

2 3 4 5 6 7 8 9 10 11 12 13 14 15
26-73211.82-071

DEVELOPMENT PLANS FOR WATER AND SEWER JJ SUBDIVISION LOTS 2-7

UTILITY COMPANY CONTACTS

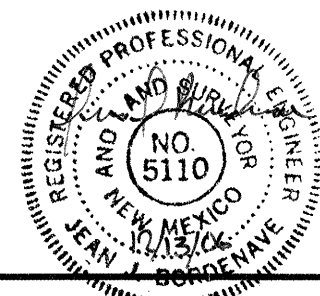
BUSINESS	PHONE/E-MAIL	PERSON
Albuquerque Bernalillo County Water Utility Authority One Civic Plaza NW, Rm. 5027 Albuquerque, NM 87102	Office phone: (505)768-2799 Office fax: (505)768-3629	Nancy Muzinski Senior Utility Engineer
AT&T 111 3rd Street NW Alb., NM 87103	Office phone: (505)842-2911 Office fax: (505)842-2890 dcrowel@att.com	David Crowell Resource Supervisor
Comcast 4611 Montbel NE Alb., NM 87107	Office phone: (505)761-6235 Office fax: (505)761-0599 rita_erickson@cable.comcast.com	Rita Erickson Planning and Design Supervisor
E.Spire 505 Marquette NW, Suite 1605 Alb., NM 87102	Office phone: (505)998-2274 Office fax: (505)998-9161 john.mares@espire.net	John Mares
Genuity 5221 N. O'Connor MC:HQL11A22 Irving, TX 75039	Office phone: (972)791-3277 Office fax: (972)791-3178 Cell phone: (214)912-3412 dennis.paulsen@genuity.com	Dennis Paulsen OSP Engineering
MCI Worldcom 3700 Singer NE, Suite A Alb., NM 87109	Office phone: (505)346-4476 Office fax: (505)346-4481 andy.darnell@wcom.com	Andy Darnell Operations Manager
McLeodUSA 505 Marquette NW, Suite 1600 Alb., NM 87102	Office phone: (505)244-3161 Office fax: (505)244-0094 Cell Phone: (505)228-3329	Rick Mueller Supervisor of Outside Techs.
PNM-Electric 4201 Edith NE Alb., NM 87107	Office phone: (505)241-3490 Office fax: (505)241-3620 Cell phone: (505)934-8818 warthur@pnm.com	Warren Arthur Engineering Representative III
PNM-Gas 4625 Edith NE Alb., NM 87107	Office phone: (505)241-7752 Office fax: (505)241-7753 Pager: (505)790-5575 kbouska@pnm.com	Kelly Bouska District Engineer
Qwest 210 3rd Street NW, Suite 700 Alb., NM 87102	Office phone: (505)245-8706 Office fax: (505)245-6831 dmuller@uswest.com	David Muller Capacity Provisioning Specialist
Time-Warner Telecom 3830 Singer NE, Suite 1000 Alb., NM 87109	Office phone: (505)938-7339 Office fax: (505)938-7380 Royal.Harrison@twtlwcom.com	Royal Harrison Plant Manager

APPROVED AS RECORD DRAWINGS
DESIGN REVIEW SECTION
CITY CONSTRUCTION ENGINEER
DATE: 2/14/2007
DR. VAN BOULE RE

GENERAL NOTES

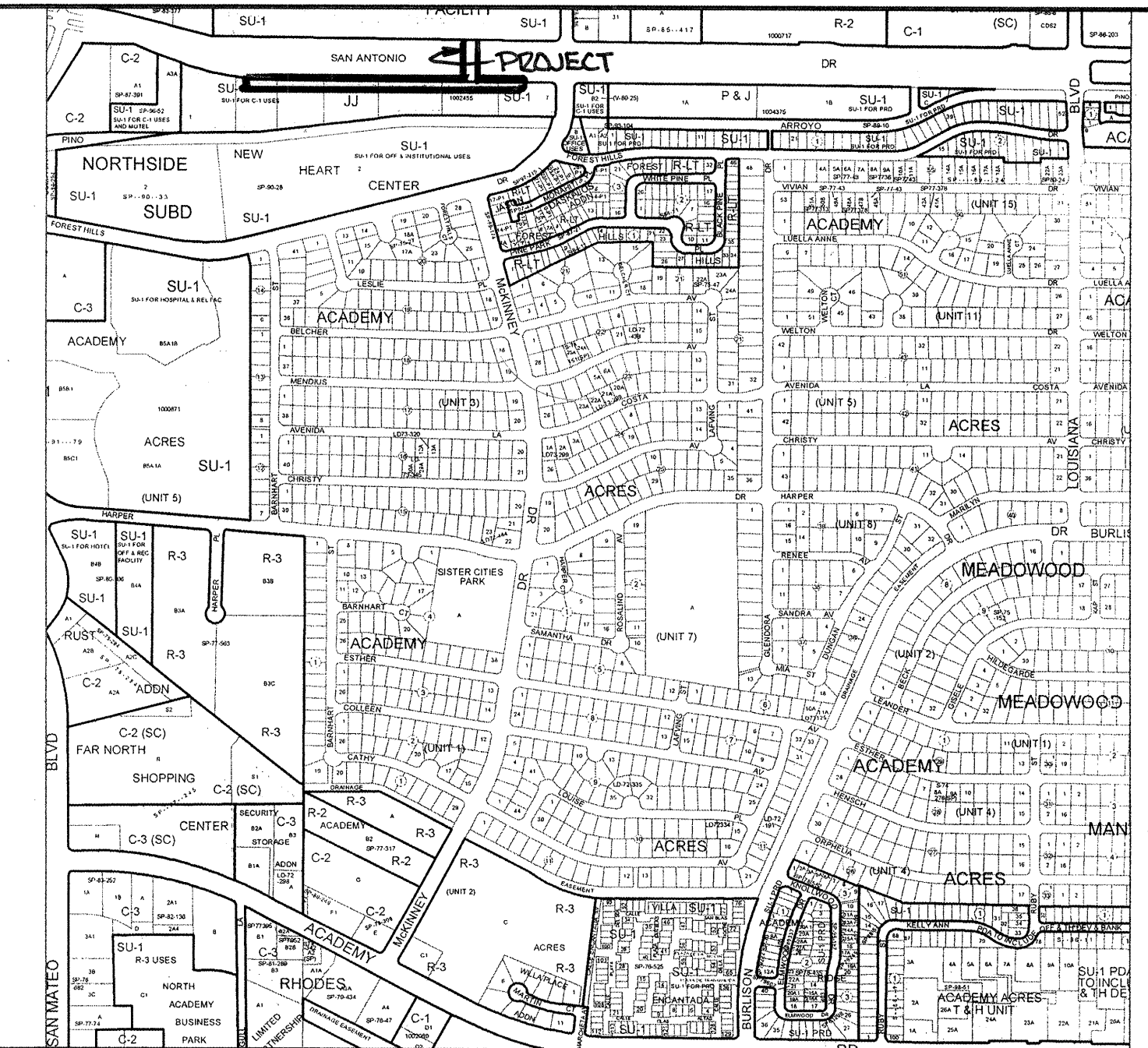
- All work detailed on these plans to be performed under this contract shall, except as otherwise stated or provided for herein, be constructed in accordance with the details and specifications of "City of Albuquerque Standard Specifications for Public Works Construction, 1986 Edition" as amended through update No. 7.
- An Excavation Permit and Grading and Paving Permit will be required before beginning any work within City right-of-way.
- Five (5) working days prior to beginning construction, the Contractor shall submit to Construction Coordination Division a detailed Construction Schedule. Two (2) days prior to the start of construction, the Contractor shall obtain a Barricading Permit from the Construction Coordination Division. The Contractor shall notify The Construction Coordination Engineer (924-3400) prior to occupying an intersection. Refer to Section 19 of the General Conditions of the Standard Specifications
- Two working days prior to any excavation, the Contractor shall contact the New Mexico One Call System, 260-1990, for location of existing lines.
- All street striping altered or destroyed shall be replaced with retro reflectorized pavement markings by the Contractor. Striping shall be placed in the pre-construction location or as indicated by this plan set.
- Prior to construction, the Contractor shall excavate and verify the horizontal and vertical location of all obstructions including existing utilities. Should a conflict exist, the Contractor shall notify the Engineer or Surveyor so that the conflict can be resolved with a minimum amount of delay.
- Contractor shall coordinate with Water Systems Division (857-8200) seven working days in advance of any work that may affect existing public water or sewer utilities. Existing valves to be operated by city personnel only. Contractor shall contact the Water Systems Division seven working days prior to needing valves turned on or off.
- All water, sanitary sewer and vent piping on this project shall be High Density Polyethylene (HDPE) pipe. Water lines shall be Class 160 (DR11), sanitary sewer shall be Class 160 (DR11) and vents shall be Class 160(DR11) pipe.
- The Contractor will not be allowed to use Class IV or V soils for embedment of flexible pipe. The Contractor will not be allowed to deflect joints in flexible pipe. Any deflections required to meet horizontal or vertical alignment will be achieved between joints.
- Back fill compaction requirements shall be according to residential street use.
- The Contractor shall assume responsibility for any damage to existing pavement, pavement markings, curb and gutter, driveways, wheel chair ramps and sidewalk during construction, apart from those sections indicated for removal on the plans; and shall repair or replace damaged items per City of Albuquerque standards at the Contractor's own expense.
- Contractor shall record data on all utility lines and accessories as required by the City of Albuquerque for the preparation of "As Constructed" drawings. Contractor shall not cover utility lines and accessories until all data has been recorded.
- All existing signs, markers, delineators, etc., within the construction limits shall be removed, stored and reset by the Contractor.
- The Contractor shall notify the Engineer not less than seven (7) days prior to starting work in order that the Engineer may take necessary measures to insure the preservation of survey monuments. Contractor shall not disturb permanent survey monuments without the consent of the Engineer and shall notify the Engineer and bear the expense of replacing any that may be disturbed without permission. Replacement shall be done only by the City Surveyor. When a change is made in the finished elevations of pavement of any roadway in which a permanent survey monument is located, the Contractor shall, at his own expense, adjust the monument cover to the new grade unless otherwise specified. Refer to Section 4.4 of the General Conditions of the Standard Specifications.
- The Contractor will be responsible for disposing of all debris, including but not limited to hazardous waste at disposal sites approved by governmental agencies regulating the disposal of such materials.
- All excavation will be governed by Federal State and Local laws, rules and regulations concerning construction safety and health.
- All signs and coding will be in accordance with the "Manual of Uniform Traffic Control Devices" 2003 Edition.
- When abutting new pavement to existing intersection streets, saw cut existing pavement to a straight line and at right angles and remove any broken or cracked pavement. No direct payment will be made for saw cutting.
- Contractor will make all water valves and manholes accessible to the City at all times.
- Contractor will confine his work, equipment, supplies and employee parking within the designated construction limits and/or public right-of-way.
- The Contractor agrees to take necessary safety precautions as required by Federal, State and Local Authorities to protect pedestrian and vehicular traffic in the construction area, which includes but is not limited to: maintaining adequate warning signs, barricades, lights, guard fences, walks and bridges.
- All asphaltic concrete shall be minimum 1800 lb. stability and compacted to 93%-97% Modified Marshall Density.
- All excavating, trenching and shoring activities must be carried out in accordance with OSHA 29CFR 1926.650, Subpart P and 1910.120.
- The Contractor shall perform all work in accordance with the National Pollutant Discharge Elimination System (NPDES) and site specific Storm Water Pollution Prevention Plan (SWPPP) requirements.
- The Contractor shall maintain a graffiti-free work site. The Contractor shall promptly remove any and all graffiti from equipment, whether permanent or temporary. This graffiti removal shall be considered incidental, therefore, no separate payment will be made.

