City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

April 7, 1986

Elvidio Diniz, P.E.
Resource Technology, Inc.
2620 San Mateo Blvd., NE Suite B
Albuquerque, New Mexico 87110

RE: REVISED DRAINAGE PLAN FOR EARL SCHEIB PAINT SHOP
(K-10/D17) ENGINEER'S STAMP WITH REVISION DATE APRIL 1, 1986

Dear Mr. Diniz:

Based on the information provided on your April 1, 1986 resubmittal, revisions as indicated are acceptable.

Please be advised that the building permit has already been issued, and it will be the responsibility of either the Engineer or Architect to provide the owner and contractor with a copy of the revised plan.

If I can be of further assistance, please feel free to call me at 766-7644.

Cordially,

/Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant/Hydrology

cc: Earl Scheib
8602 Central Avenue, SE

BJM/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Earl Scheib Paint Shop ZONE ATLAS/DRNG. FILE #: K-10 / D17

LEGAL DESCRIPTION: Tract E Atrisco Village Albuquerque New Mexico

CITY ADDRESS: _____

ENGINEERING FIRM: Resource Technology Inc CONTACT: Elvidio Diniz

ADDRESS: 2620 San Matco NE Suite B PHONE: 884-0020

OWNER: Earl Scheib CONTACT: —

ADDRESS: 8602 Central Ave SE PHONE: 265-7784

ARCHITECT: Del Paul Jack CONTACT: —

ADDRESS: 400 San Felipe NW PHONE: 242-4591

SURVEYOR: Resource Technology Inc CONTACT: Elvidio Diniz

ADDRESS: see above PHONE: —

CONTRACTOR: Duncan and Assoc. CONTACT: Tom Duncan

ADDRESS: 1201 Eubank Blvd NE PHONE: 293-3861

RECEIVED
APR 01 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:

- ✓ YES
- ___ NO
- ✓ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- ✓ DRAINAGE PLAN - REVISED
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ✓ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SKETCH PLAT APPROVAL
- ___ PRELIMINARY PLAT APPROVAL
- ___ SITE DEVELOPMENT PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- X BUILDING PERMIT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY APPROVAL
- ___ ROUGH GRADING PERMIT APPROVAL
- ___ GRADING/PAVING PERMIT APPROVAL
- ___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 1 April 1986

BY: Elvidio Diniz

Transmittal

RESOURCE TECHNOLOGY, INCORPORATED

From: Eluidio Diniz 884-0059
2620 San Mateo NE, Suite B
Albuquerque, New Mexico 87110

To: City of Albuquerque
Hydrology

Date: 1 April 1986

Our Project No.

Attn: Roger Green

Re: Earl Scheib Paint Shop

IF MATERIAL RECEIVED IS NOT AS LISTED, PLEASE NOTIFY US AT ONCE

WE ARE SENDING YOU

- ☐ ATTACHED
- ☐ UNDER SEPARATE COVER VIA
- ☐ SHOP DRAWINGS
- ☐ TRACINGS
- ☐ PRINTS
- ☐ CATALOGS
- ☐ DOCUMENTS
- ☐ COPY OF LETTER
- ☐ SPECIFICATIONS
- ☐ _____

RECEIVED
APR 01 1986
HYDROLOGY SECTION

COPIES	DATE	ITEM
1		Drainage + Grading Plan for above

REMARKS Roger, This plan was approved 12 December 1985 for Building Permit. However the Site Plan was changed after the approval date + we have revised the drainage + grading plan. The pond size was not changed. Since the impervious area was reduced in the revised Site Plan (parking lot size was reduced and landscape area was increased) we did not redo the calculations or change the pond size. This will be more than adequate since the revised runoff rate and volume will decrease

COPY TO

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 12, 1985

Mr. Elvidio Diniz, PE
Resource Technology, Inc.
2620 San Mateo NE
Suite B
Albuquerque, NM 87110

REF: DRAINAGE AND GRADING PLAN SUBMITTAL OF EARL SCHEIB PAINT SHOP (K10-D17) FOR BUILDING PERMIT APPROVAL, DRAWINGS REVISED 10/28/85 RECEIVED 10/28/85

Dear Elvidio:

The above referenced submittal is approved for Building Permit, Phase I.

