

| DATE    | REVISIONS                         |
|---------|-----------------------------------|
| 8-26-67 | REVISED SHEET INDEX ON DRAWING    |
| 8-26-67 | REVISED SHEET INDEX ON QUANTITIES |
| 8-26-67 | SHEET INDEX NUMBERS               |

# COLUMBIA

HOWARD COUNTY, MARYLAND

CONSTRUCTION PLANS

VILLAGE OF HARPER'S CHOICE SECTION No. 1

LONGFELLOW AREA No. 4

ELECTION DISTRICT 5

DATE AUGUST 14, 1967

**NOTES:**

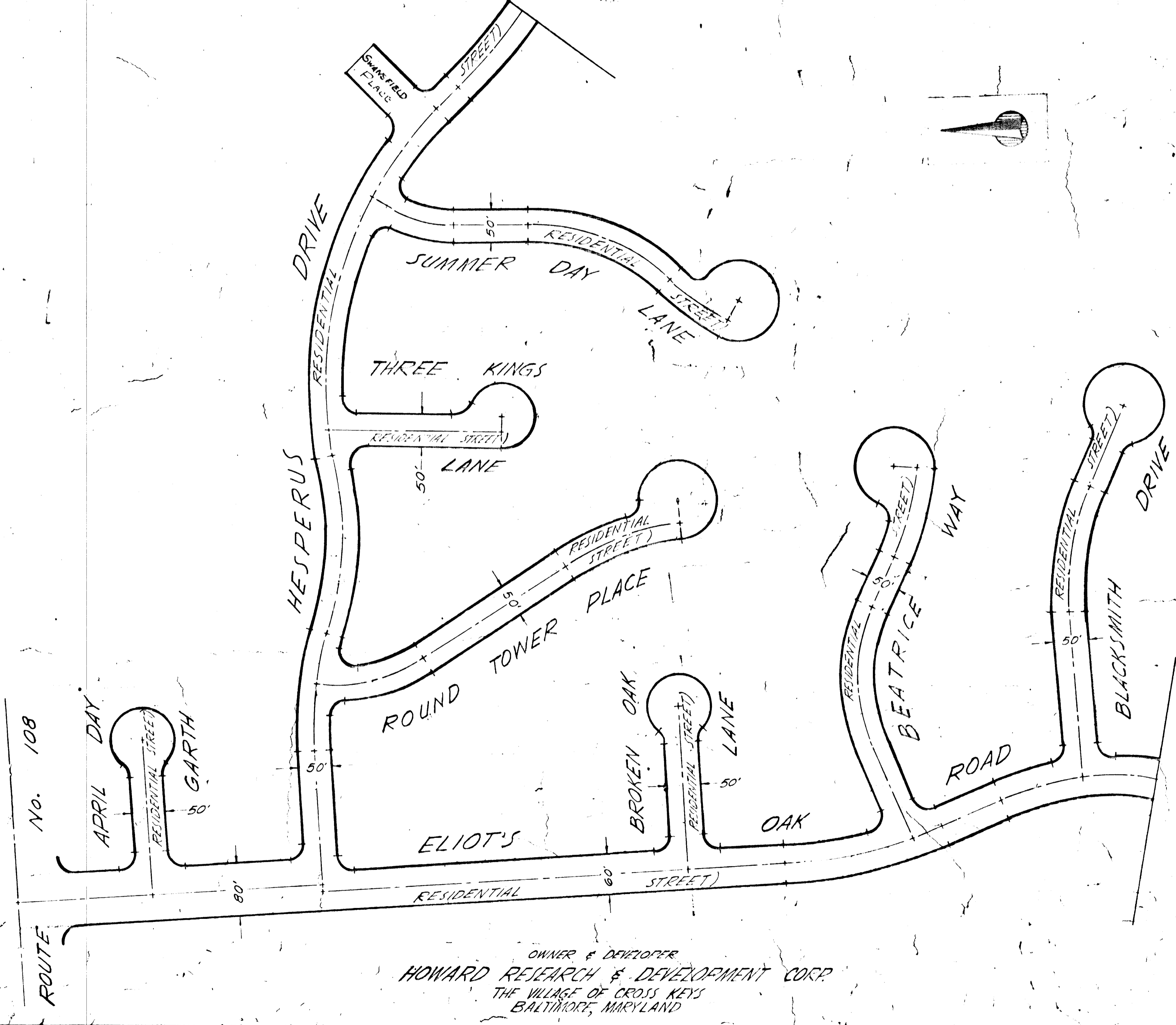
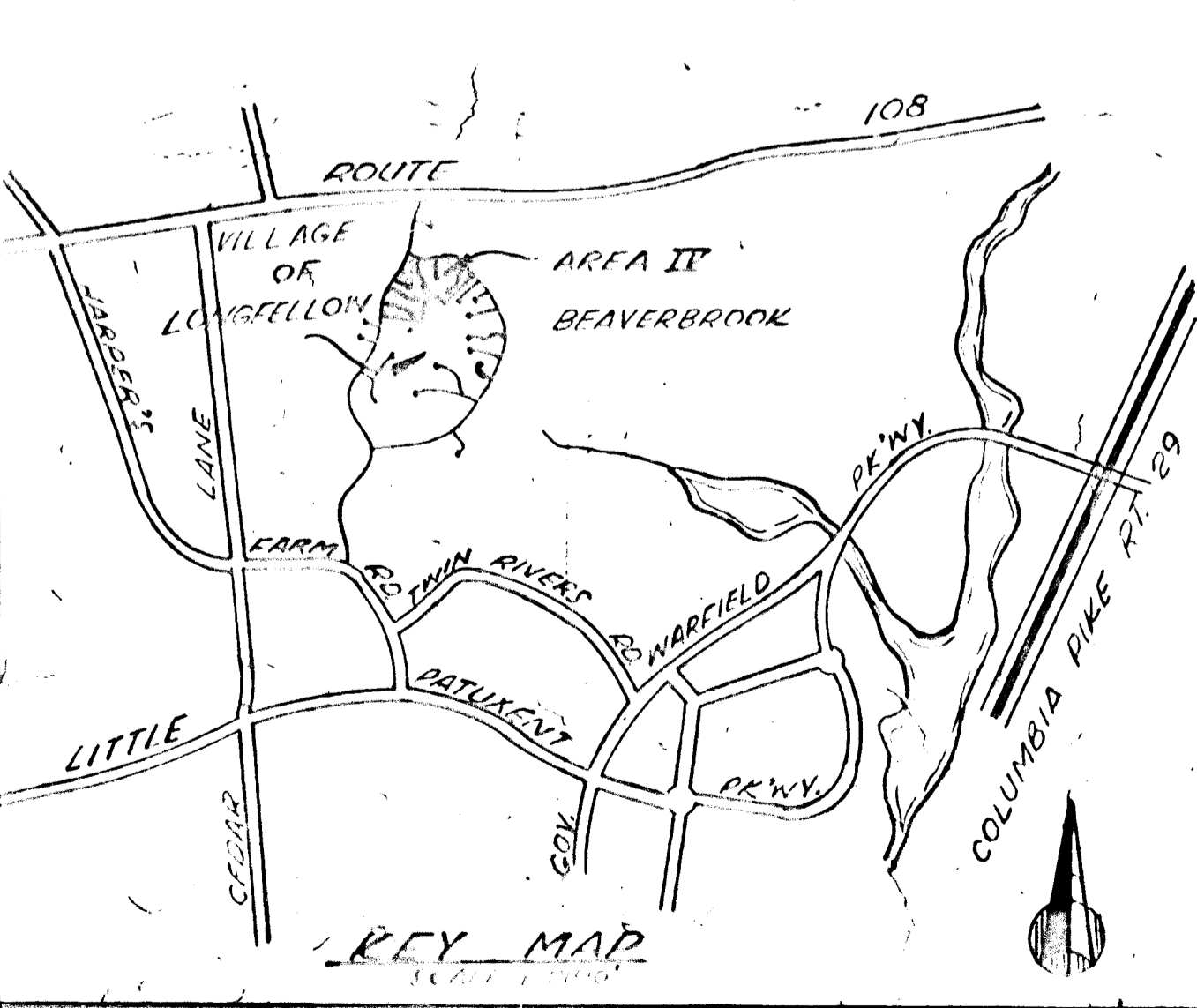
1. HESPERUS DRIVE AND ELIOT'S OAK ROAD ARE DESIGNED FOR 50 MPH TRAFFIC SPEED. ALL OTHER ROADS WERE DESIGNED FOR 20 MPH TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS STANDARDS.
2. ALL DETAILS ARE FROM ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS ISSUED OR APPROVED BY COUNTY COMMISSIONERS OF THE HOWARD COUNTY ROAD DEPT.
3. THE CONTRACTOR'S ATTENTION IS DRAWN TO THE NECESSITY FOR CAREFUL SURVEY REGARDING THE LOCATING OF TRENCHES BETWEEN PARALLEL CURVES, SIDEWALK OR OTHER UTILITY LINES.
4. ALL DIMENSIONS & CURVE DATA FOR THE CURVE LINES ARE TO THE BACK OF THE CURVE.
5. T.C. IS THE ABBREVIATION FOR TOP OF CURB.
6. SEE SHEET 24 FOR DETAIL OF TRANSITION FROM 8" TO 6" PAVEMENT THICKNESS.

