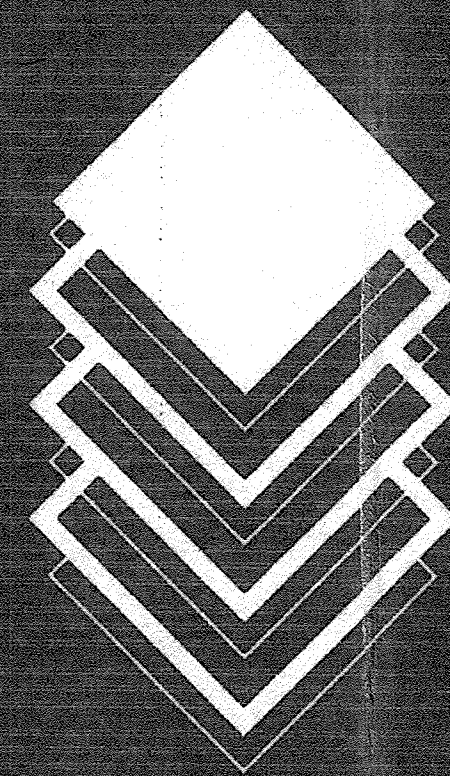


DRB-97-32



# CLAUDIO VIGIL ARCHITECTS

## MONTANO BUSINESS CENTER RETAIL DEVELOPMENT MONTANO STREET N.W. ALBUQUERQUE, NEW MEXICO

### CONSULTANTS

#### CIVIL

EASTERLING & ASSOCIATES, INC.

2600 AMERICAN RD. S.E.  
SUITE 100  
RIO RANCHO, NEW MEXICO  
87124

(505) 898-8021  
(505) 898-8501 (FAX)

#### LANDSCAPE

THE HILLTOP

7909 EDITH N.E.  
ALBUQUERQUE, NEW MEXICO  
(505) 898-9690

#### STRUCTURAL

NEUJAHN AND GORMAN

88 STEELE ST., SUITE 200  
DENVER, COLORADO  
(303) 377-2732

#### ELECTRICAL

RMS ENGINEERING

4015 CARLISLE BOULEVARD, N.E.  
ALBUQUERQUE, NEW MEXICO  
(505) 881-1288

#### MECHANICAL

4 SEASONS ENGINEERING

303 SAN MATEO  
ALBUQUERQUE, NEW MEXICO  
(505) 262-2391

### INDEX TO DRAWINGS

#### CIVIL

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C-2 NOTES, CALCULATIONS, AND DETAILS

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SET NO. \_\_\_\_\_

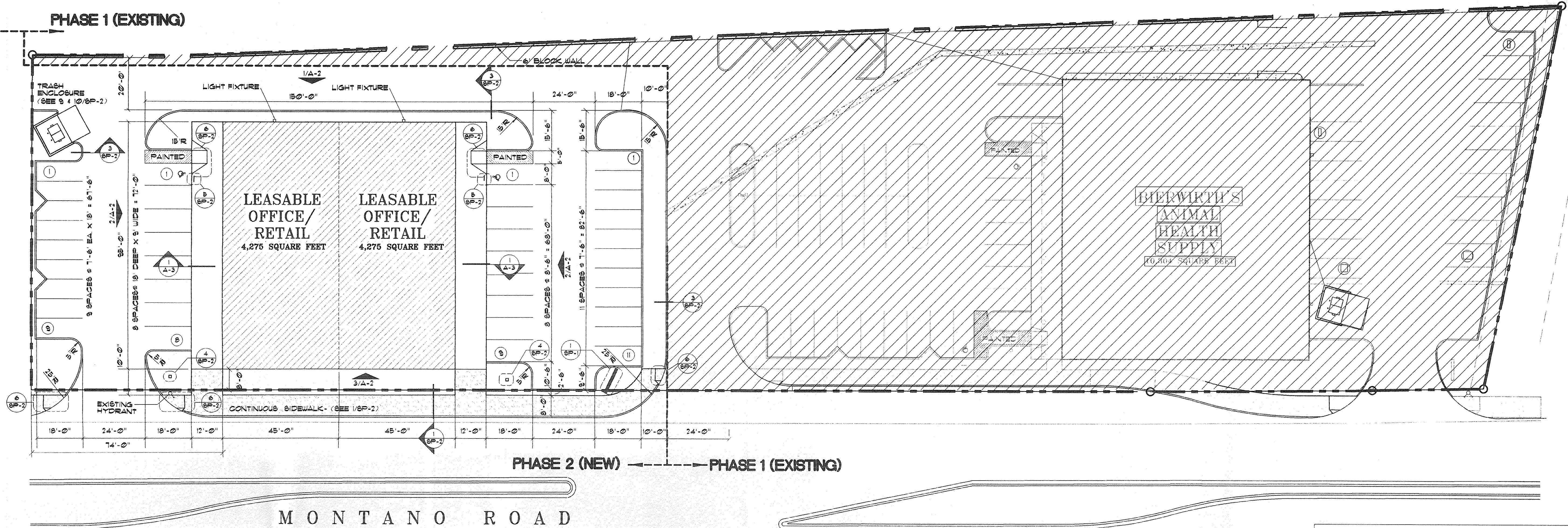
1305 TIJERAS AVENUE NW ALBUQUERQUE, NEW MEXICO 87102-2882

PHONE: (505) 842-1113

FAX: (505) 842-1330



PHASE 2 (NEW) PHASE 1 (EXISTING)



**BUILDING CRITERIA**

**PROJECT:**  
MONTANO BUSINESS CENTER

**OWNER:**  
GEORGE BRUNICINI

**ARCHITECT:**  
CLAUDIO VIGIL ARCHITECTS  
1305 TIJERAS NW, #102  
(505) 842-1113

**LEGAL DESCRIPTION:**  
TRACT 1-C, MONTANO Y CUATRO

**ZONING ATLAS MAP:**  
R-14R-1B

**ZONING CLASSIFICATION:**  
SU-1 FOR C-1

**BUILDING TYPE:**  
B2

**CONSTRUCTION TYPE:**  
SN

**OCCUPANT LOAD:**  
1,556 / 30 = 52 / 8 LEASE SPACES = 315 = 32

**NUMBER OF FLOORS:**  
ONE

**GROSS SQUARE FOOTAGE:**  
9,550 SF

**NET USEABLE SQUARE FOOTAGE:**  
7,958 SF

**ALLOWABLE AREA:**  
LOAD = 8,000 X (15) FOR SEPARATION  
ON 2 SIDES = 12,000

**PARKING ANALYSIS:**  
90 TOTAL SPACES REQUIRED PER EPC RULING  
90 PROVIDED  
4 ACCESSIBLE REQUIRED - 4 PROVIDED

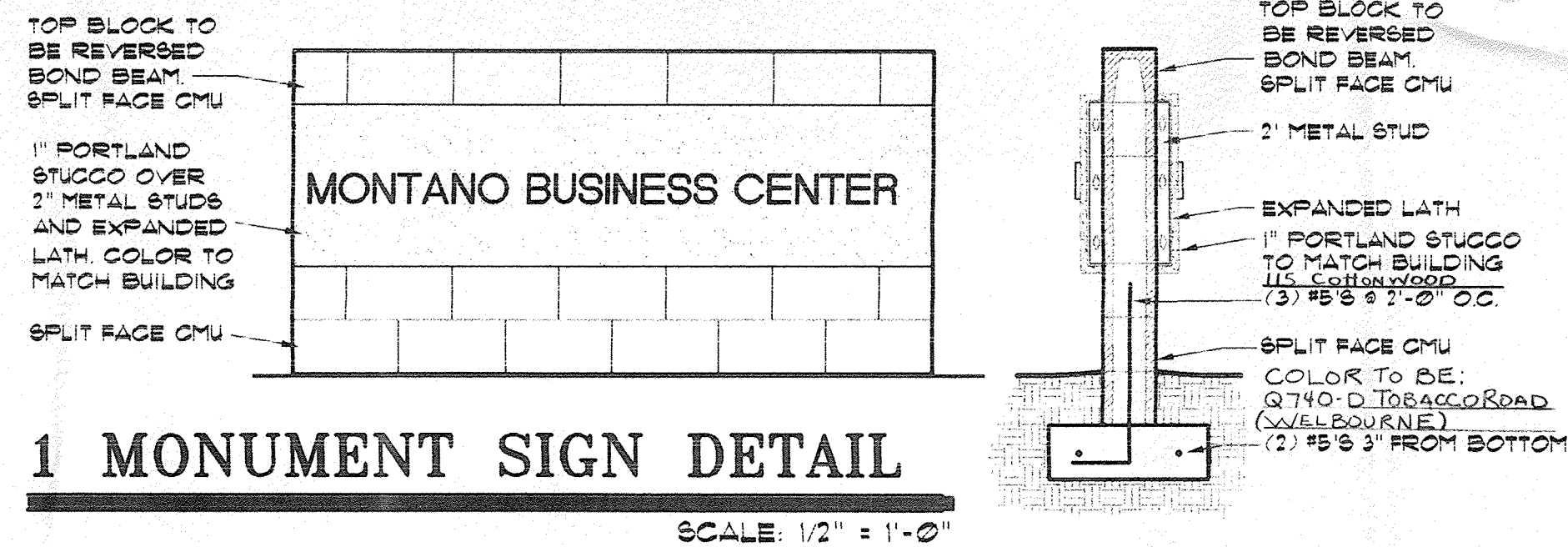
**BICYCLE SPACES:**  
1 PER 20 REQUIRED = 5, 6 PROVIDED

