

**Bingham, Brad L.**

---

L-08/D017

**From:** Bingham, Brad L.  
**Sent:** Friday, January 23, 2009 9:14 AM  
**To:** 'Richard Waters'  
**Cc:** Don R. Briggs  
**Subject:** RE: Casias Trucking Project Review

I have reviewed your submittal and approve your proposal to drain to the Central frontage road.

---

**From:** Richard Waters [mailto:rw@rtiabq.com]  
**Sent:** Monday, January 05, 2009 12:38 PM  
**To:** Bingham, Brad L.  
**Subject:** Casias Trucking Project Review

Brad,

Don Briggs keeps contacting me about the city's review of this project. Your letter of approval is all that remains to get it through the county for our client.

Please let me know.

Thanks,

Richard Waters  
RTI  
243-7300

**Bingham, Brad L.**

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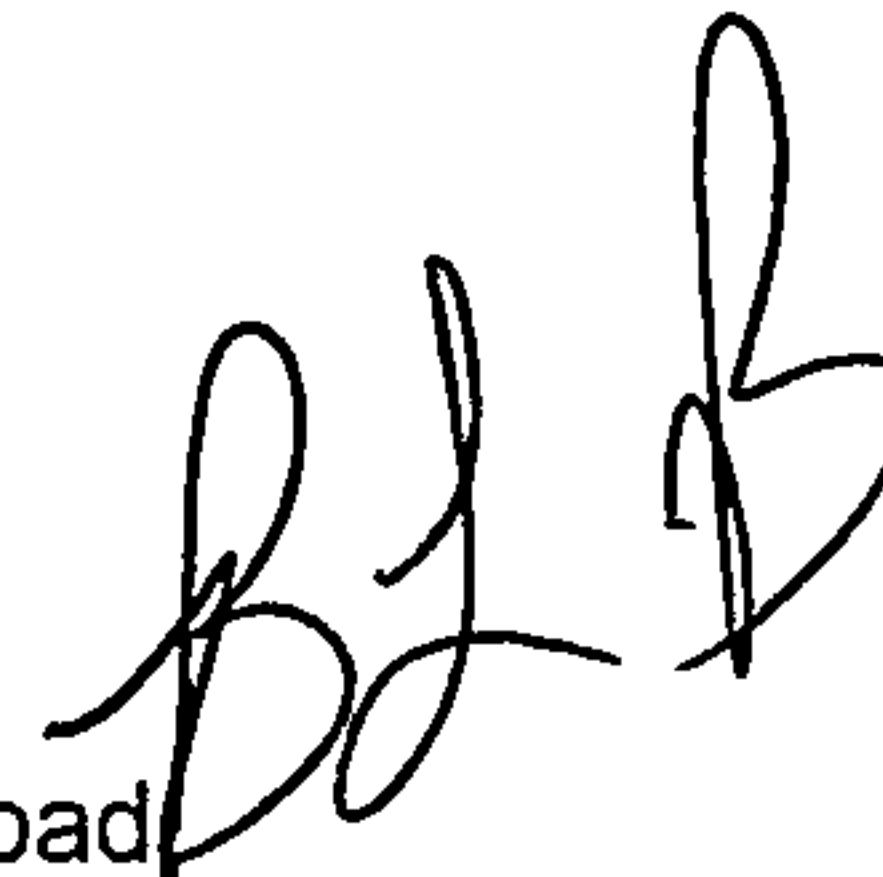
**From:** Don R. Briggs [drbriggs@bernco.gov]  
**Sent:** Friday, January 23, 2009 10:28 AM  
**To:** Bingham, Brad L.; Richard Waters  
**Subject:** RE: Casias Trucking Project Review

Thank you

Best Regards  
Don

---

**From:** Bingham, Brad L. [mailto:BBingham@cabq.gov]  
**Sent:** Friday, January 23, 2009 9:14 AM  
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**Cc:** Don R. Briggs  
**Subject:** RE: Casias Trucking Project Review



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Thanks,

Richard Waters  
RTI  
943-7300

2/20/2009

L-08/D017



5501 Jefferson Blvd. NE, Ste. 200 Albuquerque, NM 87109  
Telephone: (505) 243-7300  
Fax: (505) 243-7400

### TRANSMITTAL

TO: Brad Bingham PE, CFM FROM: Richard Waters  
COA Hydrologist EMAIL: rw@rtiabq.com  
DATE: 03 Nov, 2008  
RE: BCPW Project 80056 RTI PROJECT NO.: 08-001C Casias

