

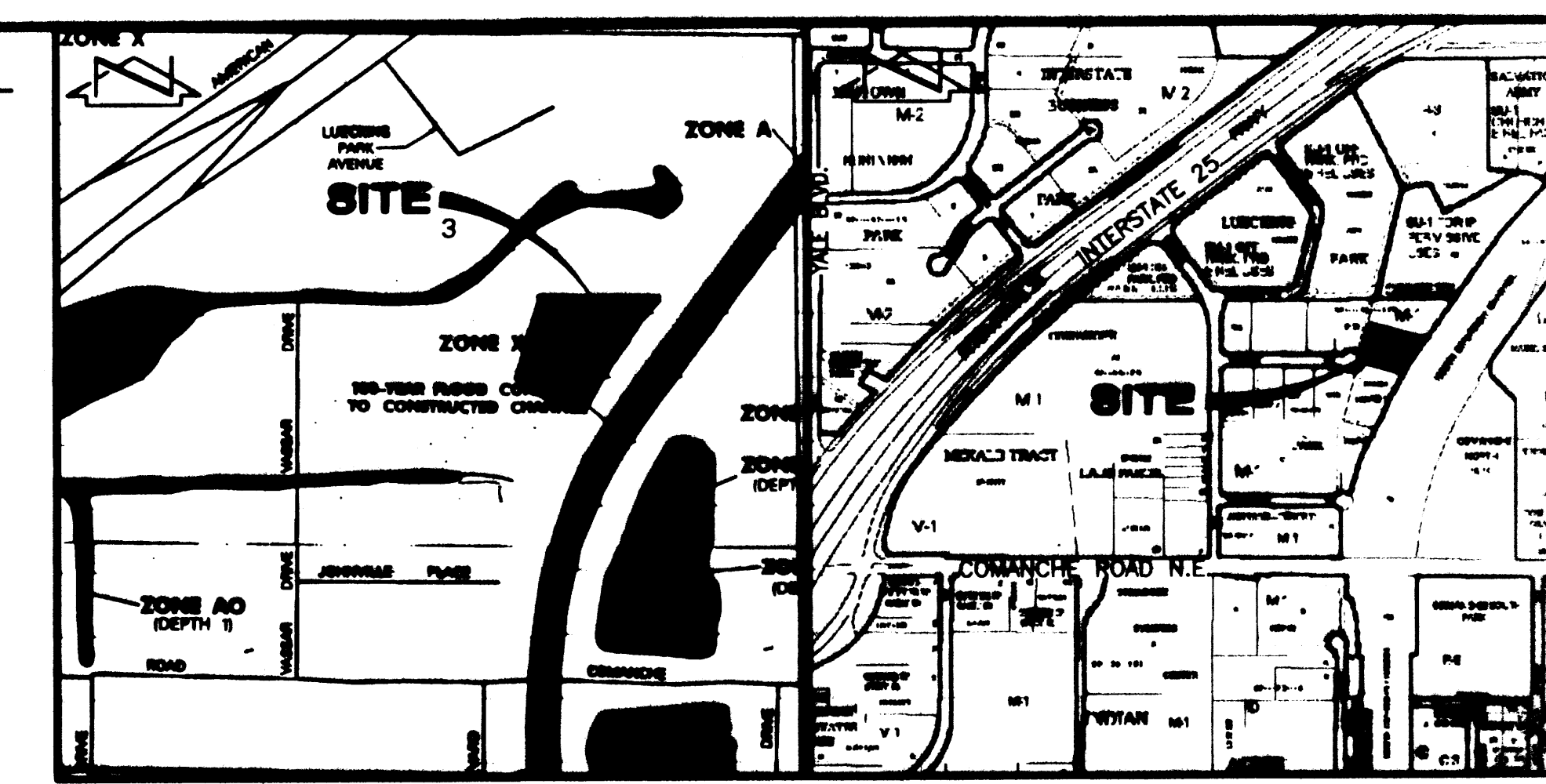
TRACT A-2  
LUECKING PARK COMPLEX No. 2 & 3  
(FILED 07-03-1997, 97C-277)

**LEGAL DESCRIPTION**  
TRACT B-1-F-1, COMMACHE BUSINESS PARK,  
FILED SEPTEMBER 15, 1997, 97C-277.

**PROJECT BENCHMARK**  
CITY OF ALBUQUERQUE BENCHMARK "MDC 16-16", STATION  
IS AMAFCA BRASS TABLET STAMPED "MDC 16-16", SET ON  
A CONCRETE POST PROJECTING 0.4' FEET ABOVE THE GROUND  
LOCATED AT THE COMMACHE BRIDGE OVER THE AMAFCA NORTH  
DIVERSION CHANNEL.  
ELEVATION = 5111.1 FT. (M.S.L.D.)

**T.B.M.**  
CHISELED "+" ON TOP OF CONCRETE AT SOUTHWEST CORNER  
OF SITE. ELEVATION = 5078.04 FT. (M.S.L.D.)

- LEGEND**
- TC TOP OF CURB
  - TA TOP OF ASPHALT
  - FL FLOWLINE
  - TOC TOP OF CONCRETE
  - W.V. WATER VALVE
  - W.M.B. WATER METER BOX
  - T.C.B. TELEPHONE CABINET
  - EXISTING CONTOUR
  - EXISTING SPOT ELEVATION
  - UTILITY PAINT MARK
  - EXISTING ROOF DRAINAGE
  - PROPOSED ROOF DRAINAGE
  - EXISTING BUILDING
  - PROPOSED CONTOUR
  - PROPOSED SPOT ELEVATION
  - PROPOSED BUILDING
  - PROPOSED BUILDING ADDITION
  - PROPOSED FLOWLINE
  - DIRECTION OF FLOW
  - EXISTING FLOWLINE



F.I.R.M. PANELS 138 AND 351 OF 620  
SCALE: 1" = 500'

VICINITY MAP  
SCALE: 1" = 750'

- CONSTRUCTION NOTES:**
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
  - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
  - 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.
  - ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1988 EDITION AS REVISED THROUGH UPDATE #7, AMENDMENT 1.
  - 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. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND 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, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING 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.
  - THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

**DRAINAGE PLAN**

**I. INTRODUCTION AND EXECUTIVE SUMMARY**

THIS PROJECT, LOCATED IN THE NORTHEAST HEIGHTS ALONG THE NORTH I-25 CORRIDOR, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE DRAINAGE CONCEPT WILL BE THE CONTINUED FREE DISCHARGE OF DEVELOPED RUNOFF AS APPROVED BY PRIOR SUBMITTAL (G16-D82B3) PREPARED BY HIGH MESA CONSULTING GROUP (NMPE 8547), FORMERLY JEFF MORTENSEN & ASSOCIATES, INC., MARCH 22, 1999, AND CERTIFIED FOR PERMANENT CO BY THE ENGINEER OF RECORD (NMPE 8547), MAY 05, 2000. THE RECORD INFORMATION GENERATED TO SUPPORT THE 2000 CERTIFICATION SERVES AS THE BASIS FOR THIS UPDATED PLAN WITH SUPPLEMENTAL INFORMATION OBTAINED 01-13-2008 BY THE UNDERSIGNED ENGINEER IN ORDER TO VERIFY KEY POINTS OF CONNECTION. THIS SUBMITTAL MADE IN SUPPORT OF BUILDING PERMIT APPROVAL IS CONSENTED WITH THE PREVIOUSLY APPROVED PLANS REFERENCED ABOVE.

**II. EXISTING CONDITIONS**

THE RECORD PLAN PREPARED AS PART OF THE ENGINEER'S DRAINAGE CERTIFICATION, MAY 05, 2000, PROVIDES THE EXISTING CONDITIONS FOR THIS SUBMITTAL. AS INDICATED ABOVE, THE ENGINEER HAS CONDUCTED LIMITED FIELD VERIFICATION TO OBTAIN SUPPLEMENTAL DATA TO SUPPORT HIS DESIGN EFFORTS.

**III. DEVELOPED CONDITIONS**

THE PROPOSED CONSTRUCTION CONSISTS OF A BUILDING ADDITION AT THE REAR OF THE STRUCTURE COMPLETED IN 2000. THE ADDITION WILL REQUIRE THE REMOVAL OF EXISTING ASPHALT PAVING AND THE REPLACEMENT OF THAT EXISTING HARD SURFACE WITH ROOF, NEW ASPHALT PAVING AND GRAVEL. EXISTING DRAINAGE PATTERNS WILL BE MAINTAINED THEREFORE THE SITE WILL CONTINUE TO DISCHARGE ITS DEVELOPED RUNOFF TO VISSAR PLACE NE AS PREVIOUSLY APPROVED. DUE TO THE FACT THAT NO NEW IMPERVIOUS AREA IS PROPOSED, CALCULATIONS HAVE NOT BEEN PERFORMED FOR THIS SUBMITTAL.

**IV. CONCLUSIONS**

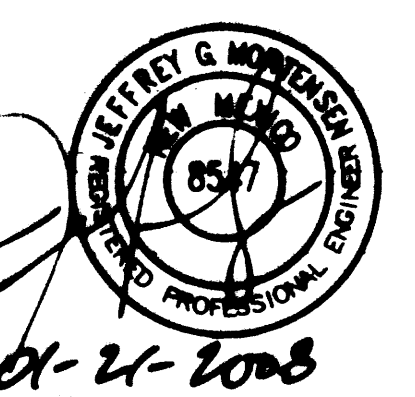
THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A PART OF THIS SUBMITTAL:

- THE PROPOSED PROJECT WILL NOT RESULT IN AN INCREASE IN RUNOFF GENERATED BY THE SITE.
- THE PROPOSED PROJECT WILL CONFORM TO THE PREVIOUSLY APPROVED PLAN FOR THIS SITE.
- THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THIS SITE IS APPROPRIATE.

**EROSION CONTROL MEASURES:**

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE 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.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

**NOTE:**  
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON A RECORD DRAINAGE PREPARED BY HIGH MESA CONSULTING GROUP (NMPE 8547) (FORMERLY JEFF MORTENSEN & ASSOCIATES, INC.), DATED 05-05-2000. THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON A RECORD DRAINAGE PREPARED BY HIGH MESA CONSULTING GROUP (NMPE 8547) (FORMERLY JEFF MORTENSEN & ASSOCIATES, INC.), DATED 05-05-2000.



