·LEGEND·				
MATERIALS		•		
CONCRETE				
RIP · RAP	2460	78 :		
LINES				
SUBDIVISION BOUNDARY				
PROPERTY LINE (PLAN)				
PROPERTY LINE (SECTION)				
CENTERLINE				
EASEMENT LINE				
MATCH LINE		Α		
SECTION CUT LINE	†			
EARTHWORK	EXISTING	NEW		
CONTOUR LINE		25		
SPOT ELEVATION	\Phi	�		
PROJECT / PHASE BOUNDARY				
SWALE		<u> </u>		
DIRECTION OF FLOW		•		
MISCELLANEOUS UTILITIES				
GAS LINE	@			
UNDERGROUND TELEPHONE				
UNDERGROUND ELECTRICAL	——UE——			
STORM DRAIN	—— s o——			
STORM DRAIN MANHOLE				
STORM DRAIN INLET				
SANITARY SEWER				
SANITARY SEWER LINE		SAS-		
SANITARY SEWER MANHOLE	——()——			
SAS SERVICE CONNECTIONS		•		
SAS CAP OR PLUG				
ENCASEMENT	-=====			
WATER LINE				
WATER LINE WATER SERVICE CONNECTIONS	T	ф ф		
GATE VALVE	 ₩			
FIRE HYDRANT				
BUTTERFLY VALVE		— x —		
REDUCER				
WATER PRESSURE ZONE BOUNDARY		••••		
WATER FITTINGS				
CAPS AND PLUGS				
ELBOW	<u>_</u>	Ļ _		
CROSS	+	+		
TEE	*	T		
MISCELLANEOUS				
CHAINLINK FENCE				
FIELD FENCE	X X	* * * * 		
COMMON YARD WALL		***************************************		
RETAINING WALL				
POWER OR TELEPHONE POLE	Ō	e ^r		

RECORD DRAWING

CONSTRUCTION PLANS

tor

VINEYARD ESTATES DETENTION POND AND BARSTOW STREET STORM DRAIN

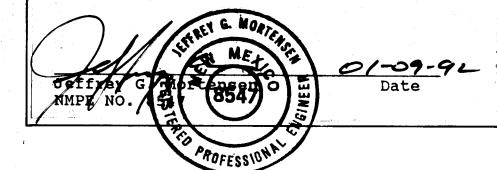
ALBUQUERQUE, NEW MEXICO 1991 JULY,

INDEX OF DRAWINGS

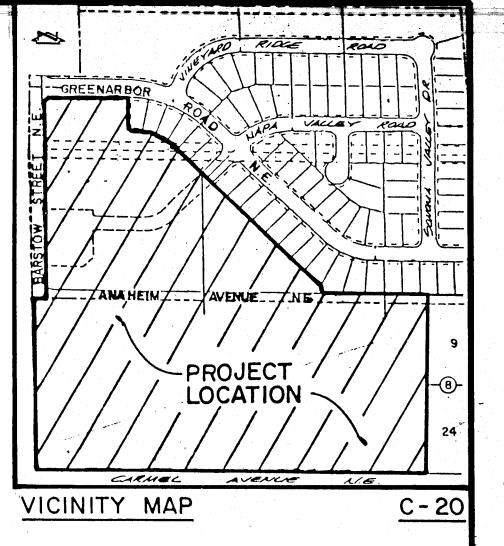
SHEET NO.	DESCRIPTION	\triangle
1.	Cover Sheet, Index of Drawings, Legend, General Notes, Vicinity Map	
2.	Plat	
3.	Plan and Profile Sta. 7+92 (Back) to Sta. 5+85.86 (AHD)	
1	Plan and Profile Sta. 5+85.36 to Sta. 13+06	
5.	Drainage Plan, Calculations & Sections	
6.	Outlet Structure Sections & Details Waterline Lowering Section/Valve Shutoff F	'lan

RECORD DRAWING I, Jeffrey G. Mortensen, Registered

Professional Engineer in the State of New Mexico, do hereby certify that this "asbuilt" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future



projects.