I, Jean J. Bordenave, of the firm of Bordenave designs, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to The best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted by on the as-built construction drawings. This Certification is based on site inspections by me or personnel under my direct supervision and survey information provided by BASELINE FIELD SERVICES, NMPS number 5110.



DRB PROJECT NO. 1002455

VICINITY MAP NO. E-18



SHEET INDEX

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	PLAT
3	SUPPLEMENTAL TECHNICAL SPECIFICATIONS
4	PROJECT LAYOUT
5-8	WATER AND SEWER PLAN AND PROFILE

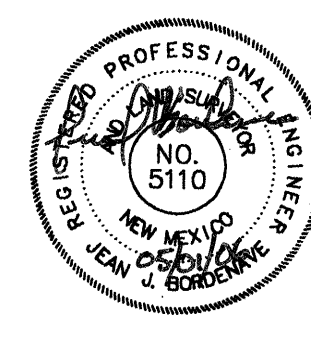
DISCLOSURE STATEMENT:

THE SUBJECT PROPERTY IS LOCATED ON A FORMER LANDFILL. DUE TO THE SUBJECT PROPERTY BEING ON A FORMER LANDFILL, CERTAIN PRECAUTIONARY MEASURES MAY NEED TO BE TAKEN TO ENSURE THE HEALTH AND SAFETY OF THE PUBLIC. RECOMMENDATIONS MADE BY A PROFESSIONAL ENGINEER WITH EXPERTISE IN LANDFILLS AND LANDFILL GAS ISSUES (AS REQUIRED BY THE MOST CURRENT VERSION OF THE "INTERIM GUIDELINES FOR DEVELOPMENT WITHIN CITY DESIGNATED LANDFILL BUFFER ZONES" SHALL BE CONSULTED PRIOR TO DEVELOPMENT OF THE SITE.

THIS SANITARY SEWER SYSTEM IS BASED ON THE USE OF ENVIRONMENT ONE CORP. EONE GRINDER PUMP SYSTEM OR SIMILAR.

BORDENAVE DESIGNS
P.O. BOX 91194, ALBUQUERQUE, NM 87199
(505) 823-1344 FAX (505) 821-9105

REV.	SHEETS	CITY ENGR.	DATE	USER DEPT.	DATE	USER DEPT.	DATE
		APPROVAL	ENGINEER	DATE	APPROVED FOR CONSTRUCTION		
		DRC CHAIRMAN	<i>[Signature]</i>	6-29-06	<i>[Signature]</i> 7-1-06 CITY ENGINEER DATE		
		WATER/WASTEWATER	<i>[Signature]</i>	5/11/06			
		TRANS. DEV.	<i>[Signature]</i>	5/11/06			
		HYDROLOGY	<i>[Signature]</i>	5/11/06			
		ENVIRONMENTAL HEALTH	<i>[Signature]</i>	5/30/06			
		CONSTR. MNGMT.					
		CONSTR. COORD.					
		CITY PROJECT NO. 735182			SHEET 1 OF 8		



SECTION 720
LANDFILL TRENCHING, WASTE HAULING, DISPOSAL AND GAS MONITORING

It is expected that landfill materials will be encountered during this project.

LANDFILL TRENCHING

- A. Prior to any trenching, submit a written plan of excavating the landfill for the Project Manager's approval. This plan shall include, at a minimum, the following:
1. Timetable for completion of trenching and backfill.
 2. Schedule of daily work hours.
 3. Types and numbers of equipment to be used in the trenching.

B. All personnel involved in landfill trenching must have completed the 40 hour OSHA hazardous waste site workers training course. Proof of completion shall be submitted to the Project Manager before commencing any landfill trench work.

C. All landfill material excavated from the landfill area shall be immediately hauled away to Cerro Colorado.

E. Do not permit surface stormwater or water from any other source originating outside the landfill area to enter open trenches. Provide barriers and positive drainage away from trenches as necessary.

F. The Contractor shall be responsible for maintaining the site free from blowing trash and odors. All excavated landfill material shall be removed from the site by the end of each work day. Material shall not be stored on the site under any conditions. All exposed landfill material in trenches shall be covered with a minimum of two feet of compacted backfill material by the end of each work day.

G. After trenches are complete, notify Project Manager for inspection of completed excavation. Do not begin placement of clean fill until trench is approved by Project Manager.

H. Contractor shall use all reasonable care to maximize the volume of clean soil excavated within the landfill area limits which can be salvaged and used as fill material, thus minimizing the volume of material to be disposed of and minimizing the amount of borrow required for the project.

FINISH GRADING

A. The Contractor shall place excess backfill in all trenches to force surface drainage away from the trench surface and as directed by the Project Manager.

HAULING OF LANDFILL WASTE

A. Landfill waste shall be hauled using vehicles and equipment approved by the Owner and the New Mexico Environment Department-Solid Waste Bureau that is appropriate for the type, volume, and density of the waste.

B. The Contractor must obtain a permit from the City of Albuquerque to haul solid waste within the city and must also comply with all applicable licenses or permits (local, state, federal, etc.).

C. The Contractor shall transport the landfill waste to its final destination in covered vehicles without litter escaping or causing any other public nuisance.

D. The Contractor shall comply with all speed limits and road or street weight limits imposed by the State of New Mexico, the City of Albuquerque, and the Federal Highway administration (FHWA).

E. Prior to commencing any hauling of solid waste, the Contractor shall submit to the Project Manager for his/her approval, a detailed map of the route proposed by the hauler to haul solid waste to the disposal facility.

DISPOSAL SITE

A. All landfill waste shall be hauled to and disposed of at the City of Albuquerque's Cerro Colorado Sanitary Landfill.

LANDFILL GAS MONITORING

A. The Contractor shall maintain, at his own expense, qualified Environmental Technician(s) to monitor for possible landfill gases during the trenching and backfilling operations. The minimum qualifications for the Environmental Technician(s) are 40 hours of OSHA hazardous waste operations and emergency response training. Additionally, the Environmental Technician(s) must be thoroughly familiar with air-quality monitoring instruments. If qualification requirements are met and duties allow, Environmental Technician(s) may also serve as Hazardous Waste Inspector(s).

- B. Prior to beginning work on the site, the Contractor will develop a landfill gas monitoring work plan and submit it to the Project Manager for his/her approval. The work plan will include, at a minimum, the following items:
1. Common gasses of concern to be monitored.
 2. Common potential chemical hazards.
 3. Action level limits and threshold limits for gases being monitored.
 4. Work stoppage procedures.
 5. Strategy for monitoring.
 6. Procedures for reporting to Contractor, Owner, and Engineer.
 7. Equipment to used for monitoring.

- C. The ambient air in the trench work zones will be monitored as a minimum for the following:
1. Methane/explosive gas to insure against explosive conditions with an explosivity meter.
 2. Volatile organic vapors using a photoionization meter or other appropriate device.
 3. Hydrogen sulphide (H2S), and carbon monoxide (CO), emissions with a calibrated field instrument.
 4. Oxygen (O2) concentrations

D. Before commencing and during monitoring, the Environmental Technician(s) will verify the planned excavation zones and the work areas for the day.

E. The air-quality monitoring program will be conducted within the boundaries of the trenches and adjacent work areas. Continuous monitoring of landfill gases will be conducted in the field during excavation activities and reported to the Contractor. Any indication of concentrations of landfill gasses above 25% of lower explosive limit (LEL) levels for methane and other industry recognized safety limits for other gases will be reported to the Project Manager. A written record indicating site location, time, current activities and an hourly log of the ambient air quality recorded in the vicinity of excavation shall be submitted daily to the Project Manager.

F. If unsafe levels of gases are detected by the Environmental Technician(s), the Contractor shall immediately cease working in that area and allow the gases to dissipate. The Contractor will notify the Project Manager immediately. The Contractor shall resume operation only when the atmosphere has been determined to be safe by the Environmental Technician.

G. The Contractor shall be responsible for submittal of all documentation materials required by the New Mexico Environment Department-Solid Waste Bureau. A copy of these submittals shall be submitted to the Project Manager.

DELAYS

A. In the event the project is delayed due to the presence of hazardous gas as determined by the Environmental Technician(s), the Contractor may be entitled to a time extension of the Contract in an amount to be determined by the Project Manager. The Contractor shall not be entitled to delay damages of any kind including, but not limited to, extended office overhead, equipment rentals, field overhead, mobilization, demobilization, etc.

METHOD OF MEASUREMENT

A. Excavated landfill material shall be measured by the ton. Weight of the landfill material shall be determined as measured by the scales at the Cerro Colorado Sanitary Landfill.

B. Trenching and backfilling shall be measured as shown in Section 701 of the Standard Specifications for Public Works Construction, 1986 thru Update No. 7.

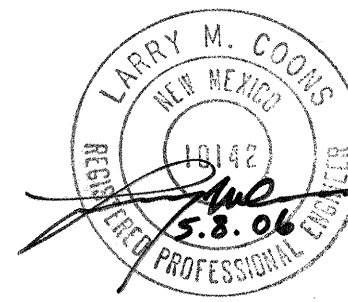
BASIS OF PAYMENT

A. Excavated landfill material shall be paid for at the contract unit price for landfill excavation and haul. This includes loading, weighing, hauling, landfill gas monitoring, hazardous waste monitoring and disposal fees at the Cerro Colorado Sanitary Landfill.

B. Cost of providing 40-hour OSHA-approved training shall be incidental to the Contract.

C. Trench and backfill payment shall include the cost of providing and installing gravel and filter cloth in the trench prism as shown on the plans.

END OF SECTION



FOR NOTES RELATED TO
LANDFILL AND LANDFILL
GAS, ONLY

SECTION 121A
TECHNICAL SPECIFICATIONS FOR HIGH
DENSITY POLYETHYLENE PIPE AND FITTINGS

2.0 High Density Polyethylene Pipe and Fittings

2.1 Qualifications of Pipe Manufacturers. The HDPE pipe shall be manufactured in a plant capable of providing continuous quality control through inspection. The facility shall have the necessary testing equipment to verify that the pipe meets the requirements of AWWA C901 or C906, NSF Standard #61 and ASTM standards.

2.2 Qualifications of the Fittings Manufacturer. The facility shall have the necessary testing equipment to verify that the fittings meet the requirements of AWWA C901 for sizes 1/2" to 2" and AWWA C906 for sizes 3" through 54".

