



**TRIUNFO**  
WATER & SANITATION DISTRICT

## REQUEST FOR PROPOSALS

FOR

### **Biofilter Wood Chip Media Replacement, Zones 1-6**

ELECTRONIC PROPOSALS DUE by 3:00 p.m., July 31, 2024

LAS VIRGENES – TRIUNFO JOINT POWERS  
AUTHORITY  
4232 LAS VIRGENES ROAD  
CALABASAS, CA 91302 818.251.2100

July 2024

---

---

**REQUEST FOR PROPOSALS**  
**Las Virgenes – Triunfo Joint Powers Authority**

---

---

**TABLE OF CONTENTS**

- I. Introduction
- II. Background Information
- III. Scope of Work
- IV. Vendor Qualifications
- V. Bid Sheet

**ATTACHMENTS**

- A. Contractual Services Agreement
- B. Biofilter Zone 1-6 and Staging Area Map
- C. Biofilter As-Built Drawings

## I. INTRODUCTION

The Las Virgenes – Triunfo Joint Powers Authority (JPA) is requesting proposals for the supply of new wood chip media and the removal of spent media at the Rancho Las Virgenes Composting Facility (RLV or Composting Facility). The wood chip media is used as a biofilter for odor control at the composting facility. RLV Composting Facility is located at 3700 Las Virgenes Road, Calabasas, CA. The scope of work is turnkey and includes the provision of all materials and equipment for the removal and disposal of spent biofilter media and the supply of new biofilter media.

A preliminary scope of work is included to assist you in the preparation of your proposal. Failure to submit information in accordance with the requirements in this Request for Proposal (RFP) may be cause for disqualification.

Address any questions regarding this Request for Proposal to Veronica Hurtado at 818-251-2332 or via email at [vhurtado@lvmwd.com](mailto:vhurtado@lvmwd.com). Contractors may request a site visit before the proposal deadline, but it is not required.

## II. BACKGROUND INFORMATION

The JPA was formed between the Las Virgenes Municipal Water District (LVMWD) and the Triunfo Water and Sanitation District (TSD) in 1964 to construct, operate and maintain a joint wastewater treatment system for their respective service areas.

The Rancho Las Virgenes Composting Facility, located at 3700 Las Virgenes Rd., Calabasas, Ca., has been in service since 1994. The facility was constructed to treat and convert biosolids, from the Tapia Water Reclamation Facility (WRF), for beneficial reuse as a rich soil amendment. Tapia WRF currently treats on average 7.0 million gallons (MG) of wastewater per day and pumps approximately 80,000 gallons of combined primary and waste activated sludge to Rancho Las Virgenes. Rancho Las Virgenes produces upwards of 2,500 dry tons of Class A compost annually.

Large blowers are used to pull foul air from the composting process; the blowers push the foul air through biofilters, which remove pollutants and odor from the exhaust gas. The biofilters are divided into zones 1 through 6. Table 1 below describes the six biofilter zones.

**Table 1**  
**Biofilter Zone Descriptions**

<b>Equipment</b>	<b>Description</b>
Biofilter Zones 1/2	Each 48 ft. wide by 80 ft. long, filled with a 4-foot (average) layer of wood chip and a 20-28 inch layer of gravel rock or baseplate.
Biofilter Zones 3/4	Each 48 ft. wide by 90 ft. long, filled with a 4-foot (average) layer of wood chip and a 20-28 inch layer of gravel rock or baseplate.
Biofilter Zones 5/6	Each 48 ft. wide by 80 ft. long, filled with a 4-foot (average) layer of wood chip supported by a bottom layer of baseplates.

### III. SCOPE OF WORK

A general outline of the scope of work is provided below. The District is seeking a wood chip supplier for the replacement of biofilter media at the composting facility. The scope of work includes the supply of new material, plus hauling and disposal of spent material.

- a) The District is requesting proposals for the supply of wood chip media for biofilter zones 1-6 (3,800 cubic yards). The supplier of the wood chips is expected to move media between the staging area and the biofilters (Attachment B). A separate contract will be awarded for the removal and placement of the media on the biofilter. The supplier of the biofilter media is expected to work with the Contactor removing and placing the media. The expected duration of the transport of the media to and from the biofilter from the staging area is two weeks.
- b) Delivery and removal of wood chip media is to and from the composting facility, located at 3700 Las Virgenes Road, Calabasas, CA 91302. All work is to be performed for the price quoted.
- c) The selected contractor shall provide all labor, materials, equipment and supervision with incidental services necessary to deliver and place the new media and to remove, load, and dispose of the old media. The scope of work includes:
  - i) Procurement and delivery of new biofilter media as specified.
  - ii) Removal and disposal of existing biofilter media. Including loading.
  - iii) The contractor is to transport spent media off-site for proper disposal.
- d) The biofilter media will meet the following specifications:
  - i) **Feed Stock** - Chipped wood, high carbon material. Soft wood chips.
  - ii) **Size** – Wood chips from 3.0 inches to 8.0 inches. Material no larger than 1 inch in diameter. Wood chips will be ground, not splintered and will consist of softer varieties.
  - iii) **Processing** - Material will be screened to remove fines, material will be free of paint, treated wood, plastics, drywall, nails, screws and trash.
- e) The Contractor must provide a sample of the product to confirm material suitability.
- f) All applicable taxes shall be included in the bid price.
- g) Material will be ready for shipment within thirty (30) working days upon receipt of purchase order.

### IV. VENDOR QUALIFICATIONS

- a) The contractor must execute a Contractual Services Agreement (see Attachment A).
  - i) **Insurance** – Performing a service on District property or a District job site is required to have insurance. Certificates of Liability Insurance, with accompanying Endorsements must be provided prior to any work being performed for the District.
  - ii) **Department of Industrial Relations Registration** – Vendors and contractors are required to be registered with the California Department of Industrial Relations (DIR) prior to providing a proposal. Form PWC-100 is required to be completed and filed with the DIR prior to commencing work.

- b) Hours of work are Monday through Friday, between 6:30 AM and 3:30 PM.
- c) Timing: Work shall be completed within 4 months of award of purchase order.
- d) Speed limit: Posted speed limit at District facilities shall be observed at all times.

Please provide a proposal/quote or complete the bid sheet on the next page and submit it electronically to Veronica Hurtado ([vhurtado@lvmwd.com](mailto:vhurtado@lvmwd.com)) by the due date shown on the title page. Any questions should be directed to Veronica Hurtado, Water Reclamation Manager, (818) 251-2332 or Erik Rabaja, Composting Operations Supervisor, (818) 251-2311.

## Bid Sheet

### Biofilter Wood Chip Media Replacement, Zones 1-6

Item No.	Description	Estimated Quantity	Unit Price	Total
1.	Delivery of biofilter media to staging area. Price to include all labor, equipment, transportation and taxes.	3,800 Cubic Yards		
2.	Transportation of spent biofilter media from biofilter to staging area and transportation of new biofilter media form staging area to biofilter. Price to include all labor, equipment, transportation and taxes.	Lump sum		
3.	Removal and disposal of spent biofilter media from staging area to final destination. Price to include all labor, equipment, transportation and taxes.	Lump sum		
	<b>TOTAL ALL ITEMS:</b>			

Comments:

---



---



---



---

Company: \_\_\_\_\_

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

**Las Virgenes Municipal Water District/Agency  
AGREEMENT FOR SERVICES**

This Agreement for Services ("Agreement") is entered into this \_\_\_\_ day of \_\_\_\_\_, 20XX by and between Las Virgenes Municipal Water District ("District"), and Contractor ("Contractor"). District and Contractor are sometimes individually referred to as "Party" and collectively as "Parties." Parties do contract and agree as follows:

**1. SCOPE.**

**1.1 Scope of Services.**

This Agreement and its attachments set forth the terms under which Contractor shall, in good workmanlike and professional manner, perform the services described in the attached **Exhibit "A"** ("Scope of Services") for District.

**1.2 Labor and Equipment.** Contractor will furnish labor, equipment, and materials necessary to the work, except equipment and materials to be provided by District, as set forth in the attached SELECT DROP DOWN

Contractor may use the equipment or materials provided by District necessary for the performance of the work and should the equipment or materials be lost, damaged, or destroyed, Contractor will reimburse District with equipment and materials of equal value, and for costs and expenses incident to the replacement.

**1.3 Time of Work.** Contractor will perform Contractor's duties described in the Agreement during the hours of [range of hours] [daily or...]. In any event, Contractor will perform Contractor's duties in a manner to avoid inconvenience to the users of the District's premises and to avoid interference with District's operations.

**2. TERM AND COMPENSATION.**

**2.1 Term.** This Agreement shall commence on the date above written and shall continue until completion of the Services described above.

**2.2 Termination.**

2.2.1 Either Party may terminate this Agreement on thirty (30) days' written notice for any reason. If Agreement is terminated by District without cause, District shall pay Contractor for work performed prior to the date the notice of termination is received by Contractor. If Agreement is terminated by Contractor without cause, Contractor shall reimburse District for additional costs to be incurred by District in obtaining the work from another Contractor.

**2.3 Compensation and Reimbursement.** District shall compensate and reimburse Contractor, including all reimbursable expenses, as provided in the attached **Exhibit "C"** ("Fee

Schedule"). Contractor shall submit invoices no more frequently than monthly and no less than every quarter. Payment shall be made by the District within thirty (30) days of District receipt of an accurate and approved invoice.

### **3. Responsibilities of Contractor.**

3.1.1 Independent Contractor. At all times during the term of this Agreement, Contractor shall be an independent contractor and shall not be an employee of the District. District shall have the right to control Contractor only insofar as the results of Contractor's services rendered pursuant to this Agreement; however, District shall not have the right to control the means by which Contractor accomplishes such services. Except as District may specify in writing, Contractor shall have no authority, expressed or implied, to act on behalf of District in any capacity whatsoever as an agent. Contractor shall have no authority, expressed or implied, pursuant to this Agreement to bind District to any obligation whatsoever.

3.1.2 Conformance to Applicable Requirements. All work performed by Contractor shall be subject to the approval of District.

3.1.3 No Subcontracts. Contractor shall not subcontract any portion of the work required by this Agreement, except as expressly stated herein, without prior written approval of District. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.1.4 Maintenance of Records. Contractor shall maintain all books, documents, papers, employee time sheets, accounting records, and other evidence pertaining to fees and costs incurred for each assignment and shall make such materials available at its office at all reasonable times for three (3) years from the date of the close of each individual assignment under this Agreement, for inspection by District and copies thereof shall be furnished, if requested.

3.1.5 Ownership of Data, Reports, and Documents. Contractor shall deliver to District notes of surveys made, all reports of tests made, studies, reports, plans, a copy of electronic and digital files, and other materials and documents which shall be the property of the District. Contractor is released from responsibility to third parties for the use by District of data, reports, and documents on other projects. Contractor may retain copies of such documents for its own use. The District may use or reuse the materials prepared by Contractor without additional compensation to Contractor.

### **4. Laws and Regulations.**

4.1 Compliance with Applicable Law. Contractor agrees to comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the work to be done



under this Agreement. If Contractor performs any work knowing it to be contrary to such laws, rules, and regulations, Contractor shall be solely responsible for all costs arising therefrom.

**3.2** Eligibility for Employment in the United States. Contractor shall complete and keep on file, as appropriate, the Immigration and Naturalization Service Employment Eligibility Form (I-9). This form shall be used by Contractor to verify that persons employed by Contractor are eligible to work in the United States.

**4.3** Licenses, Permits, Etc. Contractor represents and declares to District that it has all licenses, permits, qualifications, and approvals of whatever nature that are legally required to practice its profession. Contractor represents and warrants to District that Contractor shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement, any license, permit, or approval which is legally required for Contractor to practice its profession.

**4.4** Equal Opportunity Employment. Contractor represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex, or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, or termination.

**4.5** Labor Code Provisions.

**4.5.1** Prevailing Wages. Contractor is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on “public works” and “maintenance” projects. If the Services are being performed as part of an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and if the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. Contractor shall comply with all prevailing wage requirements under the California Labor Code and Contractor shall forfeit as penalty to the District a sum of not more than \$200.00 for each calendar day, or portion thereof, for each worker paid less than the prevailing rates. This penalty shall be in addition to any shortfall in wages paid. The District has obtained the general prevailing rate of wages, as determined by the Director of the Department of Industrial Relations, a copy of which is on file in the District’s office and shall be made available for viewing to any interested party upon request. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Services available to interested parties upon request and shall post copies at the Contractor’s principal place of business and at the Project site.

**4.5.2** Registration and Labor Compliance. If the Services are being performed as part of an applicable “public works” or “maintenance” project, then, in addition to the foregoing, pursuant to Labor Code sections 1725.5 and 1771.1, the Contractor and all subcontractors must be registered with the Department of Industrial Relations (“DIR”).

Contractor shall maintain registration for the duration of the Project and require the same of any subcontractors. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Contractor's sole responsibility to comply with all applicable registration and labor compliance requirements, including the submission of payroll records directly to the DIR.

4.5.3 Labor Certification. By its signature hereunder, Contractor certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code and agrees to comply with such provisions before commencing the performance of the Services.

## **5. Indemnification.**

To the fullest extent permitted by law, Contractor shall immediately indemnify and hold the District, its directors, officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage, or injury of any kind, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or incident to any alleged acts, errors, or omissions of Contractor, its officials, officers, employees, subcontractors, Contractors, or agents in connection with the performance of the Contractor's services under this Agreement, including without limitation the payment of all consequential damages, attorneys' fees and costs, including expert witness fees.

## **6. Insurance.**

6.1.1 Time for Compliance. Contractor shall not commence Work under this Agreement until it has provided evidence satisfactory to the District that it has secured all insurance required under this section. In addition, Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the District that the subcontractor has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the District to terminate this Agreement for cause.

6.1.2 Minimum Requirements. Contractor shall obtain and maintain during the entire term of this Agreement the following insurance policies from companies authorized to issue insurance in the State of California:

(a) Commercial General Liability. Coverage for commercial general liability insurance shall be at least as broad as Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 0001). Contractor shall maintain limits no less than \$1,000,000 per occurrence, or the full per occurrence limits of the policies available, whichever is greater, for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with general aggregate limit or product-completed operations aggregate limit is used, including but not limited to form CG 2503, either the general

aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit.

(b) Automobile Liability. Coverage shall be at least as broad as the latest version of the Insurance Services Office Business Auto Coverage form number CA 0001, code 1 (any auto). Contractor shall maintain limits no less than \$1,000,000 per accident for bodily injury and property damage. The automobile liability policy shall cover all owned, non-owned, and hired automobiles.

(c) Workers' Compensation Insurance. Contractor shall maintain Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance in an amount no less than \$1,000,000 per accident for bodily injury or disease. The insurer shall agree to waive all rights of subrogation against the District, its directors, officials, officers, employees, agents, and volunteers for losses paid under the terms of the insurance policy which arise from work performed by the Contractor.

(d) Excess Liability (if necessary). The limits of Insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess coverage shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the District (if agreed to in a written contract or agreement) before the District's own primary or self-Insurance shall be called upon to protect it as a named insured. The policy shall be endorsed to state that the District, its directors, officials, officers, employees, agents, and volunteers shall be covered as additional insured at least as broad a form as CG 20 10 11 85 or the latest versions of both CG 20 10 and CG 20 37. The coverage shall contain no special limitations on the scope of protection afforded to the District, its directors, officials, officers, employees, agents, and volunteers.

6.1.3 All Coverages. The general liability and automobile liability policy shall include or be endorsed to state that: (1) the District, its directors, officials, officers, employees, agents, and volunteers shall be covered as additional insured with respect to work by or on behalf of the Contractor, including materials, parts, or equipment furnished in connection with such work using as broad a form as CG 20 10 11 85 or the latest versions of both CG 20 10 and CG 20 37; and (2) the insurance coverage shall be primary insurance as respects the District, its directors, officials, officers, employees, agents, and volunteers using as broad a form as CG 20 01 04 13, or if excess, shall stand in an unbroken chain of coverage excess of the Contractor's scheduled underlying coverage. Any insurance or self-insurance maintained by the District, its directors, officials, officers, employees, agents, and volunteers shall be excess of the Contractor's insurance and shall not be called upon to contribute with it in any way.

(a) The insurance policies required above shall contain or be endorsed to contain the following specific provisions:

(i) The policies shall contain a waiver of transfer rights of recovery (“waiver of subrogation”) against District, its board members, officers, employees, agents, and volunteers, for any claims arising out of the work of Contractor.

(ii) Policies may provide coverage which contains deductible or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to District under such policies. Contractor shall be solely responsible for deductible and/or self-insured retention and District, at its option, may require Contractor to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit. The insurance policies that contain deductibles or self-insured retentions in excess of \$25,000 per occurrence shall not be acceptable without the prior approval of District.

(iii) Prior to start of work under this Agreement, Contractor shall file with District evidence of insurance as required above from an insurer or insurers certifying to the required coverage. The coverage shall be evidenced on a certificate of insurance signed by an authorized representative of the insurer(s).

(iv) Each policy required in this section shall contain a policy cancellation clause that provides the policy shall not be cancelled or otherwise terminated by the insurer or the Contractor or reduced in coverage or in limits except after thirty (30) days’ prior written notice by certified mail, return receipt requested, has been given to the District, Attention: Director of Finance & Administration.

(v) Insurance required by this Agreement shall be placed with insurers licensed by the State of California to transact insurance business of the types required herein. Each insurer shall have a current Best Insurance Guide rating of not less than A: VII unless prior approval is secured from the District as to the use of such insurer.

(vi) Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein. Contractor shall maintain evidence of compliance with the insurance requirements by the subcontractors at the job site and make them available for review by District.

6.1.4 Reporting of Claims. Contractor shall report to the District, in addition to Contractor’s insurer, any and all insurance claims submitted by Contractor in connection with the Services under this Agreement.

## **7. General Provisions.**

7.1.1 Notices. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

**District:**

Las Virgenes Municipal Water District  
Attn: Click or tap here to enter  
4232 Las Virgenes Road  
Calabasas, CA 91302

**Contractor:**

Click or tap here to enter text.

Such notice shall be deemed made when personally delivered or when mailed, upon deposit in the U.S. Mail, first class postage prepaid and registered or certified addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

7.1.2 Time of Essence. Time is of the essence for each and every provision of this Agreement. The acceptance of late performance shall not waive the right to claim damages for such breach nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

7.1.3 District's Right to Employ Other Contractors. District reserves the right to employ other Contractors in connection with this Project.

7.1.4 Successors and Assigns. This Agreement shall be binding on the successors and assigns of the Parties.

7.1.5 Assignment or Transfer. Contractor shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein without the prior written consent of the District.

7.1.6 Amendment. This Agreement may not be altered or amended except in a writing signed by both Parties.

7.1.7 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition.

7.1.8 No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

7.1.9 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

7.1.10 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Los Angeles County.

7.1.11 Attorneys' Fees. If either Party commences an action against the other Party, either legal, administrative, or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all other costs of such action.

7.1.12 Authority to Enter Agreement. Contractor has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

7.1.13 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

7.1.14 Integration. This Agreement represents the entire understanding of District and Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder.

IN WITNESS WHEREOF, the Parties hereby have caused this Agreement to be executed the date first written above:

APPROVED:

**Las Virgenes Municipal Water District**

APPROVED:

**[Contractor]**

---

David W. Pedersen  
General Manager

---

Name  
Title

**EXHIBIT A**  
**SCOPE OF SERVICES**

Choose a building block.

**EXHIBIT B**  
**MATERIAL AND EQUIPMENT**

District shall provide the following equipment and material to be stored on the premises described in Section 1.2, for the use of Contractor in performance of Contractor's duties under the Agreement:

Choose a building block.



**EXHIBIT C  
FEE SCHEDULE**

I. Services

Choose a building block.

II. Reimbursable Expenses

Choose a building block.

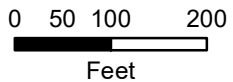




Staging Area 1

Biofilter Zones 1-4

Biofilter Zones 5 & 6



### Attachment B - Biofilter Zones 1-6

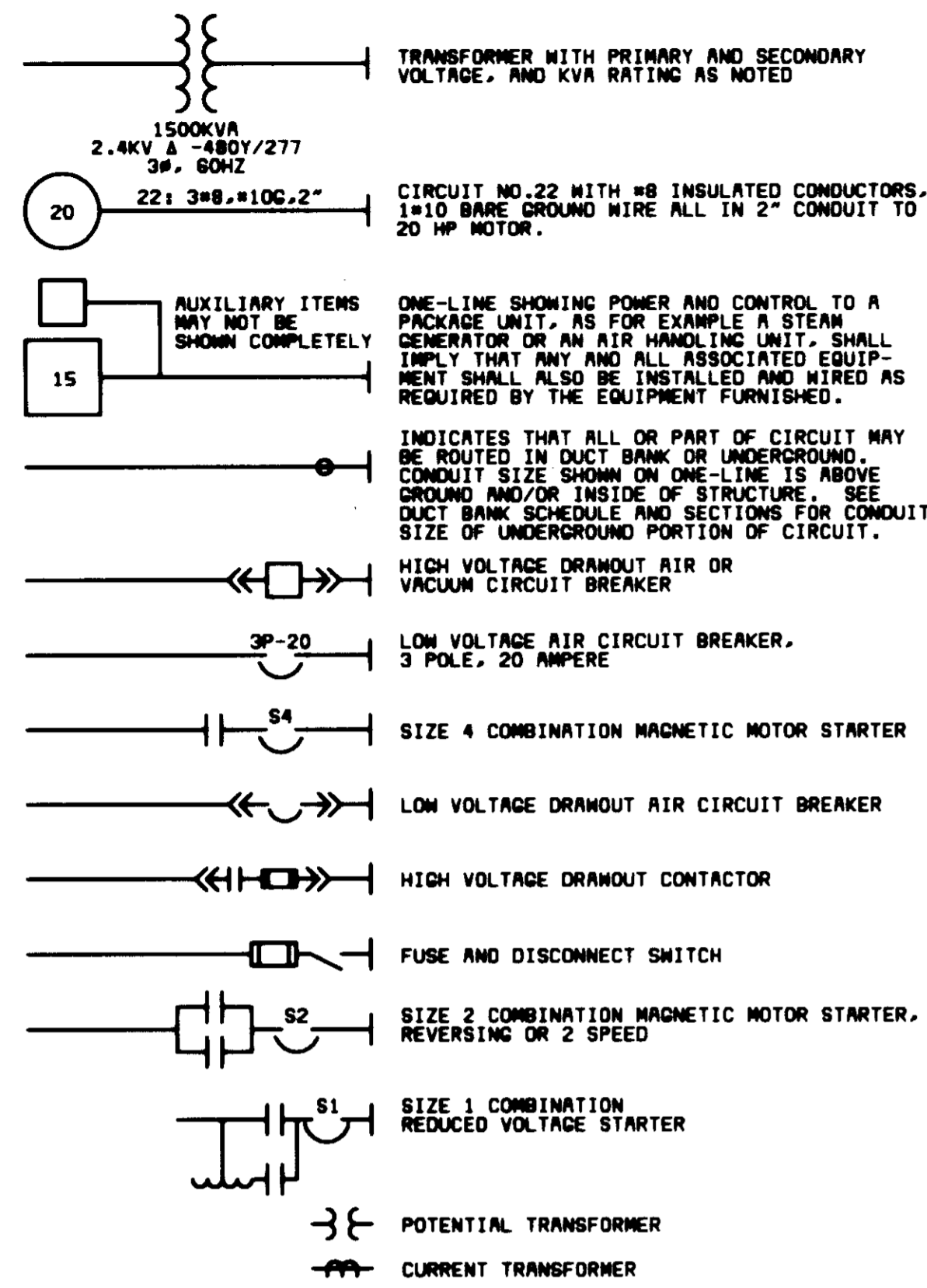




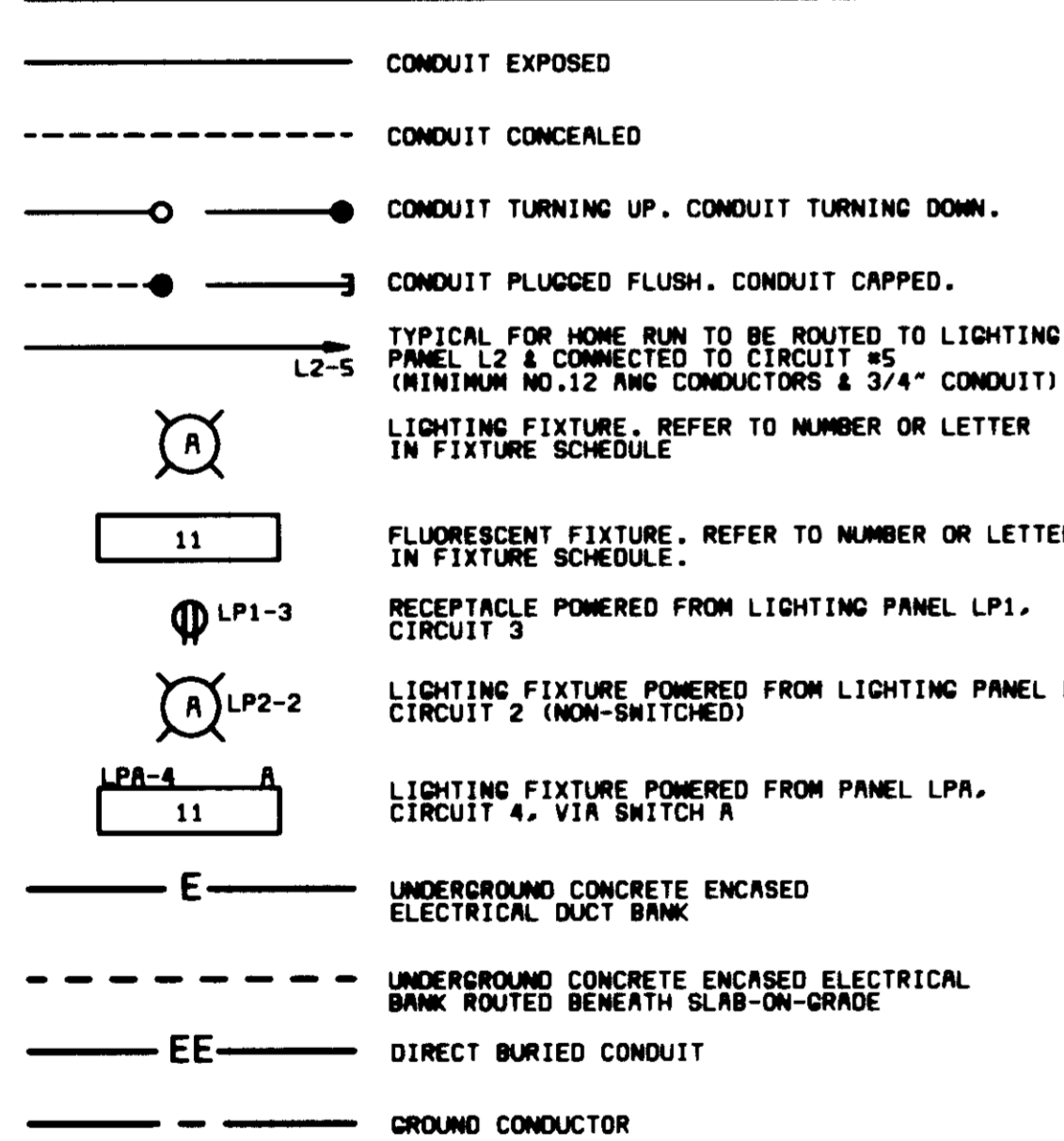




**ONE-LINE DIAGRAM LEGEND**



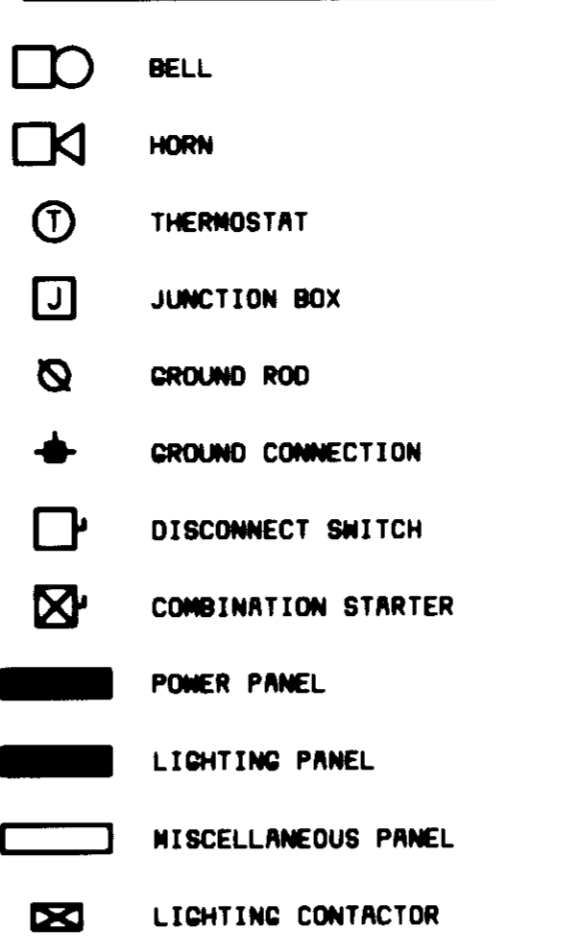
**CONDUIT & WIRING INSTALLATION LEGEND**



