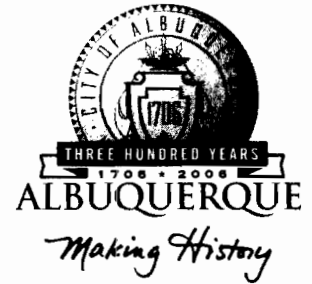


CITY OF ALBUQUERQUE



June 9, 2005

Lee H. Odell, P.E.
Odell Engineering, Inc.
4700 Irving NW – Suite 201
Albuquerque, NM 87114

**Re: Well No. 3 Arsenic Removal Treatment Plant, 5800 Westside Blvd. NW
Drainage and Grading Plan - Engineer's Stamp dated 4-8-05 (A10-D8)**

Dear Mr. Odell,

Based upon the information provided in your submittal dated 5-23-05, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology and prior to release of the Certificate of Occupancy an Engineer's Certification of the grading plan per the DPM checklist will be required.

P.O. Box 1293

If you have any questions, you can contact me at 924-3990.

Albuquerque

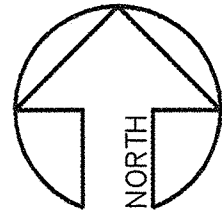
Sincerely,

New Mexico 87103

Phillip J. Lovato, E.I., C.F.M.
Associate Engineer, Planning Department
Development and Building Services

www.cabq.gov

Cc: file



GRADING AND DRAINAGE PLAN

THE WELL SITE IS LOCATED ON A 5 ACRE LOT WITH ONLY 0.4 ACRES BEING AFFECTED. IT HAS AN OFFSITE BASIN OF 0.23 ACRES. THE SITE IS NOT SUSCEPTIBLE TO FLOODING. ALL DRAINAGE CALCULATIONS ARE DONE IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, CHAPTER 22.2. THE DESIGN STORM IS THE 100-YEAR 6-HOUR STORM IN ZONE 1 (DPM CHAPTER 22, FIGURE A-1)

EXISTING CONDITIONS

UNDER EXISTING CONDITIONS THE PROJECT SITE IS MOSTLY UNDEVELOPED AND SURROUNDED BY UNDEVELOPED LAND. SINCE FUTURE OFFSITE FLOWS COMING ONTO THE SITE WOULD BE RESTRICTED TO PREDEVELOPMENT LEVELS, ONLY THE EXISTING OFFSITE BASIN IS USED.

DEVELOPED CONDITIONS

FOR THE CONDITIONS PROPOSED IN THIS PLAN SET THERE WILL BE NO FLOW OFFSITE FROM THE 0.23 ACRES WILL BE DIRECTED TO THE ONSITE RETENTION POND. INSTEAD ALL FLOW, INCLUDING FROM THE OFFSITE BASIN, THE RETENTION POND IS MORE THAN ADEQUATE (36,000 FT³) FOR TWICE THE 100-YR 6-HR STORM AS IT IS SIZED TO TO HANDLE A TWO HOUR WASH CYCLE FOR THE WELL. THE WASH CYCLE WILL ONLY HAPPEN IN THE CASE OF AN EMERGENCY. THE POND HAS AN OUTFLOW WEIR WITH A FLOWRATE CAPACITY THAT EXCEEDS THE COMBINED PEAK FLOWS OF THE ONSITE AND OFFSITE BASINS. IF THE WATER LEVEL EVER REACHED THE WEIR THE FLOW WOULD GO INTO THE HISTORICAL DRAINAGE WAY OF THE BASIN. TWO COBBLE LINED SWALES ARE USED TO TRANSPORT THE FLOWS TO THE RETENTION POND AND PREVENT EROSION ON THE SITE. THESE SWALES ARE DESIGNED TO HAVE MINIMUM CAPACITY OF 5 CFS EACH. CALCULATIONS FOR FLOWRATES, VOLUMES, AND CAPACITIES ARE SHOWN ON THIS SHEET.