#### WE TRANSMIT THE FOLLOWING:

☐ SHOP DRAWINGS ☐ SPECIFICATIONS ☐ CHANGE ORDER  
☐ PRINTS ☐ COPY OF LETTER ☐ UNDER SEPARATE COVER VIA \_\_\_\_\_  
☐ ELECTRONIC MEDIA ☒ DOCUMENTS ☐ \_\_\_\_\_

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PLEASE NOTIFY US AT ONCE IF MATERIAL RECEIVED IS NOT AS LISTED

COPIES	DATE OF MATERIAL	ITEM DESCRIPTION/REMARKS
1		Copy of e-mail from Don Briggs PE
1		Copy of Casias Trucking Gnd Plan
1		Copy of BCPW Comments
1		Copy of RTI Response Letter
1		Photos of Site Area Drainage
1		Excerpt from Tierra Bayita Drainage

**RECEIVED**

~~NOV 03 2008~~

# 2/17/9

HYDROLOGY

SECTION

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Gary Westerfield

jessica campbell

julia mulder

michael smith

Reuben Ortiz

Aaron Barton

elvidio diniz

Gary Gritsko

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PWDN 80056 Casias Trucking

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Don R. Briggs to me

show details 11:07 AM (22 minutes ago) Reply |

Hi Richard

I have just finished reviewing your re-submittal for PWDN 80056, G & D for the Casias Trucking project. With the exception of comment #4 everything is OK. For comment #4 we need some type of confirmation that the City is aware of this project and that they will accept the change in discharge rate to their facilities.

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About these links

Sincerely,

Don Briggs, PE, CFM  
Grading & Drainage Engineer  
Bernalillo County Public Works Division  
2400 Broadway SE, Albuquerque, NM 87102  
Ph: (505) 848-1511; Fax: (505) 848-1510

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# County of Bernalillo

## Case Comments Report

Permit: PWDN 80056

**Department:** PDEV

**Activity:** (PWDRAN) PW GRADING & DRAINAGE PLAN REVIEW

**Action:** (PWDRAN) REVIEW GRADING & DRAINAGE COMMENTS

1. Note Date: 07-JUL-2008

Description: PUBLIC WORKS COMMENTS

Comments: 1. The grading and drainage plan requires a vicinity map indicating the location of the site relative to well-known streets or landmarks. Typical vicinity maps are made from county zone atlas pages.

2. Please include on the plan the current Flood Insurance Rate Map (FIRM) for the area and identify the site location on the map section with respect to any nearby floodplains. The most current FIRM may be obtained from <http://msc.fema.gov> or from BCPWD.

3. Please include certification on the plan by the Engineer that the site has been personally inspected and no grading, filling, or excavation has occurred since the preparation of the topography shown on the plan.

4. Provide documentation from The City of Albuquerque that free discharge to Central Ave. will be allowed ~~as described in the 2003 drainage report.~~

5. This site development disturbs more than 1 acre of land. Effective March 10, 2003, owners and contractors must comply with the National Pollution Discharge Elimination System (NPDES) requirements for developments that disturb more than 1 acre in Bernalillo County. A copy of the Storm Water Pollution Prevention Plan (SWPPP) including a copy of the NOI submitted to EPA, must be submitted to Bernalillo County for acceptance prior to the issuance of a grading or paving permit.

As of July 1, 2003 the EPA has issued to New Mexico a general construction permit # NMR150000 for construction that must meet NPDES guidelines. These forms can be downloaded from the internet at <http://cfpub.epa.gov/npdes/stormwater/cgp.cfm>.

A Soil Erosion Control plan will show interim "Minimum Control Measures" employed to protect storm water, and other water runoff quality during construction using approved "Best Management Practices" (BMPs). The Soil Erosion Control Plan will include the RUSLE 1.06 analysis or other appropriate analysis and needs to be included with the SWPPP.

Post construction "Minimum Control Measures" must be employed to protect storm water and other water runoff quality after construction, in the Urbanized Area of Bernalillo County. Permanent storm water quality drainage infrastructure shall be shown on approved grading and drainage plans developed for this site.

Administrative fees that may apply to this requirement are: 1) an Application Fee- \$20.00, 2) Storm water Quality Control Permit Fee-\$220 + \$50.00/ disturbed acre, 3) Grading Permit Fee- \$42.00/ Day (max 5 days), 4) Paving Permit Fee- \$42.00/ Day

Date: 18-SEP-2008

Page 1 of 2



# County of Bernalillo

## Case Comments Report

Permit: PWDN 80056

**Department:** PDEV

**Activity:** (PWDRAN) PW GRADING & DRAINAGE PLAN REVIEW

**Action:** (PWDRAN) REVIEW GRADING & DRAINAGE COMMENTS

(max 5 days).

