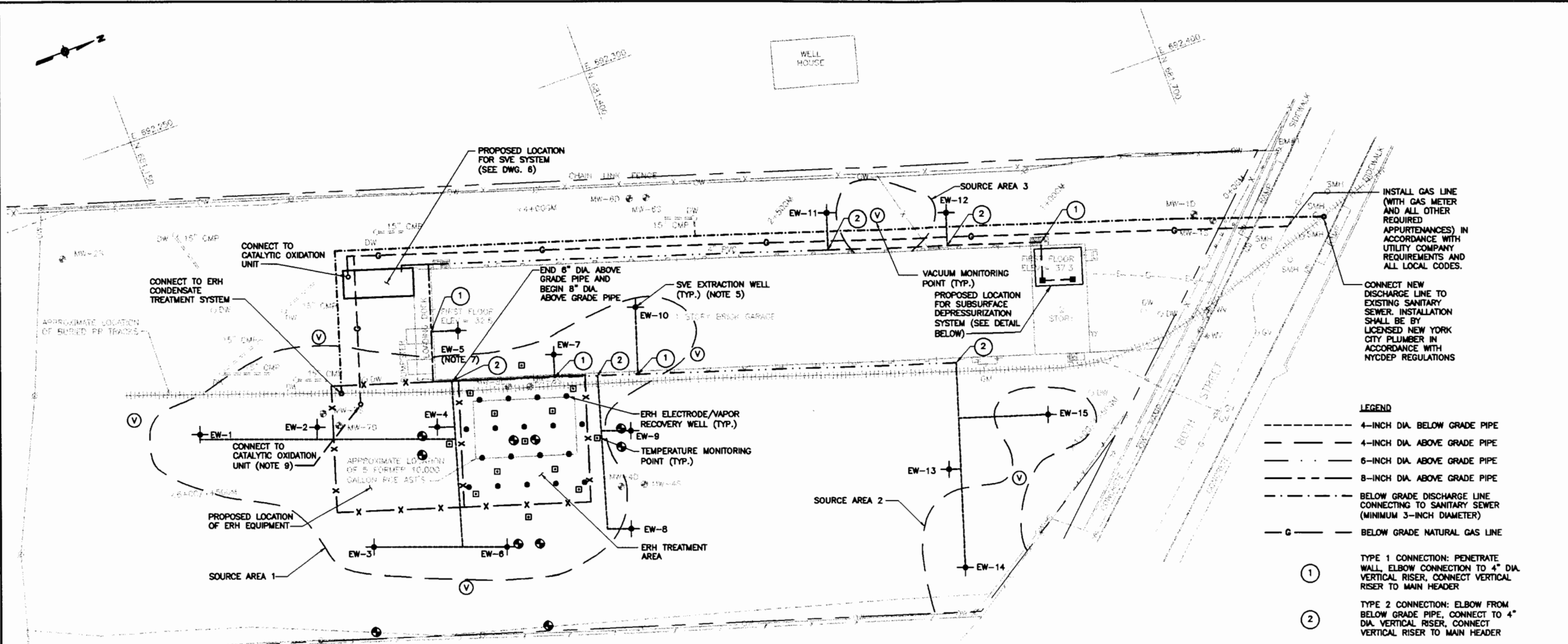


ELECTRICAL RESISTANCE HEATING (ERH) SYSTEM

- NOTES:
1. PORTABLE ANEMOMETER SHALL BE USED TO MEASURE FLOW AND TEMPERATURE AT EACH OF THESE LOCATIONS. HOLE WITH PLUG SHALL BE PROVIDED AT EACH LOCATION FOR INSERTION OF ANEMOMETER PROBE.
  2. PARAMETERS TO BE MEASURED ARE PRESENTED IN TABLE 11302-3 OF SECTION 11302-ELECTRICAL RESISTANCE HEATING.
  3. LEGEND AND ABBREVIATIONS USED FOR THIS DRAWING ARE PRESENTED ON DRAWING 1.
  4. PARAMETERS TO BE MEASURED FOR SOIL VAPOR EXTRACTION (SVE) SYSTEM ARE PRESENTED IN TABLE 11301-1 OF SECTION 11301 - SOIL VAPOR EXTRACTION SYSTEM.
  5. CONTRACTOR SHALL INSTALL EXHAUST DURING FIRST PHASE CONSTRUCTION. CONTRACTOR SHALL REMOVE FAN AND DEPRESSURIZATION SYSTEM SHALL BE CONNECTED TO SVE SYSTEM WHEN DIRECTED BY THE ENGINEER.
  6. PROCESS AND INSTRUMENTATION DIAGRAM FOR ERH SYSTEM IS CONCEPTUAL. PERFORMANCE REQUIREMENTS FOR ERH SYSTEM ARE PRESENTED IN SECTION 11302.

