

#### NOTES:

- Concrete cut-off walls and building walls shall be made water-proof within ponding areas or drainage swales.
- Bench Mark Data: Bench No. 11-422 In The Median West Of The Intersection Of Candelaria And Chelwood Park Drive. A.C.S. Brass Tablet Elevation = 5694.36
- T.B.M. At The Northeast Property Corner. Tyree Cap Elevation = 5722.83

#### LEGEND

- 5715--- Existing Contours
- 5710--- Proposed Contours
- Limits Of Waste Dirt
- Property Line
- Proposed Spot Elevations
- Top Of Curb Elevations
- Drainage Basin
- Discharge From Drainage Basin
- Asphalt Parking Area
- Sidewalk
- Garden Walls
- FF=5717.67 Finished Floor Elevation
- PAD=5717.34 Top Of Pad Elevation
- Direction Of Flow
- Phase Construction

The proposed improvements of CANDELARIA APARTMENTS are located southeast of Candelaria Road N.E. and Chelwood Park Boulevard N.E. as shown by the Vicinity Map. It is more particularly described as Lot B of the Summary Plat of Division of Block 31-B of Brentwood Hills Subdivision Albuquerque, New Mexico as recorded in the office of the County Clerk of Bernalillo County, New Mexico. The proposed project is east of the Sundance Saloon and north of the Piedra Lisa and South Glenwood Hills Channels. The site is currently undeveloped as is the parcel of land to the east.

As shown by plate H-22 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. Currently the historic runoff flows from east to the southwest and into the Piedra Lisa Channel. The required improvements as shown by this plan will not alter the existing drainage pattern because the runoff will be collected in the parking lots and released into the Piedra Lisa Channel.

The Grading Plan delineates 1) the existing and proposed contours at 1'-0" intervals and spot elevations, 2) locations of the proposed building, parking areas and landscaping, 3) location of the grassed drainage channel, concrete drainage flows and discharge piping to drain basins A and B.

The drainage calculations which appear below show the historical and the developed drainage runoff for the 100-year, 6-hour rainfall event. The Rational Method has been used for the analysis in accordance with the City of Albuquerque Development Process Manual, Volume II.

#### Calculations

From the SCS Bernalillo County Soil Survey, Plate #22: E & C Embudo-Tijeras Association (level to moderately sloping, well drained loamy and gravelly soils on alluvial fans).

HYDROLOGIC SOIL GROUP: B

#### Rational Method

Q = CIA

C = Historical (0.35), Developed (from Plate 22.2 C-1)

I = (6 hr. rain) 6.84 In (-0.51)

Q = (2.6)(6.84) 10<sup>(-0.51)</sup> = 5.50 in/hr.

A = 2.067 acres ±

Historic Runoff (0% Impervious)

Q = CIA

Q<sub>100</sub> = 0.35 (5.50 in/hr.) 2.067 acres = 4.0 cfs

Q<sub>10</sub> = 0.35 (0.657)(5.50 in/hr.) 2.067 acres = 2.6 cfs

Volume = 0.35 (2.6)(1/12)(2.067)(43,560) = 6,830 cf.

#### DEVELOPED CONDITIONS

Basin A: (81% Impervious)

A = 35,303 s.f., 0.8104 ac

Q<sub>100</sub> = (0.78)(5.50)(0.8104) = 3.5 cfs

V<sub>100</sub> = 0.78 (2.6)(1/12)(35,303) = 5,970 cf

Basin B: (98% Impervious)

A = 20,562 s.f., 0.474 ac

Q<sub>100</sub> = (0.96)(5.50)(0.474) = 2.5 cfs

V<sub>100</sub> = 0.96 (2.6)(1/12)(20,562) = 4,300 cf

Parking Lot Volume = 9,230 cf > V<sub>100</sub>

Basin C: (71% Impervious)

A = 21,791 s.f., 0.500 ac

Q<sub>100</sub> = (0.70)(5.50)(0.500) = 1.9 cfs

Basin D: (90% Impervious)