6. Disturbance of areas larger than 3/4 acre require an Air Quality, Fugitive Dust Permit. The Air Quality Fugitive dust permit shall be posted on site. This permit may be acquired at the City of Albuquerque Environmental Health Air Quality Division, office location is; 11850 Sunset Gardens S.W. Albuquerque, NM 87121.

Additional comments from AMAFCA may be forthcoming.

To: Don Briggs PE for BCPW

From: Resource Technology, Inc

Re: Comments on PWDN 80056

Don,

Following are our responses to the comments dated 7 July 2008:

- #1) Vicinity map from zone atlas included.
- #2) Current FIRM (dated 9/26/08) included.
- #3) Site visit was made on 5/12/08. Certification included.
- #4) See Attachment A "Design Report Phase IIIc" pages 5 and 6, and accompanying photos.
- #5) The construction site in this request is approximately 1800 sq. ft. and does not disturb enough ground to require a SWPPP.
- #6) The property owner will coordinate fugitive dust permit with BCPW.

Please contact me with any questions or further comments.

Thanks,



Richard Waters

CADD Technician

Resource Technology, Inc

505.243.7300

rw@rtiabq.com



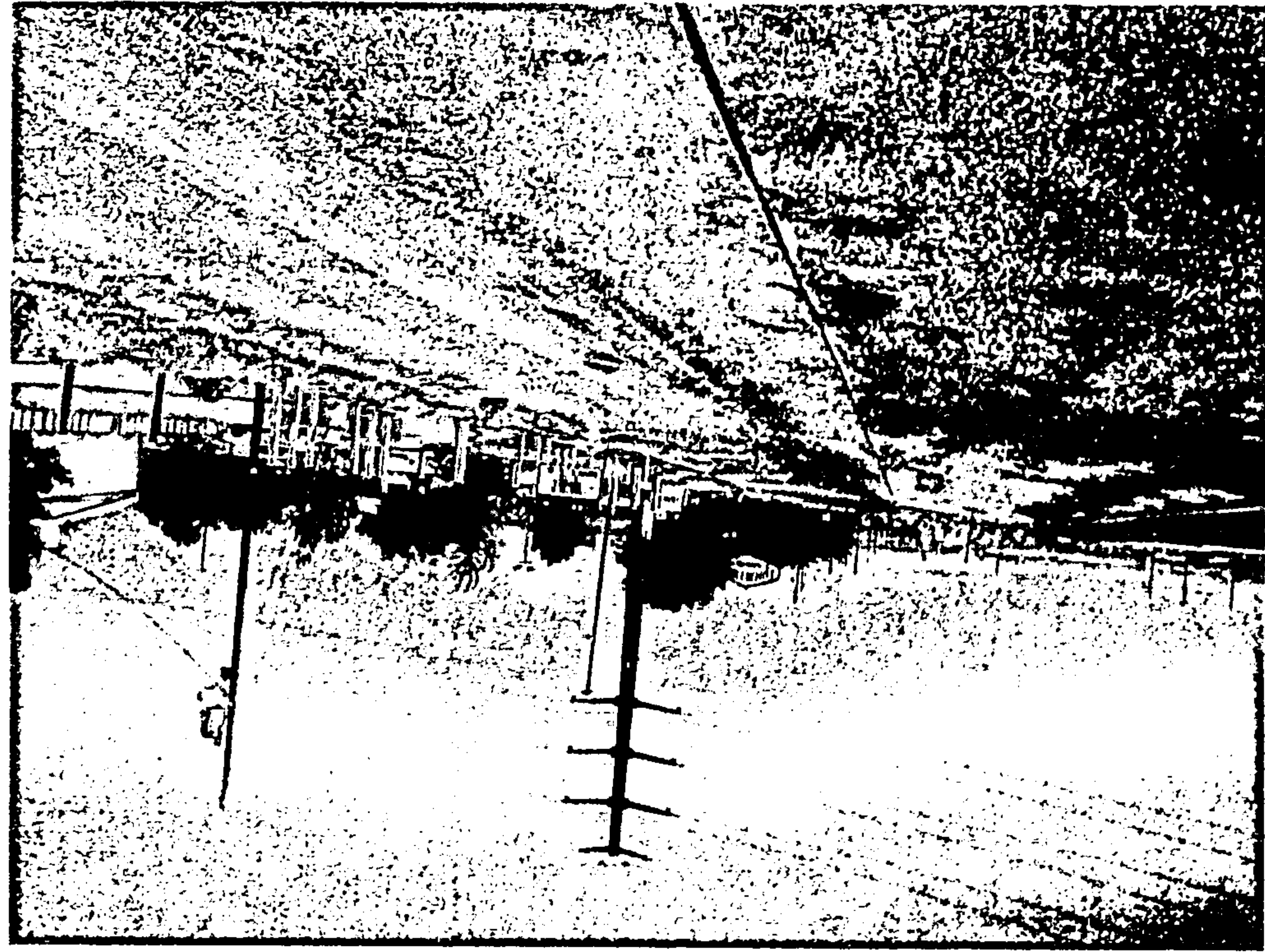


FIG A1 - View West from 98th St Road, showing  
Paved curb and inverted crown on Central Ave  
Frontage Rd

