### DRAINIGE INFORMATION ON IN

PROJECT TITLE: Discount 11re Co. ZO	NE ATLAS/DRNG. FILE #: J-21/D
LEGAL DESCRIPTION: Tract A-Z, Block 39 B,	Princess Jeanne Park.
CITY ADDRESS: 1119 Juan Tabo Blvd.	
ENGINEERING FIRM: Lovelady & Assoc.	CONTACT: Frank Lovelady
ADDRESS: 7408 Morrow Ave. NE 87110	PHONE: 883-7973
CWNER:	CONTACT:
ADDRESS	PHONE:
Spec	
$5346\frac{1}{2}$ North Freeway ADDRESS: Houston, TX 77022	
SURVEYOR: Alpha Surveying Group	CONTACT: Gary Gritsko
ADDRESS: 623 Amherst	PHONE: 265-5538
CONTRACTOR:	CONTACT:
ADDRESS:	PHONE:
PRE-DISIGN MEETING:  NO  HYDROLOGY SECT	NO
COPY OF CONFERENCE RECAP SEET PROVIDED	
TYPE OF SUBMITTAL:	CHECK TYPE OF APPROVAL SOUGHT:
DRAINAGE REPORT	SKETCH PLAT APPROVAL
X DRAINAGE PLAN	PRELIMINARY PLAT APPROVAL
CONCEPTUAL GRADING & DRAIN. PLAN	SITE DEVELOPMENT PLAN APPROVAL
GRADING PLAN	FINAL PLAT APPROVAL
EROSION CONTROL PLAN	X BUILDING PERMIT APPROVAL
ENGINEER'S CERTIFICATION	FOUNDATION PERMIT APPROVAL
Revised grades on west end of lot to reduce fill against existing garden wall to 1.0 feet max.	CERTIFICATE OF OCCUPANCY APPROVALROUGH GRADING PERMIT APPROVAL
DATE SUBMITTED: June 2, 1987	GRADING/PAVING PERMIT APPROVAL
Frank D. Lovelody	OTHER(SPECIFY)

Rev. 11/84

103



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz Mayor UTILITY DEVELOPMENT DIVISION HYDROLOGY SECTION (505) 768-2650

June 5, 1987

Frank Lovelady Lovelady & Associates 7408 Morrow Avenue, NE Albuquerque, New Mexico 87110

RE: REVISED DRAINAGE PLAN FOR DISCOUNT TIRE COMPANY (J-21/D16A) RECEIVED JUNE 2, 1987

Dear Mr. Lovelady:

The above referenced plan, dated June 2, 1987, is approved for Building Permit. The S.O. #19 tie-in to the back of a catch basin at Juan Tabo is also approved.

Please attach a copy of this approved plan to both sets of construction drawings routed for permit sign-off.

If you should have any questions, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.

City/County Floodplain Administrator

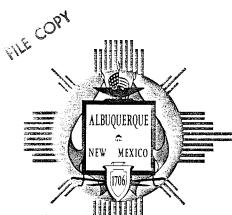
CAM/bsj

Walter Nickerson, P.E., City Engineer

**PUBLIC WORKS DEPARTMENT** 

**ENGINEERING GROUP** 

Telephone (505) 768-2500



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR

CHIEF ADMINISTRATIVE OFFICER DEPUTY CAO PUBLIC SERVICES DEPUTY CAO PLANNING/DEVELOPMENT

KEN SCHULTZ

GENE ROMO

FRANK MARTINEZ

BILL MUELLER

April 28, 1988

Frank Lovelady, P.E. Lovelady & Associates 7408 Morrow Avenue, NE Albuquerque, New Mexico 87110

RE: DRAINAGE COMPLAINT @ DISCOUNT TIRE (J-21/D16A)

Dear Mr. Lovelady:

On June 5, 1987, this office approved your drainage plan for the referenced Building Permit. Sheet 2 of 2 on your drainage plan indicated that "There is no off-site flows affecting this site." However, we have received a drainage complaint and we have field verified the damage caused by flows which were blocked by your development. Prior construction of your development, historic runoff would cross your property from north to south. Your development has blocked these historic off-site flows. Therefore, due to this diversion, the historic flows traveled west across private property.