A = 18,335 s.f., 0.421 ac

Q<sub>100</sub> = (0.86)(5.50)(0.421) = 2.0 cfs

Discharge to Piedra Lisa Channel via concrete drainage flume

#### Hydraulic Calculations for Drainage Channel

$$Q = \frac{1.49}{n} (A) (R)^{2/3} (S)^{1/2}$$

$$Q = \frac{1.49}{0.020} (1.2 \text{ s.f.}) (0.353 \text{ ft.})^{2/3} (0.0194)^{1/2}$$

$$Q = 6.2 \text{ cfs}$$

#### Hydraulic Calculations for Grass Swale

$$Q = \frac{1.49}{n} (A) (R)^{2/3} (S)^{1/2}$$

$$Q = \frac{1.49}{0.020} (1.5 \text{ s.f.}) (0.247 \text{ ft.})^{2/3} (0.0288)^{1/2}$$

$$Q = 7.5 \text{ cfs}$$

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HYDROLOGY SECTION

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FILE NUMBER: 6-10-86  
REVISION: 10/8/85

Revisions  
6-28-85 Add Valley Gutters On Candelaria Rd.  
7-8-85 Change Concrete Drain Channel To Grass  
10-8-85 Add Temporary Ditch & Berm, Revised  
10-8-85 Add Parking Plan.

Greiner  
Engineering  
Greiner Engineering Sciences, Inc.  
Denver, Colorado  
Albuquerque, N.M. - Kemerer, Wyoming

Design  
LDL  
Drawn  
GA, JW  
Check

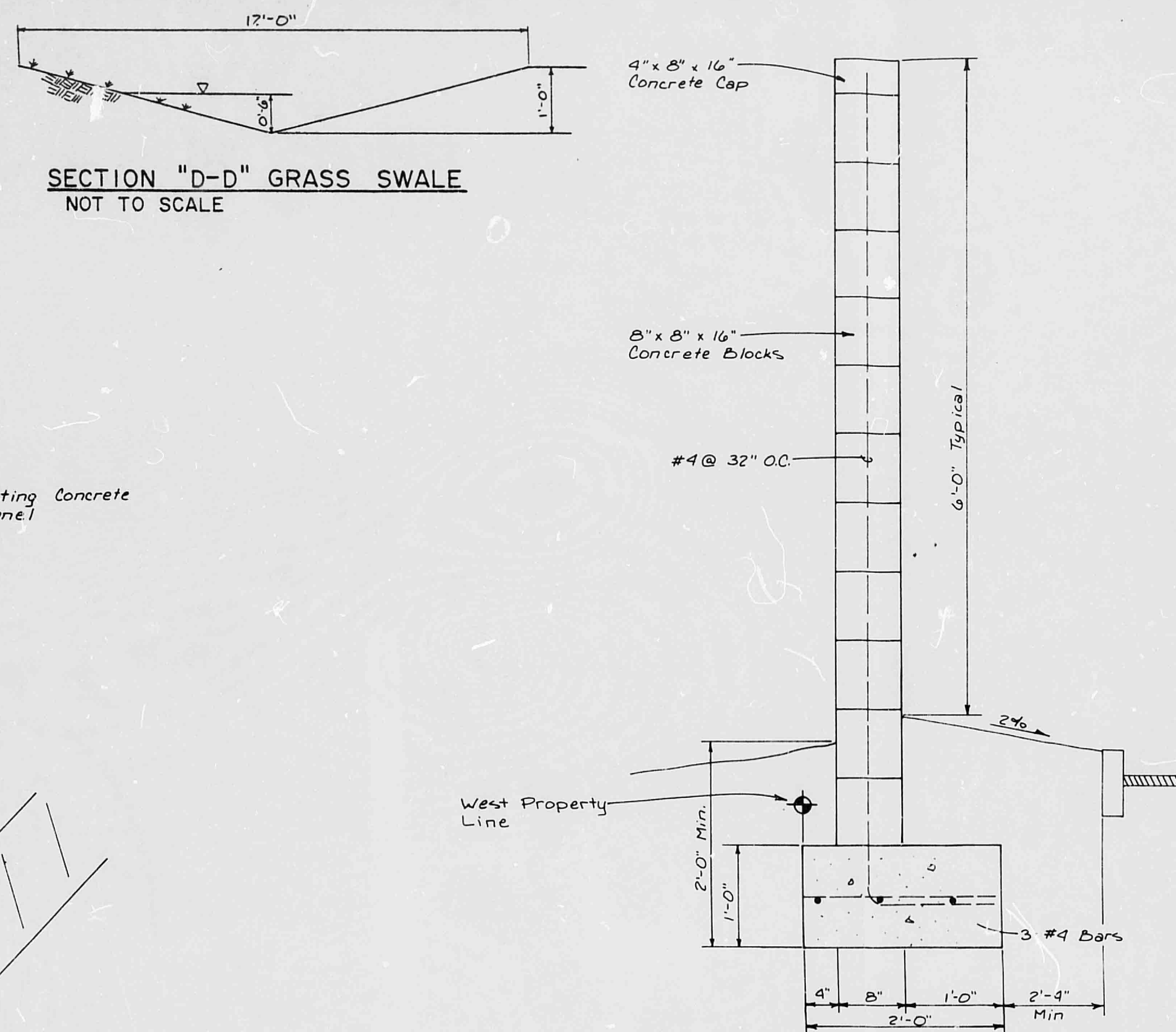
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1" = 20'

