

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE EXPANSION OF THE QUAKER BUILDING AT 1600 FIFTH STREET NW, ALBUQUERQUE, NEW MEXICO. GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

- 1. DRAINAGE CALCULATIONS
- 2. VICINITY MAP (J-14)
- 3. FLOOD INSURANCE RATE MAP 35001C0332D

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED AT THE NORTHEAST CORNER OF FIFTH STREET NW AND BELLAMAH AVENUE NW AT 1600 FIFTH STREET NW. (SEE ATTACHED VICINITY MAP (J-14). THE PARCEL'S LEGAL DESCRIPTION IS LOTS 19 THROUGH 25, BLOCK NUMBER 2, IVES ADDITION IN THE CITY OF ALBUQUERQUE. THE PROPERTY IS BOUNDED ON THE SOUTH BY BELLAMAH AVENUE, TO THE EAST BY A PUBLIC ALLEY, TO THE WEST BY FIFTH STREET AND TO THE NORTH BY LOT 18. THIS SITE CONTAINS APPROXIMATELY 0.57 ACRES. LOTS 21 THROUGH 25 ARE CURRENTLY DEVELOPED WITH AN EXISTING BUILDING, ASPHALT PAVING PARKING LOT, SIDEWALKS AND LANDSCAPING. LOTS 19 AND 20 ARE CURRENTLY UNDEVELOPED WITH MINIMAL VEGETATION.

THE SITE IS CURRENTLY NOT IN A DESIGNATED 100-YEAR FLOODPLAIN; HOWEVER, BELLAMAH AVENUE AND FIFTH STREET ARE CONSIDERED IN A DESIGNATED 100-YEAR FLOODPLAIN WITH ZONE AO (DEPTH 1 FOOT).

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING PLAN PREPARED FOR THIS SITE, THE INTENT IS TO CONSTRUCT A 3,500SF NEW BUILDING, A NEW PARKING LOT, NEW SIDEWALKS AND ASSOCIATED LANDSCAPING TO MEET CITY ZONING REQUIREMENTS.

THERE IS AN EXISTING STREET DROP INLET LOCATED AT THE SOUTHWEST CORNER OF THIS SITE WHICH IS THE NORTHEAST CORNER OF THE INTERSECTION OF FIFTH STREET NW AND BELLAMAH AVENUE NW. THIS INLET CONNECTS INTO A STORMDRAIN LINE THAT IS IN BELLAMAH AVENUE NW.

FLOWS FROM THE PARKING LOT AND A PORTION OF THE NEW BUILDING WILL SHEETFLOW THROUGH THE PARKING LOT AND INTO FIFTH STREET. THE FLOWS FROM THIS AREA WILL DRAIN NORTH ON FIFTH STREET.

THE SOUTHERN PORTION OF THE NEW BUILDING WILL FLOW SOUTH AND INTO BELLAMAH AVENUE NW AND TOWARDS THE EXISTING INLET LOCATED AT THE SOUTHWEST CORNER OF THIS SITE.

THE CALCULATIONS THAT APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

DOWNSTREAM CAPACITY

BASED ON A REVIEW OF THE EXISTING DEVELOPMENT IT DOES NOT APPEAR THAT THE INCREASED FLOWS DUE TO THE PROPOSED BUILDING ADDITION AND RELOCATION OF THE PARKING LOT SHOULD SIGNIFICANTLY INCREASE THE OFFSITE FLOWS TO DOWNSTREAM PROPERTIES SINCE THIS IS AN INFILL SITE.

EROSION CONTROL

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE SILT FENCES AROUND THE PROPOSED CONSTRUCTION AREAS TO MINIMIZE SEDIMENT INTO THE PUBLIC ROADWAYS OR ALLEYS. CONTRACT WILL BE REQUIRED TO PROTECT THE EXISTING INLET WITH SEDIMENT CONTROL MEASURES IN ORDER TO MINIMIZE SEDIMENT FROM ENTERING THIS INLET.

OFFSITE FLOWS

BASED ON A FIELD VISIT OF THE SITE AND REVIEW OF THE TOPOGRAPHIC SURVEY IT APPEARS THAT NO OFFSITE FLOWS ENTER THIS PROPERTY.

