

## GRADING AND DRAINAGE PLAN FOR

## PARTS PLUS

## DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE PARTS PLUS GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

- 1. VICINITY MAP
- 2. GRADING PLAN 3. CALCULATIONS

THE PROPOSED IMPROVEMENTS, AS SHOWN BY THE VICINITY MAP, ARE LOCATED ON THE EAST SIDE OF OFFICE BLVD. NE NORTH OF SINGER BLVD NE. THE SITE IS UNDEVELOPED AND SLOPES FROM EAST TO WEST. THE SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

THE MASTER DRAINAGE PLAN FOR THIS SUBDIVISION WAS PREPARED BY ANDREWS, ASBURY AND ROBERTS, INC IN 1983. ANOTHER PLAN WAS PREPARED IN 1985 BY CHAVES AND GRIEVES. EACH PLAN ALLOWED RUNOFF TO BE DISCHARGED TO OFFICE BLVD. A THIRD PLAN PREPARED IN 1992 BY BOHANNON HUSTON (E17/D34) LIMITS THE FLOW TO OFFICE BLVD. TO 2.1 CFS/ACRE. THE SITE IS HIGHER THAN THE LAND TO THE NORTH AND OFFICE BLVD TO THE WEST. IT IS LOWER THAN THE LAND TO THE SOUTH AND EAST. THE LAND TO THE SOUTH HAS BEEN DEVELOPED AND GRADED SUCH THAT ONLY MINIMAL FLOWS WILL ENTER THIS SITE. THE LAND TO THE EAST IS UNDEVELOPED AND WILL CONTRIBUTE MINOR RUNOFF TO THIS SITE UNTIL IT IS DEVELOPED. ALL OFF SITE RUNOFF WILL BE ROUTED THROUGH THE DRAINAGE SYSTEM FOR THIS SITE.

THE GRADING PLAN SHOWS 1) EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2) CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS, 3) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AND 4) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. THE PROPOSED IMPROVEMENTS CONSIST OF A WAREHOUSE WITH OFFICE, PARKING AND ASSOCIATED LANDSCAPING. THE SITE WILL BE GRADED TO CONVEY RUNOFF TO DETENTION PONDS AND THEN TO OFFICE BLVD THROUGH RESTRICTED POND OUTLETS. THIS PLAN IS IN CONFORMANCE WITH THE LASTEST APPROVED MASTER DRAINAGE PLAN.

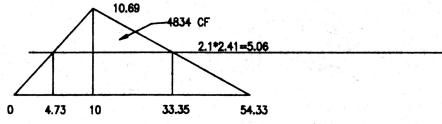
THE CALCULATIONS, WHICH APPEAR BELOW, ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 6-HOUR, 100-YEAR RAINFALL EVENT. THE ANALYSIS IS IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II. AS SHOWN BY THESE CALCULATIONS, THE RATE AND VOLUME OF RUNOFF WILL INCREASE AS A RESULT OF THE DEVELOPMENT BUT WILL BE MITIGATED BY PONDS WITH CONTROLLED DISCHARGES.

## **CALCULATIONS**

AREA = 2.41 ACRESEXISTING CONDITIONS
LAND TREATMENT C = 100% E = 1.13\*1.00 = 1.13 INCHES V = 1.13\*2.41/12 = 0.23 ACRE FEET Q = 3.45\*1.00\*2.41 = 8.31 CFS DEVELOPED CONDITIONS LAND TREATMENT B = 11% D = 89%

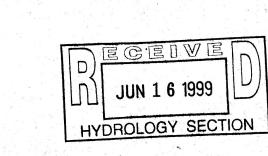
 $E = 0.78 \pm 0.11 + 2.12 \pm 0.89 = 1.97$  INCHES V = 1.97\*2.41/12 = 0.40 ACRE FEET Q = (2.28\*0.11+4.70\*0.89)2.41 = 10.69 CFS INCREASE IN RATE OF RUNOFF = 10.69-8.31 = 2.38 CFS

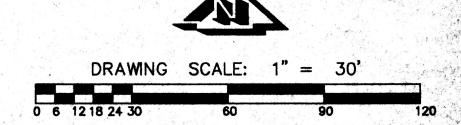
INCREASE IN VOLUME OF RUNOFF = 0.40-0.23 = 0.17 ACRE FEET

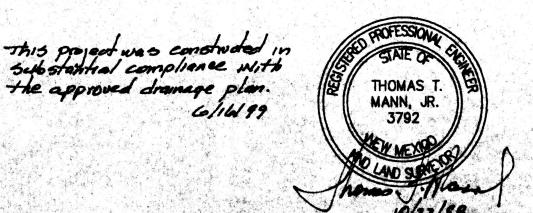


POND VOLUMES NORTH (5004+4343)\*0.25/2+4343\*1/3=2616 CF > 2417 CF 6844\*1.1/3=2509 CF > 2417 CF RESTRICTED OPENINGS NORTH Q=CLH^1.5 2.53=3.0°L\*1.25^1.5 L=0.60'

Q=CLH^1.5 2.53=3.0°L\*1.1^1.5 L=0.73' CONCRETE CHANNEL Q=1.49/N\*A\*R^.67\*S^0.5 D=0.4' Q=2.90 CFS > 2.53CFS







the approved dramage plan.

Engineering & Surveying

SHEET NO.

Associates, Inc.