The required approved permit for construction within public Right-of-Way (S.O. #19) must be included, along with this drainage plan, in the construction drawings before Hydrology sign-off.

If you have any questions, call me at 766-7644.

Sincerely,

Roger A. Green, PE

Roger A. Green, PE
CE/Design Hydrology

RAG:mrk

cc: Earl Scheib, 8602 Central Avenue SE, 87108

w

~~Kyle Brewer~~ Stanley

11/19/85 4:40 pm

Talked w/ Elvidio, and requested pond outlet pipe calculations showing max discharge, and time to drain pond. Then will approve for building permit if OK.

Roger.

70.0
68.0

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Earl Scheib Paint Shop ZONE ATLAS/DRNG. FILE #: K-10/D17

LEGAL DESCRIPTION: Tract "E" Atrisco Village Albuquerque NM

CITY ADDRESS: unknown

ENGINEERING FIRM: Resource Technology Inc. CONTACT: Elvidio Diniz

ADDRESS: 2620 San Mateo NE #B PHONE: 884-0020

OWNER: Earl Scheib CONTACT: —

ADDRESS: 8602 Central Ave SE PHONE: 265-7784

ARCHITECT: Del Paul Jack CONTACT: —

ADDRESS: 400 San Felipe NW PHONE: 242-4591

SURVEYOR: Resource Technology Inc CONTACT: —

ADDRESS: above PHONE: —

CONTRACTOR: Duncan and Assoc. CONTACT: Tom Duncan

ADDRESS: 1201 Eubank Blvd NE PHONE: 293-3861

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OCT 28 1985
HYDROLOGY SECTION

PRE-DESIGN MEETING:

✓ YES

___ NO

✓ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

✓ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

✓ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

✓ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 25 October '85

BY: Elvidio Diniz

Transmittal

RESOURCE TECHNOLOGY, INCORPORATED

From. Elvidio Diniz **884-0059**

2620 San Mateo NE, Suite B

Albuquerque, New Mexico 87110

To: City of Albuquerque
Hydrology

Date:

Our Project No.

Attn: Bernie Montoya

Re: Earl Scheib Paint Shop

IF MATERIAL RECEIVED IS NOT AS LISTED, PLEASE NOTIFY US AT ONCE

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- ☐ _____

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OCT 28 1985
HYDROLOGY SECTION

COPIES	DATE	ITEM
1	25/oct/85	Drainage & Grading Plan Earl Scheib Paint Shop

REMARKS Note that the grades have been lowered since the first submittal of this plan

COPY TO _____

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 14, 1985

Mr. Elvidio Diniz
Resource Technology Inc.
2620 San Mateo NE, #B
Albuquerque, NM 87110

RE: DRAINAGE & GRADING PLAN FOR EARL SCHEIB PAINT SHOP (K10-D17)

Dear Mr. Diniz:

A preliminary review of your submittal for building permit approval has shown that the following information is lacking for this section to begin the review process:

Plan Drawing:

1. Erosion Control statement putting contractor on notice that he is responsible for any sediment from the proposed site.
2. Why the slots on the 4" p.v.c. pipe, and if appropriate show detail.

Please provide this information so that we may process your request as expediently as possible.