| SHEET INDEX |  |
|-------------|--|
| 1           | TITLE SHEET  |
| 2,3         | PLAN & PROFILE - ELIOT'S OAK ROAD                    |
| 4           | PLAN & PROFILE - HESPERUS DRIVE                      |
| 5,6         | PLAN & PROFILE - HESPERUS DRIVE                      |
| 7           | PLAN & PROFILE - SUMMER DAY LANE                     |
| 8           | PLAN & PROFILE - ROUND TOWER PLACE                   |
| 9           | PLAN & PROFILE - BEATRICE WAY                        |
| 10          | PLAN & PROFILE - BLACKSMITH DRIVE                    |
| 11          | PLAN & PROFILE - ELIOT'S OAK ROAD & ELIOT'S OAK ROAD |
| 12          | AREA LOOK OPEN STAGE                                 |
| 13, 14      | CONSTRUCTION DETAILS                                 |

| SUMMARY OF EARTHWORK   |           |
|--|-----------|
| 1. TOTAL FILL (EXCLUDING REMOVAL & REUSE) - 20" TO 4" (BASED ON 15% COMP.) | 41,876 CY |
| 2. QUANTITY OF TOP SOIL TO BE REMOVED AND STORED                           | 25,665 CY |
| 3. QUANTITY OF FILL TO BE PLACED IN AREA 4                                 | 12,651 CY |
| 4. QUANTITY OF UNDERLAY TO BE REMOVED (BASED ON 15% COMP.)                 | 100 CY    |
| 5. QUANTITY OF TOP SOIL TO BE PLACED - 4" DEPTH                            | 6,136 CY  |

\*ITEMS 1 AND 2 APPEAR AS ITEM 15 IN THE ESTIMATE OF QUANTITIES

| DATE     | REVISIONS |
|----------|-----------|
| 11-1-67  | DATE      |
| 12-8-67  | DATE      |
| 12-12-67 | DATE      |

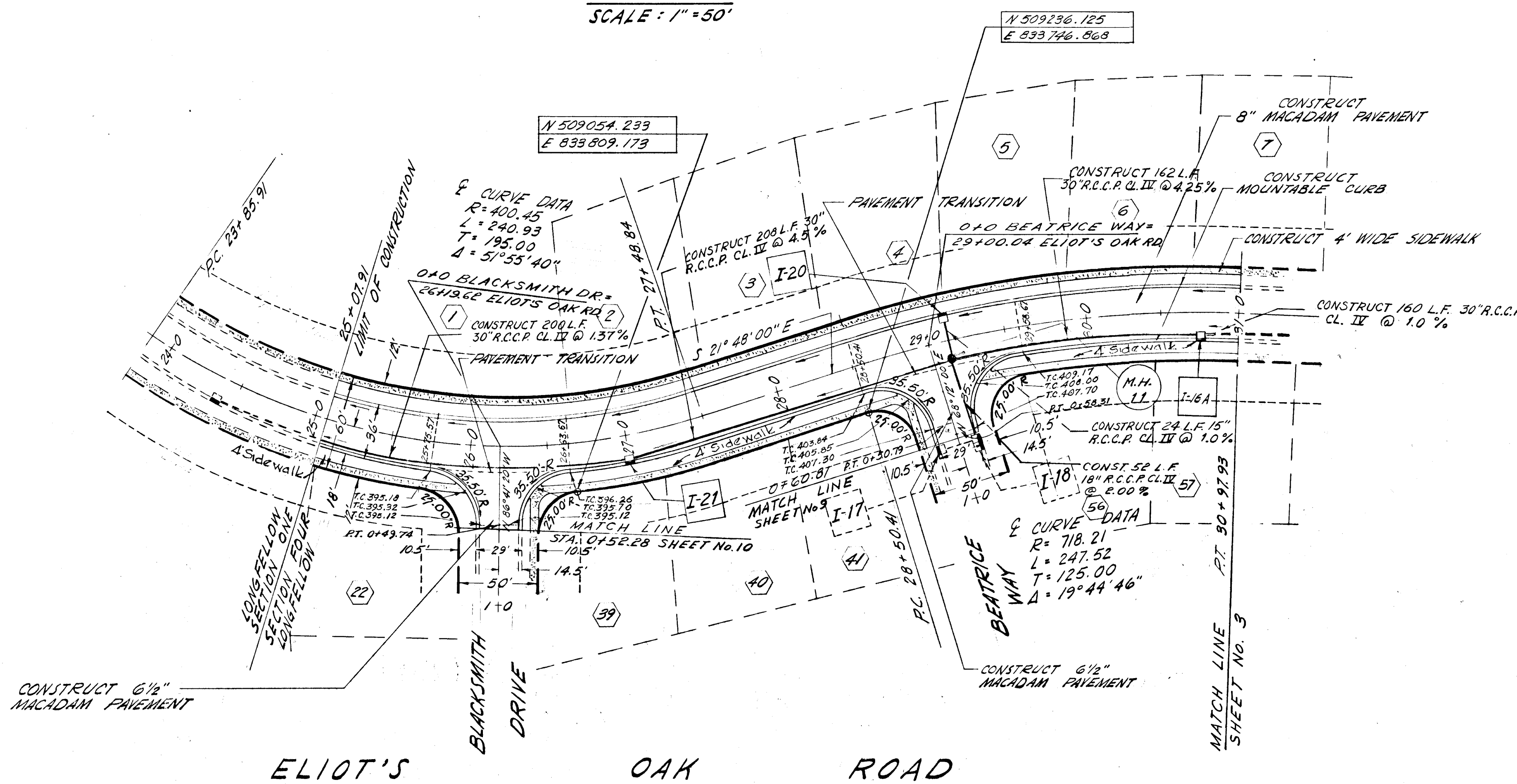


**BROWNE-PANDULLO & ASSOCIATES**  
 ENGINEERS  
 COLUMBIA, MARYLAND  
 RICHARD P. BROWNE, P.E. & L.S.  
 LIC. NO. 5238 STATE MD.

