



Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Jeff Peterson
Jeff Mortensen & Associates
6010-B Midway Park Boulevard NE
Albuquerque, New Mexico 87109

RE: Drainage Plan for Salvation Army (K14-D63) Received June 4, 1997

Dear Mr. Peterson:

The above referenced drainage plan dated June 3, 1997 is approved for Paving Permit.

An Engineer's Certification will be required upon completion of the project per the DPM check list.

If you have any questions please call me at 924-3984.

Sincerely,

A handwritten signature in black ink, appearing to read 'Carlos A. Montoya'.

Carlos A. Montoya
Project Manager

c: Andrew Garcia
File

Good for You, Albuquerque!

P.O. Box 1293, Albuquerque, New Mexico 87103



960364

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Salvation Army ZONE ATLAS/DRNG. FILE #: K-14/063
DRB #: 96-422 EPC #: — WORK ORDER #: —
LEGAL DESCRIPTION: Lots 1-4 Block 5, Hunning's Highland Addition
CITY ADDRESS: 411 Broadway S.E.
ENGINEERING FIRM: Jeff Mortensen & Assoc. CONTACT: Jeff Peterson
ADDRESS: 6010-B Midway Park Blvd N.E. PHONE: 345-4250
OWNER: Salvation Army CONTACT: Engineer
ADDRESS: 4301 Bayn Mawr N.E. PHONE: 345-4250
ARCHITECT: Sierra Architects CONTACT: David Callahan
ADDRESS: 429 Sierra Dr. SE. PHONE: 834-9552
SURVEYOR: Jeff Mortensen & Assoc. CONTACT: Chuck Cala
ADDRESS: 6010-B PHONE: 345-4250
CONTRACTOR: Not Known CONTACT: —
ADDRESS: — PHONE: —

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT
☒ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☐ OTHER

PRE-DESIGN MEETING:

☒ YES
☐ NO
☒ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

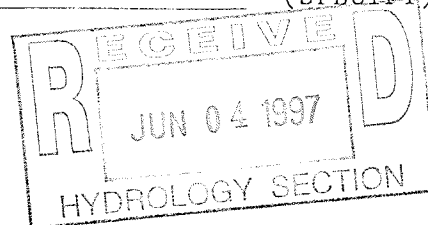
☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☒ GRADING PERMIT APPROVAL
☒ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ OTHER _____ (SPECIFY)

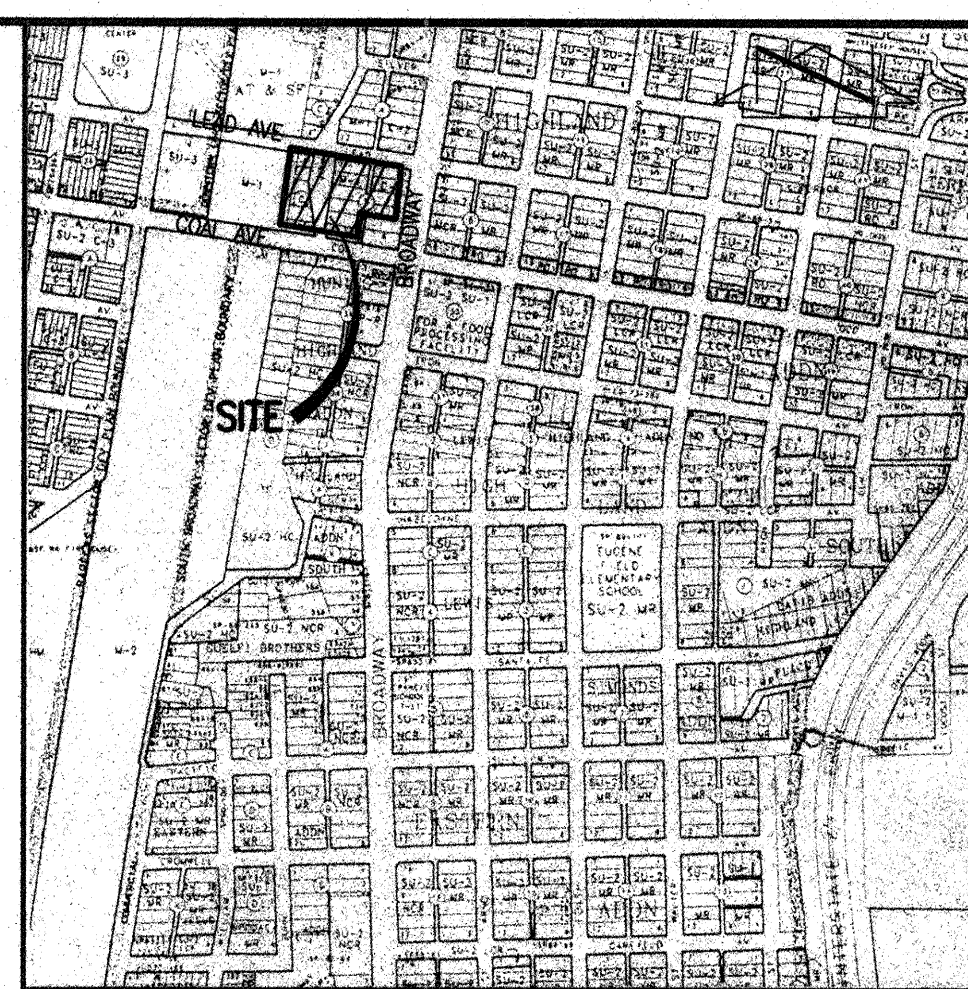
DATE SUBMITTED:

6/4/97

BY:

JEFF PETERSON





VICINITY MAP K-14
SCALE: 1" = 750'

PROJECT BENCHMARK

A STANDARD CITY OF ALBUQUERQUE DISK SET IN A DRILLED HOLE IN THE SIDEWALK, STAMPED "5-K 14A". STATION IS LOCATED AT THE INTERSECTION OF BROADWAY AND LEAD AVENUE IN THE SW QUADRANT OF THE INTERSECTION AS SHOWN ON THE DRAWING. ELEVATION = 4965.21 FEET (M.S.L.D.)




T.B.M.
A "□" CHISEL ON TOP CORNER OF CONCRETE STEPS AS SHOWN ON THE DRAWING.
ELEVATION = 4963.50 FEET (M.S.L.D.)

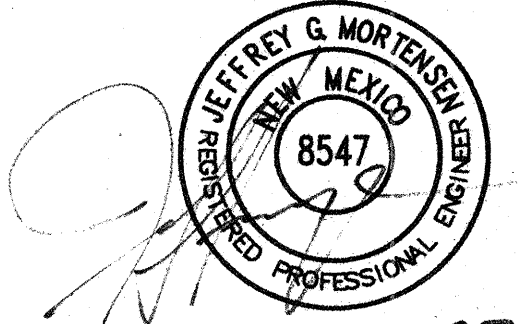
LEGAL DESCRIPTION

LOTS 1-4, BLOCK 5,
HUNING'S HIGHLAND ADDITION

LEGEND

TC	TOP OF CURB
FL	FLOWLINE
TSW	TOP OF SIDEWALK
TCO	TOP OF CONCRETE
TW	TOP OF WALL
TC	TOP OF GRATE
TL	TOP OF LANDING
TR	TOP OF RAMP
BR	BOTTOM OF RAMP
RD	ROOF DRAIN
TC	TOP OF GRATE
BS	BOTTOM OF STEP
IS	TOP OF STEP
EA	EDGE OF ASPHALT
TDSW	TURNDOWN SIDEWALK
TA	TOP OF ASPHALT
U/G E	UNDERGROUND ELECTRIC
U/G G	UNDERGROUND GAS
OV/H	OVERHANG
O/H E (2)	OVERHEAD ELECTRIC (NO. OF LINES)
O/H TELE (2)	OVERHEAD TELEPHONE (NO. OF LINES)
SAS C.C.O.	SANITARY SEWER CLEANOUT
	EXISTING CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING SMALL TREE, SHRUB
	EXISTING DECIDUOUS TREE