**TOTAL LOT AREA:**  
1.82 ACRES

**NET LOT AREA:**  
78,278 SF - 19,804 SF = 58,474 SF

**TOTAL LANDSCAPE AREA REQUIRED:**  
58,474 SF X .15 = 8,771 SF. REQ.

**TOTAL LANDSCAPE AREA PROVIDED:**  
9,196 SF. PROVIDED



1 MONUMENT SIGN DETAIL

SCALE: 1/2" = 1'-0"

**ENVIRONMENTAL PLANNING COMMISSION  
CONDITIONS OF APPROVAL Z-96-139, 12/19/1996:**

- ALL REQUIREMENTS OF THE COMMENTING AGENCIES, INCLUDING THE TRANSPORTATION DIVISION, MUST BE MET.
- AN ACCESS EASEMENT OF AT LEAST 15 FEET MUST BE MAINTAINED ALONG THE NORTH PROPERTY BOUNDARY, TO ENSURE ADEQUATE ACCESS FOR ADJACENT PROPERTY OWNERS.
- THE APPLICANT MUST PROVIDE VERIFICATION THAT THE PROPOSED BUILDING SETBACK AND ACCESS EASEMENT ALONG THE NORTH SIDE OF THE SITE IS NOT IN VIOLATION OF EASEMENTS.
- A REVISED LANDSCAPE PLAN SHALL BE APPROVED BY STAFF. A SIX FOOT WIDE LANDSCAPE BUFFER SHALL BE DIVIDED ALONG THE EAST PROPERTY LINE. SHADE TREES SHALL BE DISTRIBUTED THROUGHOUT THE SITE PLAN.
- A MINIMUM OF 90 PARKING SPACES SHALL BE PROVIDED ON SITE GIVEN THE PROPOSED BUILDING AREA, WITH A MINIMUM OF FOUR HANDICAP-ACCESSIBLE SPACES PROVIDED.
- THE MATERIALS AND COLORS OF THE MONUMENT SIGN MUST BE COMPATIBLE WITH BUILDING FINISHES. DETAILS FOR ALL SIGNAGE MUST BE INDICATED ON THE SITE PLAN AND MUST CONFORM TO APPLICABLE CITY REQUIREMENTS. BUILDING-MOUNTED SIGNAGE MUST CONSIST OF CHANNEL LETTERING OR PANEL SIGNS THAT ARE ILLUMINATED FROM FRONT.
- A LIGHTING PLAN MUST BE INCLUDED IN THE SITE PLAN SUBMITTAL. LIGHTING MUST BE SHIELDED-SOURCE LIGHTING WHICH CONFORMS TO THE COMPREHENSIVE ZONING CODE.
- ALL CONDITIONS APPROVED BY THE EPC MUST BE NOTED ON THE SITE PLAN.
- THE APPLICANT SHALL COMPLY WITH THE STREET TREE ORDINANCE.

**GENERAL NOTES:**

- A BIKE TRAIL IS PROPOSED ALONG GALLEGOS LATERAL PER CITY OF ALBUQUERQUE TRAIL AND BIKEWAYS FACILITY PLAN.
- BIKEWAYS ARE PROPOSED ALONG MONTANO ROAD PER THE TRAILS AND BIKEWAYS FACILITY PLAN.
- ALL SITE LIGHTING TO BE SHIELDED SOURCE LIGHTING AND SHALL NOT GLARE ONTO ADJACENT PROPERTIES.

\* DRB APPROVAL FOR PHASE TWO ONLY.

**SIGNATURE BLOCK**

SITE PLAN APPROVAL

E.P.C. CASE NO. Z-96-139  
D.R.B. CASE NO. 9732

THIS SITE IS ZONED SU-1 FOR C-1, AND THIS PLAN IS CONSISTENT WITH THE SPECIFIC DEVELOPMENT PLAN APPROVED BY THE ENVIRONMENTAL PLANNING COMMISSION ON 12/19/1996.

|   |                 |
|---|-----------------|
| <i>George Brunicini</i><br>PLANNING DIRECTOR        | 10/2/97<br>DATE |
| <i>Michael Danner</i><br>TRANSPORTATION DEVELOPMENT | 9-16-97<br>DATE |
| <i>Frank J. Caprin</i><br>CITY ENGINEER             | 9-16-97<br>DATE |
| <i>Frank J. Caprin</i><br>AMAFCA                    | 9-16-97<br>DATE |
| <i>Edward A. Hwang</i><br>PARKS & GENERAL SERVICES  | 9-16-97<br>DATE |
| <i>Roger A. Green</i><br>UTILITY DEVELOPMENT        | 9-16-97<br>DATE |

APPROVED AS TO THE REQUIREMENTS:

**CROSS ACCESS EASEMENT:**

THIS SITE IS SUBJECT TO THAT CERTAIN DECLARATION OF RECIPROCAL ACCESS, PARKING AND DRAINAGE EASEMENTS DATED JUNE 3, 1985 AND RECORDED JUNE 3, 1985 IN BOOK MISC. 235A, PAGE 151 AS DOCUMENT NO. 85-43433 AS MODIFIED BY FIRST AMENDMENT TO THE DECLARATION OF RECIPROCAL ACCESS, PARKING AND DRAINAGE EASEMENTS RECORDED AUGUST 19, 1986 IN BOOK MISC 385-A, PAGE 439 AS DOCUMENT NO. 86-11679. RECORDS OF BERNALILLO COUNTY, NEW MEXICO.



**SITE PLAN**

AUGUST 20, 1997 SCALE: 1" = 20'-0"

**CLAUDIO VIGIL ARCHITECTS**

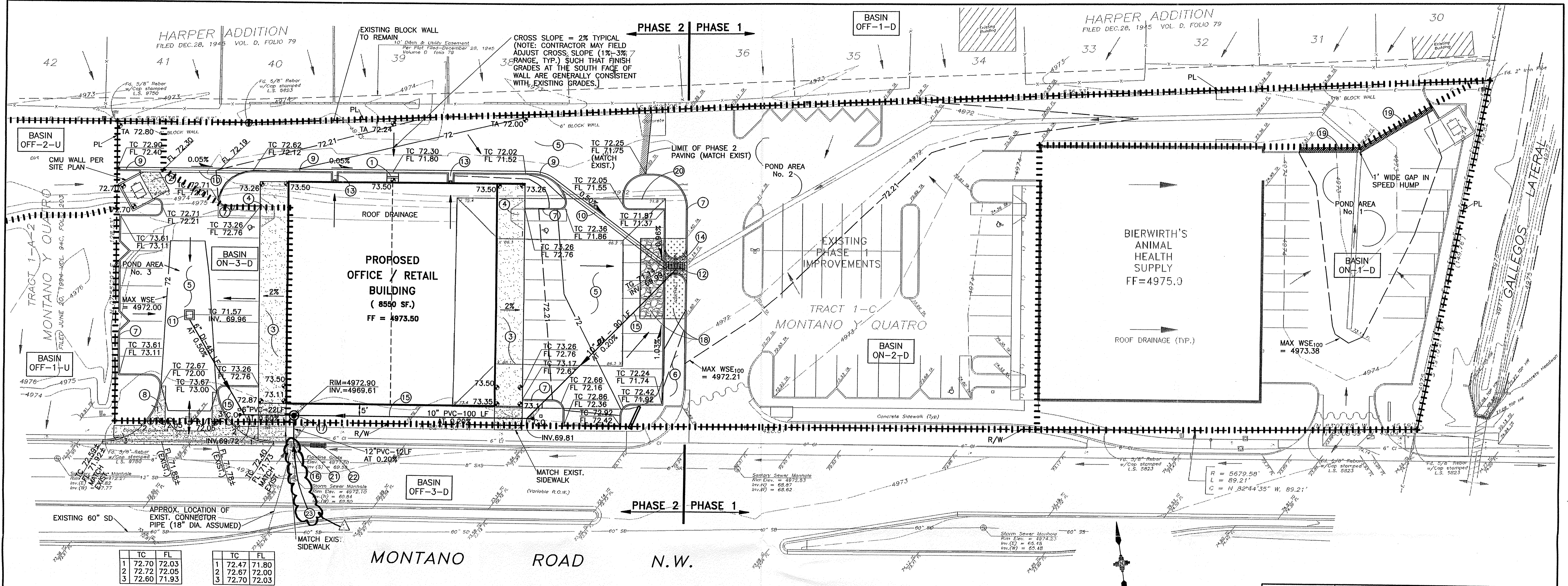
**MONTANO BUSINESS CENTER  
RETAIL CENTER DEVELOPMENT**

MONTANO STREET, N.W.  
ALBUQUERQUE, NEW MEXICO

SHEET  
SP-1

1305 Tijeras NW Albuquerque, NM 87102-2882  
Phone: 505/842-1113 Fax: 505/842-1330





| TC | FL    | TC | FL    |
|----|-------|----|-------|
| 1  | 72.70 | 2  | 72.03 |
| 2  | 72.72 | 3  | 72.05 |
| 3  | 72.60 | 4  | 71.93 |