As the flows traveled west, it collapsed a garden wall and caused other damage. We believe that your drainage plan misrepresented the existing conditions. Also, this site is responsible to accept the historic off-site flows. I would appreciate your immediate attention due to possible future damage which will occur if we receive a substantial storm.

Should you have any questions, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.

City/County Floodplain Administrator

xc: Store Manager, Discount Tire Richard Duran, Drainage Inspector

CAM/bsj



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF ADMINISTRATIVE OFFICER DEPUTY CAO DEVELOPMENT & ENTERPRISE SERVICES DEPUTY CAO PUBLIC SERVICES

**GENE ROMO** 

LARRY LARRANAGA

DAN WEAKS

July 20, 1988

Store Manager 1119 Juan Tabo Boulevard, NE Albuquerque, New Mexico 87112

RE: DRAINAGE COMPLAINT AT DISCOUNT TIRE COMPANY

(J-21/916A)

27

Dear Manager:

A Grading and Drainage plan for the referenced site was approved June 5, 1987. According to this plan, minimum fill was to be placed against the wall along the west property line.

Due to the collapse of the garden wall located at the northwest property corner, an inspection was made. The inspection revealed that fill had been placed against the wall, which has caused damage.

If fill material is going to be placed on your west property line, a retaining wall is required. Should the garden wall fail as a result of excess fill, your store may be liable for any damages caused to adjacent properties.

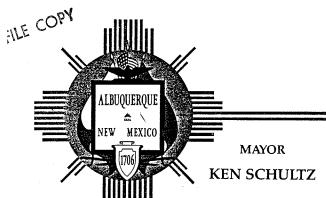
Please call this office, 768-2650, if you have any questions regarding this matter.

Cordially.

Carlos A. Montoya, P.E.

City/County Floodplain Administrator

CAM/bsj



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

CHIEF ADMINISTRATIVE OFFICER

DEPUTY CAO DEVELOPMENT & ENTERPRISE SERVICES DEPUTY CAO PUBLIC SERVICES

GENE ROMO

LARRY LARRANAGA

DAN WEAKS

August 18, 1988

Store Manager Discount Tire Company 1119 Juan Tabo Boulevard, NE Albuquerque, New Mexico 87112

RE: DRAINAGE COMPLAINT AT DISCOUNT TIRE COMPANY (J-21/D27)

1119 JUAN TABO BOULEVARD, NE

#### Dear Manager:

We have received a drainage complaint from the owner of the resident at your west property line. The block wall between the two properties has collapsed. A field inspection indicated that excessive fill has been placed against the block wall. The wall is not a retaining wall. Also, your south wall shows stains on the concrete that indicates that site runoff has traveled south to the collapsed wall. Please contact this office within two weeks to discuss what corrective measures are to be taken.

My previous letter of July 20, 1988, concerning the excess fill has been ignored. Therefore, if we do not receive any communication from you, this matter will be turned over to the Legal Department.

Cordially,

Carlos A. Montoya, P.E.

City/County Floodplain Administrator

xc: Frank Lovelady, P.E.

Richard L. Duran

CAM/bsj



P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 26, 1988

Mark Rogers 10400 Academy Road, NE Albuquerque, New Mexico 87111

RE: DRAINAGE COMPLAINT

(J-21/D27)

Dear Mr. Rogers:

We have received a drainage complaint from the adjoining west property owner. A field visit and a review of the approved drainage plan showed two problems.

- We found that there was not a sump pump to convey the site runoff to Juan Tabo. A pump needs to be installed.
- 2. The drainage plan shows a maximum of 1.5 feet of fill against the west garden wall. However, in the field there is more fill placed against the garden wall.

Please call me at 768-2650 to advise us as to how these problems will be corrected.

Cordially,

Carlos A. Montoya, P.E.