|   |                |
|---|----------------|
| <p><b>URS Corporation</b><br/>Group Consultants</p>   |                |
| <p><b>NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION</b><br/>885 BROADWAY<br/>ALBANY, NEW YORK 12242</p> |                |
| <p><b>WEST SIDE CORPORATION SITE JAMAICA, QUEENS COUNTY SITE NO. 2-41-026</b></p>                                 |                |
| <p><b>OPERABLE UNIT NO. 1 (ON-SITE) DESIGN</b></p>  |                |
| <p><b>PROCESS AND INSTRUMENTATION DIAGRAM</b></p>   |                |
| OWNER'S PROJECT NUMBER  | PROJECT NUMBER |
| DATE  | SCALE          |
| DRAWN BY  | AS NOTED       |
| CHECKED BY  | <b>8</b>       |
| ARCH/DIR. / CWP   |                |

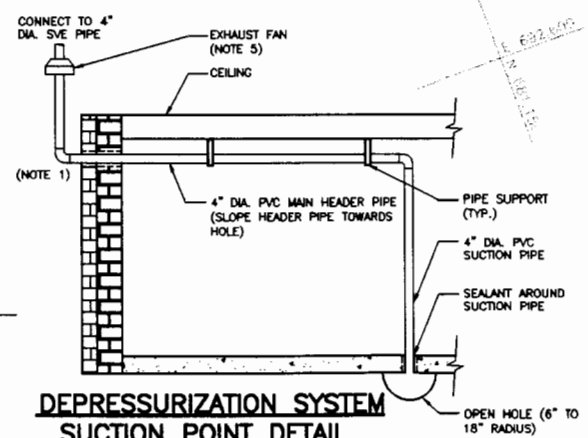
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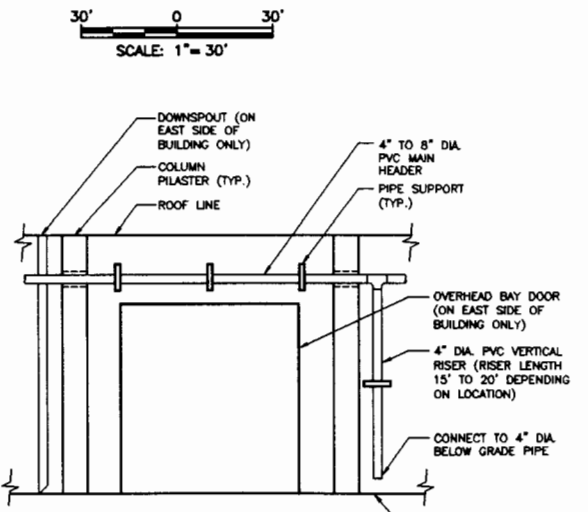
INSTALL GAS LINE (WITH GAS METER AND ALL OTHER REQUIRED APPURTENANCES) IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS AND ALL LOCAL CODES.

CONNECT NEW DISCHARGE LINE TO EXISTING SANITARY SEWER. INSTALLATION SHALL BE BY LICENSED NEW YORK CITY PLUMBER IN ACCORDANCE WITH NYCDEP REGULATIONS

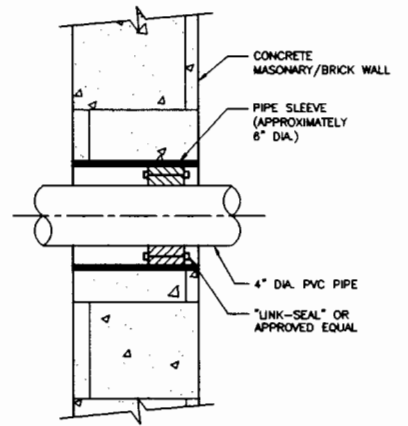
- LEGEND**
- 4-INCH DIA. BELOW GRADE PIPE
  - 4-INCH DIA. ABOVE GRADE PIPE
  - 6-INCH DIA. ABOVE GRADE PIPE
  - 8-INCH DIA. ABOVE GRADE PIPE
  - BELOW GRADE DISCHARGE LINE CONNECTING TO SANITARY SEWER (MINIMUM 3-INCH DIAMETER)
  - G - BELOW GRADE NATURAL GAS LINE
- ① TYPE 1 CONNECTION: PENETRATE WALL, ELBOW CONNECTION TO 4" DIA. VERTICAL RISER, CONNECT VERTICAL RISER TO MAIN HEADER
- ② TYPE 2 CONNECTION: ELBOW FROM BELOW GRADE PIPE, CONNECT TO 4" DIA. VERTICAL RISER, CONNECT VERTICAL RISER TO MAIN HEADER