DRAINAGE CALCULATIONS

- 1. PRECIPITATION ZONE = 2
- 2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
6-HOUR = 2.35 INCHES
24-HOUR = 2.75 INCHES
10 DAY = 3.95 INCHES
- 3. PEAK DISCHARGE (CFS/ACRE) FIR 100-YEAR, ZONE 2, TABLE A-9:
Q = 1.56 CFS/ACRE SOIL UNCOMPACTED "A"
Q = 2.28 CFS/ACRE LANDSCAPED "B"
Q = 3.14 CFS/AC COMPACTED SOIL "C"
Q = 4.70 CFS/ACRE IMPERVIOUS AREA "D"
FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
- 4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8:
E = 0.53 INCHES SOIL UNCOMPACTED "A"
E = 0.78 INCHES LANDSCAPED "B"
E = 1.13 INCHES COMPACTED SOIL "C"
E = 2.12 INCHES IMPERVIOUS AREA "D"

- 5. EXISTING CONDITIONS ONSITE:
EXISTING TOTAL AREA OF SITE = 0.57ACRES
EXISTING BUILDING SITE AREA = 2,260SF = 0.05ACRES
EXISTING SIDEWALKS AND PAVING AREA = 486SF + 6,540SF = 7,026SF = 0.16ACRES
TREATMENT "D" AREA = 0.05 + 0.16ACRES = 0.21ACRES
REMAINING AREA IS COMPACTED BY HUMAN ACTIVITY = 0.57ACRES - 0.21 = 0.36ACRES
TREATMENT "C" AREA = 0.36ACRES

TREATMENT	AREA(ACRES)
A	0
B	0
C	0.36
D	0.21

Q(EXISTING-6HR) = (3.14 X 0.36) + (4.70 X 0.21)
= 2.12CFS (6HR) EXISTING ONSITE FLOW
V(EXISTING-6HR) = ((1.13 X 0.36) + (2.12 X 0.21))/ 12)
= 0.07AC-FT = 3,093CF EXISTING ONSITE VOLUME

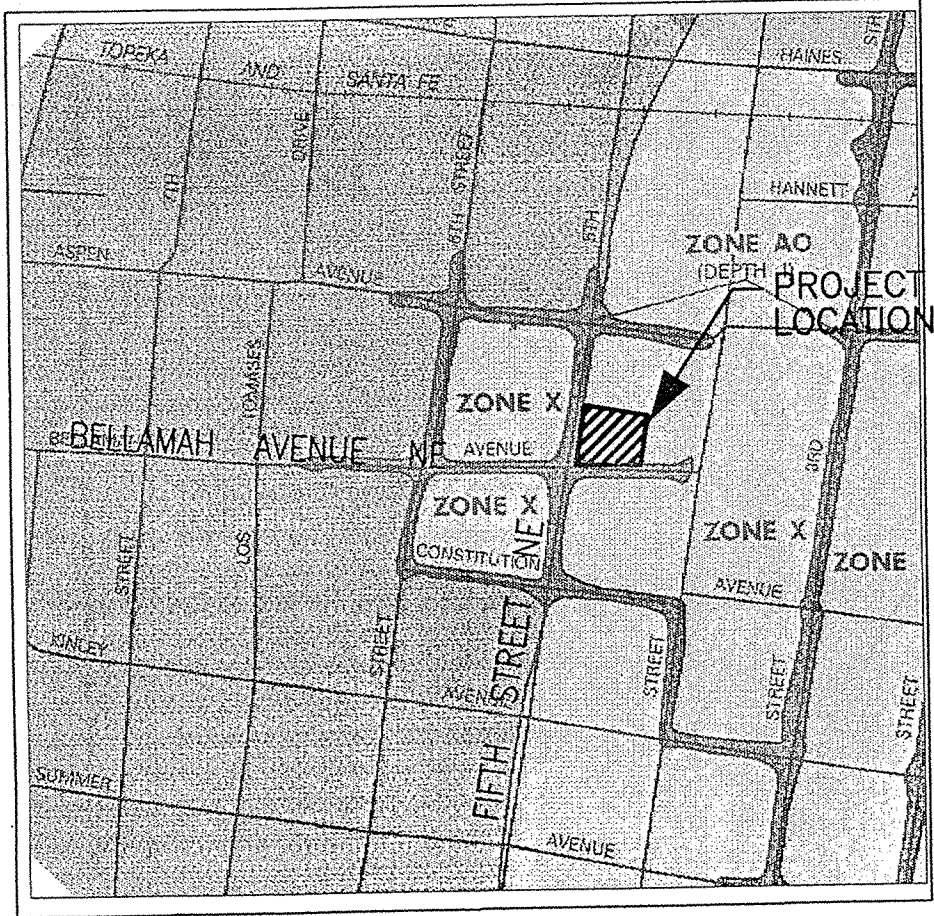
- 6. PROPOSED CONDITIONS ONSITE:
PROPOSED TOTAL AREA OF SITE = 0.57ACRES
PROPOSED BUILDING ROOF AREA = 4,420SF = 0.10AC
NEW SIDEWALKS AND PARKING LOT AREA = 1,885SF - 129SF + 7,923SF + 130SF = 9,809SF = 0.23ACRES
TOTAL IMPERVIOUS AREA PROPOSED WITH EXISTING BUILDING & SIDEWALKS = 0.10AC + 0.23AC + 0.06 = 0.39ACRES
TREATMENT "D" AREA = 0.39ACRES
PROPOSED LANDSCAPED AREA IS REMAINING AREA = 0.57AC -0.39AC = 018ACRES
TREATMENT "B" AREA = 0.18ACRES

