CONSTRUCTION NOTES:

1. 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.
2. 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.
3. 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.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. 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.
6. 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.
7. THE CONTRACTOR SHALL CONTACT CITY OF ALBUQUERQUE STORM DRAIN MAINTENANCE AT 291-6214 TO COORDINATE THE INSPECTION OF THE CONCRETE RUNDOWN WITHIN NORTH PINO CHANNEL RIGHT-OF-WAY.
8. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
9. MAINTENANCE OF THE FACILITIES WITHIN CHANNEL R.O.W. SHALL BE THE RESPONSIBILITY OF THE CITY OF ALBUQUERQUE.
10. THE CONTRACTOR SHALL INSTALL GRAVEL MULCH ON SIDESLOPES WHICH EXCEED A SLOPE OF 3:1 (H:V) WHEN THE TOTAL HEIGHT EXCEEDS 3 FEET. MAXIMUM LANDSCAPE SLOPE SHALL BE 2:1.

PROJECT BENCHMARK

AN A.C.S. A " ALUMINUM DISK STAMPED "ACS BM, 17-D18" EPOXIED TO THE TOP OF CONCRETE BRIDGE ABUTMENT IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF SAN PEDRO DRIVE N.E. AND THE SOUTH DOMINGO BACA CHANNEL.
ELEVATION = 5236.576 FEET (M.S.L.D.)

T.B.M.

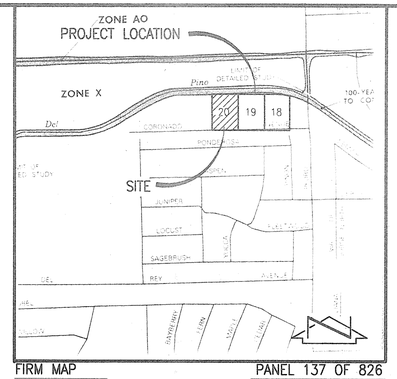
A CHISELED '□' ON THE TOP OF CURB NEAR THE SOUTHEAST CORNER OF LOT 18 AS SHOWN ON THE DRAWING.
ELEVATION = 5242.59 FEET (M.S.L.D.)