| ESTIMATE OF QUANTITIES |                                    |      |          |
|------------------------|------------------------------------|------|----------|
| ITEM                   | DESCRIPTION                        | UNIT | QUANTITY |
| 1                      | FIN CONC SURFACE COURSE 1 1/2" TH  | S.F. | 24,192   |
| 2                      | FIN CONC BINDER COURSE 1 1/2" TH   | S.F. | 6,476    |
| 3                      | FIN CONC BASE COURSE 5" TH         | S.F. | 12,651   |
| 4                      | MANHOLE'S CONC SINGLE INLET        | L.A. | 77       |
| 5                      | " CONC DOUBLE INLET                | L.A. | 5        |
| 6                      | STANDARD MANHOLE                   | L.A. | 10       |
| 7                      | TYPE "B" MANHOLE                   | L.A. | 5        |
| 8                      | 12" R.C.C.P. 12' LENGTH            | L.F. | 1        |
| 9                      | 15 R.C.C.P. 48" 6'-0" 64" - CL. 7' | L.F. | 2,762    |
| 10                     | 18 R.C.C.P. 48" 6'-0" 64" - CL. 7' | L.F. | 345      |
| 11                     | 24 R.C.C.P. 48" 6'-0" 64" - CL. 7' | L.F. | 360      |
| 12                     | 30 R.C.C.P. 48" 6'-0" 64" - CL. 7' | L.F. | 1,002    |
| 13                     | CONCRETE MANHOLE CURB              | L.F. | 13,200   |
| 14                     | CONCRETE RETICULAR CURB            | L.F. | 740      |
| 15                     | FRESH EXCAVATION - ROADWAY         | CY   | 54,881   |
| 16                     | UNDESIGNED MATERIAL TO BE REMOVED  | CY   | 100      |
| 17                     | 10% FACTOR OF OVERLAY OVER 15'     | L.F. | 515      |
| 18                     | 12" OF TOPSOIL 4' DEPTH            | S.F. | 55,826   |
| 19                     | CONCRETE SURFACE 4" THICK          | S.F. | 38,206   |
| 20                     | CONCRETE SURFACE 6" THICK          | S.F. | 5,760    |

OWNER & DEVELOPER  
**HOWARD RESEARCH & DEVELOPMENT CORP.**  
 THE VILLAGE OF CROSS KEYS  
 BALTIMORE, MARYLAND

**PLAN**  
SCALE: 1" = 50'



| NO.     | TYPE                       | LOCATION        | IN         | OUT    | ELEV.      | REMARKS   |
|---------|----------------------------|-----------------|------------|--------|------------|-----------|
| I-20    | MOD. 5" COMB. SINGLE GRATE | 29+10 18' LT.   | 402.00     | 406.76 |            | DEPRESSED |
| I-21    | MOD. 5" COMB. SINGLE GRATE | 27+00 18' RT.   | 392.14     | 397.16 |            | DEPRESSED |
| I-16A   | MOD. 5" COMB. SINGLE GRATE | 31+75 18' RT.   | 408.74     | 408.65 | FR. 414.26 |           |
| M.H. II | STANDARD                   | 29+10 12.5' RT. | 15" 401.76 | 401.50 | TR. 406.58 |           |
|         |                            |                 | 30" 401.76 |        |            |           |

**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE: *[Signature]* 7 1967

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COLUMBIA, MARYLAND

10/30/67  
For: [ ] By: [ ] Review: [ ]

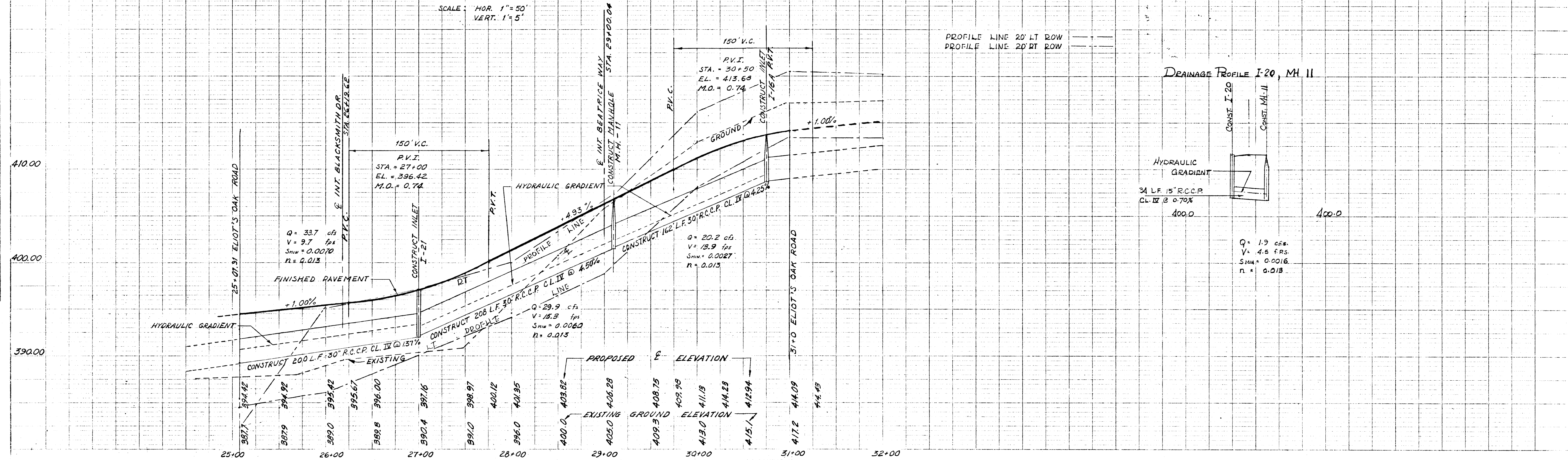
**COLUMBIA**  
MARYLAND  
OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT CORP.

PROJECT AREA  
VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4

PROJECT TITLE  
**PLAN & PROFILE**  
**ELIOT'S OAK ROAD**

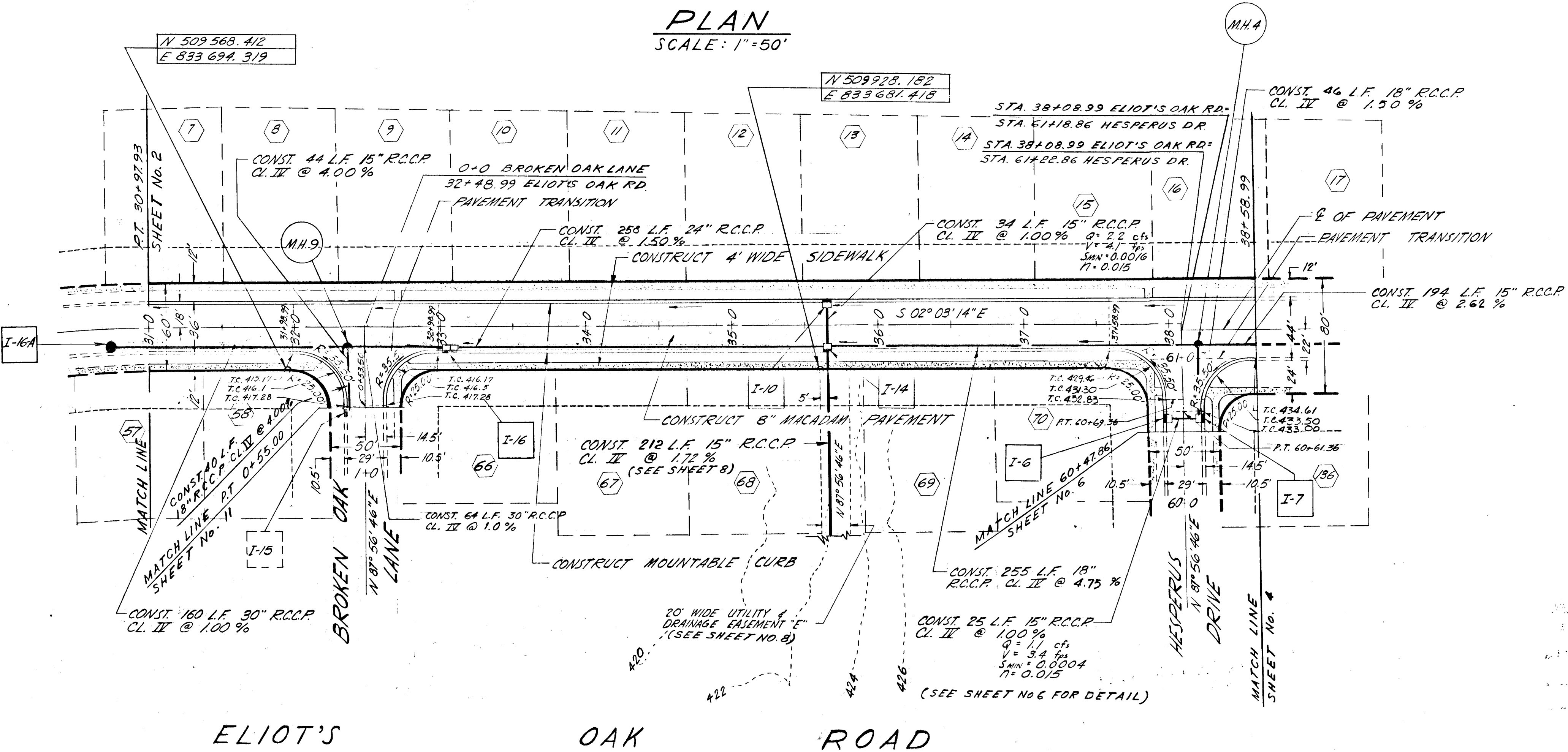
Des. By: C.Y. Scale: AS SHOWN Day: No. 2 OF 14  
 Dra. By: S.M.C. Date: AUG. 14, 1967 C.C.F. No.  
 Chk. By: W.P. Approved