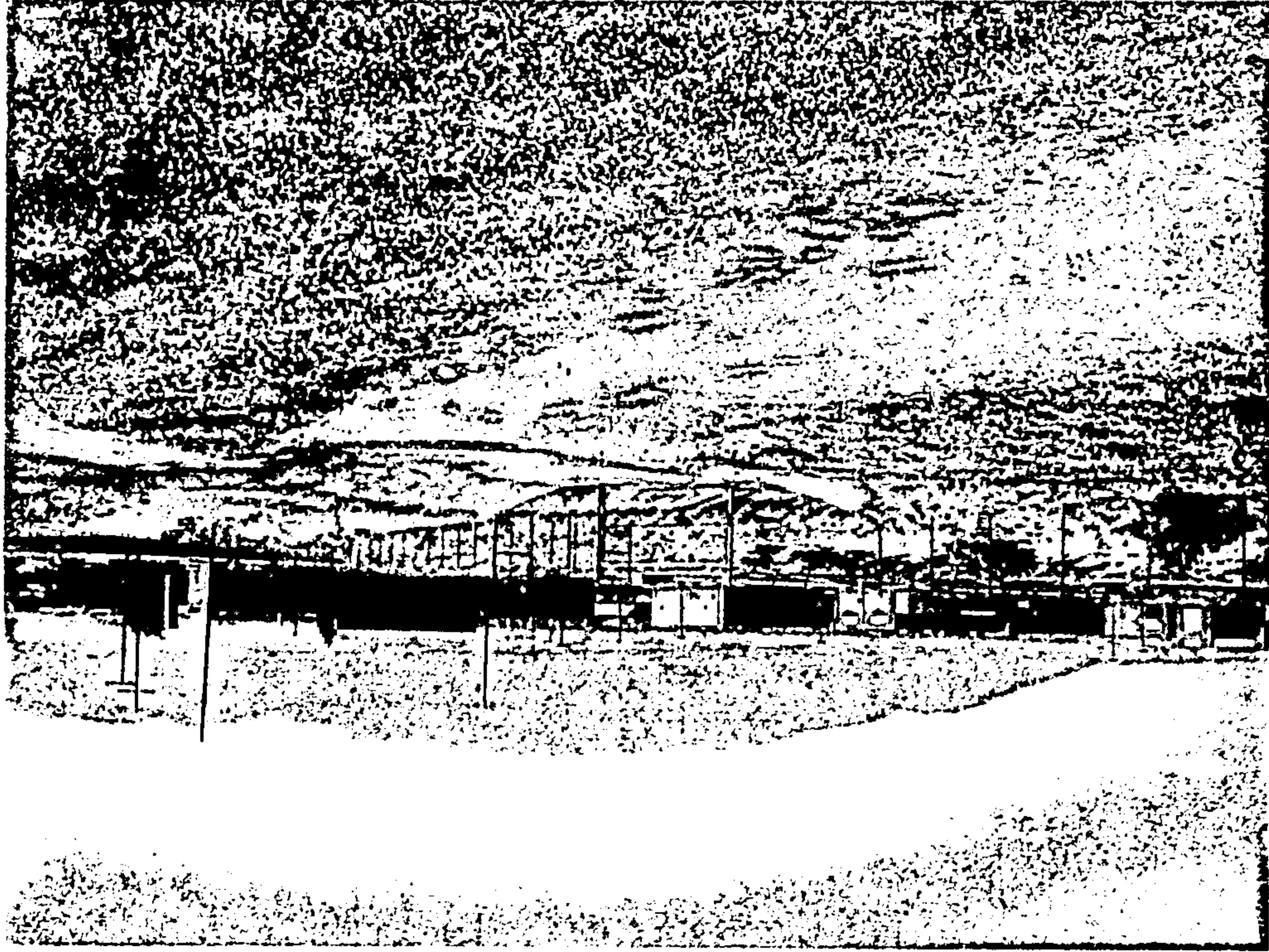


FIG A2 - View of 98th St Road showing Inverted  
Road crown on Central Ave Frontage Rd and  
concrete run-down into ponds



