PUBLIC WORKS/HYDROLOGY

F17/D14A

0000 0000 0539

F17/D14A

25×10

0000 0000 0540

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

ALBUQUERQUE NEW MEXICO 1706

KEN SCHULTZ
MAYOR

May 9, 1989

James D. Emerson, P.E.
CESP, Inc.
2146 Belcourt Avenue
Nashville, Tennessee 37212

RE: DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS PSYCHIATRIC HOSPITAL (F-17/D14A) ENGINEER'S STAMP DATED FEBRUARY 9, 1989

Dear Mr. Emerson:

Based on the information provided on your submittal of May 3, 1989, the above referenced plan is approved for Building Permit.

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

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

BJM/bsj
(WP+456)

25×10

0000 0000 0591

FILE COPY

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

KEN SCHULTZ
MAYOR

May 9, 1989

James D. Emerson, P.E.
CESP, Inc.
2146 Belcourt Avenue
Nashville, Tennessee 37212

RE: DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS PSYCHIATRIC HOSPITAL (F-17/D14A) ENGINEER'S STAMP DATED FEBRUARY 9, 1989

Dear Mr. Emerson:

Based on the information provided on your submittal of May 3, 1989, the above referenced plan is approved for Building Permit.

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

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

BJM/bsj
(WP+456)

25×10

0000 0000 0542

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Heights Psychiatric Hospital ADD'N ZONE ATLAS/DRNG. FILE #: F-17/014A

LEGAL DESCRIPTION: Lot 5-A-1 Montgomery Village Addition

CITY ADDRESS: 103 Hospital Loop N.E.

ENGINEERING FIRM: CESP INC. CONTACT: James Emerson

ADDRESS: 2146 Belmont Ave. Nashville Tenn. 37212 PHONE: 615 292 0808

OWNER: Hospital Corp. of America CONTACT:

ADDRESS: PHONE:

ARCHITECT: Jack Freeman & Assoc CONTACT: Janice Frizzell

ADDRESS: 3401 West End Ave St 200 Nashville Tenn. 37203 PHONE: 615 383 2144

SURVEYOR: Jeff Mortenson and Assoc CONTACT: Jeff Mortenson

ADDRESS: PHONE:

CONTRACTOR: K.L. House Const CONTACT: Jim Bell

ADDRESS: 6403 Roma S.E. Albq. PHONE: 268 4361

RECEIVED
MAY 03 1989
HYDROLOGY SECTION

Need to Notify when approved

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: 5/3/88

BY: James E. Bell, K.L. House Const.

25×10

0000 0000 0543

DRAINAGE CALCULATIONS

HEIGHTS PSYCHIATRIC HOSPITAL
RENOVATIONS AND ADDITIONS
ALBUQUERQUE, NEW MEXICO

Prepared by

CESP, INC.
2146 Belcourt Avenue
Nashville, Tn 37212
(615) 292-0808

RECEIVED
MAY 03 1989
HYDROLOGY SECTION

JAMES D. EMERSON
NEW MEXICO
10239
REGISTERED PROFESSIONAL ENGINEER

James D. Emerson 4/27/89
James D. Emerson
New Mexico Registration
No. 10239

25×10

0000 0000 0544

Heights Psychiatric Hospital
Renovations and Additions
Albuquerque, NM
CESP # 87181-88

Drainage Calculations for Proposed Additions

I. Project Description

Three small additions are being added to the existing psychiatric hospital. Each addition will be added in an area that is currently lawn; therefore, increasing the amount of impervious area. The increase in impervious area is approximately 3500 square feet with the largest addition being 1500 square feet and the other two being around 1000 square feet each.

The roof drainage for the proposed addition is being handled internally; i.e., the drain lines are being connected to the building drainage system which is connected to an external sub-surface drainage system.

II. Post-Development

Increase in runoff for 100-yr storm
Rainfall; 100-yr, 6-hr Duration; 2.2 inches
Use Rational Method - Q = CIA
Intensity: I = 5.8 inches/hour
Based on Steel Formula : I = K/(t+b)
t=10 min.; K=210 and b= 26 for 100-yr
Area = 3500/43560 = 0.08

"C" Values
roofs : 0.90
lawns : 0.25

Q =(0.25)(5.8)(0.08)
Q = 0.12 cfs

Q = (0.90)(5.8)(0.08)
Q = 0.42 cfs

Increase in runoff for proposed additions
0.42-0.12 = 0.30 cfs

This increase is insignificant and the existing on-site system will handle this increase based on calculations for the Day Care Addition.