**ABBREVIATIONS**

A	AMBER, AMPERE, ALARM	M	MAGNETIC MOTOR STARTER
AC	ALTERNATING CURRENT	MA	MILLIAMPERE
ACB	AIR CIRCUIT BREAKER	MBC	MAIN CIRCUIT BREAKER
AF	AMPERE FRAME	MCC	MOTOR CONTROL CENTER
AFD	ADJUSTABLE FREQUENCY DRIVE	MCLU	MOTOR CONTROL LINEUP
AM	AMMETER	MCM	THOUSAND CIRCULAR MIL
ANN	ANNUNCIATOR	MD	MOISTURE DETECTOR
AR	ALARM RELAY	MFH	MAGNETIC FLOW METER
AS	AMMETER SWITCH	MFR	MANUFACTURER
AT	AMPERE TRIP	MH	MANHOLE OR MOUNTING HEIGHT
AWC	AMERICAN WIRE GAGE	MOV	MOTOR OPERATED VALVE
BC	BATTERY CHARGER	MPR	MOTOR PROTECTION RELAY
BR	BRAKE	MS	MANUAL MOTOR STARTER
BT	BEARING TEMPERATURE	MSH	MOTOR SPACE HEATER
		MV	MILLIVOLT
		MVA	MEGA VOLT AMPERE
C	CLOSE, COUNTER OR CONTACTOR	N	NEUTRAL
CAP	CAPACITOR	NC	NORMALLY CLOSED
CB	CIRCUIT BREAKER	NO	NORMALLY OPEN, NUMBER
CB"A"	CIRCUIT BREAKER AUXILIARY CONTACT (OPEN WHEN BREAKER IS OPEN OR TRIPPED)	O	OPEN
CB"B"	CIRCUIT BREAKER AUXILIARY CONTACT (CLOSED WHEN BREAKER IS CLOSED)	OCB	OIL CIRCUIT BREAKER
		OL	OVERLOAD
CD	CONTROL DAMPER	ODR	ON-OFF-AUTO
CI	CELL INTERLOCK	ODR	ON-OFF-REMOTE
CKT	CIRCUIT	P	PRIMARY
CL2	CHLORINE	PCS	PLANT CONTROL SYSTEM
COS	CABLE OPERATED SWITCH	PB	PUSH BUTTON OR PULL BOX
CP	CONTROL PANEL	PF	POWER FACTOR METER
CPT	CONTROL POWER TRANSFORMER	PH	PHASE, CHEMICAL TERM
CR	CURRENT OR CONTROL RELAY	PLC	PROGRAMMABLE LOGIC CONTROLLER
CS	CONTROL STARTION	PP	POWER PANEL
CT	CYCLE TIMER OR CURRENT TRANSFORMER	PRS	PROXIMITY SWITCH
CTC	CYCLE TIMER CLUTCH	PS	PRESSURE SWITCH
CTM	CYCLE TIMER MOTOR	PT	POTENTIAL TRANSFORMER, PROGRAM TIMER
2/C	2 CONDUCTOR	2P	2 POLE
4"C	4" CONDUIT		
DC	DIRECT CURRENT	R	RED, RAISE, RELAY OR REVERSE
DI	DOOR INTERLOCK	RECP	RECEPTACLE
DM	DAMPEN MOTOR OR DEMAND METER	RES	RESISTOR
DPOD	DOUBLE POLE DOUBLE THROW	RT	REPEATING TIMER
DPS1	DOUBLE POLE SINGLE THROW	RTD	RESISTANCE TYPE TEMP DETECTOR
DPR	DIFFERENTIAL PRESSURE REGULATOR	RTU	REMOTE TERMINAL UNIT
DPS	DIFFERENTIAL PRESSURE SWITCH	RVSS	REDUCED VOLTAGE SOLID STATE STARTER
DS	DISCONNECT SWITCH	S2	SIZE 2 STARTER
DVLS	DISCHARGE VALVE LIMIT SWITCH	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE	SH	SPACE HEATER
EC	EMPTY CONDUIT	SN	SOLID NEUTRAL
EL	ELEVATION OR EMERGENCY LIGHT	SO	SOLENOID OILER
EMH	ELECTRICAL MANHOLE	SP	SINGLE POLE
ER	ELECTRODE RELAY	SPD	SINGLE POLE DOUBLE THROW
ES	END SWITCH	SPST	SINGLE POLE SINGLE THROW
ETM	ELAPSED TIME METER	SS	SELECTOR SWITCH
EX	EXISTING	SSS	SOLID STATE STARTER
F	FORWARD	SUPV	SUPERVISORY CONTROL
FS	FLOW SWITCH	SV	SOLENOID VALVE
		SWB	SWITCHBOARD
		SWGR	SWITCHGEAR
G	GREEN OR GROUND	T	THERMOSTAT, TIMER, OR TOTALIZER
GD	GROUND DETECTOR	TACH	TACHOMETER
GEN	GENERATOR	TB	TERMINAL BLOCK
GFI	GROUND FAULT INTERRUPTER	TC	TIMER CLUTCH
GLS	GEARED LIMIT SWITCH	TD	TIME DELAY RELAY
#GC	#8 GROUND WIRE	TEMP	TEMPERATURE
		TN	TIMER MOTOR
H	HIGH OR HUMIDISTAT	TG	TORQUE SWITCHES
HC	HOT CIRCUIT	TS	TEMPERATURE SWITCH
HM	MANHOLE	TTB	TELEPHONE TERMINAL BOX
HMT	HIGH MOTOR TEMPERATURE		
HOA	HAND-OFF-AUTO	UG	UNDERGROUND
HOR	HAND-OFF-REMOTE	UV	UNDER VOLTAGE
HP	HORSEPOWER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HMCO	HIGH WATER CUTOFF		
HZ	HERTZ (CYCLE)	V	VOLTS
		VA	VOLT AMPERE
I/O	INPUT/OUTPUT	VAR	VARMETER
INST	INSTANTANEOUS	VLS	VALVE LIMIT SWITCH
J	JUNCTION BOX	VM	VOLTMETER
JB	JUNCTION BOX	VPI	VALVE POSITION INDICATOR
		VS	VOLTMETER SWITCH
K	KEY INTERLOCK	W	WHITE OR MATTS
KV	KILOVOLT	WH	WATT/WHOUR METER
KVA	KILOVOLT AMPERE	WM	WATT METER
KVAR	KILOVAR	WP	WEATHERPROOF
KW	KILOWATT		
KWH	KILOWATT HOUR	X	AUXILIARY RELAY
		XFMR	TRANSFORMER
L	LOW, LEVEL	XP	EXPLOSION PROOF
LA	LIGHTNING ARRESTER		
LAN	LOCAL AREA NETWORK	Y	YELLOW
LC	LIGHTING CONTACTOR		
LOA	LOCAL-OFF-AUTO	Z	AUXILIARY RELAY
LOR	LOCAL-OFF-REMOTE	ZS	POSITION SWITCH
LP	LIGHTING PANEL	ZSS	ZERO SPEED SWITCH
LS	LIMIT OR LEVEL SWITCH		
LMCO	LOW WATER CUTOFF		
1-1PR=18S	ONE, SINGLE PAIR, TWISTED, SHIELDED #18 CABLE		
3-7/C=14	THREE, SINGLE, SEVEN CONDUCTOR #14 MULTICONDUCTOR CONTROL CABLES		

**MISCELLANEOUS SYMBOLS**



**SWITCH & OUTLET SYMBOLS**



**AREA DESIGNATIONS**

THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.

**AREA TYPE 1A** CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED PVC RIGID NON-METALLIC CONDUIT WITH PVC FITTINGS, BOXES, AND ACCESSORIES.

**AREA TYPE 4** INDOOR MET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.

**AREA TYPE 7A** CLASS 1, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.

**AREA TYPE 7B** CLASS 1, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.

**AREA TYPE 12** INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.

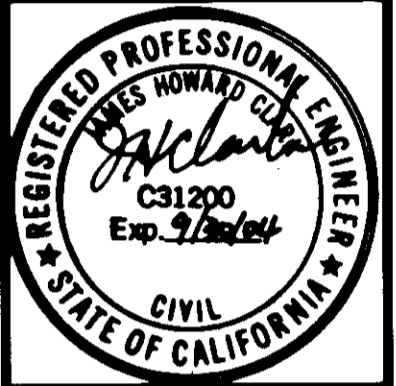
**GENERAL REQUIREMENTS**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATIONS.
- SPARE WIRES SHALL BE TAPED AND COILED.
- IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMMODATE THE HIGHER VALUE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
- LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO.12 AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM 3/4".
- IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC., NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.
- ALL SHUTDOWNS OF ELECTRICAL EQUIPMENT SHALL BE ON WEEKEND DAYS, AND SHALL BE APPROVED IN ADVANCE BY THE DISTRICT.

**GENERAL NOTES**

- SOLID LINES (——) INDICATE NEW WORK OR EQUIPMENT.
- SCREENED LINES (——) INDICATE EXISTING WORK OR EQUIPMENT.
- DASHED LINES (---) INDICATE FUTURE WORK OR EQUIPMENT.
- REFER TO THE FOLLOWING DRAWING(S) FOR INSTRUMENTATION LEGEND:
- THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
- INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
  - ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
  - FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF THE IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
  - SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
  - DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.

DATE	7/2/2001	CONFORMED TO ADDRESS	NO.	1
DATE	7/2/2001	REVISIONS AND RECORD OF ISSUE	NO.	BY
DATE	7/2/2001	REVISIONS AND RECORD OF ISSUE	NO.	BY
DATE	7/2/2001	REVISIONS AND RECORD OF ISSUE	NO.	BY



**BLACK & VEATCH**  
Corporation  
Los Angeles, California

**RANCHO LAS VIRGENES COMPOSTING FACILITY**  
**BIOFILTER IMPROVEMENT PROJECT**  
**ELECTRICAL GENERAL NOTES AND ABBREVIATIONS**

DESIGNED: A. MONALES  
DETAILED: R. VIZCARRA  
CHECKED: MW/MK  
APPROVED: J. HAY  
DATE: 4/27/2001

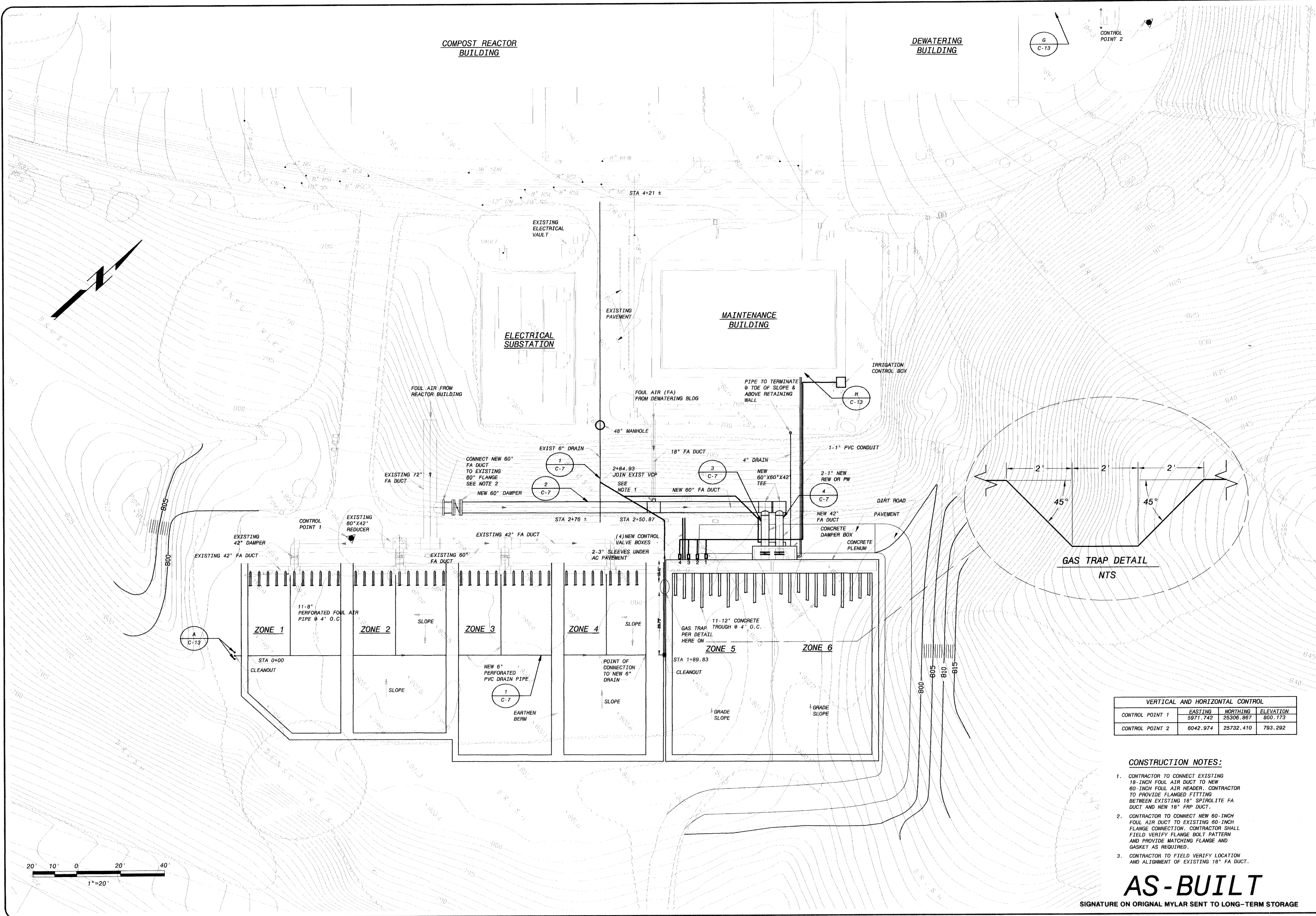
PROJECT NO.  
**99297**

**G-3**

SHEET  
3 OF 19







COMPOST REACTOR BUILDING

DEWATERING BUILDING

ELECTRICAL SUBSTATION

MAINTENANCE BUILDING

VERTICAL AND HORIZONTAL CONTROL			
CONTROL POINT	EASTING	NORTHING	ELEVATION
CONTROL POINT 1	5971.742	25306.867	800.173
CONTROL POINT 2	6042.974	25732.410	793.292

**CONSTRUCTION NOTES:**

- CONTRACTOR TO CONNECT EXISTING 18-INCH FOUL AIR DUCT TO NEW 60-INCH FOUL AIR HEADER. CONTRACTOR TO PROVIDE FLANGED FITTING BETWEEN EXISTING 18" SPIROLITE FA DUCT AND NEW 18" FRP DUCT.
- CONTRACTOR TO CONNECT NEW 60-INCH FOUL AIR DUCT TO EXISTING 60-INCH FLANGE CONNECTION. CONTRACTOR SHALL FIELD VERIFY FLANGE BOLT PATTERN AND PROVIDE MATCHING FLANGE AND GASKET AS REQUIRED.
- CONTRACTOR TO FIELD VERIFY LOCATION AND ALIGNMENT OF EXISTING 18" FA DUCT.

**AS-BUILT**  
SIGNATURE ON ORIGINAL MYLAR SENT TO LONG-TERM STORAGE

3/15/2002	AS-BUILT	1	AM	JH	JC
7/2/2001	CONFORMED TO ADDENDA	1	AM	JH	JC
	DATE				
	REVISIONS AND RECORD OF ISSUE				
	CYBNET ID:				
	SAVED:				
	DWG. VER. #:				
	PLOTTED:	10/20/02	7/2/2001	8:40:11 AM	
	USER:				

**BLACK & VEATCH**  
Corporation  
Los Angeles, California

**RANCHO LAS VIRGENES COMPOSTING FACILITY**  
BIOFILTER IMPROVEMENT PROJECT  
SITE PLAN AND SURVEY INFORMATION

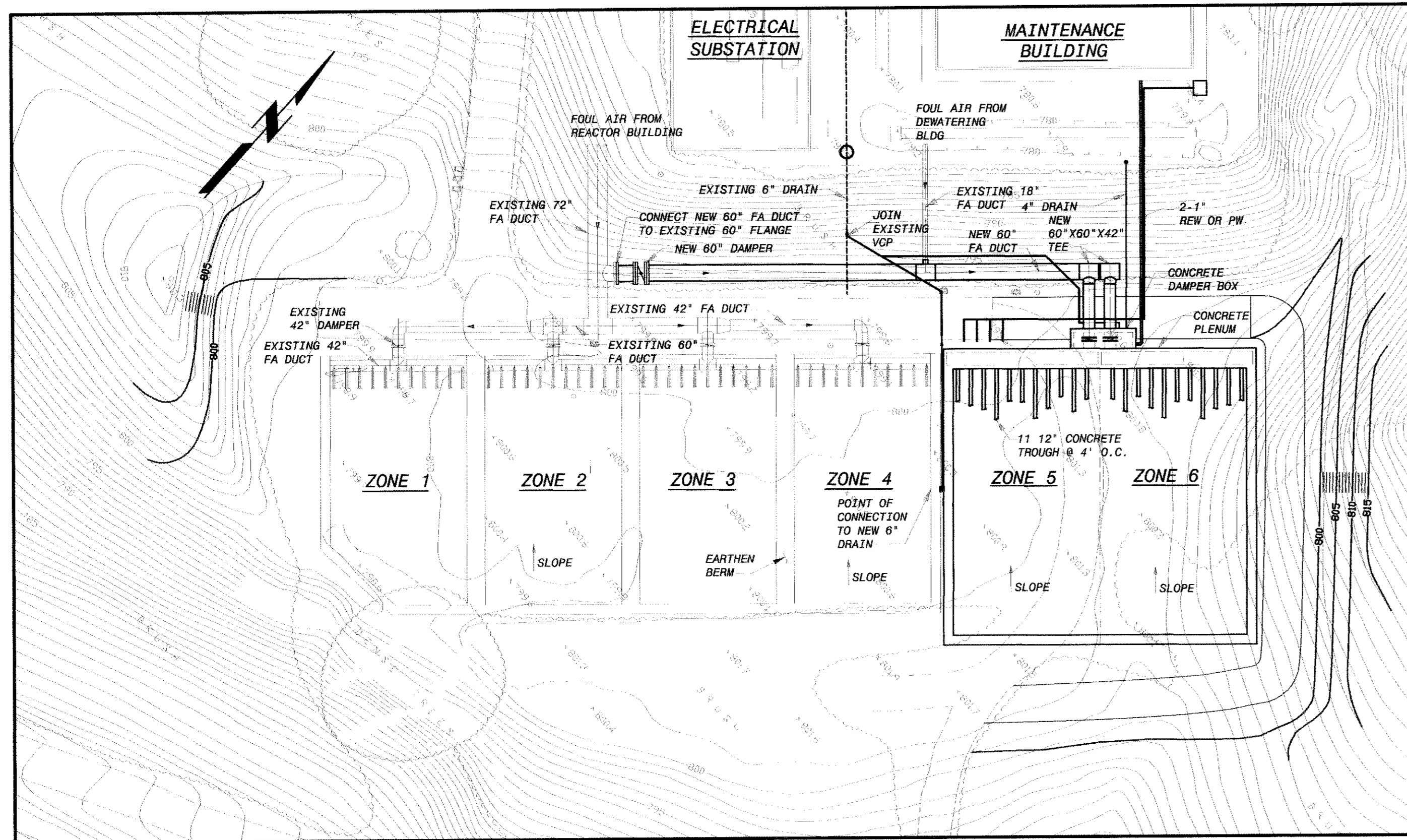
DESIGNED: A. MORALES  
DETAILED: R. VIZCARRA  
CHECKED: MN/WK  
APPROVED: J. HAY  
DATE: 3/26/2002