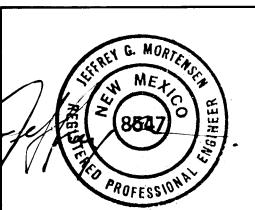


GENERAL NOTES:

- AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH
- 2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES. PIPELINES, OR UNDERGROUND UTILITY LINES. LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- 4. SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES.
- 6. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND
- 7. CONTRACTOR SHALL COMPLY WITH SECTION 19 OF THE "STANDARD SPECIFICATIONS".
- 8. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- 9. BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- 10. TACK COAT REQUIREMENTS SHALL BE DETERMINED DURING CONSTRUCTION BY THE PROJECT
- 11. SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- 12. IF CURB IS DEPRESSED FOR A DRIVEPAD OR A HANDICAP RAMP, THE DRIVEPAD OR RAMP SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF THE CURB AND GUTTER.
- 13. ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.
- 14. CONTRACTOR SHALL COORDINATE WITH THE WATER SYSTEM DIVISION FOR THE EXECUTION OF THE VALVE SHUT OFF PLAN, NOT LESS THAN THREE (3) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT THE EXISTING PUBLIC WATER UTILITIES.
- 15. 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 ENGINEER. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED.
- 16. THREE (3) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE CONSTRUCTION CO-ORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION CO-ORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (768-2551) PRIOR TO OCCUPYING AN
- 17. 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

2 3 4 5 6 7 8 9 10 11 12 13 14 15

USER DEPARTMENT DATE USER DEPARTMENT SHEETS CITY ENGINEER DATE APPROVAL OF REVISIONS



07-18-9

eff mortensen & Associates, inc

APPROVED FOR CONSTRUCTION

3391.91

CAUTION:

THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.

J M.A. JOB NO. 900554

1. A field survey was performed on November 18, 19 and 21,

4. Site located within Projected Section 17, T11N, R4E,

5. Bearings are grid bearings per plat of "Vineyard Estates"

a. incorporate public right-of-way within former Anaheim Ave.

b. reserve road easement for future public street right-of-way

d. eliminate interior property lines to create three tracts

1988: corners were found or set as shown

3. All distances are ground distances.

filed March 31, 1988, Book C36, Page 43.

c. grant necessary easements as shown and

6. The purpose of this plat is to:

N.E. vacated by V-88-37

dedication

2. No street mileage was created.

Engineer, City of Albuquerque, N.M. 3-1-89 Property Manager, City of Albuquerque, N.M. 1-11-89 Date I, William P. Pettit, a registered Professional Surveyor under the laws of Jones Intercable

OFFICIAL SEAL

CHARLES G. CALA, JR. -

NOTARY PUBLIC - STATE OF NEW MEX .

the State of New Mexico, do hereby certify that this plat was prepared by me or under my supervision; shows all easements noted in a title report prepared by NONE PROVIDED monumentation and surveys of the Albuquerque Subdivision Ordinance, and is true and correct to the best of my knowledge and belief. **ACKNOWLEDGEMENT**

of Barstow Street N.E.; thence N 00°09'48" E a distance of 685.00 feet to the

point of beginning and containing 26.5430 acres more or less.

