HYDROLOGY
1 PLAN

A14/D3A

PLAN

LOVELACE URGENT

CARE

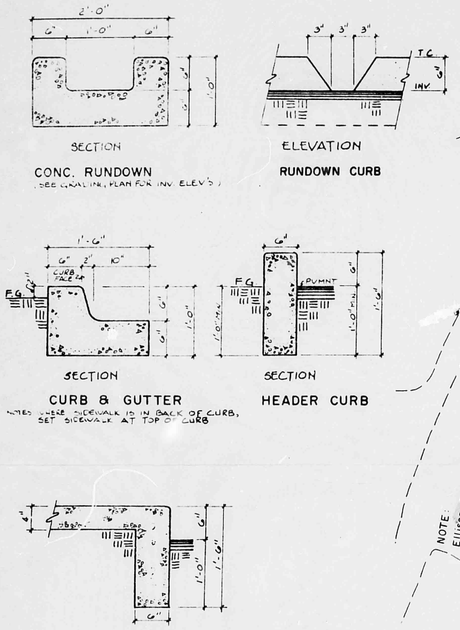
A 14/D3A

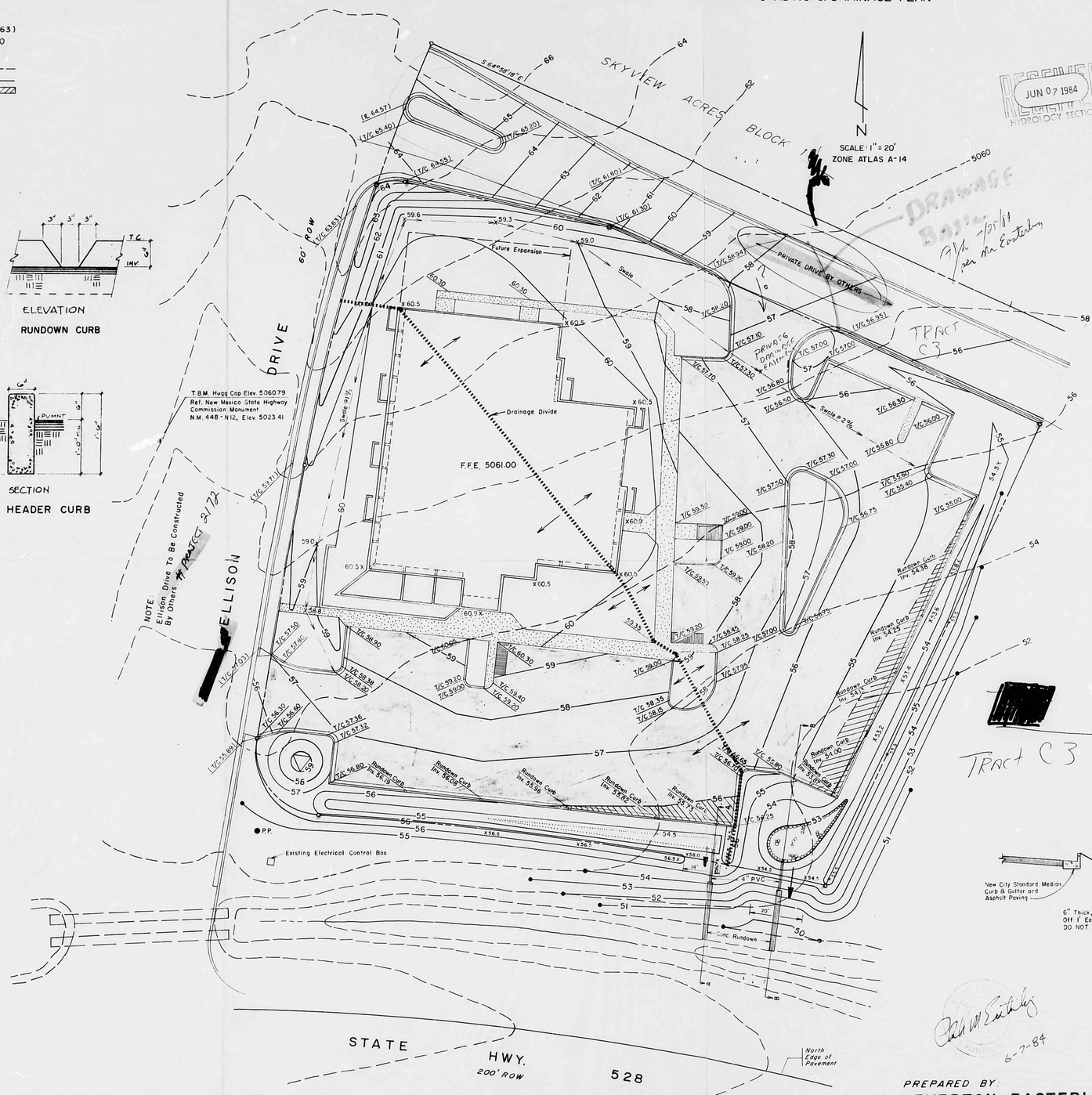
# LOVELACE URGENT CARE CENTER

## GRADING & DRAINAGE PLAN

### LEGEND

| | |
|---|---|
| Existing Top of Curb | (T/C 63.63) |
| Proposed Top of Curb | T/C 58.90 |
| Proposed Spot Elevation | 59.6 |
| Existing Contour | — — — — — — |
| Proposed Contour | —— 54 —— |
| Parking Lot Ponding | |




## TEXT

**EXISTING CONDITIONS**

The 1.25 acre site is currently undeveloped. Little, if any, runoff either enters the site or flows from it except in extreme events. Any flow leaving the site would be intercepted and conveyed by the asphalt lined channel on the north side of NM 528 (and adjacent to this Tract), which flows to a detention pond immediately north of the Jemez Building. This detention basin is undersized to meet current requirements in the event of a 100-year storm in its contributing basin.

**DEVELOPED CONDITIONS**

The approved "Conceptual Grading and Drainage Plan for Tracts V & W of Seven Bar Ranch" (A14D2, A14D1) provided for a combination of off-site and on-site treatment measures. The permanent off-site treatment measures consist of an improved detention/desilting basin north of the Jemez Building and the construction of the Cabezon Channel. Inasmuch as a date for the channel construction has not been fixed, the off-site requirements will be satisfied through improvements to the existing detention/desilting basin.

The approved Conceptual Plan requires that 50% of the 100-year runoff be detained on-site and released at the minimum allowable rate (24-hr. release). This will be accomplished in the southeast quadrant of the site in landscape and parking areas. Runoff will be released into the highway channel through concrete rundowns.

Site grades and those in proposed Ellison Road have been coordinated such that no runoff will enter or leave the site relative to Ellison in the 100-year and smaller storm events. Grading within the highway R.O.W. will require a license from the Highway Department. Application will be made prior to construction. Grading along the east property line has been coordinated with the adjacent land owner and his permission has been obtained for said off-site grading.

**EROSION CONTROL** - All disturbed areas will be covered or landscaped in the developed condition. Care should be taken during construction to prevent sediment from leaving the site through the use of berms.

**HYDROLOGY/HYDRAULICS - DEVELOPED CONDITIONS**

B Soils, $P_{100}$ = 2.2 in/6 hr. $P_{10}$ = 1.45 in/6 hr.
Tc < 10 min., $i_{100}$ = 4.7 in/hr. $i_{10}$ = 3.1 in/hr.

**AREA A** Area = 0.535 ac., 67% Impervious
Composite CN = 88 $Vol_{100}$ = 2272 cu. ft. $Vol_{10}$ = 1068 cu. ft.
Composite C = 0.67 $Q_{100}$ = 1.7 cfs $Q_{10}$ = 1.1 cfs

**AREA B** Area = 0.871 ac., 58% Impervious
Composite CN = 86 $Vol_{100}$ = 3222 cu. ft. $Vol_{10}$ = 1391 cu. ft.
Composite C = 0.51 $Q_{100}$ = 2.1 cfs $Q_{10}$ = 1.4 cfs

From "Conceptual Grading & Drainage Plan, Tracts V & W"
Pond 50% of 100-yr. runoff volume on-site.

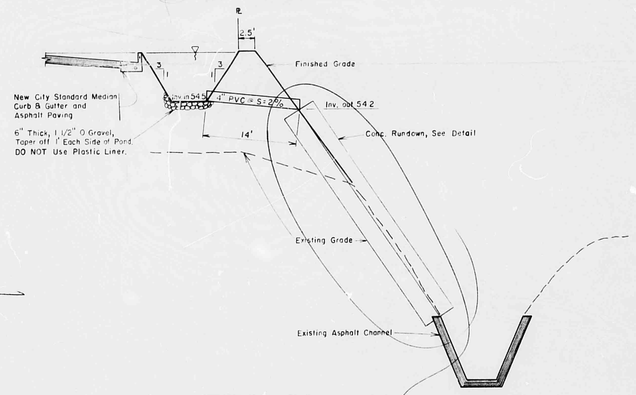
Required Pond Volume = (2272 + 3222) ÷ 2 = 2747 cu. ft.
Pond Volume Provided = 2778 cu. ft.

**OUTLET HYDRAULICS**

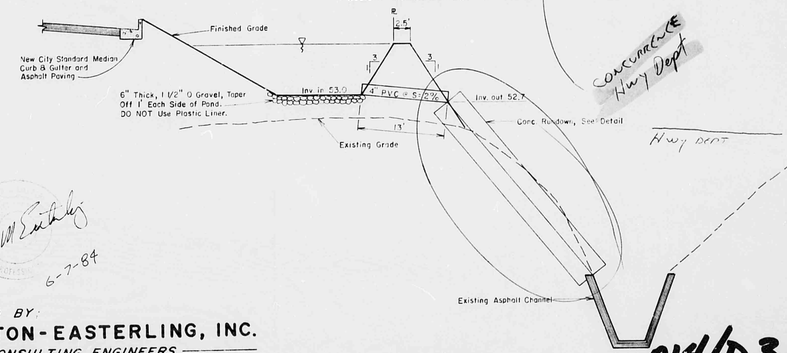
Pipes: 4" Dia. @ H = 1.5', $Q_{max}$ = 0.5 cfs
Spillway A: C = 3.0, H = .5', L = 14'; $Q_{max}$ = 14.8 cfs
Spillway B: C = 3.0, H = .5', L = 20'; $Q_{max}$ = 21.2 cfs

**DISCHARGES:**

$Q_{10}$ < 1.0 cfs ($Vol_{10}$ = 1068 + 1391 = 2459 cu. ft.)
Effective 'C' = 0.5; $Q_{100}$ = (.5)(4.7)(1.4 ac) = 3.3 cfs




**SECTION A-A**
Scale: 1" = 10' Horizontal, 1" = 2' Vertical




**SECTION B-B**
Scale: 1" = 10' Horizontal, 1" = 2' Vertical


PREPARED BY:
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