**Q PROFILE**  
SCALE: HOR. 1" = 50'  
VERT. 1" = 5'



PROFILE  
NOTE: BOOK NO. 1764

**PLAN**  
SCALE: 1"=50'



| NO.    | TYPE                       | LOCATION          | INV. IN | INV. OUT | C.P. ELEV. | REMARKS   |
|--------|----------------------------|-------------------|---------|----------|------------|-----------|
| I-6    | MOD. 3" COMB. SINGLE GRATE | 60+58.00 14.5' LT | —       | 429.57   | 433.00     | DEPRESSED |
| I-7    | MOD. 5" COMB. SINGLE GRATE | 60+58.00 14.5' RT | 429.32  | 429.05   | 433.00     | DEPRESSED |
| I-10   | MOD. 5" COMB. SINGLE GRATE | 35+65.00 18' LT   | —       | 416.81   | 420.20     | DEPRESSED |
| I-14   | MOD. 5" COMB. SINGLE GRATE | 35+65.00 18' RT   | 415.84  | 415.59   | 420.20     | DEPRESSED |
| M.H. 4 | STANDARD                   | 38+20.00 12.5' RT | 432.67  | 432.42   | 432.43     |           |
| M.H. 9 | STANDARD                   | 32+37.00 12.5' RT | 410.81  | 410.34   | 415.97     |           |
| I-16   | MOD. 15" DOUBLE GRATE      | 33+04             | 411.72  | 411.25   | 415.17     | DEPRESSED |

**BROWNE-PANDULLO & ASSOCIATES**  
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COLUMBIA, MARYLAND

10/30/67  
Rev. Date: 10/30/67  
Rev. No.: 1  
Revision Description: 1

**COLUMBIA MARYLAND**

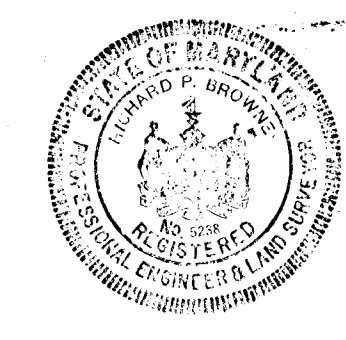
HOWARD RESEARCH AND DEVELOPMENT CORP.  
THE VILLAGE OF CROSS KEYS - BALLINGORE, MARYLAND 21010

PROJECT AREA: VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4

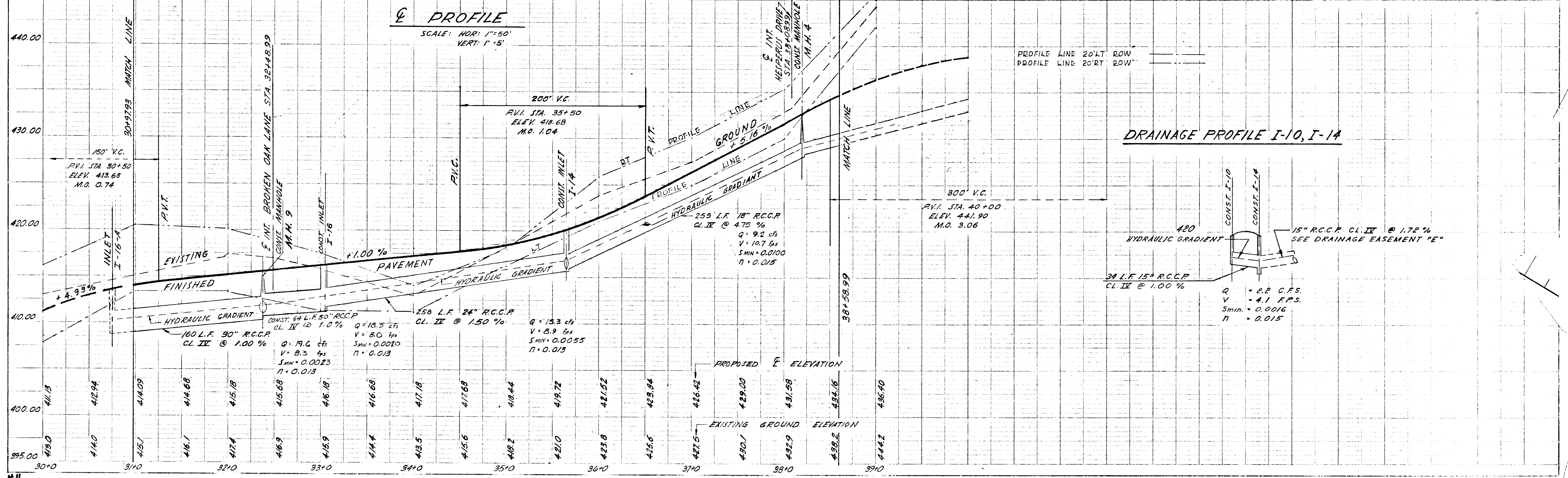
PROJECT TITLE: PLAN & PROFILE ELIOT'S OAK ROAD

Des. By: C.Y. Scale: AS SHOWN Dwg. No. 3 OF 14  
Dwn. By: J.V.M. Date: AUG. 14, 1967 C.C.F. No.  
CHK. By: W.P. Approved

