PUBLIC WORKS/HYDROLOGY

C22/D20

0000 0000 2015

C22/D20

25×10 32×10

0000 0000 2016

BOARD OF COUNTY COMMISSIONERS
PATRICK J. BACA, CHAIRMAN
DISTRICT 1
JACQUELYN SCHAEFER, VICE CHAIR
DISTRICT 5
ALBERT "AL" VALDEZ, MEMBER
DISTRICT 2
EUGENE M. GILBERT, MEMBER
DISTRICT 3
PATRICIA "PAT" CASSIDY, MEMBER
DISTRICT 4
JUAN R. VIGIL, COUNTY MANAGER

County of Bernalillo

State of New Mexico

ONE CIVIC PLAZA, N.W.
ALBUQUERQUE, NEW MEXICO 87102
ADMINISTRATION (505) 768-4000
COMMISSION (505) 768-4217
FAX (505) 768-4329

RAY GALLAGHER, SHERIFF
PATRICK J. PADILLA, TREASURER
GLADYS M. DAVIS, CLERK
MARK J. CARRILLO, ASSESSOR
THOMAS J. MESCALL, PROBATE JUDGE

June 18, 1992

Mark Goodwin
D. Mark Goodwin & Associates
Post Office Box 90606
Albuquerque, New Mexico 87199

RE: ENGINEER'S CERTIFICATION FOR PRINCE OF PEACE CHURCH (C-22/D20) ENGINEER'S CERTIFICATION STATEMENT DATED JUNE 1, 1992

Dear Mr. Goodwin:

Based on the information provided on your submittal of June 1, 1992, Engineer's Certification for the referenced site is acceptable.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

xc: Bob Foglesong
Cliff Anderson
Tom Burlison

BJM/bsj
(WP+2940)

25×10 32×10

00.00 0000 2017

KLINGER
KLINGER CONSTRUCTORS INC

RECEIVED
JUN 2 1992
HYDROLOGY DIVISION

Mr. Gilbert Aldaz
County Flood Plain Administrator
P.O. Box 1293
Albuquerque, New Mexico 87102

Re: Prince of Peace Catholic Church
12500 Carmel
Albuquerque, New Mexico

Dear Mr. Aldaz:

We request a 30 day extension to the Temporary Certificate of Occupancy for the above reference project. We are working with Goodman and Associates to remedy deficiencies in the drainage structures incorporated into the project. We anticipate the work to be completed and certified by June 12, 1992. We will notify you upon its completion.

Thank you for your cooperation.

Sincerely,
KLINGER CONSTRUCTORS, INC.

Steven C. Collins
Project Manager

cc: Mark Goodman, Goodman and Associates

8701 Washington NE • 87113
P.O. Box 90850 • 87199
(505) 822-9990 • FAX (505) 821-0439
Albuquerque, New Mexico
NM License No. 20545

25×10 32×10

0000 0000 2018

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Prince of Peace Church ZONE ATLAS/DRNG. FILE #: C-22/D20

LEGAL DESCRIPTION: Lots 1-4, 31-32, Block 17, Tract 2, Unit 1, NAA

CITY ADDRESS: Tennyson & Hollywood

ENGINEERING FIRM: D. Mark Goodwin & Associates CONTACT: Mark Goodwin

ADDRESS: PO Box 90606 87199 PHONE: 828-2200

OWNER: Archdiocese of Santa Fe CONTACT: Don Kawal

ADDRESS: 8701 Washington NE PHONE: 822-9990

ARCHITECT: SLNB CONTACT: Jean Nelson

ADDRESS: 1620 Central SE PHONE: 247-1529

SURVEYOR: D. Mark Goodwin & Associates CONTACT: Richard Borgel

ADDRESS: PO Box 90606 PHONE: 828-2200

CONTRACTOR: Klinger Constructors CONTACT: Steve Collins

ADDRESS: 8701 Washington NE PHONE: 822-9990

PRE-DESIGN MEETING

X 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

X 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

X CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER ___ SPECIFY

RECEIVED JUN 1 1992 HYDROLOGY DIVISION

DATE SUBMITTED: ___

BY: Mark Goodwin

Mark Goodwin, P.E.

25×10 32×10

0000/0000 2019

BOARD OF COUNTY COMMISSIONERS
PATRICK J. BACA, CHAIRMAN
DISTRICT 1
PATRICIA "PAT" CASSIDY, VICE CHAIR
DISTRICT 4
ALBERT "AL" VALDEZ, MEMBER
DISTRICT 2
EUGENE M. GILBERT, MEMBER
DISTRICT 3
JACQUELYN SCHAEFER, MEMBER
DISTRICT 5
ALEX ABEYTA, JR., COUNTY MANAGER

County of Bernalillo

State of New Mexico

ONE CIVIC PLAZA N.W.
ALBUQUERQUE, NEW MEXICO 87102

RAY GALLAGHER, SHERIFF
PATRICK J. PADILLA, TREASURER
GLADYS M. DAVIS, CLERK
MARK J. CARRILLO, ASSESSOR
THOMAS J. MESCALL, PROBATE JUDGE

October 24, 1991

Zane M. Goodwin, P.E.
D. Mark Goodwin & Associates
Post Office Box 90606
Albuquerque, New Mexico 87199

RE: REVISED DRAINAGE PLAN FOR PRINCE OF PEACE CHURCH
(C-22/D20) REVISION DATED OCTOBER 18, 1991

Dear Mr. Goodwin:

Based on the information provided on your resubmittal of October 18, 1991, the above referenced plan is approved for Building Permit.

Please be advised that prior to Certificate of Occupancy release, Engineer's Certification per the DPM Certification Checklist will be required.