Cordially,

Bernie J. Montoya
City Design/Hydrology Section

BJM/cl

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Drainage + Grading Plan for Earl Scheib Paint Shop ZONE ATLAS/DRNG. FILE #: K-10(D7)

LEGAL DESCRIPTION: Tract "E" Atrisco Village Albuquerque New Mexico

CITY ADDRESS: unknown

ENGINEERING FIRM: Resource Technology Inc CONTACT: Elvidio Diniz

ADDRESS: 2620 San Mateo NE #B PHONE: 884-0020

OWNER: Earl Scheib CONTACT: same

ADDRESS: 8602 Central Ave SE PHONE: 265-7784

ARCHITECT: Del Paul Jack CONTACT: same

ADDRESS: 400 San Felipe NW PHONE: 242-4591

SURVEYOR: Resource Technology Inc. CONTACT: —

ADDRESS: same as above PHONE: —

CONTRACTOR: Duncan and Assoc. CONTACT: Tom Duncan

ADDRESS: 1201 Eubank Blvd NE PHONE: 293-3861

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OCT 10 1985
HYDROLOGY SECTION

PRE-DESIGN MEETING:

✓ YES

___ NO

✓ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 84-472 7/3/84

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

✓ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

✓ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

✓ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 10 October 1985

BY: Elvidio Diniz

MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: K10 DATE: 9-4-85
PLANNING DIVISION NOS: EPC: _____ DRB: _____
SUBJECT: Earl Scheib Paint Shop
STREET ADDRESS (IF KNOWN): intersection of N Coors and
SUBDIVISION NAME: Central NE corner

APPROVAL REQUESTED:

_____ PRELIMINARY PLAT
_____ SITE DEVELOPMENT PLAN
_____ OTHER
_____ FINAL PLAT
X BUILDING PERMIT
_____ ROUGH GRADING

	WHO	REPRESENTING
ATTENDANCE:	Sheilla Dell	
	Carlos A Montoya	

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HYDROLOGY SECTION

FINDINGS:

(1) Drainage plan per DPM
(2) Site discharge determined by capacity on 65th street. Also if flows continue down central will they impact flooding of between 63 & 60 st. If site flows do not impact flooding downstream then free discharge appears appropriate.
(3) Drainage plan will have plans.
(4) Flow across lot lines will require covenant, lot line removal, or easements.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	Carlos A Montoya	SIGNED:	Sheila K Dell
TITLE:		TITLE:	
DATE:	9-4-85	DATE:	4 Sept 1985

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

Transmittal

RESOURCE TECHNOLOGY, INCORPORATED

From. Elvidio Diniz **884–0059**

2620 San Mateo NE, Suite B

Albuquerque, New Mexico 87110

To: City of Albuquerque

Hydrology

Attn: Roger Green

Re: Earl Scheib Paint Shop

Date: 9 December 1985

Our Project No. _____

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WE ARE SENDING YOU

- ☑ ATTACHED ☐ UNDER SEPARATE COVER VIA
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- ☑ DOCUMENTS ☐ COPY OF LETTER
- ☐ SPECIFICATIONS ☐ _____

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DEC 10 1985
HYDROLOGY SECTION

COPIES	DATE	ITEM
1 set	9 Dec.	Calculations showing pond evaporation per your request

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DEC 10 1985
HYDROLOGY SECTION

REMARKS _____

COPY TO _____

Proceedure

SEE PROFILE P. 8

1- Assume Q = .5 cfs
+ Calculate pressure at pipe entrance
2- Assume new Q = .2cfs
+ Calculate pressure at pipe entrance
3- Draw curve based on above + determine Q at current pond depth- 1.66 ft.
- Q = .3 cfs
4- Calculate pressure at .3 cfs - result- pressure = 1.57 ~~cfs~~ ft Assume 1.66 ft pressure is flowing at .3cfs
5- Calculate time based on #4 above
See page 7
Result - time = 11.3 hrs

depth = .6'