2.3 Materials. Polyethylene pipe and fittings shall be made from resin meeting the requirements of the Plastic Pipe Institute as PE 3408. The resin shall meet the requirements of ASTM D3350-02 with a cell classification of 345464C. The requirements of this cell classification are:

HDPE Resin Specifications

PROPERTY	SPECIFICATION	UNIT	TYPICAL VALUE
Material Designation	PPI / ASTM		PE3408
Material Approval	NSF #1		
Material Classification	ASTM D 1248		III C 5 F34
Cell Classification	ASTM D 3350-02		345464C
Density (3)	ASTM D 1505	g/cm3	0.955
Melt Index (4)	ASTM D 1238	gm/ 10 min	0.11
Flexural Modulus (5)	ASTM D 790	psi	135,000
Tensile Strength (4)	ASTM D 638	psi	3,200
Slow Crack Growth			
ESCR	ASTM D 1693	hours in 100% 1gepal	>5,000
PENT	ASTM F 1473	hours	>100
HDB @ 73 deg F (4)	ASTM D 1693	psi	1,600
UV Stabilizer (C)	ASTM D 1603	%C	2.5%

2.4 Interchangeability of Pipe and Fittings. High-density polyethylene pipe and fittings can be supplied by different manufacturers as long as they meet the above ASTM D3350-02 cell classification.

2.5 Pipe

A. 2 Inches and Smaller - Pipe shall have a manufacturing standard of ASTM D3035. Pipe shall be DR 11 (180psi WPR) unless otherwise specified on the plans. The pipe shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material

B. 3 Inches and Larger - Pipe shall have a manufacturing standard of ASTM F-714. Pipe O.D. sizes 4" to 24" shall be available in both steel pipe sizes (IPS) and ductile iron pipe sizes (DIPS). Pipe O.D. sizes 26" to 54" shall be available in steel pipe sizes (IPS). The pipe shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All pipes shall be suitable for use as pressure conduits, listed as NSF 61 and per AWWA C906 Pressure Class (PC) 100 have a nominal burst value of three and one-half times the Working Pressure Rating (WPR) of the pipe. Peak flow water velocity of 5 ft/sec shall be used in the hydraulics engineering design.

2.6 Fittings. HDPE fittings shall be PE3408 HDPE, Cell Classification of 345464C as determined by ASTM D3350-02, and approved for AWWA use. Butt fusion fittings shall have a manufacturing standard of ASTM D3261. Molded & fabricated fittings shall have a pressure rating equal to the pipe unless otherwise specified in the plans. Fabricated fittings are to be manufactured using Data Loggers. Temperature, fusion pressure and a graphic representation of the fusion cycle shall be part of the Quality Control records. All fittings shall be suitable for use as pressure conduits, and per AWWA C906, have nominal burst values of three and one-half times the Working Pressure Rating (WPR) of the fitting.

2.7 Pipe Manufacturer's Quality Control. The pipe manufacturer shall have an on-going Quality Control program for incoming and outgoing materials. High-density polyethylene (HDPE) resins for manufacturing of pipe shall be checked for density, melt flow rate, and contamination. The manufacturer of the HDPE resin shall certify the Cell Classification as indicated in section 2.3. These incoming resins shall be approved by plant Quality Control and verified to be approved by NSF before being converted to pipe.

Pipe shall be checked for outside diameter, wall thickness, length, roundness, and surface finish on the inside and outside and end cut.

2.8 Fittings Manufacturer's Quality Control. The fitting manufacturer shall have an on-going quality control program for incoming and outgoing materials. The resin shall be checked as indicated in section 2.3. Pipe for fabricated fittings shall be checked as indicated in 2.6. Molded fittings shall be inspected for voids and knit lines. All fabricated fittings shall be inspected for joint quality and alignment. All fabricated fittings welds shall be made using a DataLogger. A record of the temperature, pressure and graph of the fusion cycle shall be maintained by the fitting manufacturer.

2.9 Permanent Records. The Manufacturer of the pipe and fittings shall maintain permanent QC and QA records. DataLogger records shall be maintained on fabricated fittings.

2.10 Compliance Testing. If requested, the pipe or fittings manufacturer can be required to retest or verify certification data. All retesting shall be at the requestor's expense, and shall be performed as required in the specifications.

3.0 Butt Fusion Joining

3.1 Plain end pipe and fittings shall be made using butt fusion. The butt fusion procedures shall be in accordance with the manufacturer or the PPI. The fusion equipment operator shall receive training using the recommended procedure. The Contractor shall be responsible to verify that the fusion equipment is in good operating condition and that the operator has been trained within the past twelve months. The fusion equipment shall be equipped with a Datalogger. Records of the welds (heater temperature, fusion pressure, and a graph of the fusion cycle) shall be maintained for five (5) years. Fusion beads shall not be removed.

3.2 Heat Fusion Training. The supplier of the pipe and fittings shall provide a person certified by the pipe manufacturer and the fusion equipment manufacturer to train contractor fusion equipment operators and inspectors representing the Owner.

4.0 Other Joining Methods

4.1 Mechanical Joining. Polyethylene pipe and fittings may be joined together using Flanges or Mechanical Joint (MJ) adapters. These fittings shall be made from PE 3408 HDPE, with a Cell Classification of 345464C as determined by ASTM D3350-02. Flanged and MJ adapters shall have a manufacturing standard of ASTM D3261. They shall have a pressure rating equal to the pipe unless otherwise specified on the plans.

4.2 Electrofusion couplings. Polyethylene pipe and fittings may be joined using approved electrofusion couplings. Fittings shall be PE3408 HDPE, Cell Classification of 345464C as determined by ASTM D3350-02. Electrofusion Fittings shall have a manufacturing standard of ASTM F1055. Fittings shall have a pressure rating equal to the pipe unless otherwise specified on the plans. All electrofusion fittings shall be suitable for use as pressure conduits, and per AWWA C906, have nominal burst values of three and one-half times the Working Pressure Rating (WPR) of the fitting.

5.0 Installation

5.1 Installation. Pipe and fittings shall be installed using procedures recommended by the manufacturer.

5.2 General. Pipe and fittings shall be packaged in a manner suitable for shipment by a commercial carrier. Upon receipt at job site, a receiving inspection shall be prepared. The quantity shall be verified and any shipping damage shall be reported to the supplier within 7 days.

5.3 Excavation. Trenches shall be excavated in accordance with the plans and specifications. OSHA standards or Owner safety policies regarding safety shall be followed regarding trench safety. If groundwater is encountered, it shall be removed by the Contractor. Shoring of the trench, where required is the responsibility of the contractor.

5.4 Flange/MJ Adapter Installation. Flanges/MJ adapters shall be attached to pipe and fittings using butt fusion. The flanges/MJ adapters shall be aligned and centered relative to the pipe. Flanges/MJ adapters should be square with the valve or other flange before tightening of bolts. Bolts should not be used to draw flanges into alignment. Bolt threads shall be lubricated, and flat washers shall be used under flange nuts. Bolts shall be tightened using a 'star tightening pattern'. See manufacturers recommendations. Twenty-four hours after first tightening the flange bolts, they must be re-tightened using the same 'star' tightening pattern used above. The final tightening torque shall be as indicated by the manufacturer.

5.5 Foundation & Bedding. Foundation and Bedding shall be per City of Albuquerque Standard Specification except as modified by the Typical Trench Section as shown in these plans.

5.6 Pipe and Large Fitting Handling: A nylon fabric choker sling capable of safely handling the weight of the pipe or fitting, shall be used to lift, place and move pipe and fittings.

5.7 Backfilling. Backfilling shall be per City of Albuquerque Standard Specification except as modified by the Typical Trench Section as shown in these plans.

5.8 Pressure Testing. Testing shall be per City of Albuquerque Standard Specifications, and as modified by Pipe Manufacturer.

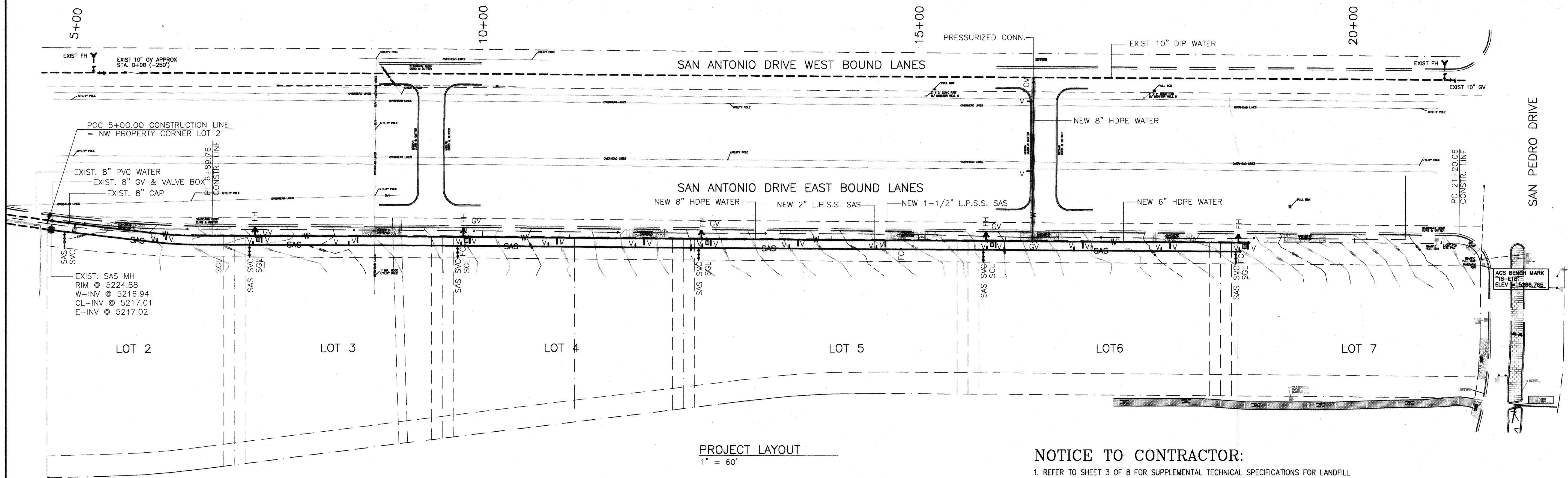
END OF SECTION

SPECIFIC PROJECT REQUIREMENTS








1. All water line pipe (except servie line) shall be HDPE DR11 (regardless of size).
2. All water service lines shall be connected to main with threaded service saddles with corporation stops.
3. All water meter boxes shall have light duty lids.
4. All HDPE fittings shall be molded.
5. All connections to valves and fire hydrants shall be made with restrained joint MJ-HDPE adaptors.