The above approval does not include AMAFCA's approval, therefore, please secure signature approval on the original mylar prior to Building Permit release.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

xc: Cliff Anderson, AMAFCA
Bob Foglesong, Bernalillo County

BJM/bsj
(WP+2940)

25×10 32×10

0000 0000 2020

dmg D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200

OCT 18 1991

October 18, 1991

Mr. Bernie J. Montoya, Engineering Assistant
City of Albuquerque, Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

RE: Revised Drainage Plan for Prince of Peace Church (C22-D20)

Dear Mr. Montoya:

I have read and studied the review comments which you gave me in draft form in your office on October 17. The comments are reasonable, professional, and most helpful. I am appreciative of the efforts of you and Mr. Fogelsong in reviewing our project in such an expeditious manner. I have revised the design as required to incorporate your comments as indicated below. Comment numbers below refer to your comment numbers:

Cmt 1: Your analysis of the hydraulic conditions at the entrance to the new storm drainage is correct, and I have revised the HGL as required. While we undoubtedly have inlet control at the entrance to the system as you indicated, once inside the new storm drain the flow will quickly revert to open channel flow with the HGL within the 24" CMP. The profile has been changed to indicate this condition.

Cmt 2: Both the RCP and the new CMP will have end sections as indicated on the drawings. It was my intention that these sections not be physically joined, but would be laid so that these end sections would abut each other as shown on the drawings. The rebar cage would be placed as shown and would serve only to keep major floating debris and small children from entering the storm drain. This arrangement would allow drainage from the area between the new parking lot and Tennyson St. NE to enter the storm drain system without having to add a drop inlet and manhole at that point.

Cmt 3: With the addition of a suitable note to the drawings, I am leaving the option to the contractor on providing a suitable method for bolting the rebar cage to the 24" CMP in such a way that it will not be readily removable by small children, but will be removable by the owner for the performance of maintenance.

Cmt 4: The grading plan has been changed to eliminate grading on adjacent property.

Cmt 5: The 100 year water surface will reach the invert of the emergency spillway (elev 6018). This elevation has been added to the section through the pond.

Cmt 6: The streets have been labeled as requested. You will note that the street immediately West of the church property is unnamed.

25×10 32×10

0000 0000 2021

I have redone the DRAINAGE INFORMATION SHEET and it is enclosed, along with three copies of the revised drawings. I am also sending copies of this letter and the drawings to Messrs. Fogelsong and Anderson to expedite approval of the grading and drainage plan. Final approval is needed as soon as practicable. Your assistance is appreciated.

Sincerely,

D. MARK GOODWIN AND ASSOCIATES, P.A.

Zane M. Goodwin

Zane M. Goodwin, PE/PS

ZMG:kmj

encls

cc: Mr. Fogelsong
Mr. Anderson

25×10 32×10

0000 0000/2022

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Prince of Peace Church ZONE ATLAS/DRNG. FILE #: C-22/D20

LEGAL DESCRIPTION: Lots 1, 2, 3, 4, 31, & 32, Block 17, Tract 2, Unit 1, North Albuquerque Acres

CITY ADDRESS: Tennyson & Hollywood

ENGINEERING FIRM: D. Mark Goodwin & Assoc, P.A. CONTACT: Zane Goodwin, PE/PS

ADDRESS: PO Box 90606 87199 PHONE: 828-2200

OWNER: Archdiocese of Santa Fe CONTACT: Don Kawal

ADDRESS: 8701 Washington NE, Albq. 87113 PHONE: 822-9990

ARCHITECT: SLNB, Inc. CONTACT: Jean Nelson

ADDRESS: 1620 Central SE, Albq. 87106 PHONE: 247-1529

SURVEYOR: Hugg Surveying CONTACT: Gary Hugg

ADDRESS: 4100 Southern, Rio Rancho 87124 PHONE: 892-8800

CONTRACTOR: Klinger Constructors, Inc. CONTACT: Don Kawal

ADDRESS: 8701 Washington NE, Albq. 87113 PHONE: 822-9990

PRE-DESIGN MEETING

X YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___

EPC NO. ___

PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X 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

OCT 18

DATE SUBMITTED: 18 October 1991

BY: Zane M. Goodwin

Zane M. Goodwin, PE/PS

25×10 32×10

0000 0000 2023

BOARD OF COUNTY COMMISSIONERS
PATRICK J. BACA, CHAIRMAN
DISTRICT 1
PATRICIA "PAT" CASSIDY, VICE CHAIR
DISTRICT 4
ALBERT "AL" VALDEZ, MEMBER
DISTRICT 2
EUGENE M. GILBERT, MEMBER
DISTRICT 3
JACQUELYN SCHAEFER, MEMBER
DISTRICT 5
ALEX ABEYTA, JR., COUNTY MANAGER

County of Bernalillo

State of New Mexico

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ALBUQUERQUE, NEW MEXICO 87102

RAY GALLAGHER, SHERIFF
PATRICK J. PADILLA, TREASURER
GLADYS M. DAVIS, CLERK
MARK J. CARRILLO, ASSESSOR
THOMAS J. MESCALL, PROBATE JUDGE

October 18, 1991

Zane M. Goodwin
D. Mark Goodwin & Associates
Post Office Box 90606
Albuquerque, New Mexico 87199

RE: REVISED DRAINAGE PLAN FOR PRINCE OF PEACE CHURCH
(C-20/D20) REVISION DATED OCTOBER 10, 1991

Dear Mr. Goodwin:

Based on the information provided on your resubmittal of October 10, 1991, listed are some concerns that will need to be addressed:

1. I disagree that the HGL at the entrance of the new 24" CMP is within the pipe. Using inlet control, it is about 1.23 feet above. Please verify.

2. How do you propose to connect RCP to CMP, what type of collar do you propose?

3. How will the rebar cage be anchored to the structure?

4. South of the outlet structure, you indicate grading outside the property limits. You must obtain permission from the adjacent property owner or redesign and keep the grading within your clients property.

