



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 28, 1994

Joe P. Kelley
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

RE: ENGINEER CERTIFICATION FOR MCDONALD'S @ WYOMING & HARPER
(E19-D27B) CERTIFICATION STATEMENT DATED 11/10/94.

Dear Mr. Kelley:

Based on the information provided on your November 14, 1994 submittal,
Engineer Certification for the above referenced site is acceptable.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/d1/WPHYD/8022

c: Andrew Garcia
File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 24, 1995

CERTIFICATE OF COMPLETION AND ACCEPTANCE

McDonald's Corporation
One McDonald's Plaza
Oak Brook, IL 60521

RE: PROJECT NO. 4884.80 MCDONALD'S - HARPER/WYOMING
MAP (E-19)

Dear Sir:

This is to certify that the City of Albuquerque accepts Project No.4884.80 as being completed according to approved plans and construction specifications. Please be advised this certificate of completion and acceptance shall only become effective upon final plat approval and filing in the office of the Bernalillo County Clerk's Office.

The project is described as follows:

- Installed one 1 1/2" water service and one firehydrant for the McDonalds restaurant located at the northeast corner of Wyoming and Harper.
- Also constructed a deceleration/turn lane to the first entrance on the east side of Wyoming north of Harper.

The contractor's correction period begins the date of this letter and will be effective for a period of one (1) year.

Sincerely,

Rick Roybal, P.E.
City Engineer,
Engineering Group
Public Works Department

Sincerely,

Russell B. Givler, P.E.
Chief Construction Engineer,
Engineering Group
Public Works Department



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 1, 1994

Joe Kelley
Chavez-Grievess Engineering
5639 Jefferson NE
Albuquerque, NM 87109

RE: REVISED CONCEPTUAL DRAINAGE PLAN FOR MCDONALD'S 2 WYOMING &
HARPER NE (E19-D27B) REVISION DATED 2/22/94.

Dear Mr. Kelley:

Based on the information provided on your March 1, 1994 resubmittal, the above referenced site is approved for Site Plan.

Please be advised that prior to Building Permit release, items listed on my October 1, 1993 letter to you will still apply.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/d1/WPHYD/8022

c: Andrew Garcia
<File>



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 11, 1994

Joe Kelley
Chavez-Grievess Engineering
5639 Jefferson NE
Albuquerque, NM 87109

RE: REVISED CONCEPTUAL DRAINAGE PLAN FOR MCDONALD'S @ WYOMING
& HARPER NE (E19-D27B) REVISION DATED 2/9/94.

Dear Mr. Kelley:

Based on the information provided on your February 10, 1994 resubmittal, the above referenced site is approved for Site Plan.

Please be advised that prior to building permit release, items listed on my October 1, 1993 letter to you will still apply.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/d1/WPHYD/8022

c: Inspector
File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 21, 1994

Joe Kelley
Chavez-Grieves
5639 Jefferson St. NE
Albuquerque, NM 87109

RE: REVISED DRAINAGE PLAN FOR MCDONALD'S @ HARPER/WYOMING (E19-D27B)
ENGINEER'S STAMP DATED 6/17/94.

Dear Mr. Kelley:

Based on the information provided on your June 17, 1994 submittal, the above referenced site is approved for Building, Foundation, Grading/Paving and Work Order Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, prior to Certificate of Occupancy release, the following must be addressed:

1. Engineer Certification per the D.P.M. checklist.
2. Copy of letter of acceptance for W.O. 4845.90.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya
Bernie J. Montoya, CE
Engineering Associate