25×10

0000 0000 0545

Heights Day Care Treatment Center
Albuquerque, NM
CESP #87181

Drainage Calculations for proposed additions

A. Design Criteria

1. Design Storm : 100-yr, 6-hr duration ; 2.2 inches
2. Use Rational Method : $Q = CIA$
3. Minimum Time of Concentration : 10 minutes
4. Intensity : $I = 5.8$ inches/hour

   Based on Steel Formula : $I = K/(t+b)$

   $t = 10$ min ; $K = 210$ and $b = 26$ for 100-yr.
5. Composite "c" values

   streets, walks : 0.95
   roofs : 0.90
   lawns, landscaping : 0.25
   undeveloped : 0.40

B. Drainage Areas

1. Area 1

   Drainage Area : 0.064 Ac.
   Walks : 0.015 Ac.
   Landscaping : 0.049 Ac.

   wt "c" $= [(0.95)(0.015) + (0.25)(0.049)]/0.064 = 0.41$

   $Q_{100} = (0.41)(5.8)(0.064) = 0.15$ cfs

25×10

0000 0000 0546

2 Area 2

Drainage Area : 0.570 Acres

Walks : 0.027 Ac.

Roof : 0.178 Ac.

Landscaping : 0.076 Ac.

Lawns : 0.289 Ac.

wt "c" = [(0.027)(0.95) + (0.178)(0.90) + (0.365)(0.25)]/0.570 = 0.4

Q_{100} = (0.49)(5.8)(0.570) = 1.62 cfs

3. Area 3

Drainage Area : 0.015 Acres

Roof : 0.015 Ac.