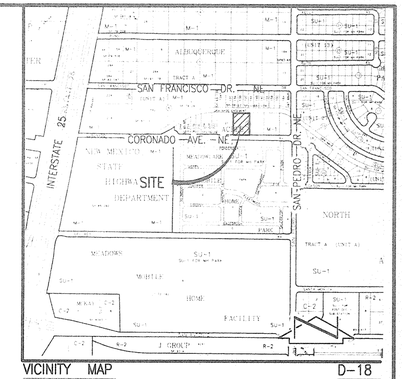
LEGAL DESCRIPTION

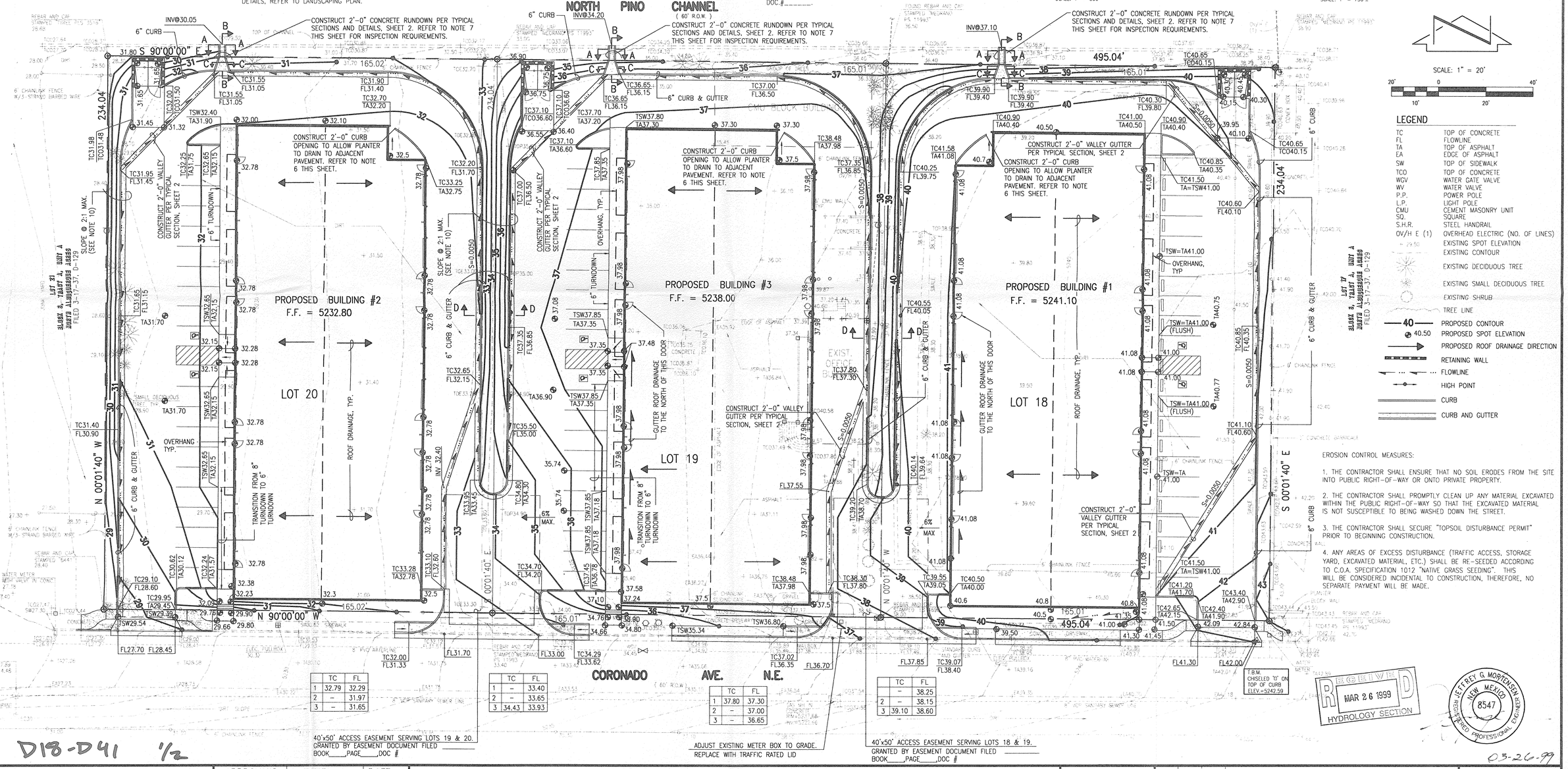
LOT 20, BLOCK 6, TRACT A, UNIT A
NORTH ALBUQUERQUE ACRES

NOTES:

1. A TOPOGRAPHIC SURVEY WAS PERFORMED IN FEBRUARY, 1999 BY JEFF MORTENSEN AND ASSOCIATES. HORIZONTAL DATUM IS BASED UPON THE NEW MEXICO STATE PLANE GRID SYSTEM, CENTRAL ZONE. ELEVATIONS ARE BASED UPON NAD-1927 DATUM.
2. THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. BOUNDARY DATA SHOWN IS BASED UPON THE SURVEY PERFORMED BY LARRY W. MEDRANO, PRECISION SURVEYS, INC. CERTIFIED ON 12/15/1998, AND MONUMENTED IN FEBRUARY, 1999.
3. WATER AND SANITARY SEWER LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY. SIZE AND LOCATION DATA TAKEN FROM CITY OF ALBUQUERQUE DISTRIBUTION MAPS.
4. THE PROPERTIES SHOWN HEREON ARE SUBJECT TO PRIVATE DRAINAGE EASEMENTS GRANTED BY EASEMENT DOCUMENT FILED _____, BOOK _____, PAGE_____, DOC.#_____.







	TC	FL
1	32.79	32.29
2	–	31.97
3	–	31.65

	TC	FL
1	–	33.40
2	–	33.65
3	34.43	33.93

	TC	FL
1	37.80	37.30
2	–	37.00
3	–	36.65

	TC	FL
1	–	38.25
2	–	38.15
3	39.10	38.60

SCALE: 1" = 20'

20' 0 40'
10' 20'

LEGEND

TC	TOP OF CONCRETE
FL	FLOWLINE
TA	TOP OF ASPHALT
EA	EDGE OF ASPHALT
SW	TOP OF SIDEWALK
TCO	TOP OF CONCRETE
WGV	WATER GATE VALVE
WV	WATER VALVE
P.P.	POWER POLE
L.P.	LIGHT POLE
CMU	CEMENT MASONRY UNIT
SQ.	SQUARE
S.H.R.	STEEL HANDRAIL
OV/H E (1)	OVERHEAD ELECTRIC (NO. OF LINES)
29.50	EXISTING SPOT ELEVATION
	EXISTING CONTOUR
	EXISTING DECIDUOUS TREE
	EXISTING SMALL DECIDUOUS TREE
	EXISTING SHRUB
	TREE LINE
40	PROPOSED CONTOUR
40.50	PROPOSED SPOT ELEVATION
	PROPOSED ROOF DRAINAGE DIRECTION
	RETAINING WALL
	FLOWLINE
	HIGH POINT
	CURB
	CURB AND GUTTER