BJM/d1/WPHYD/8022

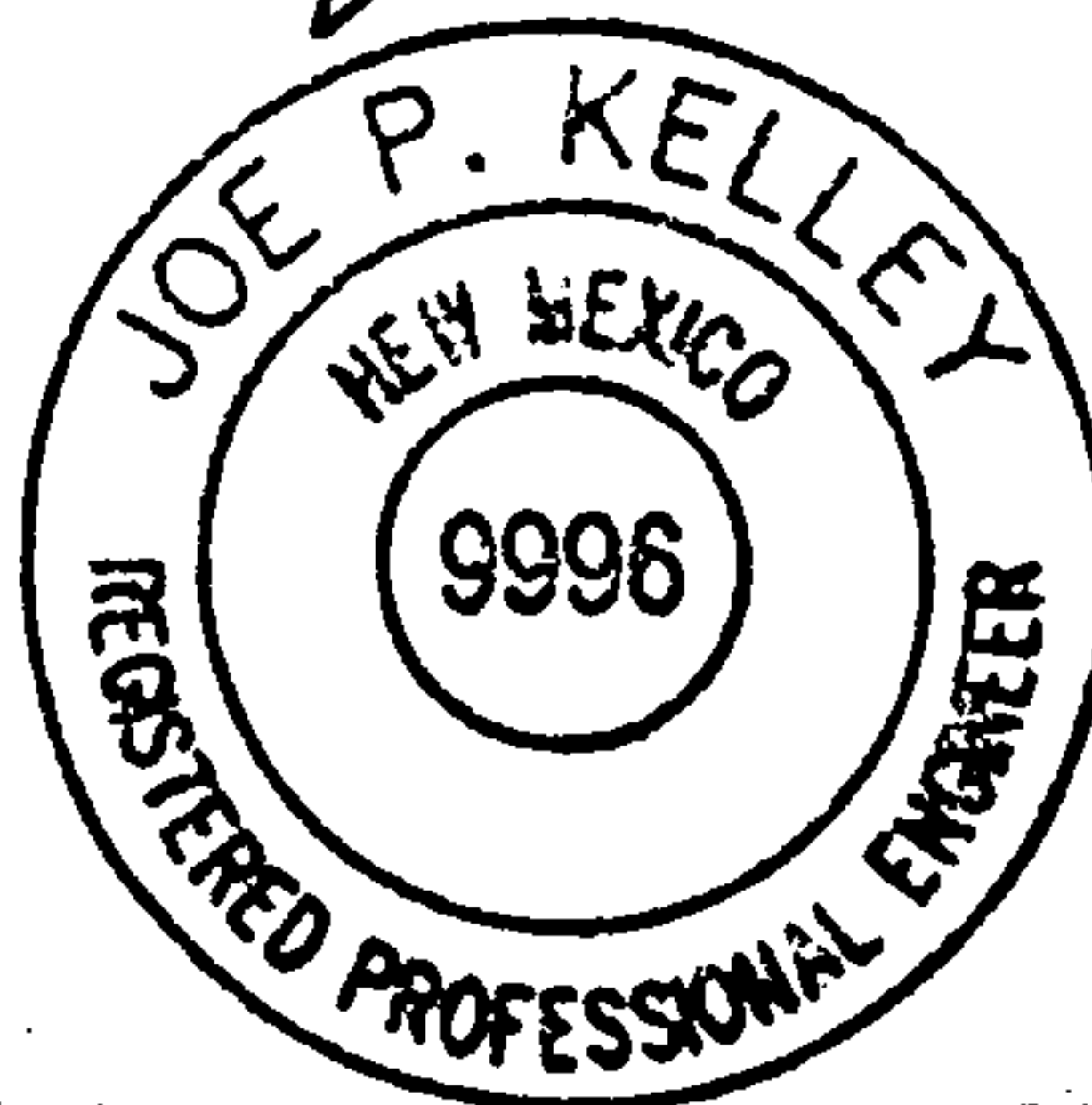
c: Andrew Garcia
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GRADING AND DRAINAGE PLAN
McDONALD'S RESTAURANT
WYOMING BLVD & HARPER RD

FEBRUARY 9, 1994

**I CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER
IN THE STATE OF NEW MEXICO AND THAT THIS REPORT WAS
PREPARED BY ME OR UNDER MY SUPERVISION.**

Joe P. Kelley Feb 9, 1994



GRADING AND DRAINAGE PLAN

LOCATION

This site is located at the northeast corner of the intersection of Harper Road, NE and Wyoming Blvd., NE.