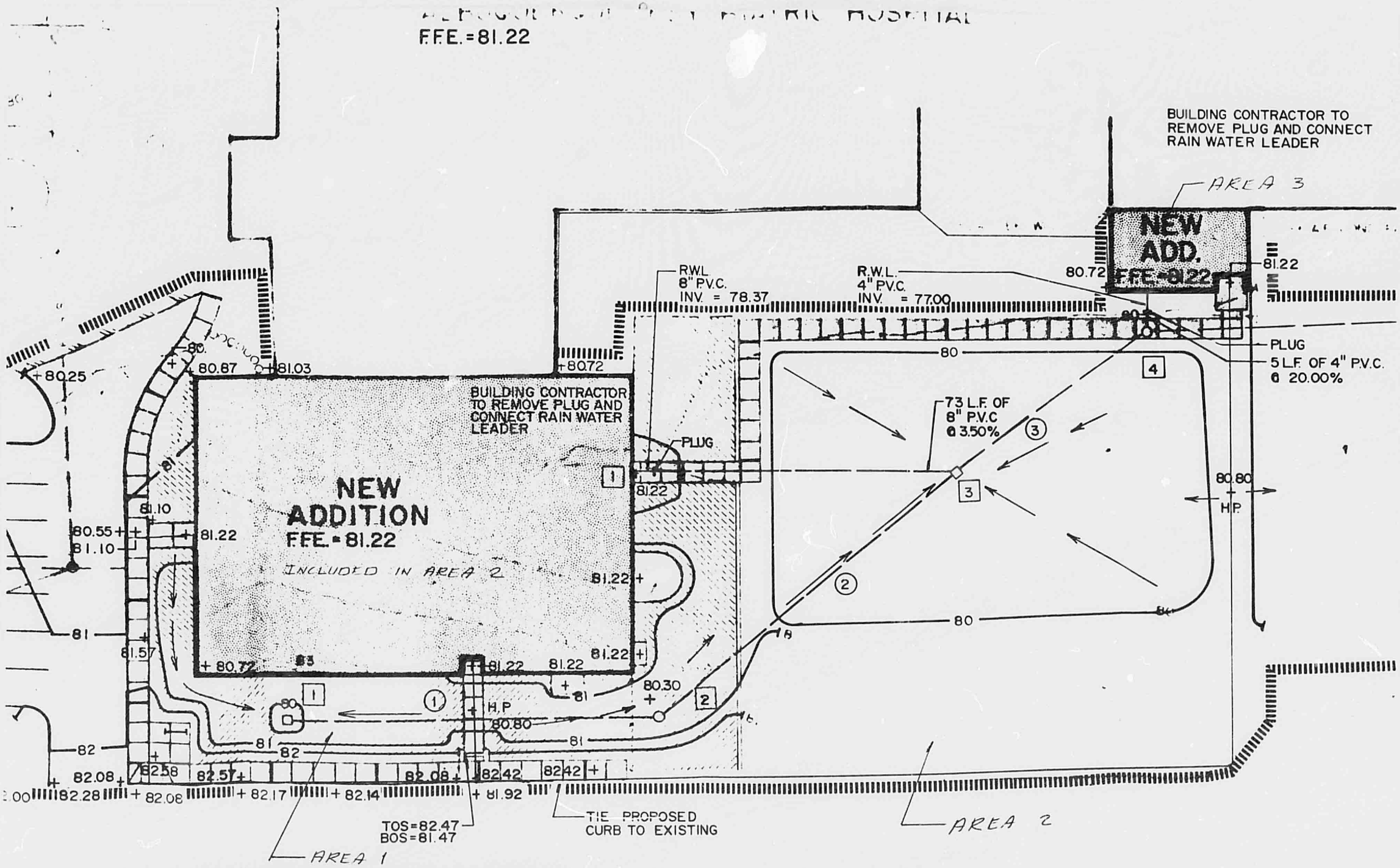
"c" : 0.90

Q_{100} = (0.90)(5.8)(0.015) = 0.08 cfs

Pipe	Flow	Size	Type	Length	Slope	Cap
1	0.15	15"	RCP	90'	0.75%	5.6
2	0.15	15"	RCP	93'	0.75%	5.6
3	1.77	15"	RCP	58'	0.80%	5.8
4	1.85	15"	RCP	241'	1.25%	7.2
5	1.85	15"	RCP	154'	1.75%	8.5
6	1.85	15"	RCP	24'	2.00%	9.1

25×10

REPRODUCTION DUE TO THE POOR QUALITY
OF THE ORIGINAL DOCUMENT



25×10 32×10 25×10

0000 0000 0548

PLANS/PLATS ON FILE

FILE DESC: FM/DKK

PLANS/PLATS 3

25 × 10

0000 0000 0549

25×10

HYDROLOGY F17/D14a 2 PLANS

F17/D14a

2 Plans

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

October 16, 1987

James D. Emerson, P.E.
CESP, Inc.
2146 Belcourt Avenue
Nashville, Tennessee 37212

RE: DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS DAY CARE TREATMENT CENTER (F-17/D14A) ENGINEER'S STAMP DATED AUGUST 10, 1987

Dear Mr. Emerson:

Based on the information provided on your October 13, 1987 submittal, the above referenced drainage plan is approved for Building Permit.

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

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

BJM/bsj

CESP, INC.
CONSTRUCTION · ADMINISTRATION · ENGINEERING · SURVEYING · PLANNING
2146 BELCOURT AVENUE • NASHVILLE, TN 37212
(615) 292-0808

RECEIVED
OCT 13 1987
HYDROLOGY SECTION

October 12, 1987

Mr. Bernie Montoya
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT, HYDROLOGY
405 Marquett
Albuquerque, NM 87103

RE: Heights Day Care Treatment Center
Albuquerque, New Mexico
CESP # 87181

Dear Mr. Montoya:

I am enclosing Sheet C1.02, revised Sheet C4.01, and an information sheet for the referenced project. I am also enclosing a copy of a letter from the New Mexico State Board of Registration approving me for registration as a professional engineer in New Mexico.

A legal description, a vicinity map, and a temporary benchmark on the site have been added to Sheet C4.01. The finished floor elevations have been shown in the complete mean sea level form.

If you require any additional information or have any questions, please call me at (615) 292-0808.

Sincerely,

James D. Emerson

James D. Emerson, P. E.

JDE/tk

Enclosures

cc: Mr. Steve Meek - Centex-Rodgers Construction, Inc.

INFORMATION SHEET

PROJECT: HEIGHTS DAY CARE TREATMENT CENTER
SUBMITTAL TYPE: BUILDING PERMIT
ZONE ATLAS, PAGE NO: F-17 & 14A

LEGAL DESCRIPTION:

LOT 5-A AS THE SAME IS SHOWN AND DESIGNATED ON THE SUMMARY PLAT OF LOTS 5-A AND 5-B, TRACT K FORMERLY LOT 5. TRACT K, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON FEBRUARY 8, 1982 (BOOK 19 - PAGE 116) RECEPTION NO. 82 6798.