**KEYED NOTES**

- ① CONCRETE STEPS PER SITE PLAN
- ② CONCRETE PAD PER SITE PLAN
- ③ CONCRETE WALK PER SITE PLAN (TYP)
- ④ H/C RAMP PER SITE PLAN (TYP)
- ⑤ ASPHALT PAVING PER SITE PLAN (TYP)
- ⑥ LANDSCAPING PER SITE PLAN (TYP)
- ⑦ 6" CONCRETE CURB PER SITE PLAN (TYP)
- ⑧ VALLEY GUTTER & CURB PER C.O.A. STD. DWG. 2420
- ⑨ 6" MEDIAN CURB & GUTTER PER C.O.A. STD. DWG. 2415
- ⑩ VALLEY GUTTER PER TYP. SECTION, SHEET 2
- ⑪ STORM INLET PER TYPICAL SECTION, SHEET 2
- ⑫ STORM INLET, C.O.A. DOUBLE "D" PER C.O.A. STD. DWG 2206
- ⑬ CONCRETE RUNDOWN PER TYPICAL SECTION, SHEET 2. MATCH RUNDOWN INVERT TO GUTTER FLOWLINE.
- ⑭ CONCRETE PAD AROUND INLET PER TYPICAL SECTION, SHEET 2
- ⑮ STORM DRAIN. LENGTH, DIAMETER, SLOPE & MATERIAL PER PLAN.
- ⑯ CONNECT TO STORM INLET PER COA STD. DWG. 2237 INV. (12", IN) = 69.59 (MATCH EX.)
- ⑰ 4' DIA. STORM DRAIN MANHOLE
- ⑱ REMOVE & DISPOSE OF ASPHALT PAVING & RIP-RAP
- ⑲ CONSTRUCT 8" HIGH, 2' WIDE ASPHALT CONCRETE SPEED HUMP. PROVIDE 1' WIDE GAP IN HUMP AT THE CONCRETE VALLEY GUTTER.
- ⑳ EXISTING RETENTION POND TO BE ELIMINATED.
- ㉑ INSTALL 6 LF OF 18" DIA. CL IV RCP AT 0.5% TO CONNECT NEW INLET TO EXISTING INLET.
- ㉒ CONSTRUCT DOUBLE "C" STORM INLET PER COA STD DWG. 2205. TC = MATCH EXISTING INV. = 4969.62 (REMOVE & REPLACE EXISTING ASPHALT PAVING AS REQUIRED, WITH 2" EXTRA THICKNESS, PER COA STD DWG. 2465)
- ㉓ CONNECT EXISTING 18" DIA. CONNECTOR PIPE TO INLET. (IF ALREADY CONNECTED TO INLET, REMOVE PLUG/SANDBAGGING AS REQUIRED, IF NOT ALREADY CONNECTED, EXTEND TO INLET TO MAKE CONNECTION. SEAL EXISTING 8" PIPE ENTRANCE IN INLET.

**NOTICE TO CONTRACTOR**

- 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.
- ALL WORK DETAILED ON THESE PLANS, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1986 EDITION, THROUGH UPDATE NO. 6.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
- REFER TO ARCHITECTURAL SITE PLAN FOR SITE GEOMETRY AND DETAILS OF SITE FEATURES.
- ENGINEER'S CERTIFICATION OF THE GRADING AND DRAINAGE IMPROVEMENTS WILL BE REQUIRED PRIOR TO CERTIFICATE OF OCCUPANCY (C.O.) ISSUANCE. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER IN ADVANCE OF THE DATE ON WHICH THE C.O. IS REQUIRED, IN ORDER TO PERFORM SUCH CERTIFICATION. THE CONTRACTOR SHALL FURNISH "AS-BUILT" GRADING AND DRAINAGE INFORMATION TO THE ENGINEER AT THIS TIME.

**GENERAL NOTES**

- ROOF DRAINS AND APPURTENANCES SHALL BE REGULARLY INSPECTED AND OBSTRUCTIONS REMOVED.
- ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONSTRUCTION SAFETY: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN ENTIRELY THE CONTRACTOR'S RESPONSIBILITY.
- DUCTILE IRON PIPE SHALL BE THICKNESS CLASS 56, AND SHALL BE LAID ON A GRANULAR BEDDING, 4" THICK. THE TRENCH SHALL BE BACKFILLED WITH LEAN FILL TO THE CROWN OF THE PIPE. EXTREME CAUTION SHOULD BE EXERCISED DURING SUBGRADE PREPARATION IN THE VICINITY OF THESE SHALLOW STORM DRAINS.

**EROSION CONTROL**

THE CONTRACTOR SHALL EXERCISE REASONABLE CARE DURING CONSTRUCTION TO PREVENT THE MOVEMENT OF SEDIMENT FROM THE SITE. TEMPORARY EROSION CONTROL MEASURES, INCLUDING PONDS, BIRMS, SWALES, SILT FENCE AND STRAW BALE BARRIERS WILL BE IMPLEMENTED AS NECESSARY DURING CONSTRUCTION. THE SITE'S RELATIVE LEVEL AND EROSION SHOULD NOT BE A PROBLEM. ALL AREAS WILL BE SURFACED, LANDSCAPED OR REVEGETATED TO PREVENT EROSION.

**LEGAL DESCRIPTION**

Tract numbered One C (1-C), Montano Y Quatro, as the same is shown and designated on the plat entitled "PLAT OF TRACTS 1-A, 1-C, 1-D, MONTANO Y QUATRO" filed in the office of the County Clerk of Bernalillo County, New Mexico on January 12, 1989 in Volume C3, Folio 60.

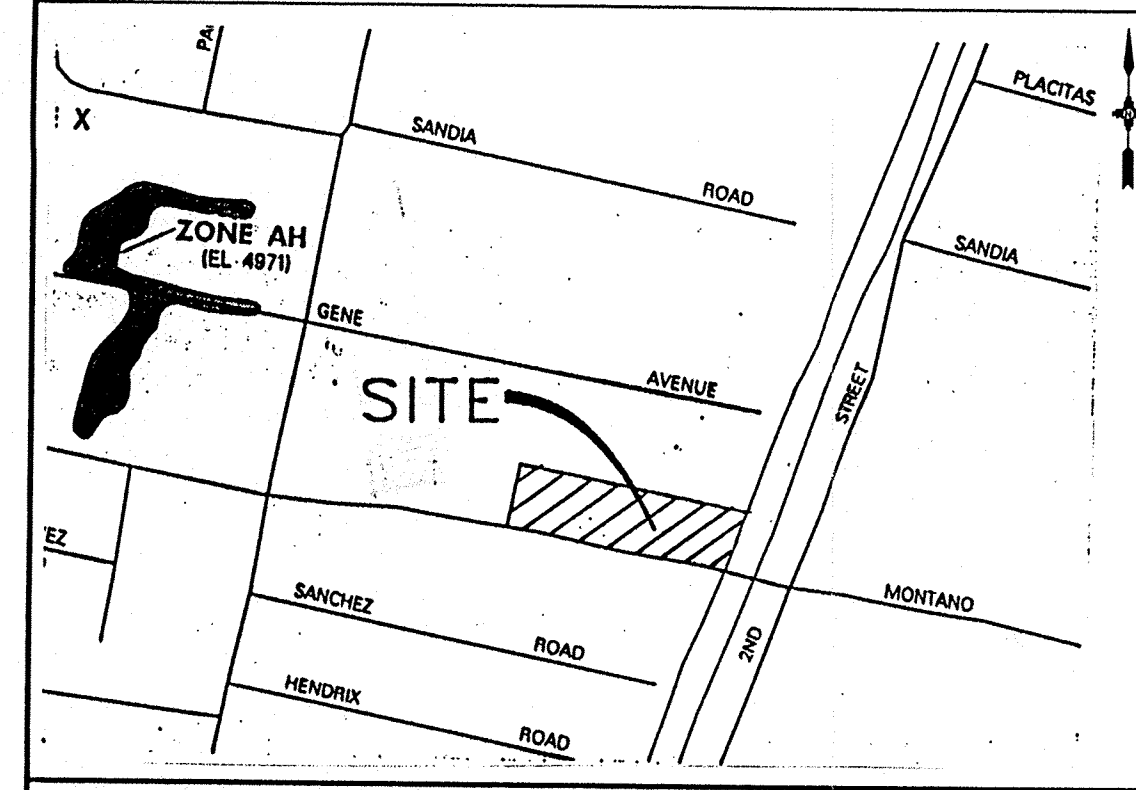
**BENCHMARK**

Vertical Datum is based on the Albuquerque City Survey Monument "NM47-8", Elevation = 4974.57'