City/County Floodplain Administrator

xc: Rick Duran Vince Collier CAM/bsi

### VOLUME WEST OF BLDG.

STA OF X-SEC	AREA	AVE. AREA	DIST	VOL
S. Wall	7.23	11 (/	201	0.4.0
+30	16.05	11.64	30 <b>'</b>	349
100	10.03	18.06	25 <b>'</b>	452
+55	20.07		_	
+80	31.75	25.91	25 <b>'</b>	648
T00	31.73	35.90	25'	898
N. Wall	40.05			-,-

## VOLUME NORTH OF BLDG.

2347

STA OF X-SEC	AREA	AVE. AREA	DIST	VOL
W. END OF BLDG	12.45	8.13	25	203
125' EAST	3.80	1.90	25	48
50' EAST	Ω			251

TOTAL VOL. = 2347+251 = 2598

September 18, 1991

Mark Rogers 10400 Academy Road, NE Albuquerque, New Mexico

RE: DRAINAGE COMPLAINT AT 1228 MURIEL, NE

Dear Mr. Rogers:

A drainage complaint was filed with our office on September 13, 1991, at which time a field inspection was conducted. The inspection did reveal that runoff from both Discount Tire and the Midas locations were the contributing factor to cause Mr. Burright's wall to buckle.

Further investigation on September 16, 1991, has revealed that the pump which is supposed to be located within the inlet of the Discount Tire Store is not installed. Without the pump to pump the water out to Juan Tabo, the runoff went to the west causing the erosion along Mr. Burright's wall.

I recommend that you contact Dura Bilt Corporation and talk to Mr. Nick Sinque to make arrangements with your insurance companies to initiate claims.

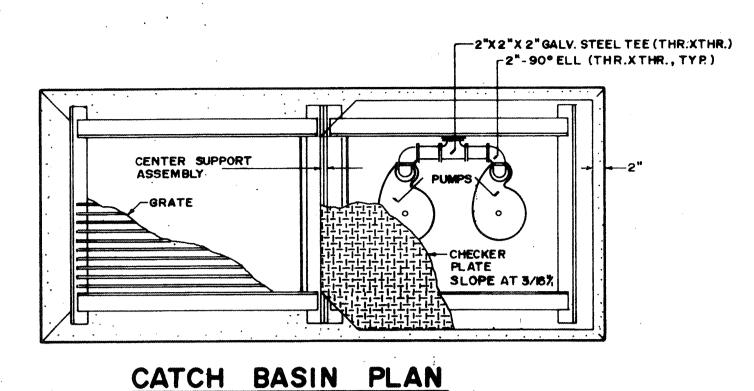
Should you have any questions, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya, C.E. Engineering Assistant

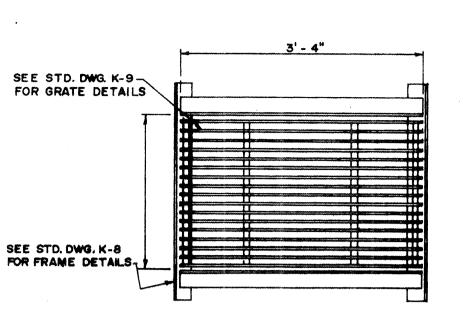
xc: Lars Sego, Dura Bilt Corporation Lloyd Burright

BJM/bsj (WP+75)