CANDELARIA APTS.  
DRAINAGE & GRADING PLAN

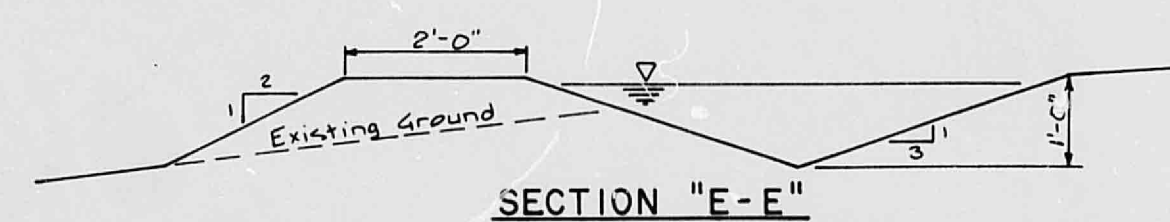
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H22/D44

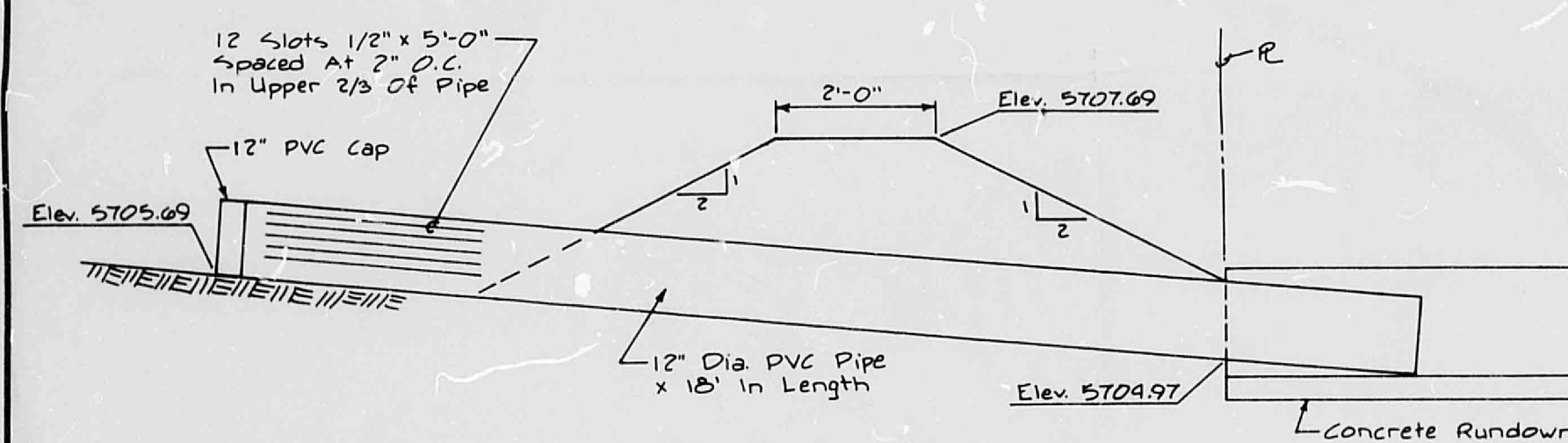




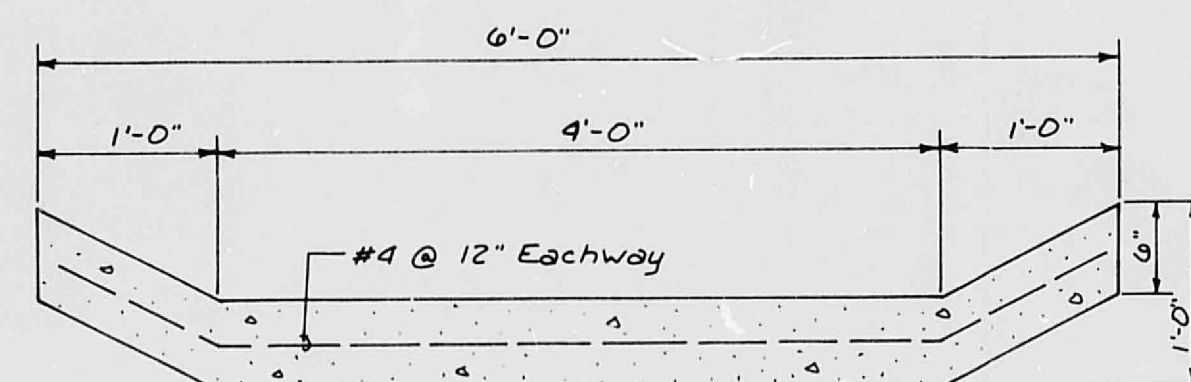
PROFILE OF DRAINAGE SWALE & RUNDOWN  
NOT TO SCALE



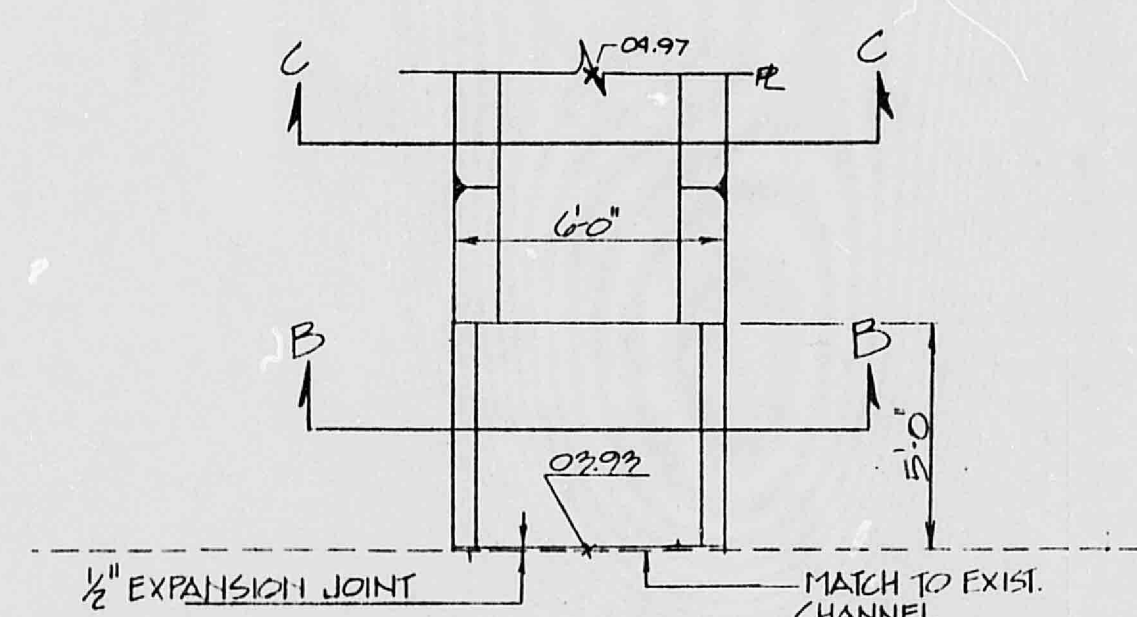