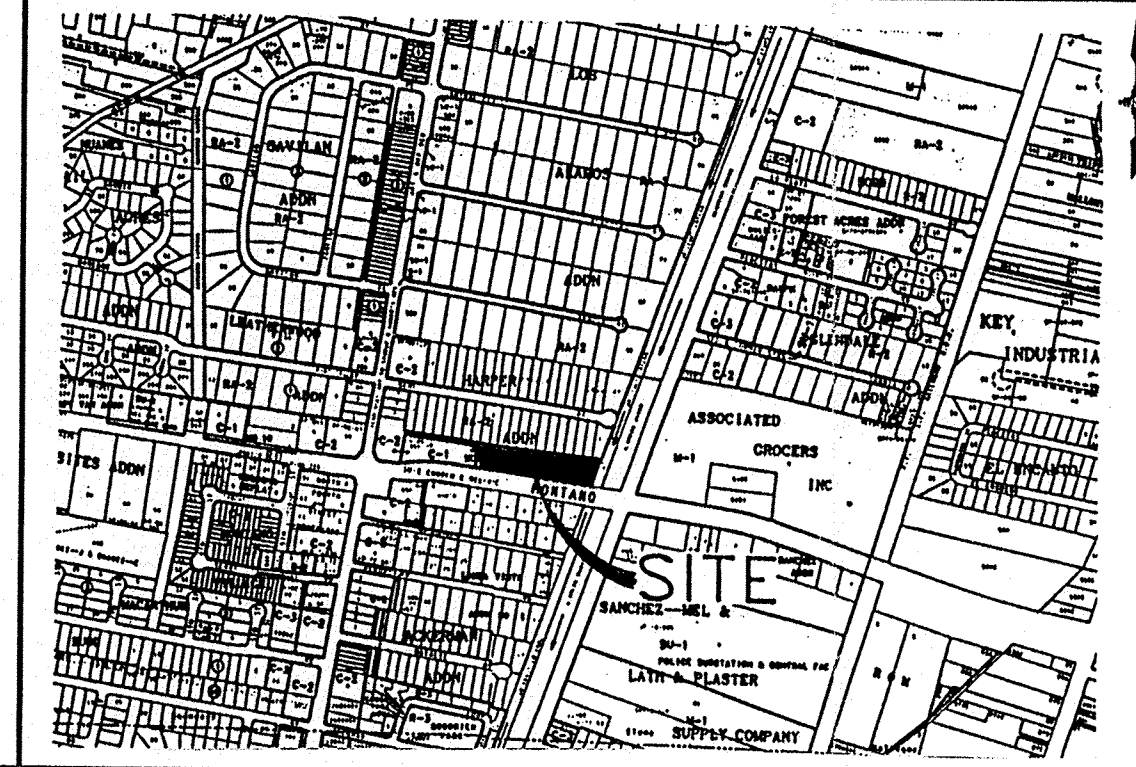
**LEGEND**

| DESCRIPTION                | NEW      | EXISTING |
|----------------------------|----------|----------|
| CONTOURS                   | 5094     | 5094     |
| SPOI ELEVATIONS            | 5088     | 5088     |
| DRAINAGE AREA BOUNDARY     | (Symbol) | (Symbol) |
| DRAINAGE DIVIDE            | (Symbol) | (Symbol) |
| WATER BLOCK                | (Symbol) | (Symbol) |
| DIRECTION OF FLOW          | (Symbol) | (Symbol) |
| SWALE                      | (Symbol) | (Symbol) |
| PROPERTY LINE              | (Symbol) | (Symbol) |
| FENCE                      | (Symbol) | (Symbol) |
| CATCH BASIN                | (Symbol) | (Symbol) |
| STORM DRAIN M.H. & LINE    | (Symbol) | (Symbol) |
| SANITARY SEWER M.H. & LINE | (Symbol) | (Symbol) |
| FIRE HYDRANT & WATER LINE  | (Symbol) | (Symbol) |
| CONCRETE                   | (Symbol) | (Symbol) |
| UNDERGROUND TELEPHONE      | (Symbol) | (Symbol) |
| CABLE TELEPHONE            | (Symbol) | (Symbol) |
| POWERS/TELEPHONE POLE      | (Symbol) | (Symbol) |
| UNDERGROUND ELECTRICAL     | (Symbol) | (Symbol) |
| CURB ELEVATION             | (Symbol) | (Symbol) |

**FLOOD HAZARD MAP**  
FIRM MAP NO. 35001C0119D  
SCALE: 1"=500'

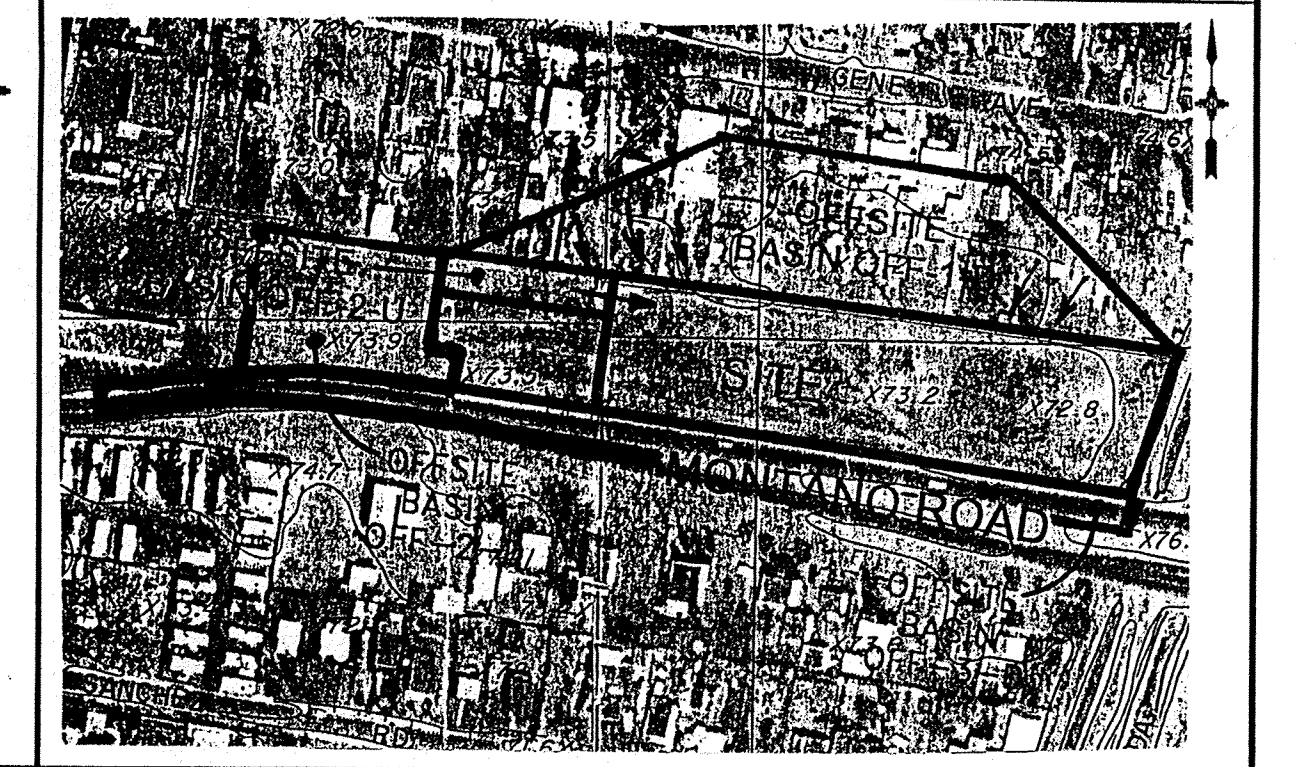


**VICINITY MAP**  
ZONE ATLAS MAP NO. F-14, F-15  
SCALE: 1"=1000'



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

**OFFSITE DRAINAGE BASINS**  
SCALE: 1"=300'



| NO. | REVISIONS                        | BY  | DATE    |
|-----|----------------------------------|-----|---------|
|     | Add Keyed Note ㉓ to Sheet 1 of 2 | JML | 8/19/97 |

**TRACT 1-C, MONTANO Y QUATRO**  
**MONTANO BUSINESS CENTER PHASE 2**  
**GRADING & DRAINAGE PLAN**

**Easterling & Associates, Inc.**  
CONSULTING ENGINEERS  
2600 The American Rd., SE, Suite 100  
Rio Rancho, New Mexico 87124  
(505) 898-8021 FAX (505) 898-8501

DESIGNED BY: JML  
DRAWN BY: DEC  
CHECKED BY: RPB  
DATE: JULY 1997

SHEET 1 OF 2

DWG: T:\PROJECTS\4480\DWG\PHASE2\MBPC00 TIME: 07-01-97 08:13:21



TRACT 1-C, MONTANO Y QUATRO  
MONTANO BUSINESS CENTER PHASE 2  
GRADING & DRAINAGE PLAN

General

Montano y Quatro, Tract 1-C is a 1.82 acre, partially developed infill site located on the north side of Montano Road and the west side of the Gallegos Lateral (2nd Street). The property is zoned for Neighborhood Commercial use (C-1). The east portion of the property has been recently developed with an animal health supply store (Phase 1). An office/retail lease space is proposed for the west portion (Phase 2). Please refer also to the Phase 1 Grading & Drainage Plan, 1-30-97, (F15/D27).

Existing Conditions

The Harper Addition property north of the site is fully developed with single family residences. The runoff from the back portions of several of the lots abutting the site ponds onsite and/or drains to the south onto the site. Refer to Basin OFF-1-D. The northern portion of Montano y Quatro Tract 1-A-2 west of the site also ponds onsite and/or drains to the site. Refer to Basin OFF-2-U.

Prior to Phase 1 development, the site contained an informal retention ponding area along its north boundary, which could accept offsite flows from the north and west. The runoff volume resulting from the 100 Yr./24 Hr. storm would pond in the old ponding area to an elevation of approximately 4972.42 (Tract C-1 undeveloped). At this elevation, the ponding would extend beyond the site to the property to the west and north. Above this elevation, the runoff would overflow to the north through the Harper Addition to Gene Avenue.

The remaining portion of Tract 1-C (prior to Phase 1 development) consisted of a 1.2 acre area, discharging 3.3 cfs (2.8 cfs/acre) to Montano Road in the 100-Year storm. (See Phase 1 Grading & Drainage Plan.) The old northern ponding area was eliminated with the development of Phase 1, and a temporary retention pond constructed on the Phase 2 area. The new retention pond will remain until the construction of Phase 2, whereupon an outfall connection to the Montano Road storm drain system will be built.

Recent City review of downstream drainage conditions has resulted in the determination of an allowable release rate of 0.5 cfs/acre for properties along the Montano Road corridor.