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. 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.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
4. ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDED ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

RECEIVED
MAR 26 1999
HYDROLOGY SECTION

NEW MEXICO 8547 JEFFREY G. MORTENSEN REGISTERED PROFESSIONAL ENGINEER
03-26-99

D18-D41 1/2

File Path: E:\DWA\DRW\990111\
File Name: 990112C.DWG
Plot Date: 03-26-1999
Plot Time: 11:22 am

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

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

GRADING PLAN
LOT 20 - LABEN OFFICE COMPLEX

DESIGNED BY C.M.
DRAWN BY S.G.H./D.L.M.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS

JOB NO. 990112
DATE 03-1999
SHEET 1 OF 2

CALCULATIONS

SITE CHARACTERISTICS

I. PRECIPITATION ZONE = 3

II. $P_{6,100} = P_{360} = 2.60$ IN.

III. TOTAL AREA (A_T) = 115,830 SF/2.66 AC

IV. EXISTING LAND TREATMENT

A. LOT 18

TREATMENT	AREA (SF/AC)	%
C	38,610/0.89	100

B. LOT 19

TREATMENT	AREA (SF/AC)	%
C	28,770/0.66	74
D	9,840/0.23	26

C. LOT 20

TREATMENT	AREA (SF/AC)	%
C	38,610/0.89	100

V. DEVELOPED LAND TREATMENT

A. LOT 18

TREATMENT	AREA (SF/AC)	%
B	4,680/0.11	12
D	33,930/0.78	88

B. LOT 19

TREATMENT	AREA (SF/AC)	%
B	4,680/0.11	12
D	33,930/0.78	88

C. LOT 20

TREATMENT	AREA (SF/AC)	%
B	4,680/0.11	12
D	33,930/0.78	88

VI. EXISTING CONDITION

A. LOT 18

1. VOLUME

$E_W = (E_AA_A+E_BA_B+E_CA_CE_DA_D)/A_T$

E_W = 1.29 IN.

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

V_{100} = (1.29/12)(38,610) = 4,150 CF

2. PEAK DISCHARGE

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

$Q_P = Q_{100}$ = (3.45)(0.89) = 3.1 CFS

B. LOT 19

1. VOLUME

$E_W = (E_AA_A+E_BA_B+E_CA_CE_DA_D)/A_T$

E_W = (1.29)(0.66)+(2.36)(0.23)]/0.89 = 1.57 IN.

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

V_{100} = (1.57/12)(38,610) = 5,050 CF

2. PEAK DISCHARGE

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

$Q_P = Q_{100}$ = (3.45)(0.66)+(5.02)(0.23) = 3.4 CFS

C. LOT 20

1. VOLUME

$E_W = (E_AA_A+E_BA_B+E_CA_CE_DA_D)/A_T$

E_W = 1.29 IN.

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

V_{100} = (1.29/12)(38,610) = 4,150 CF

2. PEAK DISCHARGE

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

$Q_P = Q_{100}$ = (3.45)(0.89) = 3.1 CFS

VII. DEVELOPED CONDITION

A. LOT 18

1. VOLUME

$E_W = (E_AA_A+E_BA_B+E_CA_CE_DA_D)/A_T$

E_W = [(0.92)(0.11)+(2.36)(0.78)]/(0.89) = 2.18 IN.

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

V_{100} = (2.18/12)(38,610) = 7,010 CF

2. PEAK DISCHARGE

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

$Q_P = Q_{100}$ = (2.60)(0.11)+(5.02)(0.78) = 4.2 CFS

B. LOT 19

1. VOLUME

$E_W = (E_AA_A+E_BA_B+E_CA_CE_DA_D)/A_T$

E_W = [(0.92)(0.11)+(2.36)(0.78)]/(0.89) = 2.18 IN.

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

V_{100} = (2.18/12)(38,610) = 7,010 CF

2. PEAK DISCHARGE

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

$Q_P = Q_{100}$ = (2.60)(0.11)+(5.02)(0.78) = 4.2 CFS

C. LOT 20

1. VOLUME

$E_W = (E_AA_A+E_BA_B+E_CA_CE_DA_D)/A_T$

E_W = [(0.92)(0.11)+(2.36)(0.78)]/(0.89) = 2.18 IN.