PROJECT NO.  
**99297**

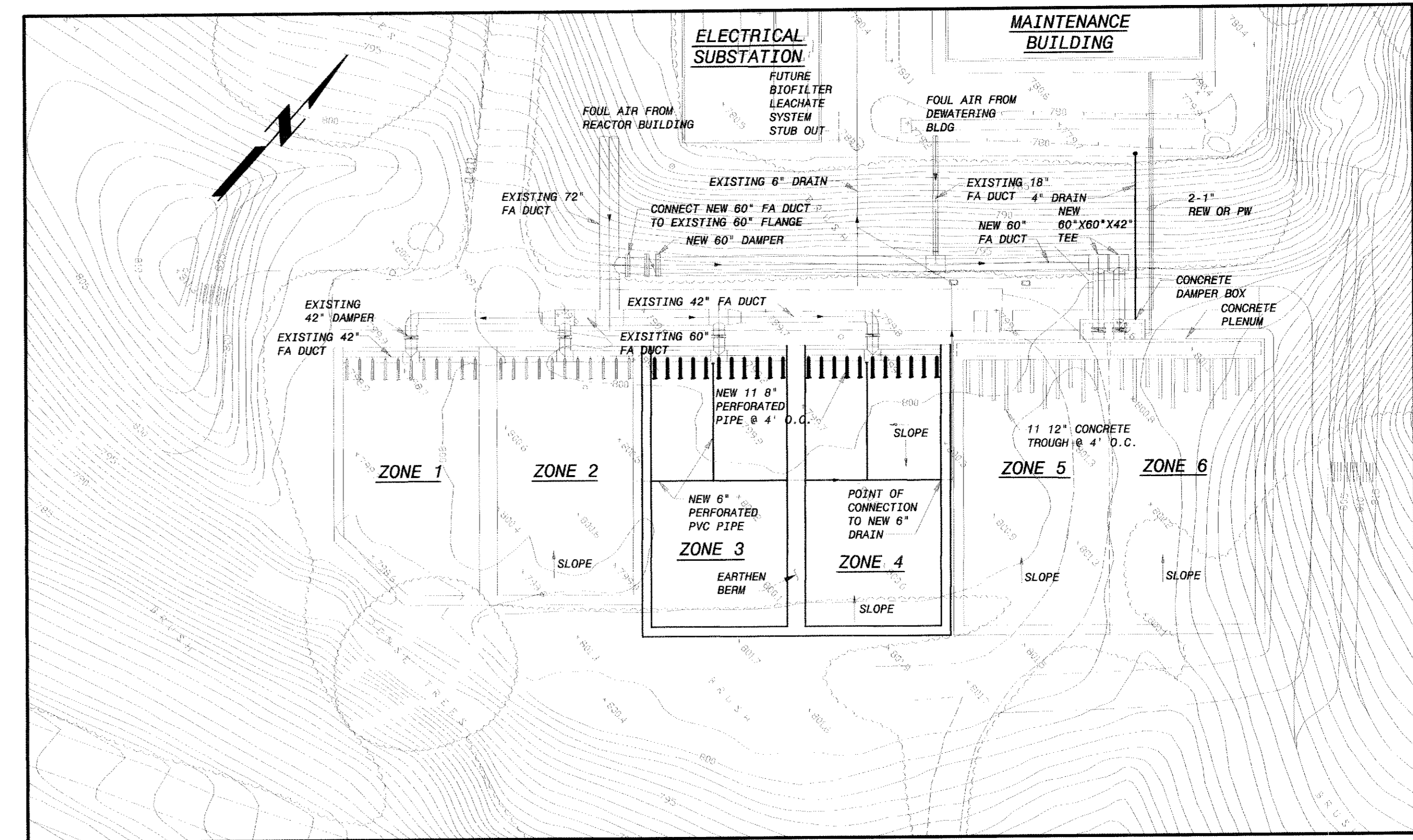
C-1  
SHEET  
5 OF 19

07702-01

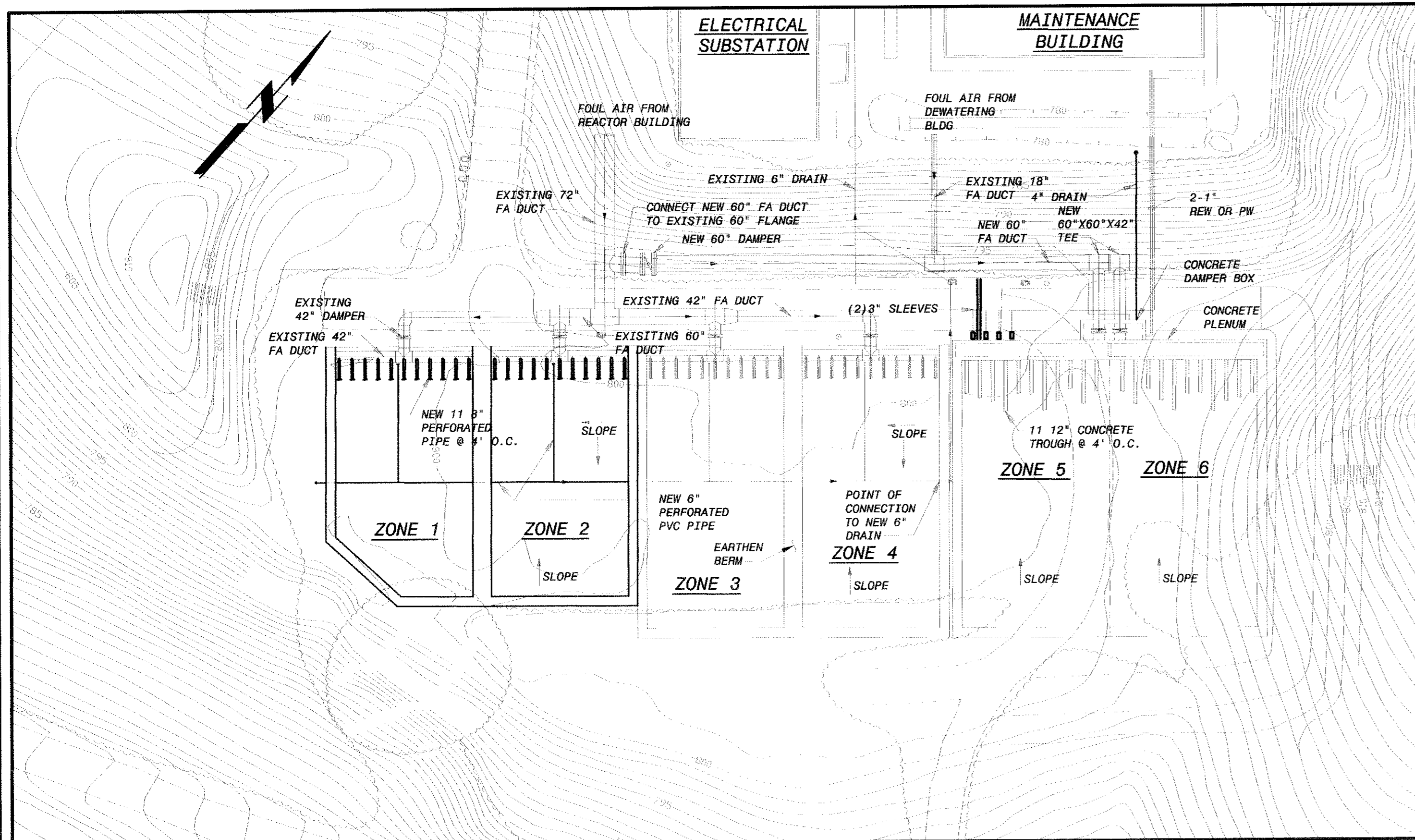




**PHASE 1-ZONES 5 & 6**  
 1" = 30'-0"



**PHASE 2-ZONES 3 & 4**  
 1" = 30'-0"



**PHASE 3-ZONES 1 & 2**  
 1" = 30'-0"

CONSTRUCTION PHASING				
PHASE	ZONES	MAJOR WORK ITEMS*	CONSTRUCTION SEQUENCE**	COMPLETION DATE
1	5 & 6	-REGRADE EXISTING LANDSCAPE TO ACCOMMODATE NEW ZONES AND STOCKPILING AREA. -CONNECT NEW 60-INCH FA DUCT TO EXISTING 60-INCH BLIND FLANGE WITH 60-INCH DAMPER. -CONSTRUCT 60-INCH FA DUCT TO 18-INCH CONNECTION. CONNECT EXISTING 18-INCH FA TO NEW 60-INCH FA DUCT AT TEE. -DEMOLISH, BACKFILL, AND GRADE EXISTING ZONE 5. -CONSTRUCT NEW CONCRETE TROUGHS, PLENUM AND DAMPER VAULT FOR ZONES 5 AND 6, 42-INCH FA DUCT, 60-INCH FA DUCT. -CONSTRUCT NEW 6-INCH DRAIN MANHOLE AND FUTURE LEACHATE TREATMENT STUBOUTS. -INSTALL NEW ELECTRIC INSTANTANEOUS WATER HEATER TRANSFORMER, REW/PW PIPING AND CONTROLS. -INSTALL NEW IRRIGATION LINE, IMPACT SPRINKLERS AND CONTROLLERS. -INSTALL NEW 18-INCH DAMPER ON EXISTING 18-INCH FA DUCT LOCATED WITHIN THE DEWATERING BUILDING FAN ROOM.	1. POT HOLE TO LOCATE 18" SPIROLITE FA DUCT AND ESTABLISH OPTIMUM LOCATION FOR TIE TO DUCT. 2. POT HOLE TO LOCATE FLANGE AT EAST END OF 42" PIPE IN ZONE 4. 3. INSTALL TEMPORARY DUCTING BETWEEN TIE-IN AT 18-INCH SPIROLITE PIPE AND FLANGE AT EAST END OF 42" PIPE IN ZONE 4. TEMPORARY DUCTING MUST ALLOW CLEARANCE FOR INSTALLATION OF 60-INCH FA DUCT. 4. INSTALL 60-INCH FRP PIPELINE BETWEEN FLANGE CONNECTION AT 72-INCH SPIROLITE PIPE AND DAMPER BOX. 5. INSTALL PERMANENT NEW 18-INCH FRP DUCT BETWEEN FLANGED CONNECTION AT CUT END OF 18-INCH SPIROLITE DUCT AND 60-INCH FRP DUCT. 6. ANY DEVIATIONS FROM THE ABOVE SEQUENCE MUST BE APPROVED BY THE DISTRICT.	OCT 31, 2001
2	3 & 4	-DEMOLISH AND GRADE EXISTING ZONES 3 & 4. -INSTALL NEW PIPEWORK, GRAVEL AND WOOD MEDIA. -RELOCATE IRRIGATION ON SOUTH END OF BIOFILTER.		NOV 31, 2001 ADD2
3	1 & 2	-DEMOLISH AND GRADE EXISTING ZONES 1 & 2. -INSTALL NEW PIPEWORK, GRAVEL AND WOOD MEDIA.		DEC 31, 2001

PHASES 2&3 COMBINED INTO ONE PHASE

\* NOT INTENDED TO SHOW THE ENTIRE SCOPE OF WORK IN EACH PHASE.  
 \*\* 18-INCH FA DUCT IS TO REMAIN IN SERVICE DURING CONSTRUCTION.

3/15/2002 AS-BUILT  
 7/12/2001 CONFORMED TO ADDENDA  
 DATE  
 CY/NET ID:  
 SAVER:  
 DWG. VER. #:  
 PLOTTED: 10/12/2002, 7/12/2001, 9:24:58 AM  
 USER: SH

1 AM JH JC  
 NO. BY CK APP

REVISIONS AND RECORD OF ISSUE  
 XREF1 ID:  
 XREF2 ID:  
 XREF3 ID:  
 XREF4 ID:  
 XREF5 ID:



RANCHO LAS VIRGENES  
 COMPOSTING FACILITY  
 BIOFILTER IMPROVEMENT PROJECT  
 PHASING PLAN

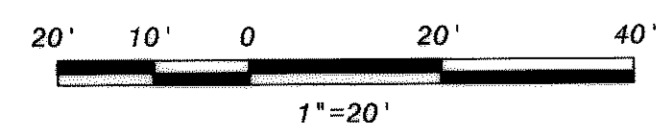
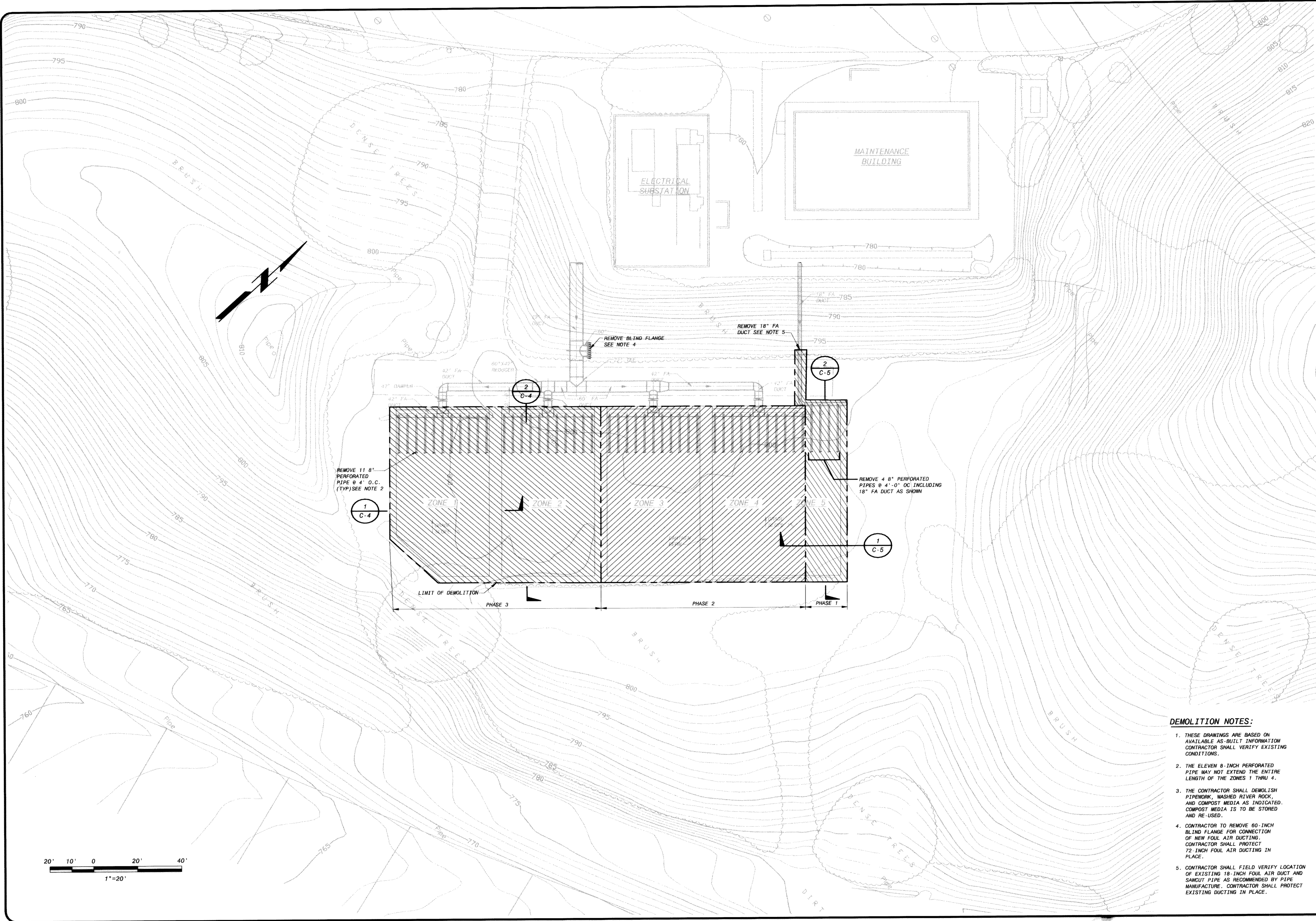
DESIGNED: A. MORALES  
 DETAILED: R. VIZCARRA  
 CHECKED: MM/WK  
 APPROVED: J. HAY  
 DATE: 2/28/2002

PROJECT NO.  
 99297

C-2  
 SHEET  
 6 OF 19

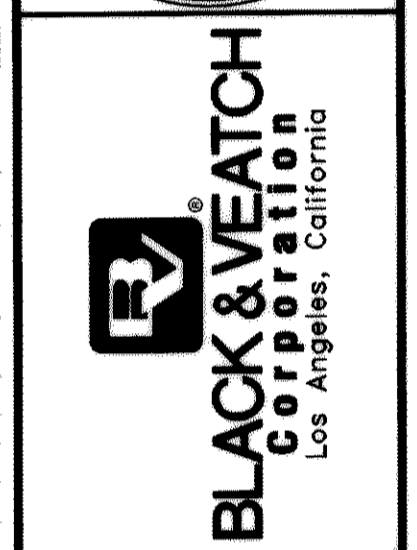
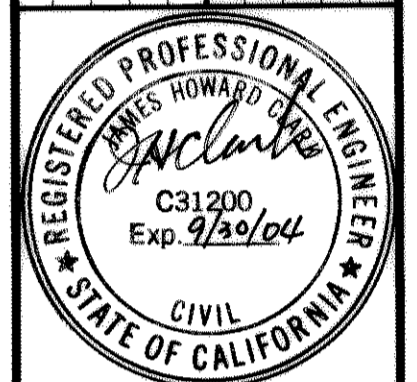
**AS-BUILT**  
 SIGNATURE ON ORIGINAL MYLAR SENT TO LONG-TERM STORAGE





- DEMOLITION NOTES:**
1. THESE DRAWINGS ARE BASED ON AVAILABLE AS-BUILT INFORMATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS.
  2. THE ELEVEN 8-INCH PERFORATED PIPE MAY NOT EXTEND THE ENTIRE LENGTH OF THE ZONES 1 THRU 4.
  3. THE CONTRACTOR SHALL DEMOLISH PIPEWORK, WASHED RIVER ROCK, AND COMPOST MEDIA AS INDICATED. COMPOST MEDIA IS TO BE STORED AND RE-USED.
  4. CONTRACTOR TO REMOVE 60-INCH BLIND FLANGE FOR CONNECTION OF NEW FOUL AIR DUCTING. CONTRACTOR SHALL PROTECT 72-INCH FOUL AIR DUCTING IN PLACE.
  5. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING 18-INCH FOUL AIR DUCT AND SAWCUT PIPE AS RECOMMENDED BY PIPE MANUFACTURE. CONTRACTOR SHALL PROTECT EXISTING DUCTING IN PLACE.

3-15-02 AS-BUILT	7/21/2001	CONFORMED TO ADDRESS	REVISIONS AND RECORD OF ISSUE
1	AM	JH	JUC
	NO.	BY	CK
			APP.
DATE	DRAWN BY	CHECKED BY	DATE
7/21/2001	AM	JH	7/21/2001
PROJECT NO.	SHEET NO.	TITLE	SCALE
99297	19	DEMOLITION PLAN	1"=20'



**RANCHO LAS VIRGENES  
COMPOSTING FACILITY  
BIOFILTER IMPROVEMENT PROJECT**

**DEMOLITION PLAN**

DESIGNED: A. MORALES  
 DETAILED: R. VIZCARRA  
 CHECKED: MWJ/WK  
 APPROVED: J. HAY  
 DATE: 4/27/2001

PROJECT NO.  
**99297**

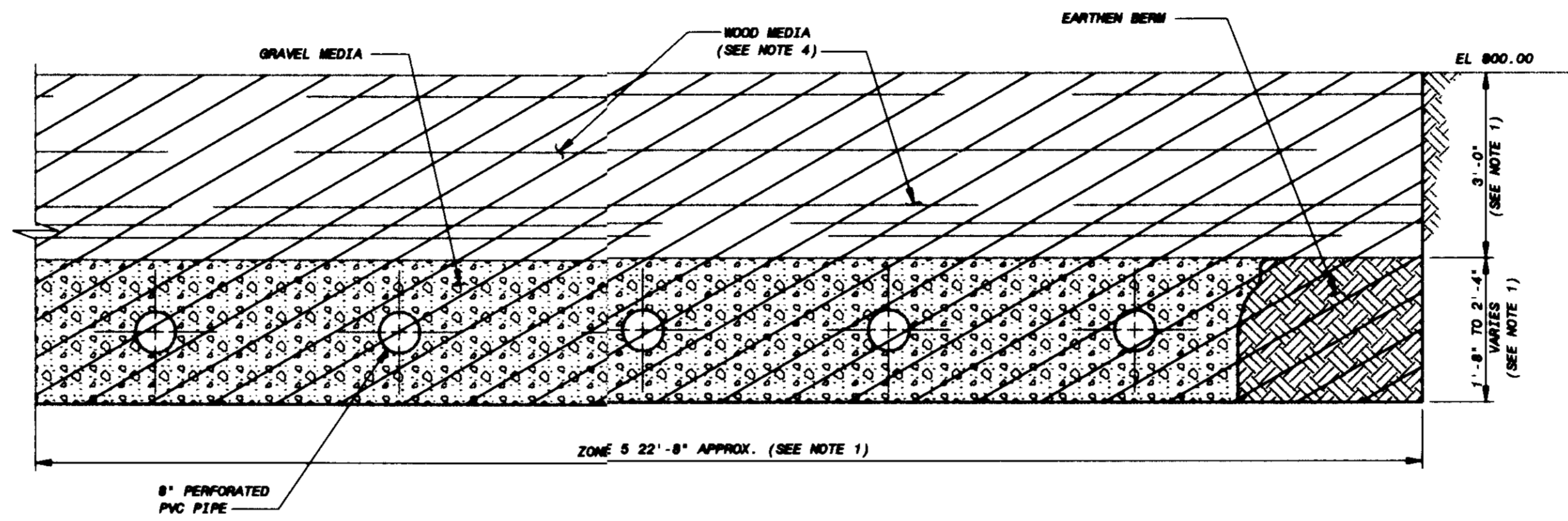
**C-3**  
 SHEET  
 7 OF 19

**07704-01**

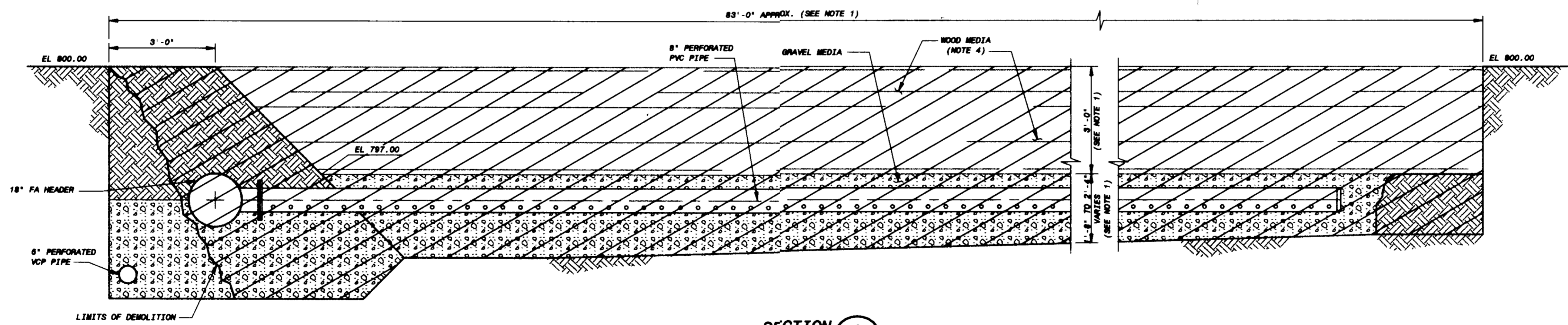
FD98297  
 05043







SECTION 1  
1/2" = 1'-0"

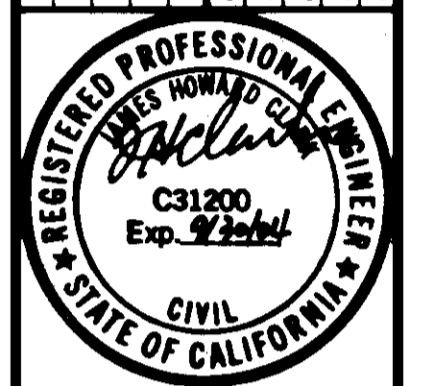


SECTION 2  
1/2" = 1'-0"

**DEMOLITION NOTES:**

1. THESE DRAWINGS ARE BASED ON AVAILABLE AS BUILT INFORMATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS.
2. REMOVE PIPEWORK, GRAVEL MEDIA, AND WOOD MEDIA AS INDICATED.
3. CONTRACTOR TO REMOVE EXISTING 18" FA HEADER AND 8" PERFORATED PVC PIPE.
4. WOOD MEDIA IS TO BE REUSED. CONTRACTOR SHALL STORE AND PROTECT MEDIA WITHIN FACILITY AT LOCATION APPROVED BY DISTRICT.

NO.	BY	DATE	DESCRIPTION
1	AM/JH/LC	7/12/2001	CONFORMED TO ADDENDA
			REVISIONS AND RECORD OF ISSUE
			CYBNET ID:
			SAVED:
			USER:
			DATE:
			TIME:
			PROJECT:
			USER:



**RANCHO LAS VIRGENES  
COMPOSTING FACILITY  
BIOFILTER IMPROVEMENT PROJECT**

**DEMOLITION SECTIONS**

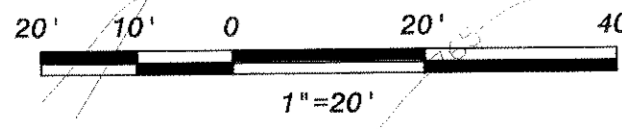
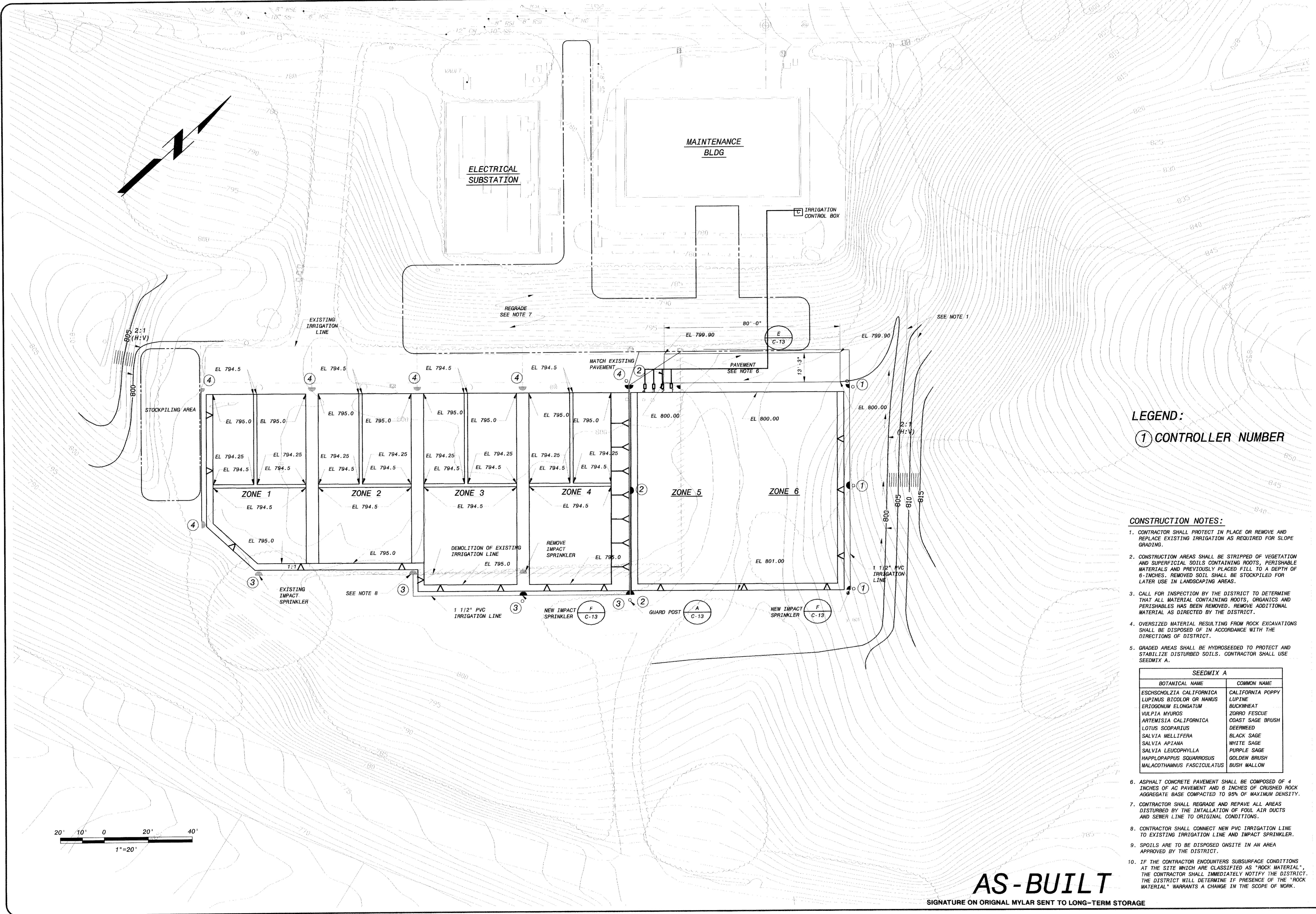
DESIGNED: A. MORALES  
 DETAILED: R. VIZCARRA  
 CHECKED: MM/INK  
 APPROVED: J. HAY  
 DATE: 4/27/2001

PROJECT NO.  
**99297**

**C-5**

SHEET  
9 OF 19





**LEGEND:**  
 ① CONTROLLER NUMBER

- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL PROTECT IN PLACE OR REMOVE AND REPLACE EXISTING IRRIGATION AS REQUIRED FOR SLOPE GRADING.
  - CONSTRUCTION AREAS SHALL BE STRIPPED OF VEGETATION AND SUPERFICIAL SOILS CONTAINING ROOTS, PERISHABLE MATERIALS AND PREVIOUSLY PLACED FILL TO A DEPTH OF 6-INCHES. REMOVED SOIL SHALL BE STOCKPILED FOR LATER USE IN LANDSCAPING AREAS.
  - CALL FOR INSPECTION BY THE DISTRICT TO DETERMINE THAT ALL MATERIAL CONTAINING ROOTS, ORGANICS AND PERISHABLES HAS BEEN REMOVED. REMOVE ADDITIONAL MATERIAL AS DIRECTED BY THE DISTRICT.
  - OVERSIZED MATERIAL RESULTING FROM ROCK EXCAVATIONS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE DIRECTIONS OF DISTRICT.
  - GRADED AREAS SHALL BE HYDROSEEDED TO PROTECT AND STABILIZE DISTURBED SOILS. CONTRACTOR SHALL USE SEEDMIX A.