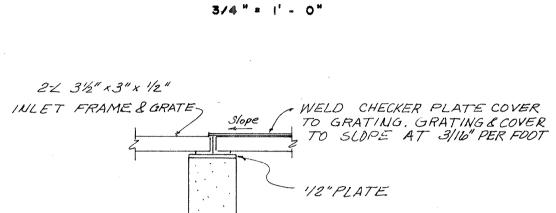


CHECKER PLATE COVER PLAN

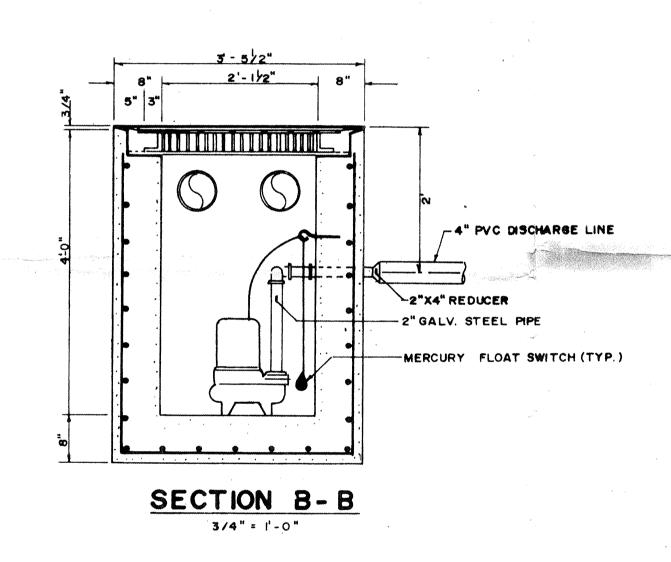
3/4" = 1' - 0"