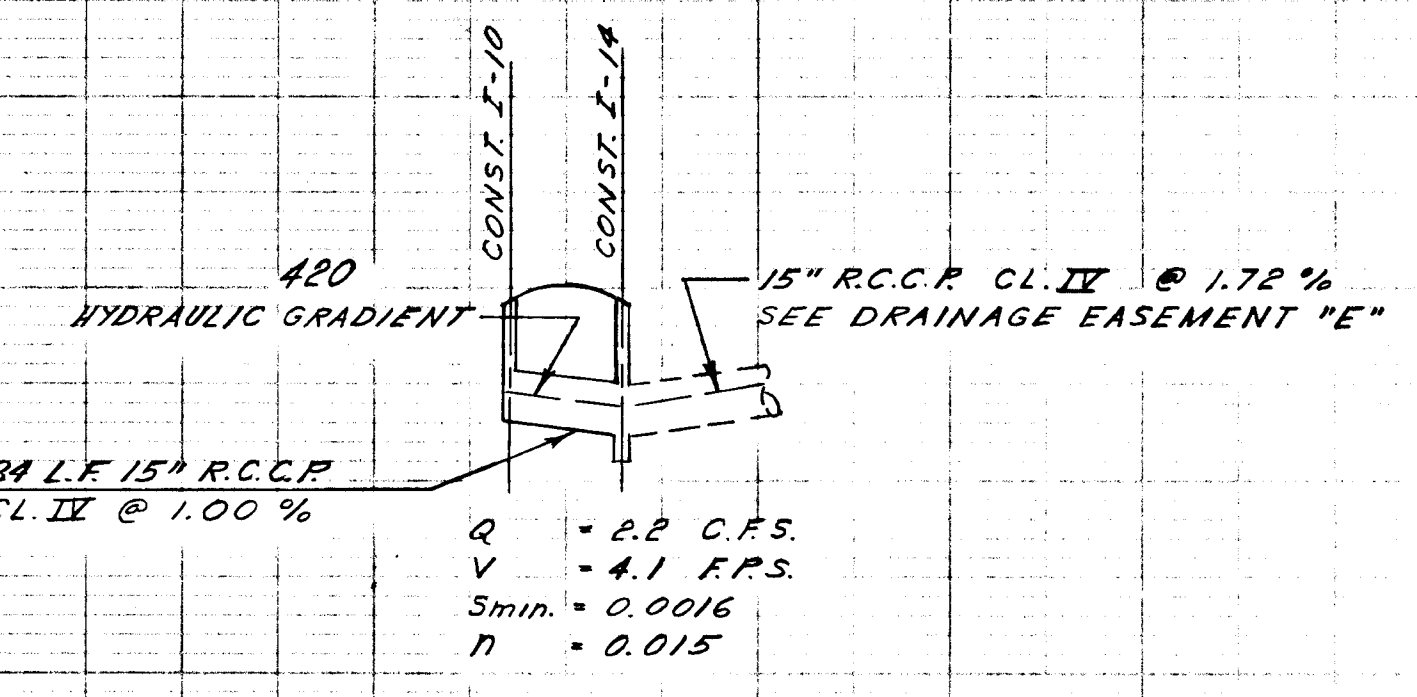
**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE: *[Signature]*



**PROFILE**  
SCALE: HOR: 1"=50' VERT: 1"=5'



**DRAINAGE PROFILE I-10, I-14**



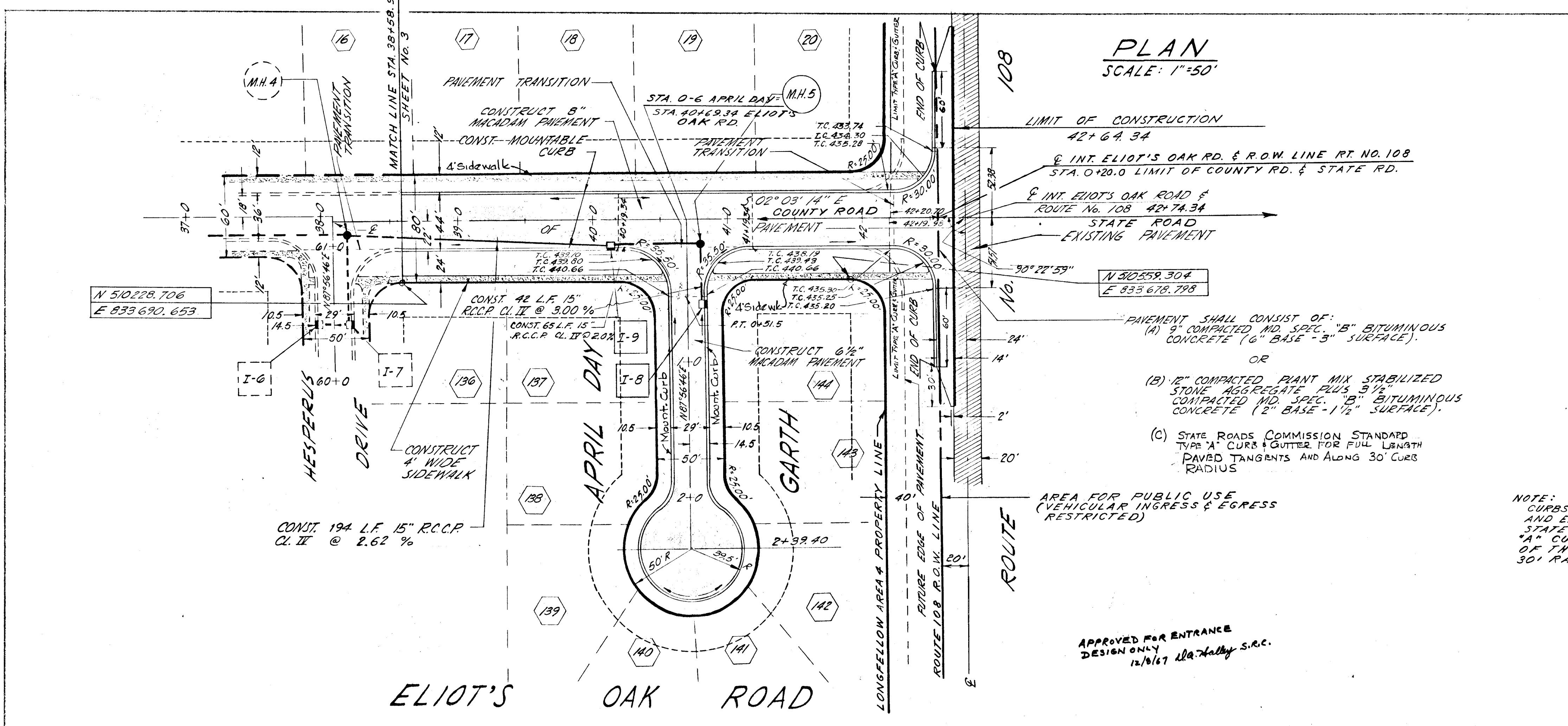
PLAN  
NOTE: BROCK, GAVIN, CHECKED  
NO. 10000  
DATE: 10/30/67

PROFILE  
NOTE: BROCK, GAVIN, CHECKED  
NO. 10000  
DATE: 10/30/67

**PLAN**  
SCALE: 1"=50'

**STORM DRAINAGE STRUCTURE SCHEDULE**

| NO.   | TYPE                        | LOCATION       | INV. IN | INV. OUT | I.C.P. ELEV. | REMARKS   |
|-------|-----------------------------|----------------|---------|----------|--------------|-----------|
| I-8   | MOD. 15" COMB. SINGLE GRATE | 0+55 14.5' LT  | 436.25  | 441.20   |              | DEPRESSED |
| I-9   | MOD. 15" COMB. SINGLE GRATE | 40+17 18' RT   | 433.55  | 433.43   | 438.99       | DEPRESSED |
| M.H.5 | STANDARD                    | 40+82 14.0' RT | 434.99  | 434.65   | 439.15       |           |

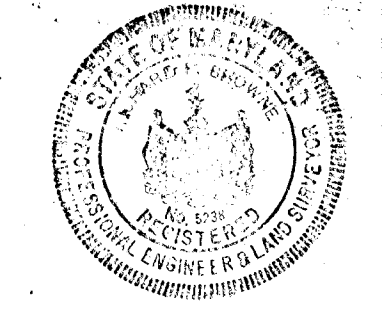


N 510228.706  
E 833690.653

N 510559.304  
E 833678.798

NOTE:  
CURBS AT INTERSECTION OF MARYLAND RT. 108 AND ELIOT'S OAK RD. SHALL BE MARYLAND STATE ROADS COMMISSION STANDARD TYPE "A" CURB AND GUTTER FOR THE FULL LENGTH OF THE PAVED TANGENTS AND ALONG THE 30' RADIUS.