**BOUNDARY TABLES**

LINE	DIRECTION	DISTANCE
L1	N 89°54'54" E	408.16'
L2	S 35°35'46" W	262.19'
L3	S 75°16'57" E	214.36'
L4	S 14°02'22" W	138.96'
L5	S 13°43'43" W	144.14'

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	2088.86'	192.52'	192.45'	S 32°58'12" W	05°16'41"
C2	55.00'	47.17'	45.74'	N 11°52'07" W	49°08'30"

**GRADING AND DRAINAGE PLAN  
PHASE 2 BUILDING ADDITION  
WESTWIND LANDSCAPE CONSTRUCTION INC.**

**RECEIVED**  
JAN 21 2008  
HYDROLOGY SECTION

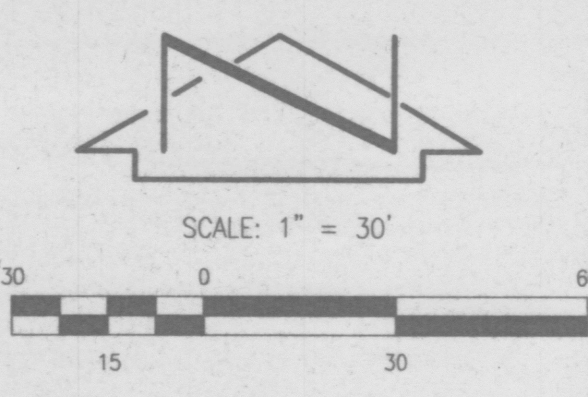
**HIGH MESA Consulting Group**  
FORMERLY JEFF MORTENSEN AND ASSOCIATES, INC.  
4010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109  
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

DESIGNED BY J.G.M.	NO.	DATE	BY	REVISIONS	JOB NO. 99.006.9
					DATE 01-2008
					SHEET 1 OF 1
DRAWN BY C.F.A./D.M.H.					
APPROVED BY J.G.M.					



11-14-2003  
12-04-2003





RECEIVED  
MAY 05 2000  
HYDROLOGY SECTION

### LEGAL DESCRIPTION

TRACT B-1-F-1, COMANCHE BUSINESS PARK,  
FILED SEPTEMBER 15, 1997, 97C-277.

### PROJECT BENCHMARK

CITY OF ALBUQUERQUE BENCHMARK "NDC 16-16", STATION  
IS AMAFCA BRASS TABLET STAMPED "NDC 16-16", SET ON  
A CONCRETE POST PROJECTING 0.4' FEET ABOVE THE GROUND  
LOCATED AT THE COMANCHE BRIDGE OVER THE AMAFCA NORTH  
DIVERSION CHANNEL.  
ELEVATION = 5111.1 FT. (M.S.L.D.)

### T.B.M.

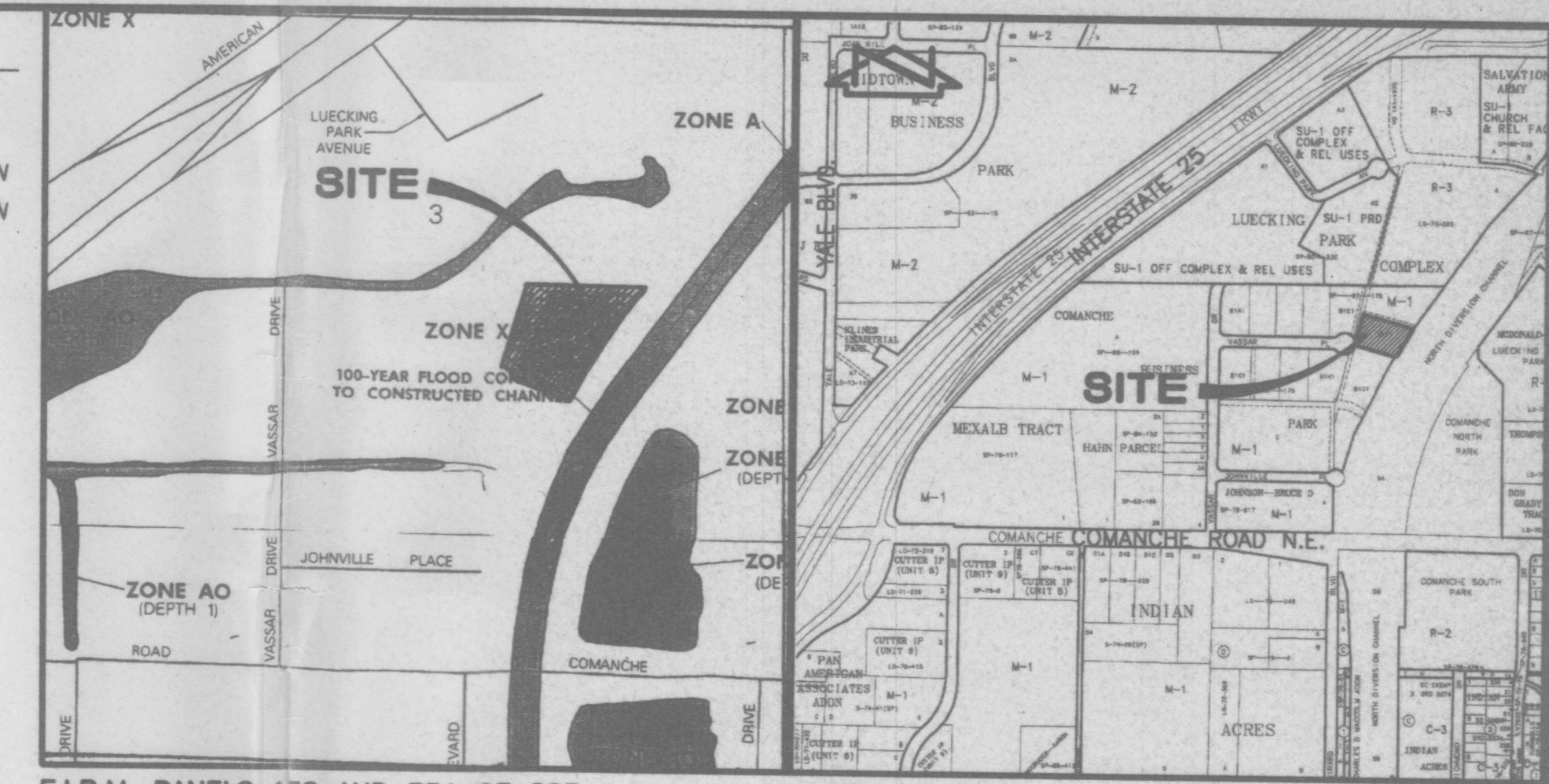
CHISELED "+" ON TOP OF CONCRETE AT SOUTHWEST CORNER  
OF SITE. ELEVATION = 5078.04 FT. (M.S.L.D.)

### LEGEND

- TC TOP OF CURB
- TA TOP OF ASPHALT
- FL FLOWLINE
- TCO TOP OF CONCRETE
- W.V. WATER VALVE
- W.M.B. WATER METER BOX
- T.CAB. TELEPHONE CABINET
- EXISTING SPOT ELEVATION
- UTILITY PAINT MARK
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED ASPHALT PAVEMENT
- PROPOSED BUILDING
- DIRECTION OF FLOW

### AS-BUILT LEGEND

- TC79.00 ✓ AS-BUILT = AS DESIGNED
- TA81.96 AS-BUILT ELEVATION
- TC79.50-56 AS-BUILT ELEVATION



F.I.R.M. PANELS 138 AND 351 OF 825  
SCALE: 1" = 500'

VICINITY MAP  
SCALE: 1" = 750'

- CONSTRUCTION NOTES:
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
  - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
  - 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.
  - ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
  - 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 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. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THEREOF, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND 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, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING 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.
  - THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

**ENGINEER'S CERTIFICATION**

AS INDICATED BY THE AS-BUILT INFORMATION SHOWN HEREON, THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN. IT IS BASED UPON THIS EVALUATION OF AS-CONSTRUCTED CONDITIONS THAT ISSUANCE OF A PERMANENT CERTIFICATE OF OCCUPANCY IS HEREBY RECOMMENDED. THE AS-BUILT INFORMATION HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THE AS-BUILT INFORMATION IS NOT NECESSARILY COMPLETE AND EXTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JEFFREY G. MORTENSEN, NMPE 8547

NEW MEXICO  
8547  
REGISTERED PROFESSIONAL ENGINEER

05-05-2000

### BOUNDARY TABLES

LINE	DIRECTION	DISTANCE
L1	N 89°54'54" E	406.16'
L2	S 35°35'46" W	262.19'
L3	S 75°16'57" E	214.36'
L4	S 14°02'22" W	138.96'
L5	S 13°43'43" W	144.14'

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	2089.86'	192.52'	192.45'	S 32°58'12" W	05°16'41"
C2	55.00'	47.17'	45.74'	N 11°52'07" W	49°08'30"

TRACT A-2  
LUECKING PARK COMPLEX No. 2 & 3  
(FILED 07-03-1980, C17-9)

TRACT B-1-F-1  
COMANCHE BUSINESS PARK  
(FILED 09-15-1997, 97C-277)

EXIST. SANITARY MANHOLE  
RIM ELEVATION = 5076.72 (EXIST.)  
INV. ELEVATION (C) = 5067.46  
INV. ELEVATION (N) = 5067.34  
INV. ELEVATION (S) = 5067.32  
ADJUST TO GRADE  
TC79.70  
TC=TA FL78.20  
9.06

EXISTING 35' PUBLIC WATER AND SANITARY SEWER  
EASEMENT GRANTED BY PLAT FILED 07-28-1997,  
97C-233

EXISTING 5' U.S. WEST COMMUNICATIONS EASEMENT  
GRANTED BY PLAT FILED 07-28-1997, 97C-233

EXISTING 10' PUBLIC UTILITY EASEMENT GRANTED BY PLAT  
FILED 07-28-1997, 97C-233

VASSAR PLACE N.E.  
(6' R.O.W.)