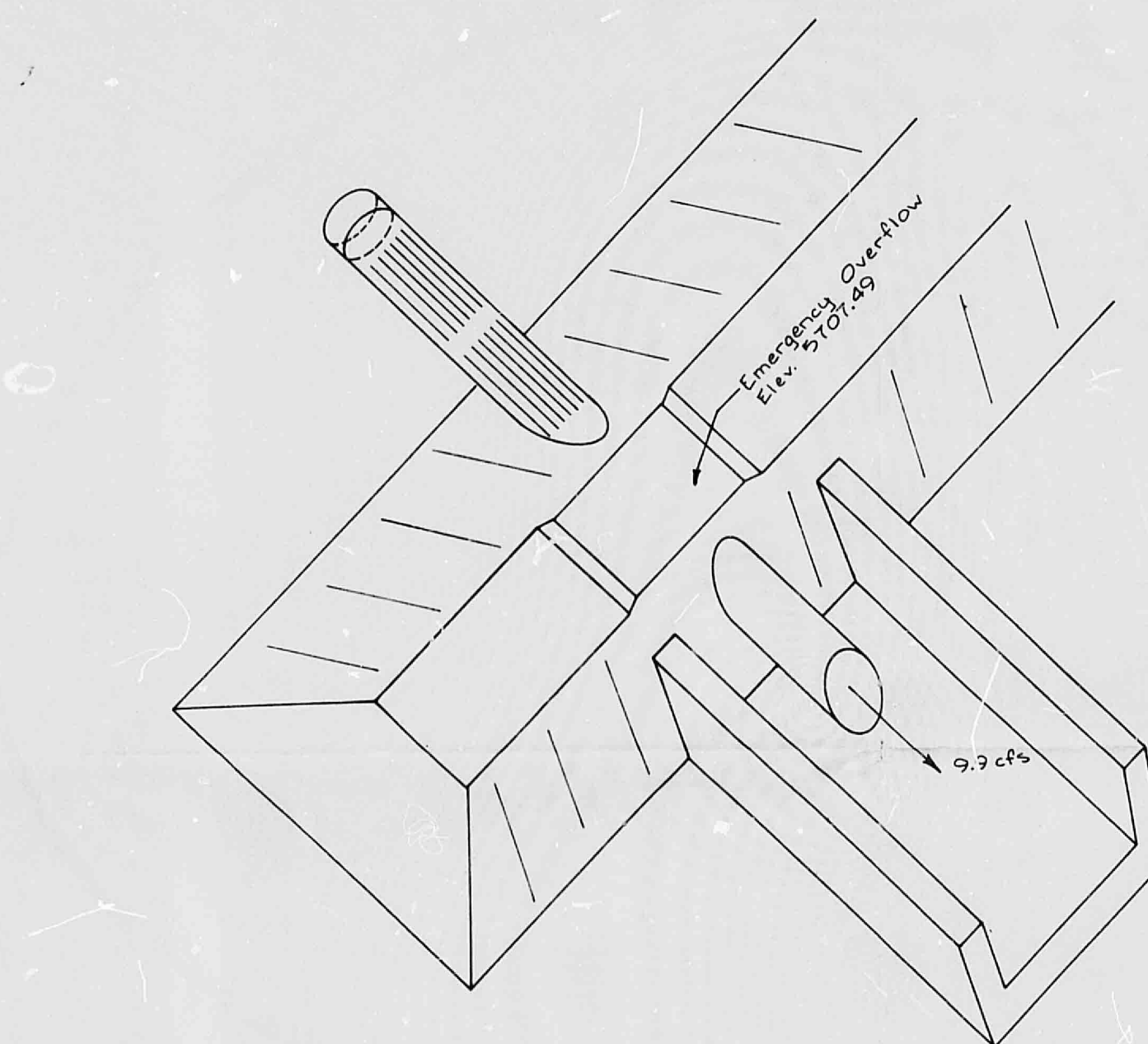
DETAIL OF TEMPORARY DIVERSION DITCH &  
BERM TO BE CONSTRUCTED FOR PHASES 1-3  
NOT TO SCALE