TREATMENT	AREA(ACRES)
A	0
B	0.18
C	0
D	0.39

Q(PROPOSED-6HR) = (2.28 X 0.18) + (4.70 X 0.39)
= 2.24CFS (6HR) PROPOSED ONSITE FLOW
V(PROPOSED-6HR) = ((0.78 X 0.18) + (2.12 X 0.39))/ 12)
= 0.08AC-FT = 3,510CF PROPOSED ONSITE VOLUME

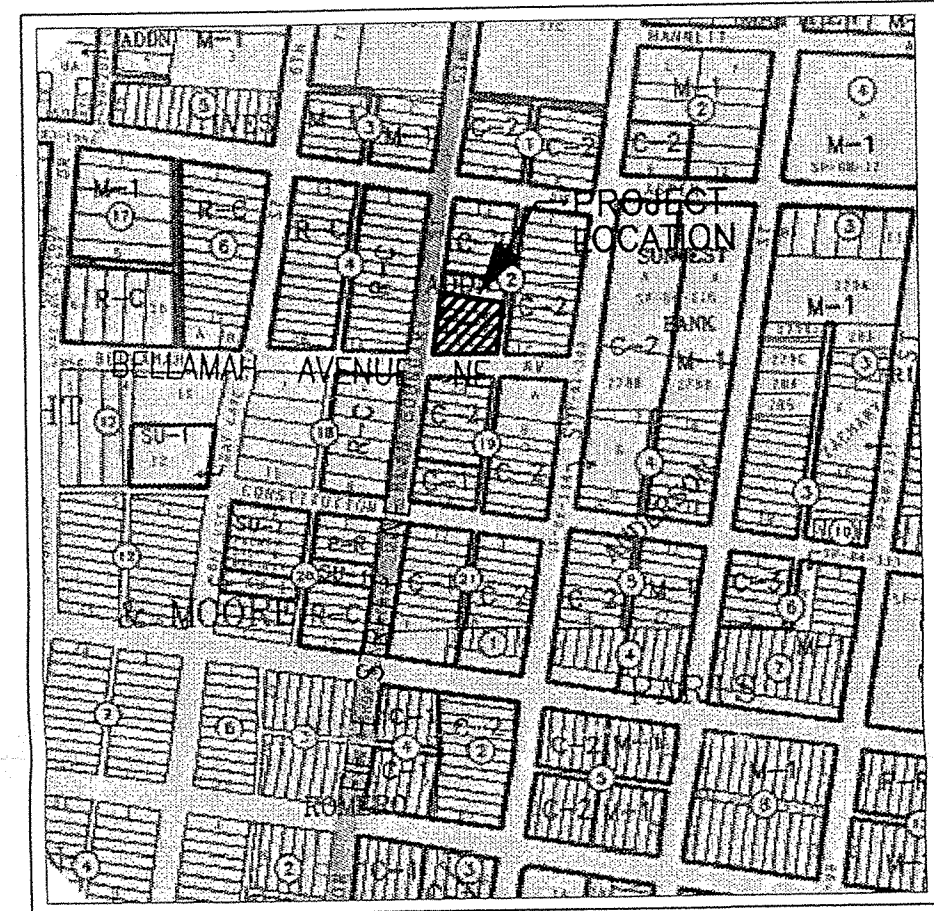
Q(INCREASE FROM THIS DEVELOPMENT) = 2.24CFS - 2.21CFS
= 0.03CFS INCREASE NEGLIGIBLE

V(INCREASE FROM THIS DEVELOPMENT) = 3,510CF - 3,093CF
= 417CF INCREASE NEGLIGIBLE



FIRM MAP 35001C0332D

SCALE: N.T.S.



VICINITY MAP J-14

SCALE: N.T.S.

UTILITY PRECAUTIONS
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.

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NOV 10 2005
HYDROLOGY SECTION

FILE:	DRAINAGE CALCULATIONS AND MAPS QUAKER BUILDING XX ALBUQUERQUE, NEW MEXICO Applied Engineering & Surveying, Inc. 1605 BLAIR DRIVE NE ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1456	DATE/REVISIONS:
		SHEET NUMBER: 2