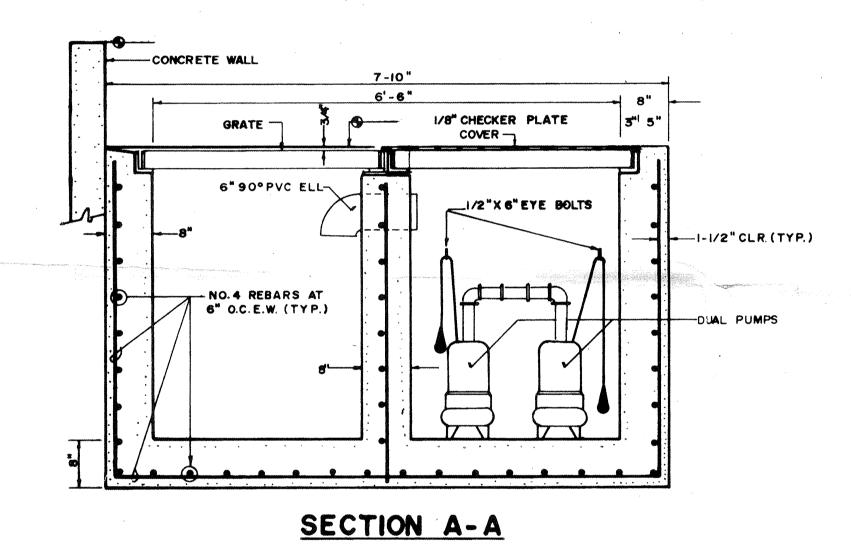


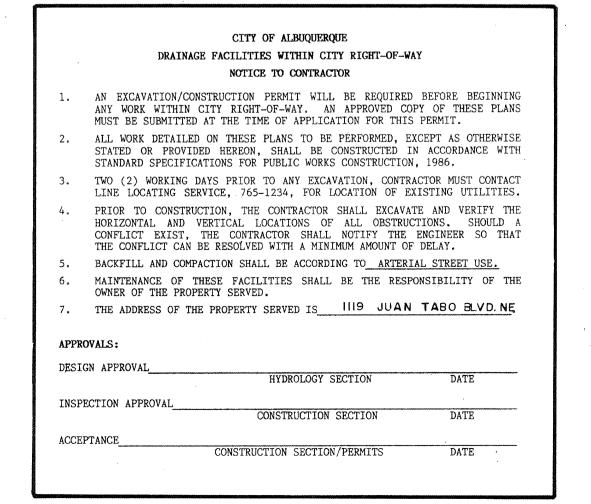
INLET GRATE DETAIL

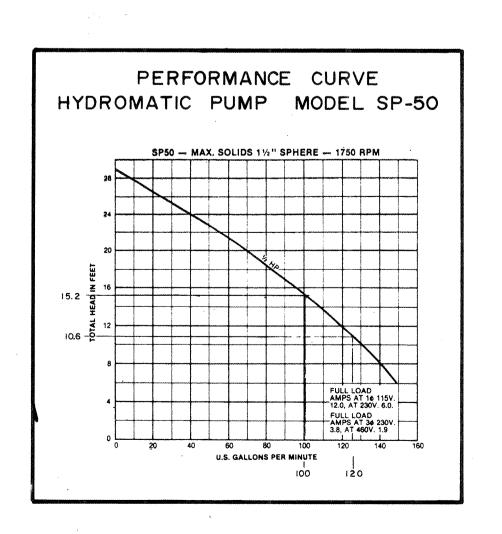


CENTER SUPPORT ASSEMBLY









## ESIGN CONFERENCE FINDINGS:

- 1. AN APPROVED GRADING AND DRAINAGE PLAN IS REQUIRED FOR BUILDING PERMIT SIGN-OFF BY HYDROLOGY.
- EXISTING STORM DRAIN IN JUAN TABO. CAN TIE INTO THE BACK OF A CATCH BASIN DIRECTLY IN ACCORDANCE WITH CITY STANDARD DETAILS USING THE S.O. 19 APPROVAL PROCESS, OR TIE DIRECTLY INTO THE STORM DRAIN USING THE WORK ORDER PROCESS.
- DUE TO DOWNSTREAM FLOOD ZONE, DISCHARGE RATE IS LIMITED TO 0.5 CFS/ACRE UNLESS DOWNSTREAM CAPACITY ANALYSIS DEMONSTRATES OTHERWISE.
- 4. ADJACENT PROPERTIES HAVE ALL PROVIDED DETENTION PONDING WITH PUMPS DISCHARGING INTO JUAN TABO.

#### AINAGE COMMENTS:

- 1. THE SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD AREA. HOWEVER, THE SITE WILL DISCHARGE INTO JUAN TABO BOULEVARD WHICH IS SUBJECT TO FLOODING FROM LOMAS BOULEVARD NORTH TO A POINT JUST SOUTH OF THE SITE.
- . THERE IS NO OFF-SITE FLOW AFFECTING THIS SITE.
- THE RATE OF DISCHARGE IS LIMITED TO 0.5 CFS PER ACRE. THEREFORE, PONDING IS REQUIRED FOR THE VOLUME OF WATER THAT MUST BE DETAINED. THE LOWER END OF THE PARKING AREA HAS BEEN GRADED WITH A SLOPE OF 0.007 FEET PER FOOT WHICH SHOULD BE ADEQUATE FOR THE CONCRETE PAVEMENT PROPOSED FOR THE SITE.
- THE SITE WILL BE DRAINED BY DUPLEX SUBMERSIBLE PUMPS SET TO ALTERNATE BETWEEN PUMPS. SINCE THE CAPACITY OF A SINGLE PUMP IS ROUGHLY EQUAL TO THE ALLOWABLE DISCHARGE RATE, THE PUMPS WILL NOT RUN SIMULTANEOUSLY. THE PUMPS WILL DISCHARGE BY MEANS OF A 4" PVC LINE TO THE EXISTING CATCH BASIN ON JUAN TABO BLVD.
- 5. THE ROOF DRAINS TO DOWNSPOUTS ON THE NORTH SIDE OF THE BUILDING.
  ALL SITE DRAINAGE EXCEPT THE LANDSCAPED AREAS WILL BE DIRECTED TO
  THE CATCH BASIN PUMP STATION AT THE REAR OF THE SITE. THE LANDSCAPED
  AREAS, INCLUDING THE STRIP BETWEEN THE TWO REAR WALLS WILL CONTAIN
  THE RUNOFF THAT IS GENERATED IN THOSE AREAS.

# DRAINAGE CALCULATIONS

### I. REFERENCES:

- A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22.
- B. FLOODWAY MAP, PANEL 31 OF 50, (FEMA), OCTOBER 14, 1983.
  C. SOIL SURVEY OF BERNALILLO COUNTY, NEW MEXICO, U.S.
- SOIL CONSERVATION SERVICE, JUNE, 1977.