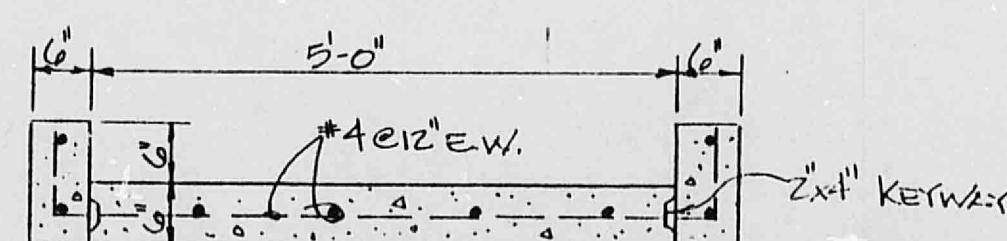
TEMPORARY EROSION CONTROL OUTLET  
TO BE INSTALLED FOR PHASES 1-3  
NOT TO SCALE



SECTION "C-C" CONCRETE RUNDOWN  
NOT TO SCALE



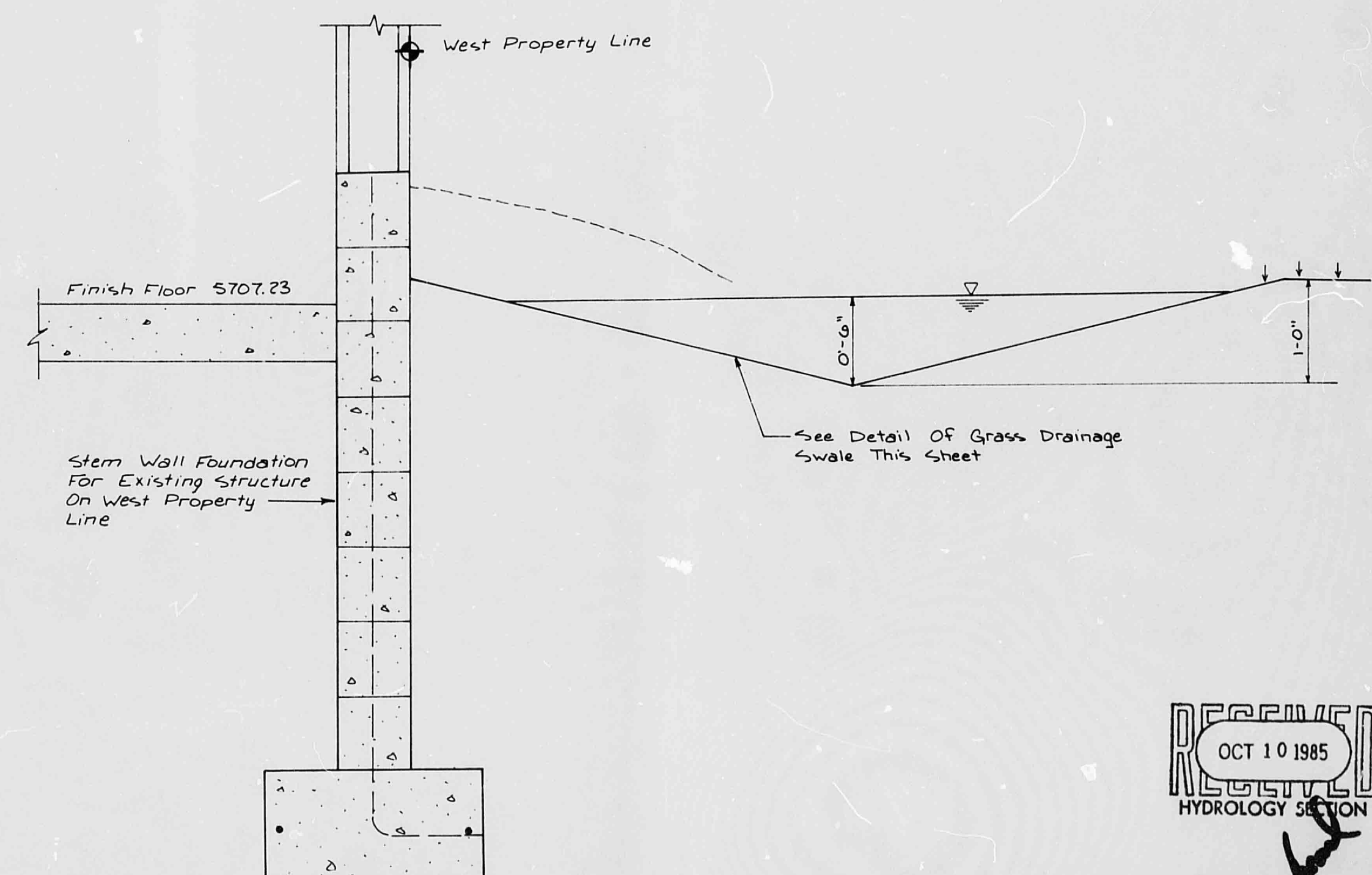
DETAIL A  
N.T.S.



SECTION "B-B"

NOTES:  
1. INSTALL CONTRACTION JOINTS 10'-0" O.C.

CONCRETE RUNDOWN  
NOT TO SCALE



SECTION "B-B" INTERFACING BETWEEN  
STRUCTURE AND DRAIN CHANNEL  
ON WEST PROPERTY LINE  
NOT TO SCALE

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HYDROLOGY SECTION

*David J. H. H. H.*

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10 / 8 / 1985

5-10-85

Revisions  
7-8-85 Change Concrete Drain Channel To Gross  
Swall<sub>2</sub>.  
10-8-85 Add Temporary Ditch & Berm Details

# Greiner Engineering

Design	LDL
Drawn	JW
Check	
Scale	NTS

**CANDELARIA APTS.**

**DRAINAGE & GRADING PLAN  
DETAILS**

Date 4 - 25 - 85

Job No. 0690501

Sheet of 2 2