SEEDMIX A	
BOTANICAL NAME	COMMON NAME
ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY
LUPINUS BICOLOR OR NANUS	LUPINE
ERIODONUM ELONGATUM	BUCKWHEAT
VULPIA MYUROS	ZORRO FESCUE
ARTEMISIA CALIFORNICA	COAST SAGE BRUSH
LOTUS SCOPARIUS	DEERWEED
SALVIA MELLIFERA	BLACK SAGE
SALVIA APIANA	WHITE SAGE
SALVIA LEUCOPHYLLA	PURPLE SAGE
HAPPLOPAPPUS SQUARROSOUS	GOLDEN BRUSH
MALACOTHAMNUS FASCICULATUS	BUSH MALLOW

- ASPHALT CONCRETE PAVEMENT SHALL BE COMPOSED OF 4 INCHES OF AC PAVEMENT AND 8 INCHES OF CRUSHED ROCK AGGREGATE BASE COMPACTED TO 95% OF MAXIMUM DENSITY.
- CONTRACTOR SHALL REGRADE AND REPAVE ALL AREAS DISTURBED BY THE INSTALLATION OF FOUL AIR DUCTS AND SEWER LINE TO ORIGINAL CONDITIONS.
- CONTRACTOR SHALL CONNECT NEW PVC IRRIGATION LINE TO EXISTING IRRIGATION LINE AND IMPACT SPRINKLER.
- SPOILS ARE TO BE DISPOSED ONSITE IN AN AREA APPROVED BY THE DISTRICT.
- IF THE CONTRACTOR ENCOUNTERS SUBSURFACE CONDITIONS AT THE SITE WHICH ARE CLASSIFIED AS "ROCK MATERIAL", THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DISTRICT. THE DISTRICT WILL DETERMINE IF PRESENCE OF THE "ROCK MATERIAL" WARRANTS A CHANGE IN THE SCOPE OF WORK.

**AS-BUILT**

SIGNATURE ON ORIGINAL MYLAR SENT TO LONG-TERM STORAGE

3/15/2002	AS-BUILT	1	AM	JH	JC
7/2/2001	CONFORMED TO ADDENDA				
	DATE				
	DESIGNED BY				
	CHECKED BY				
	APPROVED BY				
	DATE				
	PROJECT NO.				
	SHEET NO.				
	TOTAL SHEETS				

**BLACK & VEATCH**  
 Corporation  
 Los Angeles, California

**RANCHO LAS VIRGENES  
 COMPOSTING FACILITY  
 BIOFILTER IMPROVEMENT PROJECT**

**GRADING, PAVING AND  
 IRRIGATION SYSTEM PLAN**

DESIGNED: A. MORALES  
 DETAILED: R. VIZCARRA  
 CHECKED: MN/JWK  
 APPROVED: J. HAY  
 DATE: 2/28/2002

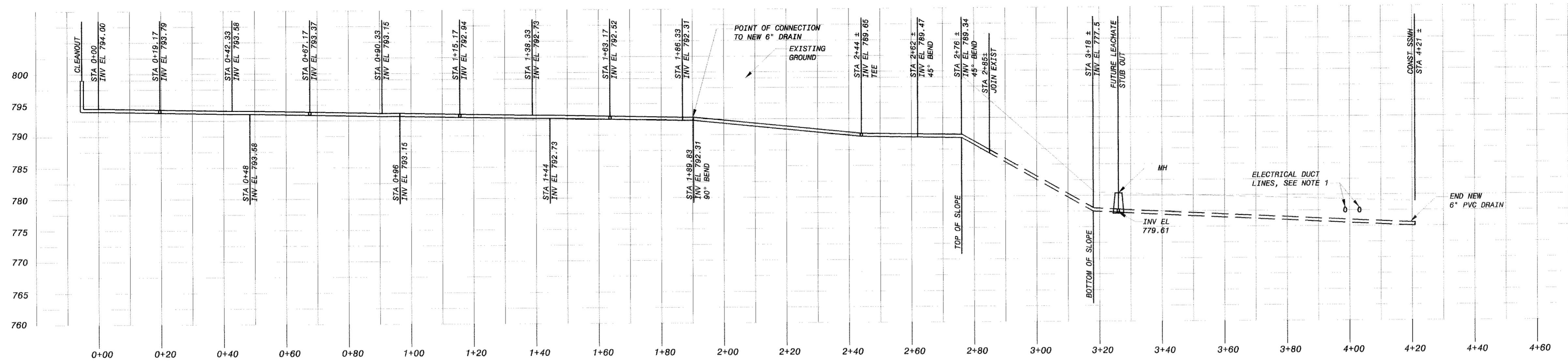
PROJECT NO.  
**99297**

**C-6**

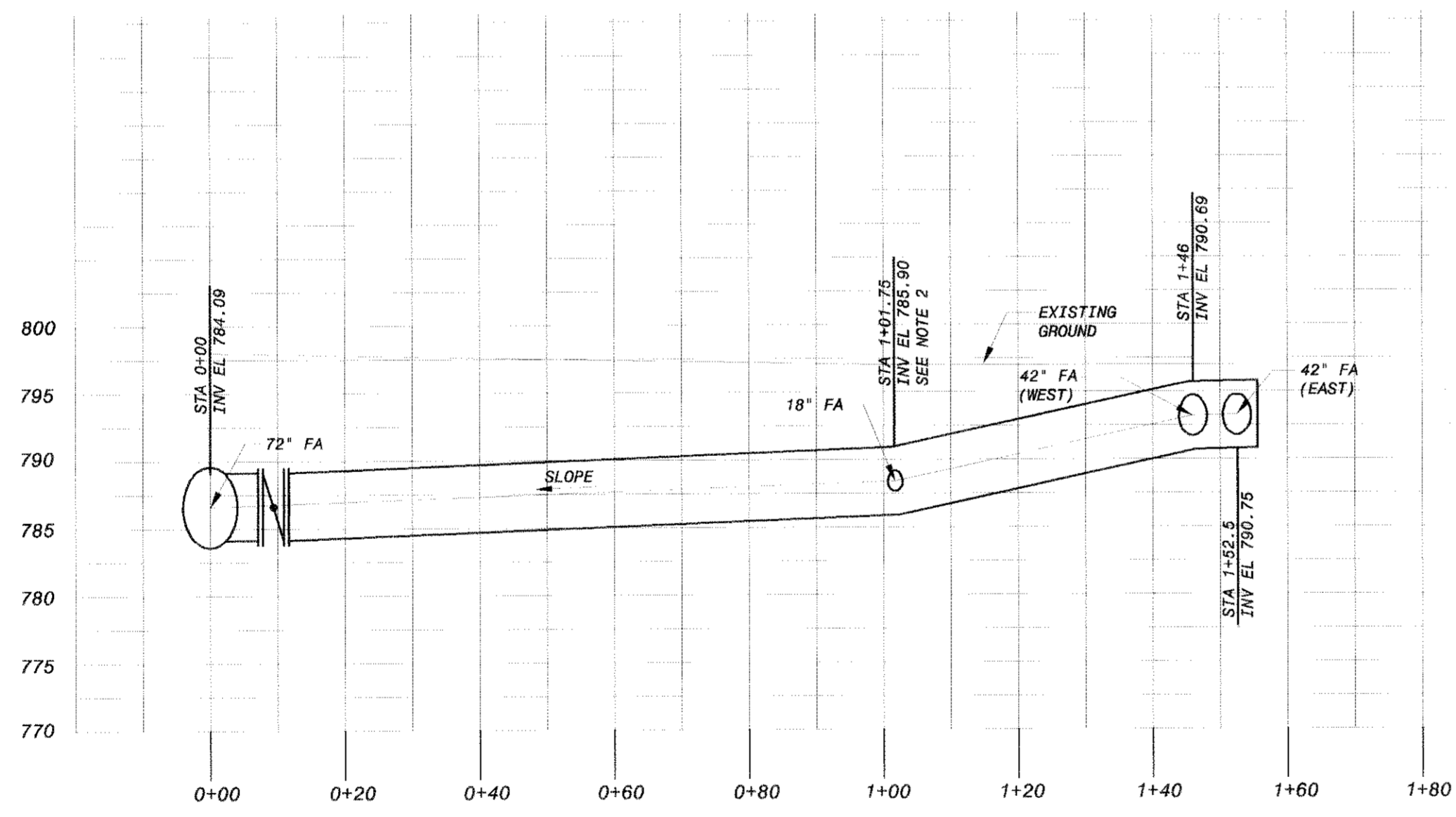
SHEET  
 10 OF 19

**07707-01**

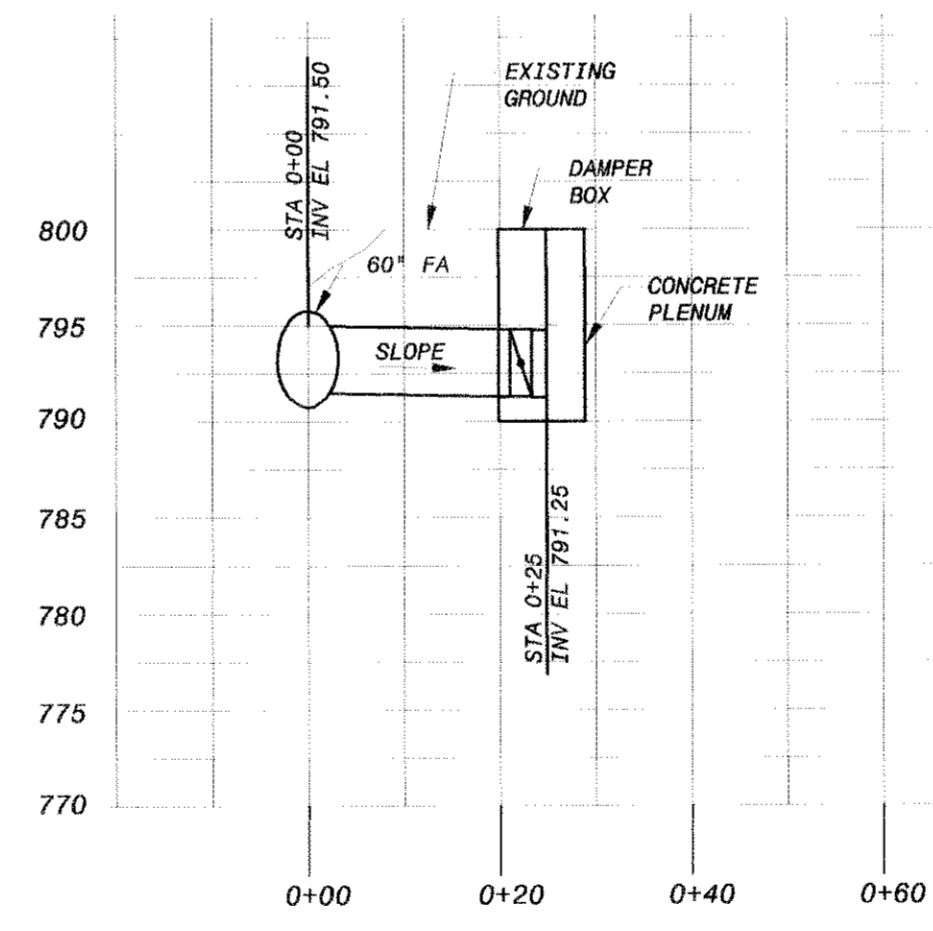
FD99297  
 D6043



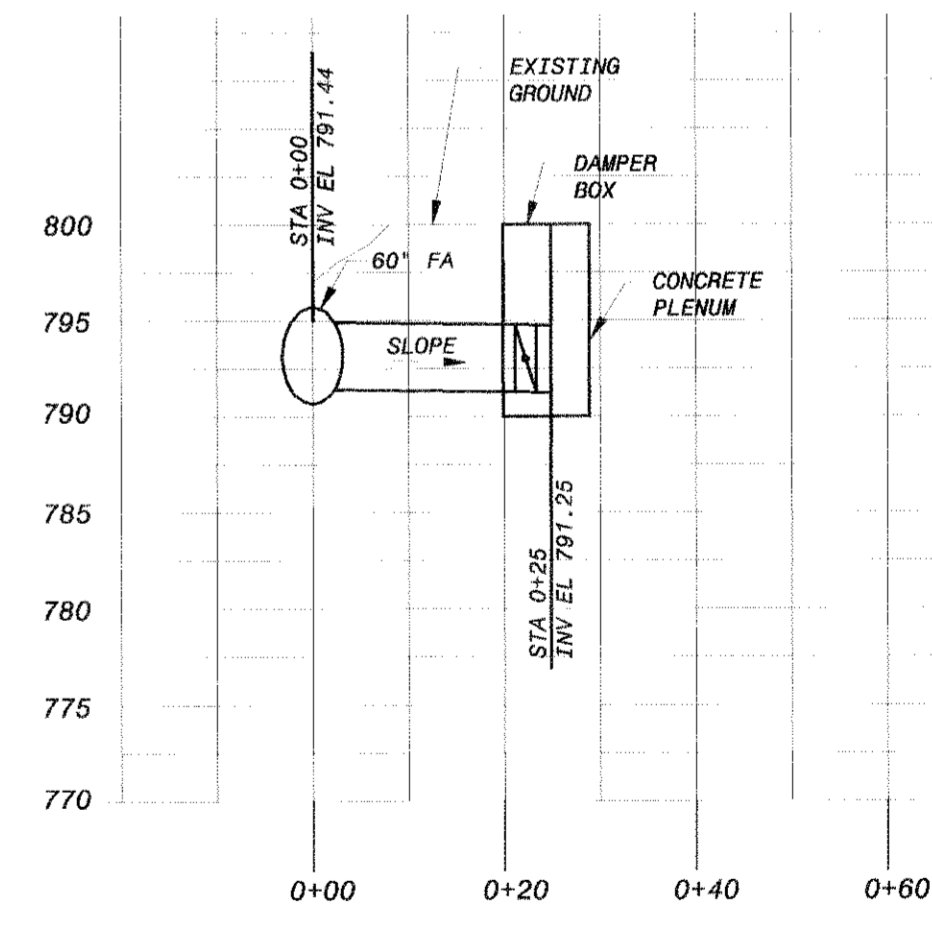
**6" DRAIN PROFILE** 1  
 1" = 20'-0" HORIZONTAL  
 1" = 10'-0" VERTICAL  
 (NOTE 3)



**60" FOUL AIR DUCT PROFILE** 2  
 1" = 20'-0" HORIZONTAL  
 1" = 10'-0" VERTICAL  
 C-1



**42" FOUL AIR DUCT PROFILE** 3  
 1" = 20'-0" HORIZONTAL  
 1" = 10'-0" VERTICAL  
 (WEST PROFILE - ZONE 5)



**42" FOUL AIR DUCT PROFILE** 4  
 1" = 20'-0" HORIZONTAL  
 1" = 10'-0" VERTICAL  
 (WEST PROFILE - ZONE 6)

- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ELECTRICAL DUCTS EXTENDING FROM ELECTRICAL VAULT TO MAINTENANCE BUILDING.
  - INVERT ELEVATION IS APPROXIMATE ACCORDING TO AS BUILT INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND ALIGNMENT OF 18" SPIROLITE FA DUCT.
  - REFER TO C-11 FOR STATIONING OF PERFORATED DRAIN PIPE.

**AS-BUILT**

SIGNATURE ON ORIGINAL MYLAR SENT TO LONG-TERM STORAGE

3-15-02	AS-BUILT	1	AM	JH	JC
7/2/2001	CONFORMED TO ADDENDA				
	REVISIONS AND RECORD OF ISSUE				
	DATE				
	BY				
	SAVED:				
	DWG. VER. #:				
	PLOTTED:				
	USER:				



**RANCHO LAS VIRGENES  
 COMPOSTING FACILITY  
 BIOFILTER IMPROVEMENT PROJECT**

SEWER AND FOUL AIR DUCT PROFILES

DESIGNED: A. MORALES  
 DETAILED: R. VIZCARRA  
 CHECKED: MW/JWK  
 APPROVED: J. HAY  
 DATE: 2/28/2002

PROJECT NO.  
**99297**

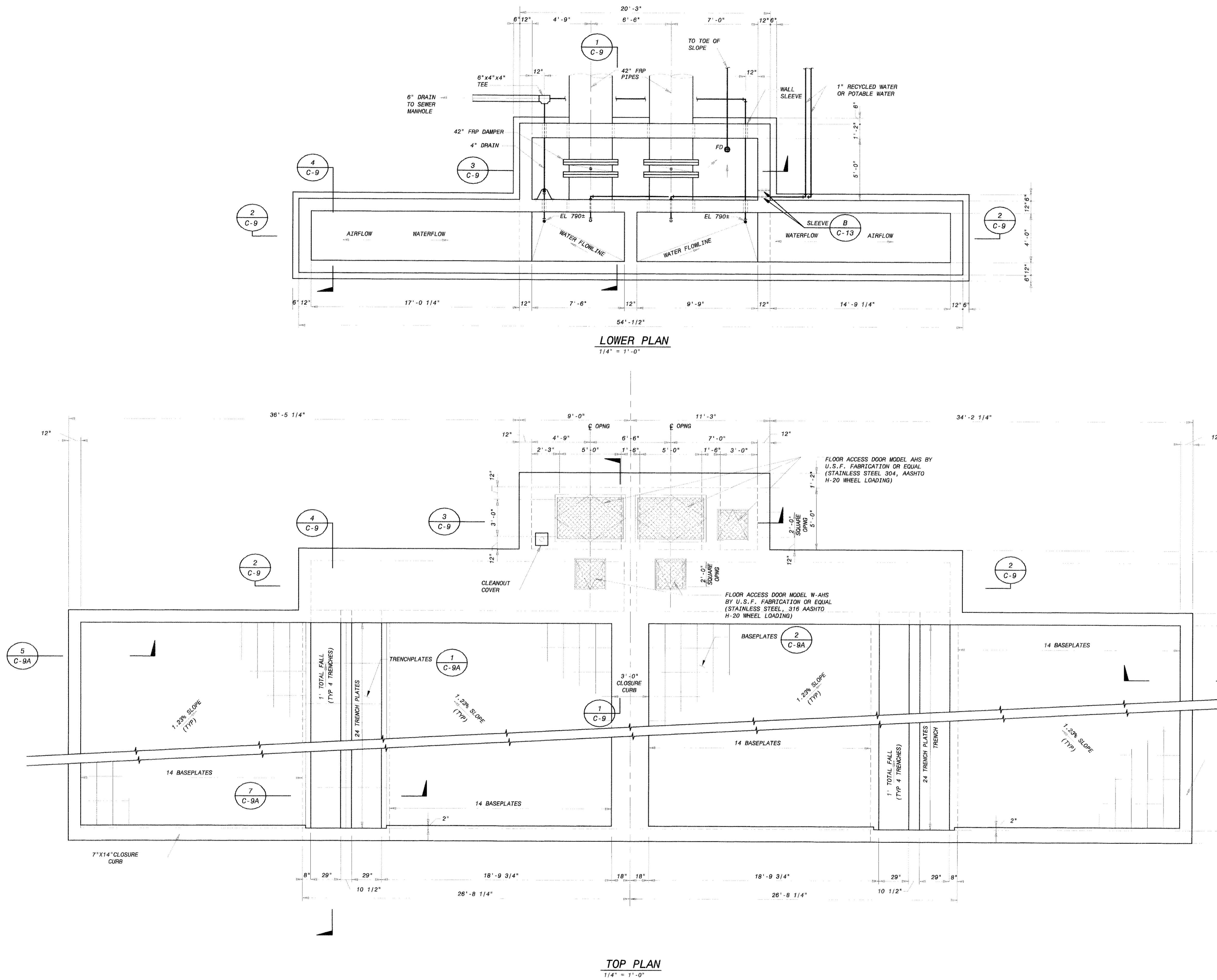
**C-7**

SHEET  
 11 OF 19

**07709 -01**

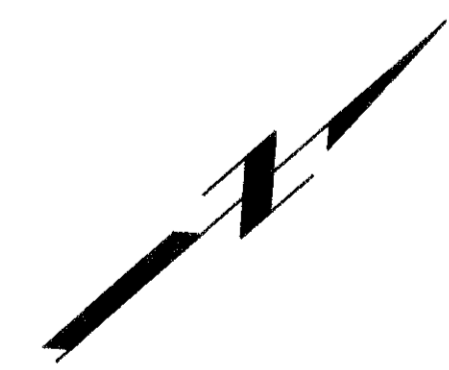


I:\172.001\172-001\dwg\AsBuilt\_PLENUM\PLANC8.dwg 7/10/02 15:52



**CONSTRUCTION NOTE:**

1. CONTRACTOR SHALL APPLY ELASTOMERIC URETHANE LINING (PROTECTIVE COATING) TO ALL SURFACES WITHIN ZONES 5 AND 6; INCLUDING, BUT NOT LIMITED TO, THE CONCRETE SLAB, CURBS, AIR PLENUM BOX, TRENCHES AND TRENCH COVERS.



08665

© INCLEDON KIRK ENGINEERS, INC. THIS DOCUMENT CONTAINS COPYRIGHTED MATERIAL AND CONFIDENTIAL TRADE SECRET INFORMATION BELONGING EXCLUSIVELY TO INCLEDON KIRK ENGINEERS, INC. ANY UNAUTHORIZED USE, DISCLOSURE, REPRODUCTION OR DUPLICATION OF ANY OF THE INFORMATION CONTAINED HEREIN IS STRICTLY PROHIBITED.