ENGINEER:

CESP, INC.
2146 Belcourt Avenue
Nashville, Tennessee 37212
Phone: (615) 292-0808
Contact: James D. Emerson

OWNER:

HOSPITAL CORPORATION OF AMERICA
One Park Plaza
Nashville, Tennessee 37202-0550
Phone: (615) 327-9551
Contact: David Kincaid

ARCHITECT:

JACK FREEMAN AND ASSOCIATES, P.C.
3401 West End Avenue, Suite 200
Nashville, Tennessee 37203
Phone: (615) 383-2144
Contact: Tom Banks

SURVEYOR:

SCANLON AND ASSOCIATES, INC.
8008 Pennsylvania Circle NE
Albuquerque, New Mexico 87110
Phone: (505) 265-6941
Contact: Jack Verhines

CONTRACTOR:

CENTEX-RODGERS CONSTRUCTION, INC.
P. O. Box 8406
Albuquerque, New Mexico 87110
Phone: (505) 262-7690
Contact: Steve Meek

RECEIVED
OCT 1 5 1987
HYDROLOGY SECTION

REGULATION and LICENSING DEPARTMENT
BOARDS & COMMISSIONS DIVISION
Santa Fe Office
Bataan Memorial Building
PO Drawer 1388
Santa Fe, NM 87504-1388

GARREY CARRUTHERS
Governor

THOMAS P. BACA
Superintendent

NANCY COOPER
Director

October 1, 1987

Mr. James D. Emerson:

The Board at its September 17-19, 1987 meeting reviewed your application and is pleased to advise that you have been approved for registration as a professional engineer in New Mexico.

In accordance with Section 20, Chapter 336 of 1978 Engineering and Land Surveying Practice Act, it is required that you pay an initial registration fee of $10. This will bring your registration current through December 31, 1987. A statement is enclosed for your convenience. Upon receipt of the fee a pocket card will be issued and a certificate prepared.

Please use the reverse side of the enclosed statement and type or print your name as you would like it to appear on your certificate.

Best wishes for your future success.