- NOTES:**
- CONNECT ALL SUCTION POINTS TO MAIN HEADER. ONLY ONE WALL PENETRATION WILL BE PERMITTED.
  - SUPPORT SPACING SHALL BE A MAXIMUM OF 9 FEET. SUPPORTS SHALL BE ADJUSTABLE CLEVIS HANGER OR EQUAL AS APPROVED BY THE ENGINEER.
  - PAINT ALL INDOOR PIPE SAFETY YELLOW.
  - REQUIREMENTS FOR SYSTEM ARE PRESENTED IN SECTION 11304 - SUBSURFACE DEPRESSURIZATION.
  - CONTRACTOR SHALL INSTALL EXHAUST FAN DURING FIRST PHASE OF CONSTRUCTION. CONTRACTOR SHALL REMOVE FAN AND DEPRESSURIZATION SYSTEM SHALL BE CONNECTED TO SVE SYSTEM WHEN DIRECTED BY ENGINEER.



- NOTES:**
- HORIZONTAL SUPPORT SPACING SHALL BE A MAXIMUM 7 FEET.
  - SUPPORT SHALL BE KNEE BRACE WITH ATTACHED CLAMP OR OTHERWISE AS APPROVED BY THE ENGINEER.
  - CONTRACTOR SHALL SUBMIT DETAILED PLAN FOR WALL PIPE SUPPORT SYSTEM AS REQUIRED UNDER SECTION 01010.
  - THE SVE MAIN HEADER PIPES SHALL BE INSTALLED WITH A MINIMUM 1/2% SLOPE BACK TOWARD EXTRACTION WELLS.



- NOTES:**
- SLEEVE MATERIAL SHALL BE THE SAME OR SIMILAR TO THE PIPE MATERIAL OR AS APPROVED BY THE ENGINEER.
  - CONTRACTOR SHALL SUBMIT DETAILED PLAN FOR WALL PENETRATION AS REQUIRED UNDER SECTION 01010.
  - BUILDING PENETRATION LOCATIONS MUST BE APPROVED BY THE ENGINEER AND DEPARTMENT.

- NOTES:**
- PIPING LOCATIONS SHOWN ARE APPROXIMATE. LOCATIONS MAY BE MODIFIED BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
  - ABOVE GRADE PIPING SHALL BE RUN ALONG OUTSIDE/INSIDE OF BUILDING WALLS AS REQUIRED BASED ON FIELD CONDITIONS AND AS APPROVED BY THE ENGINEER.
  - PIPE SIZES SHOWN ARE MINIMUM SIZE REQUIRED. CONTRACTOR IS RESPONSIBLE FOR SELECTING PIPE SIZES AS REQUIRED TO MEET SYSTEM PERFORMANCE REQUIREMENTS.
  - WALL PENETRATION SHALL BE MINIMIZED. PENETRATIONS SHALL BE IN ACCORDANCE WITH SECTION 15050.
  - EW-10 SHALL BE CONNECTED TO ERH SYSTEM DURING SYSTEM OPERATION. CONTRACTOR SHALL INSTALL SVE SYSTEM PIPING AS REQUIRED TO MAKE CONNECTION OR PROVIDE TEMPORARY CONNECTION FOR ERH OPERATING PERIOD. CONTRACTOR SHALL SUBMIT PLAN FOR TEMPORARY CONNECTION TO ENGINEER FOR APPROVAL. TEMPORARY CONNECTION SHALL NOT INTERFERE WITH BUS GARAGE OPERATIONS.
  - BELOW GRADE PIPE FOR EW-5, EW-7, AND EW-10 SHALL BE INSTALLED BELOW CONCRETE FLOOR. BELOW GRADE PIPE FOR REMAINING EXTRACTION WELLS SHALL BE INSTALLED BELOW ASPHALT PAVEMENT.
  - CONTRACTOR SHALL RELOCATE TIRES IN AREA AS NECESSARY TO FACILITATE CONSTRUCTION WITH OCCUPANT.
  - BELOW GRADE PIPE FOR SVE SYSTEM WITHIN 20 FEET OF THE PERIMETER OF THE ERH TREATMENT AREA SHALL BE INSTALLED AFTER ERH REMEDIATIONS ARE COMPLETE.
  - CONTRACTOR SHALL INSTALL GAS LINE ONLY IF HE CHOOSES TO LOCATE CATALYTIC OXIDATION IN ERH EQUIPMENT AREA DURING ERH OPERATION.

