

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE NORTH VALLEY OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS AN UNDEVELOPED TRACT WITHIN AN INFILL AREA. THE DRAINAGE CONCEPT FOR THIS PROJECT WILL BE A COMBINATION OF A FLAT GRADING SCHEME AND INFILL CRITERIA. THE PADS WILL BE SET ONE FOOT ABOVE THE ADJACENT GRADE AND WILL INCORPORATE A PERIMETER WALL AROUND THE DEVELOPMENT WITH THE EXCEPTION OF THAT PORTION ALONG 6TH STREET. THIS CONCEPT WILL ALLOW THE MORE FREQUENT RUNOFF EVENTS TO BE CONTAINED ONSITE WITH THE MORE SIGNIFICANT RAINSTORMS OVERFLOWING INTO 6TH STREET. THIS SITE DOES NOT LIE WITHIN A FEMA DESIGNATED FLOOD HAZARD ZONE, HOWEVER, A SMALL PORTION OF THIS DEVELOPMENT ADJUTS CONSTITUTION & 6TH STREET WHICH IS A DESIGNATED FLOOD HAZARD ZONE (AO) WITH A ONE FOOT ELEVATION. THE STRUCTURE CLOSEST TO THE FLOOD ZONE IS EXISTING AND HAS ITS FINISH FLOOR AT LEAST ONE FOOT ABOVE THE FLOOD ELEVATION.

THIS SUBMITTAL IS MADE IN SUPPORT OF A PRELIMINARY AND/OR FINAL PLAT APPROVAL.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SITE IS AT THE SOUTHWEST CORNER OF THE INTERSECTION OF CONSTITUTION & 6TH STREET. THE CURRENT LEGAL DESCRIPTION ARE LOTS 24, 25, 26 & 27, BLOCK 12 OF THE ALBRIGHT-MOORE ADDITION AND INCORPORATES THE VACATED ALLEY ALONG THE NORTH SIDE OF THE SITE. AS SHOWN BY PANEL 332 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

III. BACKGROUND DOCUMENTS

THE FOLLOWING DOCUMENTS WERE USED IN THE PREPARATION OF THIS PLAN:

- DPM, CHAPTER 22, SECTION 2, HYDROLOGY;
 - DPM, CHAPTER 22, SECTION 5, PARAGRAPH C, FLAT GRADING SCHEME; AND
 - DPM, CHAPTER 22, SECTION 7, PAGE 178, INFILL CRITERIA.
- CITY OF ALBUQUERQUE GIS 1999 DIGITAL ORTHO PHOTOGRAPHY
FLOOD INSURANCE RATE MAP 332 OF 825

IV. EXISTING AND PROPOSED CONDITIONS

THE TOPOGRAPHIC DATA PRESENTED HEREWTH DEMONSTRATES THE EXISTING CONDITIONS OF THE PROJECT SITE. AT PRESENT, NO CONSTRUCTION HAS TAKEN PLACE. THE SITE IS RELATIVELY FLAT AND IS CURRENTLY UNDEVELOPED WITH THE EXCEPTION OF ONE EXISTING HOME.

THE PROPOSED CONSTRUCTION CONSISTS OF THREE SINGLE FAMILY HOMES WITH THE ASSOCIATED PAVING, AND LANDSCAPING. THE RUNOFF FROM THE NEW CONSTRUCTION WILL BE CONTAINED ONSITE FOR THE MORE FREQUENT STORM EVENTS WITH AN OVERFLOW TO 6TH STREET FOR SIGNIFICANT RAIN EVENTS. THE PADS ARE SET ONE FOOT ABOVE THE ADJACENT GRADE. THE ONSITE RUNOFF WILL BE ALLOWED TO EQUALIZE BETWEEN THE FRONT YARD AND BACK YARD. THE DRIVEWAYS WILL MAINLY CONSIST OF GRAVEL WITH THE EXCEPTION OF THE FIRST TWENTY-FIVE FEET OF THE PRIVATE ACCESS EASEMENT'S ENTRANCE WHICH WILL BE CONSTRUCTED OF ASPHALT PAVING.

V. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS, 2.) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 0'-6" INTERVALS, 3) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS TAKEN FROM THE SURVEY BY JEFF MORTENSEN & ASSOCIATES, 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, 5.) FEMA FLOODPLAIN LIMITS EXTRAPOLATED FROM FEMA PANEL 332 OF 825, 6) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES.

VI. CALCULATIONS

THE CALCULATIONS THAT APPEAR HEREON ANALYZE BOTH THE MAXIMUM PERCENT IMPERVIOUSNESS OF THE LOTS AND THE 100 YEAR 10-DAY STORM VOLUME & DEPTH. 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 CALCULATE THESE TWO VALUES.

VII. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN AND SATISFIES THE CITY OF ALBUQUERQUE SUBDIVISION DRAINAGE REQUIREMENTS:

1. THE SUBJECT SITE LIES WITHIN THE VALLEY REGION WHICH IS A REQUIREMENT FOR THE FLAT GRADING SCHEME.
2. THE MAXIMUM PERCENT IMPERVIOUSNESS OF EACH LOT IS LESS THAN THE MAXIMUM ALLOWED BY THE FLAT GRADING SCHEME.
3. THE PAD ELEVATIONS ARE A MINIMUM OF ONE FOOT ABOVE THE PROPOSED GRADE AS OPPOSED TO THE REQUIRED 100 YEAR 10-DAY STORM WATER SURFACE ELEVATION BY THE FLAT GRADING SCHEME. THE RATIONALE BEHIND THIS DEVIATION IS THAT THIS SITE IS DESIGNED WITH AN OVERFLOW INTO 6TH STREET. TYPICAL DEVELOPMENTS USING THE FLAT GRADING SCHEME ARE IN CONFINED AREAS WHERE NO SPILLWAYS ARE AVAILABLE CAUSING THE NEED FOR ADDED PROTECTION FROM THOSE UNUSUAL HIGH VOLUME STORMS.
4. THE FLOW BETWEEN THE FRONT YARD AND BACK YARD IS NOT OBSTRUCTED. THE STORM WATER IS ALLOWED TO EQUALIZE TO THE SAME LEVEL BETWEEN THE FRONT YARD AND BACK YARD.
5. A PERMANENT PERIMETER WALL WILL BE CONSTRUCTED AROUND A PORTION OF THE DEVELOPMENT WITH THE EXCEPTION OF THAT PORTION FRONTING 6TH STREET WHICH IS THE SPILLWAY FOR THE DEVELOPMENT.
6. THE HIGH POINT OF THE STREET IS AT LEAST FOUR INCHES ABOVE THE 100 YEAR 10-DAY STORM.
7. A 24" STORM DRAIN EXISTS IN FRONT OF THE PROJECT, HOWEVER, SINCE THIS DEVELOPMENT IS A COMBINATION INFILL AND A FLAT GRADING SCHEME SUCH A CONNECTION IS NOT JUSTIFIED FROM AN ECONOMIC STANDPOINT GIVEN THE NUMBER OF LOTS BEING CREATED AND FROM A WATER QUALITY STANDPOINT.
8. THIS SITE IS A CLASSIC INFILL SITE WITH LIMITED UNDEVELOPED LOTS IN THE BASIN. THERE ARE NO APPARENT OFFSITE PROBLEMS THAT WOULD BE IMPACTED BY THIS DEVELOPMENT'S RUNOFF AND NO ANTICIPATED NEGATIVE IMPACTS FROM THE REMAINING INFILL LOTS THAT WOULD FOLLOW THIS CONCEPT.

CALCULATIONS

AREAS

LOT	GROSS AREA	NET AREA	FOOTPRINT	% IMPERVIOUS
26A	3616	3616	1248	34.5
25A	4493	3552	1288	36.3
24A	3501	3501	1238	35.4
27A	5912	3942	1000	25.4
TOTAL	17522 (0.40)		4774 (0.11)	

TREATMENT

C=17,522 SQ. FT. - 4,774 SQ.FT. = 12,748 SQ. FT. (0.29 ACRES)

D= 4,774 SQ. FT. (0.11 ACRES)

WEIGHTED E = (0.29 ACRES * 1.13 INCHES) + (0.11 ACRES * 2.12 INCHES)/0.40=1.40 INCHES

VOLUME 360 = (1.40 INCHES * 0.40 ACRES)/12= 0.05 ACRE-FT

VOLUME 10day = V 360 + A D * (P 10day - P 360)/12

VOLUME 10day = 0.05 + 0.11* (3.95 -2.35)/12= 0.06 ACRE-FT.