LEGAL DESCRIPTION

Lot 1, Tract C-1-A, Cherry Hills Unit 1.

ZONING AND SURROUNDING DEVELOPMENT

The tract is zoned SU-1 for C-1, Neighborhood Commercial Zone. The site is to be developed as a McDonald's restaurant, which conforms to the C-1 requirements. The land to the north of the site is zoned SU-1 for C-1, and has been developed as the Del Norte Shopping Center. The land to the east is also zoned SU-1 for C-1. A site development plan for a new Walgreen's drug store has been approved for that site, but the land is presently vacant.

FLOOD HAZARD ZONES

As shown by panel 3500020017 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, dated October 14, 1983, the site is in a designated flood hazard zone: Zone C, areas of minimal flooding.

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

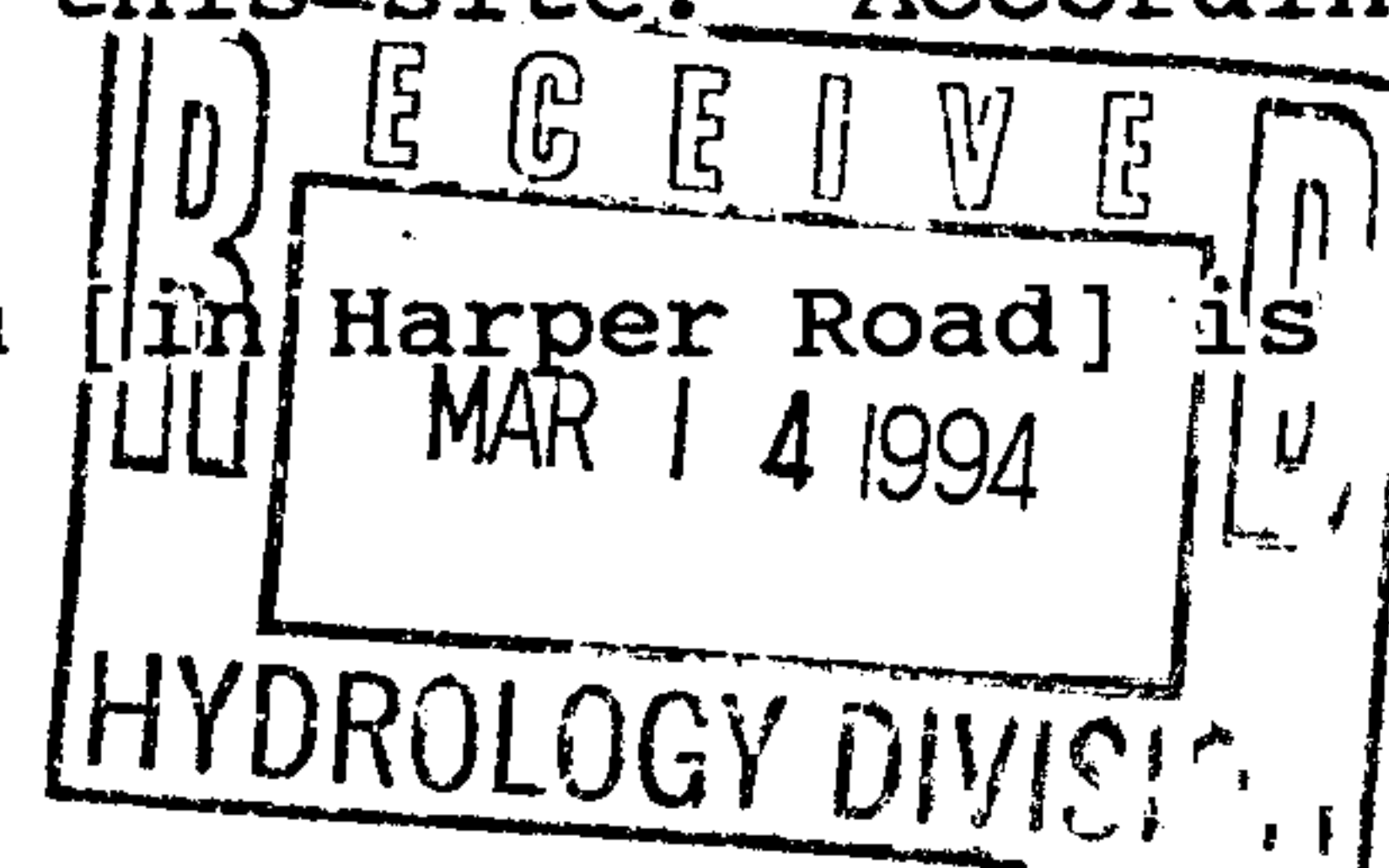
The site is presently undeveloped and slopes from the northeast down to the southwest at about 2%. The ground is vegetated with native grasses. Off-site runoff discharges across the site from the east via sheet flow.