5. What will the 100 year water surface elevation be within the ponding area?

6. Please label all the streets on your plan drawing.

The above comments do not include AMAFCA's review of this submittal. Please secure AMAFCA's approval on the original mylar prior to your resubmittal. If you should have any questions regarding this review, please call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

25×10 32×10

0000 0000 2024

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Prince of Peace Church ZONE ATLAS/DRNG. FILE #: C-22 /D20

LEGAL DESCRIPTION: Lots 1, 2, 3, 4, 31, & 32, Block 17, Tract 2, Unit 1, North Albuquerque Acres

CITY ADDRESS: Tennyson & Hollywood

ENGINEERING FIRM: D. Mark Goodwin & Assoc, P.A. CONTACT: Zane Goodwin, PE/PS
ADDRESS: PO Box 90606 87199 PHONE: 828-2200

OWNER: Archdiocese of Santa Fe CONTACT: Don Kawal
ADDRESS: 8701 Washington NE, Albq. 87113 PHONE: 822-9990

ARCHITECT: SLNB, Inc. CONTACT: Jean Nelson
ADDRESS: 1620 Central SE, Albq. 87106 PHONE: 247-1529

SURVEYOR: Hugg Surveying CONTACT: Gary Hugg
ADDRESS: 4100 Southern, Rio Rancho 87124 PHONE: 892-8800

CONTRACTOR: Klinger Constructors, Inc. CONTACT: Don Kawal
ADDRESS: 8701 Washington NE, Albq. 87113 PHONE: 822-9990

PRE-DESIGN MEETING

_X_ YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___
EPC NO. ___
PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
_X_ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
_X_ 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

04627 + dm

RECEIVED
SEP 12 1991

DATE SUBMITTED: 10 September, 1991
BY: Zane M. Goodwin
Zane M. Goodwin, PE/PS

25×10 32×10

0000 0000 2025

dmg D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200

OCT 10

October 10, 1991

Mr. Gilbert Aldaz
City/County Flood Plain Administrator
City of Albuquerque, Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: Prince of Peace Church

Dear Mr. Aldaz:

I received the combined review comments from yourself, Mr. Foglesong (Bernalillo County Public Works Department), and Mr. Anderson (Albuquerque Metropolitan Arroyo Flood Control Authority) on October 1, 1991, and have taken action as indicated below. The subparagraph numbers below correspond to the same subparagraph numbers in your letter (dated September 17, 1991):

1. The flood plain limits have been added to the drawings as requested. Action is being taken to make the property owner aware of the implications that exist relative to flood insurance.

2. Offsite flows were quantified by Holmes and Narver as part of the design of the Paseo del Norte/Tramway intersection. By that design, the 100-year flow rate was determined to be 16.9 cfs, and it enters the site through a 24" RCP culvert. As a result of your request, I roughly measured the contributing area and found it to be approximately 7 acres, which includes 0.19 acres of paving on Tennyson Avenue. Using City/County/AMAFCA hydrology criteria, the flows from this area compute to 16.48 cfs. The calculations for this determination are enclosed. Since the enclosed calculations come within 3 percent of Holmes and Narver's results, I have the tendency to use the 16.9 cfs from their design.

3. The storm drain profile has been added to the drawings. The HGL analysis results are shown on the profile. You will note that the storm drain will flow as an open channel during the design storm.

4. The plan view of the inlet has been added to sheet 2. My plan provides a standard end section to the new 24" CMP, to be placed against the standard end section to the existing 24" RCP, and to cover the junction with a fabricated rebar cage to keep out large floating debris, and to discourage small children from placing themselves at risk. Runoff from the immediate area can enter this structure through this junction.

5. In lieu of adding curb and gutter along the new sidewalk, it is proposed to provide a 12" concrete turn-down on the upstream side of the sidewalk to control drainage. This will serve the same purpose as the curb and gutter at a considerable cost saving. The turn down has been detailed on sheet 2 of the drawings.

6. The pond has been moved to a point 15 feet from the new building. Since the water table is several hundred feet down, it is assumed that the phreatic water surface will radiate at a downward angle of 45 degrees from the lower edge of the pond, and would be several feet below the foundation of the building. In addition, the emptying time for the pond from completely full to completely empty

25×10 32×10

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is only 30 minutes, making it doubtful that the pond would ever cause a saturated condition which would threaten the integrity of the foundation of the building.

7. A plan view of the erosion protection for the spillway and 24-inch storm drain has been added to the drawings on sheet 2. Design calculations have been added, and are enclosed, showing how energy dissipation has been provided. You will note that the drain line from the pond has been routed to this same structure, as opposed to draining into a storm drain manhole. The structure has been designed using AMAFCA criteria, as contained in Urban Storm Drainage Criteria Manual, Volume 2.

8. Calculations have been added, and are enclosed, showing sizing of the riprap, and the proper configuration of the structure. The filter fabric has been specified to conform to City of Albuquerque Standard Specification paragraph 603.9.1.

9. The lengths of the concrete rundown and spillway will vary somewhat in the field due to reasonable construction tolerances for the sidewalk, pond grading, and the energy dissipator, making the establishment of precise lengths at this time unnecessary. The scaled lengths for the structures are 20 feet and 72 feet respectively.

10. The maximum slope around the building is 3:1. This has been added to the plan on sheet 1 of the drawings.

11. We have initiated action on the maintenance covenant agreement for the proposed storm drain system.

I have redone the DRAINAGE INFORMATION SHEET and it is enclosed. Three copies of the drawings and one copy of the supplemental calculations are also enclosed. I am taking the liberty of sending a copy of this letter and its enclosures to Messrs. Fogelsong and Anderson in order to expedite your review. Your approval is urgently needed so that we can authorize the contractor to secure a foundation permit and construction can begin.