Assume $Q = 0.5$ cfs

$$V = \frac{0.5\ ft^3/sec}{\pi(0.17^2)} = \frac{0.5}{0.091} = 5.49$$

18 / 13 = 1.36

TAN $\theta = \frac{.36}{18}$

DETERMINE f, the resistance coefficient

ASSUME WATER TEMP. = 50°F

$$RE = \frac{VD}{\nu} = \frac{5.49(0.33)}{1.41 \times 10^{-5}} = 1.28 \times 10^5$$

see table - p227 PVC Handbook

$$\text{RELATIVE ROUGHNESS} = \frac{e}{D} = \frac{0.000005}{0.33}$$

$$= 0.0000152$$

$$f = 0.0166$$

1. FIND H.G.L. AT 1ST BEND.

DATA:

$L = 18$ ft
INVERT SLOPE 2%
DEFLECTION ANGLE = 1°
FLOWLINE INVERT =
100-yr. FLOWLINE DEPTH = 0.6 ft
SECTION 1 = 1ST BEND
SECTION 2 = FLOWLINE

$$\frac{V_1^2}{2g} + \frac{P_1}{\gamma} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{exit}$$

$$h_f = 0.0166\left(\frac{18}{0.33}\right)\frac{5.49^2}{2(32.2)} = 0.42$$

$$h_b = 0.2\sqrt{\frac{1}{90}}\left(\frac{5.49^2}{2(32.2)}\right) = 0.01$$

$$h_e = 0.1\left(\frac{5.49^2}{2(32.2)}\right) = 0.01$$

$$\frac{P_1}{\gamma} = \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{exit} - Z_1$$

$$\frac{P_1}{\gamma} = 0.6 + 0 + 0.42 + 0.01 + 0.01 - 0.36$$

$$\frac{P_1}{\gamma} = 0.68$$

H.G.L. AT 1ST BEND =

$$H.G.L. = \frac{P_1}{\gamma} + Z_1 = 0.68 + 0.36 = 1.04 \text{ ft}$$

2. FIND H.G.L. AT ENTRANCE OF THE PIPE

DATA:

L = 113 ft.
INVERT SLOPE = 0.27 %
DEFLECTION ANGLE = 90°
INVERT AT 1ST BEND = 86.91
INVERT AT 2ND BEND = 87.21
SECTION 1 ENTRANCE OF PIPE
SECTION 2 = 1ST BEND

$$\frac{V_1^2}{2g} + \frac{P_1}{\gamma} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_A + h_b + h_{ent}$$

$$\frac{P_1}{\gamma} = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_A + h_b + h_e - \frac{V_1^2}{2g} - Z_1$$

$$h_f = .0116\left(\frac{113}{0.731}\right)\left(\frac{5.49^2}{2(32.2)}\right) = 2.66$$

$$h_b = 0.2\sqrt{\frac{90}{90}}\left(\frac{5.49^2}{2(32.2)}\right) = 0.09$$

$$h_{ent} = 0.3\left(\frac{5.49^2}{2(32.2)}\right) = 0.14$$

$$\frac{P_1}{\gamma} = \frac{5.49^2}{2(32.2)} + 0.68 + 0 + 2.66 + 0.09 + 0.14 - 0 - 0.3$$

$$\frac{P_1}{\gamma} = 3.7$$

$$HGL = \frac{P_1}{\gamma} + Z_1 = 3.7 + .3 = 4'$$

Assume Q = .2 cfs

$V = \frac{Q}{A} = \frac{.2}{.1(1.4)} = 2.34$

Determine the resistance coefficient C

Assume water temp = 50° F

$RE = \frac{VD}{\nu} = \frac{2.34(.33)}{1.41 \times 10^{-5}} = 5476.6$ or $.54766 \times 10^4$

ν ← Kinematic Viscosity – from table

relative roughness = $\frac{e}{D} = \frac{.000005}{.33} = 0.000015$ — see page 223 PVC Handbook

$f = 0.0175$ from Moody Diagram – Friction factor

1. HGL @ 1st bend

L = 18'
Slope = 2%
Δ = 1°
Flowline invert = 0
100 yr Flowline depth = .6ft (in curb during 100 yr storm per IDNR)
Station 1 = 1st bend
Station 2 = back of curb at flowline