C.O.A. ALUMINUM  
CAP "11184"  
5076.52

EXISTING 10' PUBLIC UTILITY EASEMENT GRANTED BY PLAT  
FILED 07-28-1997, 97C-233

TRACT B-1-F-1  
COMANCHE BUSINESS PARK  
(FILED 09-15-1997, 97C-277)

EXIST. SANITARY MANHOLE  
RIM ELEVATION = 5076.07  
INV. ELEVATION (N) = 5065.22  
INV. ELEVATION (S) = 5065.19

EXISTING 20' PUBLIC SANITARY SEWER EASEMENT  
PER PLAT 93C-35

EXISTING 5' U.S. WEST COMMUNICATIONS EASEMENT  
GRANTED BY PLAT FILED 07-28-1997, 97C-233

TRACT B-1-F-1  
COMANCHE BUSINESS PARK  
(FILED 09-15-1997, 97C-277)

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HYDROLOGY SECTION



JEFF MORTENSEN & ASSOCIATES, INC.  
6010-B MIDWAY PARK BLVD. N.E.  
ALBUQUERQUE, N.M. 87109  
ENGINEERS SURVEYORS (505) 345-4250

## GRADING AND DRAINAGE PLAN WESTWIND LANDSCAPE CONSTRUCTION INC.

DESIGNED BY	J.G.M.	NO.	DATE	BY	REVISIONS	JOB NO.
		1	05/00	J.G.M.	AS-BUILT AND CERTIFY	9900628
DRAWN BY	J.Y.R.					DATE
						03-1999
APPROVED BY	J.G.M.					SHEET
						1 OF 23



## DRAINAGE PLAN

## EXECUTIVE SUMMARY:

THIS GRADING AND DRAINAGE PLAN SUPPORTS THE CONSTRUCTION OF A PROPOSED BUILDING AND ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE TRACT IS CURRENTLY UNDEVELOPED. THE TRACT IS ZONED M-1. THE PROPOSED IMPROVEMENTS WILL CAUSE AN INCREASE IN IMPERVIOUS AREA AND WILL IMPACT THE HYDROLOGY OF THE SITE AS DEMONSTRATED IN THE DRAINAGE CALCULATIONS CONTAINED HEREON. THIS PLAN PROPOSES THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS SITE IN ACCORDANCE WITH A PREVIOUSLY APPROVED MASTER DRAINAGE PLAN (G16-D82). THE PURPOSE OF THIS SUBMITTAL IS TO OBTAIN BUILDING PERMIT APPROVAL.

## REFERENCES:

THE FOLLOWING IS A LIST OF PREVIOUSLY APPROVED GRADING AND DRAINAGE PLANS RELATIVE TO THIS SITE. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF THOSE PLANS KNOWN TO THIS PREPARER.

1. DRAINAGE ANALYSIS FOR S.A.D. 216 PREPARED BY ANDREWS, ASBURY AND ROBERT FOR THE CITY OF ALBUQUERQUE. THE DRAINAGE REPORT IS DATED 05-30-1989 WITH ADDENDUM DATED 07-18-1989, AND WAS APPROVED BY BOTH THE CITY OF ALBUQUERQUE AND BERNALILLO COUNTY ON 07-24-1989. THIS SITE LIES WITHIN THE AREA AFFECTED BY S.A.D. 216.

2. MASTER DRAINAGE PLAN FOR TRACT B-1, COMANCHE BUSINESS PARK PREPARED BY JEFF MORTENSEN AND ASSOCIATES, INC. DATED 01-17-1997. THIS MASTER DRAINAGE PLAN WAS APPROVED BY THE CITY OF ALBUQUERQUE 01-17-1997 (FILE G16-D82). THE PROPOSED DEVELOPMENT ON TRACT B-1-F-1 IS CONSISTENT WITH THE REQUIREMENTS OF THIS MASTER DRAINAGE PLAN AND DOES NOT EXCEED THE MAXIMUM ALLOWABLE PEAK DISCHARGE OF 3.61 CFS/AC.

## PROJECT DESCRIPTION:

AS SHOWN BY THE VICINITY MAP ON SHEET 1, THE SITE IS LOCATED AT THE EAST END OF VASSAR PLACE N.E., THE SITE ADJOINS AMAFA RIGHT OF WAY FOR THE NORTH DIVERSION CHANNEL. THE SITE IS CURRENTLY UNDEVELOPED. THE LEGAL DESCRIPTION OF THE SITE IS TRACT B-1-F-1 COMANCHE BUSINESS PARK, FILED 09-15-1997, 97C-277. THE SITE IS ZONED M-1.

AS SHOWN BY PANEL 138 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS FOR BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS DATED SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

## EXISTING CONDITIONS:

THE SITE IS UNDEVELOPED. THE SITE DRAINS FROM EAST TO WEST TO VASSAR PLACE N.E. THE SITE IS PART OF BASIN B-3A AS IDENTIFIED IN THE AFOREMENTIONED MASTER DRAINAGE PLAN FOR THE SITE. THE MASTER DRAINAGE PLAN ALSO IDENTIFIES OFFSITE FLOWS ENTERING THE SITE FROM THE NORTH AND FROM THE EAST. THE LOCATIONS AND PEAK FLOW RATES OF THESE OFFSITE FLOWS ARE SHOWN ON THE GRADING PLAN ON SHEET 1. OFFSITE FLOWS DO NOT ENTER THE SITE FROM THE TRACT TO THE SOUTH WHICH EXHIBITS PARALLEL TOPOGRAPHY, OR FROM THE TRACT TO THE WEST WHICH LIES TOPOGRAPHICALLY LOWER. CITY WORK ORDER 55481 CONSTRUCTED THE EXISTING PUBLIC PAVING AND STORM DRAINAGE IMPROVEMENTS WITHIN VASSAR PLACE N.E. THIS SITE DRAINS TO THE EXISTING PUBLIC STORM DRAIN WITHIN VASSAR PLACE N.E. WHICH CURRENTLY OUTFALLS TO A TEMPORARY RETENTION POND CONSTRUCTED BY CITY WORK ORDER ON LOT B-1-J-1. AS IDENTIFIED IN THE MASTER DRAINAGE PLAN, THIS STORM DRAIN WILL OUTLET TO THE TEMPORARY RETENTION POND UNTIL SUCH TIME AS S.A.D. 216 IMPROVEMENTS ARE CONSTRUCTED AND SUBSEQUENT DRAINAGE IMPROVEMENTS ARE MADE. THESE FUTURE IMPROVEMENTS WILL ELIMINATE THE NEED FOR THE TEMPORARY RETENTION POND. IN THE INTERIM CONDITION, THE POND IS SIZED FOR FREE DISCHARGE OF DEVELOPED RUNOFF FROM THE CONTRIBUTING BASINS. THE EXISTING GRADES, AS INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1' 0" INTERVALS SUPPORT THESE OBSERVATIONS.

## DEVELOPED CONDITION:

AS PREVIOUSLY INDICATED, THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF A NEW BUILDING WITH ASSOCIATED PAVING AND LANDSCAPING. THE SITE WILL DISCHARGE FREELY TO VASSAR PLACE N.E. VIA A PROPOSED DRIVEPAD. SECTIONS A-A AND B-B CONTAINED HEREON SHOW PROPOSED ON-SITE DRAINAGE FEATURES USED TO CONVEY ON-SITE AND OFF-SITE FLOWS TO THE PROPOSED DRIVEPAD. AS SHOWN BY THE CALCULATIONS, THE PROPOSED DISCHARGE RATE OF 3.4 CFS/ACRE IS LESS THAN THE ALLOWABLE RATE OF 3.61 CFS/ACRE SET FORTH FOR THE SITE BY THE PREVIOUSLY REFERENCED MASTER DRAINAGE PLAN. FREE DISCHARGE FROM THIS SITE IS THEREFORE JUSTIFIED. THE EXISTING OFFSITE FLOWS, WHICH ENTER THE SITE, WILL BE PASSED THROUGH THE SITE, VASSAR PLACE N.E. WILL CONTINUE TO DRAIN TO THE AFOREMENTIONED PUBLIC STORM DRAIN AND TEMPORARY INTERIM RETENTION POND. FUTURE DOWNSTREAM STORM DRAINAGE AND/OR S.A.D. 216 IMPROVEMENTS WILL NOT RESTRICT OR OTHERWISE AFFECT DRAINAGE FROM THIS SITE. THE PROPOSED SPOT ELEVATIONS AND CONTOURS AT 1' 0" INTERVALS SHOWN ON THE PLAN DEMONSTRATE CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. NO OFFSITE IMPROVEMENTS ARE REQUIRED OR PROPOSED IN CONJUNCTION WITH THIS PROJECT.

## CALCULATIONS:

THE CALCULATIONS, WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THESE CALCULATIONS, AN INCREASE IN THE PEAK RATE AND VOLUME OF DISCHARGE IS ANTICIPATED. THIS INCREASE IS JUSTIFIED BECAUSE BOTH THE EXISTING AND FUTURE DOWNSTREAM IMPROVEMENTS ARE SIZED FOR THE PROPOSED FREE DISCHARGE FROM THIS TRACT AS IDENTIFIED HEREIN.

## CONCLUSION:

THIS PROPOSED GRADING AND DRAINAGE PLAN PROPOSES A RESPONSIBLE APPROACH TO MANAGING THE STORM WATER RUNOFF ASSOCIATED WITH THE PROPOSED CONSTRUCTION. THE INTRODUCTION OF IMPERVIOUS AREA TO THE TRACT WILL CAUSE AN INCREASE IN THE PEAK RATE AND VOLUME OF RUNOFF GENERATED BY THIS SITE. THE PROPOSED DEVELOPED DISCHARGES FROM THIS SITE ARE IN ACCORDANCE WITH THE APPROVED MASTER DRAINAGE PLAN AND S.A.D. REPORT FOR BOTH THE INTERIM AND ULTIMATE CONDITIONS. NO NEW DRAINAGE COVENANTS, EASEMENTS OR VARIANCES ARE REQUESTED AS PART OF THIS PLAN.