  II. ON-SITE RUNOFF CHARACTERISTICS:

# A. UNDEVELOPED RUNOFF COEFFICIENT:

- TYPE OF SURFACE AREA "C"VALUE AREA("C")
  STREETS, DRIVES, WALKS
  ROOFS
  LAWNS & LANDSCAPING
- UNDEVELOPED 21874

  TOTAL AREA 21874 SF = 0.5022 AC

  WEIGHTED "C" VALUE = 0.40

  PERCENT IMPERVIOUS = 0%
- B. DEVELOPED RUNOFF COEFFICIENT:

  TYPE OF SURFACE AREA
- TYPE OF SURFACE
   AREA
   "C"VALUE
   AREA("C"

   STREETS, DRIVES, WALKS
   13739
   0.95
   13052

   ROOFS
   6000
   0.90
   5400

   LAWNS & LANDSCAPING
   2135
   0.25
   534

   UNDEVELOPED
- TOTAL AREA 21874
  WEIGHTED "C" VALUE = 18986 / 21874 = 0.87
  PERCENT IMPERVIOUS = 90%
- C. RAINFALL, 100-YR.,6-HR.:(REF. A., PLATE 22.2 D-1)  $R_{6} = 2.45$  INCHES
- D. TIME OF CONCENTRATION: TEN (10) MINUTES:
- D. TIME OF CONCENTRATION: TEN (10) MINUTES.

  E. RAINFALL INTENSITY, I (REF. A., PLATE 22.2 D-2)
- $I=R_6X6.84X(T_c)^{-0.51}=(2.45)6.84(10)^{-0.51}=5.18IN/HR$ F. SOIL TYPE (REF. I.C., SHEET NO. 32)TgB, TIJERAS GRAV-
- F. SOIL TYPE (REF. 1.C., SHEET NO. 32)TgB, TIJERAS GRAELLY FINE SANDY LOAM, HYDROLOGIC SOIL GROUP "B".

  G. RUNOFF CURVE NUMBER (CN)-(REF.I.A., PLATE 22.2 C-2)
- UNDEVELOPED LAND USE: VACANT LOT, BARE EARTH, CN=82
  DEVELOPED LAND USE: BUSINESS AND COMMERCIAL, BLDGS.
  AND ROOFS, CN =98, LANDSCAPING, CN = 61
  WEIGHTED CN = (19739X98 + 2135X61)/21874 = 94
- H. DIRECT RUNOFF,  $Q_D$ , INCHES (REF. I.A., PL. 22.2 C-4) UNDEVELOPED  $Q_D = 1.0$  IN. DEVELOPED  $Q_D = 1.80$  IN.

# III. ON-SITE PEAK DISCHARGE BY RATIONAL EQUATION:

- A. EXISTING CONDITIONS:
  Q<sub>100</sub> = 0.40 X 5.18 X 0.50 = 1.04 CFS
  Q<sub>10</sub> = 0.657 X 1.04 = 0.68 CFS
- B. DEVELOPED CONDITIONS: Q<sub>100</sub> = 0.87 X 5.18 X 0.5 = 2.25 CFS

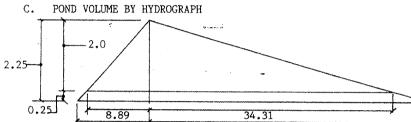
### $Q_{10} = 0.657 \text{ X } 2.25 = 1.48 \text{ CFS}$ IV. ON-SITE VOLUME BY S.C.S. METHOD:

- ON-SITE VOLUME BY S.C.S. METHOD:

  A. EXISTING CONDITIONS:  $V_{100} = AREA (Q_D/12) = 21874 (1.0/12) = 1823 CF$
- V<sub>10</sub> = 0.657 X 1823 = 1198 CF B. DEVELOPED CONDITIONS:
- DEVELOPED CONDITIONS:  $V_{100} = AREA (Q_D/12) = 21874(1.8/12) = 3281 CF$  $V_{10} = 0.657 X 3281 = 2156 CF$