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

V_{100} = (2.18/12)(38,610) = 7,010 CF

2. PEAK DISCHARGE

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

$Q_P = Q_{100}$ = (2.60)(0.11)+(5.02)(0.78) = 4.2 CFS

VIII. COMPARISON

A. LOT 18

ΔV_{100} = 7010 − 4150 = 2860 CF (INCREASE)

ΔQ_{100} = 4.2 − 3.1 = 1.1 CFS (INCREASE)

B. LOT 19

ΔV_{100} = 7010 − 5050 = 1960 CF (INCREASE)

ΔQ_{100} = 4.2 − 3.4 = 0.8 CFS (INCREASE)

C. LOT 20

ΔV_{100} = 7010 − 4150 = 2860 CF (INCREASE)

ΔQ_{100} = 4.2 − 3.1 = 1.1 CFS (INCREASE)

IX. ENTRANCE CONDITION CALCULATIONS

Q_{100}= 4.2 CFS PER LOT

$Q_{CAP} = CLH^{3/2}$ (BROAD CRESTED WEIR)

C = 2.60

H = 0.50'

L = 5.0'

$Q_{CAP} = (2.60)(5.0)(0.5)^{3/2}$ = 4.6 CFS > Q_{100}

X. RUNDOWN CAPACITY CALCULATIONS

Q_{100}= 4.2 CFS PER LOT

$Q_{CAP} = (1.49/n)\ AR^{2/3}S^{1/2}$ (MANNING'S EQUATION)

n = 0.013 (CONCRETE)

S = 0.01 (MINIMUM)

DEPTH = 0.5'

WIDTH = 2.0'

$Q_{CAP} = (1.49/0.013)(1.0)(0.333)^{2/3}(0.01)^{1/2}$=5.5CFS > Q_{100}

D18-D41 2/2

DRAINAGE PLAN

EXECUTIVE SUMMARY AND INTRODUCTION:

THIS GRADING AND DRAINAGE PLAN SUPPORTS THE CONSTRUCTION OF THREE (3) PROPOSED OFFICE/WAREHOUSE BUILDINGS WITH ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE THREE SITES WILL BE DEVELOPED BY THE SAME DEVELOPER AS THREE INDIVIDUAL BUILDINGS ON SEPARATE LOTS (LOTS 18, 19 AND 20). THE SITES WILL USE SHARED ACCESS TO CORONADO AVE. N.E. THIS SHARED ACCESS REQUIRES PRIVATE ACCESS EASEMENTS WHICH WILL BE GRANTED BY SEPARATE DOCUMENTS. THE SHARED ACCESS CONFIGURATION ALSO NECESSITATES THE GRANTING OF PRIVATE, NON-SPECIFIC DRAINAGE EASEMENTS TO ADDRESS THE RESULTING CROSS-LOT DRAINAGE. ALTHOUGH THIS GRADING AND DRAINAGE PLAN DEPICTS AND ANALYZES ALL THREE LOTS, THE INDIVIDUAL SITES WILL BE PERMITTED AND CONSTRUCTED SEPARATELY. FOR THIS REASON, THIS GRADING AND DRAINAGE PLAN WILL BE SUBMITTED TO THE CITY OF ALBUQUERQUE HYDROLOGY SECTION THREE TIMES, ONCE FOR EACH BUILDING. EACH OF THESE THREE SUBMITTALS WILL "STAND ALONE" AND ALLOW INDIVIDUAL DRAINAGE CERTIFICATIONS AND CERTIFICATES OF OCCUPANCY FOR EACH BUILDING. MINIMAL OFFSITE GRADING WILL BE REQUIRE TO ALLOW PROJECT PHASING. TWO OF THE LOTS ARE CURRENTLY UNDEVELOPED. LOT 19 IS DEVELOPED. ALL THREE LOTS ARE ZONED M-1. THE PROPOSED IMPROVEMENTS WILL CAUSE AN INCREASE IN IMPERVIOUS AREA AND WILL INCREASE THE PEAK RATE AND VOLUME OF RUNOFF FROM THE SITES AS DEMONSTRATED IN THE DRAINAGE CALCULATIONS CONTAINED HEREON. THE IMPROVEMENTS CONSIST OF MODIFICATIONS TO EXISTING SITES WITHIN AN INFILL AREA WHICH DRAIN TO THE NORTH ARROYO DEL PINO. THIS PLAN PROPOSES AND JUSTIFIES THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THESE PROPERTIES TO THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL. AS INDICATED BY THE ATTACHED DRAINAGE INFORMATION SHEETS, THE PURPOSE OF THESE SUBMITTALS IS TO OBTAIN BUILDING PERMIT APPROVAL AND S.O.19 APPROVAL FOR ALL THREE SITES.