CERTIFICATION

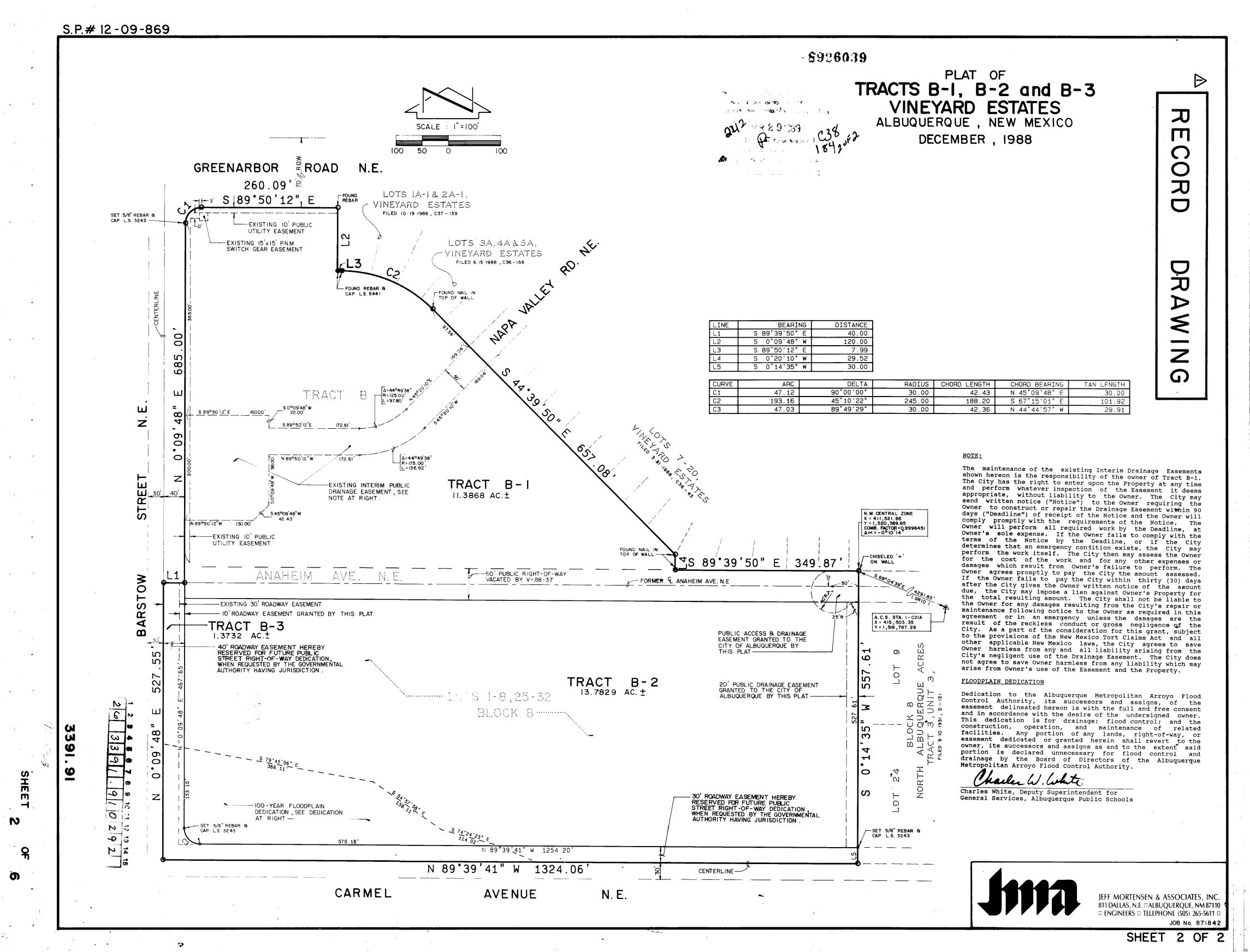
STATE OF NEW MEXICO

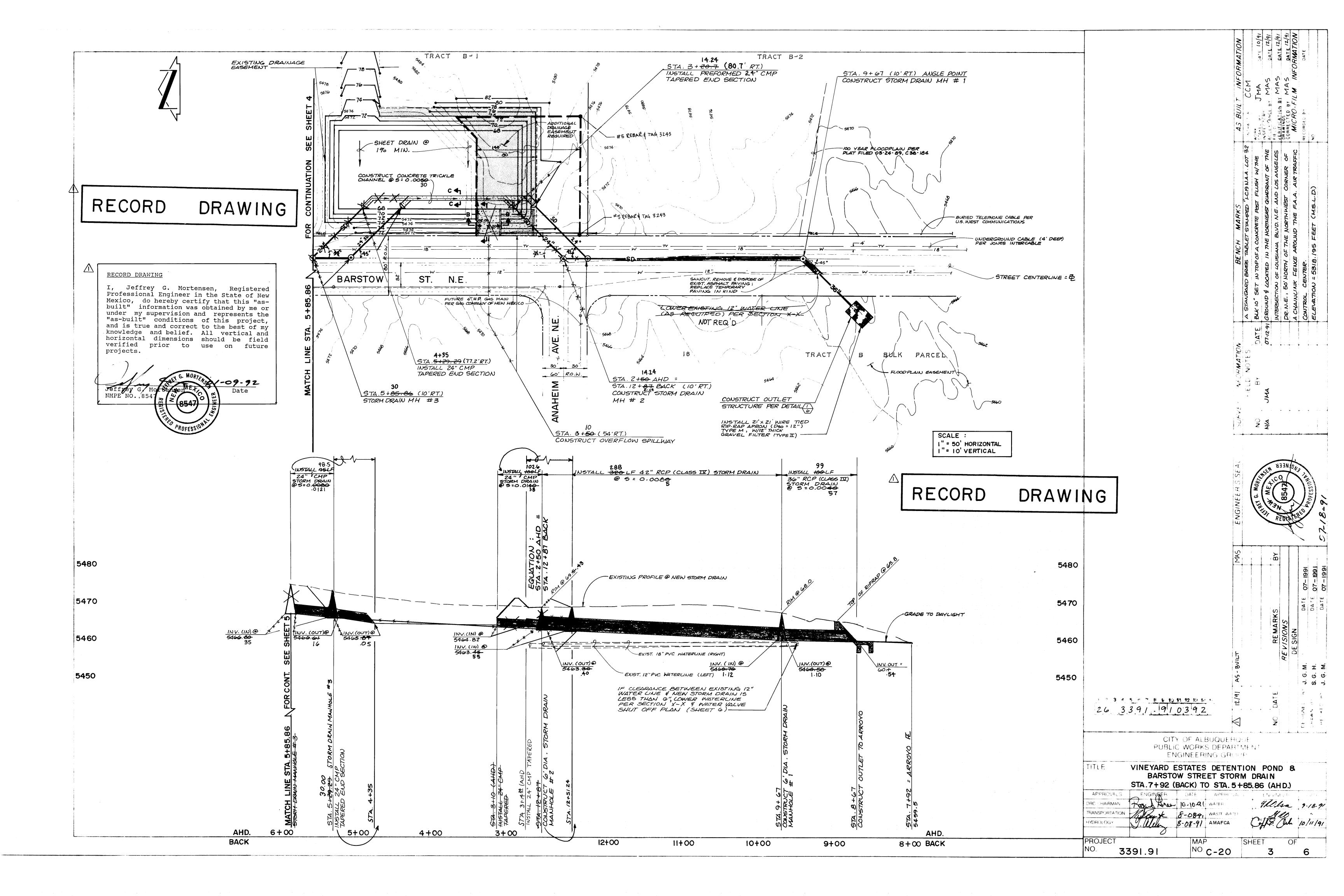
COUNTY OF BERNALILLO

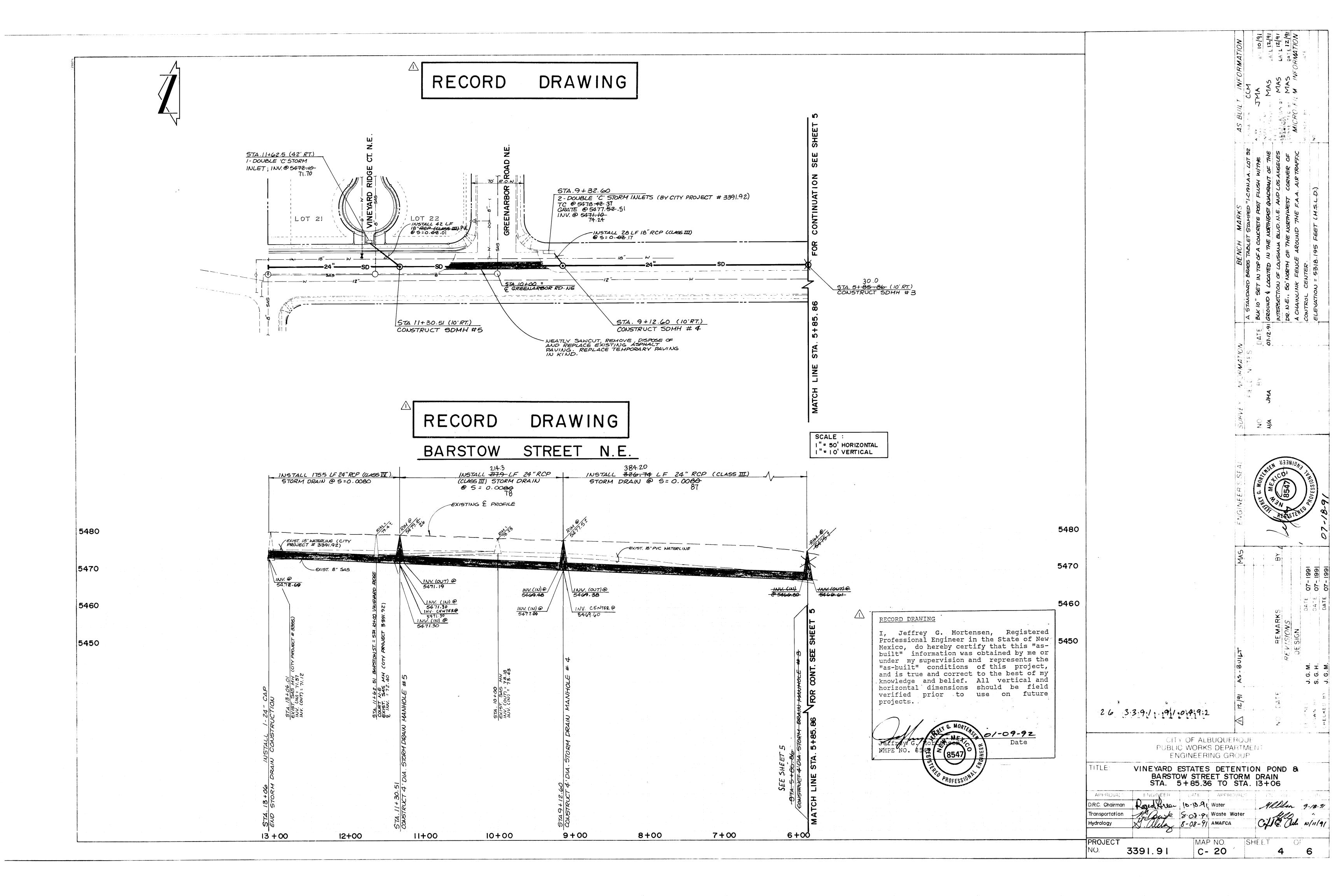
The foregoing instrument was acknowledged before me on this 28 day of February 1989.

JEFF MORTENSEN & ASSOCIATES, INC. 811 DALLAS, N.E. = ALBUQUERQUE, NM 87110 □ ENGINEERS □ TELEPHÔNE (505) 265-5611 JOB No. 871842

SHEET | OF 2







DRAINAGE PLAN

This plan is presented in lieu of the previously approved plan. The 100-year discharge into the detention pond includes an offsite flow of 36.5 cfs which is received from Basins NB2, NB3 and MS-1. The remaining 67 cfs of the total 103.5 cfs is the discharge from the developed 21.5 acres in Basin B-2. The runoff from Vineyard Estates Phase II is also discharged to the enlarged pond. The offsite flows have been accepted and conveyed through the developed site and discharged into the detention pond.