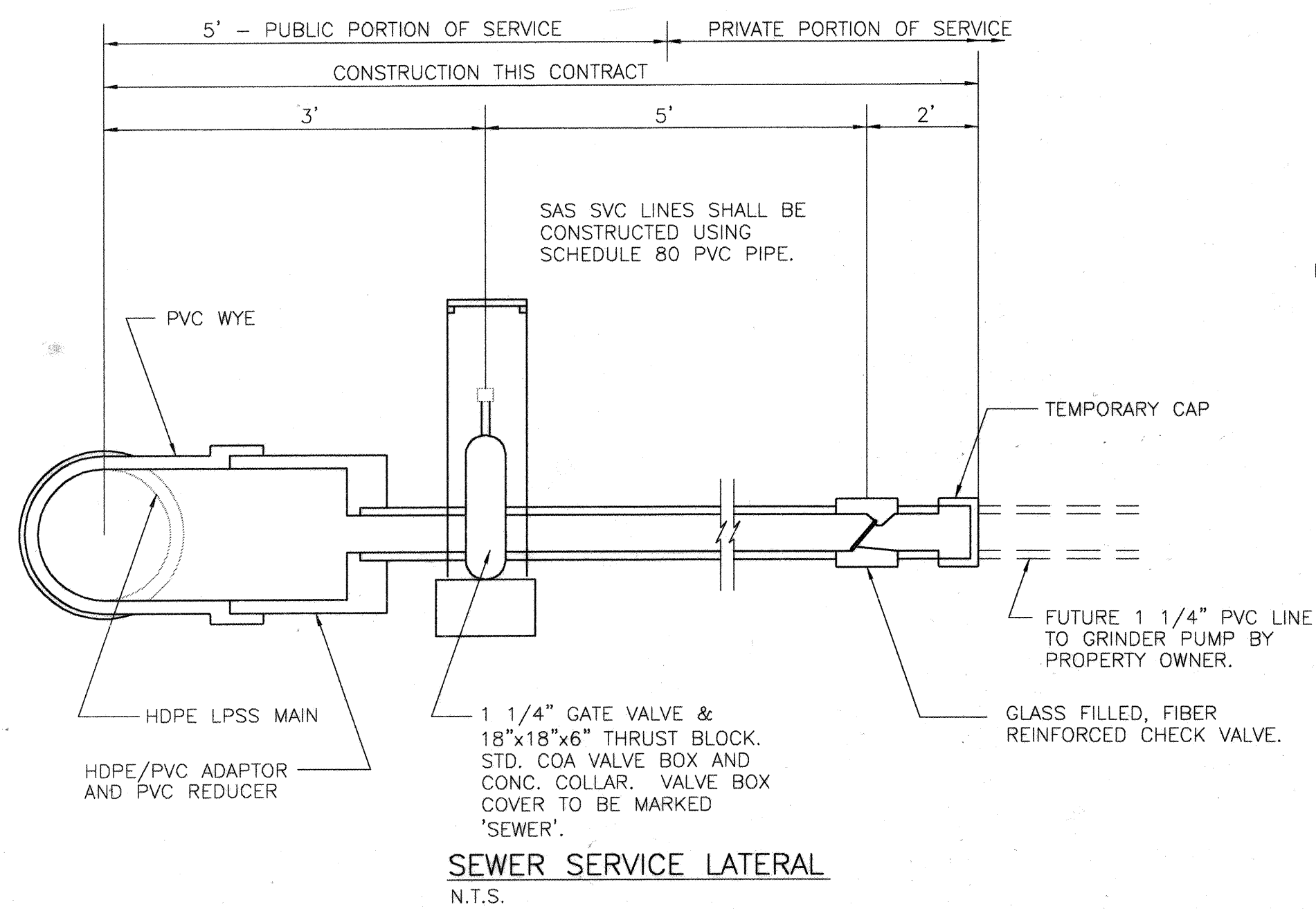
AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		DESIGN		MICRO-FILM INFORMATION	
CONTRACTOR	SAN STATE MECH.	ELEVATION	5058.889	DATE		NO.			REMARKS	BY	DATE	DESIGNED BY	DATE
STARTED BY	BASELINE FILED	DATE	18-E18	INSPECTOR		003-	1605B						DRAWN BY
SET IN TRAFFIC LIGHT PEDASTAL, SSW CORNER OF SAN PEDRO DR. AND SANTIAGO DR. (EASTBOUND) NE. ON THE SE CORNER OF THE PEDASTAL.												CHECKED BY	
												NO.	

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE SUPPLEMENTAL TECHNICAL SPECIFICATIONS SAN ANTONIO DRIVE			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	MO/DAY/YEAR	MO/DAY/YEAR
CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
735182	E-18	3	8



INSTALLATION LEGEND

- | | | |
|---------|---|-------------------------------------|
| SAS SVC |  | INSTALL 1 1/4" SAS SERVICE |
| FC |  | INSTALL FLUSHING CONNECTION |
| FH |  | INSTALL FIRE HYDRANT |
| DBL |  | INSTALL 1" DOUBLE WATER SERVICE |
| SGL |  | INSTALL 1" SINGLE WATER SERVICE |
| |  | INSTALL GATE VALVE (WATER OR SEWER) |
| |  | INSTALL VENT (WATER OR SEWER) |



4" STEEL VENT (PAINTED BLACK) - STEEL PIPE SHALL OVERLAP HDPE PIPE A MINIMUM OF 18". TACK WELD 1/4" GALV. MESH INSIDE VENT OPENING.

6'

4'

18" DIA. x 18" CONC. COLLAR

3" HDPE VENT IN EACH SEPARATE VENTS BY 10 FEET. DO NOT PLACE GRAVEL IN VENT TRENCH

END OF HDPE VENT PIPE.

3' +/-

TOP OF CURB

4' +/- SAN ANTONIO 4.5' +/- CROSS OVER

2"

3"

3/4" GRAVEL

CLEAN BACKFILL COMPACTED TO 90%

2"

6" +/- TYP.

3'

5"

12"

HDPE WATER LINE

PROBABLE HDPE WATER LINE

HDPE LPSS LINE

1'

NOTES:

1. APPROXIMATE DEPTH TO TOP OF LANDFILL MATERIAL IS 5'.
2. ALL TRENCHES SHALL BE APPROX. 2' WIDE AT THE TOP OF PIPE.
3. ALL TRENCHES SHALL BE EXCAVATED TO A DEPTH OF ONE FOOT BELOW BOTTOM OF PIPE. THE CONTRACTOR SHALL MAINTAIN THE FULL DEPTH TRENCH UNTIL THE ENGINEER HAS INSPECTED THE TRENCH BOTTOM AND RECORDED FINDINGS. THE MAXIMUM LENGTH OF OPEN TRENCH IN EXCESS OF THREE FEET IN DEPTH SHALL BE THREE HUNDRED FEET.
4. BACKFILL AND VENTING FOR ALL TRENCHES SHALL BE AS SHOWN ABOVE. GRAVEL BACKFILL AND FILTER CLOTH SHALL BE CONTINUOUS ALONG PIPE. VENT PIPES IN EACH TRENCH SHALL BE LOCATED APPROXIMATELY AS SHOWN.
5. HORIZONTAL PORTION OF VENT PIPE SHALL BE PERFORATED ($\frac{3}{8}$ " HOLES) WITHIN TRENCH PRISM AND SOLID WALLED BETWEEN TRENCHES. PERFORATIONS SHALL BE AT 90° LOCATIONS AND STAGGERED AT 4" SPACING ALONG PIPE.
6. $\frac{3}{4}$ " GRAVEL SHALL BE CLEAN, UNCRUSHED, RIVER RUN STONE (NON-LIMESTONE). FILTER CLOTH SHALL BE MIRAFI 140N OR APPROVED EQUAL AND SHALL CONTINUOUSLY BE PINNED TO TRENCH WALLS.