$\frac{V_1^2}{2g} + \frac{P_1}{\gamma} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{exit} - h_{ent}$ (friction loss in pipe)

$h_f = .0175\left(\frac{18}{.33}\right)\frac{2.34^2}{2(32.2)} = .081$

$h_b = f\frac{L}{D} + \frac{V^2}{2g}$

$h_b = 0.2\sqrt{\frac{1}{90}}\left(\frac{2.34^2}{2(32.2)}\right) = .00179$

$h_c = .1\left(\frac{2.34^2}{2(32.2)}\right) = .0085$

$\frac{P_1}{\gamma} = \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{exit} - Z_1$ — exit loss at end of pipe = $\frac{V^2}{2g}$

$\frac{P_1}{\gamma} = .6 + 0 + .081 + .00179 + .0085 - 0.43$

$\frac{P_1}{\gamma} = .261$ HGL @ 1st bend = $\frac{P_1}{\gamma} + Z_1 = .261 + .43 = .691$

2 - HGL at entrance of pipe

DATA: L = 113 ft
slope = .27%
Δ = 90°
invert at 1st bend = 86.91
" " 2nd bend = 87.21
section 1 = entrance of pipe
section 2 = 1st bend

$$\frac{V_1^2}{2g} + \frac{P_1}{\gamma} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{ent.}$$

$$h_f = .0175\left(\frac{113}{.33}\right)\left(\frac{2.34^2}{2(32.2)}\right) = .509$$

$$h_b = .2\sqrt{\frac{90}{90}}\left(\frac{2.34^2}{2(32.2)}\right) = .017$$

$$h_{ent.} = .3\left(\frac{2.34^2}{2(32.2)}\right) = .025$$

$$\frac{P_1}{\gamma} = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{ent.} - \frac{V_1^2}{2g} - Z_1$$

$$\frac{P_1}{\gamma} = \frac{2.34^2}{2(32.2)} + .261 + 0 + .509 + .017 + .025 - 0 - 0.3 = .60$$

$$HGL = \frac{P_1}{\gamma} + Z_1 = .6 + .3 = .9$$

Coors - Central | - Pond Evacuation Calculations - | Sheila

Assume Q = .3cfs — 4" ϕ PVC pipe

Vel = $\frac{Q}{A} = \frac{.3}{\pi(.166)} = 3.51$ ft/sec

Determine f - friction factor - from Moody Diagram (see PVC Handbook p. 226)

- Reynolds no. $R_e = \frac{VD}{\nu}$ $\frac{3.51(.33)}{1.41 \times 10^{-5}} = .8215 \times 10^5$

  Assume water temp = 50° F

  ← Kinematic Viscosity of water. Look up on table. Based on water Temp.

Relative Roughness = $\frac{e}{D}$

e = .000005 (PVC Handbook p. 223) $\frac{e}{D} = .0000152$

D = .33

f = .0169 - read from Moody Diagram

① Find H.G.L. at 1st Bend

DATA: L = 18'
inv. slope = 2%
deflection angle = 1°
flowline invert = 86.48
100 yr flowline depth = .6'
section 1 = 1st bend } see drawing
section 2 = flowline }

$\frac{V_1^2}{2g} + \frac{P_1}{\gamma} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{exit}$ (friction, bend)

Cancel - assume Vel. are equal in both sec. of pipe ∴ variables would be the same

$h_f = .0169\left(\frac{18}{.33}\right)\frac{3.51^2}{2(32.2)} = .176$

$h_b = .2\sqrt{\frac{1}{90}}\frac{3.51^2}{2(32.2)} = .04$

$h_{exit} = .1\left(\frac{3.51^2}{2(32.2)}\right) = .019$

$\frac{P_1}{\gamma} = \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{exit} - Z_1$