Proposed Development

Phase 2 will complete the buildout of Tract 1-C. The site will continue to accept flows from Basins OFF-1-D and OFF-2-U, and will convey them (unattenuated) to Montano Road. These flows will be released from the site through the proposed driveway at the southwest corner of the site. The computed 100-Year offsite flow rate for Basin OFF-1-D and OFF-2-U combined is 0.5 + 6.3 = 6.8 cfs. (When Tract 1-A-2 develops, Basins OFF-2-U will be eliminated and the offsite flow through Tract 1-C will be reduced to 6.3 cfs.) If this offsite flow is considered as an overland flow exiting Tract 1-C through the westernmost driveway, the driveway waterblock will act as a weir, releasing these flows to Montano Road.

Onsite ponding (Pond Areas 1, 2 and 3) will be provided to diminish onsite peak flow rates. Ponding is to be accomplished by surface storage in parking areas. Pond Area No. 1 will drain overland to Pond Area No. 2. Pond Areas No. 2 and 3 will drain via proposed private gravity storm drains to the back of an existing Single 'C' storm inlet in Montano Road. For the developed site discharge to be limited to 0.9 cfs (i.e. 0.5 cfs/acre), an estimated 9540 cf of pond storage would be required, based on an AHYMO routing of the site hydrograph through a theoretical pond. The pond volume provided has been maximized to the extent practical, given the flat topography of the site and the constraints imposed by abutting improvements. These constraints include the previously-computed maximum allowable water surface of 4972.42; the requirement to set waterblock elevations low enough on the westernmost driveway to (i) Pass the 100-Year offsite flow of 6.8 cfs (ii) Pass the 100-Year offsite and onsite (unattenuated) flow of 6.8 + 8.3 = 15.1 cfs acting as an emergency overflow; the requirement to set the same waterblock elevation high enough to block street flows; and the need to provide internal positive drainage throughout the site.

The grading and drainage scheme presented herein provides an onsite detention storage volume of 8450 cf (89% of the estimated required volume of 9540 cf), with a peak site release rate of 1.7 cfs (0.9 cfs/acre). Setting the west driveway waterblock elevation at 4972.05 excludes street flows below that elevation, and contains the 8450 cf of storage onsite. Further, the 6.8 cfs offsite flow can be passed through the driveway with a maximum water surface of 4972.05 + 0.20 = 4972.25; and the emergency overflow of 15.1 cfs can be passed through the driveway with a maximum water surface elevation of 4972.05 + 0.34 = 4972.39 (See weir calculations herein).

Although the absolute letter of the allowable site release rate requirement is not satisfied, conditions specific to this infill site necessitate balancing the conflicting requirements of maximizing pond volume, excluding street flows and providing for the passage of offsite flows and emergency overflows. A variance from the allowable release rate requirement is therefore requested for this site. In further support of this request, field-examination of Basin OFF-1-D suggests that informal backyard ponding may cause lower peak flows to enter the site than those predicted by the AHYMO model, resulting in lower total flows exiting the site than those computed.

Downstream Capacity Considerations

In combination, the Single 'C' inlet, its 8" outlet pipe and the downstream 12" storm drain in Montano Road have limited capacity. With the street water surface at 0.2' above top of curb (WSE = 72.58), the 8" pipe was estimated to have a maximum capacity of about 4 cfs. The existing 100-Year street flow reaching the inlet (not including any discharge from the site) was calculated at 0.9 + 3.1 + 5.6 = 9.6 cfs, more than double the capacity of the 8" pipe. Construction plans for Montano Road (Wilson & Co., 1986) indicate a storm drain connector pipe stubbed from the Montano Road 60" storm drain to the inlet for future connection. It is unclear from the Montano Road plans whether this pipe stub is the standard City minimum diameter of 18". An 18" pipe is necessary to provide sufficient hydraulic capacity to drain the inlet in the 100-Year storm. It is anticipated that the connection of the stub to the inlet will be made by the City either during the course of the ongoing Montano Road construction project, or at a later date in conjunction with downstream pump station improvements. This will ameliorate the existing pipe capacity deficiency immediately downstream of the inlet.

Full development of Tract 1-C has reduced onsite 100-Year discharge from 3.3 cfs (See Phase 1 Plan) to 1.7 cfs. The total flow exiting the site has increased to approximately 8.5 cfs, due to the conveyance of offsite flows through the site. As a result, the flows passing through the inlet in Montano have been increased to 17.0 cfs. (See AHYMO output.) In order to provide additional inlet capacity in Montano Road, the developer proposes to construct a Double 'C' inlet in series with the existing Single 'C' inlet.

Hydrologic calculations were performed using the AHYMO194 hydrologic computer model, in accordance with the City of Albuquerque DPM, Chapter 22.2. An AHYMO output file is provided as an attachment to Sheets 1 and 2 herein.

POND STAGE-STORAGE CALCULATIONS

| Pond Area No. 1 |   | Elev. | Area (sf) | Vol (cf) | Σ Vol (cf) | Σ Vol (ac-ft) |
|-----------------|---|-------|-----------|----------|------------|---------------|
| 72.75           | 0 | 1133  | 94        | 94       | 0.0022     |               |
| 73.00           | 0 | 3362  | 944       | 1038     | 0.0238     |               |
| 73.42           | 0 |       |           |          |            |               |

| Pond Area No. 2 |   | Elev.   | Area (sf) | Vol (cf) | Σ Vol (cf) | Σ Vol (ac-ft) |
|-----------------|---|---------|-----------|----------|------------|---------------|
| 71.14           | 0 | 13,520  | 3876      | 3876     | 0.0840     |               |
| 72.00           | 0 | 16,907  | 3043      | 6919     | 0.1588     |               |
| 72.25           | 0 | >16,907 | 845       | 7764     | 0.1782     |               |

MONTANO ROAD STAGE-STORAGE CALCULATION

| Elev. | Area (sf) | Vol. (cf) | Σ Vol (cf) | Σ Vol (ac-ft) |
|-------|-----------|-----------|------------|---------------|
| 70.59 | 0         | 4         | 4          | 0.0001        |
| 71.50 | 4         | 4         | 4          | 0.0067        |
| 72.00 | 1155      | 289       | 293        |               |

NOTE: REFER TO AHYMO POND ROUTING ANALYSIS FOR MAXIMUM W.S.E.'S ATTAINED AND MAXIMUM STORAGE PROVIDED DURING THE 100-YEAR STORM

HYDROLOGY SUMMARY

PROJECT NAME: MONTANO Y QUATRO, TRACT 1-C

| BASIN   | CONDITIONS   | DESCRIPTION                               | AREA   | LAND TREATMENTS |       |       |       | 10 YEAR |         |         |         | 100 YEAR |         |         |         |
|---------|--------------|---|--------|-----------------|-------|-------|-------|---------|---------|---------|---------|----------|---------|---------|---------|
|         |              |   |        | A               | B     | C     | D     | Q (cfs) | Q (cfs) | Q (cfs) | Q (cfs) | Q (cfs)  | Q (cfs) | Q (cfs) | Q (cfs) |
| ON-1-D  | EXIST. DEV   | TRACT 1-C EAST BASIN                      | 0.4945 | 0.0%            | 0.0%  | 10.0% | 90.0% | 1.5     | 0.0518  | 0.0617  | 2.3     | 0.0833   | 0.0980  |         |         |
| ON-2-D  | EX/PROP.DEV  | TRACT 1-C CENTRAL BASIN                   | 1.1525 | 0.0%            | 0.0%  | 10.0% | 90.0% | 3.5     | 0.1208  | 0.1439  | 5.2     | 0.1941   | 0.2284  |         |         |
| ON-3-D  | PROP. DEV    | TRACT 1-C WEST BASIN                      | 0.1730 | 0.0%            | 0.0%  | 10.0% | 90.0% | 0.5     | 0.0181  | 0.0216  | 0.8     | 0.0291   | 0.0342  |         |         |
| OFF-1-D | EXIST. DEV   | OFFSITE HARPER ADDN LOTS 30-43, S PORTION | 1.9009 | 0.0%            | 35.0% | 35.0% | 30.0% | 3.6     | 0.1080  | 0.1207  | 6.3     | 0.2066   | 0.2257  |         |         |
| OFF-2-U | EXIST. UNDEV | TRACT 1-A-2, NORTH PORTION                | 0.1870 | 0.0%            | 50.0% | 50.0% | 0.0%  | 0.2     | 0.0062  | 0.0082  | 0.5     | 0.0149   | 0.0149  |         |         |
| OFF-1-U | EXIST. UNDEV | TRACT 1-A-2, SOUTH PORTION                | 0.3243 | 0.0%            | 50.0% | 50.0% | 0.0%  | 0.4     | 0.0108  | 0.0108  | 0.9     | 0.0258   | 0.0258  |         |         |
| OFF-2-D | EXIST. DEV   | TRACT 1-A-1, EAST PORTION                 | 0.6820 | 0.0%            | 0.0%  | 10.0% | 90.0% | 2.0     | 0.0715  | 0.0851  | 3.1     | 0.1149   | 0.1353  |         |         |
| OFF-3-D | EXIST. DEV   | MONTANO ROAD, NORTH HALF                  | 1.2626 | 0.0%            | 10.0% | 0.0%  | 90.0% | 3.7     | 0.1298  | 0.1551  | 5.6     | 0.2090   | 0.2468  |         |         |