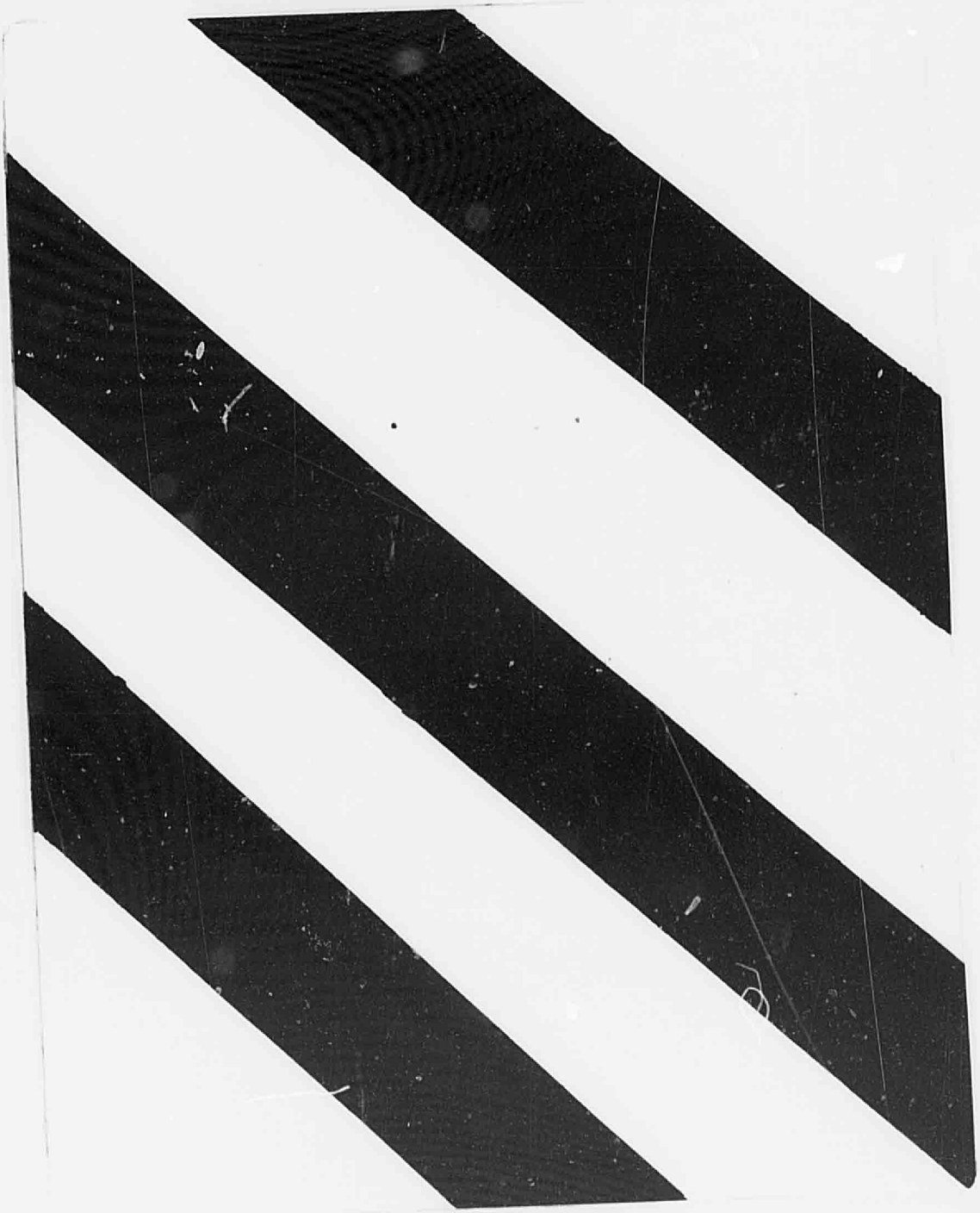
Sincerely,

NEW MEXICO BOARD OF REGISTRATION FOR
PROFESSIONAL ENGINEERS AND PROFESSIONAL SURVEYORS

Elena Garcia

Elena Garcia
Secretary of the Board

EG/kms
Enclosure



PUBLIC WORKS/HYDROLOGY

F17/D14A

0539

DIGA

25×

0000 0000 0540

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

KEN SCHULTZ
MAYOR

May 9, 1989

James D. Emerson, P.E.
CESP, Inc.
2146 Belcourt Avenue
Nashville, Tennessee 37212

RE: DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS PSYCHIATRIC HOSPITAL (F-17/D14A) ENGINEER'S STAMP DATED FEBRUARY 9, 1989

Dear Mr. Emerson:

Based on the information provided on your submittal of May 3, 1989, the above referenced plan is approved for Building Permit.

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

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

BJM/bsj
(WP+456)

25×10

0000 0000 0541

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

KEN SCHULTZ
MAYOR

May 9, 1989

James D. Emerson, P.E.
CESP, Inc.
2146 Belcourt Avenue
Nashville, Tennessee 37212

RE: DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS PSYCHIATRIC HOSPITAL (F-17/D14A) ENGINEER'S STAMP DATED FEBRUARY 9, 1989

Dear Mr. Emerson:

Based on the information provided on your submittal of May 3, 1989, the above referenced plan is approved for Building Permit.

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

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

BJM/bsj
(WP+456)

25×10

0000 0000 0542

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Heights Psychiatric Hospital ADD'N ZONE ATLAS/DRNG. FILE #: F-17/014A

LEGAL DESCRIPTION: LOT 5-A-1 MONTGOMERY VILLAGE ADDITION

CITY ADDRESS: 103 Hospital Loop N.E.

ENGINEERING FIRM: CESP INC. CONTACT: James Emerson

ADDRESS: 2146 Belcourt Ave. Nashville Tenn. 37212 PHONE: 615 292 0808

OWNER: Hospital Corp. of America CONTACT:

ADDRESS: PHONE:

ARCHITECT: Jack Freeman & Assoc CONTACT: Janice Frizzell

ADDRESS: 3401 West End Ave St 200 Nashville Tenn. 37203 PHONE: 615 383 2144

SURVEYOR: Jeff Mortenson and Assoc CONTACT: Jeff Mortenson

ADDRESS: PHONE:

CONTRACTOR: K.L. House Const CONTACT: Jim Bell

ADDRESS: 6403 Roma S.E. Albq. PHONE: 268 4361

RECEIVED MAY 03 1989 HYDROLOGY SECTION

Need to Notify when approved

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: 5/3/88

BY: James E Bell, K.L. House Const.