$\frac{P_1}{\gamma} = .6 + .07 + .176 + .04 + .019 - .43$

$\frac{P_1}{\gamma} = .475$

H.G.L At 1st Bend = $\frac{P_1}{\gamma} + Z_1 = .475 + .43 = .905$

② Pressure at entrance of the pipe

DATA: L = 113 ft
invert slope = .27%
deflection angle = 90°
invert at 1st bend 86.91
invert at 2nd bend 86.21
Sec 1 = entrance of pipe - 90° bend
Sec 2 = 1st bend

$$\frac{V_1^2}{2g} + \frac{P_1}{\gamma} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{ent}$$

$$h_f = .0169 \frac{113}{.33}\left(\frac{3.57^2}{2(32.2)}\right) = 1.107$$

$$h_b = .2\sqrt{\frac{90}{90}}\left(\frac{3.57^2}{2(32.2)}\right) = .038$$

$$h_{ent} = .3\left(\frac{3.51^2}{2(32.2)}\right) = .057$$

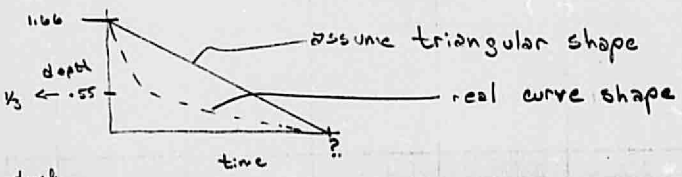
$$\frac{P_1}{\gamma} = \frac{V_2^2}{2g} + \frac{P_2}{\gamma} + Z_2 + h_f + h_b + h_{ent} - \frac{V_1^2}{2g} - Z_1$$

$$\frac{P_1}{\gamma} = \frac{3.51^2}{2(32.2)} + .475 + 0 + 1.107 + .038 + .057 - 0 - .3$$