Sincerely,

D. MARK GOODWIN AND ASSOCIATES, P.A.

Zane M. Goodwin

Zane M. Goodwin, P.E./P.S.

ZMG:kmj

encls

cc: Mr. Foglesong
Mr. Anderson

25× 32×

0000 0000 2027

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Prince of Peace Church ZONE ATLAS/DRNG. FILE #: C-22/D20

LEGAL DESCRIPTION: Lots 1, 2, 3, 4, 31, & 32, Block 17, Tract 2, Unit 1, North Albuquerque Acres

CITY ADDRESS: Tennyson & Hollywood

ENGINEERING FIRM: D. Mark Goodwin & Assoc, P.A. CONTACT: Zane Goodwin, PE/PS
ADDRESS: PO Box 90606 87199 PHONE: 828-2200

OWNER: Archdiocese of Santa Fe CONTACT: Don Kawal
ADDRESS: 8701 Washington NE, Albq. 87113 PHONE: 822-9990

ARCHITECT: SLNB, Inc. CONTACT: Jean Nelson
ADDRESS: 1620 Central SE, Albq. 87106 PHONE: 247-1529

SURVEYOR: Hugg Surveying CONTACT: Gary Hugg
ADDRESS: 4100 Southern, Rio Rancho 87124 PHONE: 892-8800

CONTRACTOR: Klinger Constructors, Inc. CONTACT: Don Kawal
ADDRESS: 8701 Washington NE, Albq. 87113 PHONE: 822-9990

PRE-DESIGN MEETING

X YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___
EPC NO. ___
PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
X DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
X 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

OCT 10

DATE SUBMITTED: 10 October 1991

BY: Zane M. Goodwin
Zane M. Goodwin, PE/PS

25×10 32×10

0000 0000 2028

BOARD OF COUNTY COMMISSIONERS
PATRICK J. BACA, CHAIRMAN DISTRICT 1
PATRICIA "PAT" CASSIDY, VICE CHAIR DISTRICT 4
ALBERT "AL" VALDEZ, MEMBER DISTRICT 2
EUGENE M. GILBERT, MEMBER DISTRICT 3
JACQUELYN SCHAEFER, MEMBER DISTRICT 5
ALEX ABEYTA, JR., COUNTY MANAGER

County of Bernalillo

State of New Mexico
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ALBUQUERQUE, NEW MEXICO 87102

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PATRICK J. PADILLA, TREASURER
GLADYS M. DAVIS, CLERK
MARK J. CARRILLO, ASSESSOR
THOMAS J. MESCALL, PROBATE JUDGE

September 17, 1991

Zane M. Goodwin, P.E. & P.S.
D. Mark Goodwin & Assoc., P.A.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: DRAINAGE PLAN FOR PRINCE OF PEACE CHURCH, RECEIVED SEPTEMBER 12, 1991 FOR BUILDING PERMIT (C-22/D20)

Dear Mr. Goodwin:

Based on the information provided on the referenced submittal, the following comments should be addressed prior to release of Building Permit:

1. The existing published floodplain that runs through the site should be disclosed on the plan. Show the limits of the existing floodplain on the plan per panel 350002-0011. A statement should also be added as follows "Upstream improvements consisting of Tramway Boulevard have diverted most of the flows from this site, a floodplain revision request has not been submitted to FEMA; therefore this property could be subject to Flood Insurance requirements by the lending institution. The property owner has been made aware that the upstream improvements may not meet FEMA's requirements".

2. Include the necessary documentation on how you derived the offsite flows being diverted through the culvert system.

3. Show profile of storm drain to include the H.G.L. analysis.

4. Include a plan view detail for the inlet of the 24 inch CMP.

5. It appears that curb and gutter is appropriate adjacent to the sidewalk in order to divert the pavement runoff into the pond. Please provide sufficient elevations along the curb to demonstrate the diversion.

6. Due to the proximity of the pond to the building, could it affect long term settlement of the building? The city D.P.M. requires a minimum of 15 feet.

7. Show the plan view of the erosion protection for the spillway and 24 inch CMP outlet.

25×10 32×10

0000 0000 2029

8. Would wire enclosed riprap be more appropriate than dumped riprap for energy dissipators, due to the high velocities and steep grades from the drainage structures? As an alternative provide riprap design computations using applicable velocities. Show that the outlet structure is of sufficient size to produce non-erosive velocities at the end of the structure. Riprap filter should be further defined and specified.

9. Show the length of the rundown and concrete spillway proposed.

10. Show the maximum slope proposed around the building.

11. The property owner will need to enter into a maintenance covenant agreement with County Public Works for the proposed 24 inch CMP.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, Floodplain Administrator

Robert Fontesong, County Public Works

Clifford E. Anderson, AMAFCA

wp+2940

25×10 32×10

0000 0000 2030

dmg D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200

SEP 12 1991

September 11, 1991

Mr. Gilbert Aldaz
City/County Flood Plain Administrator
City of Albuquerque, Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

RE: Prince of Peace Catholic Church Project

Dear Mr. Aldaz:

The grading and drainage plan submitted to you by my letter dated August 22, 1991 has been revised and I am enclosing herewith three copies of the plan and one copy of my revised calculations. The Drainage Information Sheet submitted in my August 22 letter did not need revision.

The condition of a theoretical blocking of the underground storm drainage system has been handled as before in the August 22 submittal.

Please call me if you have any questions on this submittal.

Sincerely,

Zane M. Goodwin

Zane M. Goodwin, PE/PS

ZMG/kmj

Encls(as)

25×10 32×10

0000 0000 2031

dmg D. MARK GOODWIN & ASSOC.
CONSULTING ENGINEERS

JOB PRINCE OF PEACE CHURCH
SUBJECT H&H
JOB NO. ____ SHEET 1 OF ____
BY ZMG DATE 9-4-91
CHECKED ____ DATE ____

PROJECT IS IN ZONE 4 -
P_{360} = 2.90 IN (100YR - 6HR)

SUMMARY OF AREAS.