25×10

0000 0000 0543

DRAINAGE CALCULATIONS

HEIGHTS PSYCHIATRIC HOSPITAL
RENOVATIONS AND ADDITIONS
ALBUQUERQUE, NEW MEXICO

Prepared by

CESP, INC.
2146 Belcourt Avenue
Nashville, Tn 37212
(615) 292-0808

RECEIVED
MAY 03 1989
HYDROLOGY SECTION

JAMES D. EMERSON
NEW MEXICO
10239
REGISTERED PROFESSIONAL ENGINEER

James D. Emerson 4/27/89
James D. Emerson
New Mexico Registration
No. 10239

25×10

0000 0000 0548

Heights Psychiatric Hospital
Renovations and Additions
Albuquerque, NM
CESP # 87181-88

Drainage Calculations for Proposed Additions

I. Project Description

Three small additions are being added to the existing psychiatric hospital. Each addition will be added in an area that is currently lawn; therefore, increasing the amount of impervious area. The increase in impervious area is approximately 3500 square feet with the largest addition being 1500 square feet and the other two being around 1000 square feet each.

The roof drainage for the proposed addition is being handled internally; i.e., the drain lines are being connected to the building drainage system which is connected to an external sub-surface drainage system.

II. Post-Development

Increase in runoff for 100-yr storm
Rainfall; 100-yr, 6-hr Duration; 2.2 inches
Use Rational Method - Q = CIA
Intensity: I = 5.8 inches/hour
Based on Steel Formula : I = K/(t+b)
t=10 min.; K=210 and b= 26 for 100-yr
Area = 3500/43560 = 0.08

"C" Values
roofs : 0.90
lawns : 0.25

Q =(0.25)(5.8)(0.08)
Q = 0.12 cfs

Q = (0.90)(5.8)(0.08)
Q = 0.42 cfs

Increase in runoff for proposed additions
0.42-0.12 = 0.30 cfs

This increase is insignificant and the existing on-site system will handle this increase based on calculations for the Day Care Addition.

25×10

0000 0000 0545

Heights Day Care Treatment Center
Albuquerque, NM
CESP # 87181

Drainage Calculations for proposed additions

A. Design Criteria

1. Design Storm : 100-yr, 6-hr duration ; 2.2 inches
2. Use Rational Method : $Q = CIA$
3. Minimum Time of Concentration : 10 minutes
4. Intensity : $I = 5.8$ inches/hour
   Based on Steel Formula : $I = K/(t+b)$
   $t = 10$ min ; $K = 210$ and $b = 26$ for 100-yr.
5. Composite "c" values
   streets, walks : 0.95
   roofs : 0.90
   lawns, landscaping : 0.25
   undeveloped : 0.40

B. Drainage Areas

1. Area 1
   Drainage Area : 0.064 Ac.
   Walks : 0.015 Ac.
   Landscaping : 0.049 Ac.
   wt "c" $= [(0.95)(0.015) + (0.25)(0.049)]/0.064 = 0.41$
   $Q_{100} = (0.41)(5.8)(0.064) = 0.15$ cfs

25×10

0000 0000 0546

2 Area 2

Drainage Area : 0.570 Acres

Walks : 0.027 Ac.

Roof : 0.178 Ac.

Landscaping : 0.076 Ac.

Lawns : 0.289 Ac.

wt "c" = [(0.027)(0.95) + (0.178)(0.90) + (0.365)(0.25)]/0.570 = 0.4

Q_{100} = (0.49)(5.8)(0.570) = 1.62 cfs

3. Area 3

Drainage Area : 0.015 Acres

Roof : 0.015 Ac.