$$\frac{P_1}{\gamma} = 1.57$$

Assume 1.66 (depth of water in pond) is flowing at .3 cfs max outflow

Assume a triangular shape outflow - need to find time for pond to empty



depth
1.66 - Q = .3
.6 - Q = .2
.0 - Q = 0
} draw a curve to represent this

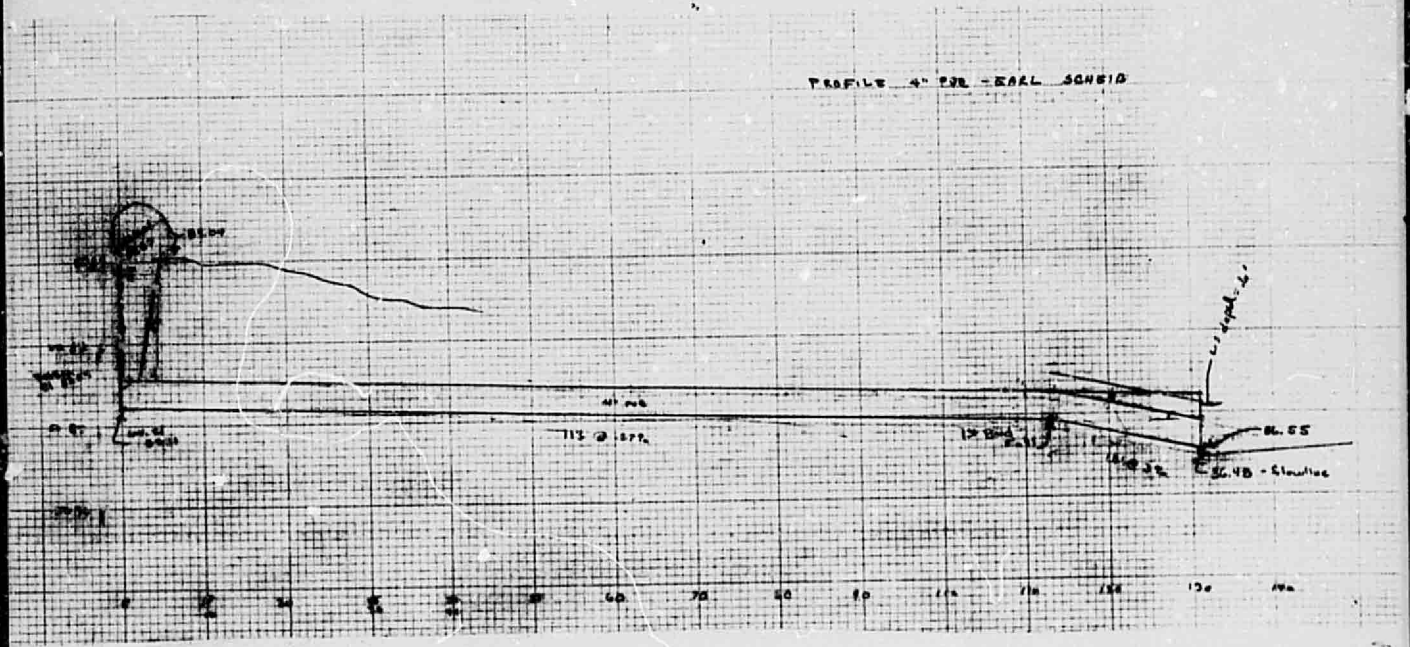
+ depth of .55, Q = .17

Since 1/3 of hight on triangle is the centroid + this represents the operation on all of the triangle, Assume Q = .17 for the whole depth to determine time for pond to empty

This is a conservative approach since the actual curve this would form, would have a shorter time.

$$\frac{6922 \text{ cu. feet}}{.17 \text{ cu. feet/sec.}} = 40,718 \text{ sec.} =$$

11.3 hrs. ✓



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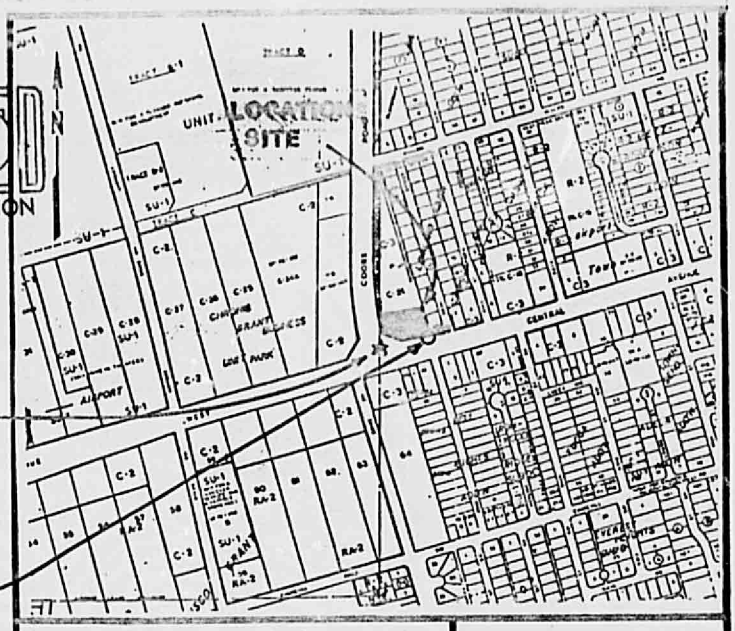


BENCH MARK
N.M 448-NIA
BRASS CAP 7/10'
SOUTH OF MEDIAN
NOSE
MSL. ELEV= 5091.891

PROJECT LOCATION

VICINITY MAP | **NO SCALE**

OWNER: EARL SCHEIB
8602 CENTRAL AVE. S.E.
ALBUQUERQUE, N.M.