**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE DEC 7 1967  
J.H.C.



**BROWNE-PANDULLO & ASSOCIATES**  
ENGINEERS  
COLUMBIA, MARYLAND

10/30/67 1  
Rev. Date Rev. No. Revision Description

**COLUMBIA**  
MARYLAND

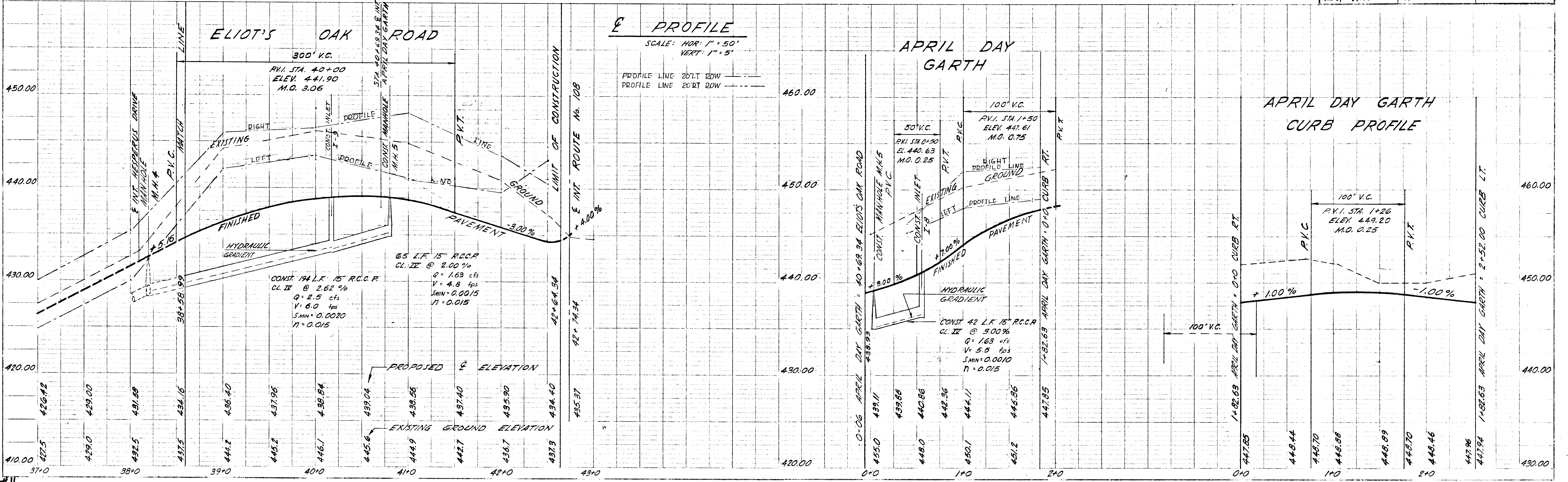
OWNER AND DEVELOPER:  
**HOWARD RESEARCH AND DEVELOPMENT CORP.**  
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA:  
**VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4**

PROJECT TITLE:  
**PLAN & PROFILE  
ELIOT'S OAK ROAD & APRIL DAY GARTH**

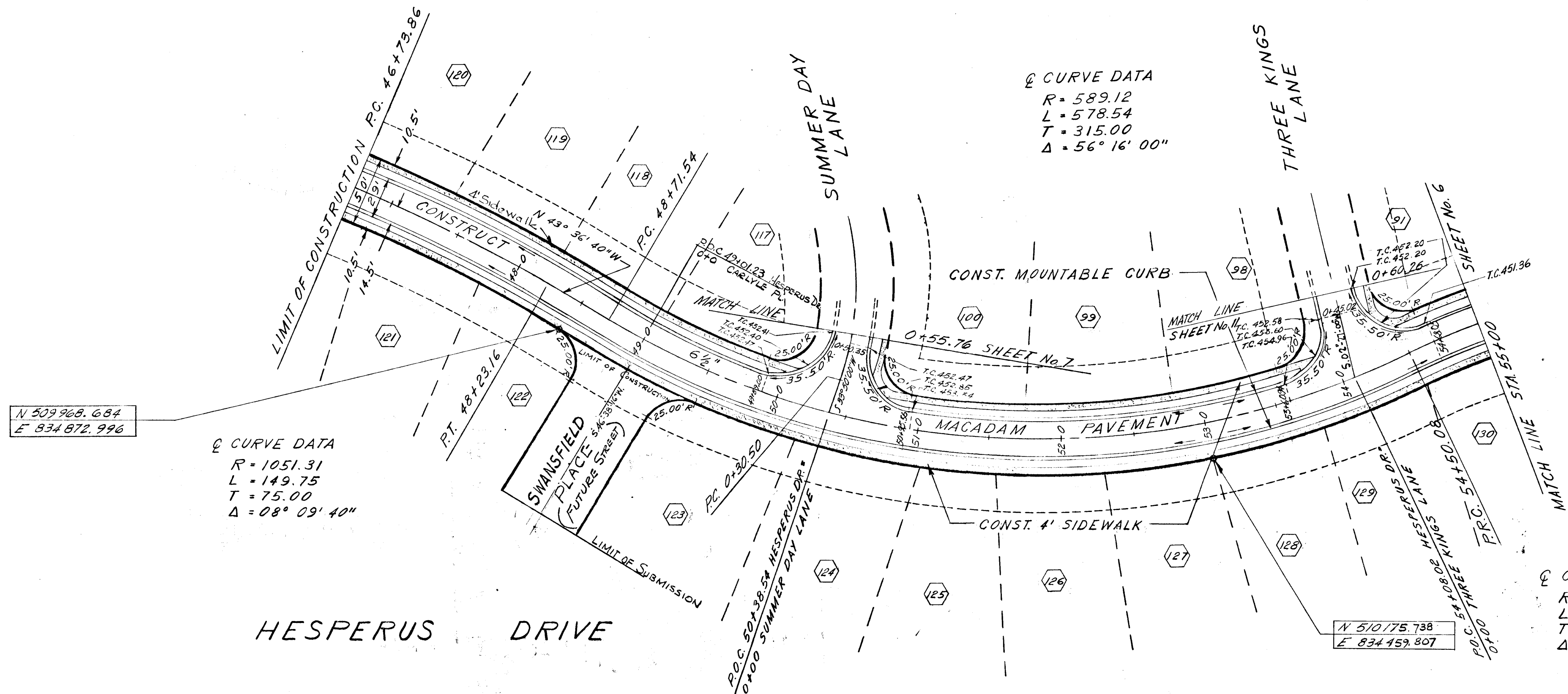
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Dwn. By: J.V.M. Date: AUG. 14, 1967 C.C.F. No.  
Chk. By: W.P. Approved

**PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



# PLAN

SCALE: 1" = 50'



