HYDROLOGY C18/D3 ONE PLAN

C18 - D4

1 PLAN

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10-20-73

DRAINAGE

WEST YUMOOR SUBDIVISION

A TRAILER PARK

APPROVED FOR DRAINAGE

10/25/73
DATE

Donald P. Campbell — HYDROLOGIST
SIGNATURE — TITLE

CONTINGENCIES After recieving corrections indicated in red circle on page 2. AMAFCA approval required.

REGISTERED PROFESSIONAL ENGINEER
LAND SURVEYOR
241
NEW MEXICO
JOHN W. BEITS

ENCHANTMENT ENGINEERING INC

DESCRIPTION OF AREA

WEST VUMOOR SUBDIVISION IS A 4.39 ACRE TRACT OF LAND LOCATED ON BLOCK 15, TRACT A, UNIT B OF THE NORTH ALBUQUERQUE ACRES SUBDIVISION. THIS TRACT LIES APPROXIMATELY 6 MILES NORTH OF THE CORONADO FREEWAY AND 1/2 MILE EAST OF THE PAN-AMERICAN FREEWAY.

THIS TRACT HAS AN AVERAGE SLOPE FROM EAST TO WEST OF 2.5% AND CONSISTS OF A POOR GRASS SURFACE.

IT IS THE PLAN OF THIS REPORT TO SHOW THAT THE INCREASED RUNOFF FROM EACH LOT CAN AND WILL BE RETAINED ON EACH LOT SO AS NOT TO INCREASED THE RUNOFF AFTER DEVELOPMENT. THIS WILL BE ACCOMPLISHED BY THE USE OF TREE WELLS LOCATED ON EACH LOT.

Ponding on Lots

Area of one Lot $= 57' \times 106.75' \times \frac{1\,ac}{43560} = 0.159\,ac$

Natural Vol $= 2.5^{*} \times \frac{1\,ft}{12\,in} \times 0.283 \times 0.159\,ac = 0.0082\,ac\cdot ft$

Developed Volume per Lot

Trailer Roof $= 2.5^{*} \times 1/12 \times .96 \times .022 = 0.0044\,ac\cdot ft$
Patio $= 2.5^{*} \times 1/12 \times .92 \times 0.0055\,ac = 0.0011\,ac\cdot ft$
Gravel Parking $= 2.5^{*} \times 1/12 \times .283 \times .0092\,ac = 0.0005\,ac\cdot ft$
Grassed Area $= 2.5^{*} \times 1/12 \times .22 \times .102\,ac = 0.0047\,ac\cdot ft$

Total $= 0.0107\,ac\cdot ft$

Increased Volume $= 0.0107\,ac\,ft - 0.0082\,ac\,ft$
$= 0.0025\,ac\,ft$

Capacity of Treewells per Lot

12' dia treewell - 1 ft deep

$Vol = 1\,ft \times \pi \times 6^{2} \times \frac{1\,ac}{43560\,ft^{2}} = 0.00259\,ac\cdot ft$

Therefore the treewells will contain the increased runoff from each lot.

* 100 year - 6 hour storm (MUATCA)

PONDING ON LOTS

AREA OF ONE LOT = 57' × 106.75 = 6085 FT²

NATURAL VOLUME = 2.5* in $\frac{1 \text{ FT}}{12 \text{ in}}$ × 0.283 × 6085 FT²

0.21 FT³

= 558.75 FT³

DEVELOPED VOLUME PER LOT

TRAILER ROOF - 2.5* × 1/12 × .96 × 980 = 196 FT³
PATIO - 2.5* × 1/12 × .92 × 240 = 46 FT³
GRAVEL PARKING - 2.5* × 1/12 × .283 × 400 = 24 FT³
GRASSED AREA - 2.5* × 1/12 × .22 × 4465 = 204 FT³

TOTAL = 470 FT³

INCREASED VOLUME = 470 - 358.75 = 111.25 FT³

CAPACITY OF TREEWELLS PER LOT

12' dia. TREEWELL - 1 FT DEEP

Vol. = 1 FT × π × 6² = 113.0 FT³

THEREFORE THE TREEWELLS WILL CONTAIN THE INCREASED RUNOFF FROM EACH LOT.

* 100 YEAR - 6 HOUR STORM (AMAFCA)

DRAINAGE FROM OUTSIDE PROPERTY

OUTSIDE DRAINAGE EXISTS TO THE EAST OF THIS TRACT, HOWEVER IT DOES NOT CROSS THE PROPERTY DUE TO THE CHANNELING EFFECTS OF UTE DRIVE ON THE EAST OF THE PROPERTY.

BIBLIOGRAPHY

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2. 1963 MASTER PLAN OF DRAINAGE FOR CITY OF ALBUQUERQUE AND ITS ENVIRONS; HERKENHOFF AND ASSOCIATES, GORDEN. 1963