DEPTH OF THE 100 YEAR 10-DAY STORM

AVAILABLE PONDING= GROSS AREA - FOOTPRINT (PAD AREAS) = 17,522 - 4,774=12,748 SQ. FT. (0.29 ACRES)

DEPTH= VOLUME 10day /AVAILABLE PONDING AREA=0.06 /0.29=0.21 FT.

REQUIRED PAD ELEVATION PER THE FLAT GRADING SCHEME WITH NO SPILLWAY

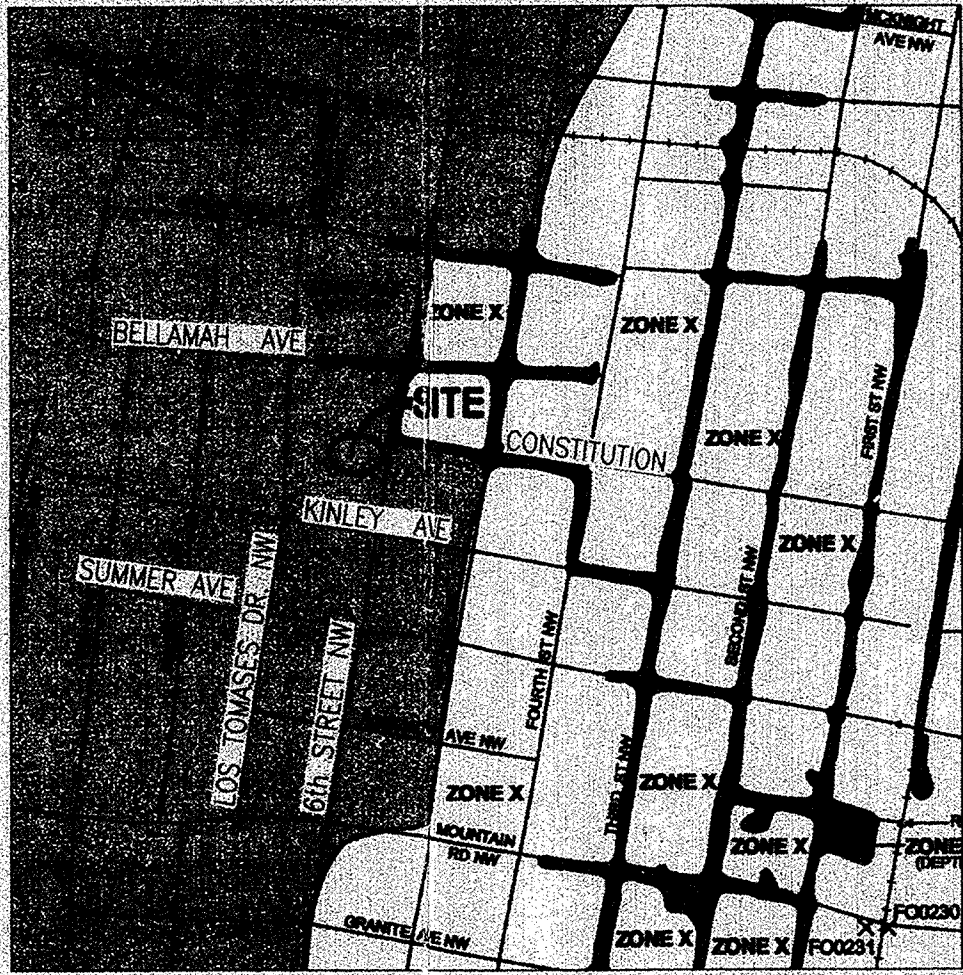
PAD ELEVATION = ADJACENT GRADE + 100 YEAR 10-DAY DEPTH + 1 FOOT

PAD ELEVATION = 4957.5'+0.21'+1' = 4958.7'