REFERENCES:

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

1. GRADING AND DRAINAGE PLAN FOR COLONY METALS PREPARED BY WILSON AND COMPANY, DATED 7/22/92 (D-18/D25). THIS PLAN WAS PREPARED FOR THE EXISTING IMPROVEMENTS ON LOT 19. THIS PLAN PROVIDED FOR FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS LOT TO CORONADO AVE. N.E. AND THE PUBLIC STORM DRAIN CONTAINED THEREIN.

2. CONSTRUCTION PLANS AND DRAINAGE REPORT FOR S.A.D. 221 (CITY PROJECT 3824) PREPARED BY WILSON AND COMPANY, DATED 05/12/95. THIS PROJECT CONSTRUCTED PUBLIC IMPROVEMENTS WITHIN SEVERAL CITY OF ALBUQUERQUE STREETS INCLUDING PERMANENT PAVING AND STORM DRAIN IMPROVEMENTS IN CORONADO AVE. N.E. THIS STORM DRAIN DISCHARGES DIRECTLY TO THE NORTH ARROYO DEL PINO WHICH IS CONCRETE LINED. THE DRAINAGE REPORT FOR CORONADO AVE. N.E. SHOWS DEVELOPED RUNOFF FROM THE SOUTH HALF OF LOTS 18-20 DISCHARGING DIRECTLY TO THE STREET, LEAVING THE NORTH HALF OF THE LOTS TO DRAIN DIRECTLY TO THE CONCRETE LINED ARROYO.

3. GRADING AND DRAINAGE PLAN FOR THE HOLY CROSS LUTHERAN CHURCH (E-19/D21) PREPARED BY JEFF MORTENSEN AND ASSOCIATES DATED 03/05/92. SECTIONS AND DETAILS FROM THE CHURCH PLAN ARE REFERENCED AND REPRODUCED HEREIN.

PROJECT DESCRIPTION:

AS SHOWN BY THE VICINITY MAP ON SHEET 1, THE SITES ARE LOCATED ON THE NORTH SIDE OF CORONADO AVE. N.E., WEST OF SAN PEDRO BOULEVARD, N.E. THE LOTS ARE ADJACENT TO AND SOUTH OF THE NORTH ARROYO DEL PINO, A CONCRETE LINED PUBLIC DRAINAGE CHANNEL OWNED, OPERATED AND MAINTAINED BY THE CITY OF ALBUQUERQUE. LOTS 18 AND 20 ARE UNDEVELOPED AND CONTAIN BARE SOIL WITH MINIMAL VEGETATION. LOT 20 CONTAINS A FEW SMALL TREES. LOT 19 IS DEVELOPED WITH TWO BUILDINGS AND ASSOCIATED PAVING AND LANDSCAPING. THE LEGAL DESCRIPTIONS OF THE SUBJECT LOTS ARE SHOWN ON SHEET 1. THE SITES ARE ZONED M-1 AND LIE WITHIN AN INFILL AREA.

AS SHOWN BY PANEL 137 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. THE PANEL IDENTIFIES 100-YEAR FLOODING CONFINED TO THE NORTH ARROYO DEL PINO CONSTRUCTED CHANNEL.

EXISTING CONDITIONS:

AS SHOWN BY THE GRADING PLAN, THE PROJECT CONSISTS OF THREE SEPARATE SITES. LOTS 18 AND 20 ARE UNDEVELOPED. LOT 19 IS DEVELOPED WITH TWO (2) EXISTING BUILDINGS AND ASSOCIATED PAVED PARKING AND LANDSCAPING IMPROVEMENTS. ALL THREE LOTS GENERALLY DRAIN FROM EAST TO WEST IN A POORLY DEFINED SHEETFLOW MANNER WHICH IS PARTIALLY OBSTRUCTED BY SMALL BERMS AT THE PROPERTY LINES WHICH APPEAR TO DIRECT LIMITED AMOUNTS OF RUNOFF TO THE NORTH ARROYO DEL PINO, AND TO CORONADO AVE. N.E. SOME EXISTING RUNOFF FROM LOT 20 DRAINS TO THE WEST TO LOT 21 WHICH IS NOT PART OF THIS PLAN AND LIES TOPOGRAPHICALLY LOWER. A CONCRETE WALL BLOCKS OFFSITE FLOWS FROM LOT 17 TO THE EAST. OFFSITE FLOWS DO NOT ENTER THE SITES FROM THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL TO THE NORTH, OR FROM CORONADO AVE. N.E. WHICH IS DEVELOPED WITH HALF WIDTH PAVING AND CURB AND GUTTER IMPROVEMENTS (NORTH HALF). CORONADO AVE. N.E. ALSO CONTAINS A PUBLIC STORM DRAIN THAT DISCHARGES DIRECTLY TO THE NORTH ARROYO DEL PINO. THE CORONADO AVE. N.E. PAVING AND STORM DRAIN IMPROVEMENTS WERE CONSTRUCTED AS PART OF S.A.D. 221 AND ARE SIZED FOR DEVELOPED RUNOFF PER THE DRAINAGE REPORT FOR S.A.D. 221. WITH THE EXCEPTION OF THE AFOREMENTIONED RUNOFF TO LOT 21, THESE SITES ALL CURRENTLY DRAIN TO EXISTING PUBLIC STORM DRAINAGE FACILITIES. THE EXISTING GRADES, AS INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS SUPPORT THESE OBSERVATIONS.