**APPROVED**  
 PLANNING COMMISSION  
 OF HOWARD COUNTY  
 DATE: DEC 1967  
*[Signature]*

**BROWNE-PANDULLO & ASSOCIATES**  
 ENGINEERS  
 COLUMBIA, MARYLAND

10/30/67  
 Proj. No. 1  
 Revision Description

**COLUMBIA**  
 MARYLAND

OWNER AND DEVELOPER  
**HOWARD RESEARCH AND DEVELOPMENT CORP.**  
 THE VILLAGE OF GRASS KEYS BALTIMORE, MARYLAND 2110

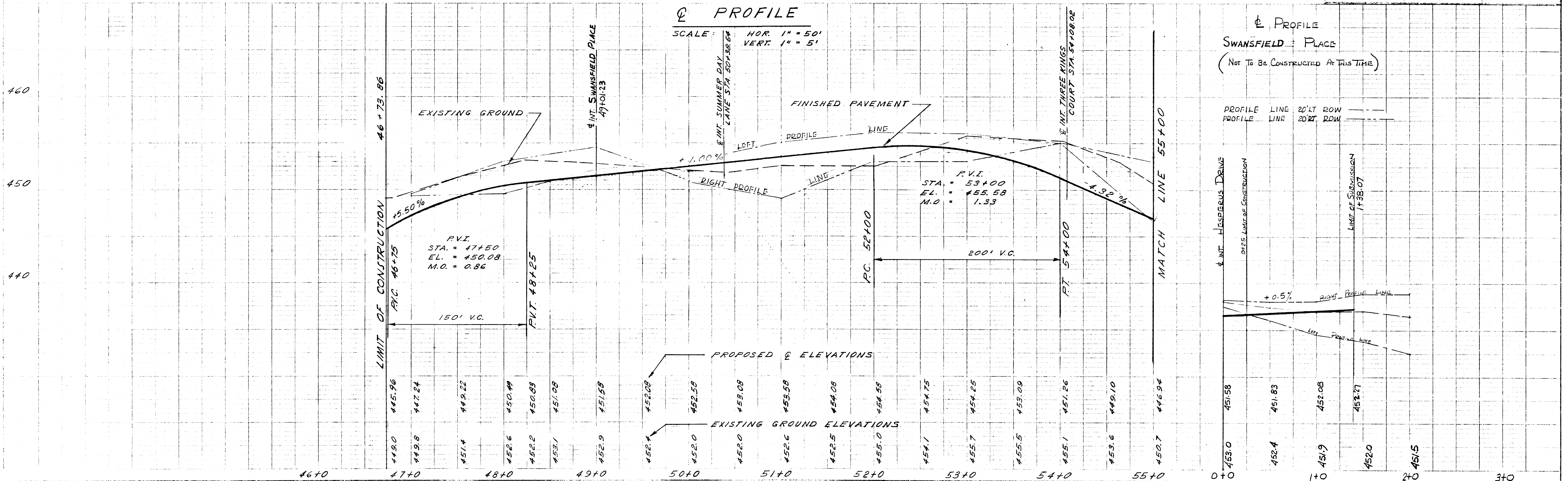
PROJECT AREA  
**VILLAGE OF HARPER'S CHOICE SEC. No. 1  
 LONGFELLOW AREA No. 4**

PROJECT TITLE  
**PLAN & PROFILE  
 HESPERUS DRIVE**

Des. By: C.Y. Scale: AS SHOWN Date: AUG. 14, 1967  
 Dwn. By: J.V.M. Date: Approved  
 Ck'd. By: W.P.

## Q PROFILE

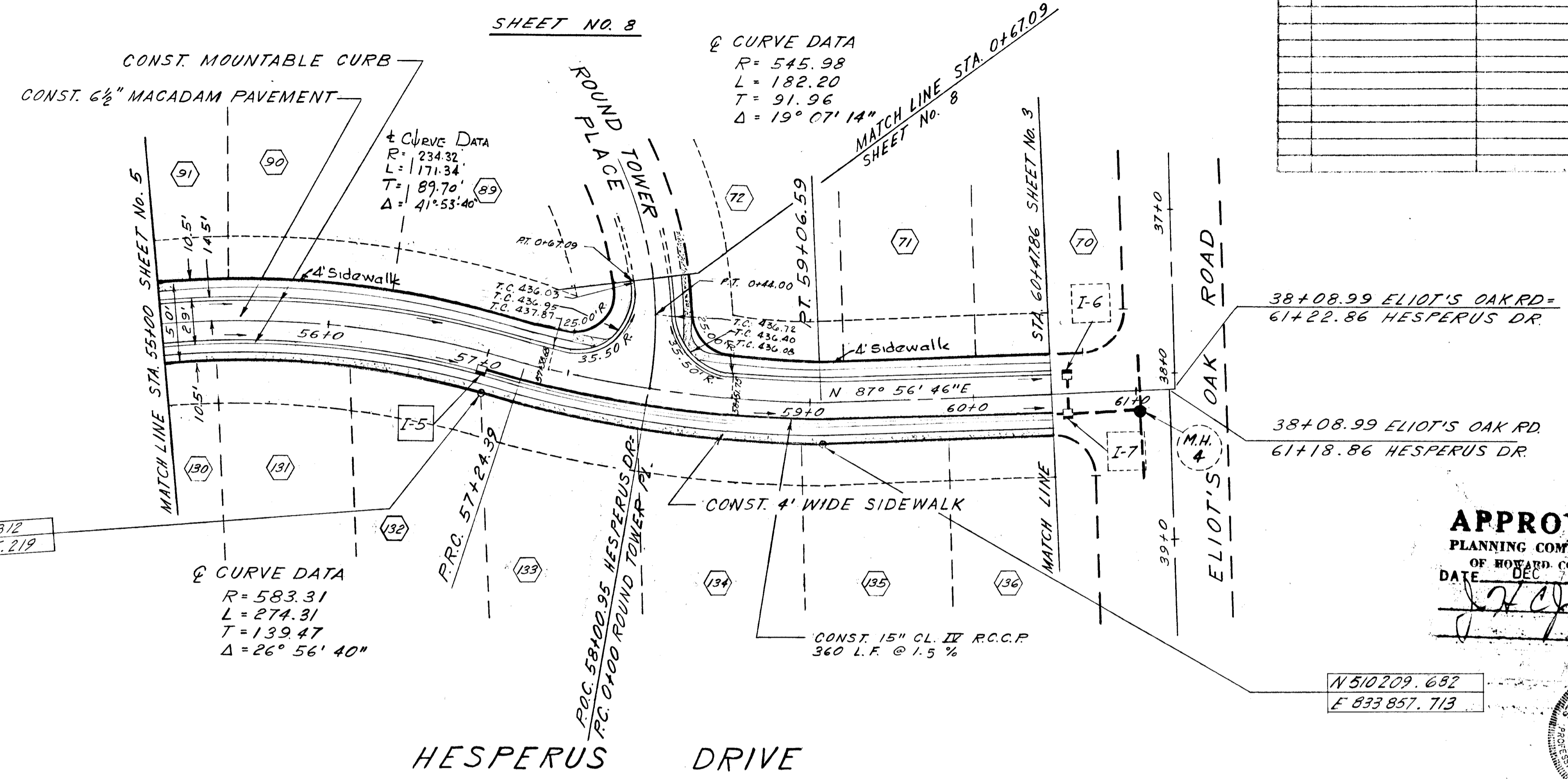
SCALE: HOR. 1" = 50'  
 VERT. 1" = 5'



### PLAN

SCALE: 1" = 50'

SHEET NO. 8



| NO. | TYPE                        | LOCATION | INV. IN  | INV. OUT | T.C.P. ELEV. | REMARKS |           |
|-----|-----------------------------|----------|----------|----------|--------------|---------|-----------|
| I-5 | MOD. 15" COMB. SINGLE GRATE | 57+00    | 14.5' RT |          | 434.75       | 438.83  | DEPRESSED |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |
|     |                             |          |          |          |              |         |           |

**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE: DEC 7 1967

BROWNE-PANDULLO & ASSOCIATES  
ENGINEERS  
COLUMBIA, MARYLAND

10/30/67 1  
Rev Date Rev No Revision Description

**COLUMBIA**  
MARYLAND

OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT CORP.  
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