65	PROPOSED PAVING TAVEN
 65.35	PROPOSED SPOT ELEVATION
	PROPOSED CONCRETE
	PROPOSED PAVING



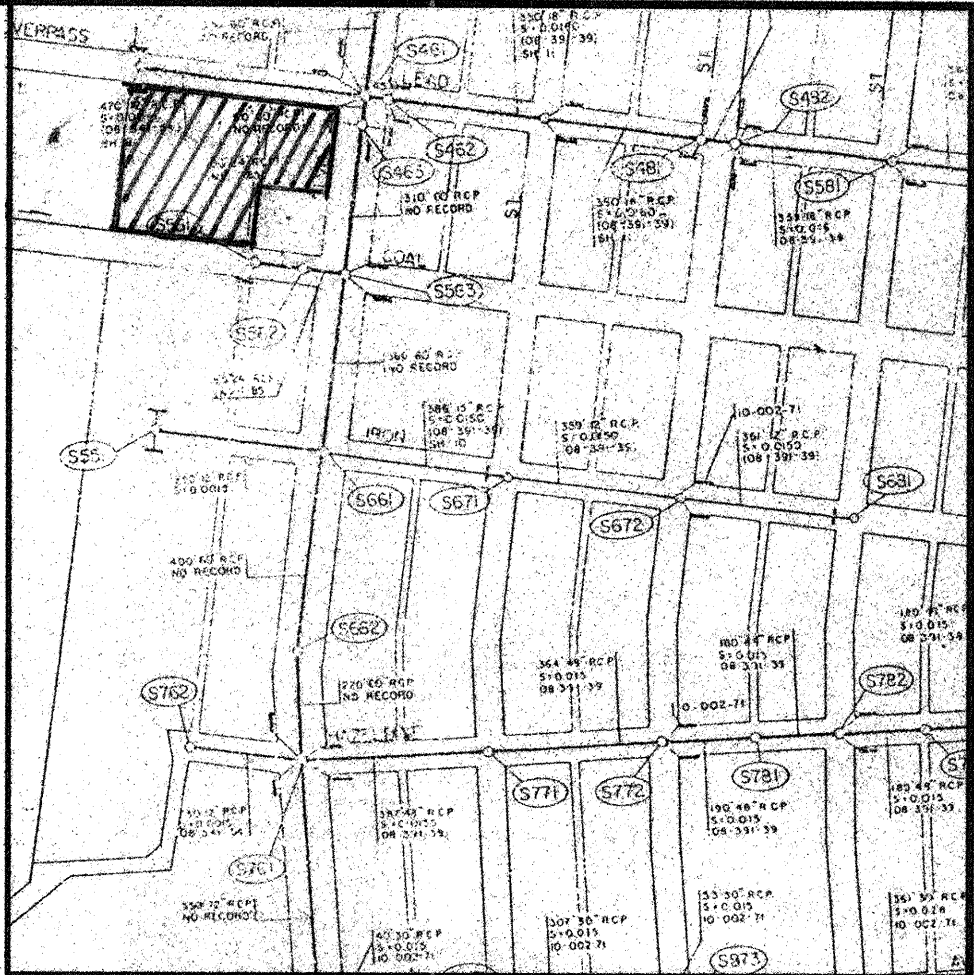
06-03-97

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

GRADING PLAN

SALVATION ARMY PARKING LOT PAVING

DESIGNED BY	J.G.M.	NO.	DATE	BY	REVISIONS	JOB NO.	960364
DRAWN BY	S.G.H./J.Y.R.					DATE	06-1997
APPROVED BY	J.G.M.					SHEET	1 OF 2



STORM DRAINAGE FACILITIES MAP
SCALE: 1" = 400'

DRAINAGE PLAN

The following items concerning the Salvation Army Parking Lot Paving Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations
4. Storm Drain Facilities Map

As shown by the Vicinity Map, the site is located at the southwest corner of the intersection of Broadway Boulevard S.E. and the Lead Avenue ramp. At present, the site is developed as a Salvation Army facility. Existing development consists of buildings, predominantly unpaved parking and driving surfaces.

As shown by Panel 334 of 825 of the National Flood Insurance Program Flood Insurance Rate Maps published by F.E.M.A. for the County of Bernalillo, New Mexico, and Incorporated Areas, dated September 20, 1996, this site does not lie within a designated flood hazard zone. Further review of this panel, combined with field observation, indicates that the runoff from this site does not contribute to a designated downstream flood hazard zone. Offsite flows are intercepted within the adjacent roadway system which consists of Broadway Boulevard S.E. and the storm drain improvements within that roadway. Those facilities are more clearly identified on the Storm Drain Facilities Map which appears on Sheet 2.

The Grading Plan shows: 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the existing improvements removed by prior demolition (this data has been screened), 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the construction of a parking lot on the north side of the existing building where two existing buildings and an unpaved parking lot were located. Minor paving has also been added to facilitate refuse pick-up. The project site consists of Lots 1-4, inclusive, Block 5, Hunings Highlands Addition. The entire property consists of those four lots combined with Lots 7-12, Block 5, Hunings Highlands Addition, and Lots 8-13, inclusive, Block C, Union Depot Frontage Addition. At present, the project site drains from east to west onto an existing platted alley. The alley is accessed from the adjacent lots, however, does not physically connect to the Coal and Lead Avenue overpasses. The alley is partially paved and drains from south to north toward the Lead Avenue overpass. From this point, runoff flows across the remainder of the property toward the northwest corner where the runoff is discharged to the AT & SF Railroad right-of-way. Much of the flowpath is unpaved and consists of compacted "dirt" and gravel. There are no significant signs of erosion, therefore, it appears that much of the runoff that flows across this surface either infiltrates or is dispersed in a sheetflow pattern. Review of existing site drainage conditions does not reveal any existing problems. Offsite flows do not impact the site from the adjacent streets and the discharge from the site to the AT & SF Railroad right-of-way is not presently creating any adverse conditions.