The volume of the detention pond has been revised to incorporate offsite flows as well as runoff from both Phase I and Phase II. Phase II contributes a total runoff of 11.3 cfs which is delivered to the pond through a 24" storm drain entering the northwest corner of the pond.

The discharge from the pond has been held to a maximum controlled rate of 30.0 cfs. This total discharge is less than the offsite flow, therefore, the pond has been used to detain not only the discharge from the developed site but offsite flows as well.

The release rate from the pond has been reduced from the previously approved flow of 54 cfs. The release of runoff into the existing floodplain easement of the North Arroyo De Domingo Baca has been effected subsurface to avoid introducing nuisance flows across the existing paving. The existing floodplain easement west of Barstow Street N.E. has been taken from City Project No. 3355.

The storm drain size, slope and capacity has been taken from the Vineyard Estates Conceptual/Master Drainage Plan hence is not repeated here.

CALCULATIONS

1. Given Information (from approved Grading and Drainage Plan)

```
V_{100} = 140,100 \text{ cf}
Q_{100 \text{ Dev.}} = 67.0 \text{ cfs (Basin B-2)}
                    36.5 cfs (Offsite Basins NB-2, NB-3 & MS-1)
Total Q_{100} = 103.5 \text{ cfs}
Pond Volume = 30,000 cf
Qrelease = 54 cfs
```

Revised Capacity (Assumes all Basins Fully Developed)

```
96.3 cfs (Onsite Basins B-1 & B-2)
                 24.5 cfs (Offsite Basins NB-2 & NB-3)
Q_{100} =
Total Q_{100} = 120.8 \text{ cfs}
V_{100} = 145,000 \text{ cf (Offsite & Onsite Basins)}
```

Revised Pond Volume (Average End Area Method)

Elev.	A, sf	Vol, cf	<u>ΣVol, cf</u>
66.15	0		
68.0	25,200	23,300	23,300
70.0	•	55,200	78,500
70.0	30,000	65,000	<u>143,500</u>
72.0	35 000	•	

4. <u>Controlled Discharge Rate</u>

a) Inlet Control Refer to Nomograph at Right (Figure 1) Where HW/D = 2.9D = 24"

HW = 5.85' (Max)Q = 30 cfs

Pipe Control Using Feild's Hydraulics Calculator for Gravity Flow in Pipes

> Where n = 0.13d = 24"s = 0.0140Q = 27 cfs

5. Requried Pond Volume (from Hydrograph)

Release Rate = Q_R Q_R = (2/3)Q_R, Max = (2/3)27 = 18.0 cfs Required Pond Volume = V_{req}'d V_{req'd} = (1/2)(60)(102.8)(8.51 + 25.53) $V_{req'd} = 104,980 \text{ cf}$ Vreq'd < Actual Pond Volume

6. <u>Detention Pond Outlet</u>

 $V_{\text{release}} = 145,000 - 104,980 = 40,020 \text{ cf}$ Qrelease = 18.0 cfs (Average) Time to Release = (145,000/18)/3600 = 2.2 Hrs.

7. Spillway Capacity

```
Weir Equation: Q = 3.03 \text{ Lh}^3/2
Where h = 74.0 - 72.0 = 2.0 ft
       L = 30 ft
       Q = 257 \text{ cfs}
       Qrequired = 120.8 cfs
Basins B-1, B-2, NB-2 and NB-3 (Developed)
```

DRAWING RECORD

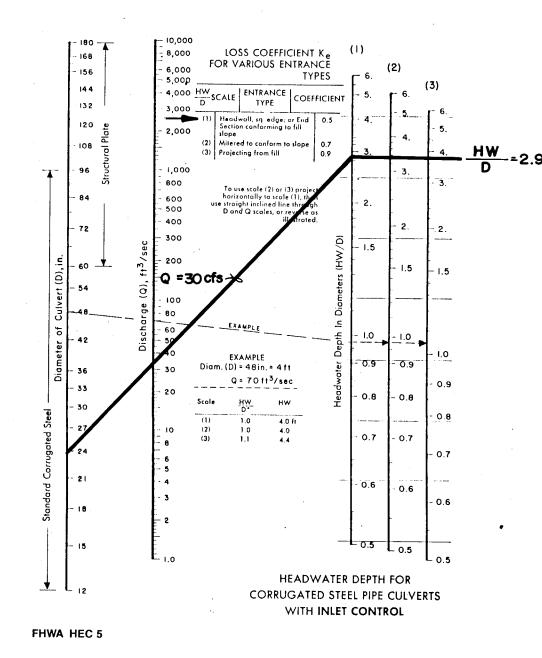
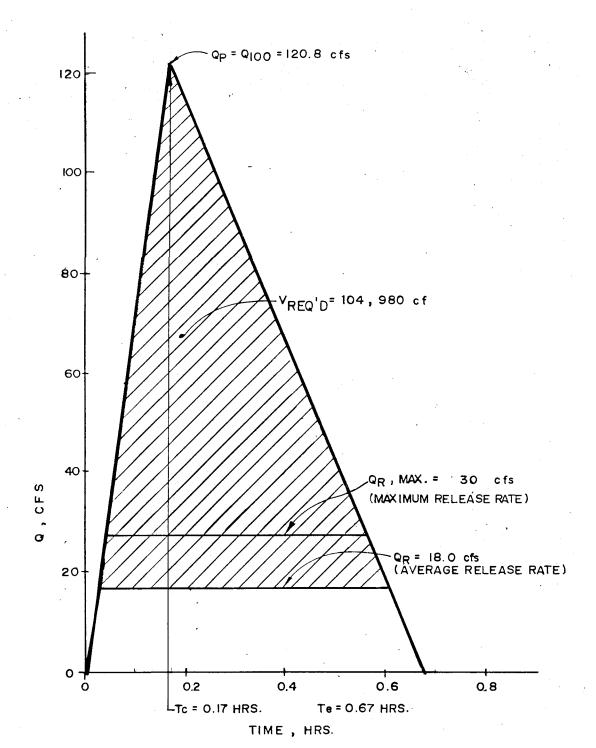
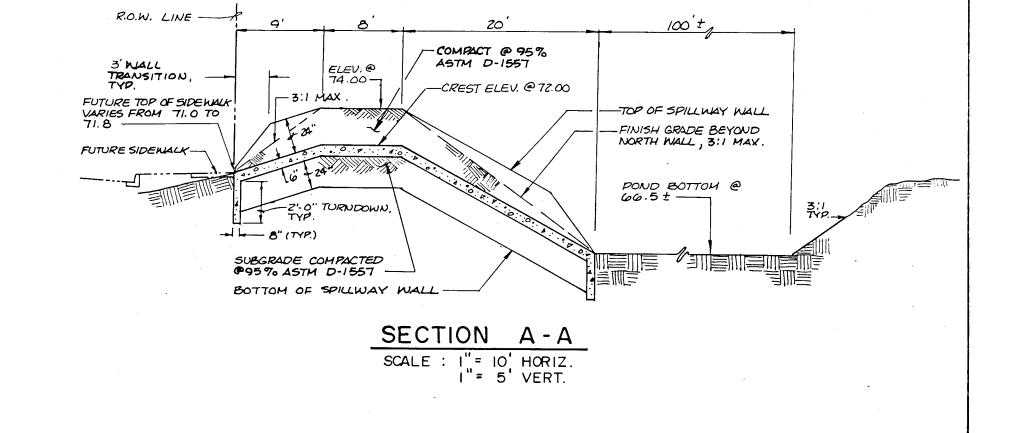
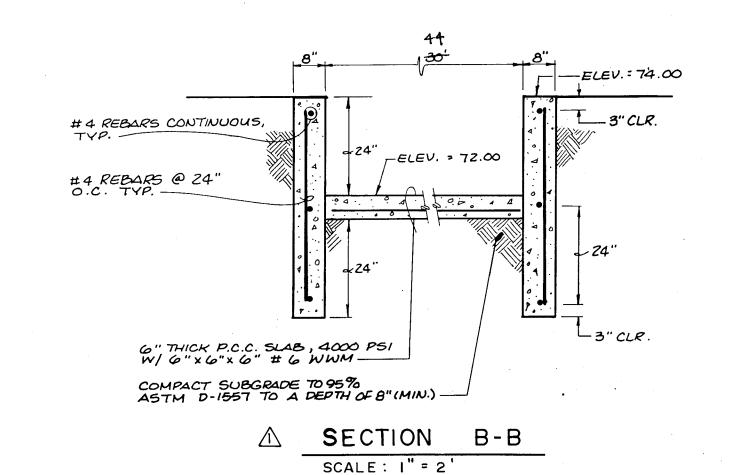


FIGURE 1



INFLOW / OUTFLOW HYDROGRAPH

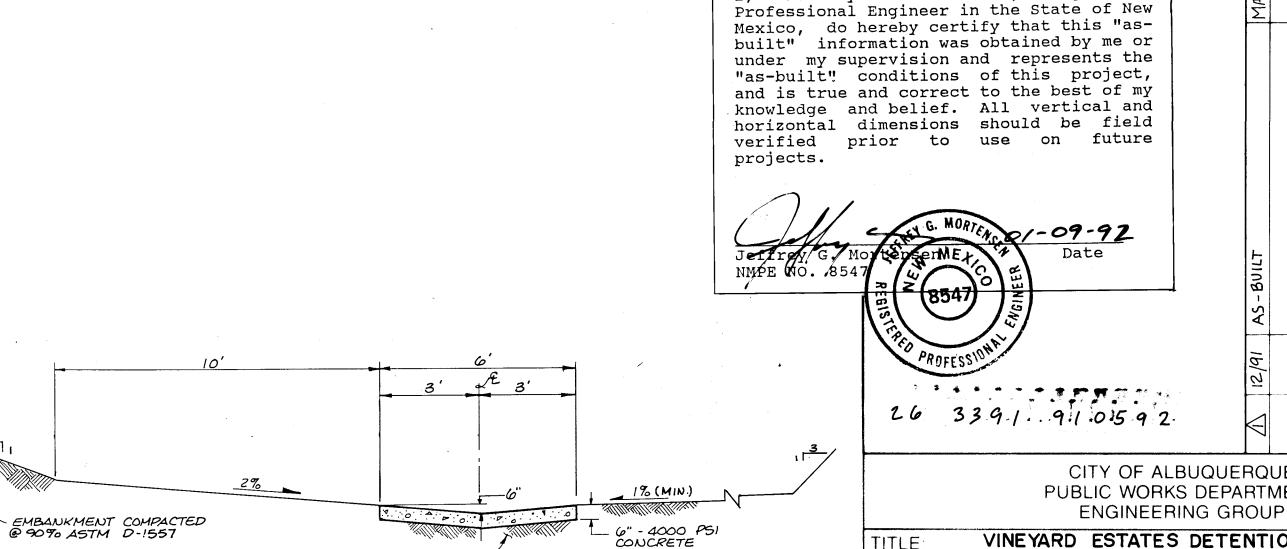




6"SUBGRADE COMPACTED @ 90% ASTM D-1557

SCALE : | " = 3"

SECTION C-C



DATE DATE DATE REMARKS SIONS SIGN -09-92 ပ် ပ် ပ CITY OF ALBUQUERQUE

PUBLIC WORKS DEPARTMENT

VINEYARD ESTATES DETENTION POND & BARSTOW STREET STORM DRAIN DRAINAGE PLAN, CALCULATIONS & SECTIONS

APPROVALS ENGINEER DATE APPROVALS **ENGINEER** Logan 18-109! WATER Allen 9-18-9 ORC CHAIRMAN TRANSPORTATION -5-08-9 WASTE WATER 8-08-91 AMAFCA HYDROLOGY **PROJECT** SHEET OF NOC- 20

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered

3391.91