UNDEVELOPED:

BASIN I = 2.16 ACRES (TRMT. A)
" II = 0.36 " " "

DEVELOPED.

BASIN I:

TRMT A = 0.30 ACRES
" C = 1.61 "
" D = 0.25 "

BASIN II:

TRMT A = 0.15 ACRES.
" C = 0.15 "
" D = 0.08 ACRES.

COMPUTE V_{360} & Q_p FOR EACH BASIN

BASIN I UNDEVELOPED:

$E_w = 0.66$

$V_{360} = \frac{0.66}{12}(2.16) = 0.12$ AC. FT.

$Q_p = 2.26(2.16) = 4.88$ CFS

25×10 32×10

0000 0000 2032

dmg D. MARK GOODWIN & ASSOC.
CONSULTING ENGINEERS

JOB PRINCE OF PEACE CHURCH
SUBJECT H&H
JOB NO. ____ SHEET 2 OF ____
BY ZMG DATE 9-4-91
CHECKED ____ DATE ____

BASIN I DEVELOPED:

$$E_W = \frac{0.66(0.30) + 1.13(1.61) + 2.57(0.25)}{2.16}$$

$$= \frac{0.1980 + 1.8173 + 0.6425}{2.16}$$

$$= 1.23$$

$$V_{360} = \frac{1.23}{12}(2.16) = 0.22 \text{ AC. FT.}$$

$$Q_P = 2.26(0.30) + 3.94(1.61) + 5.74(0.25)$$

$$= 0.6780 + 6.3434 + 1.4350$$

$$= 8.46 \text{ CFS.}$$

BASIN II - UNDEV.

$$E_W = 0.66$$

$$V_{360} = \frac{0.66}{12}(0.36) = 0.02 \text{ AC FT.}$$

$$Q_P = 2.26(0.36) = 0.81 \text{ CFS}$$

BASIN II - DEV.

$$E_W = \frac{0.66(0.15) + 1.13(0.13) + 2.57(0.08)}{0.36}$$

$$= \frac{(0.0990 + 0.1469 + 0.2056)}{0.36}$$

$$= 1.25''$$

$$V_{360} = \frac{1.25}{12}(0.36) = 0.04 \text{ AC. FT.}$$

$$Q_P = 2.26(0.15) + 3.94(0.13) + 5.74(0.08)$$

$$= 0.3390 + 0.5122 + 0.4592$$

$$= 1.3 \text{ CFS.}$$

25×10 32×10

0000 0000 2033

dmg D. MARK GOODWIN & ASSOC. CONSULTING ENGINEERS

JOB PRINCE OF PEACE CHURCH
SUBJECT H&H
JOB NO. ____ SHEET 3 OF ____
BY ZMG DATE 9-4-91
CHECKED ____ DATE ____

SUMMARY

BASIN I:

EXCESS V_{360} = 0.22 − 0.12 = 0.10 ACRE-FT

$Q_{(MAX)}$ = 4.88 CFS

BASIN II

EXCESS V_{360} = 0.04 − 0.02 = 0.02 AC.FT.

Q_{MAX} = 0.8 CFS.

Since the Volume (0.02 AC.FT) to be detained in Basin II is so small, it is proposed to store this volume in the detention pond in Basin I, requiring that detention pond to detain 0.10 + 0.02 = 0.12 acre feet. The minimum flow rate for the pond should be 4.8 − 0.8 = 4.0.

POND (See dwg.)

V = 0.12 ac.ft.

Q_{OUT} = 4 cfs $Q = 0.80 A\sqrt{2gH}$ in which H = 1.5' (12" Freeboard)

$4 = 0.80 A\sqrt{2g(1.5)}$

$A = \frac{4}{0.80(9.89)} = 0.51$

$D = \sqrt{\frac{4A}{\pi}} = 0.81$ FT

Use 10" PVC. * SEE SH 5 OF THESE CALCS.

25× 32×

0000 0000 2034

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JOB Prince of Peace Church
SUBJECT H&H — Design
JOB NO.
SHEET 1 OF
BY ZMG
DATE 9-5-91
CHECKED
DATE

SPILLWAY:

Sizing of spillway must account for condition of a plugged storm drain, with added sheet flow of 16.9 cfs across gravel parking lot.

$Q_{MAX} = 4.88 + 16.9 = 21.8$ cfs.

Set broad crested weir @ 6018, head ≈ 0.9 ft.

$q = 2.85 (H)^{1.5} = 2.85 (0.9)^{1.5} = 2.43$ cfs/ft.

Spillway width $= \frac{21.8}{2.43} = 9$ ft

Spillway channel -

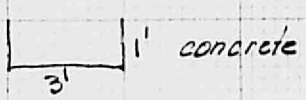
$S = \frac{8}{75} = 0.11$

$b = 3'0''$

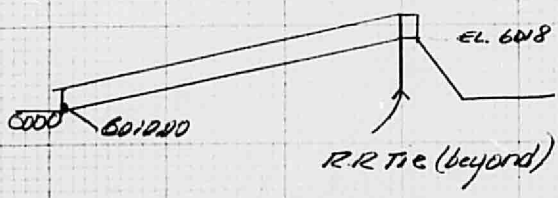
$Q = 21.8$ cfs $V = 16$ fps (supercritical)

$Q = AV$, $A = \frac{Q}{V}$ $w \times d = \frac{Q}{V} = d = \frac{Q}{wV} = \frac{21.8}{3(16)}$