NO.	DATE	DESCRIPTION	APP'D	NO.	DATE	DESCRIPTION
1		AS-BUILT				

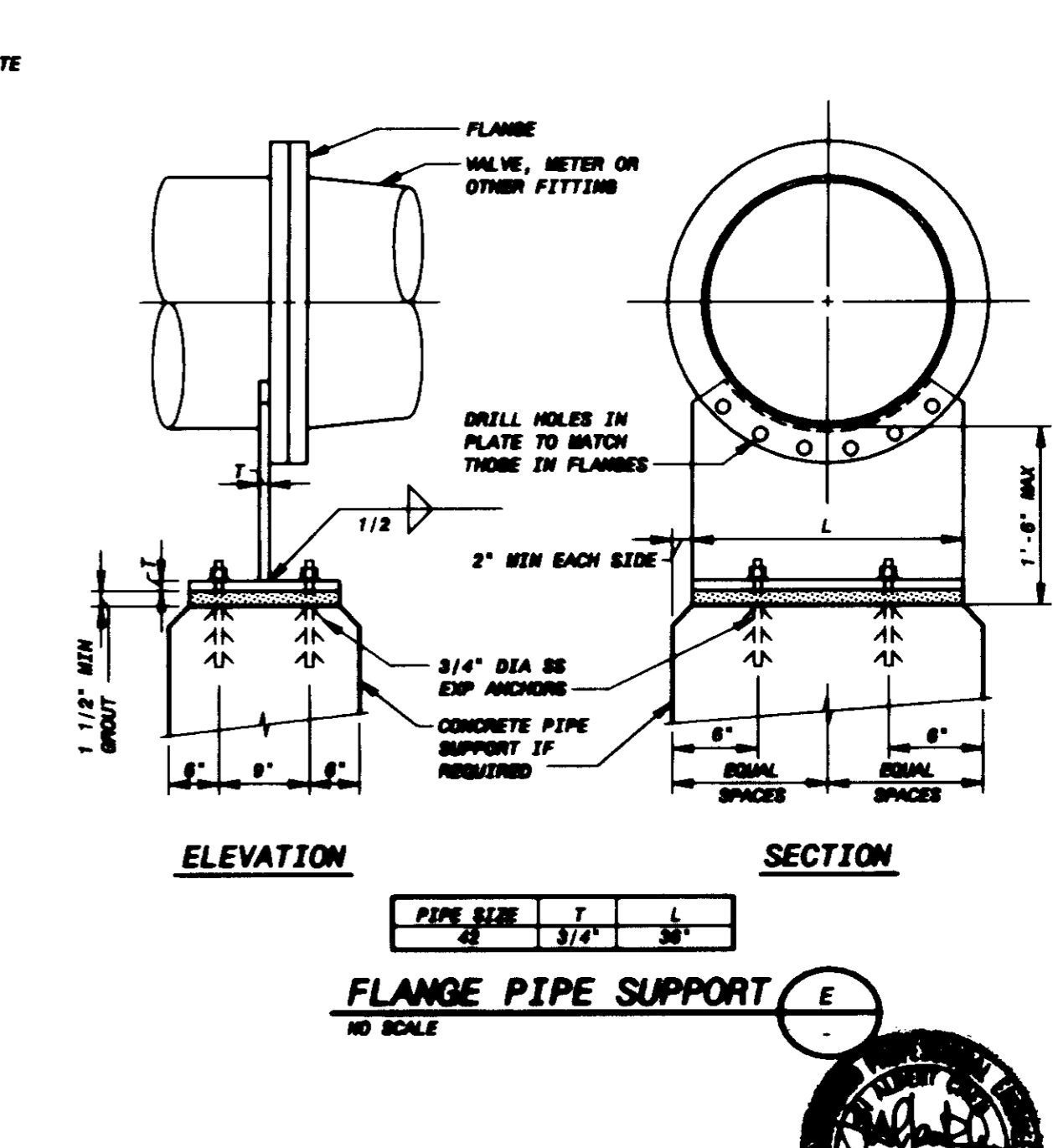
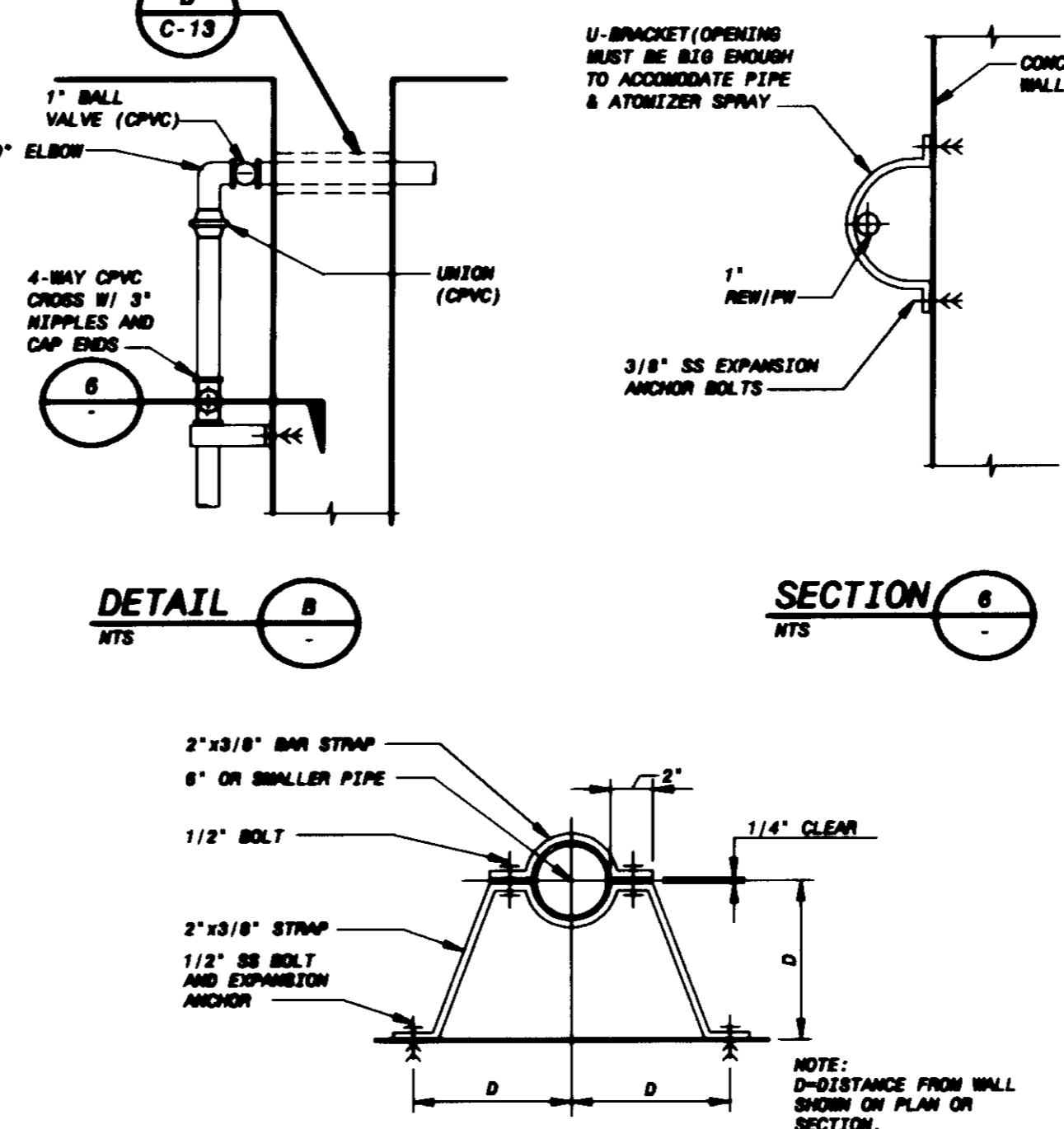
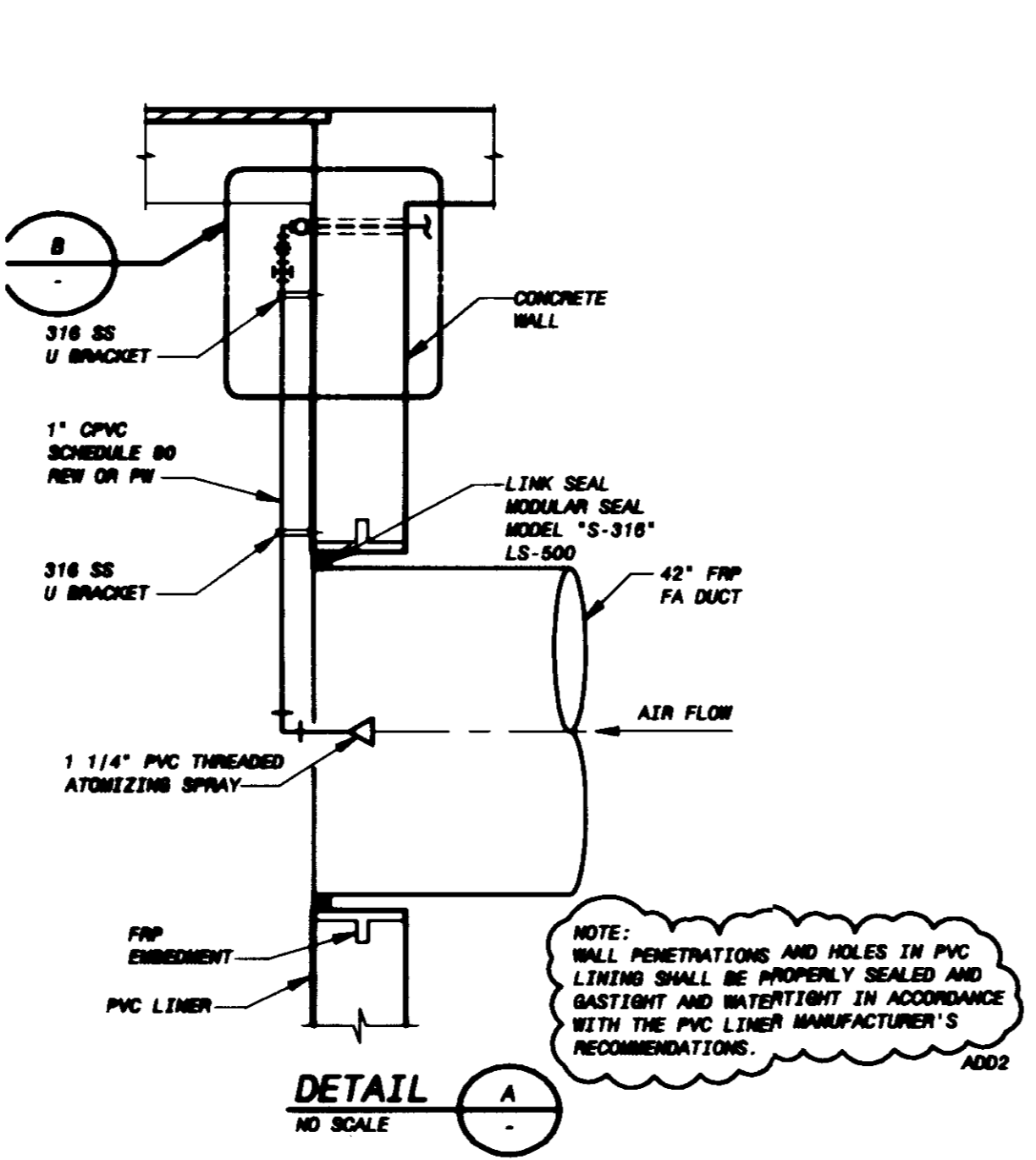
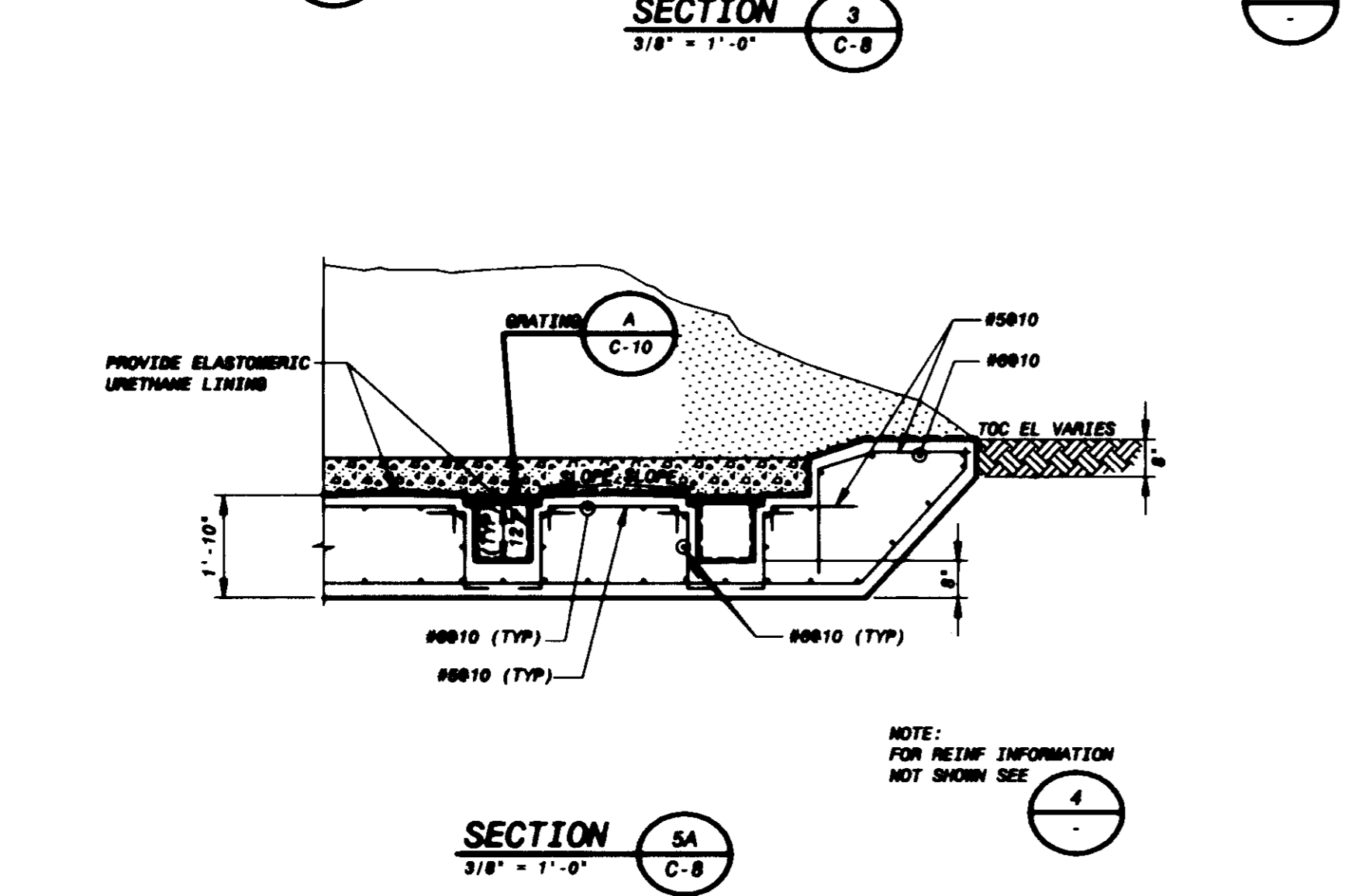
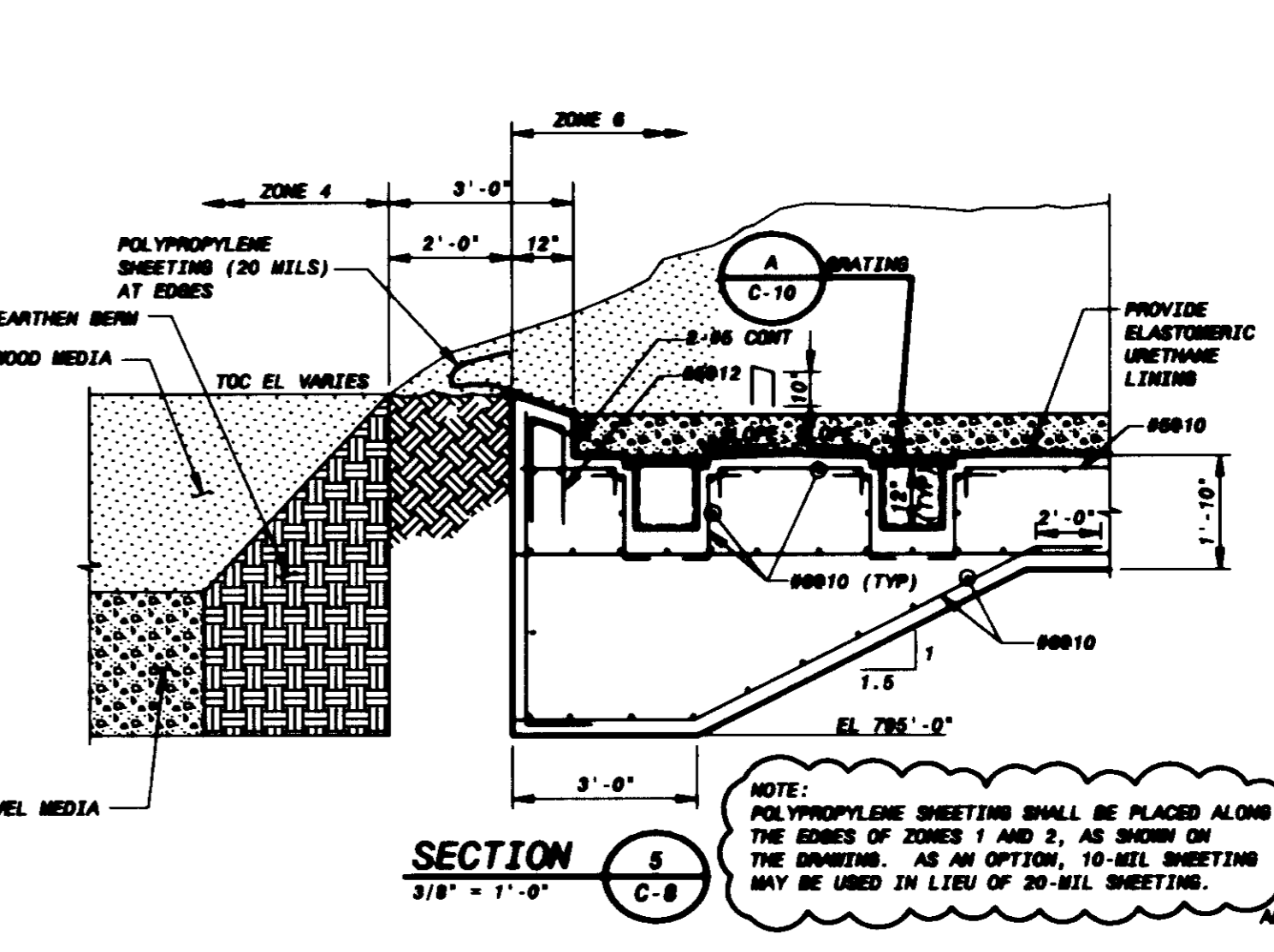
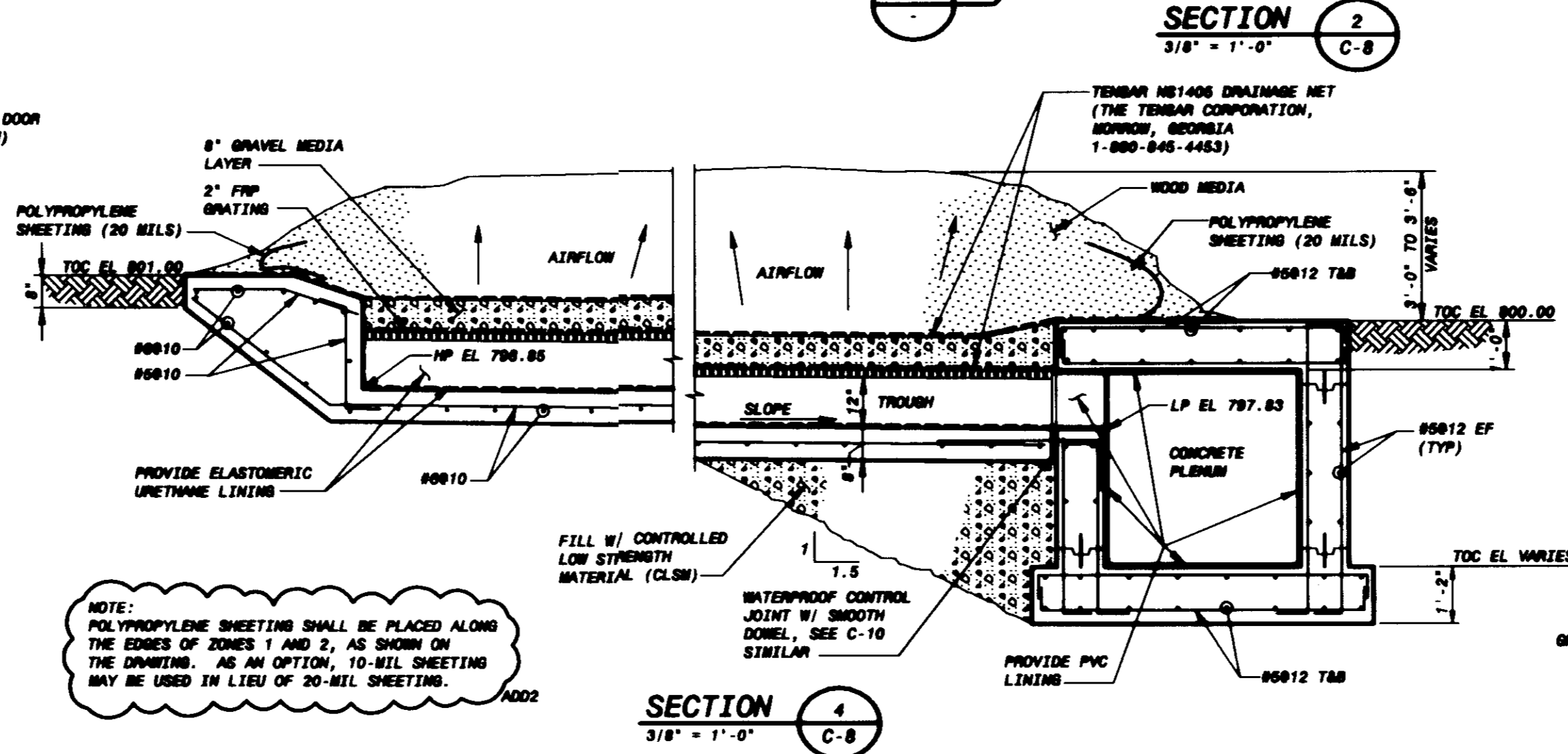
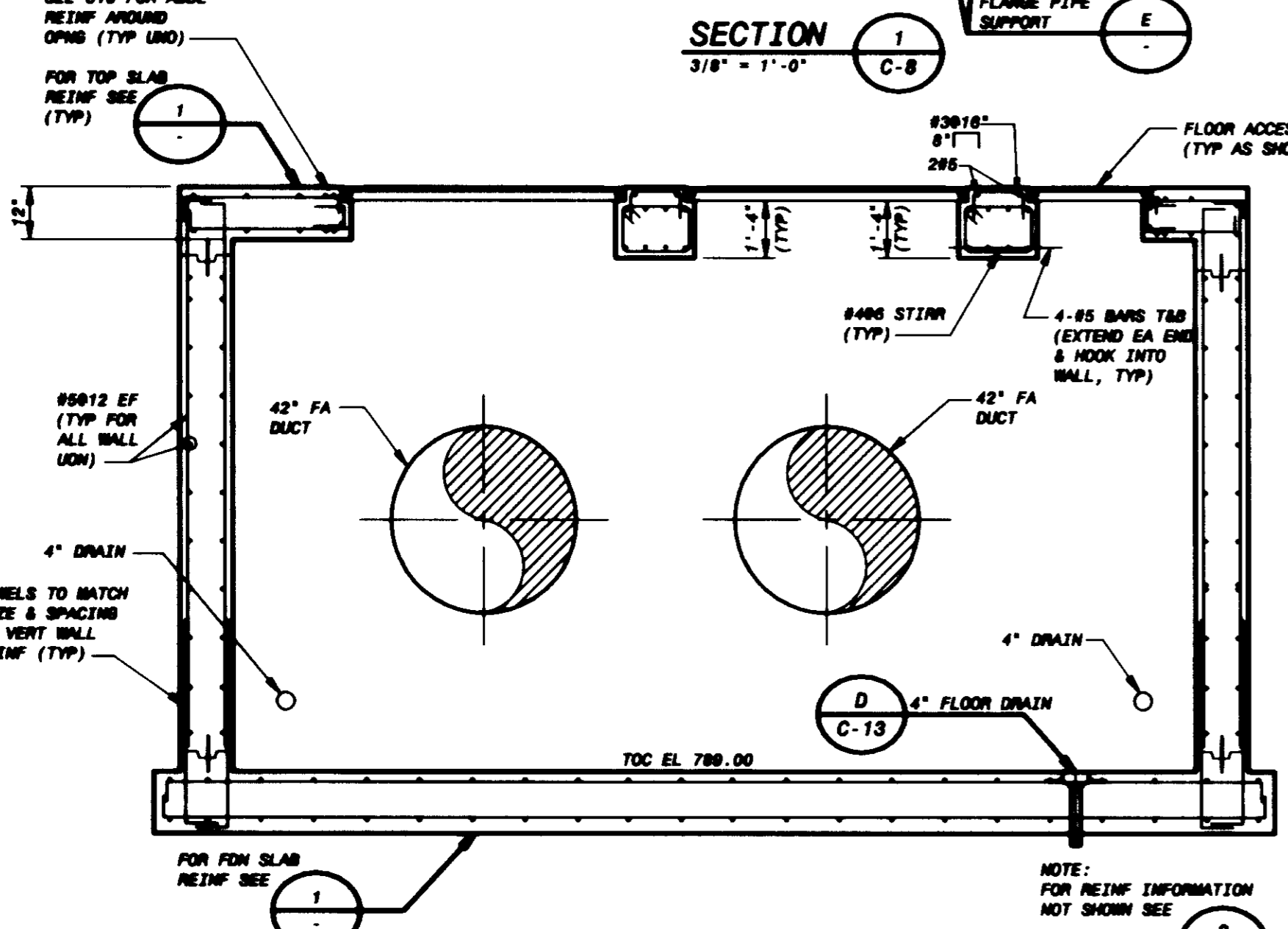
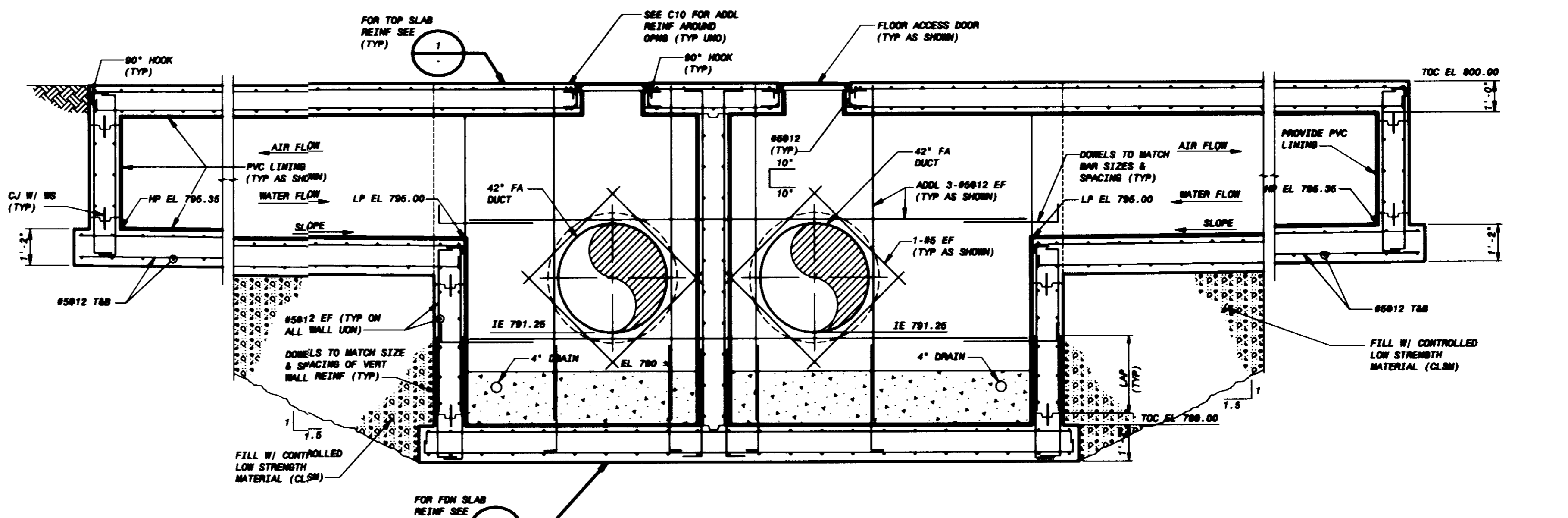
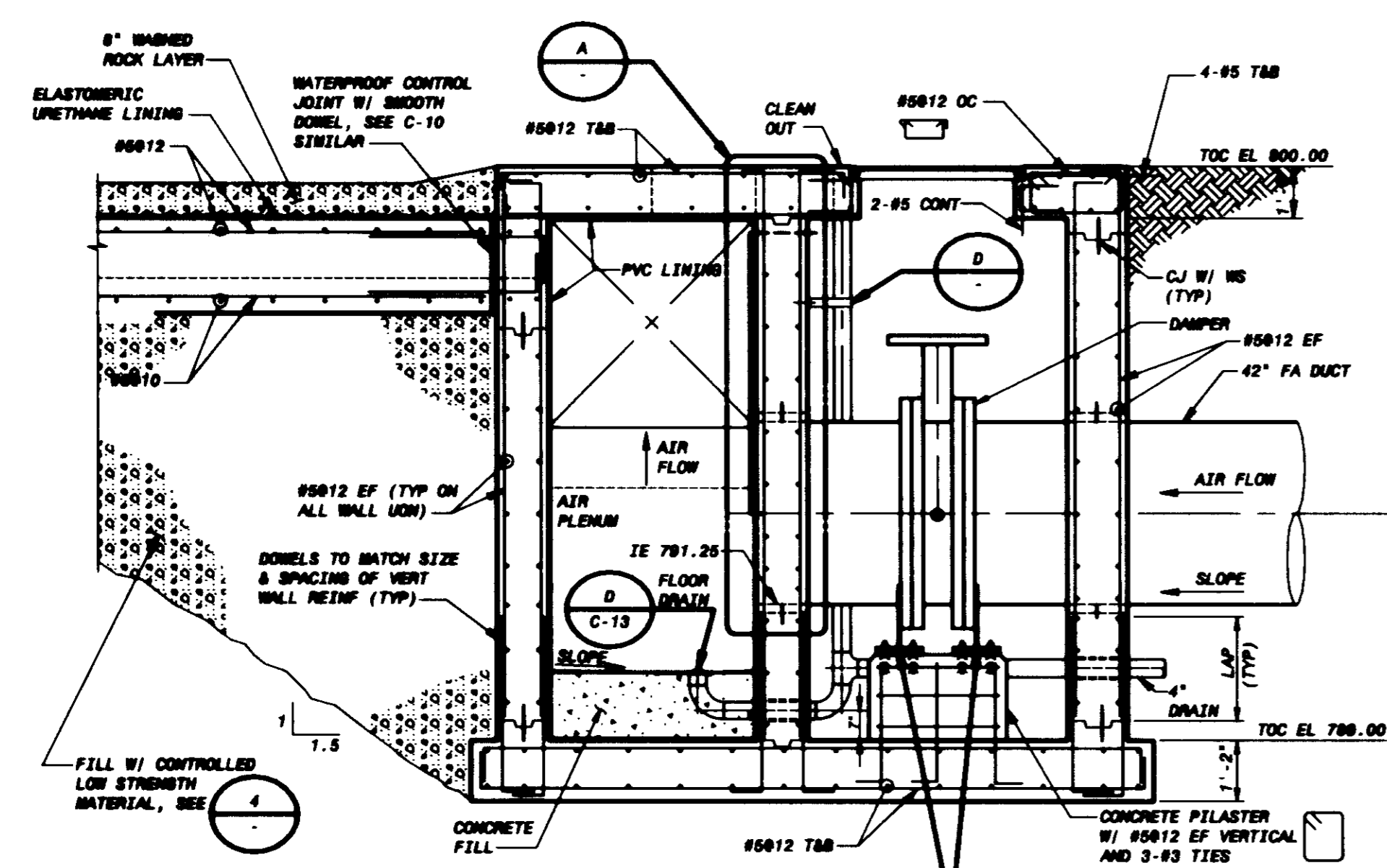
**IKE**  
INCLEDON KIRK ENGINEERS