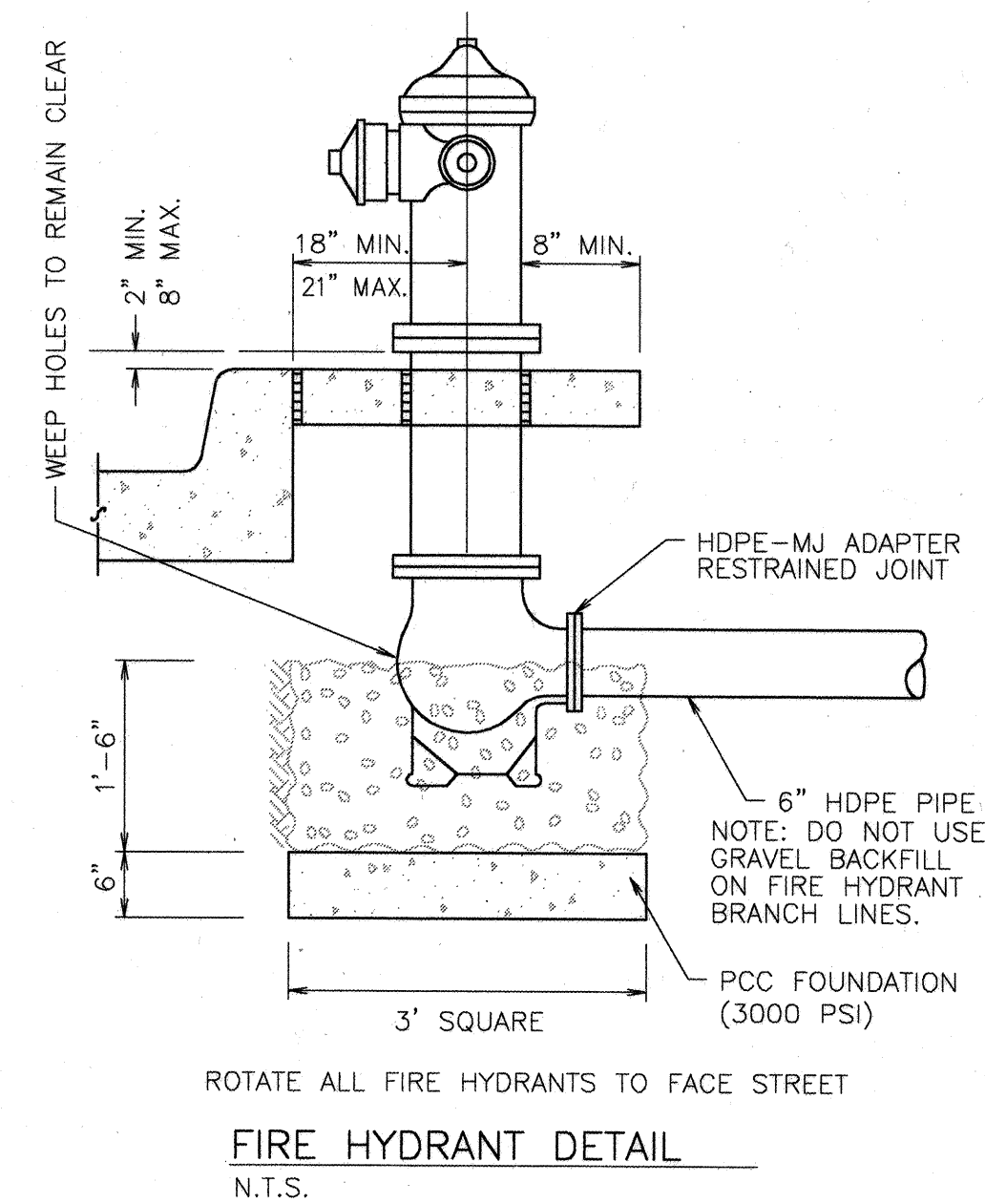
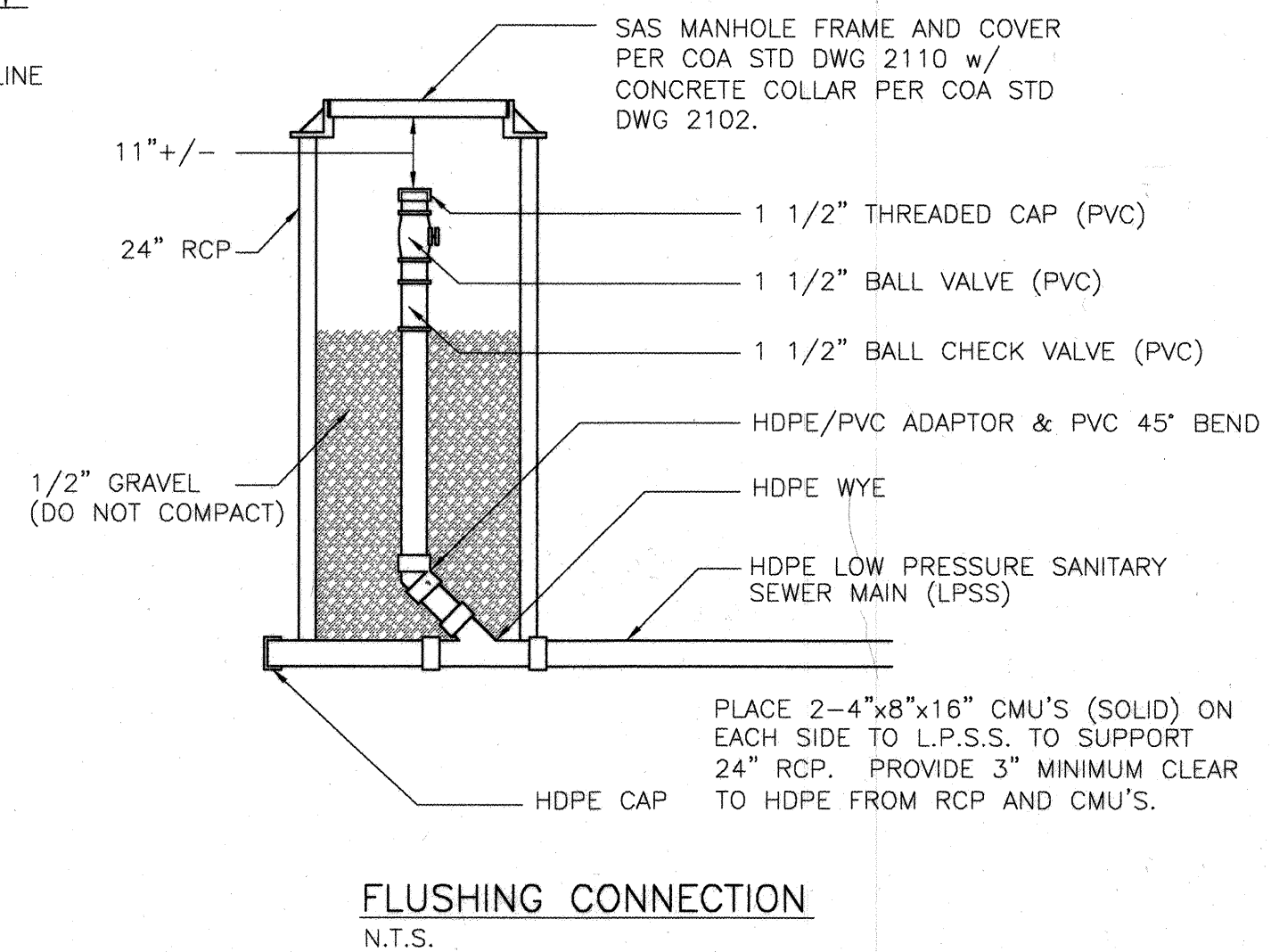
TYPICAL TRENCHES & VENTS IN LANDFILL
N.T.S.

NOTICE TO CONTRACTOR:

1. REFER TO SHEET 3 OF 8 FOR SUPPLEMENTAL TECHNICAL SPECIFICATIONS FOR LANDFILL TREATMENT AND HDPE PIPE PROPERTIES AND INSTALLATION.
2. THE WATER SYSTEMS DIVISION (857-8200) SHALL BE NOTIFIED BY THE CONTRACTOR SEVEN (7) DAYS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THE EXISTING PUBLIC WATER FACILITIES. REFER TO SECTION 18 OF THE STANDARD SPECIFICATIONS.
3. ELECTRONIC MARKER DISKS (EMD) WILL BE PLACED ACCORDING TO SECTION 170 OF THE STANDARD SPECIFICATIONS.



FOR LOCATIONS OF VENTS
AND VENT DETAIL, ONLY

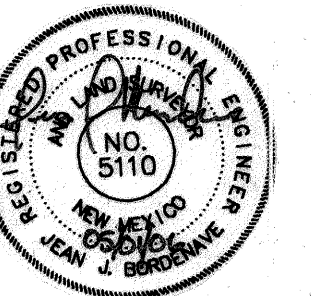


AS BUILT INFORMATION

[illegible]

SURVEY INFORMATION

ENGINEER'S SEAL











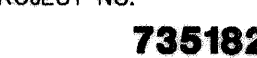
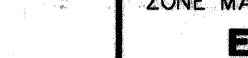


<i>REVISIONS</i>					
	NQ.	DATE	REMARKS	BY	

<i>DESIGN</i>			
DESIGNED BY _____	DATE _____		
DRAWN BY _____	DATE _____		
CHECKED BY _____	DATE _____		

**QUE
TMENT
UP**

TITLE **WATER AND SEWER PROJECT LAYOUT
SAN ANTONIO DRIVE**

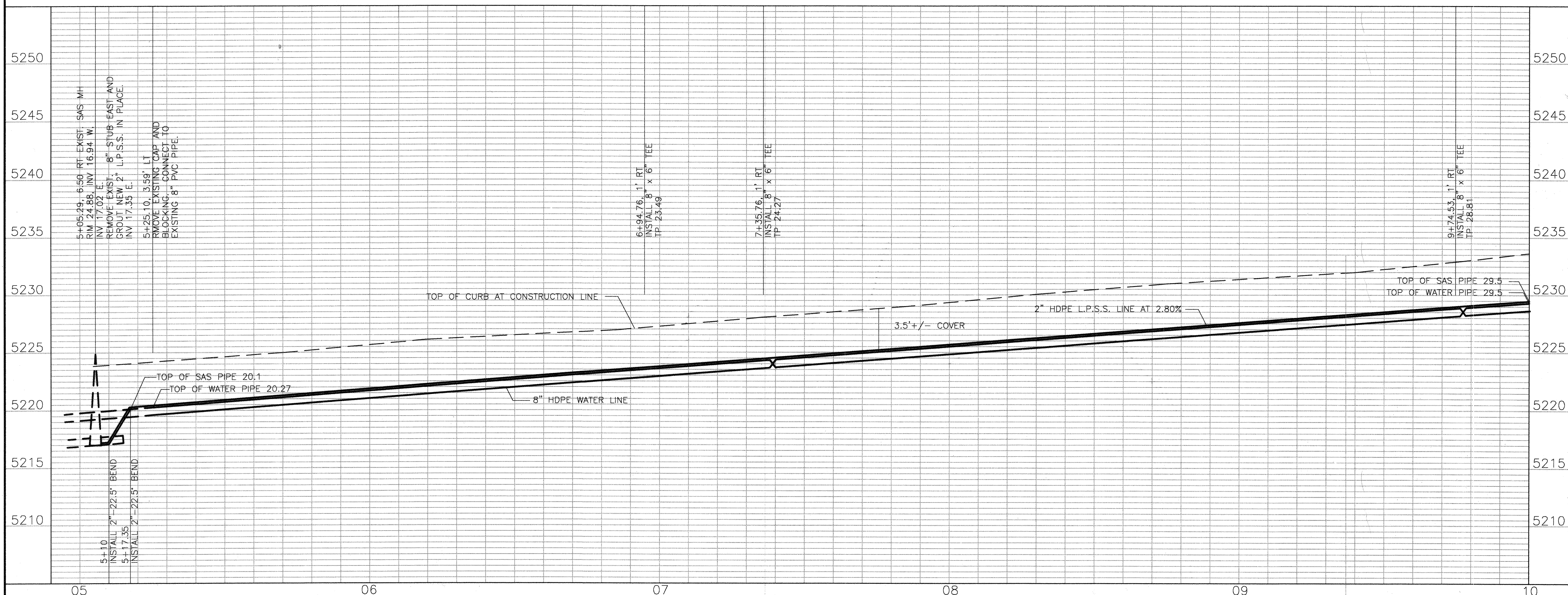
				MO/DAY/YEAR	MO/DAY/YEAR
					
					
					
					
					

4. ROTATE ALL FIRE HYDRANTS TO FACE STREET.

SAN ANTONIO DRIVE

CURVE NO.	DELTA	RADIUS	ARC	CHORD	
①	07 26'11"	1462.00'	189.76'	189.62'	CONSTR. LINE
②	00 27'10"	500.00'	56.31'	56.28'	WATER
③	00 27'10"	500.00'	57.44'	57.41'	SAS

SCALE: 1" = 20' HORIZONTAL
1" = 5' VERTICAL



STATION	LT	RT	INV. ELEV.
5+20.97	22.2	X	21.0
7+32.76	33.4	X	24.0
9+71.53	70.5	X	28.5

SERVICE STATION IS AT CONNECTION WITH THE SEWER MAIN. LT & RT REFERS TO LEFT AND RIGHT OF THE MAIN AND INV. ELEV. IS THE INVERT ELEVATION AT THE END OF THE SERVICE. EXTEND ALL SAS SERVICES TO THE UTILITY EASEMENT LINE.

STATION	LT	RT	SGL	DBL
5+32.7		X	X	
7+42.76	43.0	X	X	
9+81.53	85.4	X	X	

NOTE: WATER SERVICE STATION IS AT THE INTERSECTION OF THE SERVICE LINE AND THE MAIN.

STATION	WATER	SEWER
6+27		X
6+37	X	
7+37		X
7+47	X	
8+47		X
8+57	X	
9+75		X
9+85	X	

NOTE: VENT LOCATIONS MAY BE ADJUSTED
TO ACCOMMODATE FIELD CONDITIONS.