INPUT DATA:

| PRECIP. ZONE | RAINFALL DEPTHS (INCHES) AT 100-YEAR STORM |        |         |       |        |
|--------------|--|--------|---------|-------|--------|
|              | 1 HOUR                                     | 6 HOUR | 24 HOUR | 4 DAY | 10 DAY |
| 2            | 2.01                                       | 2.35   | 2.75    | 3.30  | 3.95   |

HYDRAULIC CALCULATIONS

1. Private Storm Drain Capacities

$$Q_{cap} = \frac{1.49 AR^{2/3} s^{1/2}}{n}$$

(a)  $d = 10"$   
 $s = 0.0020$  ft/ft  
 $n = 0.010$  →  $Q_{cap} = 1.27$  cfs

(b)  $d = 6"$   
 $s = 0.0050$  ft/ft  
 $n = 0.010$  →  $Q_{cap} = 0.52$  cfs

2. Notch in speed hump to drain Pond Area No. 1

$$Q = CLH^{1.5}$$

Where C = 3.0 and L = 1.0'

| H (ft) | Q (cfs) |
|--------|---------|
| 0.25   | 0.4     |
| 0.67   | 1.6     |

3. West driveway overflow

$$Q = CLH^{1.5}$$

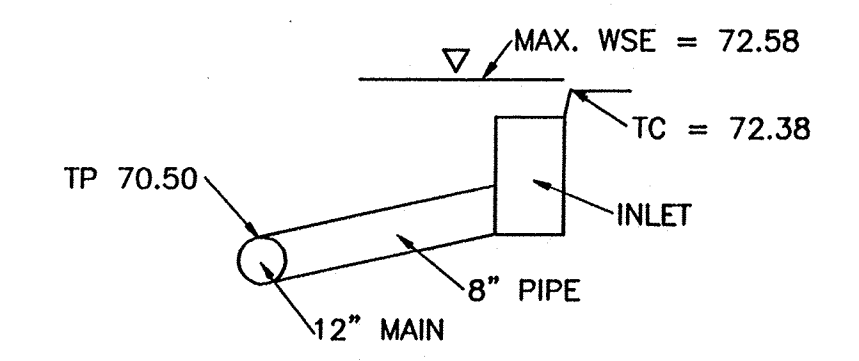
Where C = 3.0 and L = 25'

Crest Elevation = 72.05

| WSE   | H (ft) | Q (cfs) |
|-------|--------|---------|
| 72.25 | 0.20   | 6.8     |
| 72.39 | 0.34   | 15.1    |

⇒ Offsite Flow Passage (Q100)  
⇒ Emergency Overflow for Offsite and Onsite Flows (Q100)

4. Capacity of existing 8" storm inlet connector pipe in Montano Road



Assume starting HGL @ 70.50 in the 12" main

$$Q = A \sqrt{\frac{H_T}{\left(\frac{\sum K}{2g} + \frac{n^2 L}{2.21 \left(\frac{D}{4}\right)^{1.33}}\right)}}$$

$$= \frac{\pi}{4} (0.67)^2 \sqrt{\frac{(72.58 - 70.50)}{\left(\frac{0.2 + 0.5}{64.4} + \frac{(0.010)^2 (13)}{(2.21) \left(\frac{0.67}{4}\right)^{1.33}}\right)}}$$

= 3.9 cfs

5. Storm Inlet Capacity on North Side of Montano Road

Let WSE<sub>100</sub> = 72.00 to prevent inflow to site through west driveway

Grate elevation = 71.50

⇒ Maximum street water depth = 0.5'

(i) Unsubmerged Grate ⇒  $Q = CLH^{1.5}$

Single 'C' Inlet:  $Q = (3.0) (2+3+2) (0.5)^{1.5} = 7.4$  cfs

Double 'C' Inlet:  $Q = (3.0) (2+6+2) (0.5)^{1.5} = 10.6$  cfs

Q<sub>total</sub> = 7.4 + 10.6 = 18.0 cfs for 1-Single and 1-Double inlet

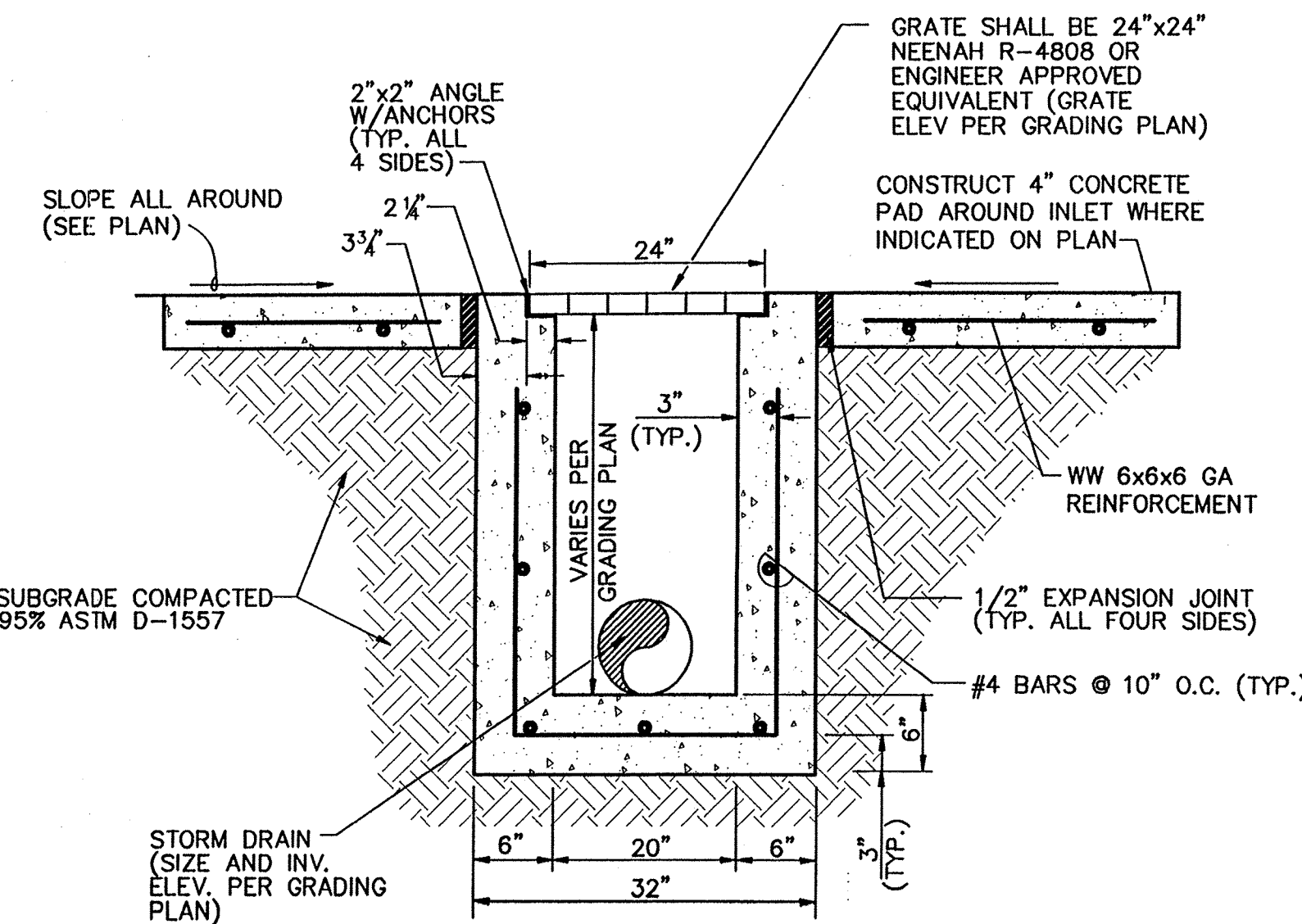
(ii) Submerged Grate ⇒  $Q = C A_{open} \sqrt{2gh}$

Assume 50% clogging of grate openings

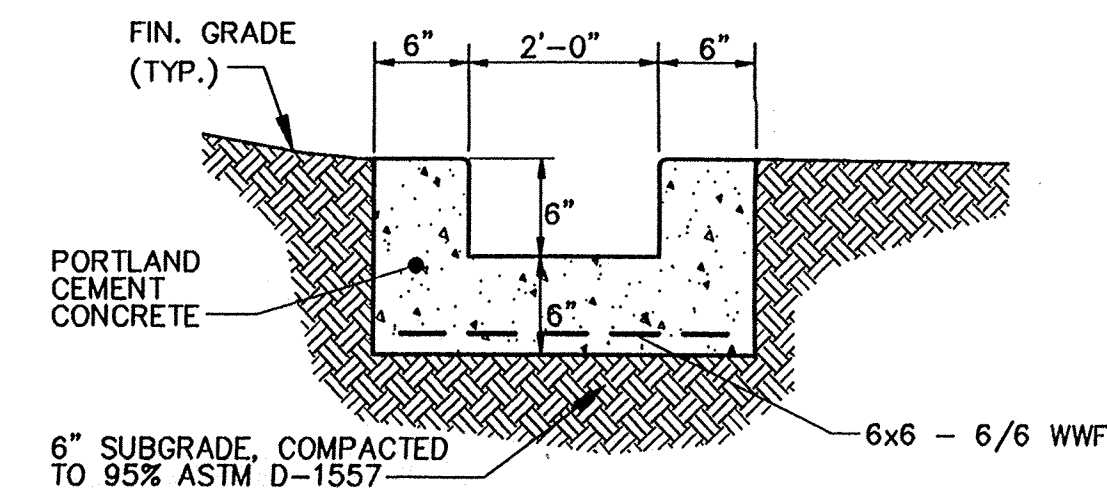
Single 'C' inlet:  $Q = (0.6) (1.7) \sqrt{(64.4) (0.5)} = 5.8$  cfs