RELATED REPORTS

Two prior drainage reports have been submitted to the City of Albuquerque regarding this site. The first was done by Wilson and Company in February, 1984 for S.A.D. 210. This report identified the drainage parameters for the area.

A subsequent report (E19/D27) by Bordenave Designs in March 1993 identified the specific requirements for this site. According to this report,

The existing [storm drainage] system is adequate provided that:



- A) at least 3.5% of the total site areas is landscaped (5.5% if southwest landscaping is used). . . .
- B) no discharge is allowed from Lot 1 to Wyoming Blvd., and
- C) Lot 1 runoff must be discharged directly into the storm drain system.

The runoff from Lot 1 as calculated in the Bordenave report is:

$$Q_{100} = 4.4 \text{ CFS}$$

$$Q_{10} = 1.4 \text{ CFS.}$$

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

The majority of the site will be covered by impervious roof and pavement surfaces. 23% of the site will be landscaped. Developed runoff will be routed through an on-site detention pond in the landscaped area. A new drop inlet will be constructed in the bottom of the pond, and will be connected into the back of an existing Type "C" inlet on Harper Road. This drainage pattern is in accordance with the Bordenave report. The developed runoff has been calculated at 4.15 CFS, which is less than the 4.4 CFS allowed to discharge into the storm drain per the Bordenave report. Nevertheless, the peak discharge will be attenuated by the new detention pond, resulting in a peak flow of 2.54 CFS.

CONCLUSION

As can be seen from the attached calculations, the 2.54 CFS controlled discharge from the pond is less than the 4.4 CFS discharge rate allowed from this site. No runoff will discharge from the site into Wyoming. A small portion of landscaped frontage on Harper will discharge into the street, where runoff will immediately enter the existing storm drain inlets on Harper. This drainage pattern is in accordance with prior approved reports.