DEVELOPED CONDITIONS:

AS PREVIOUSLY INDICATED, THE PROPOSED IMPROVEMENTS CONSIST OF THE CONSTRUCTION OF THREE (3) SEPARATE OFFICE/WAREHOUSE BUILDINGS WITH ASSOCIATED PAVING AND LANDSCAPING IMPROVEMENTS. THE THREE SITES WILL BE DEVELOPED BY THE SAME DEVELOPER. THESE LOTS WILL BE CONSTRUCTED AND PERMITTED SEPARATELY. THESE LOTS WILL USE SHARED ACCESS TO CORONADO AVE. N.E. THE MAJORITY OF THE RUNOFF OF EACH SITE WILL DRAIN TO THE NORTH TO THE BACK OF EACH LOT AND DIRECTLY TO THE CONCRETE LINED PUBLIC DRAINAGE CHANNEL VIA CONCRETE RUNDOWNS. CALCULATIONS SHOWN HEREON DEMONSTRATE THAT THE ENTRANCE CONDITIONS AND CARRYING CAPACITIES OF THE RUNDOWNS ARE SUFFICIENT TO ACCEPT AND CONVEY THE 100-YEAR PEAK FLOW RATES. BASED UPON THE PROXIMITY OF THE SITE TO THE PUBLIC LINED DRAINAGE CHANNEL, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THIS AN INFILL SITE, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD, THE FREE DISCHARGE OF DEVELOPED RUNOFF FROM THIS SITE IS APPROPRIATE.

THE USE OF THE TYPE OF RUNDOWN PROPOSED HEREIN WAS SUGGESTED BY MR. GLENN JURGENSON OF CITY STORM DRAIN MAINTENANCE IN A TELEPHONE CONVERSATION DATED 03-08-99. BECAUSE THERE IS NO VEHICULAR ACCESS ALONG THE CHANNEL TO DISRUPT, MR. JURGENSON INDICATED THAT "OVER THE TOP" DISCHARGE TO THE LINED CHANNEL WOULD BE ALLOWED VIA CONCRETE RUNDOWN SIMILAR TO THAT USED AT THE HOLY CROSS LUTHERAN CHURCH ON WYOMING BLVD N.E. SOUTH OF SAN ANTONIO DRIVE N.E. (E-19/D21). THE SECTIONS AND DETAILS OF THE PROPOSED CONCRETE RUNDOWN SHOWN HEREON ARE ADAPTED FROM THOSE SHOWN IN THAT PLAN AND ARE CONSISTENT WITH CITY OF ALBUQUERQUE STANDARDS FOR DRAINAGE FACILITY CONSTRUCTION. AS INDICATED IN CONSTRUCTION NOTE #7 LOCATED ON SHEET 1 OF THIS SUBMITTAL, THE CONTRACTOR IS REQUIRED TO HAVE EACH RUNDOWN INSPECTED BY CITY OF ALBUQUERQUE STORM DRAIN MAINTENANCE. MR. JURGENSON INDICATED THAT THE PORTIONS OF THE RUNDOWNS WITHIN NORTH PINO RIGHT OF WAY WILL BE OWNED AND MAINTAINED BY THE CITY OF ALBUQUERQUE. THIS CONSTRUCTION WITHIN CHANNEL RIGHT-OF-WAY WILL REQUIRE AN EXCAVATION PERMIT FROM THE CITY OF ALBUQUERQUE THROUGH THE S.O. 19 PROCESS.