The above referenced public alley was vacated by the Development Review Board (V-96-98) on September 24, 1996, subject to replatting. The status of the replat is "on hold". Furthermore, the alley is inaccessible from the Coal and Lead ramps. It is physically not possible to access the alley from these adjacent roadways. The alley is predominantly paved at this time, however, not to "City standard". In view of the above conditions whereby the alley is inaccessible, paving of the alley to City standard is not warranted.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. Calculations have been performed for the project site itself (Lots 1-4), as well as the entire Salvation Army property. The results of these Calculations indicate a negligible increase at Analysis Points 1 and 2. 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. Based upon the proximity of the site to existing storm drain facilities, the fact that the site does not lie within a designated flood hazard zone, and does not discharge runoff to a designated flood hazard zone, the relatively minor extent of the proposed improvements and the minor increase in runoff generated, the free discharge of runoff in the manner described above is appropriate. Further development of the site may trigger the need for a more comprehensive assessment of downstream and onsite drainage conditions. The improvements proposed will not have an adverse impact on downstream conditions and do not represent a significant change in the hydrology of this site; existing Land Treatments C and D are being replaced with Land Treatments B and D.

CALCULATIONS OVERALL (ANALYSIS POINT #1)

Site Characteristics

1. Precipitation Zone = 2
2. $P_{6,100} = P_{360} = 2.35$ in.
3. Total Area (A_T) = 114,850 sf; 2.64 ac.

Existing Land Treatment	Area (sf/ac)	%
B	2,800/0.06	02
C	62,200/1.43	54
D	49,850/1.15	44

Developed Land Treatment	Area (sf/ac)	%
B	4,200/0.10	04
C	54,890/1.26	48
D	55,760/1.28	48

Existing Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.78)(0.06) + (1.13)(1.43) + (2.12)(1.15) / 2.64 = 1.55 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.55 / 12) 2.64 = 0.3417 \text{ ac.ft.; } 14,890 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (2.28)(0.06) + (3.14)(1.43) + (4.70)(1.15) = 10.0 \text{ cfs}$$

Developed Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.78)(0.10) + (1.13)(1.26) + (2.12)(1.28) 2.64 = 1.60 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.60 / 12) 2.64 = 0.3513 \text{ ac.ft.; } 15,300 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (2.28)(0.10) + (3.14)(1.26) + (4.70)(1.28) = 10.2 \text{ cfs}$$

Comparison

1. $\Delta V_{100} = 15,300 - 14,890 = 410 \text{ cf; } 0.0096 \text{ ac.ft. (increase)}$
2. $\Delta Q_{100} = 10.2 - 10.0 = 0.2 \text{ cfs (increase)}$

CALCULATIONS LOTS 1-4 (ANALYSIS POINT #2)

Site Characteristics

1. Precipitation Zone = 2
2. $P_{6,100} = P_{360} = 2.35$ in.
3. Total Area (A_T) = 28,800 sf; 0.66 ac.

Existing Land Treatment	Area (sf/ac)	%
C	16,340/0.38	57
D	12,460/0.28	43

Developed Land Treatment	Area (sf/ac)	%
B	1,400/0.03	05
C	9,030/0.21	32
D	18,370/0.42	63

Existing Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (1.13)(0.38) + (2.12)(0.28) / 0.66 = 1.55 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.55 / 12) 0.66 = 0.0853 \text{ ac.ft.; } 3,710 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (3.14)(0.38) + (3.14) + (4.70)(0.28) = 2.5 \text{ cfs}$$

Developed Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.78)(0.03) + (1.13)(0.21) + (2.12)(0.42) / 0.66 = 1.74 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$
$$V_{100} = (1.74 / 12) 0.66 = 0.0959 \text{ ac.ft.; } 4,180 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (2.28)(0.03) + (3.14)(0.21) + (4.70)(0.42) = 2.7 \text{ cfs}$$

Comparison

1. $\Delta V_{100} = 4,180 - 3,710 = 470 \text{ cf; } 0.0106 \text{ ac.ft. (increase)}$
2. $\Delta Q_{100} = 2.7 - 2.5 = 0.2 \text{ cfs (increase)}$

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.
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 Bernalillo County 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.

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.



JEFF MORTENSEN & ASSOCIATES, INC.
6800-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS SURVEYORS (CSD) 345-4250

DRAINAGE PLAN AND CALCULATIONS SALVATION ARMY PARKING LOT PAVING

DESIGNED BY JGM
DRAWN BY JMA/JJR
APPROVED BY JGM

NO.	DATE	BY	REVISIONS	JOB NO.
				960364
				DATE 06-1997
				SHEET 2 OF 2