Double 'C' Inlet:  $Q = (0.6) (3.4) \sqrt{(64.4) (0.5)} = 11.6$  cfs

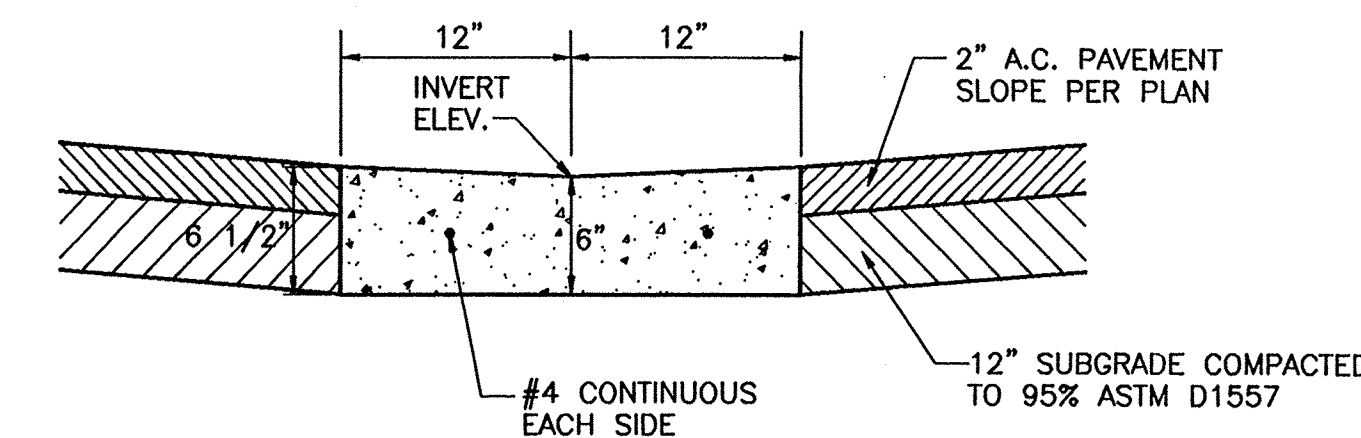
Q<sub>total</sub> = 5.8 + 11.6 = 17.4 cfs for 1-Single and 1-Double inlet



TYPICAL STORM INLET SECTION  
N.T.S.



TYPICAL CONCRETE RUNDOWN SECTION  
N.T.S.



24" VALLEY GUTTER  
N.T.S.

| NO. | REVISIONS                          | BY  | DATE    |
|-----|------------------------------------|-----|---------|
|     | Add Keyed Note (3) to Sheet 1 of 2 | JML | 8/19/97 |

TRACT 1-C, MONTANO Y QUATRO  
MONTANO BUSINESS CENTER PHASE 2  
GRADING & DRAINAGE PLAN  
NOTES, CALCULATIONS & DETAILS

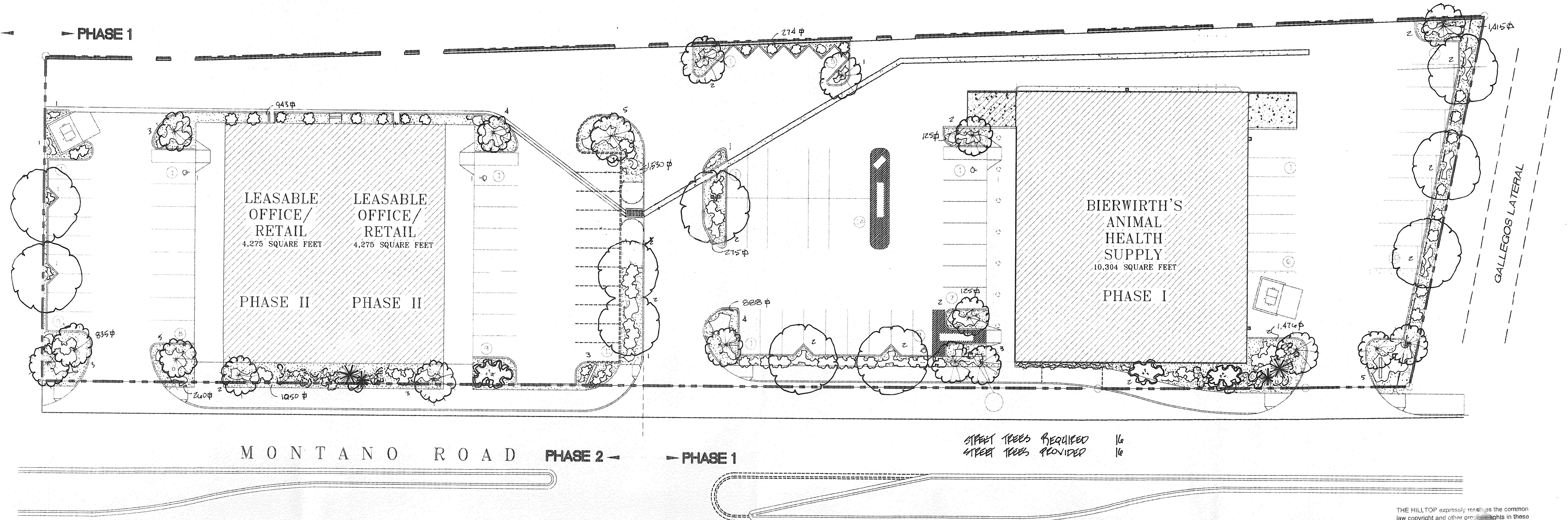
DESIGNED BY: JML  
DRAWN BY: DEC  
CHECKED BY: RPB  
DATE: JULY 1997

SHEET 2 OF 2

Easterling & Associates, Inc.  
CONSULTING ENGINEERS  
2600 The American Rd., SE, Suite 100  
Rio Rancho, New Mexico 87124  
(505) 898-8021 FAX (505) 898-8501



PHASE 2 ← PHASE 1



MONTANO ROAD PHASE 2 ← PHASE 1

STREET TREES REQUIRED 16  
STREET TREES PROVIDED 16

LANDSCAPE CALCULATIONS

|                          |              |
|--------------------------|--------------|
| TOTAL SITE AREA          | 77,405 sq ft |
| TOTAL BUILDING AREA      | 18,854 sq ft |
| NET LOT AREA             | 58,551 sq ft |
| LANDSCAPE REQUIREMENT    | 15           |
| TOTAL LANDSCAPE REQUIRED | 8,705 sq ft  |
| TOTAL LANDSCAPE PROVIDED | 9,261 sq ft  |
| TOTAL BED AREA           | 9,261 sq ft  |

LANDSCAPE NOTES

ALL LANDSCAPING SHALL BE WATERED BY A COMPLETE UNDERGROUND IRRIGATION SYSTEM OPERATED BY AUTOMATIC TIMER. BUBBLERS TO TREES, DRIP IRRIGATION TO SHRUBS. IRRIGATION SYSTEM MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

LANDSCAPE MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

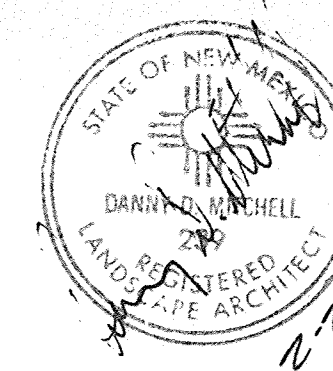
IT IS THE INTENT OF THIS PLAN TO COMPLY WITH THE CITY OF ALBUQUERQUE, WATER CONSERVATION LANDSCAPE ORDINANCE.

APPROVAL OF THIS PLAN DOES NOT CONSTITUTE OR IMPLY EXEMPTION FROM WATER WASTE PROVISIONS OF THE WATER CONSERVATION LANDSCAPING AND WATER WASTE ORDINANCE. WATER MANAGEMENT IS THE SOLE RESPONSIBILITY OF THE PROPERTY OWNER.

LANDSCAPE LEGEND

- (9) 20'-1/2" CAL. SHADE TREES (H)  
HONEYLOCUST, ASH, MAPLE, LONDON PLANE
- (19) 15 CAL. FLOWERING ORNAMENTAL TREES (H)  
BRADFORD PEAR, PURPLELEAF PLUM, CREAMAPPLE
- (1) 4'-8" COCTILLA (L)
- (3) MULTI-TRUNK ACCENT TREES (M-H)  
FINCH, FORESTIERED, WASHINGTON HAWTHORNE
- (2) PALM TUCCO (L)
- (74) 5 CALICAL SHRUBS (L-M)  
PHOTINIA, RAPHIOLEPS, COTOHEMSTER, SILVERBERRY, CHAMISA, RUSSIAN SAGE, BLUEBERRY SPREAD, CHERRY SAGE, BENTHAMA
- (77) 5 CALICAL GROUNDCOVERS (M)  
BUFFALO WHIFFER, HOLOCHITIA COTOHEMSTER
- 1/2" SAND AND TAIL GRAVEL OVER FILTER FABRIC
- 4'-6" COBBLE IN ACCENT PATTERNS w/ Boulders

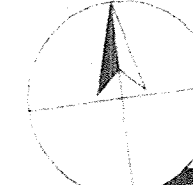
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*The Hilltop*



NORTH



**LANDSCAPE PLAN**

FEBRUARY 21, 1997 SCALE: 1" = 20'-0" (U.N.O.)