**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP**

TITLE **WATER AND SEWER PLAN AND PROFILE
SAN ANTONIO DRIVE**

[illegible]

CITY PROJECT NO. 735182	ZONE MAP NO. E-18	SHEET 5	OF 8
-----------------------------------	-----------------------------	-------------------	----------------

AS BUILT INFORMATION		MICRO-FILM INFORMATION	
CONTRACTOR <u>SUN STATE MECH.</u>	RECORDED BY _____	DATE <u>12/17/78</u>	DATE _____
WORK ORDER NO. <u>242</u>	NO. _____		
APPROVED BY _____			
ACCEPTANCE BY <u>J.M.E.</u>			
FIELD LOCATION BY <u>BASELINE</u>			
DATE <u>1/17/79</u>			
CORRECTED BY <u>J.M.E.</u>			
DATE <u>1/17/79</u>			

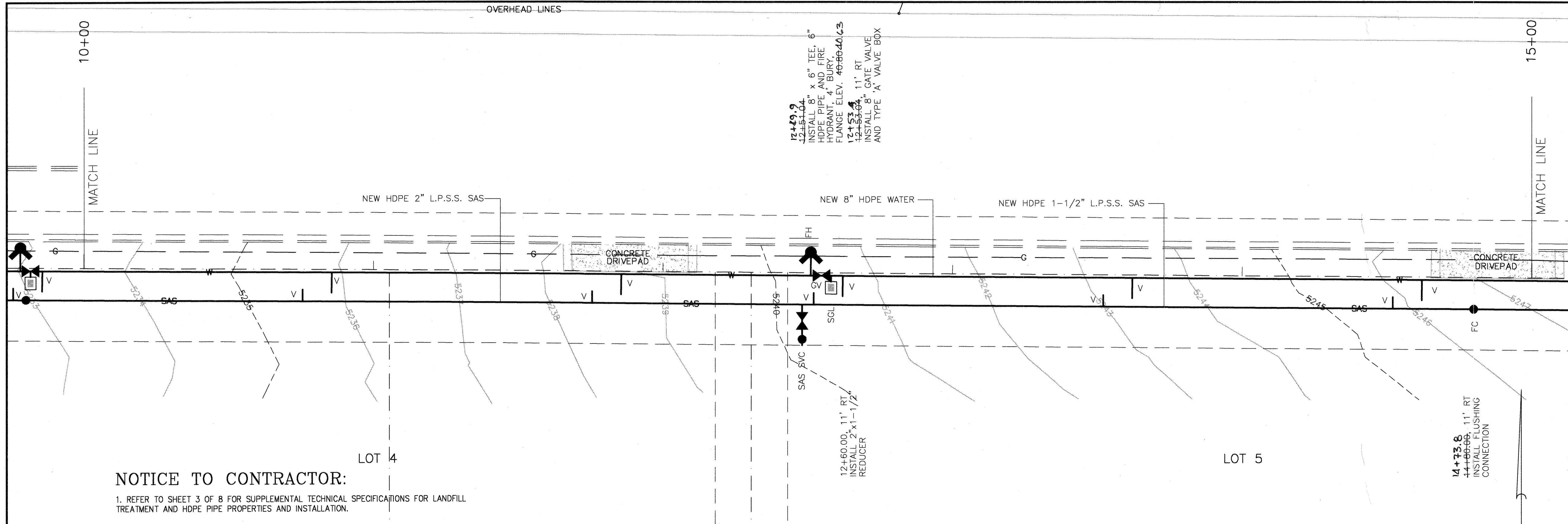
ACS 18-E18	ELEVATION 5058.889
BENCH MARKS	
ACS 1 3/4" ALUMINUM DISK, STAMPED "ACS BM. 18-E18"	
SET IN TRAFFIC LIGHT PEDASTAL, SSW CORNER OF SAN	
PEDRO DR. AND SANTONIO DR. (EASTBOUND) NE. ON THE	
SE CORNER OF THE PEDASTAL.	

SURVEY INFORMATION			
FIELD NOTES			
NO.	BY	DATE	
003—	BASLINE FIELD SERV.	5/05	
1605B			

Professional Engineer Seal for J. Borden B.A. No. 5110, State of New Mexico, Registered Professional Engineer.

[illegible]

A circular professional engineer seal for the State of New Mexico. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "NEW MEXICO" at the bottom. Inside the ring, the name "JEAN J. BORDENAVE" is written in a curved path. In the center, the number "NO. 5110" is displayed. A signature, "J. Bordenave", is written across the seal, overlapping the name and the central number.

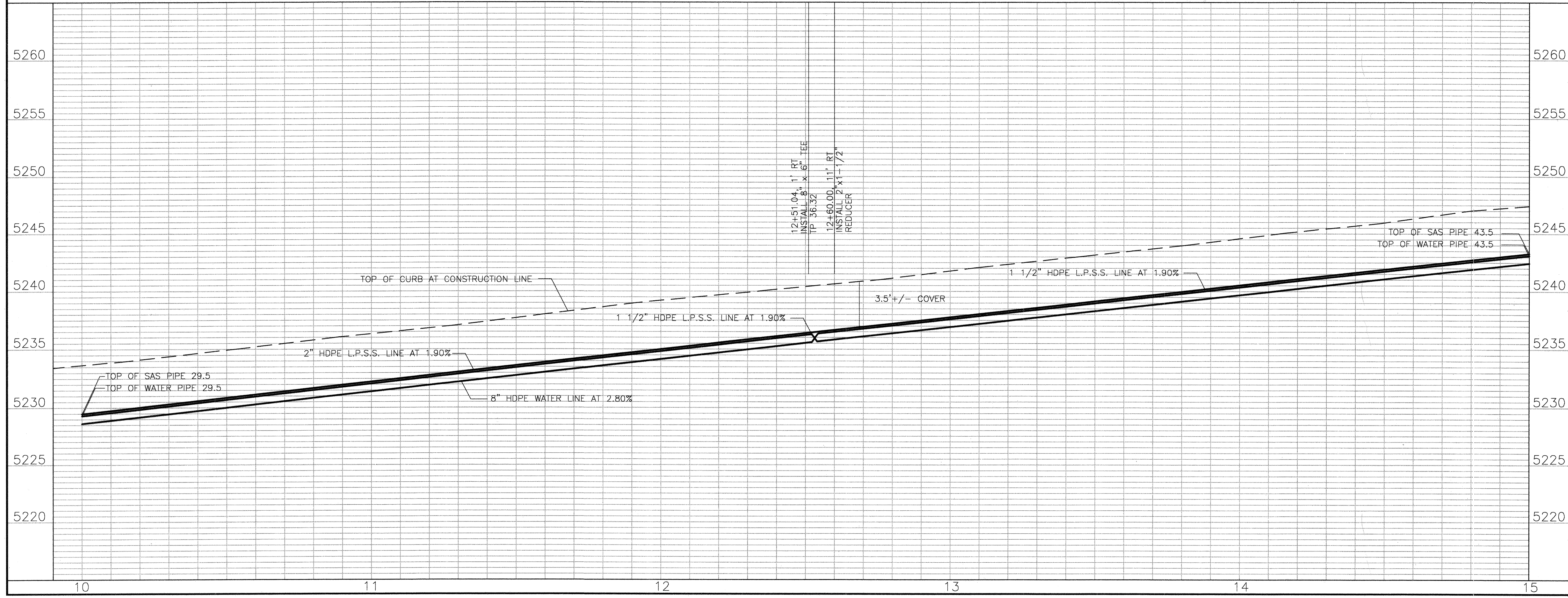


NOTICE TO CONTRACTOR:

1. REFER TO SHEET 3 OF 8 FOR SUPPLEMENTAL TECHNICAL SPECIFICATIONS FOR LANDFILL TREATMENT AND HDPE PIPE PROPERTIES AND INSTALLATION.
2. THE WATER SYSTEMS DIVISION (857-8200) SHALL BE NOTIFIED BY THE CONTRACTOR SEVEN (7) DAYS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THE EXISTING PUBLIC WATER FACILITIES. REFER TO SECTION 18 OF THE STANDARD SPECIFICATIONS.
3. ELECTRONIC MARKER DISKS (EMD) WILL BE PLACED ACCORDING TO SECTION 170 OF THE STANDARD SPECIFICATIONS.
4. ROTATE ALL FIRE HYDRANTS TO FACE STREET.

SAN ANTONIO DRIVE

SCALE: 1" = 20' HORIZONTAL
1" = 5' VERTICAL



NOTES:

1. SEE SHEET 2 FOR PLAT DIMENSIONS.
2. SEE SHEET 3 FOR UTILITY LAYOUT PLAN (OVERALL UTILITY PLAN).
3. STATIONING IS ALONG THE STREET ROW LINE. OFFSETS ARE MEASURED PERPENDICULAR TO THE STREET ROW LINE.
4. ALL UTILITY DIMENSIONS ARE MEASURED TO CENTER OF PIPE HORIZONTALLY AND EITHER TOP OF PIPE FOR PRESSURE FLOW LINES OR INVERT OF PIPE FOR GRAVITY FLOW LINES UNLESS OTHERWISE STATED.
5. STANDARD DRAWINGS

SANITARY SEWER
SEE SHEET 3 FOR SERVICE LINE AND FLUSHING CONNECTION DETAILS.

WATER
VALVE BOX -2326, 2328
FIRE HYDRANT -2340
TYPICAL -2347
AIR RELEASE -2347
SERVICE LINES
3/4"-1" METER -2361, 2362, 2366

PAVING
REM. & REPLACE -2465 ARTERIAL

SEWER SERVICE LINES

STATION	LT	RT	INV. ELEV.
12+48.04	43.1	X	36.0

NOTES:
SERVICE STATION IS AT CONNECTION WITH THE SEWER MAIN. LT & RT REFERS TO LEFT AND RIGHT OF THE MAIN AND INV. ELEV. IS THE INVERT ELEVATION AT THE END OF THE SERVICE. EXTEND ALL SAS SERVICES TO THE UTILITY EASEMENT LINE.