| NO.       | DATE | BY | REVISION | APPROVAL |
|-----------|------|----|----------|----------|
| REVISIONS |      |    |          |          |
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**URS Corporation**  
Group Consultants

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
685 BROADWAY  
ALBANY, NEW YORK 12242

**WEST SIDE CORPORATION SITE JAMAICA, QUEENS COUNTY SITE NO. 2-41-026**

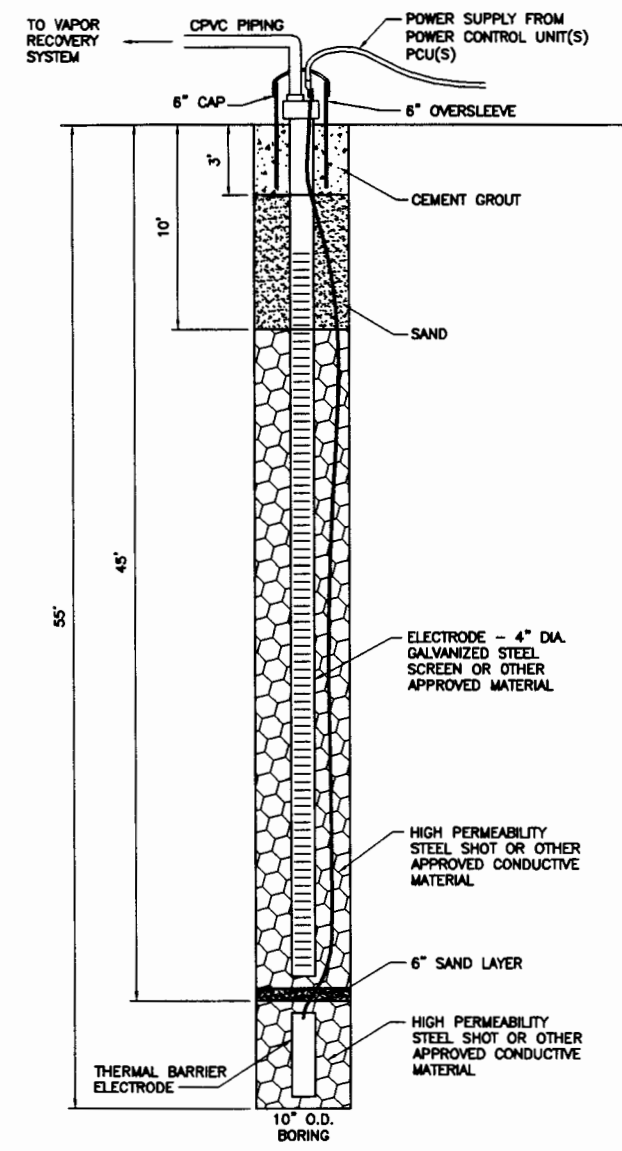
**OPERABLE UNIT NO. 1 (ON-SITE) DESIGN**

**PIPING LAYOUT PLAN AND DETAILS**

|                        |                |
|------------------------|----------------|
| SHEET TITLE            |                |
| OWNER'S PROJECT NUMBER | PROJECT NUMBER |
| DATE                   | SCALE          |
| DRAWN BY               | AS NOTED       |
| CHECKED BY             | <b>9</b>       |
| INCH/DIM. OR           |                |
| CAD                    | DWG. NUMBER    |