## CALCULATIONS

## I. SITE CHARACTERISTICS

A. PRECIPITATION ZONE = 1

B.  $P_{6,100} = P_{360} = 2.35$  IN.

C. TOTAL AREA ( $A_T$ ) = 113,800 SF/2.61 AC

D. EXISTING LAND TREATMENT  
TREATMENT AREA (SF/AC) %  
C 113,800/2.61 100

△ E. DEVELOPED LAND TREATMENT  
TREATMENT AREA (SF/AC) %  
B 14,650 8,280/0.49 0.34 13 (FROM APPROVED LANDSCAPE PLAN)  
C 63,650 83,910/1.82 1.46 56  
D 35,500 21,810/0.80 0.81 30

## II. EXISTING CONDITION

## A. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(1.13)(2.61)] / 2.61 = 1.13 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.13 / 12) 2.61 = 0.2458 \text{ AC.FT.} = 10,700 \text{ CF}$$

## B. PEAK DISCHARGE

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = (3.14)(2.61) = 8.2 \text{ CFS}$$

## △ III. DEVELOPED CONDITION

## A. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.78)(0.34) + 1.13(1.46) + (2.12)(0.81)] / 2.61 = 1.39 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.39 / 12) 2.61 = 0.30 \text{ AC.FT.} = 13,180 \text{ CF}$$

## B. PEAK DISCHARGE

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = (2.28)(0.34) + (3.14)(1.46) + (4.70)(0.81) = 9.2 \text{ CFS}$$

## C. ALLOWABLE DISCHARGE

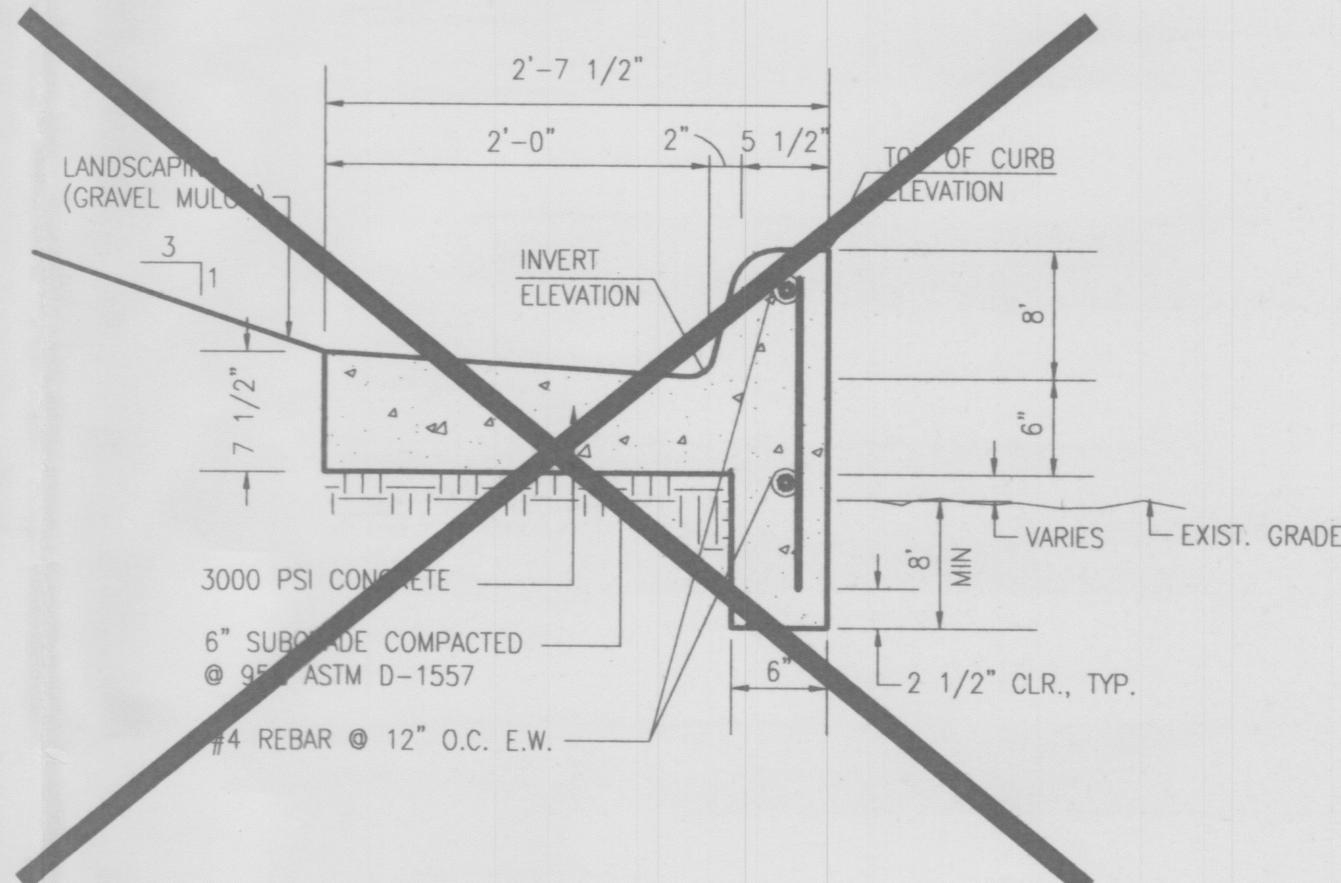
$$q_{PLAN} = 9.2 / 2.61 = 3.5 \text{ CFS/ACRE} < q_{ALLOW}$$

$$q_{ALLOW} = 3.61 \text{ CFS/ACRE (PER MDP)}$$

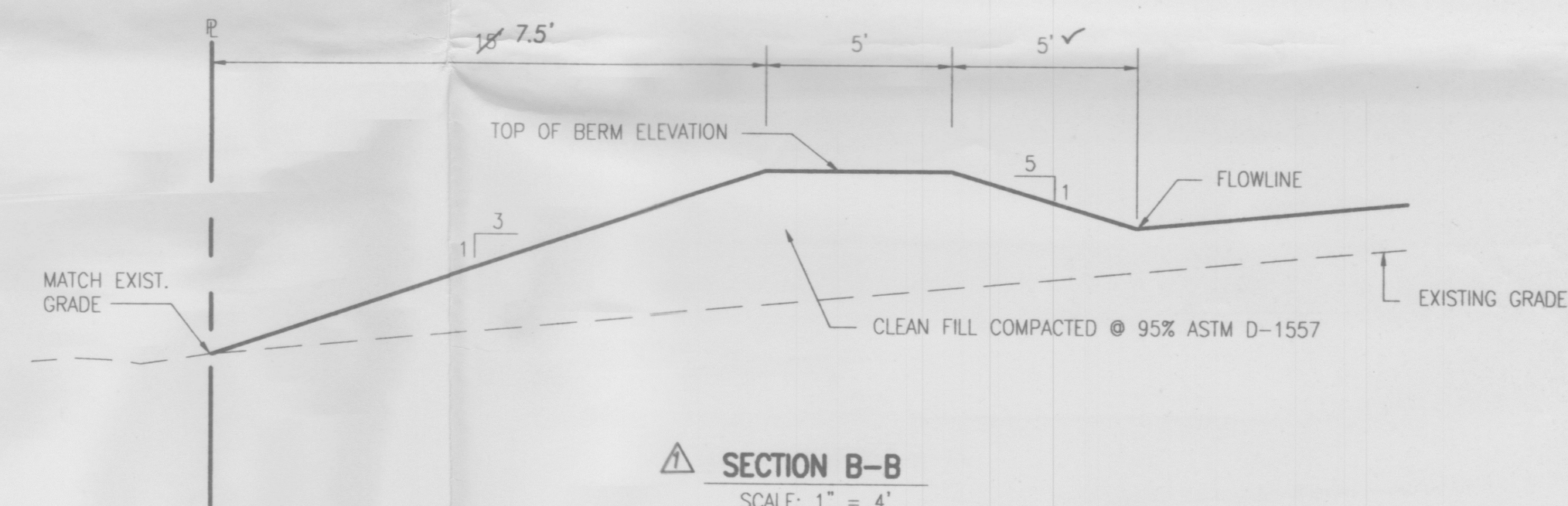
## IV. COMPARISON

$$\Delta V_{100} = \frac{13,180}{12,220} - 10,700 = \frac{2,480}{12,220} \text{ CF (INCREASE)}$$

$$\Delta Q_{100} = \frac{9.2}{8.2} - 8.2 = \frac{1.0}{0.6} \text{ CFS (INCREASE)}$$



△ SECTION A-A  
SCALE: 1" = 1'



△ SECTION B-B  
SCALE: 1" = 4'

## ENGINEER'S CERTIFICATION

AS INDICATED BY THE AS-BUILT INFORMATION SHOWN HEREON, THIS PROJECTED HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN. IT IS BASED UPON THIS EVALUATION OF AS-CONSTRUCTED CONDITIONS THAT ISSUANCE OF A PERMANENT CERTIFICATE OF OCCUPANCY IS HEREBY RECOMMENDED. THE AS-BUILT INFORMATION HAS BEEN OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THE AS-BUILT INFORMATION IS NOT NECESSARILY COMPLETE AND EXTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JEFFREY G. MORTENSEN, NMPE 8547

NEW MEXICO  
8547  
REGISTERED PROFESSIONAL ENGINEER

DATE

JEFFREY G. MORTENSEN, NMPE 8547  
NEW MEXICO  
8547  
REGISTERED PROFESSIONAL ENGINEER

03-18-99

**Jma**

JEFF MORTENSEN & ASSOCIATES, INC.  
8010-B MONDAY PARK BLVD. N.E.  
ALBUQUERQUE, NEW MEXICO 87109  
ENGINEERS & SURVEYORS (505) 345-4250

DRAINAGE PLAN, CALCULATIONS, SECTIONS AND DETAILS  
WESTWIND LANDSCAPE CONSTRUCTION INC.

DESIGNED BY J.G.M./G.M.

DRAWN BY D.L.M./J.Y.R.

APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS
△	05/00	J.G.M.	AS-BUILT AND CERTIFY