WESTSIDE BOULEVARD

N 89°-55'-30"E 133.43'

S 69°-32'-52"E 167.11'

C3 - 107

FAA BUILDING

C3 - 103

EXISTING 12" TRANSMISSION LINE (FIELD VERIFY LOCATION)

C3 - 101

WELL NO. 3

C3 - 115

EXISTING GAS METER

C3 - 108

C3 - 116

C3 - 106

C3 - 110

C3 - 114

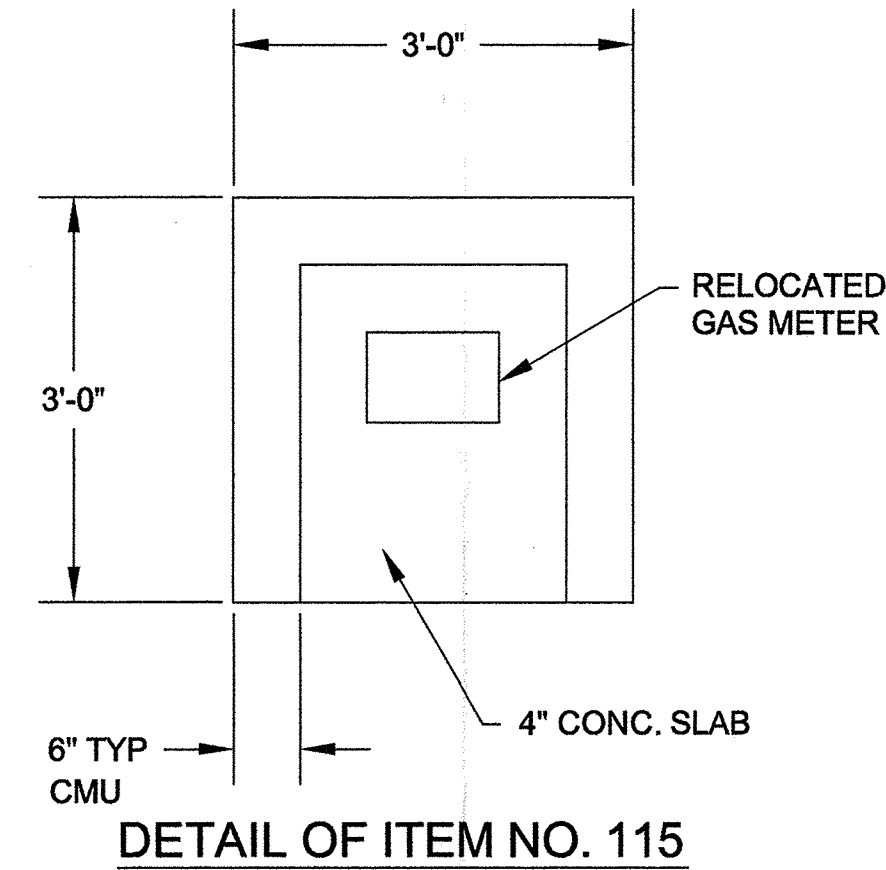
C3 - 111

C3 - 113

C3 - 105

C3 - 102

C3 - 104



DETAIL OF ITEM NO. 115

RESTRAINED JOINT TABLE	
FITTING	LENGTH TO BE RESTRAINED (20')
90° BEND	57 FT.
VALVE	105 FT.
TEE	80 FT.

NOTE:

- ALL MECHANICAL JOINTS SHALL BE RESTRAINED AT THE FITTING
- THE CONTRACTOR SHALL PROVIDE A MIN. PIPE LENGTH OF 20 LF FROM ALL MECHANICAL JOINTS, UNLESS SPECIFIED DIFFERENTLY IN THE PLANS. ALL PIPE JOINTS WITHIN 20 LF OF A MECHANICAL JOINT SHALL BE RESTRAINED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL RESTRAIN ALL PIPE JOINTS IN THE SPECIFIED DISTANCE LISTED IN THE ABOVE TABLE.

POND VOLUME USING AVERAGE END METHOD			
ELEVATION	AREA (SQ. FT.)	VOLUME (CFT)	CUMULATIVE VOLUME (CU. FT)
5546	11172	22344	22344
5544	8556	17112	39456
5542	5504	11008	50464
5540	4676	9352	59816
5538	1620	3240	63056