$d = 0.45'$



concrete



25×10 32×10

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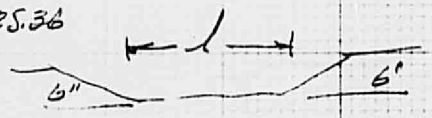
JOB Prince of Peace Church
SUBJECT HGH - Design
JOB NO. ____ SHEET 5 OF ____
BY ZMB DATE 9-5-91
CHECKED ____ DATE ____

CONCRETE RUNDOWN –

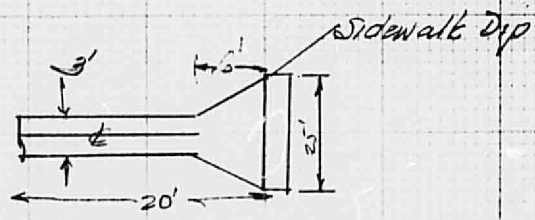
$Q = 8.46 + 16.9 = 25.36$

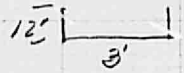
Sidewalk dip



$q = 2.86 H^{1.5}$, $\frac{1}{2}H = 0.50'$

$q \approx 1$ cfs/ft & $l = \frac{25.36}{1} \approx \underline{25\ ft}$





channel rundown

$Q = 25.4$

$V = 26$ fps

$n = .05$ $S = \frac{6023 - 6016.5}{20} = \underline{\underline{0.325}}$

POND OUTLET: ON SH. 3 OF THESE CALCS, POND O/L IS SHOWN TO BE 10", BASED ON ENTRY CONTROL. HOWEVER, STORM SEWER ANALYSIS SHOWED THAT HGL IN POND WOULD RISE ABOVE 6018.00, SO POND O/L WAS INCREASED TO 12" P.V.C.

25×10 32×10

0000 0000 2036

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CONSULTING ENGINEERS

JOB PRINCE OF PEACE CHURCH
SUBJECT H&H
JOB NO. _____ SHEET 6 OF ___
BY ZMG DATE 9-9-91
CHECKED _____ DATE _____

POND DRAINAGE TIME -

SINCE THE 16.9 CFS FROM THE LOT E OF TENNYSON ST. WILL DROP TO A LOW FLOW ≈ 5 CFS RATHER QUICKLY, FLOW FROM POND WILL CONTINUE AT ITS MAX. CAPACITY FOR SOME TIME. ASSUMING AN AVERAGE OF ≈ 3 CFS:

$$VOL = 0.12 \text{ a.f.} = 5227 \text{ c.f}$$

$$Q = 3 \times 60 \times 60 = 10{,}800 \text{ cu.ft./hr.}$$

$$T = \frac{5227}{10{,}800} \approx \frac{1}{2} \text{ hr.}$$

25×10 32×10

0000 0000 2037

HYDRAULIC ANALYSIS

Run date: 09-09-1991
File: princel.ST3

Return Period = 100 Yrs
Rainfall file: Not specified

LINE 1 / Q = 20.9 / HT = 24 / WID = 24 / N = .025 / L = 85 / JLC = 1.1

OUTFALL	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	6011.70	20.44	6010.00	7.21	6012.51	16.21	4.00	2.90
UPSTRM	6014.39	24.00	6011.50	6.65	6015.08	0.00	4.00	3.14

Drainage area (ac) =	0	Slope of invert (%) =	1.765
Runoff coefficient =	0	Slope energy grade line (%) =	3.022
Time of conc (min) =	1	Critical depth (in) =	20
Inlet time (min) =	0	Req'd length curb inlet (ft) =	0.0
Intensity (in/hr) =	0.00	Req'd grate area (sf) =	0.0
Cumulative C*A =	0.0	Natural ground elev (ft) =	0
Flow contrib (cfs) =	20.9	Minimum cover (ft) =	4
Default Q (cfs) =	20.9	Depth at inlet opening (in) =	0
Line capac. (cfs) =	15.6		

LINE 2 / Q = 4.0 / HT = 12 / WID = 12 / N = .01 / L = 10 / JLC = 1.1

DNLN = 1	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	6015.15	12.00	6011.70	5.09	6015.55	0.00	4.00	0.79
UPSTRM	6017.89	10.45	6016.50	5.51	6018.36	8.06	4.00	0.73

Drainage area (ac) =	0	Slope of invert (%) =	47.998
Runoff coefficient =	0	Slope energy grade line (%) =	28.105
Time of conc (min) =	0	Critical depth (in) =	10
Inlet time (min) =	0	Req'd length curb inlet (ft) =	0.0
Intensity (in/hr) =	0.00	Req'd grate area (sf) =	0.0
Cumulative C*A =	0.0	Natural ground elev (ft) =	0
Flow contrib (cfs) =	4	Minimum cover (ft) =	4
Default Q (cfs) =	4	Depth at inlet opening (in) =	0
Line capac. (cfs) =	32.1		

25×10 32×10

LINE 3 / Q = 16.9 / HT = 24 / WID = 24 / N = .025 / L = 140 / JLC = 1

DNLN = 1

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	6015.15	24.00	6011.70	5.38	6015.50	0.00	4.00	3.14
UPSTRM	6020.91	18.11	6019.40	6.65	6021.59	20.66	4.00	2.54

Drainage area (ac)	= 0	Slope of invert (%)	= 5.500
Runoff coefficient	= 0	Slope energy grade line (%)	= 4.284
Time of conc (min)	= 0	Critical depth (in)	= 18
Inlet time (min)	= 0	Req'd length curb inlet (ft)	= 0.0
Intensity (in/hr)	= 0.00	Req'd grate area (sf)	= 0.0
Cumulative C*A	= 0.0	Natural ground elev (ft)	= 0
Flow contrib (cfs)	= 16.9	Minimum cover (ft)	= 4
Default Q (cfs)	= 16.9	Depth at inlet opening (in)	= 0
Line capac. (cfs)	= 27.6		