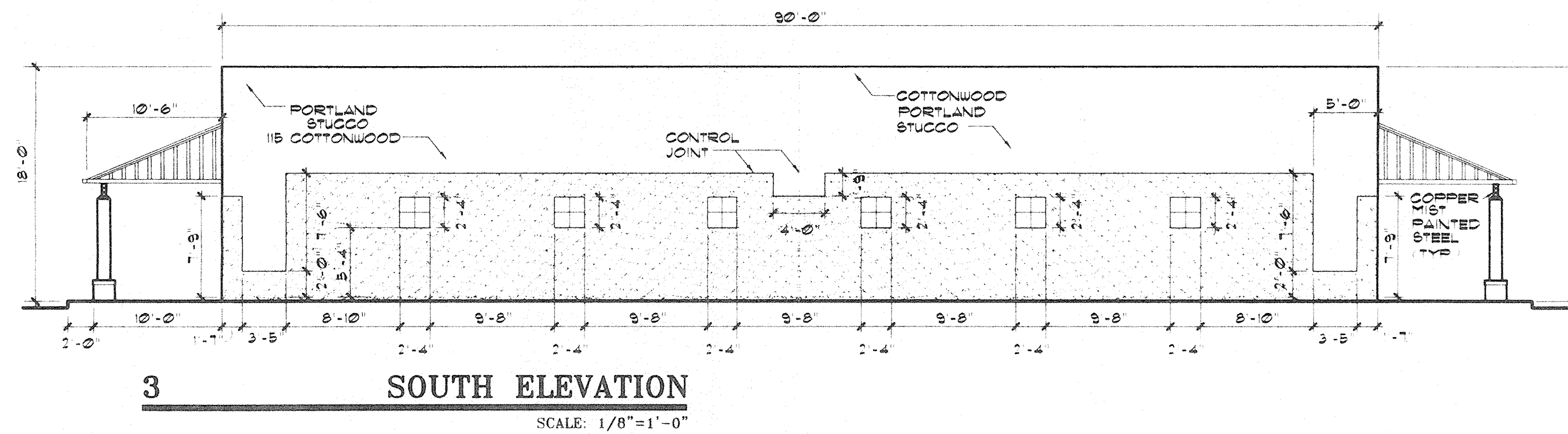
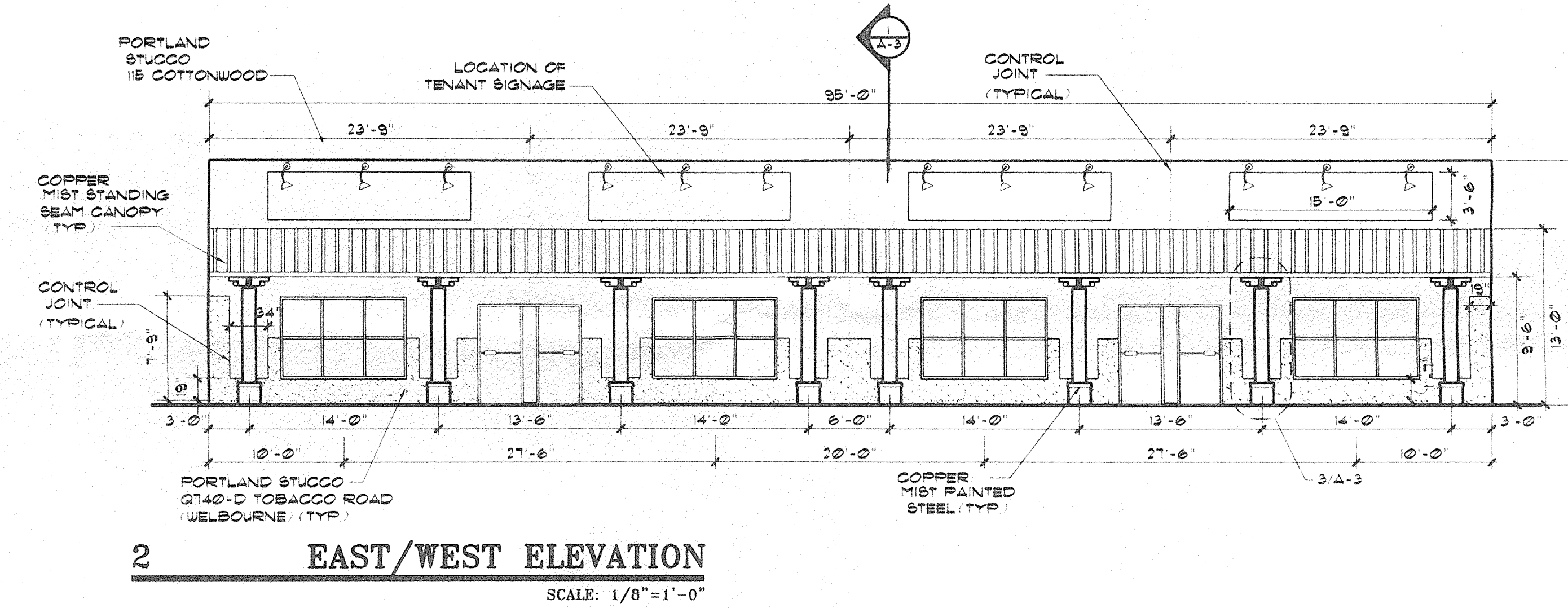
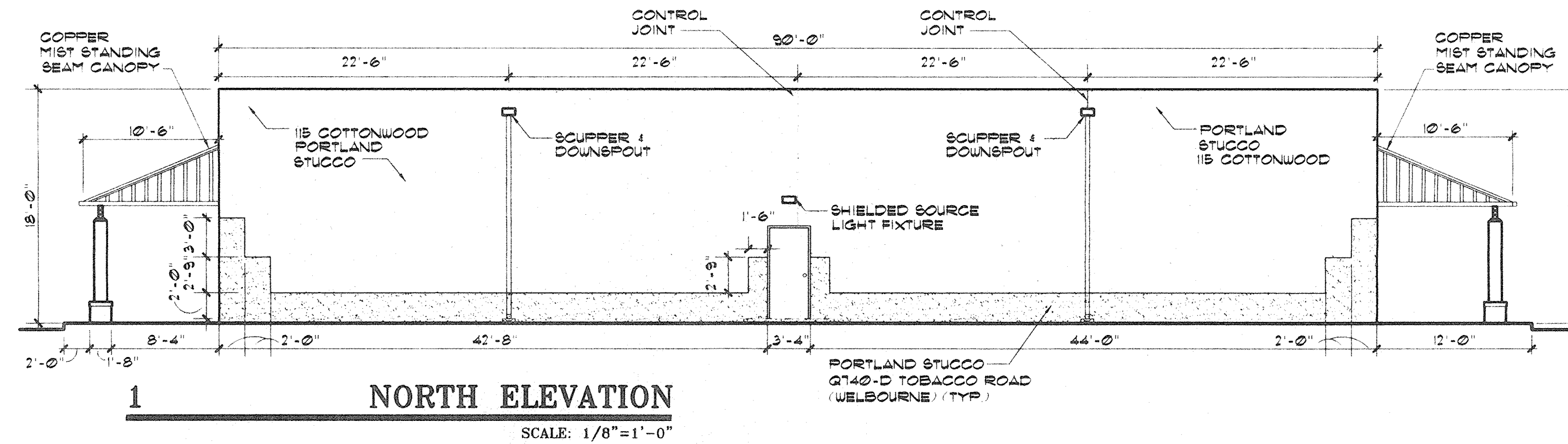
CLAUDIO VIGIL ARCHITECTS

MONTANO BUSINESS CENTER  
BIERWIRTH'S ANIMAL HEALTH SUPPLY  
201 MONTANO STREET, N.W.  
ALBUQUERQUE, NEW MEXICO

|       |      |
|-------|------|
| SHEET | LS-1 |
|       |      |

SPL DWG





**ELEVATIONS**

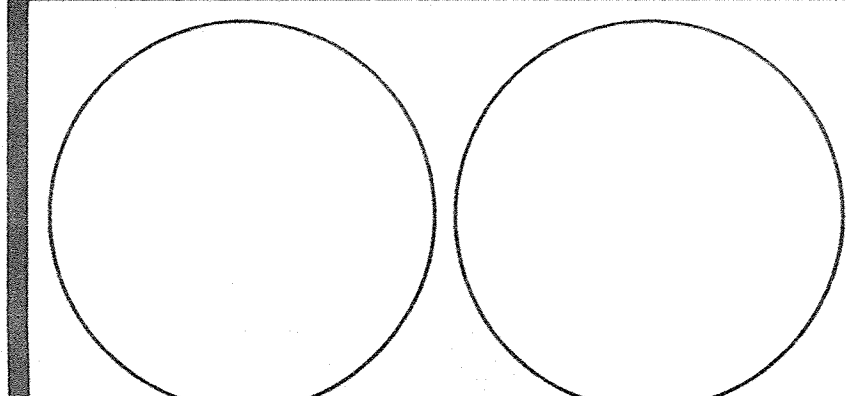
SEPTEMBER 22, 1997

1/8" = 1'-0"



CLAUDIO VIGIL ARCHITECTS

**MONTANO BUSINESS CENTER**  
RETAIL CENTER DEVELOPMENT  
MONTANO STREET, N.W.  
ALBUQUERQUE, NEW MEXICO



SHEET

A-2

1305 Tijeras NW Albuquerque, NM 87102-2882  
Phone: 505/842-1113 Fax: 505/842-1330