LEGEL DESCRIPTION
TRACT "E" ATRISCO VILLAGE SUBD.
CITY OF ALBUQUERQUE
BERNALILLO COUNTY
NEW MEXICO

NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
10 DEC 11 1985

MADRID CONSTRUCTION

11/13/85

K10-D17 E-132

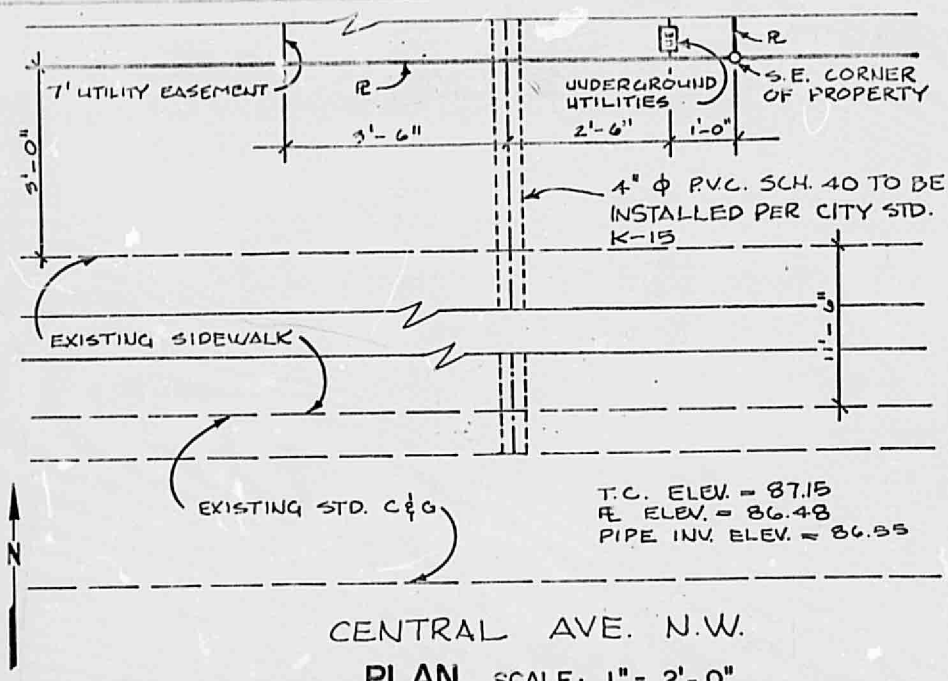
DRAIN LINE THROUGH CURB
FOR EARL SCHEIB PAINT SHOP
100 COORS N.W.
ALBUQUERQUE, N.M.

26591

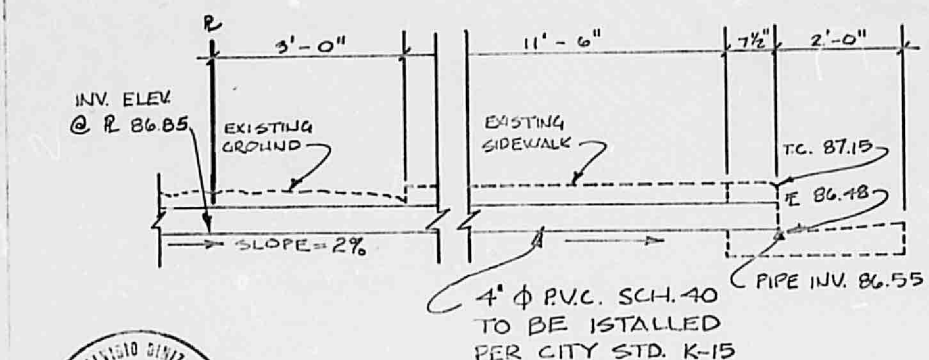
K-10

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



PLAN SCALE: 1" = 2'-0"



ELVISIO DINIZ NEW MEXICO 7111 REGISTERED PROFESSIONAL ENGINEER

11/13/85

MADRID CONSTRUCTION

PROFILE SCALE: 1" = 2'-0"

E-132

DRAIN LINE THROUGH CURB FOR EARL SCHEIB PAINT SHOP 100 COORS N.W. ALBUQUERQUE, N.M.

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