**ATTACHMENT A**

**DESIGN REPORT PHASE IIIC**

**DESIGN REPORT  
FOR  
AMOLE DEL NORTE  
STORM DIVERSION FACILITIES  
TIERRA BAYITA DRAINAGE FACILITIES**

**PHASE IIIC**

**CITY PROJECT NO. 4076-92**

June 7, 1994

Greiner Job No. G0001.10

Prepared for:

Public Works Department  
City of Albuquerque  
P. O. Box 1293  
Albuquerque, New Mexico 87103

Daniel L. Morehead, PE&PS  
Associate Vice President

Mark S. Holstad, P.E.  
Project Manager

Greiner, Inc.  
5971 Jefferson Boulevard, NE, Suite 101  
Albuquerque, New Mexico 87109  
(505) 345-3999



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## Appendix

1	AHYMO Summaries
2	Pond Output Hydrographs
3	Calculations & Land Treatment Criteria

## Map Pockets

Plate 1	Drainage Basin Map - Existing
Plate 2	Drainage Basin Map - Ultimate
Plate 3	Pond System Plan
Plate 4	Storm Drain
Plate 5	Miscellaneous Profiles
Plate 6	North and South Ponds - Existing Hydrology Information
Plate 7	North Pond - Hydrology Information - Developed
Plate 8	South Pond - Hydrology Information - Developed





## PROJECT DESCRIPTION

This project provides for the design and construction of two interconnected ponds, the related piping and swales draining to the ponds and the outfall works. The project is located in northwest Albuquerque at the northwest corner of Central Avenue and 98th Street as shown in Exhibit One. The ponds are Hazard Class C per SCS TR-60 criteria. Size classification is small.

These two ponds are the upstream end of a larger drainage system called the Amole Del Norte Storm Diversion Facilities, Tierra Bayita Drainage Facilities, Phase III<sup>(1)</sup> owned by the City of Albuquerque (City). The ultimate system will consist of the following:

- ▶ The ponds constructed under this project, (Phase IIIC)
- ▶ A future storm drain line that will run east along Central Avenue from the South Pond to 90th Street where it will turn south on 90th Street to Bridge Boulevard, where it turns east along Bridge Blvd. (Phase IIID)
- ▶ At Bridge and Unser Blvd., the storm drain empties into an existing concrete channel which runs east parallel to Bridge (channel built under Phase IIIA).
- ▶ The channel empties into the existing North/South Coors Detention Pond at the southwest corner of Bridge and North/South Coors Connection.

The Phase IIIC ponds and outlet structure will tie temporarily into an existing 30 inch pipe under 98th Street. Flow during the interim will drain as it currently does, which is overland east along Central Avenue through a swale and culverts from the 30" pipe. An orifice plate will be installed on the outlet structure to reduce the pond outflow to the capacity of the existing downstream culverts. The future Phase IIID will provide a piped outlet and surface discharge will not be required for less than a 100 year storm or less. Upon construction of the Phase IIID, the orifice plate will be removed.

## HYDROLOGY

The project is modeled for the 100 year storm which is required by the City and one half of the Probable Maximum Flood (PMF) as needed by the State Engineer's Office. Both existing conditions and ultimate development conditions were analyzed. Existing and developed basin maps are included in the map pockets.

Existing downstream structures are marginally sized for the 100 year storm and cannot carry a PMF. Currently, these structures are routinely flooded even during small storms. Future downstream improvements will not provide for a PMF. The one half PMF is therefore acceptable since the downstream area would be inundated during a full PMF.





Significant drainage will be diverted along 98th Street and 102nd Street to the proposed ponds. These diversions will be sized for a 100 year storm. Therefore, greater flows will flow overland, typically out of the project. The hydrology model recognizes this overland flow. Specific adjustments made from the 100 year model to the half PMF model are listed below.

The developed half PMF analysis was modified at 102nd Street and Avalon Road which includes Basins 102 and 108.1. Under future conditions this flow will probably be collected in a storm drain and carried south on 102nd Street to the north pond. For our ultimate analysis it is assumed the storm drain will carry only the 100 year flow. Therefore the 100 year runoff was added to the capacity of a typical collector street and routed south to the pond site. The rest was assumed to flow overland and out of the study area.

The existing condition model is revised at the downstream end of Basin 108.1. One possible design option is to construct a ditch/berm to intercept the flow from 108.1 and carry it to the north pond. The ditch would have to be sized to carry the 100 year storm. A PMF or ½ PMF is assumed to overtop. For our analysis, flow in excess of the 100 year storm is routed out of the project.