REQUIRED HIGH POINT ON THE STREET

REQUIRED HIGH POINT ON THE STREET= 100 YEAR 10-DAY DEPTH + 4 INCHES (0.33')

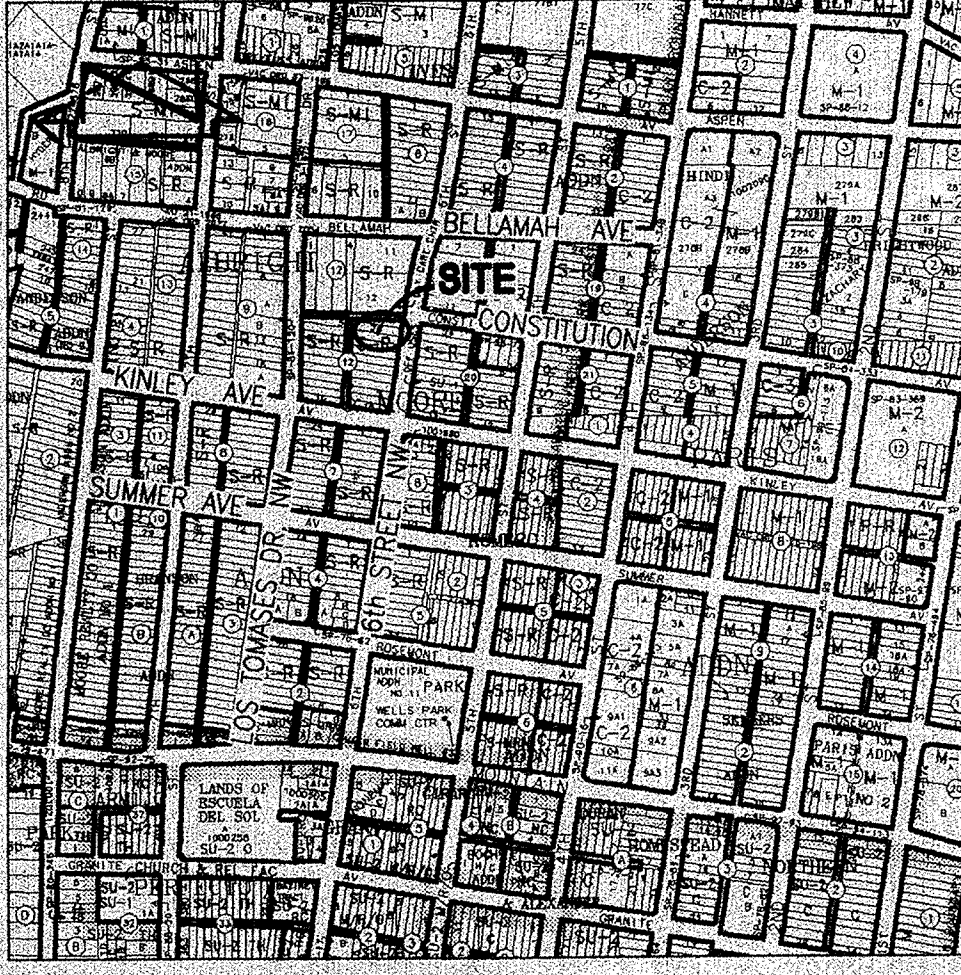
REQUIRED HIGH POINT ON THE STREET= 4957.71' + 0.33'= 4958.0'



FIRM

SCALE: 1" = 500'

332 of 825



VICINITY MAP

SCALE: 1" = 750'

J-14

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.

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. 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.



JEFF MORTENSEN & ASSOCIATES, INC.
1500-B MIDWAY PARK BLVD. NE
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (C00) 345-4250
FAX (505) 345-4254 ESTABLISHED 1977

DRAINAGE PLAN AND CALCULATIONS
LOTS 24-A, 25-A, 26-A AND 27-A,
BLOCK 12, ALBRIGHT-MOORE ADDITION

DESIGNED BY	J.G.M.	NO.	DATE	BY	REVISIONS	JOB NO.
DRAWN BY	R.R.V.					2003.038.4
APPROVED BY	J.G.M.					DATE 06-2004
						SHEET 1 OF 2