3621 S. Harbor Blvd.  
Suite 100  
Santa Ana, CA 92704  
(714) 241-0606  
(714) 241-1221 fax

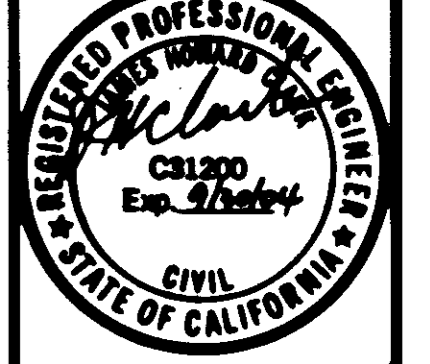
SHEET TITLE  
**CONCRETE PLENUM AND PAD PLANS**

PROJECT  
**RANCHO LAS VIRGENES COMPOSTING FACILITY**

DATE:	2/25/02
SCALE:	1/4" = 1'-0"
DRAWN:	MBP
CHECKED:	MK
JOB NUMBER:	172.001
B&V PROJECT NUMBER:	99297-301
SHEET NO.	C-8
	12 OF 19 SHEETS



DATE	7/2/2001	COMPANION TO ADDRESS	REVISIONS AND RECORD OF ISSUE
SYMBOL ID	0-0000	PROJECT ID	99297
DATE	7/2/2001	PROJECT ID	99297
DATE	7/2/2001	PROJECT ID	99297
DATE	7/2/2001	PROJECT ID	99297



**BLACK & VEATCH**  
CORPORATION  
Los Angeles, California

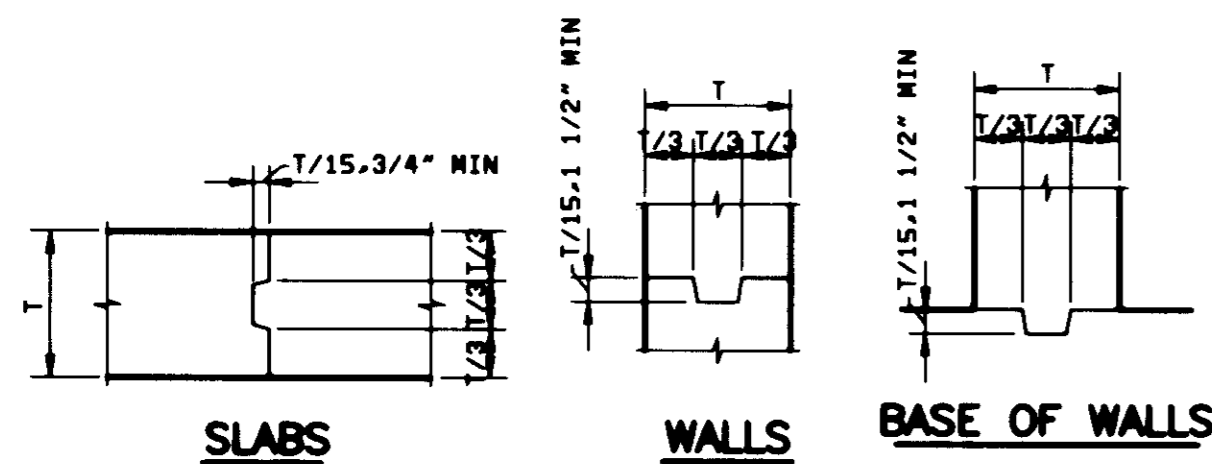
**RANCHO LAS VIRGENES  
COMPOSTING FACILITY  
BIOFILTER IMPROVEMENT PROJECT**

**CONCRETE TROUGH BIOFILTER  
SECTIONS AND DETAILS**

DESIGNED: SP, AM  
DETAILS: BNC  
CHECKED: AN/TAC  
APPROVED: JH  
DATE: 4/27/2001  
PROJECT NO.  
**99297**  
C-9  
SHEET  
13 OF 19

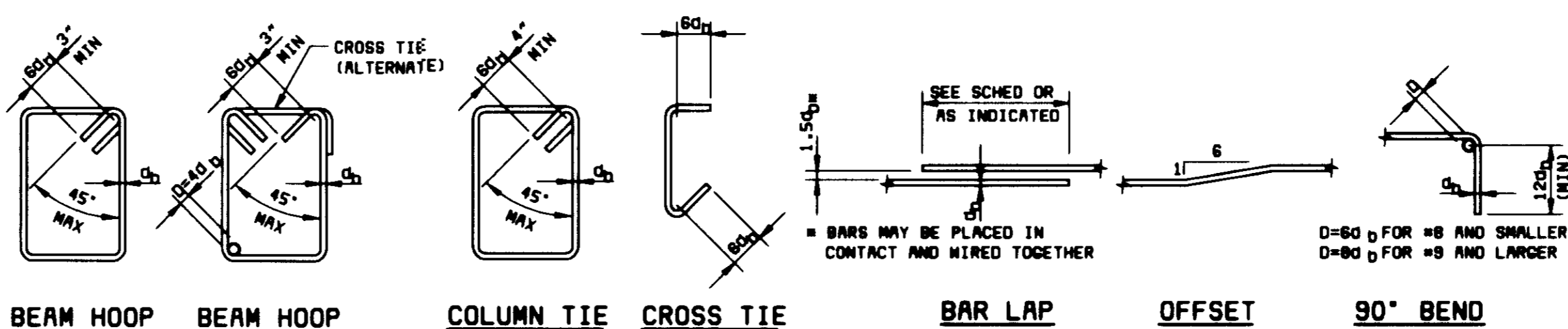




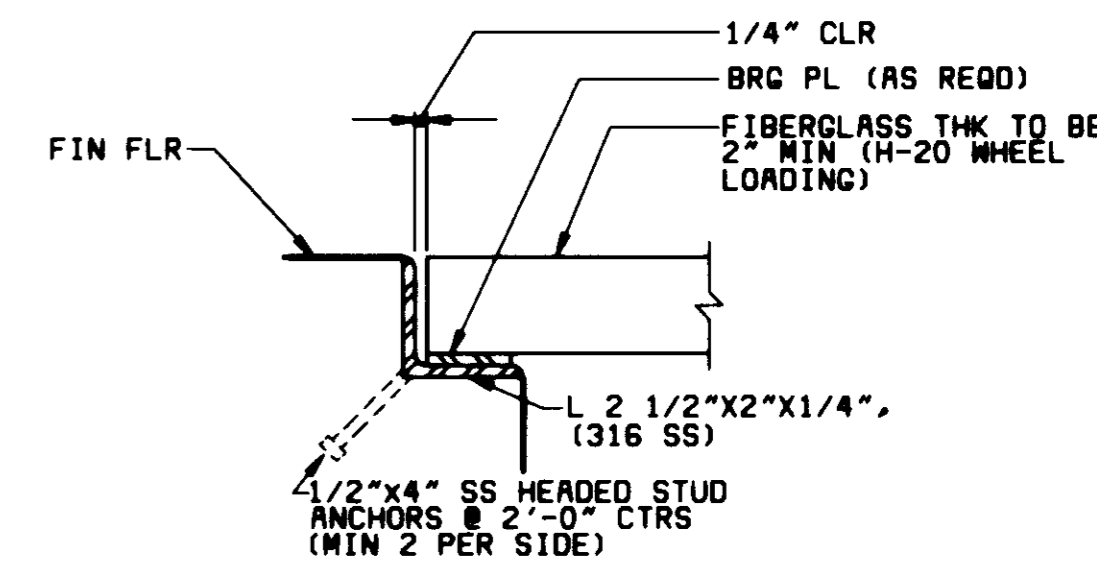


**JOINTS WITHOUT WATERSTOPS**

**SPACERS FOR WALL REINFORCEMENT**



**TYPICAL BAR BENDING**



**GRATING SUPPORT**

A = VERTICAL CONSTRUCTION JOINT NEAREST TO WALL CORNER AS REQUIRED.

Ax = DISTANCE FROM INSIDE CORNER FACE TO NEAREST VERTICAL CONSTRUCTION JOINT IN SIMILARLY NUMBERED WALL. Ax SHALL NOT BE LESS THAN DIMENSIONS INDICATED BY THESE DETAILS NOR GREATER THAN INDICATED ON PLAN DRAWINGS.

B = OPTIONAL SPLICE LOCATION UNLESS SPECIFICALLY NOTED ON PLAN DRAWINGS. SPLICE LENGTH SHALL NOT BE LESS THAN THAT REQUIRED FOR TOP BARS AS SHOWN IN TABLE ON THIS SHEET.

C = LENGTH REQUIRED FOR DEVELOPMENT OF TOP BARS AS SHOWN IN TABLE ON THIS SHEET, TERMINATING WITH NO LESS THAN A STANDARD HOOK.

D = TYPICAL CORNER REINFORCEMENT. SIZE SHALL MATCH LARGEST ADJACENT WALL HORIZONTAL REINFORCEMENT. SPACING SHALL MATCH MINIMUM ADJACENT WALL HORIZONTAL REINFORCEMENT SPACING.

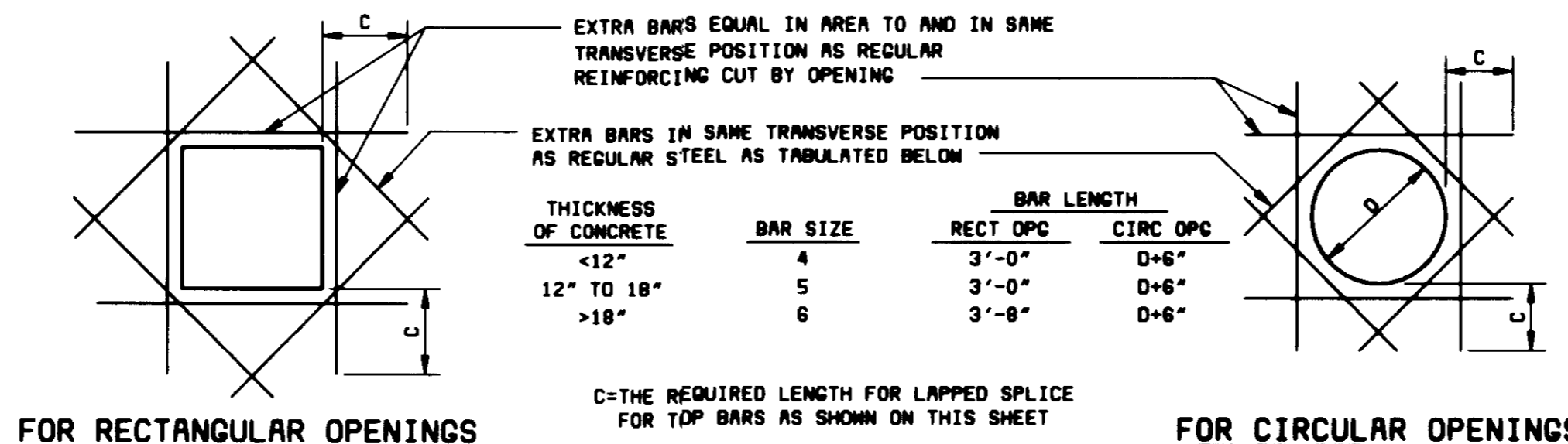
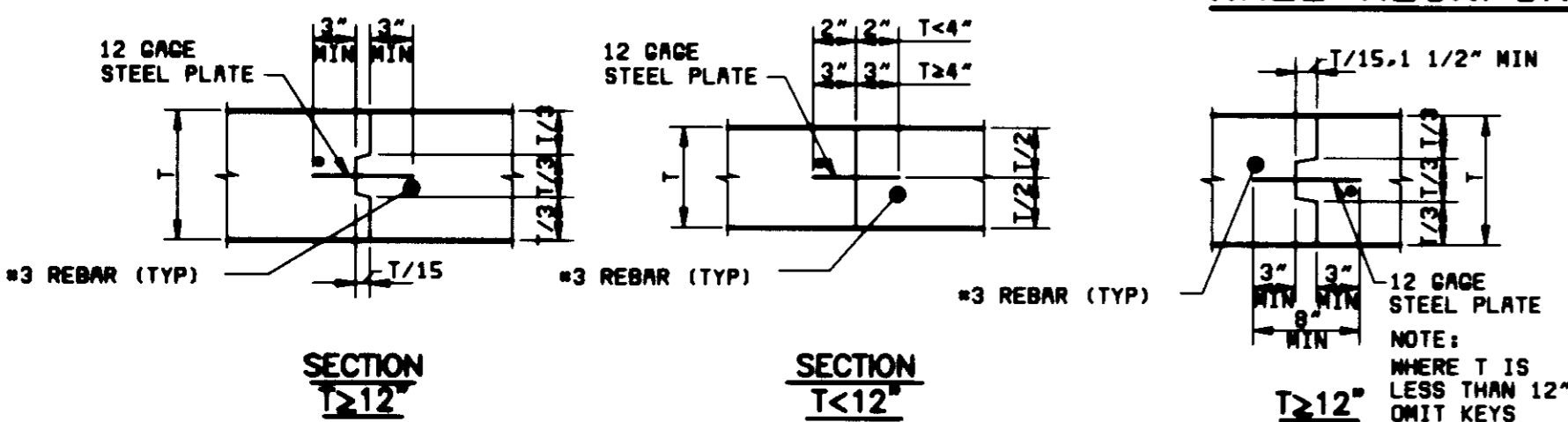
E = ADDITIONAL CORNER REINFORCEMENT REQUIRED IN BOTH FACES OF LIQUID CONTAINMENT STRUCTURES AND ON BACKFILL FACE ONLY OF DRY PIT WALLS EXPOSED TO GROUND WATER. ADDITIONAL CORNER REINFORCEMENT SHALL BE OF THE SAME SIZE AND SPACING AS THE MAIN CORNER REINFORCEMENT. PLACE ADDITIONAL REINFORCEMENT ALTERNATELY WITH, AND EQUAL DISTANCE BETWEEN, MAIN CORNER REINFORCEMENT.

Ex = DISTANCE FROM INSIDE CORNER FACE TO TERMINATION OF ADDITIONAL CORNER REINFORCEMENT IN SIMILARLY NUMBERED WALL. Ex SHALL NOT BE LESS THAN 0.20 THE CLEAR SPAN DISTANCE MEASURED HORIZONTALLY BETWEEN THIS CORNER AND THE NEXT OR 0.40 THE CLEAR SPAN DISTANCE OR CANTILEVERED DISTANCE MEASURED VERTICALLY, WHICHEVER IS SMALLER, BUT NOT LESS THAN 3'-0".

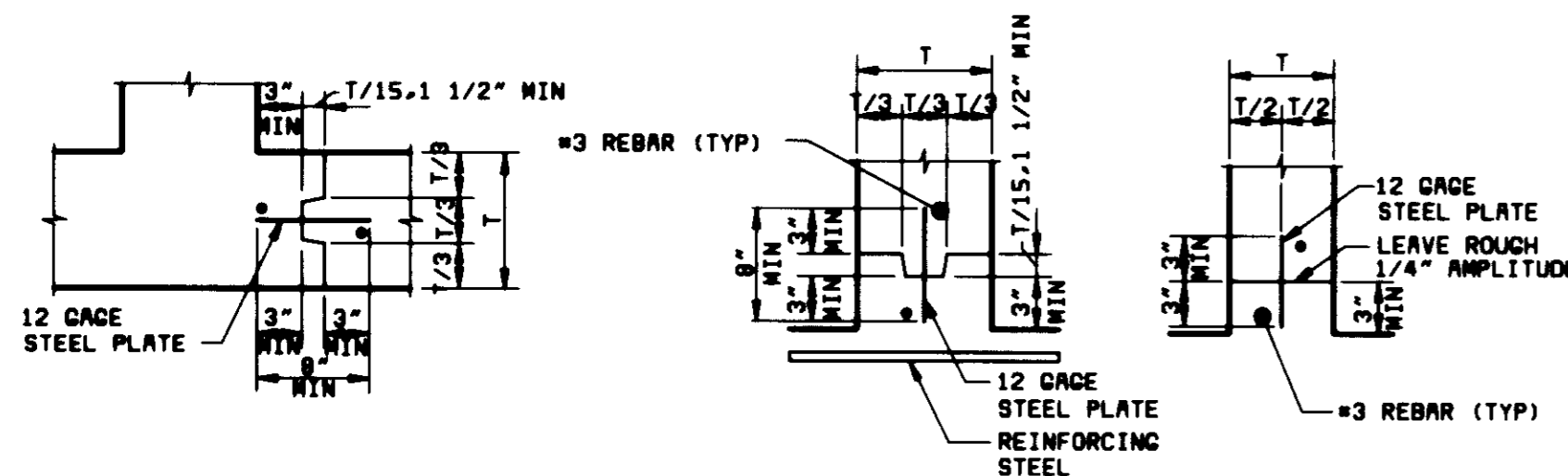
**GENERAL NOTE:**

DETAILS ON THIS SHEET APPLY TO ALL DRAWINGS UNLESS OTHERWISE NOTED.

AS AN OPTION FOR DETAIL A, THE GRATING MAY BE ATTACHED TO THE CONCRETE SLAB USING FRP FABRICATIONS IN ACCORDANCE WITH THE GRATING MANUFACTURER'S RECOMMENDATIONS.



**TYPICAL EXTRA REINFORCING AT OPENINGS**

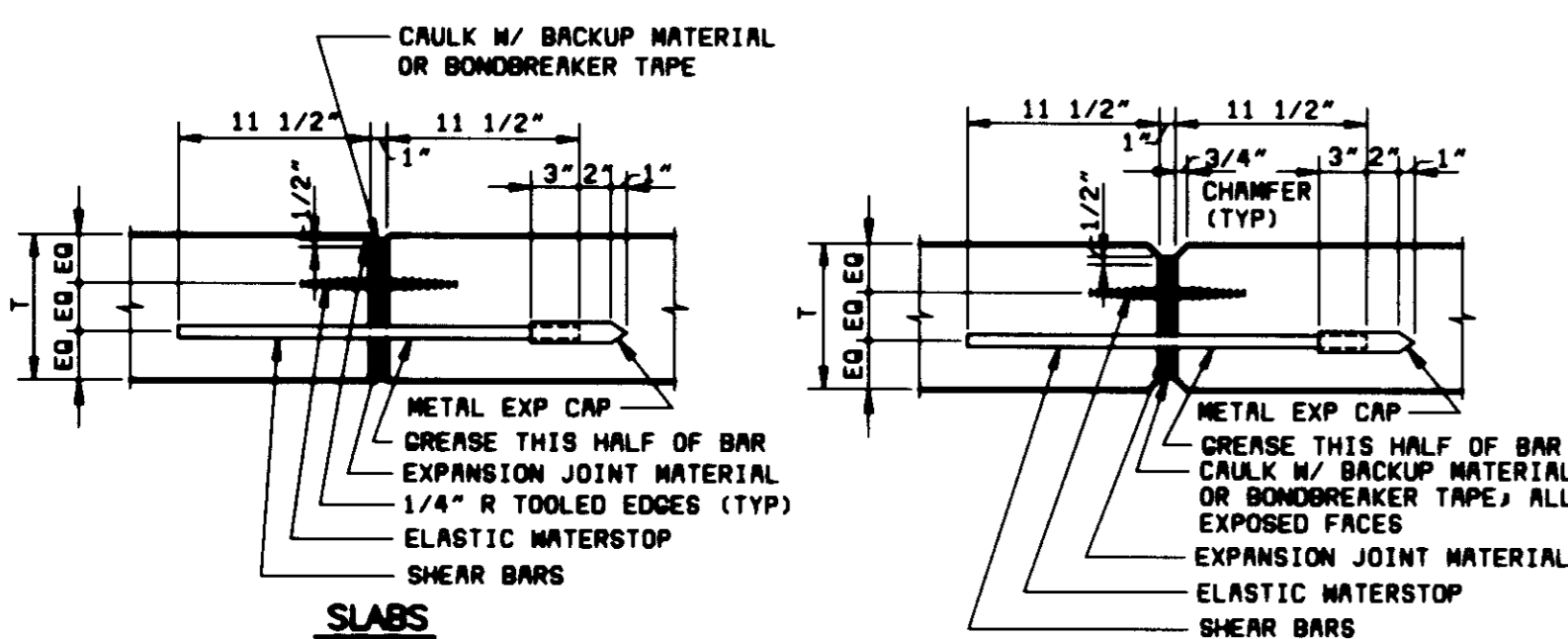


**CORNERS**

**BASE OF WALLS**

**TYPICAL CONSTRUCTION JOINTS**

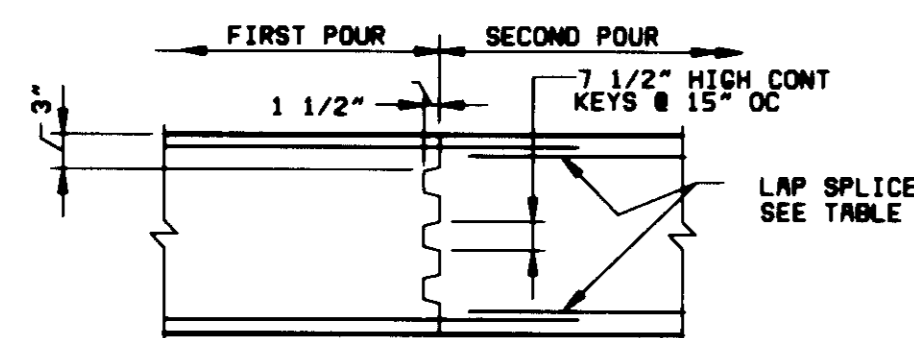
- NOTE:
1. REINFORCING STEEL IS CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS
  2. "CSJ W/MS" - WITH WATERSTOP
  3. "CSJ" - WITHOUT WATERSTOP



- NOTE:
- "EJ W/MS" - WITH ELASTIC WATERSTOP
- "EJ" - WITHOUT ELASTIC WATERSTOP

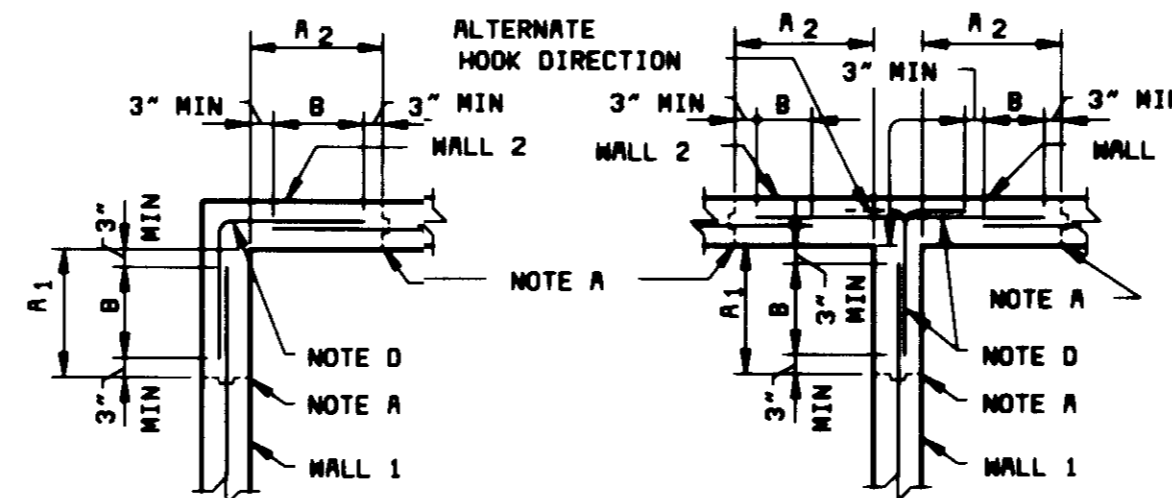
**TYPICAL CONTROL JOINTS**

- NOTES:
1. PROVIDE 3/4" SHEAR BARS @ 1'-6" CTRS ACROSS JOINT UNLESS NOTED OTHERWISE
  2. REINFORCING STEEL SHALL NOT BE EXTENDED ACROSS JOINT UNLESS NOTED OTHERWISE
  3. SHEAR BARS SHALL BE SMOOTH, FREE FROM RUST OR SCALE, AND GREASED TO PREVENT BOND (ONE HALF OF BAR ONLY)



NOTE: WELDED SPLICES REQD FOR #14 & LARGER BARS. LOCATE CONSTRUCTION JOINT AT 1/4 OF THE OPENING WIDTH ABOVE OR AT MID DISTANCE BETWEEN COLUMNS FOOTING.