The existing condition PMF analysis is modified at the intersection of Volcano and 98th Street including Basins 102 and 108. The structure to be built at this intersection is limited to the capacity of the 84" pipe. Flow in excess of the pipe capacity is assumed to drain out of the project.

Both the local storm and the general storm were considered for the half PMF analysis. The local storm gave the larger flow and so was used for this analysis.

The basins draining to the site are analyzed using the AHYMO computer model dated January 1994. Procedures used are as described in the City of Albuquerque Development Process Manual (DPM).



Tables showing undeveloped and developed contributing basins and their characteristics are shown below.

ULTIMATE DEVELOPMENT BASIN INFORMATION						
Basin	Area (Sq. Mi.)	Time of Concentration (hours)	Ultimate Land Treatment			
			A	B	C	D
(percent)						
101	0.0260	0.20	0	100*	0	0
102	0.2810	0.30	15	30*	24	31
108.1	0.1713	0.20	0	17	13	70
108.2	0.1710	0.24	0	18	19	63
108.3	0.1478	0.26	0	21	22	57
108.4	0.1426	0.20	0	15	15	70
109	0.0720	0.21	0	5	13	82
109.1	0.0495	0.20	0	3	12	85**

\* Undeveloped land with slopes steeper than 10%.

\*\* Land treatments based on preliminary construction plans.

EXISTING BASIN INFORMATION						
Basin	Area (Sq. Mi.)	Time of Concentration (hours)	Existing Land Treatment			
			A	B	C	D
(percent)						
101	0.0260	0.20	0	100*	0	0
102	0.2810	0.30	15	30*	24	31
108.1	0.1467	0.20	98	0	0	2
108.2	0.1631	0.20	98	0	0	2
108.3	0.1942	0.32	75	0	15	10
108.4	0.0644	0.20	55	0	30	15
109	0.1803	0.29	95	0	0	5

The models are based on an existing conditions model created by Resource Technology Inc. in a study for FEMA<sup>(2)</sup>. Developed basins are revised assuming construction of planned streets and developed land treatments. Land treatments are estimated based on existing zoning and Sector Development Plans<sup>(3)</sup> where available. They are applied as described in the DPM. DPM land treatment criteria is shown in the appendix.

Developed basins are delineated assuming the planned streets will be paved and act as the future drainage ways - possibly using surface drainage in the upstream portions and storm drains nearer the ponds. Albuquerque has generally been developed in this manner, and it is reasonable that this area will be the same. Exhibit 2 shows locations where future storm drain trunk lines will likely be required and are assumed for analysis purposes.

Developed basin routing is done in the AHYMO model using existing arroyo alignments with the cross section changed to a concrete channel using a ten foot bottom and 2:1 side slopes. Along 102nd Street a 72 inch diameter storm drain is assumed.

A bulking factor varying from 5 percent to 10 percent was used for ultimate development throughout the contributing area depending on the future land use planned in the basin. A bulking factor of 17 percent was used throughout the existing condition.

### **COLLECTION SYSTEM PROPOSED UNDER PHASE IIIC**

An interim collection facility is planned for the intersection of Volcano and 98th Street to intercept existing Basins 102 and 109. Currently this flow crosses 98th Street in two 24 inch CMP's, or by overtopping 98th Street in larger storms. The CMP's will be plugged with construction of the flow collection facility.

The flow collection facility will be an interim measure until the surrounding land is developed and permanent systems are built in 102 Street. An 84 inch pipe will carry flow from the collection facility along Volcano to the south pond. The pipe can be extended up 98th Street or inlets added. This pipe will remain in the service after the flow collection facility is abandoned.

A truck stop is planned within Basin 109 along 98th Street between Bluewater Road and Avalon Road. The developer has expressed a desire to drain the Phase IIIC ponds. The land treatments in Basin 109 reflect this development which is almost entirely impervious.

Existing grades along 98th Street require that the 84 inch pipe drain to the south pond rather than the north pond. (The 100 year developed water surface in the north pond is at elevation 5223.23' which would backflow out the collection facility at elevation 5216'.)

If the project is phased and only the south pond is built, service to collection facility and the truck stop are still possible.

Flow will be diverted from the north side of Central to the south pond. Tentative design consists of rundown inlets and pipes to carry the flow into the pond. The City is considering closing the Frontage Road on the north side of Central and thereby permit routing this flow overland into the pond. Both methods are equivalent relative to the functioning of the pond.

The pipes paralleling Central Avenue will be stubbed out to the west. Future extensions are anticipated.