Job MCDONALD'S - HARPER
Subject HYDRAULICS
Client _____

Sheet No. 1 of 2
Job. No. _____
By JPK Date 2/8/94



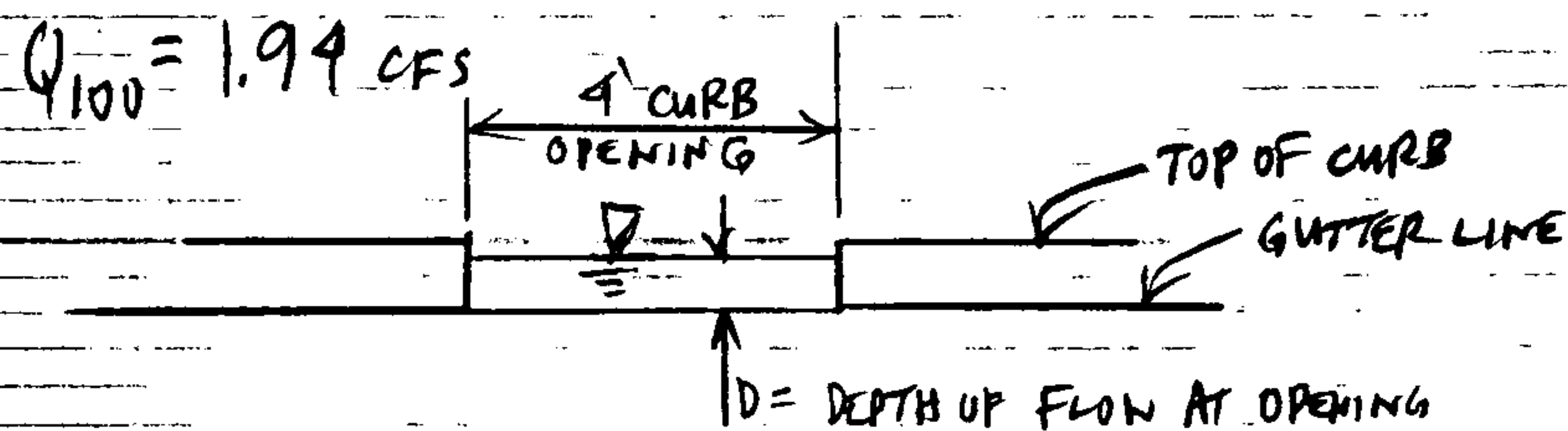
CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

DETERMINE ADEQUACY OF 4' CURB OPENINGS INTO DETENTION POND:

1) BASIN A

$$Q_{100} = 1.94 \text{ cfs}$$



USE THE WEIR EQUATION TO ANALYZE:

$$Q = 3.3 L D^{3/2}$$

$$1.94 = 3.3 (4) D^{3/2} \rightarrow D = 0.28'$$

DETERMINE VELOCITY OF WATER OVER THE COBBLES AT THAT POINT:

$$V = Q/A = 1.94 \text{ cfs} / (0.28' \times 4') = 1.73 \text{ FPS}$$

THIS IS LESS THAN 3 FPS, WHICH IS THE MAXIMUM VELOCITY ALLOWED FOR UNIMPROVED CHANNELS. THEREFORE, IT SHOULD PRESENT NO PROBLEM ON LANDSCAPE COBBLES.

2) BASIN B

$$Q = 1.85 \text{ cfs}$$

SAME PICTURE

$$1.85 = 3.3 (4) D^{3/2} \rightarrow D = 0.27'$$

$$V = Q/A = 1.85 / (0.27' \times 4') = 1.71 \text{ FPS} < 3 \text{ FPS} \checkmark$$