WATER SERVICE LINES

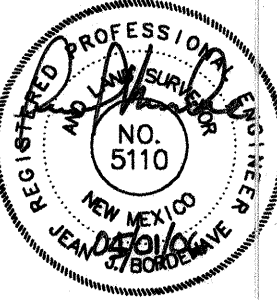
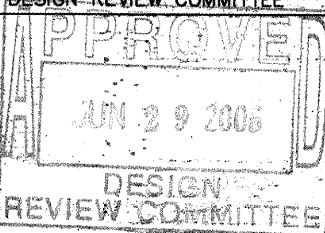
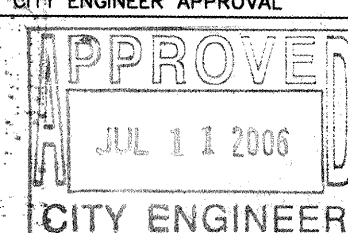
STATION	LT	RT	SGL	DBL
12+58.04	58.7	X		X

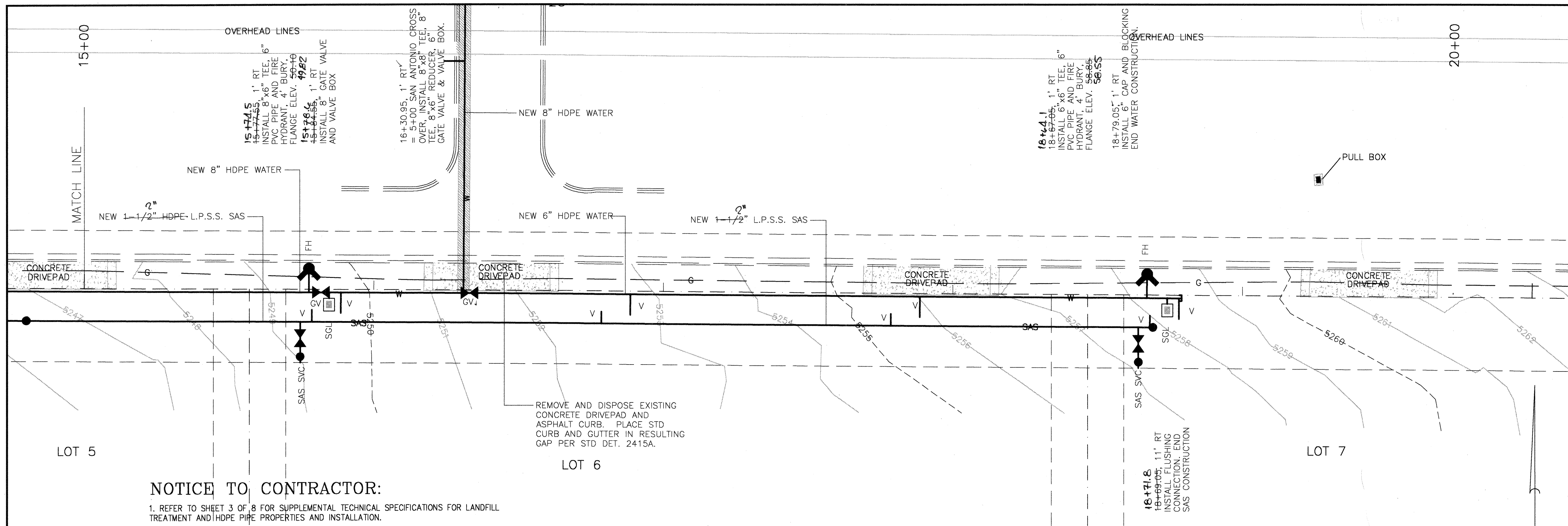
NOTE: WATER SERVICE STATION IS AT THE INTERSECTION OF THE SERVICE LINE AND THE MAIN.

VENTS

STATION	WATER	SEWER
10+75		X
10+85	X	
11+75		X
11+85	X	
12+52		X
12+62	X	
13+52		X
13+62	X	
14+52		X
14+62	X	

NOTE: VENT LOCATIONS MAY BE ADJUSTED TO ACCOMMODATE FIELD CONDITIONS.

AS BUILT INFORMATION CONTRACTOR: SAN SUE MECH STAKED BY: BASELINE FIELD DATE: 05/06 INSPECTOR'S REVIEW: DATE: 11/06 VERIFICATION BY: DATE: 11/06 CORRECTED BY: DATE: 11/06		BENCH MARKS ACS 18-E18 ELEVATION 5058.889 ACS 1 3/4" ALUMINUM DISK, STAMPED "ACS BM 18-E18" SET IN TRAFFIC LIGHT PEDASTAL, SSW CORNER OF SAN PEDRO DR. AND SAN ANTONIO DR. (EASTBOUND) NE, ON THE SE CORNER OF THE PEDASTAL.	
SURVEY INFORMATION FIELD NOTES BY: BASELINE FIELD SERV. 5/05 NO. 003-1605B		ENGINEER'S SEAL 	
REVISIONS NO. DATE 1 2		DESIGN DESIGNED BY: DATE: 07/11/2006 DRAWN BY: DATE: 07/11/2006 CHECKED BY: DATE: 07/11/2006	
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE: WATER AND SEWER PLAN AND PROFILE SAN ANTONIO DRIVE			
DESIGN REVIEW COMMITTEE 		CITY ENGINEER APPROVAL 	
CITY PROJECT NO. 735182		SHEET 6 OF 7	

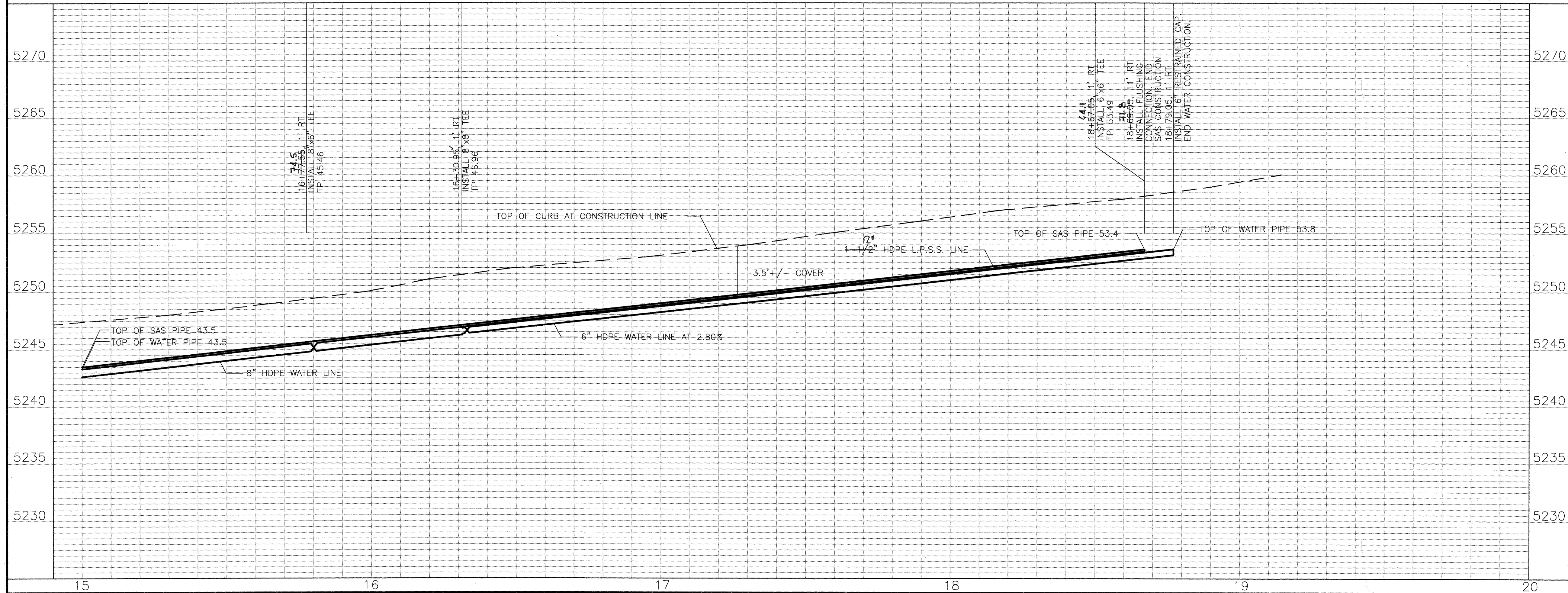


NOTICE TO CONTRACTOR:

1. REFER TO SHEET 3 OF 8 FOR SUPPLEMENTAL TECHNICAL SPECIFICATIONS FOR LANDFILL TREATMENT AND HDPE PIPE PROPERTIES AND INSTALLATION.
2. THE WATER SYSTEMS DIVISION (857-8200) SHALL BE NOTIFIED BY THE CONTRACTOR SEVEN (7) DAYS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THE EXISTING PUBLIC WATER FACILITIES. REFER TO SECTION 18 OF THE STANDARD SPECIFICATIONS.
3. ELECTRONIC MARKER DISKS (EMD) WILL BE PLACED ACCORDING TO SECTION 170 OF THE STANDARD SPECIFICATIONS.
4. ROTATE ALL FIRE HYDRANTS TO FACE STREET.

SAN ANTONIO DRIVE

SCALE: 1" = 20' HORIZONTAL
1" = 5' VERTICAL



NOTES:

1. SEE SHEET 2 FOR PLAT DIMENSIONS.
2. SEE SHEET 3 FOR UTILITY LAYOUT PLAN (OVERALL UTILITY PLAN).
3. STATIONING IS ALONG THE STREET ROW LINE. OFFSETS ARE MEASURED PERPENDICULAR TO THE STREET ROW LINE.
4. ALL UTILITY DIMENSIONS ARE MEASURED TO CENTER OF PIPE HORIZONTALLY AND EITHER TOP OF PIPE FOR PRESSURE FLOW LINES OR INVERT OF PIPE FOR GRAVITY FLOW LINES UNLESS OTHERWISE STATED.
5. STANDARD DRAWINGS

SANITARY SEWER
SEE SHEET 3 FOR SERVICE LINE AND
FLUSHING CONNECTION DETAILS.

WATER
VALVE BOX -2326, 2328
FIRE HYDRANT -2340
TYPICAL -2347
AIR RELEASE -2347
SERVICE LINES
3/4"-1" METER -2361, 2362, 2366

PAVING
REM. & REPLACE -2465 ARTERIAL

SEWER SERVICE LINES

STATION	LT	RT	INV. ELEV.
15+74.55	75.1	X	45.0
18+64.05		X	53.0

NOTES:
SERVICE STATION IS AT CONNECTION
WITH THE SEWER MAIN. LT & RT
REFERS TO LEFT AND RIGHT OF THE
MAIN AND INV. ELEV. IS THE INVERT
ELEVATION AT THE END OF THE
SERVICE. EXTEND ALL SAS SERVICES
TO THE UTILITY EASEMENT LINE.

WATER SERVICE LINES

STATION	LT	RT	SGL	DBL
15+84.55		X	X	
18+74.05	75.3	X	X	

NOTE: WATER SERVICE STATION IS AT
THE INTERSECTION OF THE SERVICE
LINE AND THE MAIN.