## POND SYSTEM

The City required that runoff from 98th Street north of Volcano be drained to the project. As mentioned above, drainage from 98th Street severely limit the spillway elevation of a pond. The lower spillway of the south pond meets this requirement and is nearly a pit pond. The embankment necessary for the north pond provides maximum storage volume at this site. This volume permits the ultimate flow for a 100 year storm to be reduced from 1,353 cfs to approximately 292 cfs.

Two ponds versus one large pond were analyzed. One large pond had the advantage of not requiring a berm in the middle. However, the site has 25 feet of drop across it from the northwest corner to southeast corner requiring an extremely deep cut on the north side. Also, the necessity to drain runoff from 98th Street lowered the spillway elevation and severely restricted storage volume.

The South Pond embankment along Central will be a maximum of 6' higher than existing grades and will not be imposing when viewed from Central.

A two pond arrangement will detain flows draining from the north pond to the south pond through the 30 inch pipe.

Two ponds could also be built in phases if required by funding. Phasing is a possibility where only the south pond would be built now.

## EXISTING CONDITIONS

Under existing conditions, runoff will enter the north pond from the west side and the north side. A diversion from Basin 108.1 to the north side of the north pond is assumed under the existing conditions hydrology model. This diversion is assumed to be to the existing 100 year storm.

North pond under existing conditions reaches elevation 5208.7' in the 100 year storm and elevation 5223.4' in the PMF analysis.

The south pond will have an orifice plate installed at the outlet until such time as the downstream pipe system is built. The plate will reduce the flow out of the pipe outlet to 13 cfs which is the capacity of the downstream conveyance system.

Peak water surface elevation in the south pond under 100 year flooding is 5212.0' and under modified PMF conditions is 5213.3'. The 100 year storm therefore utilizes the full volume of the south pond but does not over top the spillway. During the half PMF, 1.3' of water will flow over the spillway.

## ULTIMATE DEVELOPMENT

In the north pond under ultimate 100 year design the water surface reaches elevation 5223.23'. Some water will overtop the center embankment at elevation 5223'.

Under half PMF conditions, the north pond water surface will reach 5225.50'. The top of the east embankment is 5226'. One of the rundowns entering the pond on the west side is at elevation 5224.5' so some local flooding will occur. But the land is sloping to the southeast and any water that floods here drain to the south pond.

The full development conditions include construction of the downstream piping system (Amole Phase IIID) which includes removal of the orifice plate in the south pond.

Under ultimate conditions with the 36" outlet, the south pond reaches elevation 5211.1' in the 100 year storm and elevation 5214.9' in the modified PMF analysis.

A 36 inch outlet pipe will be built in the south pond which will extend to 98th Street and Central. At this point an inlet will be built which will tie to an existing 30" pipe. When the future outfall system is built (Phase IIID) it will tie to either the inlet or the 36" outlet pipe.

## REFERENCES

1. Amole Del Norte Storm Diversion Facilities, Tierra Bayita Drainage Facilities - Phase III --by Greiner for City of Albuquerque, Public Works Department  
Project Numbers: 4076.90 Phase IIIA Existing  
4076.91 Phase IIIB Under Construction  
4076.92 Phase IIIC This Project  
4076.XX Phase IIID Future Construction
2. FEMA Restudy Areas A (2) and B (3) by Resource Technology Inc. Draft Version - July 1993
3. West Route 66 Sector Development Plan City of Albuquerque January 1988  
Tower/Unser Sector Development Plan City of Albuquerque September 1989  
City of Albuquerque Zone Atlas 1993