HYDROLOGY PER CHAPTER 22.2 OF THE DEVELOPMENT PROCESS MANUAL									
DEPTH OF PRECIPITATION FOR 6-HR AND 24-HR 100 YEAR STORM									
P360 (INCHES) = 2.2 P1440 (INCHES) = 2.68									
FLOWRATES AND EXCESS PRECIPITATION FOR ZONE 1 (TABLES A-9, A-8)									
LAND TREATMENT	CFS/ACRE	E- EXCESS PRECIPITATION (6HR)							
A	1.29	0.44							
B	2.03	0.67							
C	2.87	0.99							
D	4.37	1.97							
AREAS OF LAND TREATMENTS (FT)									
BASIN	TOTAL AREA (FT)	A	B	C	D	FLOWRATE (CFS)*	6-HR VOLUME (CU. FT.)**	VOLUME (CU. FT.)***	
ON SITE	41,081.74	24,628.52	—	3,366.00	16,453.22	2.07	3,882	4,513	10 DAY 5898 FT?
OFF SITE	2,373.90	2,373.90	—	—	—	0.07	87	87	

* - FLOW RATE = CFS/ACRE*AREA

** - 6 HR VOLUME = WEIGHTED E* (Aa + Ab + Ac + Ad)

*** - 24 HR VOLUME = WEIGHTED E* (Aa + Ab + Ac + Ad) + Ad (p1440-P360)/12hr

$$10 \text{ DAY VOLUME} = V_{6 \text{ HR}} + Ad (P_{10 \text{ DAY}} - P_{360}) / 12$$

ITEM NO. DESCRIPTION

C3 - 101	EXISTING PUMP HOUSE
C3 - 102	EXISTING STEEL WATER TANK (134' DIA.)
C3 - 103	EXISTING 300 KVA TRANSFORMER
C3 - 104	EXISTING CELL BUILDING
C3 - 105	EXISTING RETENTION POND
C3 - 106	EXISTING 50 KVA TRANSFORMER
C3 - 107	EXISTING CHAIN LINK FENCE
C3 - 108	NEW BUILDING ADDITION (30'-8" x 44')
C3 - 109	NOT USED
C3 - 110	12" 90° D.I. ELBOW
C3 - 111	18" x 12" D.I. TEE
C3 - 112	NOT USED
C3 - 113	12" GATE VALVE
C3 - 114	12" D.I. TEE
C3 - 115	36" HIGH CMU ENCLOSURE WITH 4" CONC. PAD FOR RELOCATED GAS METER. STRUCTURE TO MATCH EXISTING BUILDING.
C3 - 116	EXISTING 4' BERM

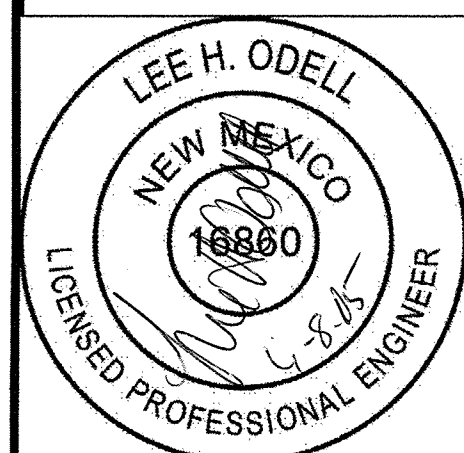
LEGEND

NEW

EXISTING

NOTE:
FINISHED FLOOR ELEVATION OF BUILDING ADDITION WILL MATCH ELEVATION OF EXISTING BUILDING FLOOR.

GRADING AND DRAINAGE PLAN



500 W 8th St., Suite 205 Vancouver, Wa. 98660
Ph. (360) 699-6631 Fax (360) 699-6637

DESIGN BY: LHO

DRAWN BY: DT

CHECKED BY: LHO

APRD BY: LHO

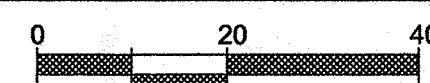
NO.

DATE

REVISION

BY

APVD



SCALE IN FEET
NOTE: CHECK SCALE
SCALEABLE IN 22x34 - 1" = 20'-0"
SCALEABLE IN 11x17 - 1" = 10'-0"

ARSENIC REMOVAL TREATMENT PLANT FOR WELLS NO. 3 & NO. 7

NEW MEXICO UTILITIES
ALBUQUERQUE, NEW MEXICO

PROPOSED SITE PLAN & DRAINAGE PLAN WELL NO. 3

SHEET NO.

DWG. NO. C3

DATE: 04.24.05

FILE: