HYDROLOGY

H16/D10
1 PLAN

H 16/D10

1 Plan

DRAINAGE & GRADING PLAN FOR GHIRADELLI GIRARD PROJECT

Undeveloped Drainage Charateristic

1) Total Acreage = 26,363 s.f. (0.61 acres)
2) Runoff Co-efficient: (undeveloped)
   Adobe Bldg. = 2,478 s.f. @ C = 0.95 C x A = 2354
   Yard = 23,885 s.f. @ C = 0.30 C x A = 7166
   26,363 9519

   Composite C = 9,519 / 23,363 = 0.36
3) Use Intensity of 5 minutes from U.S.W.B. date (1973) 100 year storm

   0.55 / 5/60 = 6.6 inches/hr.
4) Q = CIA = (0.35)(6.6)(26,363) = 1.4 c.f.s. = Q_{100} Undeveloped
5) Determine Developed runoff rate and determine it feasible to discharge to street, run 40 feet to drop inlet. Capacity:

Adobe Bldg.	=	2,478	@ C = 0.95 =	2,354
Paved Area & Driveway	=	7,397	@ C = 0.95 =	7,027
Roof Area	=	8,411	@ C = 0.95 =	7,990
Yard Area	=	8,076	@ C = 0.35 =	2,827
		26,363 s.f.		20,198

Concrete C = 20,198 / 26,363 = 0.77

Developed Runoff Rate =
(0.77)(6.6)(26,363 / 43,560) = 3.1 c.f.s.

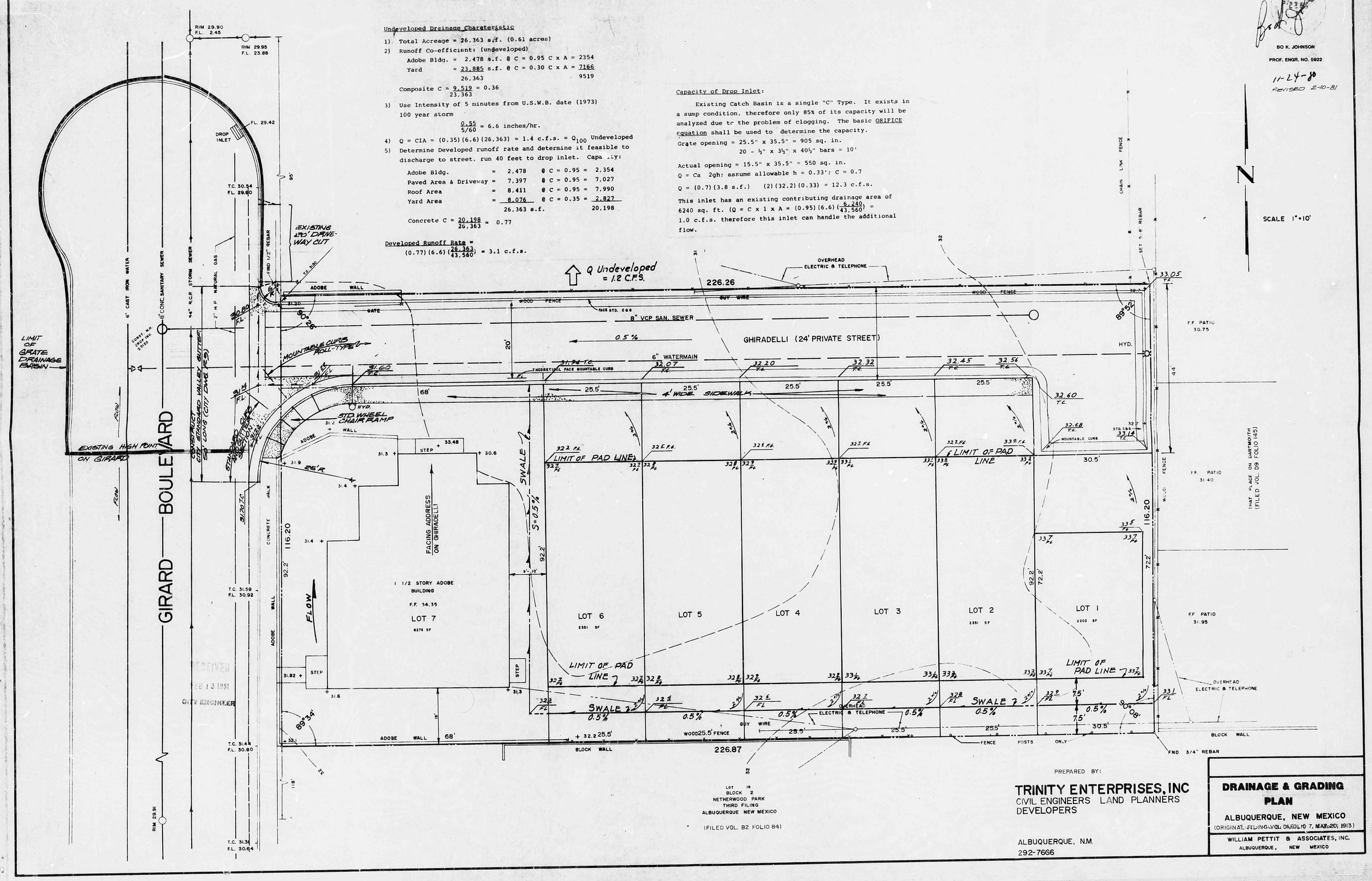
Capacity of Drop Inlet:

Existing Catch Basin is a single "C" Type. It exists in a sump condition, therefore only 85% of its capacity will be analyzed due to the problem of clogging. The basic ORIFICE equation shall be used to determine the capacity.

Grate opening = 25.5" x 35.5" = 905 sq. in.
20 - ½" x 3½" x 40½" bars = 10'

Actual opening = 15.5" x 35.5" = 550 sq. in.
Q = Ca 2gh; assume allowable h = 0.33'; C = 0.7
Q = (0.7)(3.8 s.f.) (2)(32.2)(0.33) = 12.3 c.f.s.

This inlet has an existing contributing drainage area of 6240 sq. ft. (Q = C x 1 x A = (0.95)(6.6)(6,240 / 43,560) = 1.0 c.f.s. therefore this inlet can handle the additional flow.



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11-24-80
REVISED 2-10-81

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FEB 13 1981
CITY ENGINEER

LOT 18
BLOCK 2
NETHERWOOD PARK
THIRD FILING
ALBUQUERQUE NEW MEXICO
(FILED VOL. B2 FOLIO 84)

THAT PLACE ON DARTMOUTH (FILED VOL. D9 FOLIO 145)

PREPARED BY:

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ALBUQUERQUE, N.M.
292-7666

DRAINAGE & GRADING PLAN
ALBUQUERQUE, NEW MEXICO
(ORIGINAL FILING VOL. D9 FOLIO 7, MAY 20, 1913)

WILLIAM PETTIT & ASSOCIATES, INC.
ALBUQUERQUE, NEW MEXICO