Job _____
 Subject _____
 Client _____

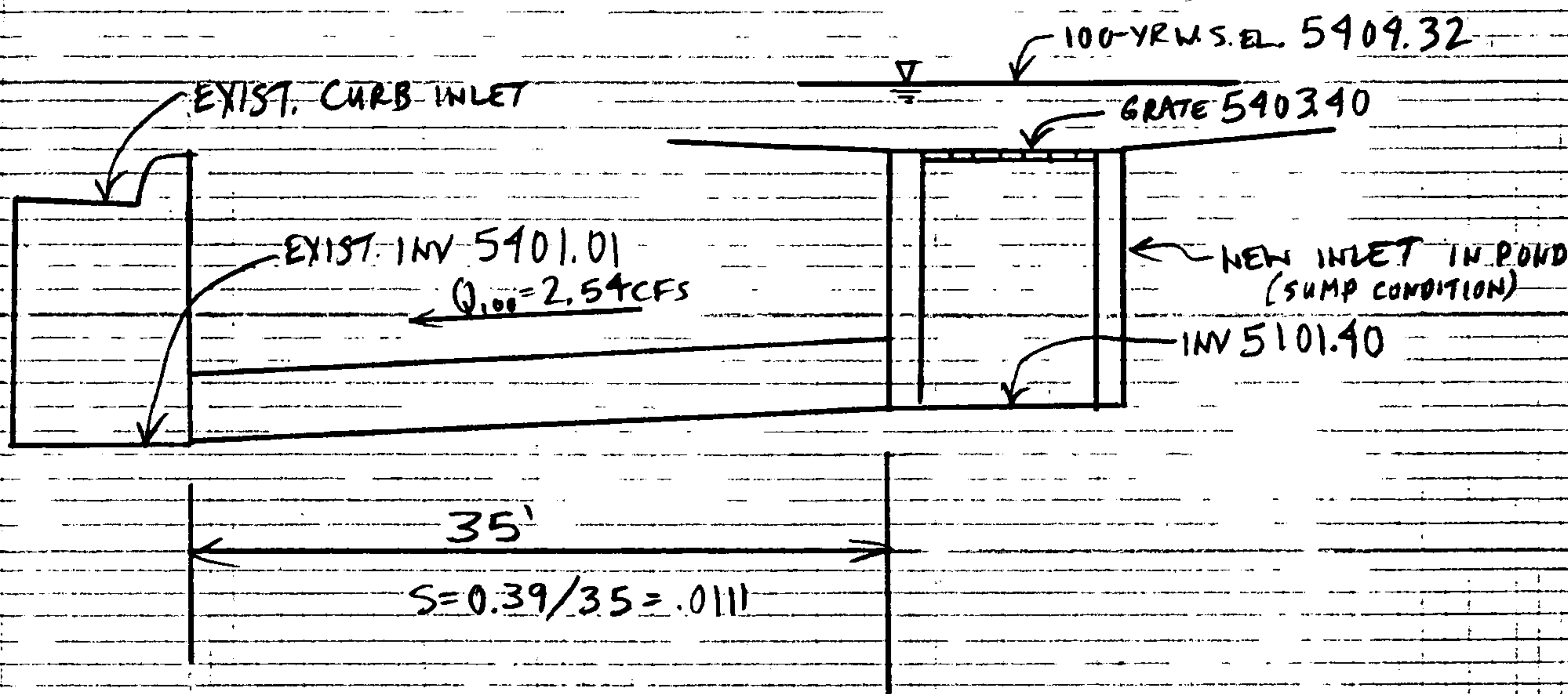
Sheet No. 2 of 2
 Job. No. _____
 By _____ Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

DESIGN NEW DROP INLET



1. USE A 12" CONNECTOR PIPE FOR MAINTENANCE PURPOSES:

MANNING'S EQU:

$$Q_{CAP} = \frac{1.486}{n} A R^{2/3} S^{1/2} = \frac{1.486}{n} \left(\frac{A^{1.67}}{P^{0.67}} \right) S^{1/2}$$

$$Q_{CAP} = \frac{1.486}{.013} \frac{[\pi (0.5')^2]^{1.67}}{(2\pi 0.5')^{0.67}} (.0111)^{1/2}$$

$$Q_{CAP} = 3.74 \text{ cfs} > 2.54 \checkmark$$

2. USE THE ORIFICE EQUATION ON THE GRATE TO DETERMINE THE REQUIRED OPEN AREA. THE HEAD ON THE GRATE WILL BE:
 $4.32 - 3.40 = 0.92'$

$$Q = 0.6 A \sqrt{2gh} \times C.F. \quad \text{USE A 30\% CLOGGING FACTOR}$$

$$2.54 = 0.6 A \sqrt{2(32.2)0.92}$$

$$\rightarrow A_{REQ'D} = 0.55 \text{ S.F.}$$

CHOOSE NEENAH GRATE R-3203-A. OPEN AREA = 1.0 S.F.

THIS ALLOWS FOR A CLOGGING FACTOR OF:

$$(1.0 - 0.55) / 1.0 = 0.45 \Rightarrow 45\%$$