**CONTINUOUS FOOTING CONSTRUCTION JOINT**



**MAIN REINFORCEMENT FOR ALL STRUCTURES**

**TYPICAL HORIZONTAL CORNER REINFORCEMENT DETAILS**

- NOTES:
1. VERTICAL REINFORCING NOT SHOWN
  2. THESE DETAILS SHALL BE APPLICABLE TO ALL WALL CORNERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

**SPLICE AND DEVELOPMENT LENGTH FOR WALLS, FOOTING AND SLABS**

BAR SIZE	LAP SPLICE LENGTH (LS) INCHES		DEVELOPMENT LENGTH (LD) INCHES		
	#TOP BARS	OTHERS	#TOP BARS	OTHERS	HOOKEED BARS
# 3	18	14	14	12	6
# 4	24	18	18	14	7
# 5	32	24	24	18	9
# 6	36	27	27	21	10
# 7	44	34	34	26	12
# 8	61	62	62	48	13
# 9	103	79	79	61	15
#10	130	100	100	77	17
#11	160	123	123	96	18

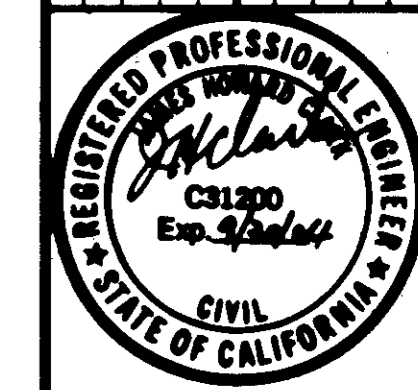
- NOTES:
1. # TOP BARS ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW.
  2. 0.70 OF SPLICE LENGTHS AND STRAIGHT DEVELOPMENT LENGTHS MAY BE USED FOR #8 THROUGH #11 IF THE CONCRETE COVER IS 1 1/2" OR GREATER.
  3. STRAIGHT BARS CLEAR SPACED LESS THAN 50D SHALL HAVE A DEVELOPMENT AND LAP SPLICE LENGTH OF 1.25 TIMES THE LENGTHS SHOWN.

**CONCRETE COVER FOR REINFORCEMENT**

LOCATION	MINIMUM COVER
UNFORMED SURFACES ADJACENT TO EXCAVATION	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 6 THROUGH NO. 18 BARS	2"
NO. 5 BAR #31 OR D31 WIRE AND SMALLER	1 1/2"

TOLERANCES FOR CONCRETE COVER AND THE FABRICATION AND PLACING OF REINFORCEMENT SHALL CONFORM TO SECTION 6.0 OF ACI 117.

DATE	7/18/2001
DESIGNED BY	XP
CHECKED BY	AM/TAC
DATE	4/27/2001
PROJECT NO.	99297
SHEET	14 OF 19



**BLACK & VEATCH**  
CORPORATION  
Los Angeles, California

**RANCHO LAS VIRGENES  
COMPOSTING FACILITY  
BIOFILTER IMPROVEMENT PROJECT**

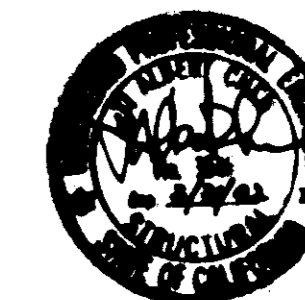
**STANDARD CONCRETE DETAILS**

DESIGNED: XP  
CHECKED: AM/TAC  
DATE: 4/27/2001  
PROJECT NO.

99297

C-10

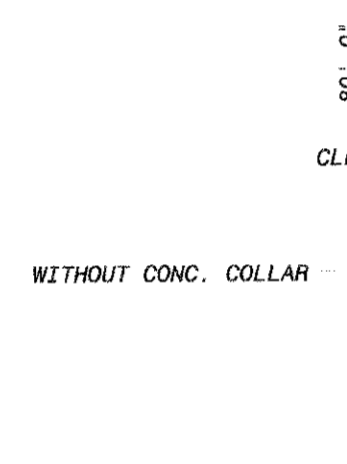
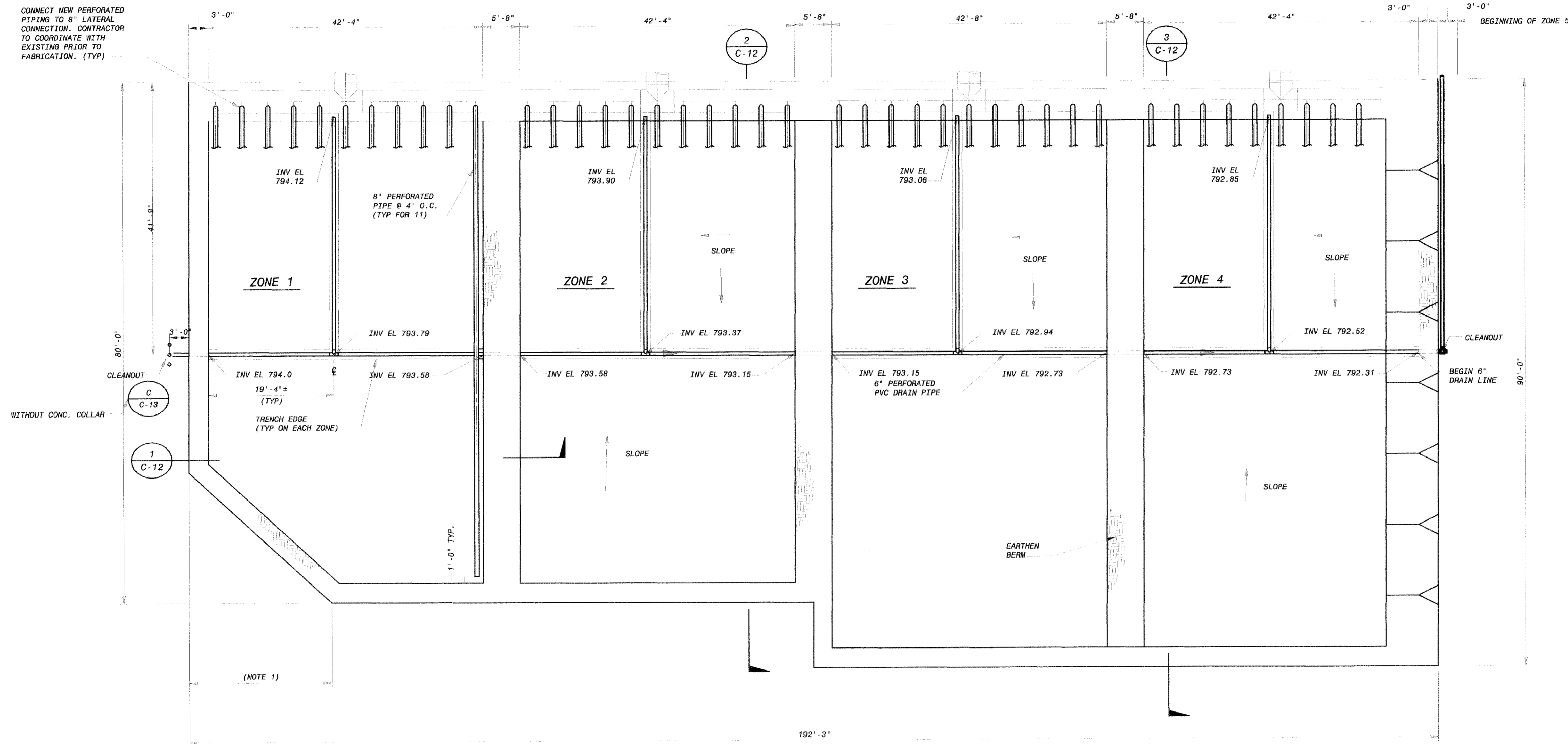
SHEET  
14 OF 19



07711

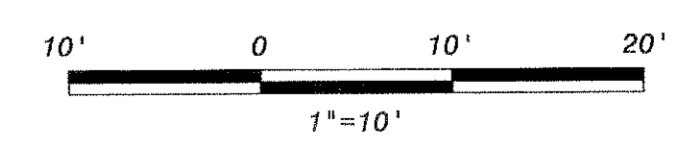


CONNECT NEW PERFORATED PIPING TO 8" LATERAL CONNECTION. CONTRACTOR TO COORDINATE WITH EXISTING PRIOR TO FABRICATION. (TYP)



(NOTE 1)

NOTE:  
1. 8" PERFORATED PIPE LENGTHS WITHIN THIS AREA WILL VARY ACCORDING TO SPACE AVAILABLE.



**AS-BUILT**

SIGNATURE ON ORIGINAL MYLAR SENT TO LONG-TERM STORAGE

FO99297  
05048

3/15/2002 AS-BUILT  
7/2/2001 CONFORMED TO ADDENDUM  
DATE  
CYRNET ID:  
SAVED:  
DWG VER #:  
PLOTTED: 7/2/2001 9:19:32 AM  
USER:  
1 AM JH JC  
NO. BY CK APP  
REVISIONS AND RECORD OF ISSUE  
XREF1 ID:  
XREF2 ID:  
XREF3 ID:  
XREF4 ID:  
XREF5 ID:

**BLACK & VEATCH**  
Corporation  
Los Angeles, California

RANCHO LAS VIRGENES  
COMPOSTING FACILITY  
BIOFILTER IMPROVEMENT PROJECT  
PERFORATED PIPE BIOFILTER PLAN

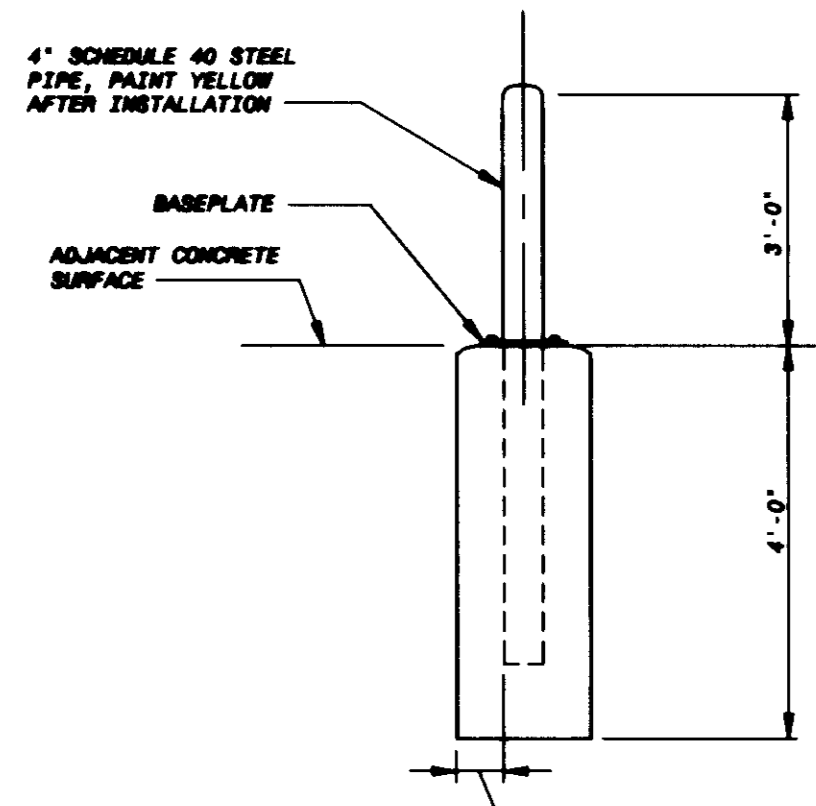
DESIGNED: A. MORALES  
DETAILED: R. VIZCARRA  
CHECKED: MW/WK  
APPROVED: J. HAY  
DATE: 2/28/2002

PROJECT NO.  
**99297**

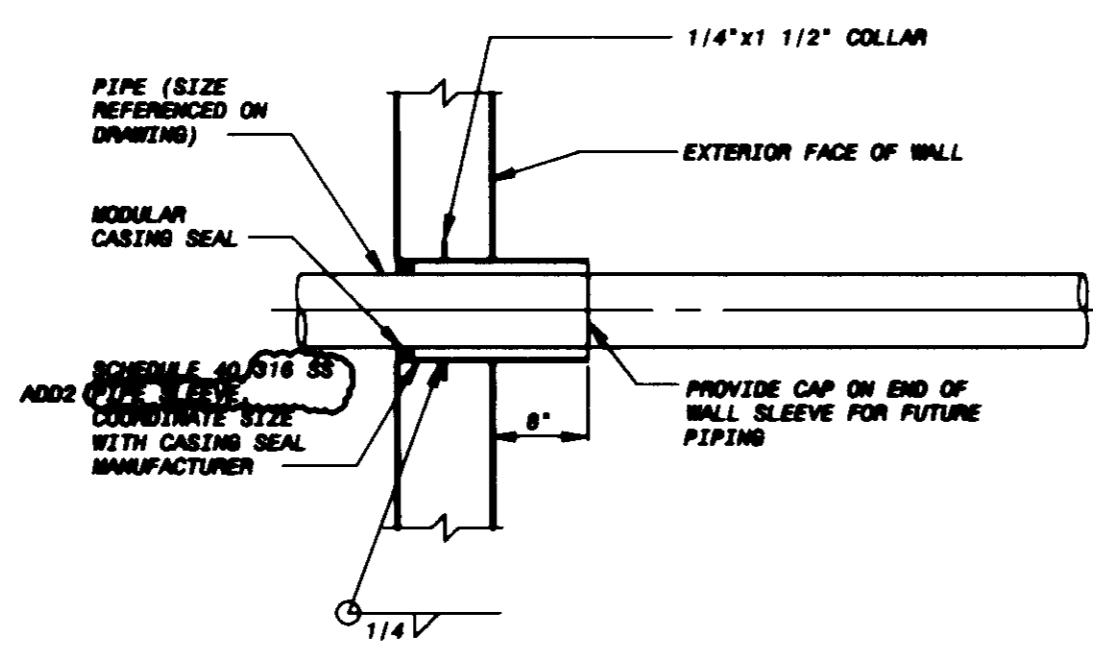
**C-11**  
SHEET  
15 OF 19

**07712 -01**

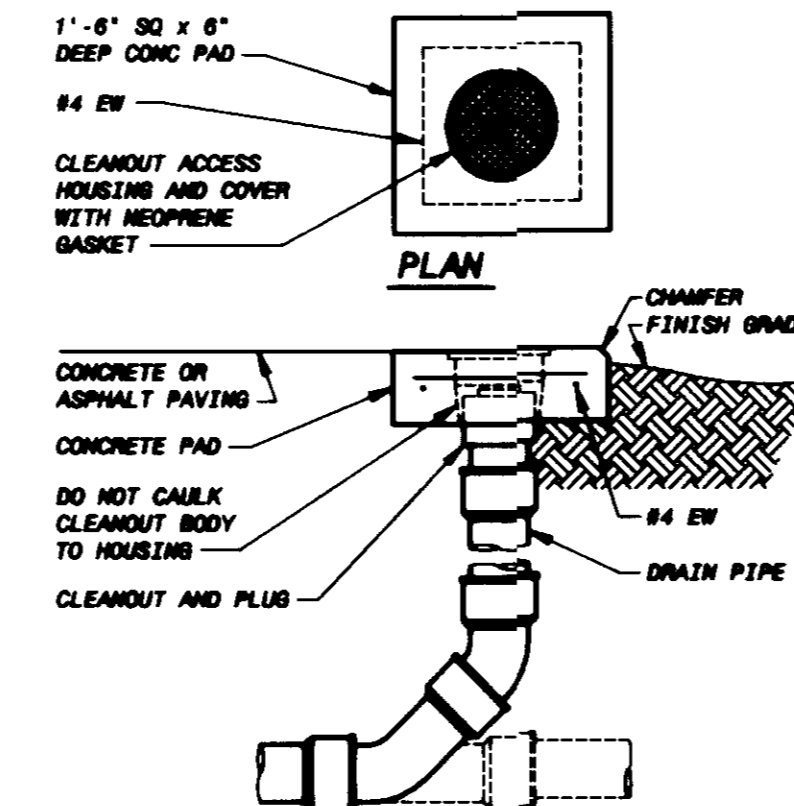




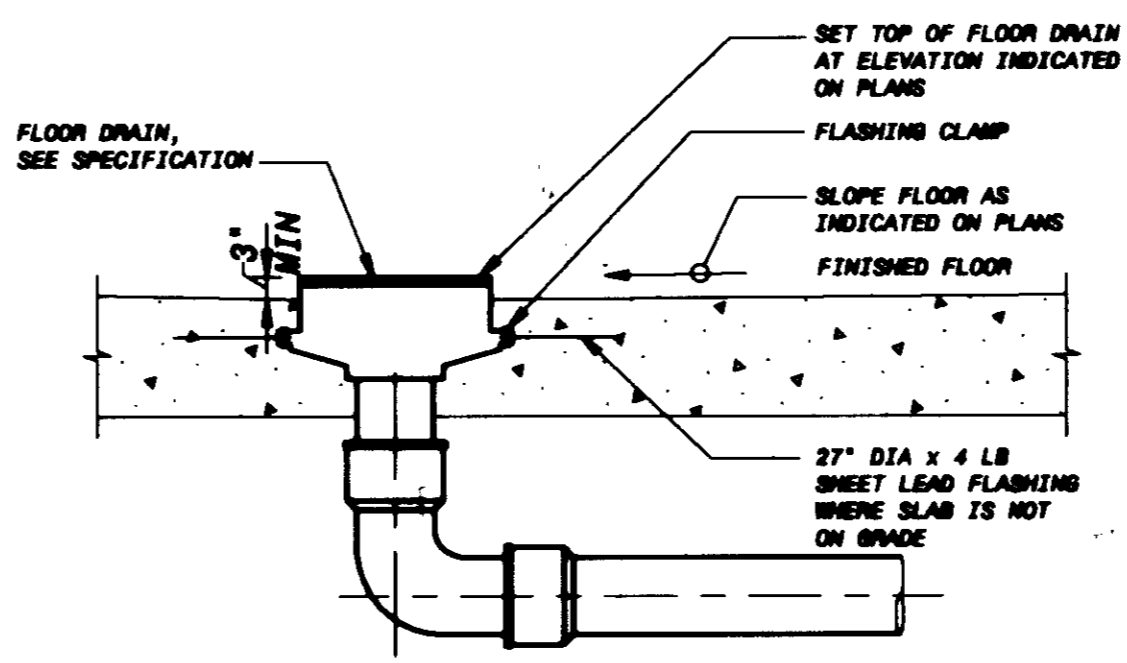
**GUARD POST**  
NO SCALE



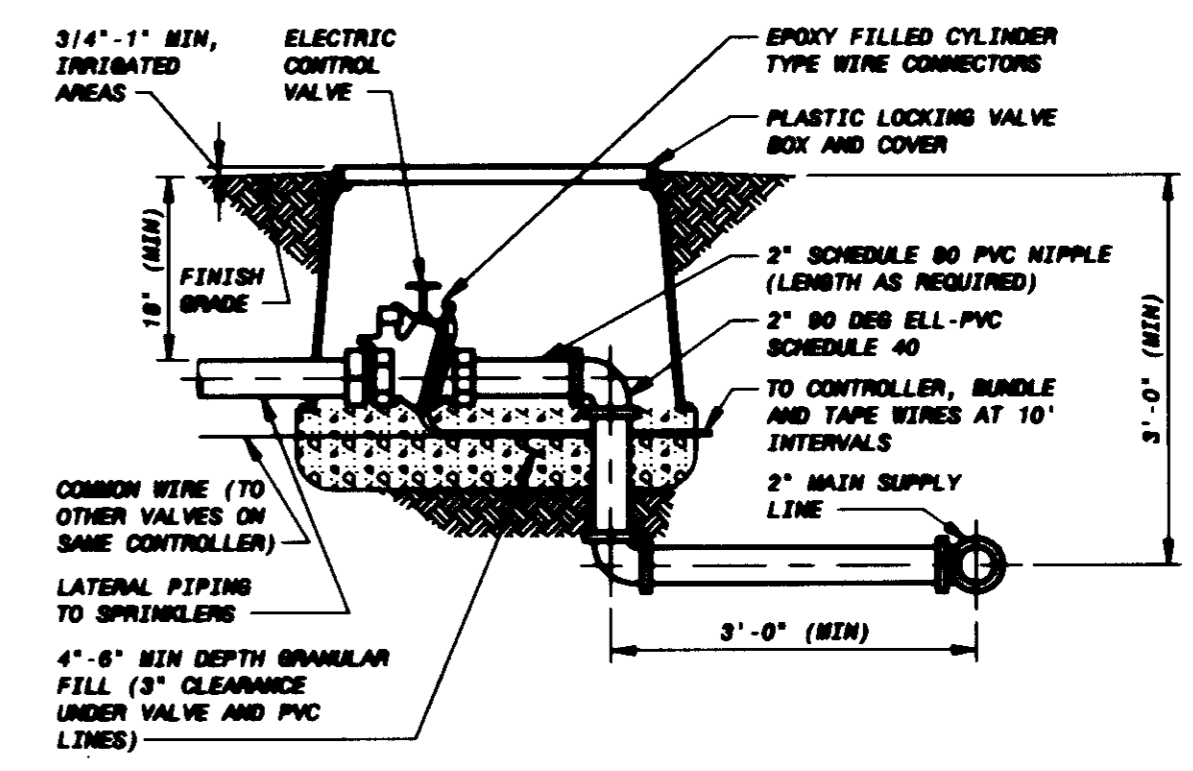
**EXTERIOR WALL SLEEVE FOR PLASTIC PIPE**  
NO SCALE