RUN DATE (MON/DAY/YR) =04/30/1998  
USER NO.= GREINRNM.STE

# CASIAS TRUCKING GRADING AND DRAINAGE PLAN

1. ALL WORK TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1988 EDITION W/UPDATE #7.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE & VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS, SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH MINIMUM DELAY.
3. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE @ 260-1990 FOR LOCATION OF EXISTING UTILITIES.
4. CONTRACTOR SHALL SUPPORT ALL EXISTING UNDERGROUND UTILITY LINES WHICH BECOME EXPOSED DURING CONSTRUCTION. PAYMENT FOR ALL SUPPORTING WORK SHALL BE INCIDENTAL TO SEWER LINE OR WATERLINE COSTS.
5. CONTRACTOR SHALL CONDUCT OPERATIONS IN A MANNER WHICH WILL MINIMIZE INTERFERENCE WITH LOCAL TRAFFIC. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION FOR THE SAFETY OF PERSONS OR PROPERTY AND TO PROTECT THEM FROM DAMAGE, INJURY OR LOSS. CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR SHALL ADHERE TO SECTION 19 (CONSTRUCTION TRAFFIC CONTROL) OF THE GENERAL CONDITIONS OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. 1986 EDITION W/UPDATE #7.
6. THE CONTRACTOR AGREES THAT HE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER & ENGINEER FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
7. THREE (3) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (768-2551) PRIOR TO OCCUPYING AN INTERSECTION. ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED IN KIND BY CONTRACTOR TO LOCATION, AND IN KIND AS EXISTING OR AS INDICATED BY THIS PLAN SET.
8. CONTRACTOR SHALL COORDINATE WITH WATER SYSTEMS DIRECTOR (857-8200) 7 WORKING DAYS PRIOR TO CONSTRUCTION WORK THAT MAY AFFECT EXISTING CITY PUBLIC WATER OR SEWER UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR TIME AND CO-ORDINATION OF WATER SHUT OFF. EXISTING CITY VALVES TO BE OPERATED BY CITY PERSONNEL ONLY.
9. PROPOSED WATERLINE MATERIALS SHALL BE EITHER P.V.C. PIPE MEETING AWWA C900 REQUIREMENTS (6"-12" DIAM.) OR DUCTILE IRON PIPE, THICKNESS CLASS 50 (6"-16" DIAM.).
10. ALL FITTINGS ON WATERLINES SHALL HAVE JOINT RESTRAINTS IN ACCORDANCE WITH THE JOINT RESTRAINT LENGTHS SHOWN ON DETAIL SHEET & SHUTOFF PLAN AND ARE TO HAVE LOCKED MECHANICAL JOINTS.
11. CONTRACTOR SHALL ASSIST THE ENGINEER IN THE RECORDING OF DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY THE CITY OF ALBUQUERQUE FOR THE PREPARATION OF RECORD DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES AND ACCESSORIES UNTIL ALL DATA HAS BEEN OBTAINED AND RECORDED.
12. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
13. CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
14. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
15. \*\*WARNING\*\*-EXISTING UTILITY LINE LOCATIONS ARE SHOWN IN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION OF ANY SUCH EXISTING LINES IS BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANY, THE OWNER, OR BY OTHERS, AND THE INFORMATION MAY BE INCOMPLETE OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE OR TYPE OF EXISTING UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM HIMSELF OF THE LOCATION OF ANY UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ANY AND ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES IN PLANNING AND CONDUCTING EXCAVATION, WHETHER BY CALLING OR NOTIFYING THE UTILITIES, COMPLYING WITH "BLUE STAKES" PROCEDURES, OR OTHERWISE.
16. ALL STATIONING REFERS TO SANITARY SEWER CENTERLINE LOCATED PARALLEL TO AND 15' WEST OF THE EXISTING WOOD FENCE.
17. PROPERTY LINE INFORMATION TAKEN FROM PLAT OF TRACTS B-1 AND B-2, LAND OF L. MORENE HILL BRIDGES SITUATED WITHIN PROJECTED SECTION 29, T.10 N., R.2 E., N.M.P.M., TOWN OF ATRISCO GERM, BERNALILLO COUNTY, NEW MEXICO. MARCH 1994. PREPARED BY SOUTHWEST SURVEYING CO. INC., SCALE 1"=50', DRG NO. 93-379.
18. CONSTRUCT MANHOLE OVER EXISTING SANITARY SEWERLINE. VERIFY MANHOLE IS ACCEPTED BY THE CITY PRIOR TO REMOVAL OF EXIST. SEWER LINE WITHIN NEW MANHOLE. REMOVE EXIST. SEWER LINE FLUSH WITH INSIDE MANHOLE WALL.
19. PROVIDE PAVEMENT PATCH IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD DRAWING NO. 2465, FOR RESIDENTIAL STREETS.
20. REPLACE GRAVEL ROAD BASE COURSE AND SURFACE COURSE TO PRE-CONSTRUCTION CONDITION AND THICKNESS.
21. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART 10.

## INDEX OF SHEETS

SHEET NO.	TITLE
1	COVER
2	GRADING AND DRAINAGE PLAN

										Planning Fee: \$243-7400									
REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE												
ENGINEERS STAMP & SIGNATURE		APPROVALS	ENGINEER	DATE	APPROVED FOR CONSTRUCTION														
		DRG CHAIR			CITY ENGINEER _____ DATE _____														
		TRANSPORTATION																	
		WATER/WASTEWATER																	
		HYDROLOGY																	
		PARKS																	
		CONSTR. COORD.																	
		AMAFCA																	
		COUNTY PROJECT NO.					SHEET _____ OF _____												
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VERTICAL DATUM IS NGVD29





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