JOB NO.	990062 <sup>B</sup>
DATE	03-1999
SHEET	2 OF 2 <sup>3</sup>

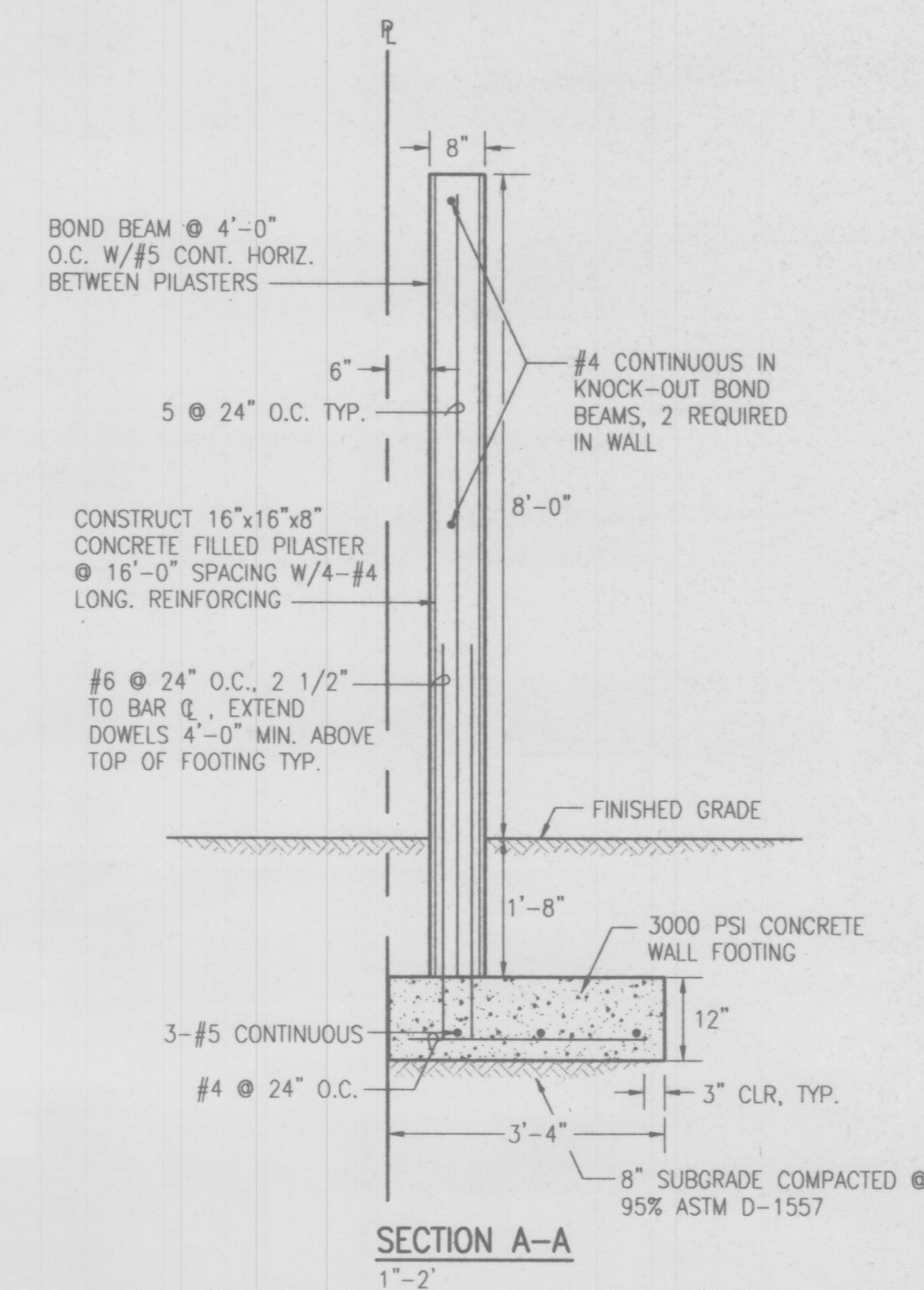
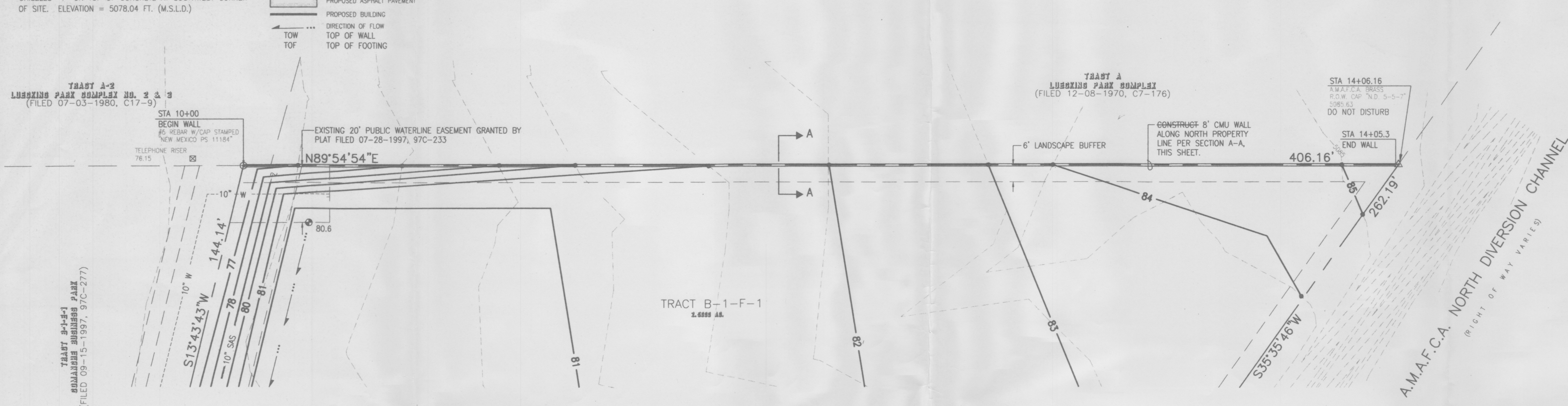


TRACT B-1-F-1, COMANCHE BUSINESS PARK,  
FILED SEPTEMBER 15, 1997, 97C-277.

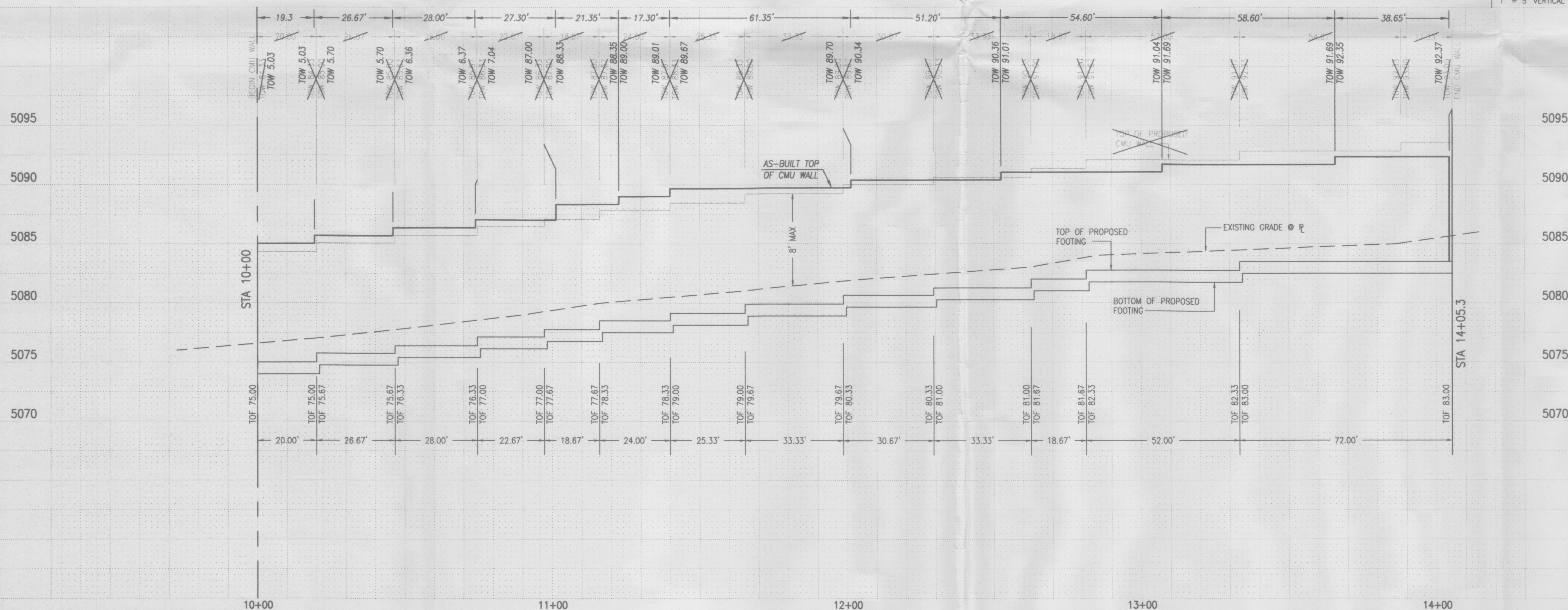
CITY OF ALBUQUERQUE BENCHMARK "NDC 16-16". STATION  
IS AMAFCA BRASS TABLET STAMPED "NDC 16-16", SET ON  
A CONCRETE POST PROJECTING 0.4' FEET ABOVE THE GROUND  
LOCATED AT THE COMANCE BRIDGE OVER THE AMAFCA NORTH  
DIVERSION CHANNEL.  
ELEVATION = 5111.1 FT. (M.S.L.D.)

CHISELED "+" ON TOP OF CONCRETE AT SOUTHWEST CORNER  
OF SITE. ELEVATION = 5078.04 FT. (M.S.L.D.)

TC	TOP OF CURB
TA	TOP OF ASPHALT
FL	FLOWLINE
TCQ	TOP OF CONCRETE
W.V.	WATER VALVE
WMB	WATER METER BOX
T.CAB.	TELEPHONE CABINET
	EXISTING CONTOUR
177.00 +	EXISTING SPOT ELEVATION
*	UTILITY PAINT MARK
81.2	PROPOSED SPOT ELEVATION
84	PROPOSED CONTOUR
	PROPOSED ASPHALT PAVEMENT
	PROPOSED BUILDING
...	DIRECTION OF FLOW
OW	TOP OF WALL
OF	TOP OF FOOTING

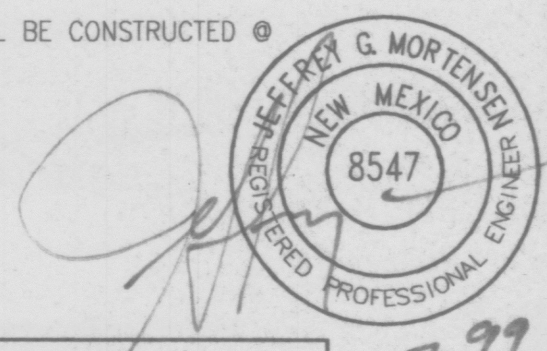


SCALE:  
1" = 20' HORIZONTAL  
1" = 5' VERTICAL



1. 8"x16"x16" CMU OF UBC STD. 24-4 OR 24-5
2. USE KNOCK-OUT BOND BEAM AT 4'-0" MAX C.C., VERTICALLY, AND 1 #4 CONTINUOUS.
3. REINFORCING TO BE INTERMEDIATE GRADE STEEL. fs=20,000 PSI
4. IN LIEU OF CONTINUOUS KNOCK-OUT BOND BEAMS, CONTRACTOR MAY INSTALL DUR-O-WALL REINFORCING EVERY SECOND COURSE.
5. SPLICE SHALL BE 40 BAR DIA. MINIMUM FOR VERTICAL BARS. ALL OTHER SHALL BE 20 BAR DIA. MINIMUM.
6. MASONRY GROUT SHALL BE 2800 PSI STRENGTH.
7. THE DIFFERENCE IN FINISHED GRADE ACROSS THE WALL SHALL NOT EXCEED 1'-0".
8. 8"x16"x16" CMU PILASTERS SHALL BE CONSTRUCTED @ 16" SPACING

**NOTE:**  
THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS BASED UPON THE SURVEY PERFORMED BY JEFF MORTENSEN AND ASSOCIATES DATED FEBRUARY, 1999.



