CITY OF ALBUQUERQUE

April 22, 2009

Tyler Ashton, PE
Wilson & Co.
4900 Lang Ave NE
Albuquerque, NM 87109

Re: Unser Blvd, Universe to PdN Drainage Plan
Engineer Stamp date 4-13-09 (B9/D00)

Dear Mr. Ashton,

Based on information provided in your submittal dated 4-13-09, the above referenced plan is approved for Work Order. Any minor comments on the project can be addressed at DRC.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept
Development and Building Services

C: file

DRAINAGE REPORT

SITE LOCATION: THE PROPOSED UNSER BOULEVARD (BOCA NEGRA DAM TO PASEO DEL NORTE) IS BOUNDED BY THE BOCA NEGRA DAM (AT UNIVERSE BLVD.) AND PASEO DEL NORTE. ITS HORIZONTAL ALIGNMENT IS BASED ON THE VOLCANO HEIGHTS SECTOR PLAN AND SAD 228 PLAN. THE ALIGNMENT IS PROPOSED TO IMPACT APPROXIMATELY FIFTY FOUR (54) PARCELS SOUTH OF PASEO DEL NORTE.

METHODOLOGY: SECTION 22.2 OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) WAS USED IN THE HYDROLOGY ANALYSIS OF THE SITE. A PRINCIPAL DESIGN STORM OF 100-YEAR, 6-HOUR STORM EVENT WAS USED AS DEFINED BY THE NOAA ATLAS 2, PRECIPITATION-FREQUENCY ATLAS OF THE WESTERN UNITED STATES, VOL. IV-NEW MEXICO. THE ARID-LANDS HYDROLOGIC MODEL(AHYMO) WAS USEDTO CALCULATE RUNOFF AMOUNTS.

UNDEVELOPED CONDITIONS:

THE EXISTING CONDITIONS CONSISTS OF UNDEVELOPED LAND USE WITH NATIVE VEGETATION AND MINIMAL DISTURBANCE TO GRADING, GROUNDCOVER, AND INFILTRATION CAPACITY. KIMMICK ROAD IS CURRENTLY BUILT WHICH MAKES UP ABOUT HALF A MILE OF THE PROPOSED UNSER BLVD. ALIGNMENT.

THE EXISTING TERRAIN IN THE AREA GENERALLY VARIES FROM ABOUT ONE TO FIVE PERCENT. THE EXISTING WATERSHEDS ARE BOUNDED BY UNIVERSE BLVD. TO THE WEST AND HISTORICIALLY FLOW SOUTHEAST. THERE ARE APPROXIMATELY FIVE WATERSHEDS WHICH DRAIN TOWARD THE PROPOSED UNSER BLVD. ALIGNMENT FROM UNIVERSE BLVD. AND OUTLET INTO THE BOCA NEGRA ARROYO. UNIVERSE BLVD. IS CURRENTLY BUILT AS A TWO-LANE FACILITY WITH NO SHOULDERS AND CURRENT DIVERTS ALL RUNOFF FLOW FLOWS FROM THE WEST. DRAINAGE IS CARRIED SOUTH ALONG THE WEST SIDE OF UNIVERSE CURRENTLY.

THE PROJECT AREA IS LOCATED IN PRECIPITATION ZONE 1, WEST OF RIO GRANDE, ACCORDING TO THE CITY OF ALBUQUERQUE'S DEVELOPMENT PROCESS MANUAL (DPM). TABLE 1 SUMMARIZES THE CONDITIONS OF THE EXISTING SITE.

TABLE 1
EXISTING CONDITIONS

Basin ID	Area (ac)	%A	%B	%C	%D	Q100(cfs)
1	16.9	100	0	0	0	21.59
2	99.46	100	0	0	0	65.6
3	61.25	100	0	0	0	39.49
4	18.05	100	0	0	0	20.45
5	60.16	100	0	0	0	38.89

DEVELOPED CONDITIONS:

THE PROPOSED CONDITIONS FOR THE UNSER BLVD. (BOCA NEGRA DAM TO PASEO DEL NORTE) FOR THIS PROJECT IS THE INTERIM BUILD OUT FOR THIS PROJECT. THE PROPOSED CONSTRUCTION FOR THE INTERIM PROJECT INCLUDES TWO - 12' PAVED LANES, TWO - 5' SHOULDERS, AND CURB AND GUTTER ON THE EAST SIDE. THE PROPOSED ROADWAY IS APPROXIMATELY 6500 FEET IN LENGTH AND WILL DRAIN TO THE WEST. VARIOUS PIPE CROSSINGS WILL CONVEY FLOW FROM THE WEST SIDE TO THE EAST SIDED. A SWALE HAS BEEN DESIGNED TO CAPTURE DRAINAGE ON THE EAST SIDE OF THE ROADWAY UNTIL THE FUTURE BUILD OUT OF UNSER BLVD. IS CONSTRUCTED. LAND USE FOR THE THIS PROJECT CONSISTS OF IMPERVIOUS ASPALT PAVED LAND TREATMENT AND UNDEVELOPED LAND USE UNTIL FUTURE DEVELOPMENT INSTALLS THE PERMANENT STORM DRAIN.

TABLE 2 SUMMARIZED THE PROPOSED CONDITIONS.

TABLE 2
PROPOSED CONDITIONS

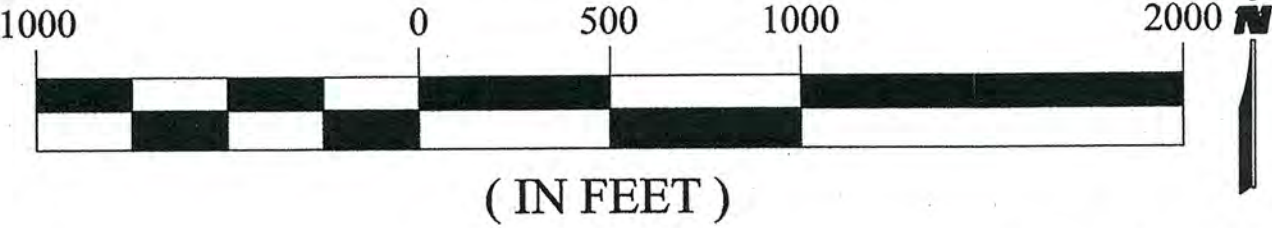| Basin ID	Area (ac)	%A	%B	%C	%D	Q100(cfs)
1	16.9	100	0	0	0	21.59
2	99.46	98	0	0	2	69.98
3	61.25	97	0	0	3	43.71
4	18.05	98	0	0	2	21.45
5	60.16	98	0	0	2	41.66

CONCLUSION:

THE PROPOSED UNSER BLVD. (BOCA NEGRA DAM TO PASEO DEL NORTE) WILL INCREASE RUNOFF BY APPROXIMATELY 12.37 CFS IN THE 100-YEAR 6 HOUR FLOOD EVENT. THE PROPOSED IMPROVEMENTS MAKE UP LESS THAN 10 ACRES OF THE TOTAL AREA. WITH THE PROPOSED PIPE CROSSINGS RUNOFF WILL STILL FOLLOW IN A HISTORICAL DIRECTION. THEREFORE, THE PROPOSED PROJECT WILL HAVE MINIMAL EFFECTS TO THE CURRENT DRAINAGE PATTERNS.

LEGEND

- —5070— EXISTING INTERMEDIATE CONTOUR
- —5071— EXISTING INDEX CONTOUR
- BASIN (X) BASIN ID
- ～～～ EXISTING BASIN BOUNDARY

GRAPHIC SCALE

1000 0 500 1000 2000

(IN FEET)

WCI 08-100-200-19
FEBRUARY 2009

WILSON & COMPANY
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ALBUQUERQUE, NM
87109
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CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

UNSER BOULEVARD
BOCA NEGRA DAM TO PASEO DEL NORTE
DRAINAGE REPORT AND BASIN MAP
COA PROJECT NO. 705004

Map annotations:

BASIN (1) A = 16.9 AC Q₁₀₀= 21.59 CFS
PROPOSED 24" CULVERT

BASIN (2) A = 99.46 AC Q₁₀₀= 69.98 CFS
PROPOSED 36" CULVERT

AVENIDA DE JAIMITO
JUNIPERO RD.

PROPOSED 2-30" CULVERTS

ROSA PARKS RD.
PROPOSED UNSER BLVD.

BASIN (3) A = 61.25 AC Q₁₀₀= 43.71 CFS

BASIN (4) A = 18.05 AC Q₁₀₀= 21.45 CFS
PROPOSED 36" CULVERT

BASIN (5) A = 60.16 AC Q₁₀₀= 41.66 CFS
PROPOSED 30" CULVERT
PROPOSED 24" CULVERT

KIMMICK DR.
UNIVERSE BLVD.
PASEO DEL NORTE

PROPOSED BOCA NEGRA DAM