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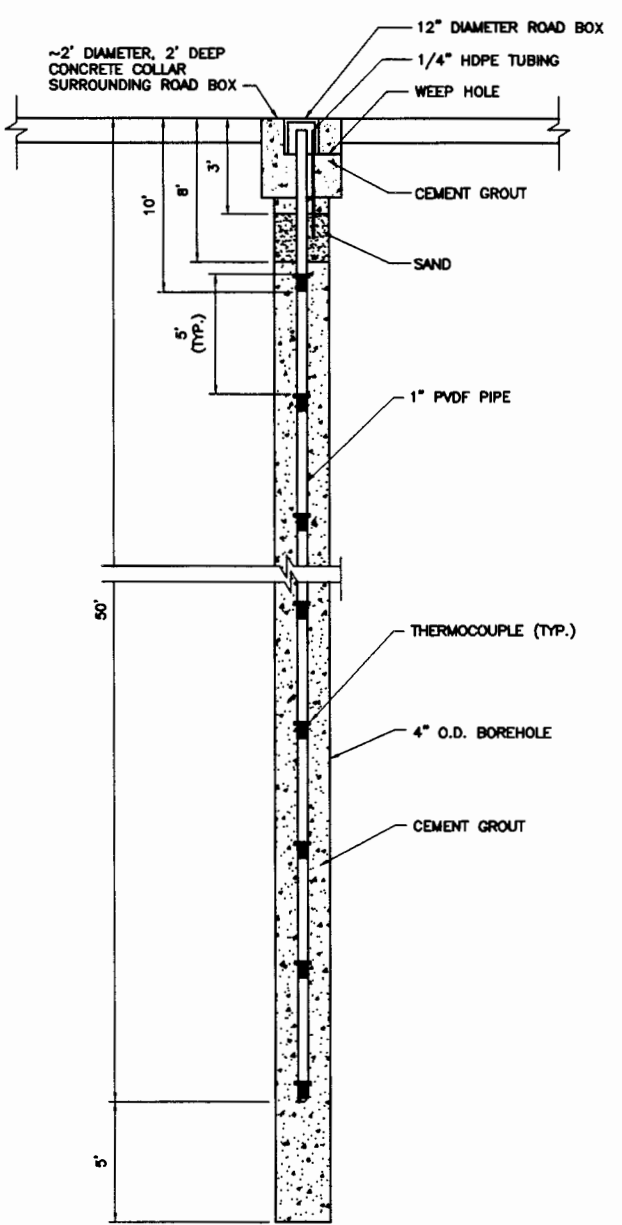