### v. PONDING REQUIREMENTS:

- A. ALLOWABLE DISCHARGE PER PRE-DESIGN CONFERENCE FINDINGS, DIS-CHARGE IS LIMITED TO 0.5 CFS PER ACRE. 0.5 CFS/ACRE X 0.5 ACRE = 0.25 CFS
- B. DURATION  $T = 2V/60Q = 2 \times 3281 / 60 \times 2.25 = 48.60 MIN.$
- B. DURATION  $T = 2V/60Q = 2 \times 3281 / 60 \times 2.25 = 48.60 MIN$



POND VOLUME =  $0.5(8.89 + 34.31)2.0 \times 60 = 2592 \text{ CF}$ 

VI. ACTUAL PONDING VOLUME:

VOLUME HAS BEEN DETERMINED BY CROSS SECTIONS. SEE SUPPLEMENTAL DATA SUBMITTED WITH THE PLAN. TOTAL PONDING IN PARKING LOT IS 2598 SF; MAXIMUM PONDING DEPTH IS 1.0'.

## VII. PUMP CALCULATIONS:

- A. MAXIMUM ALLOWABLE PUMPING RATE 0.25 CFS X 448.8 GPM/CFS = 112 GPM
- B. ELEVATION HEAD
- ELEVATION AT STREET INVERT = 87.40 (87.57 AT SPRINGLINE) ELEVATION AT FIRST MERCURY SWITCH = 84.3 - 3.5 = 80.8 ELEVATION OF HIGH WATER LEVEL OF POND = 84.3 + 1.1 = 85.4 MAXIMUM ELEVATION HEAD = 6.77' MINIMUM = 2.17'
- C. FRICTION HEAD LOSS IN DISCHARGE PIPES
- 1. 4" SCHEDULE 40 PVC PIPE (SEE HANDBOOK OF PVC PIPE, UNI-BELL PLASTIC PIPE ASSOCIATION, 1979, PAGE 192, FIGURE 26) FOR 112 GPM, HEAD LOSS IN FEET PER 100 FEET OF PIPE IS 0.8'/100' TOTAL LENGTH TO 2001 St.
- LENGTH IS 220' °±
  EQUIVALENT LENGTHS FOR BENDS, ETC.
  SUDDEN ENLARGEMENT 2.5'
- TOTAL PIPE LENGTH = 233.5 LF
  TOTAL LOSS IN 4" PIPE IS (0.8/100)233.5 = 1.87 FEET.
- 2. 2" STEEL PIPE (2" IPS) (SEE HYDRAULIC HANDBOOK, ELEVENTH EDITION, FAIRBANKS-MORSE PUMP DIVISION, 1979, PAGE 45, TABLE 1) AT 100 GPM, HL = 17.4'; AT 120 GPM, HL = 24.7'
- 1) AT 100 GPM, HL = 17.4'; AT 120 GPM, HL = 24.7' HL AT 112 GPM = (24.7-17.4)(12/20) + 17.4 = 21.8 FT/100'. LENGTH OF PIPE 3'± EQUIVALENT LENGTH FOR BENDS, ETC.
- 2 90° BENDS AT 12' EACH = 24'
  SUDDEN ENLARGEMENT 3'
  TOTAL LENGTH = 30'
- TOTAL LENGTH = 30'
  TOTAL LOSS IN 2" PIPE = (21.8/100)30 = 6.54 LF
- D. TOTAL HEAD LOSS
- $H_T = H_{F4} + H_{F2} = 15.18 \text{ MAX}$  10.58 MIN
- E. PUMPING TIME REQUIRED TO PUMP 100-YEAR VOLUME 3281 CF AT 0.25 CFS / 3600 = 3.65 HOURS
- F. PUMP SELECTION USE DUPLEX PUMPS, HYDROMATIC MODEL SP-50 128 GPM AT 10.6 FEET HEAD 100 GPM AT 15.2 FEET HEAD

AVERAGE 114 GPM, APPROXIMATELY EQUAL TO 112 GPM OR 0.25 CFS, THE PUMP IS ADEQUATE.

MAY 21 , 1987

GRADING AND DRAINAGE PLAN
DISCOUNT TIRE COMPANY
1119 JUAN TABO BLVD., N.E.
ALBUQUERQUE, NEW MEXICO