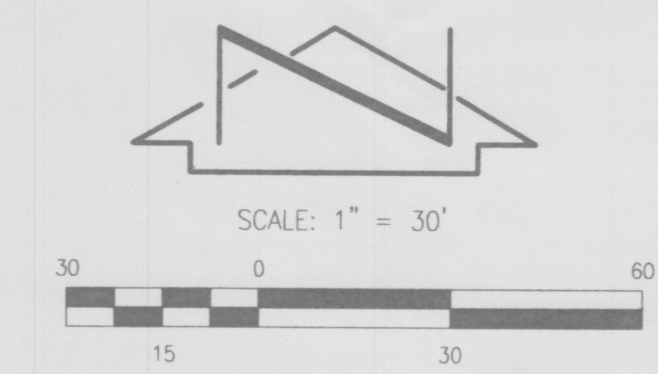
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JEFF MORTENSEN & ASSOCIATES, INC.  
☐ 6010-B MIDWAY PARK BLVD. N.E.  
☐ ALBUQUERQUE ☐ NEW MEXICO 87109  
☐ ENGINEERS ☐ SURVEYORS (505) 345-4250

	NEL	DATE	BY	REVISIONS	JOB NO.
DESIGNED BY C.J.S.	△	05/00	J.G.M.	AS-BUILT	990065 <sup>B</sup>
DRAWN BY J.Y.R.					DATE 12-1999
APPROVED BY J.G.M.					SHEET C3 OF 3





TRACT A-2  
LUECKING PARK COMPLEX No. 2 & 3  
(FILED 07-03-1980, C17-9)

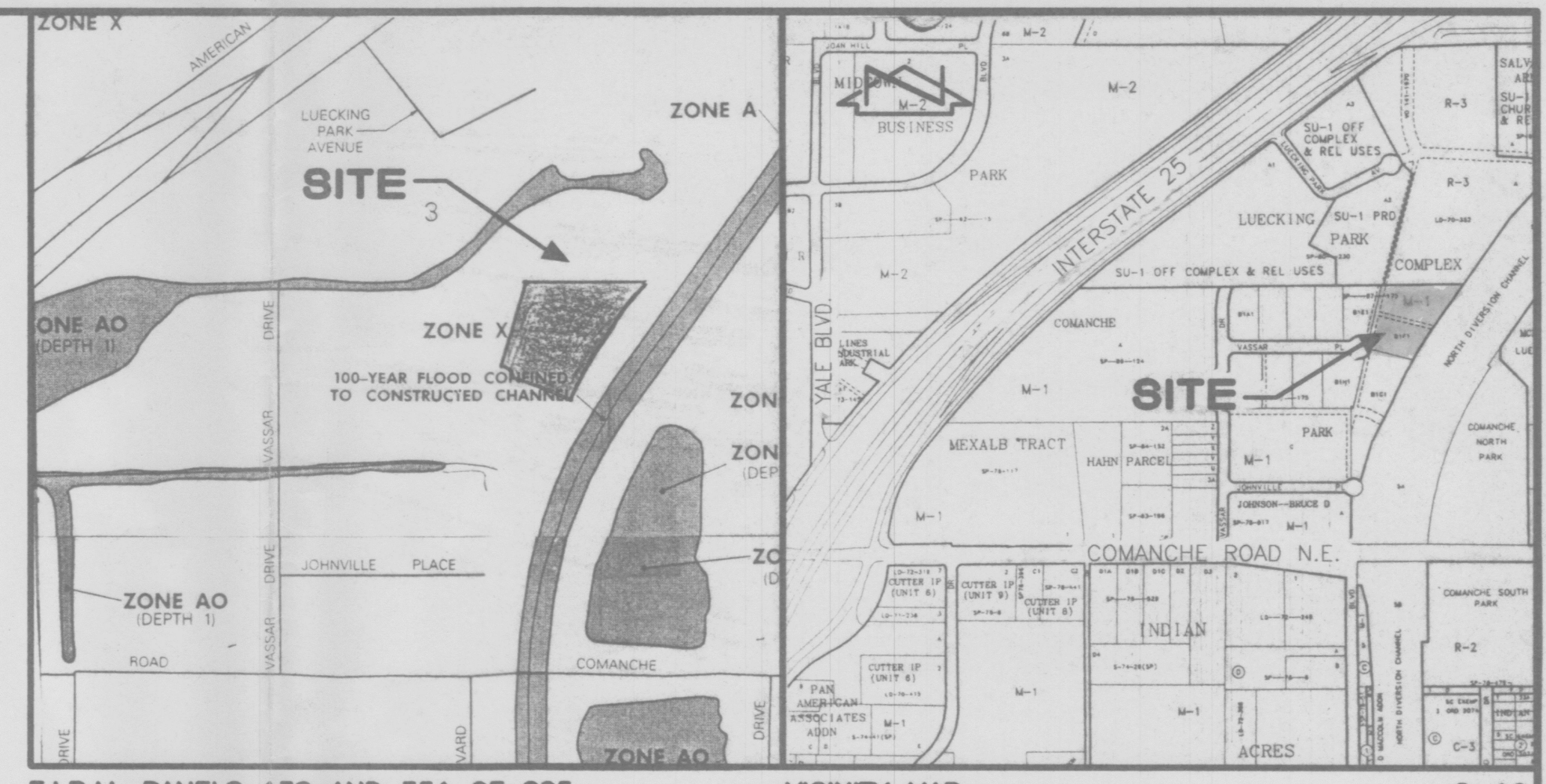
**LEGAL DESCRIPTION**  
TRACT B-1-F-1, COMANCHE BUSINESS PARK,  
FILED SEPTEMBER 15, 1997, 97C-277.

**PROJECT BENCHMARK**  
CITY OF ALBUQUERQUE BENCHMARK "NDC 16-16" STATION  
IS AMAFCA BRASS TABLET STAMPED "NDC 16-16", SET ON  
A CONCRETE POST PROJECTING 0.4' FEET ABOVE THE GROUND  
LOCATED AT THE COMANCHE BRIDGE OVER THE AMAFCA NORTH  
DIVERSION CHANNEL.  
ELEVATION = 5111.1 FT. (M.S.L.D.)

**T.B.M.**  
CHISELED "+" ON TOP OF CONCRETE AT SOUTHWEST CORNER  
OF SITE. ELEVATION = 5078.04 FT. (M.S.L.D.)

**LEGEND**

TC	TOP OF CURB
TA	TOP OF ASPHALT
FL	FLOWLINE
TCO	TOP OF CONCRETE
W.V.	WATER VALVE
WMB	WATER METER BOX
T.CAB.	TELEPHONE CABINET
TA77.00 +	EXISTING SPOT ELEVATION
*	UTILITY PAINT MARK
81.2	PROPOSED SPOT ELEVATION
84	PROPOSED CONTOUR
[Symbol]	PROPOSED ASPHALT PAVEMENT
[Symbol]	PROPOSED BUILDING
[Symbol]	DIRECTION OF FLOW



**F.I.R.M. PANELS 138 AND 351 OF 825**  
SCALE: 1" = 500'

**VICINITY MAP**  
SCALE: 1" = 750'

- CONSTRUCTION NOTES:**
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
  - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
  - 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.
  - ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
  - IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES 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. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND 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, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING 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.
  - THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

- EROSION CONTROL MEASURES:**
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
  - THE 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.
  - THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
  - ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDING ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.



**BOUNDARY TABLES**

LINE	DIRECTION	DISTANCE
L1	N 89°54'54" E	406.16'
L2	S 35°35'46" W	262.19'
L3	S 75°16'57" E	214.36'
L4	S 14°02'22" W	138.96'
L5	S 13°43'43" W	144.14'

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	2089.86'	192.52'	192.45'	S 32°58'12" W	05°16'41"
C2	55.00'	47.17'	45.74'	N 11°52'07" W	49°08'30"

**GRADING AND DRAINAGE PLAN**  
**WESTWIND LANDSCAPE CONSTRUCTION INC.**



JEFF MORTENSEN & ASSOCIATES, INC.  
6010-B MIDWAY PARK BLVD. N.E.  
ALBUQUERQUE, N.M. 87109  
ENGINEERS [ ] SURVEYORS (505) 345-4250

			NO.			DATE			BY			REVISIONS			JOB NO.		
DESIGNED BY			J.G.M.												990062		
DRAWN BY			J.Y.R.												DATE		
															03-1999		
APPROVED BY			J.G.M.												SHEET		
															1 OF 2		

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Plot Date: 03-18-1999  
Plot Time: 1:58 pm



DRAINAGE PLAN

EXECUTIVE SUMMARY:

THIS GRADING AND DRAINAGE PLAN SUPPORTS THE CONSTRUCTION OF A PROPOSED BUILDING AND ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE TRACT IS CURRENTLY UNDEVELOPED. THE TRACT IS ZONED M-1. THE PROPOSED IMPROVEMENTS WILL CAUSE AN INCREASE IN IMPERVIOUS AREA AND WILL IMPACT THE HYDROLOGY OF THE SITE AS DEMONSTRATED IN THE DRAINAGE CALCULATIONS CONTAINED HEREON. THIS PLAN PROPOSES THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS SITE IN ACCORDANCE WITH A PREVIOUSLY APPROVED MASTER DRAINAGE PLAN (G16-D82). THE PURPOSE OF THIS SUBMITTAL IS TO OBTAIN BUILDING PERMIT APPROVAL.

REFERENCES:

THE FOLLOWING IS A LIST OF PREVIOUSLY APPROVED GRADING AND DRAINAGE PLANS RELATIVE TO THIS SITE. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF THOSE PLANS KNOWN TO THIS PREPARER.

1. DRAINAGE ANALYSIS FOR S.A.D. 216 PREPARED BY ANDREWS, ASBURY AND ROBERT FOR THE CITY OF ALBUQUERQUE. THE DRAINAGE REPORT IS DATED 05-30-1989 WITH ADDENDUM DATED 07-18-1989, AND WAS APPROVED BY BOTH THE CITY OF ALBUQUERQUE AND BERNALILLO COUNTY ON 07-24-1989. THIS SITE LIES WITHIN THE AREA AFFECTED BY S.A.D. 216.

2. MASTER DRAINAGE PLAN FOR TRACT B-1, COMANCHE BUSINESS PARK PREPARED BY JEFF MORTENSEN AND ASSOCIATES, INC. DATED 01-17-1997. THIS MASTER DRAINAGE PLAN WAS APPROVED BY THE CITY OF ALBUQUERQUE 01-17-1997 (FILE G16-D82). THE PROPOSED DEVELOPMENT ON TRACT B-1-F-1 IS CONSISTENT WITH THE REQUIREMENTS OF THIS MASTER DRAINAGE PLAN AND DOES NOT EXCEED THE MAXIMUM ALLOWABLE PEAK DISCHARGE OF 3.61 CFS/AC.

PROJECT DESCRIPTION:

AS SHOWN BY THE VICINITY MAP ON SHEET 1, THE SITE IS LOCATED AT THE EAST END OF VASSAR PLACE N.E., THE SITE ADJOINS AMAFA RIGHT OF WAY FOR THE NORTH DIVERSION CHANNEL. THE SITE IS CURRENTLY UNDEVELOPED. THE LEGAL DESCRIPTION OF THE SITE IS TRACT B-1-F-1 COMANCHE BUSINESS PARK, FILED 09-15-1997, 97C-277. THE SITE IS ZONED M-1.

AS SHOWN BY PANEL 138 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS FOR BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS DATED SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

EXISTING CONDITIONS:

THE SITE IS UNDEVELOPED. THE SITE DRAINS FROM EAST TO WEST TO VASSAR PLACE N.E. THE SITE IS PART OF BASIN B-3A AS IDENTIFIED IN THE AFOREMENTIONED MASTER DRAINAGE PLAN FOR THE SITE. THE MASTER DRAINAGE PLAN ALSO IDENTIFIES OFFSITE FLOWS ENTERING THE SITE FROM THE NORTH AND FROM THE EAST. THE LOCATIONS AND PEAK FLOW RATES OF THESE OFFSITE FLOWS ARE SHOWN ON THE GRADING PLAN ON SHEET 1. OFFSITE FLOWS DO NOT ENTER THE SITE FROM THE TRACT TO THE SOUTH WHICH EXHIBITS PARALLEL TOPOGRAPHY, OR FROM THE TRACT TO THE WEST WHICH LIES TOPOGRAPHICALLY LOWER. CITY WORK ORDER 554481 CONSTRUCTED THE EXISTING PUBLIC PAVING AND STORM DRAINAGE IMPROVEMENTS WITHIN VASSAR PLACE N.E. THIS SITE DRAINS TO THE EXISTING PUBLIC STORM DRAIN WITHIN VASSAR PLACE N.E. WHICH CURRENTLY OUTFALLS TO A TEMPORARY RETENTION POND CONSTRUCTED BY CITY WORK ORDER ON LOT B-1-J-1. AS IDENTIFIED IN THE MASTER DRAINAGE PLAN, THIS STORM DRAIN WILL OUTLET TO THE TEMPORARY RETENTION POND UNTIL SUCH TIME AS S.A.D. 216 IMPROVEMENTS ARE CONSTRUCTED AND SUBSEQUENT DRAINAGE IMPROVEMENTS ARE MADE. THESE FUTURE IMPROVEMENTS WILL ELIMINATE THE NEED FOR THE TEMPORARY RETENTION POND. IN THE INTERIM CONDITION, THE POND IS SIZED FOR FREE DISCHARGE OF DEVELOPED RUNOFF FROM THE CONTRIBUTING BASINS. THE EXISTING GRADES, AS INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1' 0" INTERVALS SUPPORT THESE OBSERVATIONS.

DEVELOPED CONDITION:

AS PREVIOUSLY INDICATED, THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF A NEW BUILDING WITH ASSOCIATED PAVING AND LANDSCAPING. THE SITE WILL DISCHARGE FREELY TO VASSAR PLACE N.E. VIA A PROPOSED DRIVEPAD. SECTIONS A-A AND B-B CONTAINED HEREON SHOW PROPOSED ON-SITE DRAINAGE FEATURES USED TO CONVEY ON-SITE AND OFF-SITE FLOWS TO THE PROPOSED DRIVEPAD. AS SHOWN BY THE CALCULATIONS, THE PROPOSED DISCHARGE RATE OF 3.4 CFS/ACRE IS LESS THAN THE ALLOWABLE RATE OF 3.61 CFS/ACRE SET FORTH FOR THE SITE BY THE PREVIOUSLY REFERENCED MASTER DRAINAGE PLAN. FREE DISCHARGE FROM THIS SITE IS THEREFORE JUSTIFIED. THE EXISTING OFFSITE FLOWS, WHICH ENTER THE SITE, WILL BE PASSED THROUGH THE SITE. VASSAR PLACE N.E. WILL CONTINUE TO DRAIN TO THE AFOREMENTIONED PUBLIC STORM DRAIN AND TEMPORARY INTERIM RETENTION POND. FUTURE DOWNSTREAM STORM DRAINAGE AND/OR S.A.D. 216 IMPROVEMENTS WILL NOT RESTRICT OR OTHERWISE AFFECT DRAINAGE FROM THIS SITE. THE PROPOSED SPOT ELEVATIONS AND CONTOURS AT 1' 0" INTERVALS SHOWN ON THE PLAN DEMONSTRATE CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. NO OFFSITE IMPROVEMENTS ARE REQUIRED OR PROPOSED IN CONJUNCTION WITH THIS PROJECT.

CALCULATIONS:

THE CALCULATIONS, WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-50 AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THESE CALCULATIONS, AN INCREASE IN THE PEAK RATE AND VOLUME OF DISCHARGE IS ANTICIPATED. THIS INCREASE IS JUSTIFIED BECAUSE BOTH THE EXISTING AND FUTURE DOWNSTREAM IMPROVEMENTS ARE SIZED FOR THE PROPOSED FREE DISCHARGE FROM THIS TRACT AS IDENTIFIED HEREIN.

CONCLUSION:

THIS PROPOSED GRADING AND DRAINAGE PLAN PROPOSES A RESPONSIBLE APPROACH TO MANAGING THE STORM WATER RUNOFF ASSOCIATED WITH THE PROPOSED CONSTRUCTION. THE INTRODUCTION OF IMPERVIOUS AREA TO THE TRACT WILL CAUSE AN INCREASE IN THE PEAK RATE AND VOLUME OF RUNOFF GENERATED BY THIS SITE. THE PROPOSED DEVELOPED DISCHARGES FROM THIS SITE ARE IN ACCORDANCE WITH THE APPROVED MASTER DRAINAGE PLAN AND S.A.D. REPORT FOR BOTH THE INTERIM AND ULTIMATE CONDITIONS. NO NEW DRAINAGE COVENANTS, EASEMENTS OR VARIANCES ARE REQUESTED AS PART OF THIS PLAN.

CALCULATIONS

I. SITE CHARACTERISTICS

A. PRECIPITATION ZONE = 1

B.  $P_{6,100} = P_{360} = 2.35$  IN.

C. TOTAL AREA ( $A_T$ ) = 113,800 SF/2.61 AC

D. EXISTING LAND TREATMENT  
TREATMENT AREA SF/AC) %  
C 113,800/2.61 100

E. DEVELOPED LAND TREATMENT  
TREATMENT AREA (SF/AC) %  
B 8,280/0.19 7  
C 83,910/1.92 74  
D 21,610/0.50 19

II. EXISTING CONDITION

A. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(1.13)(2.61)] / 2.61 = 1.13 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.13 / 12) 2.61 = 0.2458 \text{ AC.FT.} = 10,700 \text{ CF}$$

B. PEAK DISCHARGE

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_P = Q_{100} = (3.14)(2.61) = 8.2 \text{ CFS}$$

III. DEVELOPED CONDITION

A. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.78)(0.19) + 1.13(1.92) + (2.12)(0.50)] / 2.61 = 1.29 \text{ IN.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.29 / 12) 2.61 = 0.2806 \text{ AC.FT.} = 12,220 \text{ CF}$$

B. PEAK DISCHARGE

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_P = Q_{100} = (2.28)(0.19) + (3.14)(1.92) + (4.70)(0.50) = 8.8 \text{ CFS}$$

C. ALLOWABLE DISCHARGE

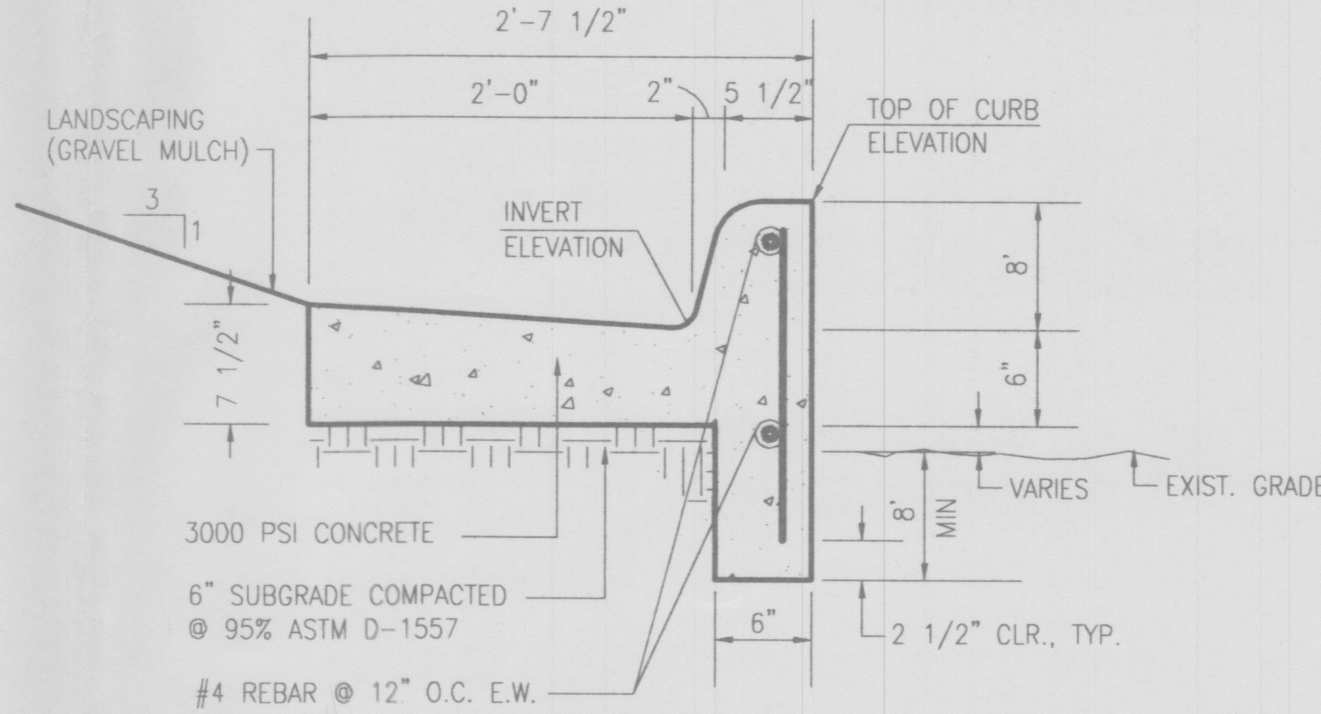
$$Q_{PLAN} = 8.8 / 2.61 = 3.4 \text{ CFS/ACRE}$$

$$Q_{ALLOW} = 3.61 \text{ CFS/ACRE (PER MDP)}$$

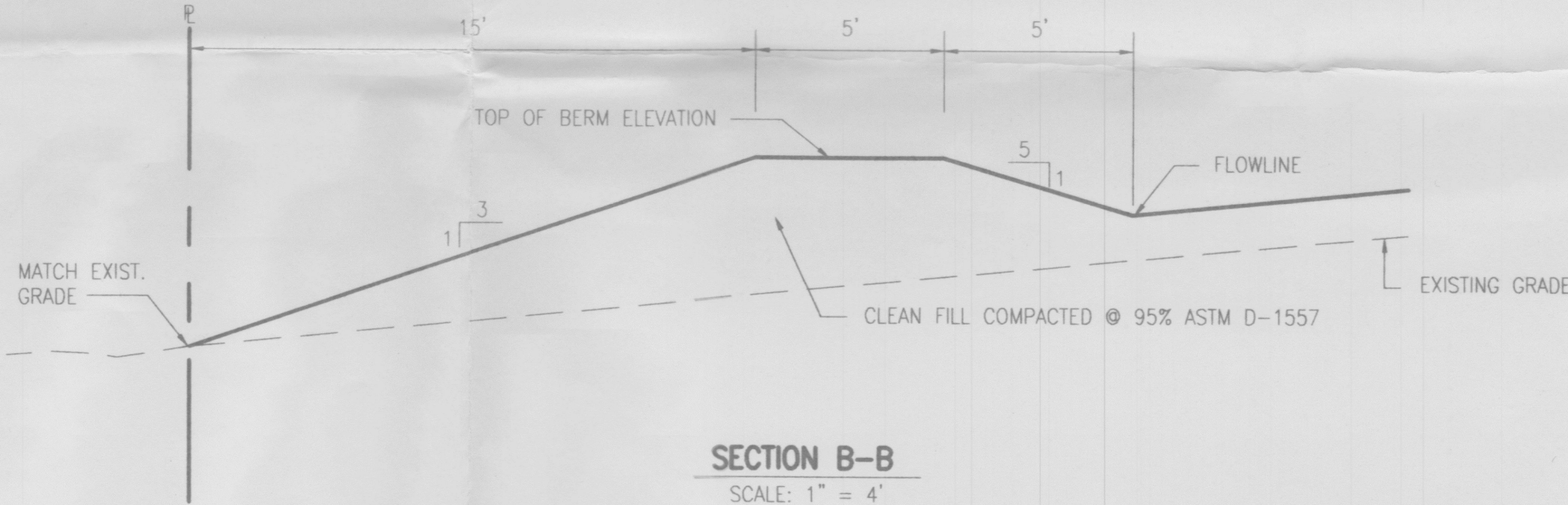
IV. COMPARISON

$$\Delta V_{100} = 12,220 - 10,700 = 1520 \text{ CF (INCREASE)}$$

$$\Delta Q_{100} = 8.8 - 8.2 = 0.6 \text{ CFS (INCREASE)}$$



SECTION A-A  
SCALE: 1" = 1'



SECTION B-B  
SCALE: 1" = 4'



JEFF MORTENSEN & ASSOCIATES, INC.  
6010-B MIDWAY PARK BLVD. N.E.  
ALBUQUERQUE, NM 87109  
ENGINEERS SURVEYORS (SOS) 345-4250

DRAINAGE PLAN, CALCULATIONS, SECTIONS AND DETAILS  
WESTWIND LANDSCAPE CONSTRUCTION INC.

DESIGNED BY	NO.	DATE	BY	REVISIONS	JOB NO.
J.C.M./G.M.					990062
DRAWN BY	NO.	DATE	BY	REVISIONS	DATE
D.L.M./J.Y.R.					03-1999
APPROVED BY	NO.	DATE	BY	REVISIONS	SHEET
J.C.M.					2 OF 2







TRACT A-2  
LUECKING PARK COMPLEX No. 2 & 3  
(FILED 07-03-1990 C17-9)

TABLE B-1-E-1  
COLLAPSED BUSINESS PANE  
FILED 09-15-1997, 97C-277)

EXISTING 35' PUBLIC WATER AND SANITARY SEWER  
EASEMENT GRANTED BY PLAT FILED 07-28-1997,  
97C-233 \_\_\_\_\_

EXISTING 5' U.S. WEST COMMUNICATIONS EASEMENT  
GRANTED BY PLAT FILED 07-28-1997 87C-233

EXISTING 10' PUBLIC UTILITY EASEMENT GRANTED BY PLAT  
FILED 07-28-1997. 97C-233

VASSAR PLACE N.E.  
(60' R.O.W.)

EXISTING 10' PUBLIC UTILITY EASEMENT GRANTED BY PLAT  
FILED 07-28-1997 97C-233

TRUST B-1-E-1  
SOMERSET BUSINESS PARK  
(FILED 09-15-1997 97C-277)

1722 YAGGAN PLACE N.E.  
TAMPA 5-1-5-1-A-1  
SOMMERSET BUSINESS PARK  
(G16/D82C)

— EXISTING 20' PUBLIC SANITARY SEWER EASEMENT  
PER PLAT 93C-35

EXISTING 5' U.S. WEST COMMUNICATIONS EASEMENT  
GRANTED BY PLAT FILED 07-28-1997 97C-233

TRACT B-1-F-1, COMANCHE BUSINESS PARK,  
FILED SEPTEMBER 15, 1997, 97C-277.

CITY OF ALBUQUERQUE BENCH

IS AMAFCA BRASS TABLET STAMPED "NDC 16-16", SET ON  
A CONCRETE POST PROJECTING 0.4' FEET ABOVE THE GROUND  
LOCATED AT THE COMANCHE BRIDGE OVER THE AMAFCA NORTH  
DIVERSION CHANNEL.  
ELEVATION = 5111.1 FT. (M.S.L.D.)

**TBM**

CHISELED "+" ON TOP OF CONCRETE AT SOUTHWEST CORNER  
OF SITE. ELEVATION = 5078.04 FT. (M.S.L.D.)

TC	TOP OF CURB
TA	TOP OF ASPHALT
FL	FLOWLINE
TCO	TOP OF CONCRETE
W.V.	WATER VALVE
W.W.	WATER METER BOX
T.CAB.	TELEPHONE CABINET
---	EXISTING CONTOUR
477.00 -	EXISTING SPOT ELEVATION
*	UTILITY PAINT MARK
---	EXISTING ROOF DRAINAGE
---	PROPOSED ROOF DRAINAGE
---	EXISTING BUILDING
81.2	PROPOSED SPOT ELEVATION
---	PROPOSED CONTOUR
---	PROPOSED BUILDING ADDITION
---	PROPOSED BUILDING
---	PROPOSED FLOWLINE
---	DIRECTION OF FLOW
---	EXISTING FLOW LINE

A.M.A.F.C.A. BRASS  
R.O.W. CAP "N.D. 5  
5085.63  
DO NOT DISTURB

DOUBLE BAR

**AMA.F.C.A. NORTH DIVERSION CHANNEL**  
(RIGHT OF WAY VARIES)

A.M.A.F.C.A. BRSS  
 R.O.W. CAP NS-5-B  
 5082.52  
 DO NOT DISTURB

4.78  
 RECORD INFORMATION  
 ✓ RECORD INFORMATION = AS-DESIGNED  
 © 2000 RECORD INFORMATION

I, JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM HIGH MESA CONSULTING GROUP, HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE ORIGINAL PLANNING DOCUMENT DATED 12-21-2008. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL PLANNING DOCUMENT HAS BEEN OBTAINED FROM MY DIRECT SUPERVISION AS SUPPLEMENTAL SITE DATA AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF ISSUANCE OF A PERMANENT CERTIFICATE OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THIS CERTIFICATION DOES NOT ADDRESS ADA COMPLIANCE WHICH IS BEYOND THE SCOPE OF GRADING AND DRAINAGE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

~~JEFFREY G. MORTENSEN~~  
NMFF NO. 8547



10-31-2008  
DATE

BOUNDARY TABLES		
LINE	DIRECTION	DISTANCE
L1	N 89°54'54" E	406.16'
L2	S 35°35'46" W	262.19'
L3	S 75°16'57" E	214.36'
L4	S 14°02'22" W	138.96'
L5	S 13°43'43" W	144.14'

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	2089.86'	192.52'	192.45'	S 32°58'12" W	05°16'41"
C2	55.00'	47.17'	45.74'	N 11°52'07" W	49°08'30"


**HIGH MESA Consulting Group**

6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109  
PHONE: 505.345.4250 • FAX: 505.345.4254 • [www.highmesacq.com](http://www.highmesacq.com)

## GRADING AND DRAINAGE PLAN PHASE 2 BUILDING ADDITION

**WESTWIND LANDSCAPE CONSTRUCTION INC.**

DESIGNED BY J.G.M.  
DRAWN BY C.F.A./D.M.H.  
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS	JOB NO.
	10/08	JLM	DRAINAGE CERTIFICATION	99.006.9
				DATE
				01-2008
				SHEET
				1 OF 1

**NOTE:**  
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY.  
BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON A RECORD  
DRAWING PREPARED BY HIGH MESA CONSULTING GROUP (NIMPE 8547)  
(FORMERLY JEFF MORTENSEN & ASSOCIATES, INC.), DATED 05-05-2000.  
THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON A RECORD  
DRAWING PREPARED BY HIGH MESA CONSULTING GROUP (NIMPE 8547)  
(FORMERLY JEFF MORTENSEN & ASSOCIATES, INC.), DATED 05-05-2000.

OCT 31 2008

HYG BIOLOGY  
SECTION

JEFFREY G. MORTENSEN



01-21-2008

JOB NO. 99.006.9

DATE	01-2008
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SHEET 1 OF 1