SITE GRADING CONSTRAINTS COMBINED WITH THE GEOMETRY OF THE AFOREMENTIONED SHARED ENTRANCES WILL REQUIRE THAT A SMALL PORTION OF LOT 18 WILL DRAIN TO LOT 19. SIMILARLY, A PORTION OF LOT 19 WILL DRAIN TO LOT 20. A PORTION OF LOT 20 WILL DRAIN SOUTH TO CORONADO AVE. N.E. VIA PROPOSED DRIVEPAD, WITH THE REMAINDER OF THE LOT DRAINING NORTH TO THE PUBLIC DRAINAGE CHANNEL. THE STORM DRAIN IN CORONADO AVE. N.E. OUTFALLS TO THE NORTH ARROYO DEL PINO DRAINAGE CHANNEL. NO OFFSITE IMPROVEMENTS OTHER THAN THE AFOREMENTIONED CONCRETE RUNDOWNS ARE REQUIRED OR PROPOSED IN CONJUNCTION WITH THESE PROJECTS. TO LEGALLY ALLOW THE DISCHARGE OF DEVELOPED RUNOFF FROM LOT 18 TO LOT 19, AND FROM LOT 19 TO LOT 20, THE OWNER OF THE PROPERTIES WILL GRANT NON-SPECIFIC DRAINAGE EASEMENTS TO BENEFIT THE APPROPRIATE LOTS. THESE EASEMENTS WILL IDENTIFY THAT LOTS 19 AND 20 ARE OBLIGATED TO ACCEPT AND CONVEY RUNOFF FROM LOTS 18 AND 19. THESE EASEMENTS MAY BE PREPARED IN CONJUNCTION WITH THE REQUIRED SHARED ACCESS EASEMENTS. THE FILING OF THESE EASEMENTS WILL BE A REQUIREMENT OF BUILDING PERMIT APPROVAL.

PHASING:

THIS GRADING AND DRAINAGE PLAN ADDRESSES CONSTRUCTION ON THREE SEPARATE SITES BY THE SAME DEVELOPER. INDIVIDUAL SUBMITTALS FOR BUILDING PERMIT APPROVAL WILL BE MADE FOR EACH LOT TO ALLOW SEPARATE PERMITTING AND SUBSEQUENT DRAINAGE CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. AT THIS TIME, IT IS PLANNED TO CONSTRUCT THE THREE LOTS SEQUENTIALLY, WITH LOT 18 FIRST, FOLLOWED BY LOTS 20 AND 19, RESPECTIVELY. DEVELOPMENT OF LOT 18 WILL REQUIRE FULL CONSTRUCTION OF THE PRIVATE ENTRANCE SHARED WITH LOT 19. SIMILARLY, DEVELOPMENT ON LOT 20 WILL REQUIRE FULL CONSTRUCTION OF THE ENTRANCE SHARED WITH LOT 19. THE AFOREMENTIONED ACCESS AND DRAINAGE EASEMENTS WILL ALLOW THIS CONSTRUCTION TO OCCUR. MINIMAL GRADING WILL BE REQUIRED TO PROVIDE FOR CONTINUITY BETWEEN ADJACENT DEVELOPED AND UNDEVELOPED LOTS. AS SHOWN ON THE GRADING PLAN, THE DIFFERENCE BETWEEN EXISTING AND PROPOSED GRADES AT THE COMMON LOT LINES IS LESS THAN ONE (1) VERTICAL FOOT. TO PROVIDE CONTINUITY BETWEEN ADJACENT SITES, MINIMAL OFFSITE GRADING WILL BE REQUIRED WHICH EXTENDS A MAXIMUM OF THREE (3) FEET INTO THE ADJACENT LOT AT A MAXIMUM SLOPE OF 3:1 (H:V). SECTION D-D CONTAINED HEREON SHOWS THE TYPICAL SECTION FOR THIS GRADING.

GRADING PLAN:

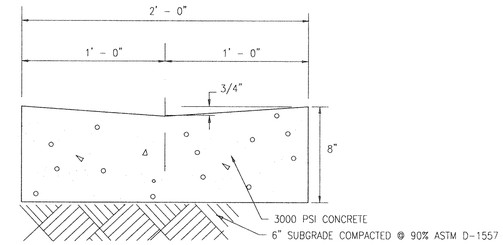
THE GRADING PLAN ON SHEET 1 SHOWS: 1) EXISTING SPOT ELEVATIONS AND CONTOURS AT 1' 0" INTERVALS AS DETERMINED FROM A TOPOGRAPHIC SURVEY PREPARED BY JEFF MORTENSEN AND ASSOCIATES, INC. DATED FEBRUARY, 1999, 2) THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, 3) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, 4) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1' 0" INTERVALS, AND 5) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES.

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, A MINOR INCREASE IN THE PEAK RATE AND VOLUME OF DISCHARGE IS ANTICIPATED. BASED UPON THE PROXIMITY OF THE SITES TO THE ARROYO, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THIS AN INFILL SITE, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD, THE FREE DISCHARGE OF RUNOFF FROM THESE SITES TO THE NORTH ARROYO DEL PINO IS APPROPRIATE.