**CLEANOUT**  
NO SCALE

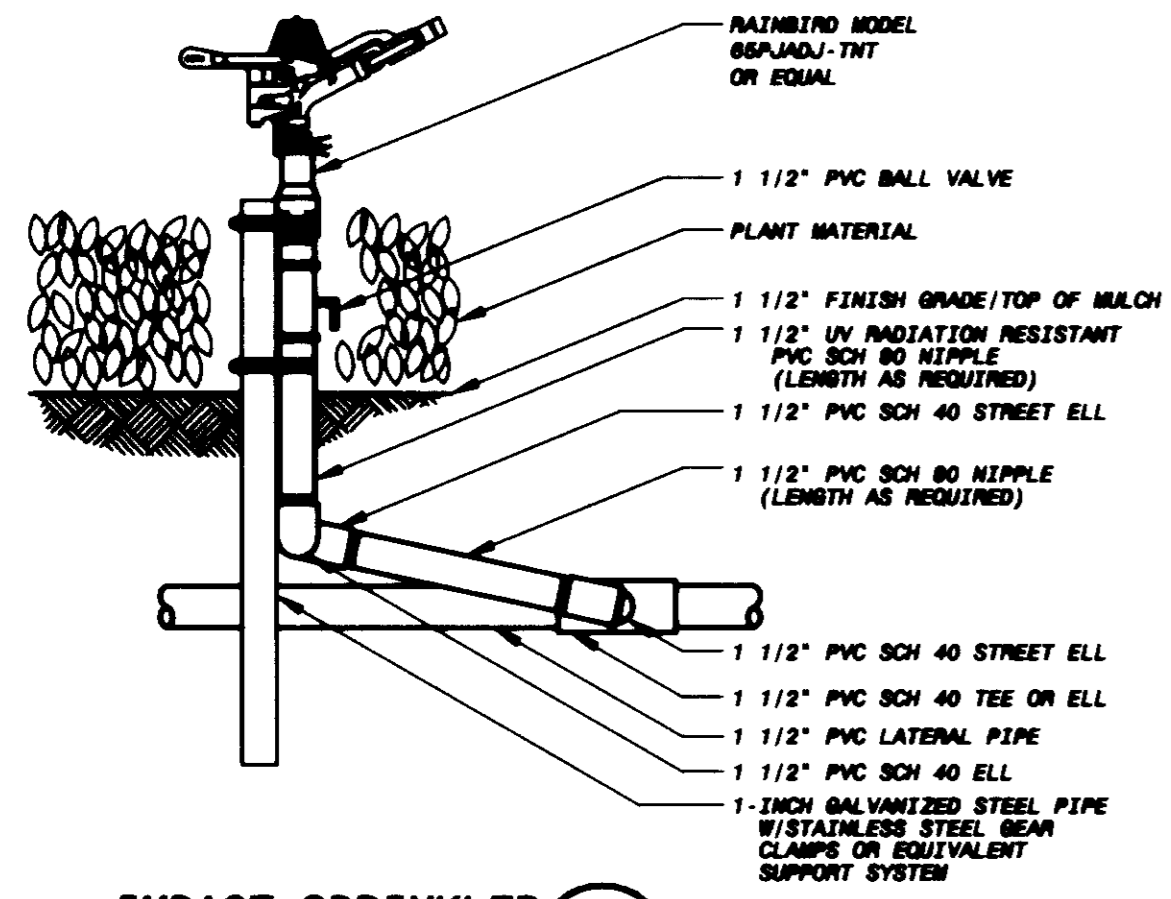


**FLOOR DRAIN**  
NO SCALE

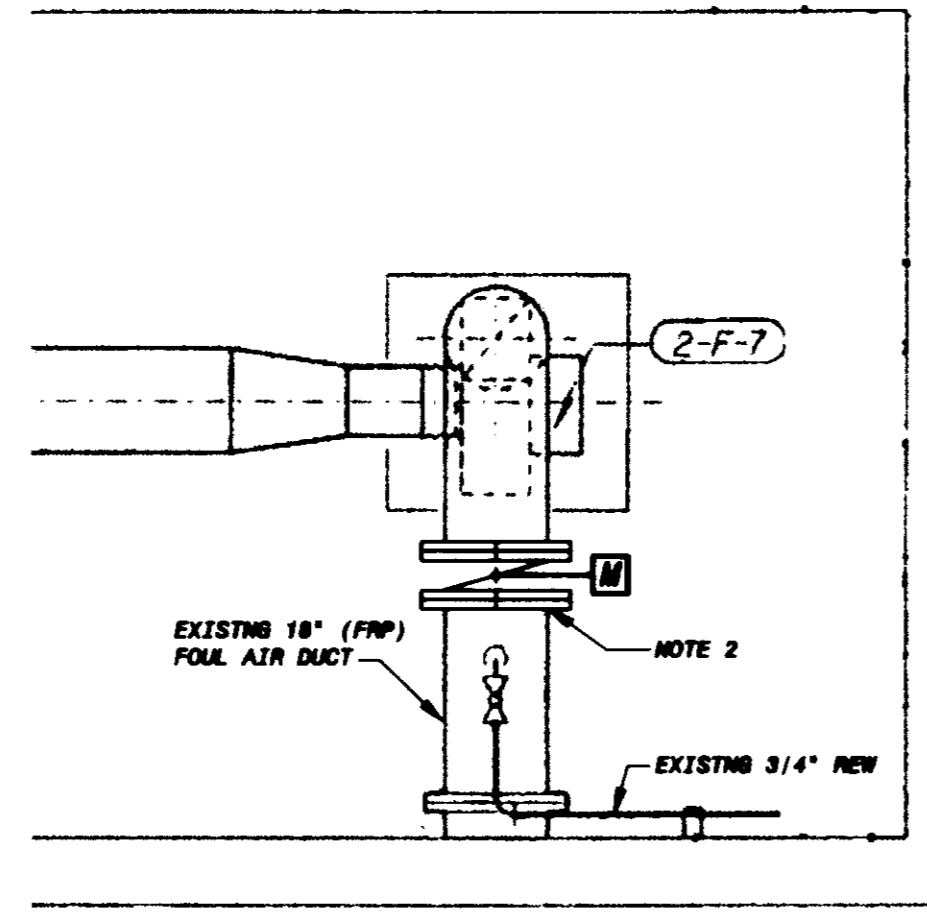


**CONTROL VALVE**  
NO SCALE

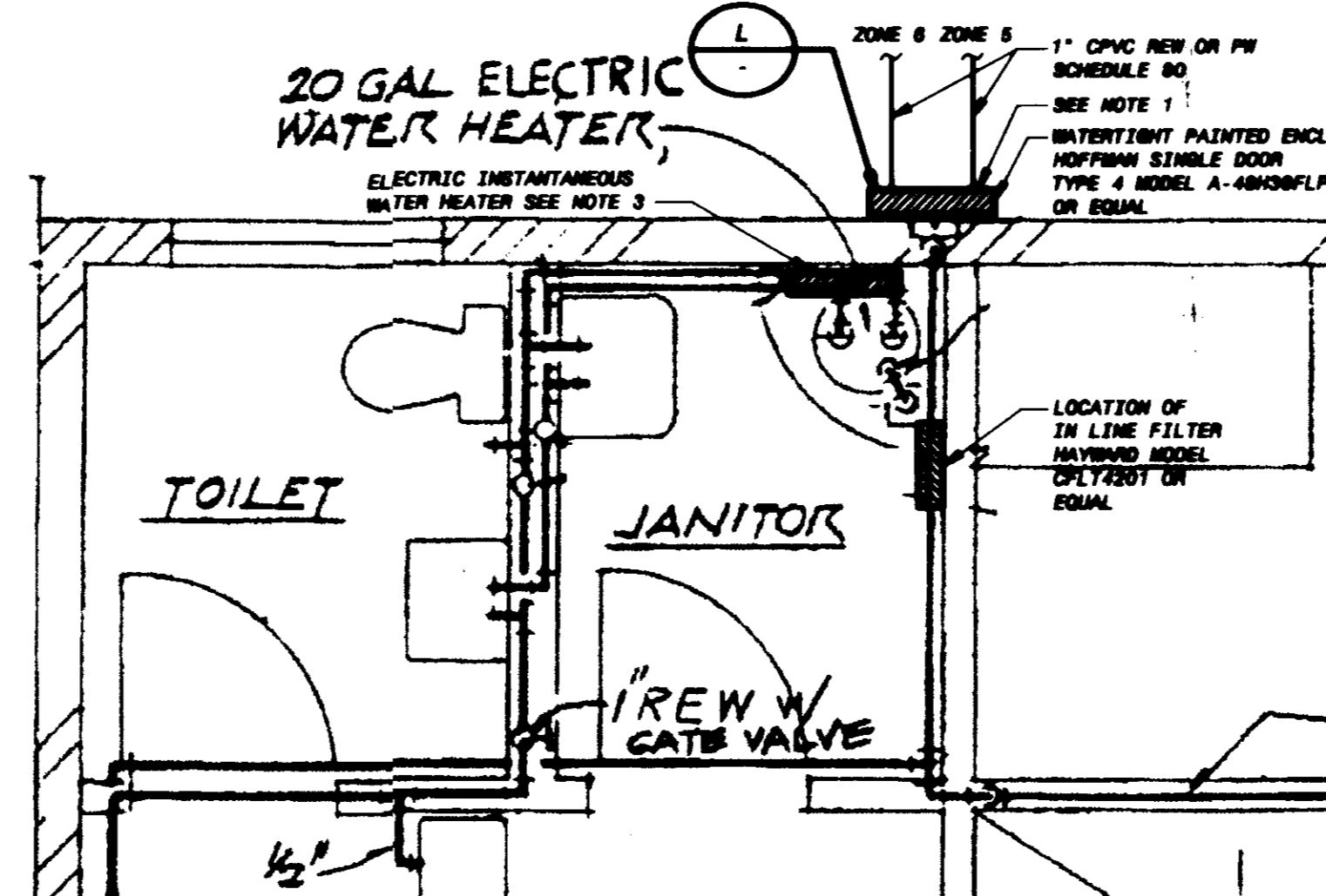
NOTES:  
1. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX.  
2. COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS UNDISTURBED ADJACENT SOIL.



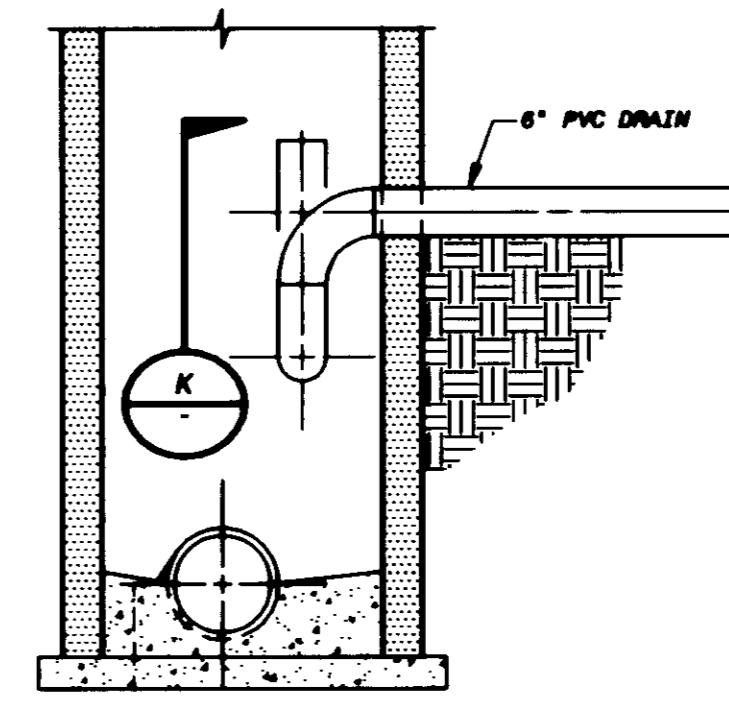
**IMPACT SPRINKLER**  
NO SCALE



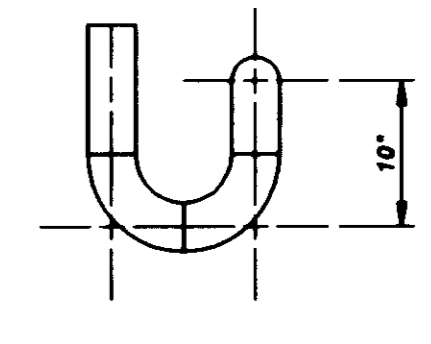
**DETAIL**  
3/8" = 1'-0"



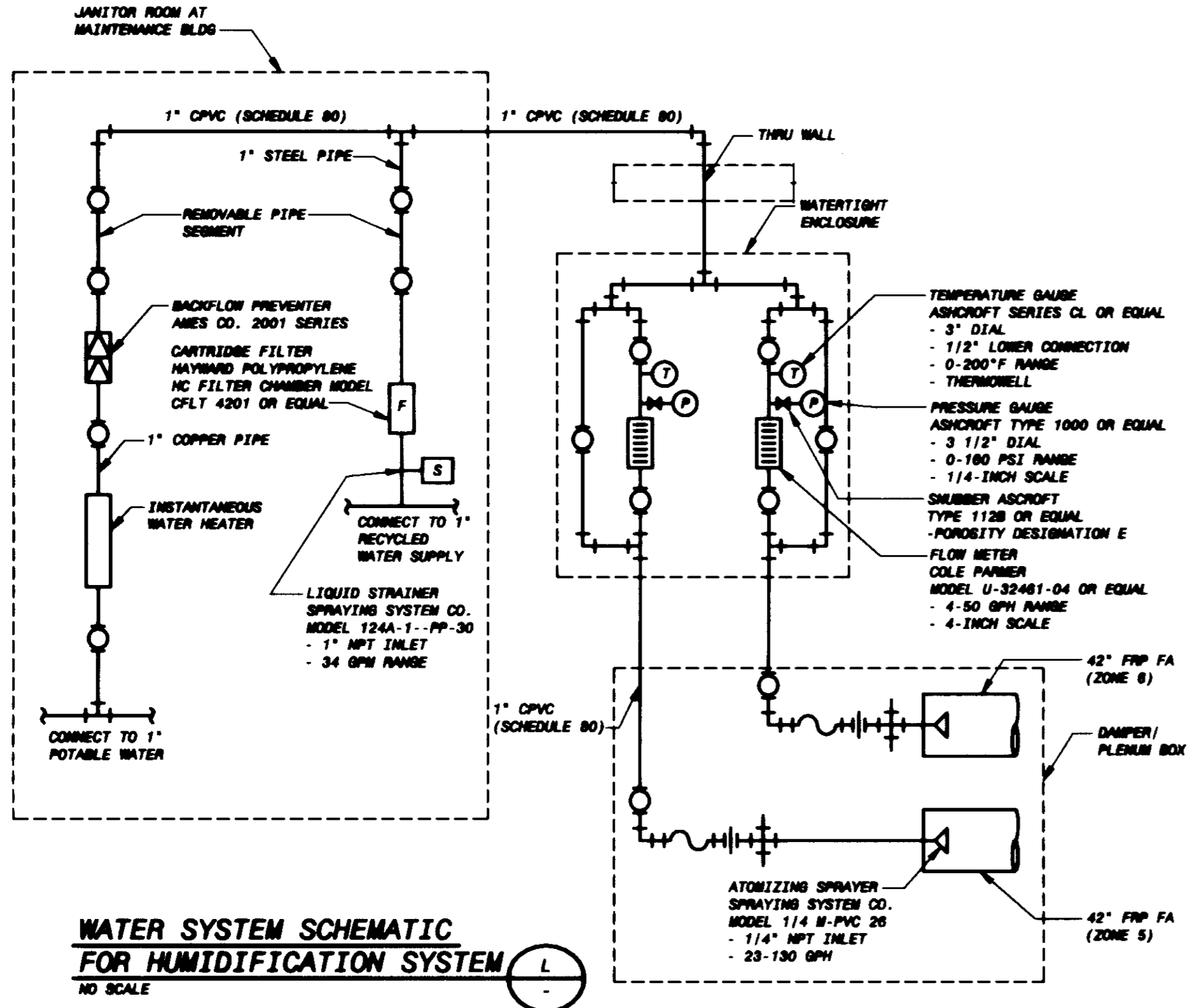
**DETAIL**  
3/8" = 1'-0"



**STANDARD MANHOLE**  
NO SCALE (REFER TO LVMID STANDARD DETAILS)



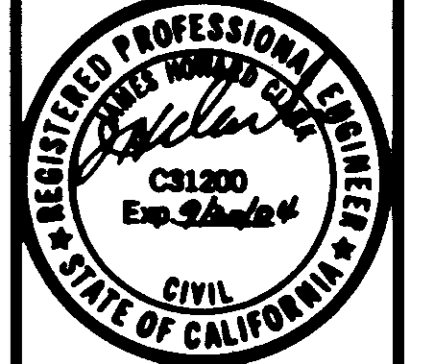
**SECTION**  
NO SCALE



**WATER SYSTEM SCHEMATIC FOR HUMIDIFICATION SYSTEM**  
NO SCALE

**CONSTRUCTION NOTES:**  
1. ENCLOSURE SHALL CONTAIN BALL VALVES, FLOW METERS, TEMPERATURE AND PRESSURE GAUGES. CONTRACTOR SHALL FIELD ROUTE 1" COPPER/CPVC/STEEL PIPING AND ACCESSORIES. CONTRACTOR SHALL VERIFY CORRECT SIZE OF ENCLOSURE.  
2. CONTRACTOR SHALL SAW-CUT THE EXISTING 18-INCH DUCT AND INSTALL FLANGES AS REQUIRED TO ACCOMMODATE THE NEW DAMPER.  
3. INSTANTANEOUS WATER HEATER TO BE MOUNTED TO WALL ABOVE EXISTING ELECTRIC WATER HEATER PER MANUFACTURER'S RECOMMENDATIONS.  
4. CONNECTIONS TO RECYCLED AND POTABLE WATER SYSTEMS TO BE COORDINATED WITH AND APPROVED BY DISTRICT.  
5. CONTRACTOR SHALL PROVIDE EXPANSION LOOPS PER CPVC PIPE MANUFACTURER.  
6. WALL PENETRATIONS SHALL BE PROPERLY SEALED AND GASKETED PER DISTRICT TO ACCORDANCE WITH PVC LINER MANUFACTURER'S RECOMMENDATIONS.

DATE	7/2/2001	COMPILED TO ADDRESS	REVISIONS AND RECORD OF ISSUE
CYCLE#	1	DATE	7/2/2001
BY	MM/TK	DATE	7/2/2001
APP'D	J. MAY	DATE	7/2/2001
PLOTTED	NOTES, 7/2/2001 11:32:44 AM	DATE	7/2/2001



**BLACK & VEATCH**  
CORPORATION  
Los Angeles, California

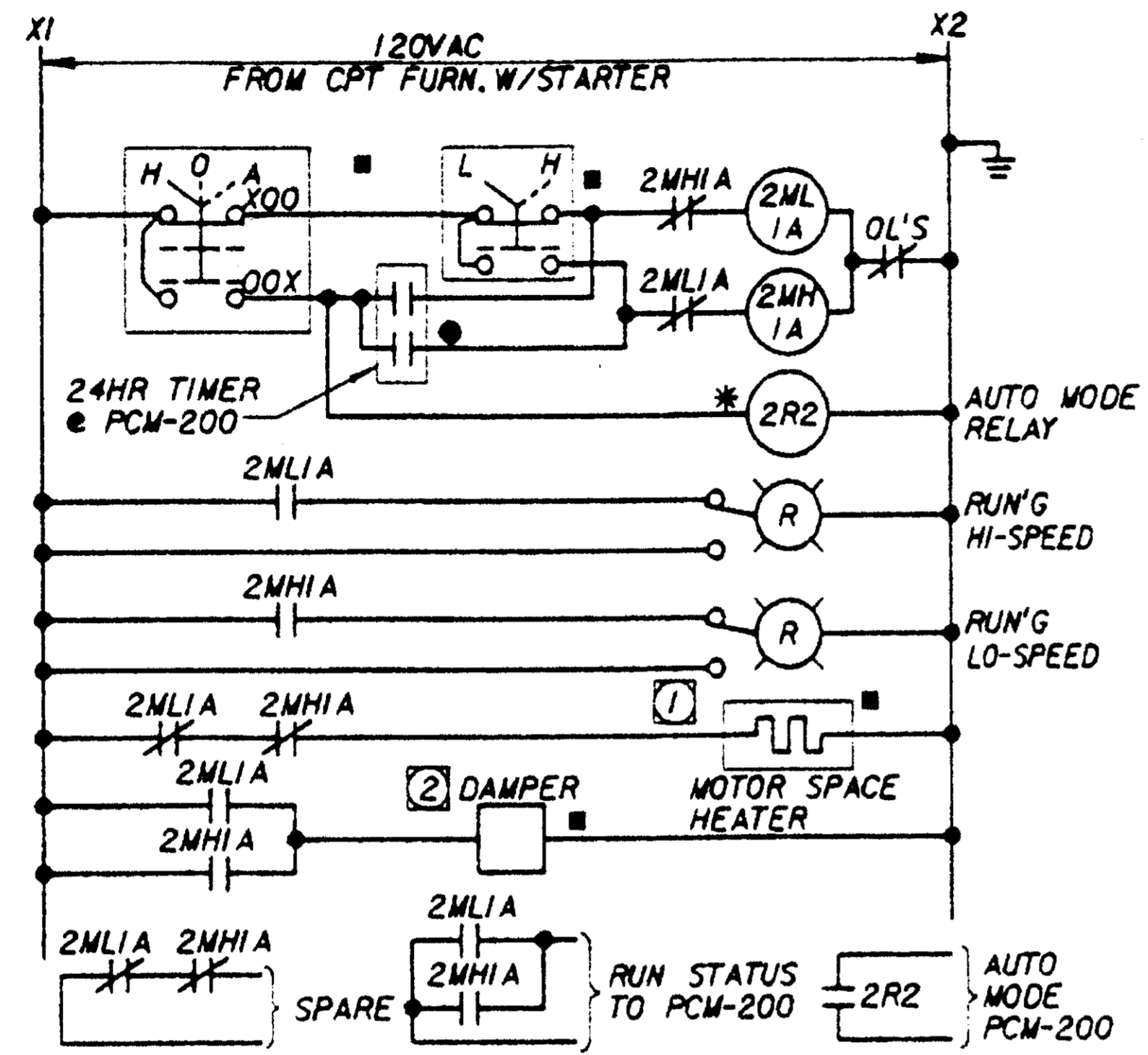
**RANCHO LAS VIRGENES COMPOSTING FACILITY BIOFILTER IMPROVEMENT PROJECT**  
MISCELLANEOUS DETAILS

DESIGNED: A. MORALES  
DETAILED: R. VIZCARRA  
CHECKED: MM/TK  
APPROVED: J. MAY  
DATE: 4/27/2001  
PROJECT NO. 99297

**C-13**  
SHEET 17 OF 19

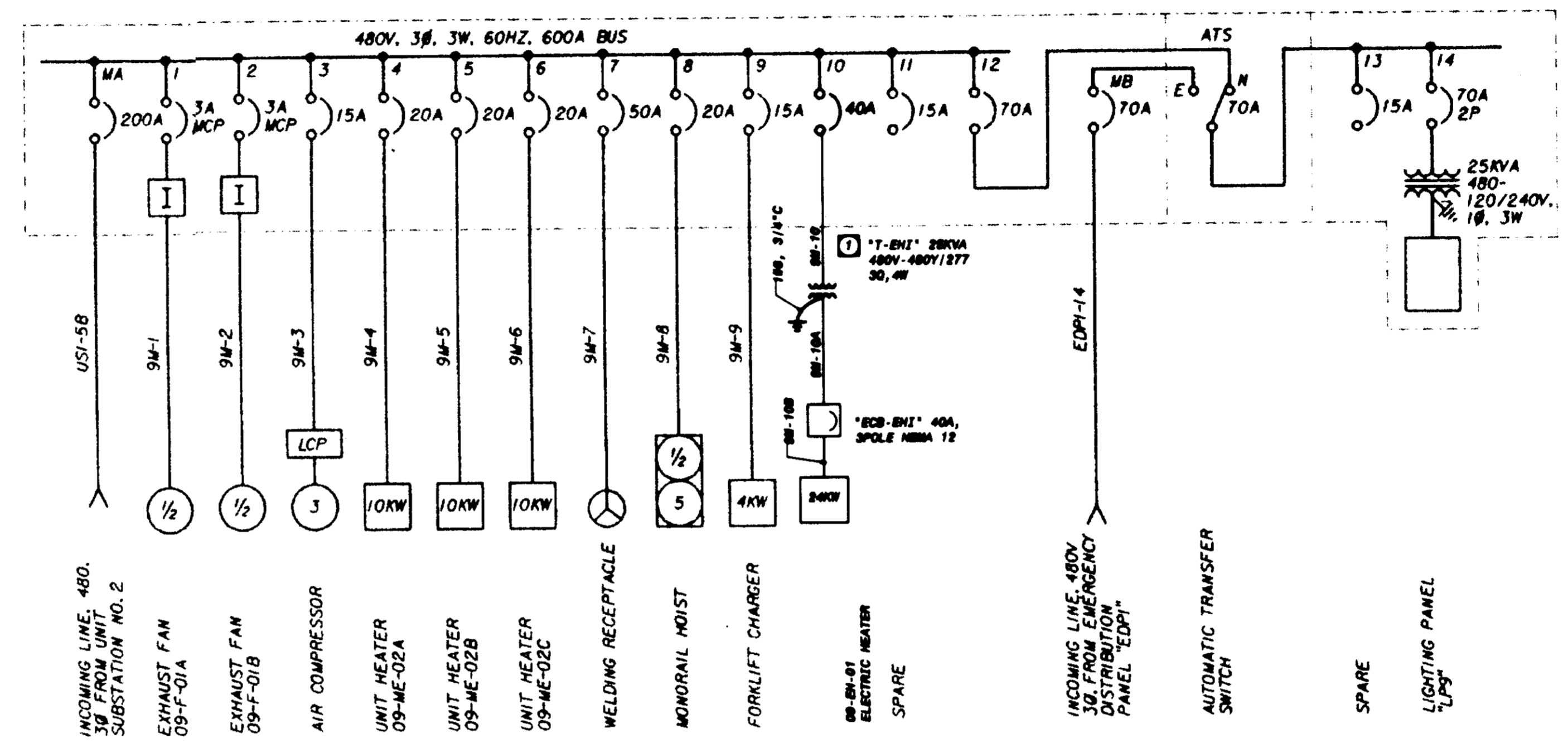






**EXHAUST FAN 02-F-01**  
 (SIMILAR FOR EXHAUST FAN 02-F-02 THRU 02-F-07)

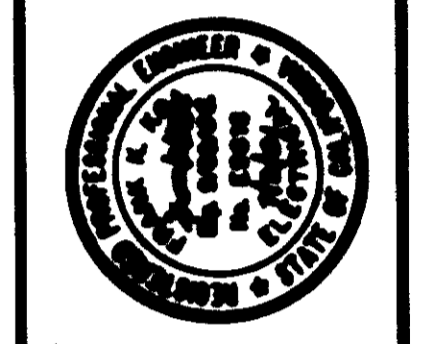
- NOTES: ① REQUIRED FOR EXHAUST FAN 02-F-06 ONLY.  
 ② REQUIRED FOR EXHAUST FAN 02-F-04 & 02-F-05 AND 02-F-07  
 \* — LOCATED AT MCC-2M RELAY COMPT.



**MOTOR CONTROL CENTER "MCC-9M"**

- NOTE:  
 ① REPLACE THE EXISTING 15AMP BREAKER WITH 40AMP SIMILAR TO EXISTING MANUFACTURER. THE CONDUIT LEADING IS AS FOLLOWS:  
 00-10-300, 1010 ØØØ, 1" C  
 00-10A-400, 1010 ØØØ, 1" C  
 00-100-400, 1010 ØØØ, 1" C  
 THE ELECTRIC HEATER REQUIRES FIVE WIRES: 3 LIVE (HOT), ONE NEUTRAL, & ONE GROUND. IT IS RATED 24KW, 277V BE MAX INC. CAT. NO. 623-00P3.

7/12/2001	COMPARED TO ORIGINAL	NO. OF CHANGES	1
DATE	BY	NO. OF CHANGES	1
CHANGED BY	NO. OF CHANGES	1	1
DATE	BY	NO. OF CHANGES	1
DATE	BY	NO. OF CHANGES	1
DATE	BY	NO. OF CHANGES	1



**BLACK & VEATCH**  
 CORPORATION  
 Los Angeles, California

**RANCHO LAS VIRGENES**  
**COMPOSTING FACILITY**  
**BIOFILTER IMPROVEMENT PROJECT**  
 SINGLE LINE DIAGRAM

DESIGNED: F. ROA  
 DETAILLED: R. VIZCARRA  
 CHECKED: MW/IK  
 APPROVED: J. MAY  
 DATE: 4/27/2001

PROJECT NO.  
**99297**

**E-2**  
 SHEET  
 19 OF 19

**07716**