VENTS

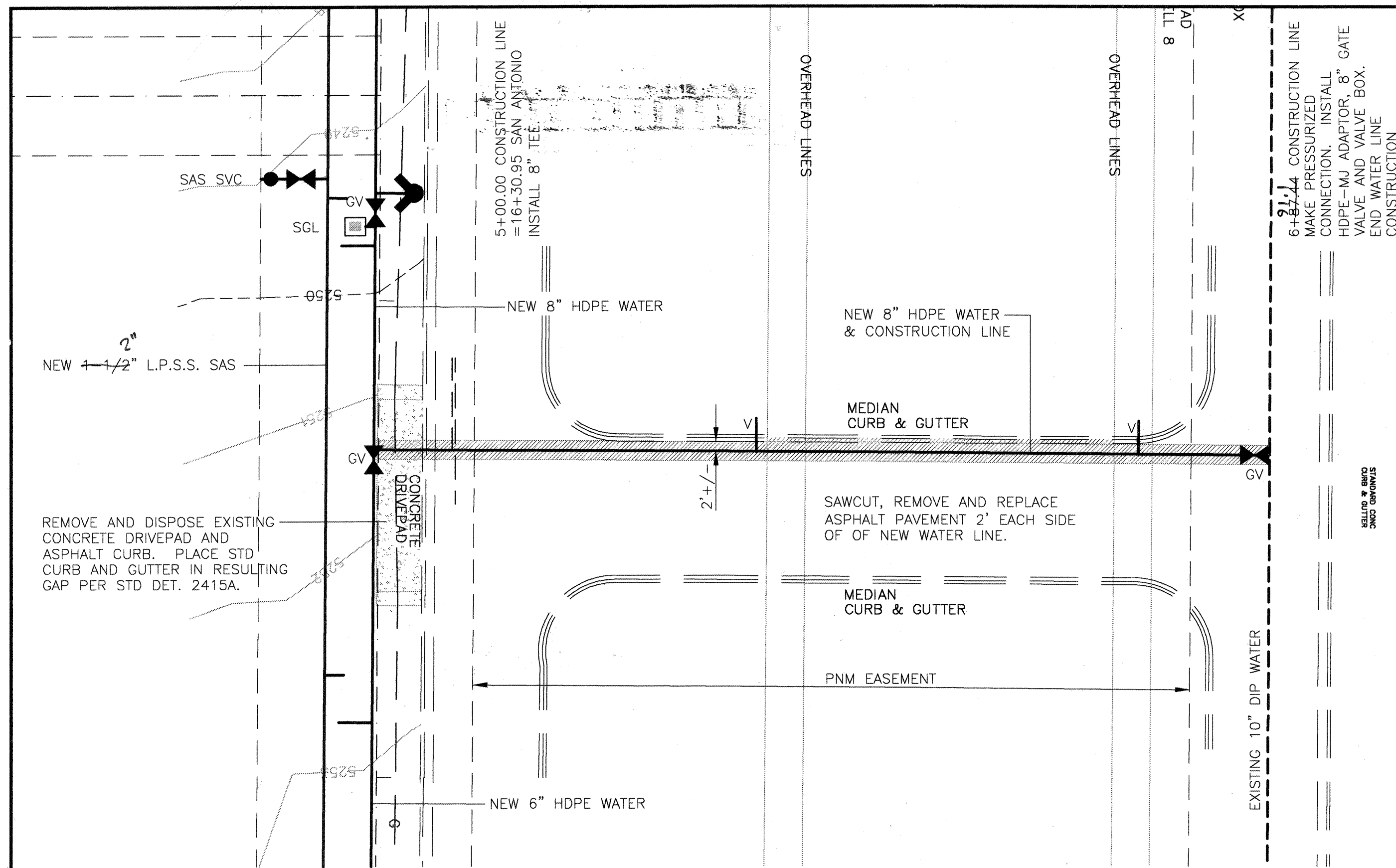
STATION	WATER	SEWER
15+78		X
15+88	X	
16+78		X
16+88	X	
17+78		X
17+88	X	
18+76		X
18+86	X	

NOTE: VENT LOCATIONS MAY BE ADJUSTED
TO ACCOMMODATE FIELD CONDITIONS.

AS BUILT INFORMATION			
CONTRACTOR	SAN ANTONIO DRIVE	DATE	07/04
INSPECTOR	BY: [Signature]	DATE	07/04
FIELD	BY: [Signature]	DATE	07/04
REVISION	BY: [Signature]	DATE	07/04
CORRECTED BY	BY: [Signature]	DATE	07/04
MICRO-FILM INFORMATION			
RECORDED BY		DATE	
NO.			
BENCH MARKS			
ACS 18-E18	ELEVATION	5058.889	
ACS 1 3/4" ALUMINUM DISK, STAMPED "ACS BM 18-E18"			
SET IN TRAFFIC LIGHT PEDASTAL, SSW CORNER OF SAN			
PEDRO DR. AND SANTIAGO DR. (EASTBOUND) NE. ON THE			
SE CORNER OF THE PEDASTAL			
SURVEY INFORMATION			
FIELD NOTES	DATE	5/05	
BY	BASELINE FIELD SERV.		
NO.	003-1		
1605B			
ENGINEER'S SEAL			
[Professional Engineer Seal]			
REVISIONS			
NO.	DATE	BY	REMARKS
DESIGN			
DESIGNED BY	DATE	CHECKED BY	DATE

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE WATER AND SEWER PLAN AND PROFILE SAN ANTONIO DRIVE			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	NO/DAY/YEAR	NO/DAY/YEAR
APPROVED JUN 29 2006 DESIGN REVIEW COMMITTEE	APPROVED JUL 11 2006 CITY ENGINEER		
CITY PROJECT NO. 735182	ZONE MAP NO. E-18	SHEET 7	OF 8

SCANNED BY
PLANNING



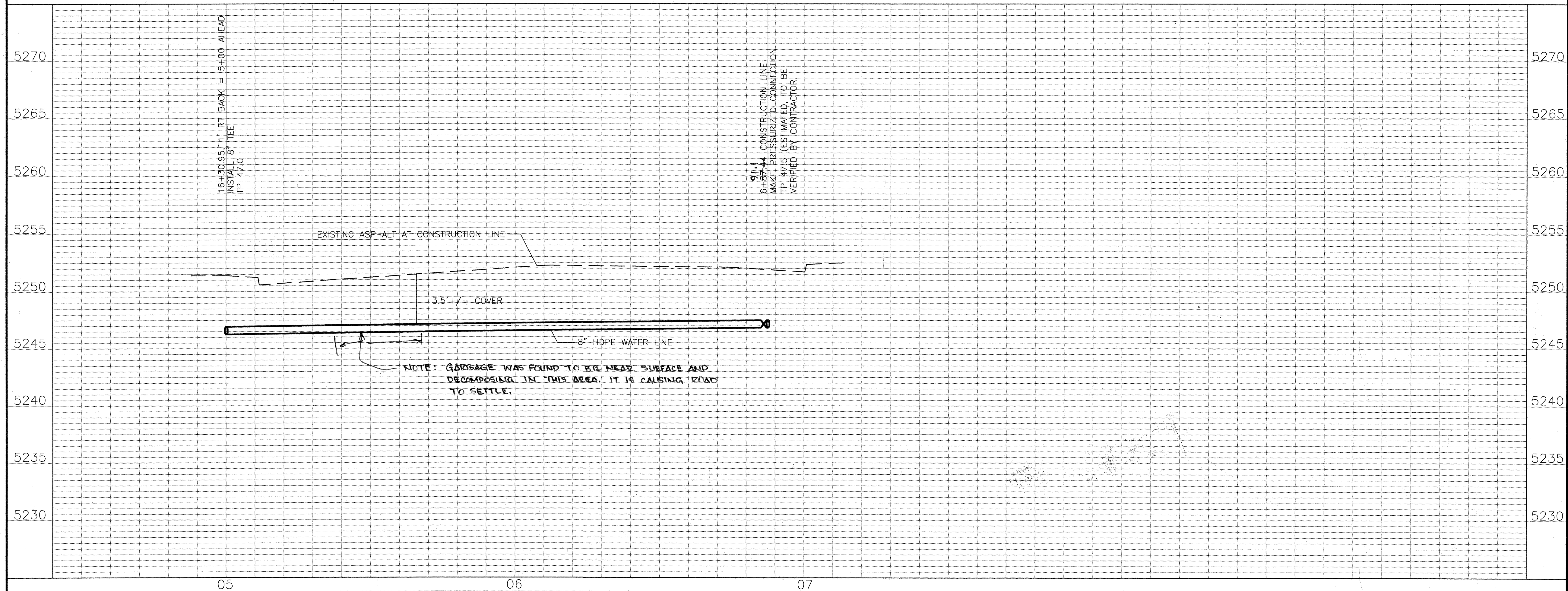
SAN ANTONIO CROSS OVER

NOTICE TO CONTRACTOR:

1. REFER TO SHEET 3 OF 8 FOR SUPPLEMENTAL TECHNICAL SPECIFICATIONS FOR LANDFILL TREATMENT AND HDPE PIPE PROPERTIES AND INSTALLATION.
2. THE WATER SYSTEMS DIVISION (857-8200) SHALL BE NOTIFIED BY THE CONTRACTOR SEVEN (7) DAYS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THE EXISTING PUBLIC WATER FACILITIES. REFER TO SECTION 18 OF THE STANDARD SPECIFICATIONS.
3. ELECTRONIC MARKER DISKS (EMD) WILL BE PLACED ACCORDING TO SECTION 170 OF THE STANDARD SPECIFICATIONS.

N

SCALE: 1" = 20' HORIZONTAL
1" = 5' VERTICAL



NOTES:

1. SEE SHEET 2 FOR PLAT DIMENSIONS.
2. SEE SHEET 3 FOR UTILITY LAYOUT PLAN (OVERALL UTILITY PLAN).
3. STATIONING IS ALONG THE CENTERLINE OF PIPE. OFFSETS ARE MEASURED PERPENDICULAR TO THE CENTERLINE OF PIPE.
4. ALL UTILITY DIMENSIONS ARE MEASURED TO CENTER OF PIPE HORIZONTALLY AND EITHER TOP OF PIPE FOR PRESSURE FLOW LINES OR INVERT OF PIPE FOR GRAVITY FLOW LINES UNLESS OTHERWISE STATED.
5. STANDARD DRAWINGS
WATER VALVE BOX -2326, 2328
PAVING REM. & REPLACE -2465 ARTERIAL

VENTS

STATION	WATER	SEWER
5+80	X	
6+60	X	

NOTE: VENT LOCATIONS MAY BE ADJUSTED
TO ACCOMMODATE FIELD CONDITIONS.
SET VERTICAL PORTION OF VENT 4'
BEHIND FACE OF CURB.

AS BUILT INFORMATION

AS BUILT INFORMATION	
CONTRACTOR	SUN STATE MACH
WORK	
STAKED BY	BASELINE FIELD
INSPECTOR'S	SECRET'S
DATE OF	DATE 02/06
FIELD	DATE 12/06/06
VERIFICATION BY	BASELINE
DRAWINGS	DATE 1/06
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

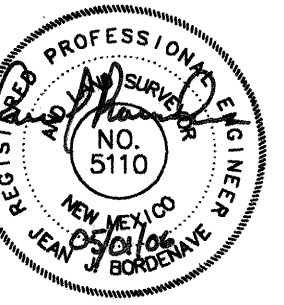
BENCH MARKS

BENCH MARKS	
ACS 18-E18	ELEVATION 5058.889
ACS 1 3/4" ALUMINUM DISK, STAMPED "ACS BM. 18-E18"	
SET IN TRAFFIC LIGHT PEDASTAL, SSW CORNER OF SAN PEDRO DR. AND SANTIAGO DR. (EASTBOUND), NE. ON THE SE CORNER OF THE PEDASTAL.	

SURVEY INFORMATION

[illegible]

ENGINEER'S SEAL

[illegible]

**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP**

TITLE **WATER AND SEWER PLAN AND PROFILE
SAN ANTONIO DRIVE CROSS OVER**

DESIGN REVIEW COMMITTEE	CITY ENGINEER-APPROVAL	MO/DAY/YEAR	MO/DAY/YEAR
APPROVED JUL 1 1 2006	APPROVED JUL 1 1 2006		
DESIGN REVIEW COMMITTEE	CITY ENGINEER		

CITY PROJECT NO. 735182	ZONE MAP NO. E-18	SHEET 8	OF 8
-----------------------------------	-----------------------------	-------------------	----------------