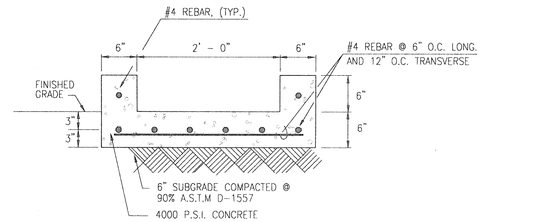
CONCLUSION:

THE PROPOSED GRADING AND DRAINAGE PLAN FOR LOTS 18-20 OF THE LABEN OFFICE COMPLEX PROPOSES A RESPONSIBLE APPROACH TO MANAGING THE STORM WATER RUNOFF ASSOCIATED WITH THE PROPOSED CONSTRUCTION. THIS PLAN PROVIDES FOR THE PHASED CONSTRUCTION OF THE THREE SITES AS "STAND ALONE" PROJECTS. FREE DISCHARGE FROM THESE SITES IS JUSTIFIED BASED UPON THE CLOSE PROXIMITY OF THE SITES TO THE NORTH ARROYO DEL PINO, THE FACT THAT THE SURROUNDING AREA IS DEVELOPED MAKING THE PROPOSED IMPROVEMENTS CONSIST OF MODIFICATIONS TO EXISTING SITES WITHIN AN INFILL AREA, AND THE LACK OF A DOWNSTREAM FLOODING HAZARD. THE INTRODUCTION OF IMPERVIOUS AREA TO BOTH BASINS WILL CAUSE A MINOR INCREASE IN THE PEAK RATE AND VOLUME OF RUNOFF DRAINING TO EXISTING PUBLIC STORM DRAINAGE FACILITIES. PRIVATE DRAINAGE EASEMENTS WILL BE REQUIRED TO ALLOW THE CROSS-LOT DISCHARGE OF DEVELOPED RUNOFF. NO DRAINAGE COVENANTS OR VARIANCES ARE REQUESTED AS PART OF THIS PLAN.



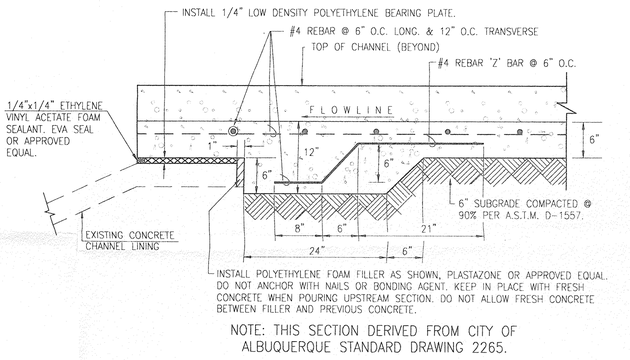
TYPICAL VALLEY GUTTER SECTION

SCALE: 1" = 6"



SECTION A-A (PUBLIC)

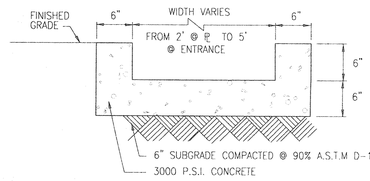
SCALE: 1" = 1' - 0"



NOTE: THIS SECTION DERIVED FROM CITY OF ALBUQUERQUE STANDARD DRAWING 2265.

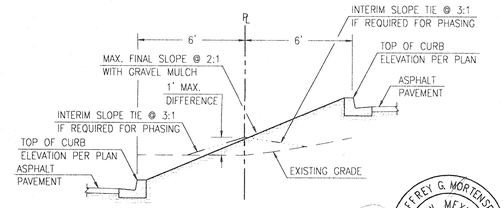
SECTION B-B (CHANNEL JOINT WITH SLEEPER)

SCALE: 1" = 1' - 0"



SECTION C-C (PRIVATE)

SCALE: 1" = 1' - 0"



SECTION D-D (PHASING AT LOT LINES)

SCALE: 1" = 4'

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

03.26.99

File Path: E:\JMA\JOB\990112\ | Plot Date: 03-26-1999
File Name: 990112CC.DWG | Plot Time: 10:44 am

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

DRAINAGE PLAN, CALCULATIONS, SECTIONS AND DETAILS
LOT 20 - LABEN OFFICE COMPLEX

DESIGNED BY G.M.
DRAWN BY J.M.A.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS

JOB NO. 990112
DATE 03-1999
SHEET 2 OF 2