LINE 4 / Q = 16.9 / HT = 24 / WID = 24 / N = .025 / L = 80 / JLC = 1.05

DNLN = 3

	HGL	DEPTH	INVERT	VEL	EGL	T WID	COVER	AREA
DNSTRM	6021.59	23.94	6019.60	5.38	6022.04	2.20	4.00	3.14
UPSTRM	6028.23	18.11	6026.00	6.65	6028.91	20.66	4.00	2.54

Drainage area (ac)	= 0	Slope of invert (%)	= 8.000
Runoff coefficient	= 0	Slope energy grade line (%)	= 7.688
Time of conc (min)	= 0	Critical depth (in)	= 18
Inlet time (min)	= 0	Req'd length curb inlet (ft)	= 0.0
Intensity (in/hr)	= 0.00	Req'd grate area (sf)	= 0.0
Cumulative C*A	= 0.0	Natural ground elev (ft)	= 0
Flow contrib (cfs)	= 16.9	Minimum cover (ft)	= 4
Default Q (cfs)	= 16.9	Depth at inlet opening (in)	= 0
Line capac. (cfs)	= 33.3		

25×10 32×10

0000 0000 2039

County's Comments 8/26/91

(C22/020)

~~1. Where~~ Give Bob Calculations

1. According to Zane Goodwin cancel submittal of 8/22/91 they are changing plan entirely. & will resubmit

225.00
2 | 145,000
14
4/16

22,500
2 | 15,000
2.38
4.75

160.00

7.14

25× 32×

dmg D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200

RECEIVED
AUG 22 1991
HYDROLOGY SECTION

August 22, 1991

Mr. Gilbert Aldaz
City/County Flood Plain Administrator
City of Albuquerque, Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: Prince of Peace Catholic Church Project

Dear Mr. Aldaz:

I am enclosing one copy of the Drainage Information Sheet for subject project, along with one copy of my design calculations and three copies of the grading and drainage plan.

The plat is in the process of revision to vacate the existing drainage easement which will no longer be needed and to expand the easement in those places needed to conform to the enclosed grading and drainage plan.

At your suggestion, the plan has been prepared to accommodate the condition of a plugged storm drain system. Such a condition will cause the water between the east property line and Tennyson Street to pond to elevation 6030 and then begin sheet flow across the gravel parking area, gathering at a designated low spot along the new sidewalk, and draining to Pond II through a 25-ft-wide dip in the sidewalk and down a concrete "rundown" to the pond. The spillway for Pond II will accommodate this added drainage on top of a full pool with a small freeboard. The flow from the 100-year storm leaving the property for this project will not change from the "undeveloped" condition.

Please notify me if you need any clarification on this submittal.

Sincerely,

Zane M. Goodwin

Zane M. Goodwin PE/PS

ZMG/kmj

Encls(as)

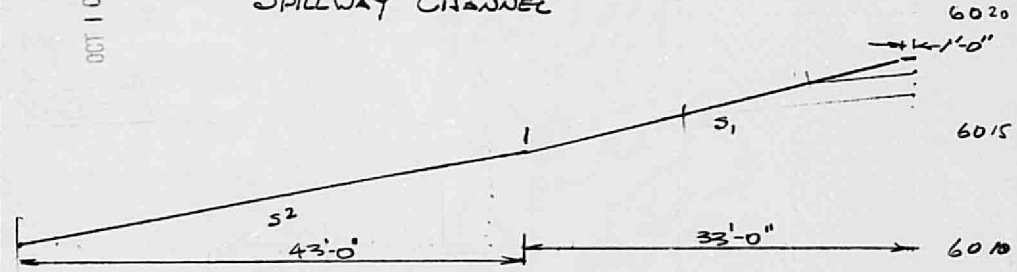
25×10 32×10

JOB Prince of Peace Church
SUBJECT Hydraulics
JOB NO. 2116 SHEET 14 OF
BY ____ DATE 10-8-91
CHECKED ____ DATE ____

dmg D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

OCT 10

Spillway Channel



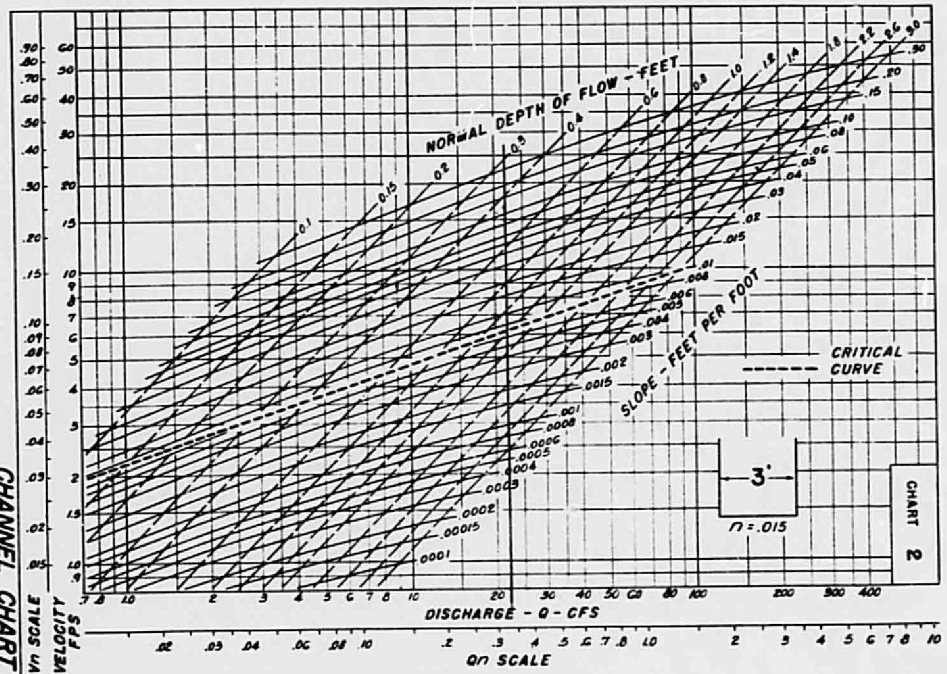
$S_1 = \frac{4}{33} = \underline{0.1212}$

$S_2 = \frac{4}{43} = 0.0930$

$Q \approx 22$ CFS $d_1 = 0.45'$

$d_2 = 0.50'$

So, channel does not go thru a hydraulic jump & can retain the same dimensions throughout.



CHANNEL CHART
VERTICAL b = 3 FT.

25×
32×
0000 0000 2602

0000 0000 2043

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Consulting Engineers and Surveyors

JOB PRINCE OF PEACE CHURCH
SUBJECT HYDRAULICS
JOB NO. ____ SHEET 3A OF ____
BY ZMG DATE 10-8-91
CHECKED ____ DATE ____

ENERGY DISSIPATOR: (REFERENCE: URBAN STORM DRAINAGE, DENVER RCOG, CRITERIA MANUAL, VOL. 2)

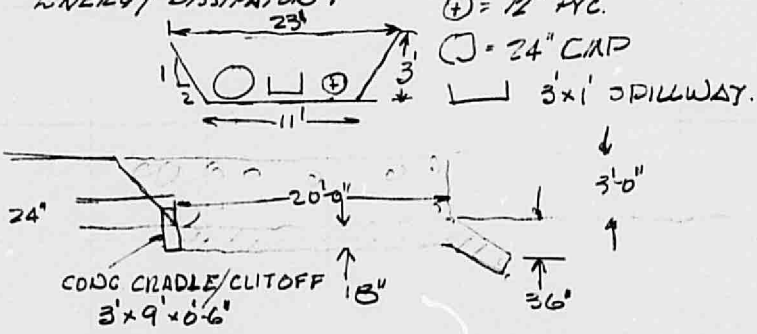
$Q = 25$ CFS (21+4)
$D = 2.00$ FT.

$\frac{Y_t}{D} = 0.40$, & $Y_t = 0.80$ FT

$\frac{Q}{D^{1.5}} = \frac{25}{2^{1.5}} = 8.83$

& FROM FIG 5-7, WITH $\frac{Q}{D^{1.5}} = 8.83$ & $\frac{Y_t}{D} = 0.40$,
RIPRAP = TYPE L, $d_{50} = 9''$
& $L_{MAX} = 10D = 10(2) = 20'$
Set $t = 2d_{50} = 2(9) = 18''$

ENERGY DISSIPATOR:



25×10 32×10

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JOB PRINCE OF PEACE CHURCH
SUBJECT HYDROLOGY
JOB NO. _____ SHEET 4A OF ___
BY ZMG DATE 10-8-91
CHECKED _____ DATE _____

OFFSITE FLOWS =
"HOLMES & NARVER" = 16.9 CFS.

CHECK -
$A_A = 6.81$ AC. $Q_{PA} = 2.26$ (ZONE A)
$A_D = 0.19$ AC. $Q_{PD} = 5.74$
$Q_P = (6.81)(2.26) + (0.19)(5.74) = 15.39 + 1.09$
$Q_P = \underline{16.48}$ (CLOSE CHECK – 16.9 IS OK).

25×10 32×10

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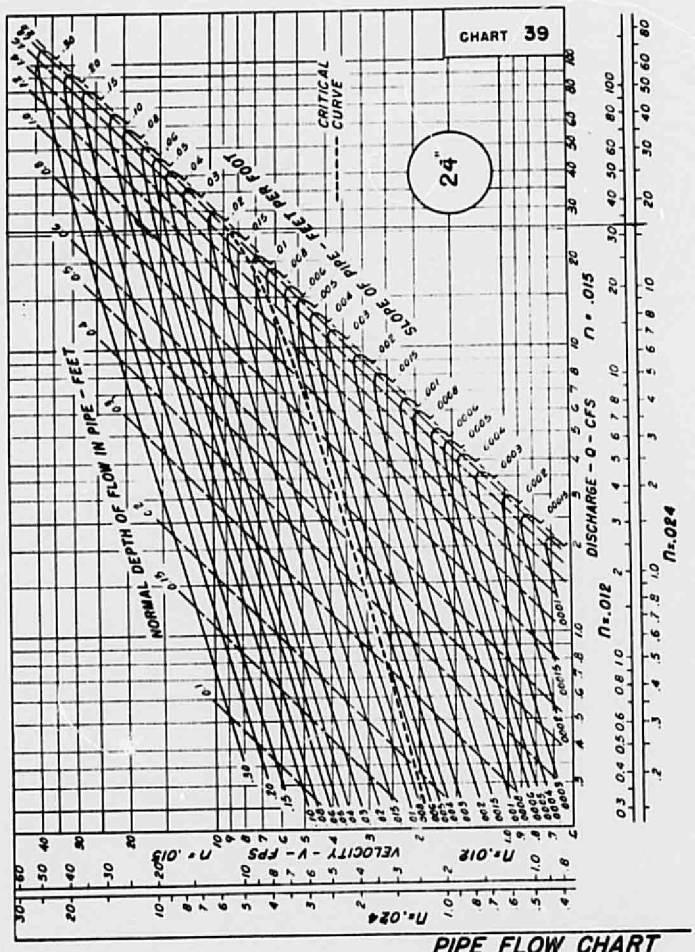

PIPE FLOW CHART
24-INCH DIAMETER

25× 32×

0000 0000 2046

PLANS/PLATS ON FILE

FILE DESC: C22/D20

PLANS/PLATS 7

25×10 32×10

0000 0000 2041