"c" : 0.90

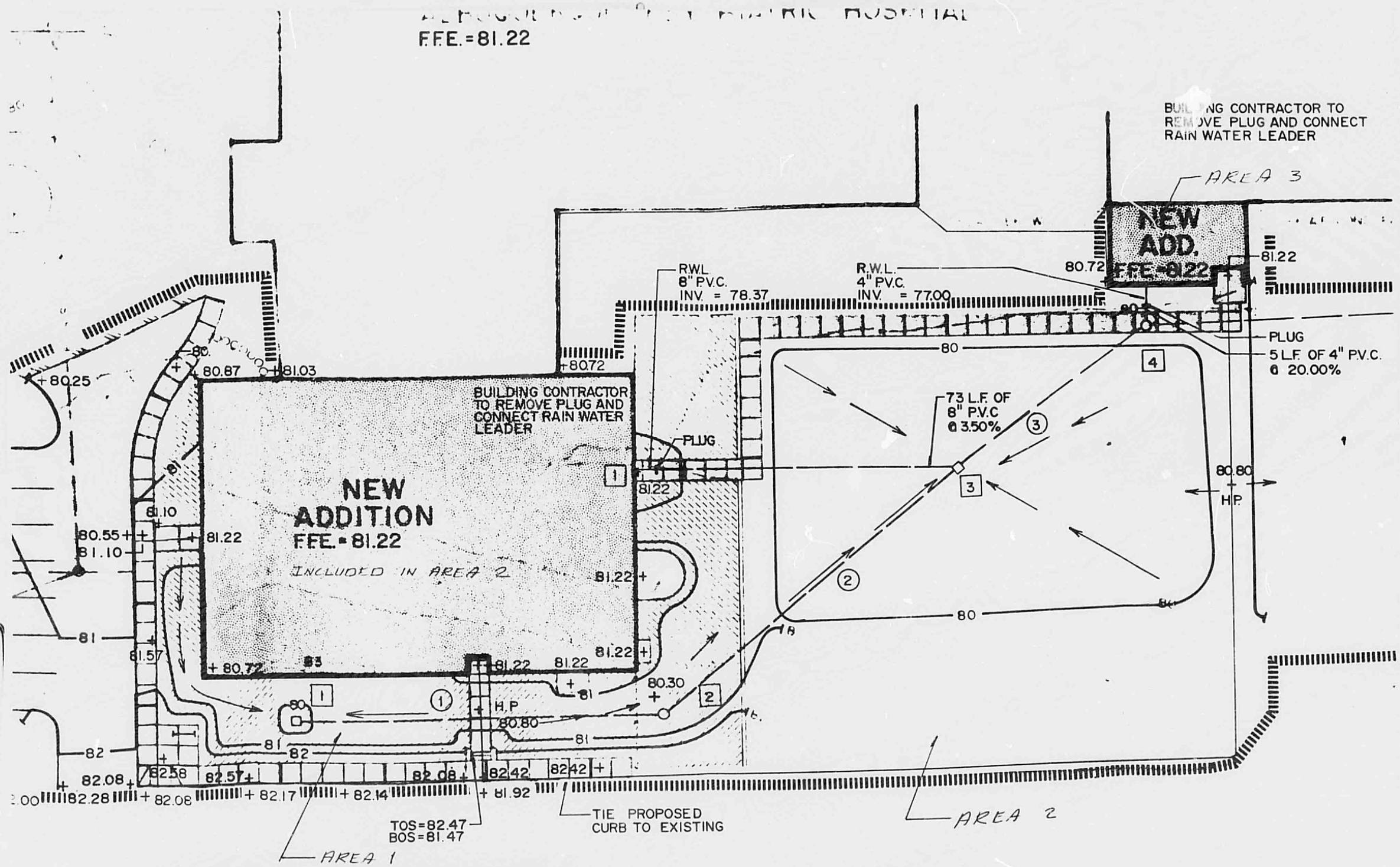
Q_{100} = (0.90)(5.8)(0.015) = 0.08 cfs

Pipe	Flow	Size	Type	Length	Slope	Cap
1	0.15	15"	RCP	90'	0.75%	5.6
2	0.15	15"	RCP	93'	0.75%	5.6
3	1.77	15"	RCP	58'	0.80%	5.8
4	1.85	15"	RCP	241'	1.25%	7.2
5	1.85	15"	RCP	154'	1.75%	8.5
6	1.85	15"	RCP	24'	2.00%	9.1

25×10

0000 0000 0547

REPRODUCTION DUE TO THE POOR QUALITY
OF THE ORIGINAL DOCUMENT



25×10 32×10 25×10

0000 0000 0548

PLANS/PLATS ON FILE

FILE DESC: FM/DKA

PLANS/PLATS 3

25 × 10

0000 0000 0549

25×10