

GENERAL NOTES

1. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE TO RESOLVE THE CONFLICT WITH A MINIMUM AMOUNT OF DELAY.
2. ALL WORK ON THIS PLAN SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE LOCATION ONLY, AND LINES MAY EXIST WHERE NONE ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE UTILITY OWNER OR FROM EXISTING PLANS, AND THIS INFORMATION MAY BE INCOMPLETE, OR OBSOLETE AT THE TIME OF CONSTRUCTION. THE ENGINEER HAS NOT UNDERTAKEN ANY FIELD VERIFICATION OF THESE LOCATIONS, LINE SIZES OR MATERIAL TYPE, MAKES NO REPRESENTATION THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE OR UNDERGROUND INSTALLATION IN OR NEAR THE AREA IN ADVANCE OF AND DURING ANY EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES AND UNDERGROUND FACILITIES. IN PLANNING AND CONDUCTING EXCAVATIONS, THE CONTRACTOR SHALL COMPLY WITH ALL STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. THE CONTRACTOR SHALL INSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHTS-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND BY WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED BY BERNALILLO COUNTY FOR THE COMPLETION OF THE WORK PRIOR TO BEGINNING CONSTRUCTION.

CALCULATIONS

THE FOLLOWING CALCULATIONS WERE DEVELOPED USING THE CITY OF ALBUQUERQUE DPM SECTION 22.2

SITE CHARACTERISTICS:

SITE LOCATION: ZONE 2
PRECIPITATION: P360 = 2.35 inches
P10-DAY = 3.95 inches

LAND TREATMENT:

UNCOMPACTED SOIL - TREATMENT A
LANDSCAPE - TREATMENT B
COMPACTED SOIL - TREATMENT C
BUILDINGS & PAVING - TREATMENT D

EXCESS PRECIPITATION:

TREATMENT A E = 0.53 inches
TREATMENT B E = 0.78 inches
TREATMENT C E = 1.13 inches
TREATMENT D E = 2.12 inches

PEAK DISCHARGE:

TREATMENT A = 1.56 cfs/acre
TREATMENT B = 2.28 cfs/acre
TREATMENT C = 3.14 cfs/acre
TREATMENT D = 4.70 cfs/acre

TOTAL AREA	EXISTING	PROPOSED
TREATMENT A = 0.919 AC.	100.0%	0.643 AC. = 70.0%
TREATMENT B = 0.000 AC. = 0.00%		0.129 AC. = 14.0%
TREATMENT C = 0.000 AC. = 0.00%		0.000 AC. = 0.00%
TREATMENT D = 0.000 AC. = 0.00%		0.147 AC. = 16.0%

ONSITE - EXCESS PRECIPITATION & VOLUMETRIC RUNOFF:
EXISTING RUNOFF:

$V_{100-6hr} = (0.53)(0.919)/12 = 0.0406 \text{ acre ft} = 1,770 \text{ cf}$

DEVELOPED RUNOFF:

$WEIGHTED E = [(0.53)(0.643) + (0.78)(0.129) + (2.12)(0.147)]/0.919 = 0.82 \text{ inches}$

$V_{100-6hr} = (0.82)(0.919)/12 = 0.0628 \text{ acre ft} = 2,735 \text{ cf}$

ONSITE - PEAK DISCHARGE:

EXISTING DISCHARGE:

$Q_{100} = (1.56)(0.919) = 1.43 \text{ cfs}$

DEVELOPED DISCHARGE:

$Q_{100} = (1.56)(0.643) + (2.28)(0.129) + (4.70)(0.147) = 1.99 \text{ cfs}$

RESULTS:

DEVELOPED VOLUMETRIC RUNOFF:

$2,735 - 1,770 = 965 \text{ cf INCREASE IN RUNOFF VOLUME}$

DEVELOPED PEAK DISCHARGE:

$1.99 - 1.43 = 0.56 \text{ cfs INCREASE IN PEAK DISCHARGE}$

TEMPORARY RETENTION POND - 100YR-10DAY

$V_{10DAY} = 0.022 + 0.147(3.95-2.35)/12 = 0.0418 \text{ acre-ft} = 1,820 \text{ cf}$
 $(0.0222 \text{ acre-ft} = 965 \text{ cf} = \text{RUNOFF CREATED BY PLANNED IMPROVEMENTS})$

BENCH MARK

CITY OF ALBUQUERQUE CONTROL STATION.
ACS BM "AAA SITE T-3" - ELEVATION = 5079.04
A U.S.C.E. BRASS CAP, LOCATED ON THE WEST SIDE OF THE EAST FRONTAGE ROAD OF I-25, 0.25 MILES NORTH OF CANDELARIA.

WEIR FLOW RATES:

$Q = 3.33(L-0.2H)H^{1.5}$

WHERE: Q = cfs OVER WEIR

L = LENGTH OF OPENING

H = HEIGHT OF WATER OVER WEIR

THEN:

H=1", Q=0.40 cfs

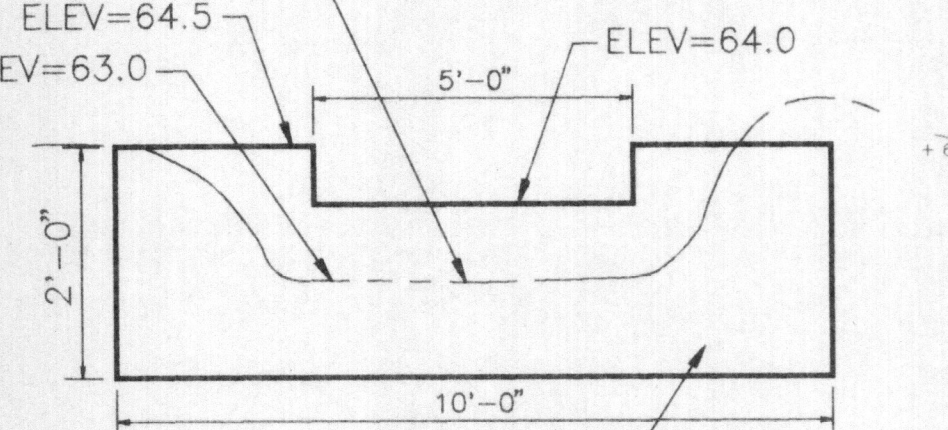
H=2", Q=1.13 cfs

H=3", Q=2.06 cfs

H=4", Q=3.16 cfs

H=5", Q=4.40 cfs

H=6", Q=5.77 cfs



CONCRETE RECTANGULAR WEIR
3,000# 28-DAY, 6" THICK AT
LOCATION SHOWN ON PLAN

RECTANGULAR WEIR

NTS

RETENTION POND VOLUME
PROVIDED AS SHOWN WITH
5:1 SIDE SLOPES = 1,900 CF

TEMPORARY RETENTION POND

INDUSTRIAL ROAD HISTORICALLY DRAINS TO THE WEST WHERE IT INTERSECTS EDITH BLVD. PHASE II OF THE EDITH BLVD. ROAD AND UTILITY IMPROVEMENTS HAS BEEN DESIGNED, SCHEDULED, BUDGETED AND SHOULD BE UNDER CONSTRUCTION IN JUNE OF 1995 (C.O.A. PROJECT # 9675.91). THE DRAINAGE ANALYSIS AND DESIGN DOCUMENTS FOR THIS PROJECT WERE PREPARED BY BOYLE ENGINEERING CORPORATION. THE DRAINAGE ANALYSIS AND CONSTRUCTION PLANS CALL FOR A STORM SEWER IN INDUSTRIAL ROAD TO CONVEY WATERS FROM A SUBBASIN EAST OF I-25 DIRECTLY TO THE NEW STORM SEWER IN EDITH BLVD. RUNOFF GENERATED BY SUBBASIN 8A, WHICH IS THE AREA WEST OF I-25 AND INCLUDES INDUSTRIAL ROAD, SURFACE DRAINS TO NEW DROP INLETS IN INDUSTRIAL WHICH WILL THEN FEED TO A NEW RETENTION POND SOUTH OF INDUSTRIAL AND EAST OF THE ALEMEDA DRAIN. FROM THIS POND IT WILL BE CONTROL-RELEASED BACK INTO THE STORM DRAIN IN INDUSTRIAL AND ULTIMATELY INTO THE NEW SYSTEM IN EDITH. ADDITIONALLY, THE DRAINAGE ANALYSIS PROVIDES FOR A PEAK Q OF 101 cfs FROM SUBBASIN 8A WHICH IS 28 ACRES IN TOTAL. THIS EQUATES TO 3.6 cfs/acre. AS SHOWN

HEREON, THE DEVELOPED CONDITION OF THIS PROPERTY IS 2.0 cfs/acre. THEREFORE, THE RETENTION POND PROVIDED IS TEMPORARY AND SHALL BE REMOVED ONCE THE EDITH PROJECT IS COMPLETE. PROVIDED AS ATTACHMENTS TO THIS PLAN ARE SHEET 10-7 AND 10-10 OF THE EDITH PROJECT WHICH SHOW THE IMPROVEMENTS DESCRIBED. ALSO, ATTACHED ARE EXCERPTS FORM THE DRAINAGE ANALYSIS WHICH SHOW THE FLOW RATE DESIGN PARAMETERS.

TBM:
SOUTH BONNET BOLT
OF FIRE HYDRANT.
ELEV. = 5072.39

N

SCALE: 1" = 20'
ONE FOOT CONTOUR INTERVALS
(ADD 5000 TO ELEV'S SHOWN)

LEGAL DESCRIPTION

LOT 13-A, TINLEY PARCELS INCLUSIVE WITHIN THE TOWN OF ALBUQUERQUE GRANT, M.R.G.C.D. MAP NO. 33, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO AS THE SAME IS SHOWN AND DESIGNATED ON THE REPLAT THEREOF FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON JUNE 6, 1985, VOLUME C-27, FOLIO 85.

DRAINAGE PLAN

THE SUBJECT PROPERTY IS LOCATED ON INDUSTRIAL ROAD JUST WEST OF THE WEST FRONTAGE ROAD OF I-25. CURRENTLY ALL THE PROPERTIES ADJACENT TO THIS PARCEL ARE DEVELOPED. AS SHOWN ON PANEL 23 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP, THIS PROPERTY DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD AREA.

THE PLANNED IMPROVEMENTS INCLUDE THE CONSTRUCTION OF A NEW BUILDING, SIDEWALK, ASPHALT PARKING, AND LANDSCAPING. THE ROOF LINE OF THE NEW BUILDING IS A PITCHED ROOF WITHOUT GUTTERS.

THE OFFSITE AREA WHICH CONTRIBUTES RUNOFF TO THIS SITE IS ESTIMATED AT APPROXIMATELY 1.7 ACRES. FURTHER, THIS WATERSHED IS ESTIMATED TO CONTRIBUTE APPROXIMATELY 3.6 cfs TO THIS SITE. HOWEVER, CONSTRUCTION IN THE UPSTREAM AREA HAS UTILIZED DETENTION/RETENTION PONDING. THESE FACILITIES CAN CONTRIBUTE TO THE FLOW ENTERING THE SITE VIA A 24" CMP (SHOWN ON THIS PLAN). BECAUSE OF THE COMPLEXITY OF THESE FACILITIES IT IS DIFFICULT TO DETERMINE THE CONTRIBUTING FLOW RATE. HOWEVER, THE CULVERT IS 50' IN LENGTH AND AT ITS EXISTING SLOPE, IT HAS A CAPACITY OF APPROXIMATELY 20 cfs WITH 3.3' OF HEADWATER.

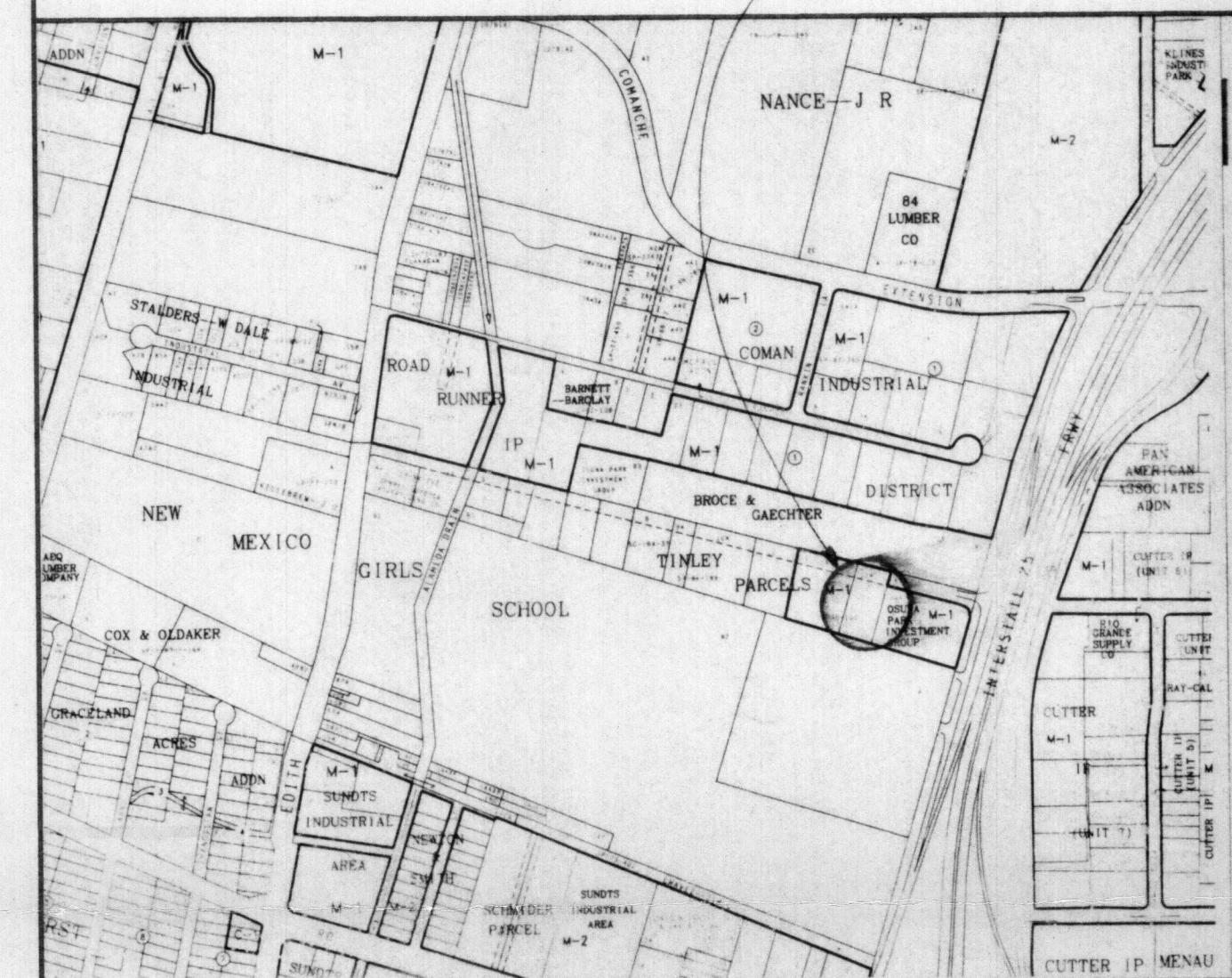
CURRENTLY, THERE IS A "SWALE THAT EXISTS ON THE WESTERN BOUNDARY OF THE PROPERTY THAT RETAINS SOME WATER AND CONVEY SOME WATER TO THE NORTHERN BOUNDARY. THERE IS NO VISIBLE EVIDENCE OF FLOWS ON ANY SIGNIFICANTS IN THIS "SWALE". THE BERM ON THE SOUTH EDGE OF THIS PROPERTY, COUPLED WITH THE TOPO OF THE PROPERTY TO THE WEST, SUGGESTS THAT IF FLOWS OF ANY CONSEQUENCE ENTER THE SITE THEY WOULD FLOW OUT OF THE PROPERTY ON ITS WESTERN BOUNDARY AND INTO THE ADJACENT TRACT. NO WORK IS PLANNED IN THIS AREA RELATED TO THIS PROJECT.

SURVEY DATA SHOWN WAS PREPARED BY RIO GRANDE ENGINEERING AND SURVEYING INC. IN OCTOBER 1994. A SUBSEQUENT FIELD INSPECTION PERFORMED BY THIS OFFICE REVEALED THAT ALL THE INFORMATION SHOWN IS CONSISTANT WITH THE ACTUAL CONDITIONS THAT EXIST IN THE FIELD.



LOCATION MAP

PROJECT LOCATION



ZONE MAP

G-15



FLOOD BOUNDARY MAP

PROJECT LOCATION

DEMENNO WAREHOUSE
GRADING AND DRAINAGE PLAN

KEMPER-VAUGHAN

CONSULTING ENGINEERS

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Designed KRK Drawn SE Checked KRK Sheet of

File DEMENNO Date DECEMBER 1994

DEC 23 1994

HYDROLOGY DIVISION