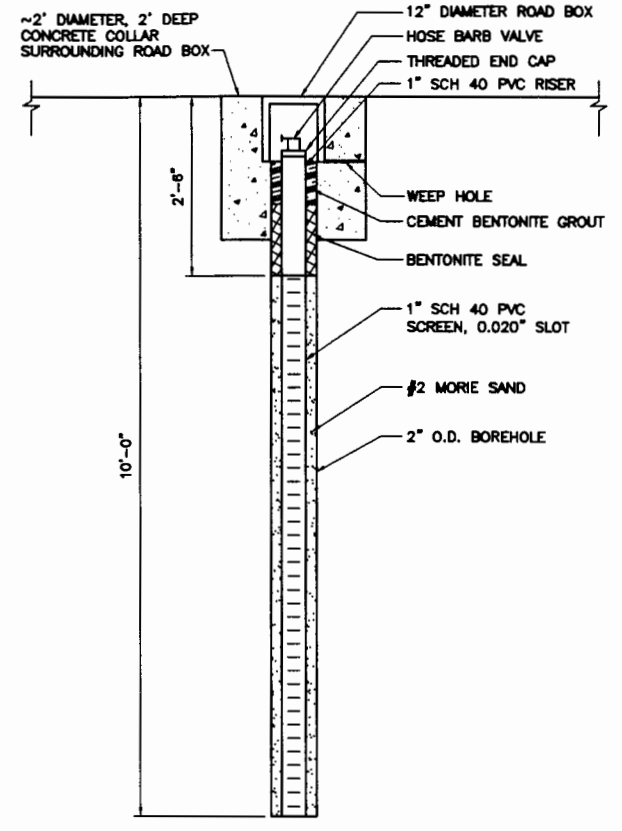
**ELECTRODE AND VAPOR RECOVERY WELL (ERH)**  
(TYP.)  
NOT TO SCALE

| SVE EXTRACTION WELL CONSTRUCTION SCHEDULE |                 |                 |                        |                        |
|---|-----------------|-----------------|------------------------|------------------------|
| WELL NUMBER                               | CASING MATERIAL | SCREEN MATERIAL | TOTAL WELL DEPTH (FT.) | LENGTH OF SCREEN (FT.) |
| EW-1                                      | PVC             | PVC             | 10                     | 7.5                    |
| EW-2                                      | PVC             | PVC             | 10                     | 7.5                    |
| EW-3                                      | PVC             | PVC             | 10                     | 7.5                    |
| EW-4                                      | CPVC            | CPVC            | 12                     | 9.5                    |
| EW-5                                      | PVC             | PVC             | 10                     | 7.5                    |
| EW-6                                      | PVC             | PVC             | 12                     | 9.5                    |
| EW-7                                      | CPVC            | CPVC            | 10                     | 7.5                    |
| EW-8                                      | PVC             | PVC             | 12                     | 9.5                    |
| EW-9                                      | PVC             | PVC             | 12                     | 9.5                    |
| EW-10                                     | PVC             | PVC             | 10                     | 7.5                    |
| EW-11                                     | PVC             | PVC             | 10                     | 7.5                    |
| EW-12                                     | PVC             | PVC             | 10                     | 7.5                    |
| EW-13                                     | PVC             | PVC             | 10                     | 7.5                    |
| EW-14                                     | PVC             | PVC             | 10                     | 7.5                    |
| EW-15                                     | PVC             | PVC             | 10                     | 7.5                    |

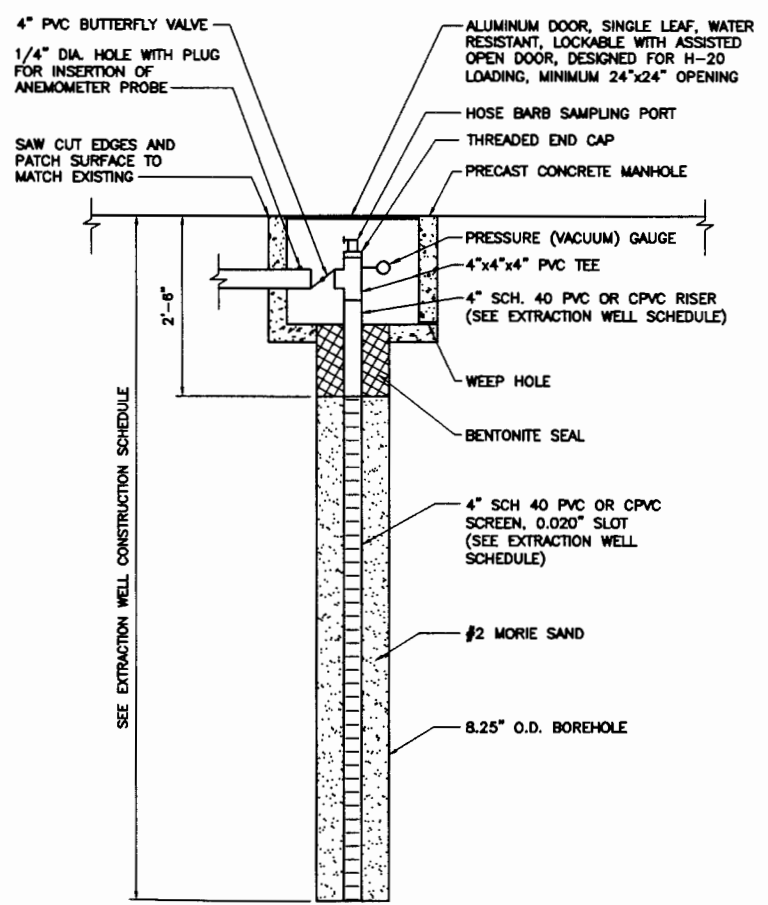
- NOTES:**
- EXTRACTION WELLS EW-5, EW-7, AND EW-10 ARE INSIDE BUILDING. INSTALLATION IS THROUGH CONCRETE FLOOR.
  - TOTAL WELL DEPTH IS BELOW GROUND SURFACE (BGS).



**TEMPERATURE MONITORING POINT (TMP)**  
(TYP. OF 13)  
NOT TO SCALE



**VACUUM MONITORING POINT**  
(TYP. OF 8)  
NOT TO SCALE



**SVE EXTRACTION WELL (EW)**  
(TYP. OF 15)  
NOT TO SCALE

|  |            |                |             |
|--|------------|----------------|-------------|
| REVISIONS  |            |                |             |
| NO.  | DATE       | BY             | DESCRIPTION |
|  |            |                |             |
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| OWNER'S PROJECT NUMBER   |            | PROJECT NUMBER |             |
| -  |            | 107244.00000   |             |
| DATE   | SCALE      | AS NOTED       |             |
| JUNE 2004  | AS NOTED   | 11             |             |
| DRAWN BY   | CHK        | DWG. NUMBER    |             |
| BLB  | CH         |                |             |
| CHECKED BY   | ARCH/DRAW. |                |             |
|  | CWP        |                |             |

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