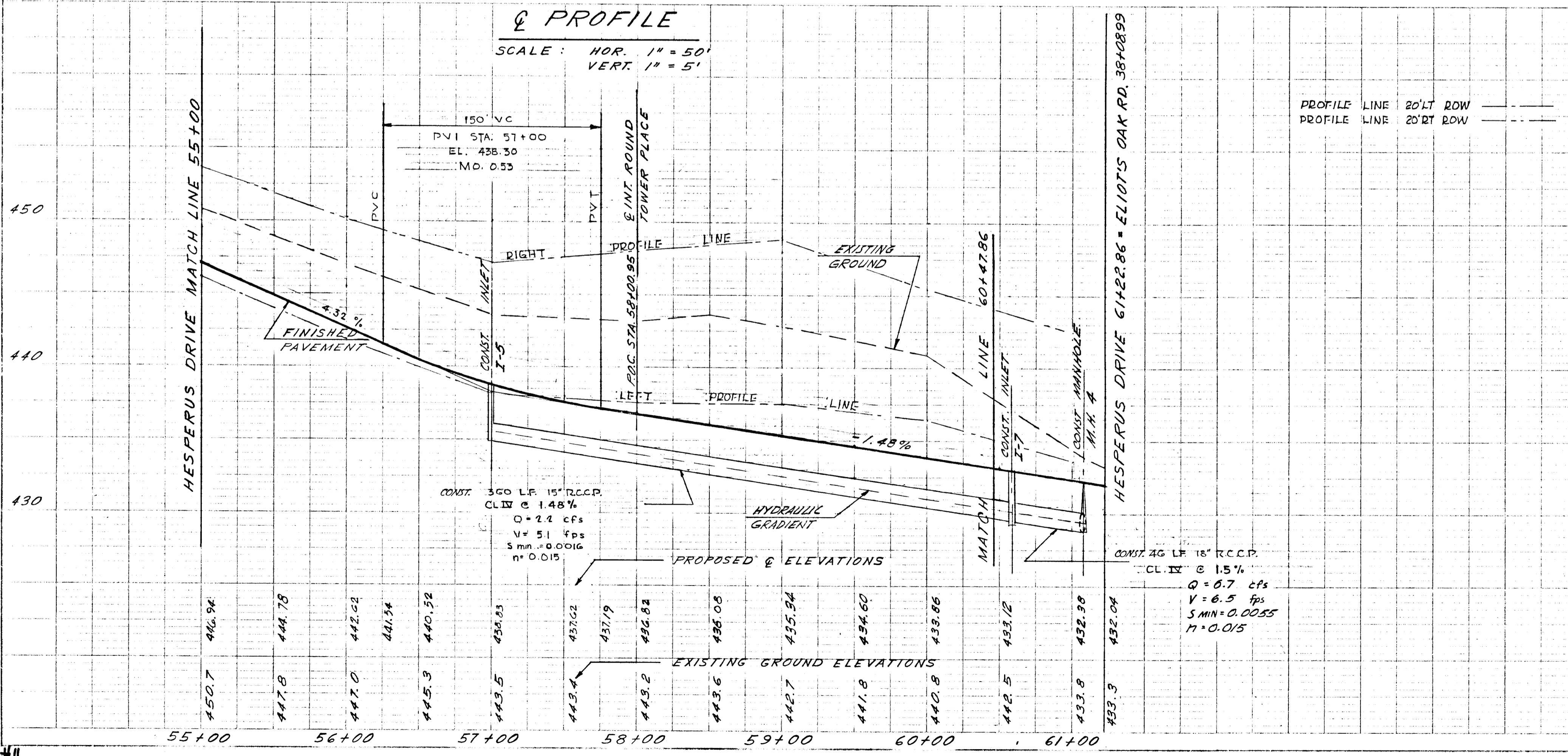
PROJECT AREA  
VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4

PROJECT TITLE  
PLAN & PROFILE  
HESPERUS DRIVE

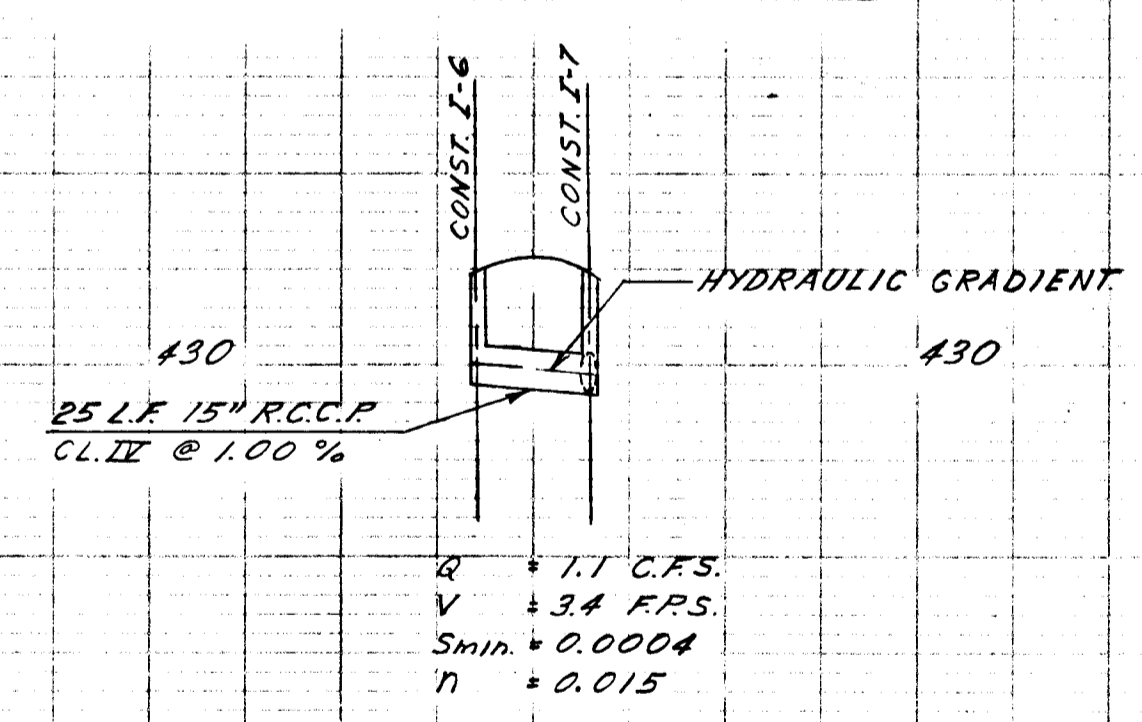
Des By C.Y. Date AS SHOWN Dwg No 6 OF 14  
Din By J.V.M. Date AUG. 14 1967 C.C.F. No.  
Chk By W.P. Approved

### PROFILE

SCALE: HOR. 1" = 50'  
VERT. 1" = 5'



### DRAINAGE PROFILE I-6, I-7



# PLAN

SCALE: 1" = 50'

0+00 SUMMER DAY LANE =  
50+38.54 HESPERUS DR.

R = 185.35  
L = 106.93  
T = 55.00  
Δ = 33° 03' 20"

R = 331.15  
L = 110.42  
T = 55.73  
Δ = 19° 06' 20"

R = 305.01  
L = 238.97  
T = 126.00  
Δ = 44° 59' 30"

N 509 832.639  
E 534 681.706

SUMMER DAY LANE

THREE KINGS LANE

| STORM DRAINAGE STRUCTURE SCHEDULE |                             |                     |         |          |            |           |
|-----------------------------------|-----------------------------|---------------------|---------|----------|------------|-----------|
| NO.                               | TYPE                        | LOCATION            | INV. IN | INV. OUT | C.P. ELEV. | REMARKS   |
| I-2                               | MOD. 15" COMB. SINGLE GRATE | 3+00 - 14.5' LT.    | 439.75  | 443.47   | 443.47     | DEPRESSED |
| I-3                               | MOD. 15" COMB. SINGLE GRATE | 5+00 - 14.5' RT.    | 439.50  | 439.50   | 443.47     | DEPRESSED |
| I-4                               | MOD. 15" COMB. SINGLE GRATE | 2+00 - CURB PROFILE | 431.08  | 431.11   | 434.31     | DEPRESSED |
| I-3A                              | MOD. 15" COMB. SINGLE GRATE | 5+43.72 - 14.5' RT. | 436.72  | 436.00   | 440.26     | DEPRESSED |
| HW2                               | "6"                         | SEE PLAN            |         | 412.11   |            |           |

**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE DEC 7 1967

BROWNE-PANDULLO & ASSOCIATES  
ENGINEERS  
COLUMBIA, MARYLAND

10/30/67 1

| Rev. No. | Rev. No. | Revision Description |
|----------|----------|----------------------|
| 1        |          |                      |

**COLUMBIA**  
MARYLAND

OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT CORP.  
THE VILLAGE OF GROSS KEYS - BALTIMORE, MARYLAND 21210

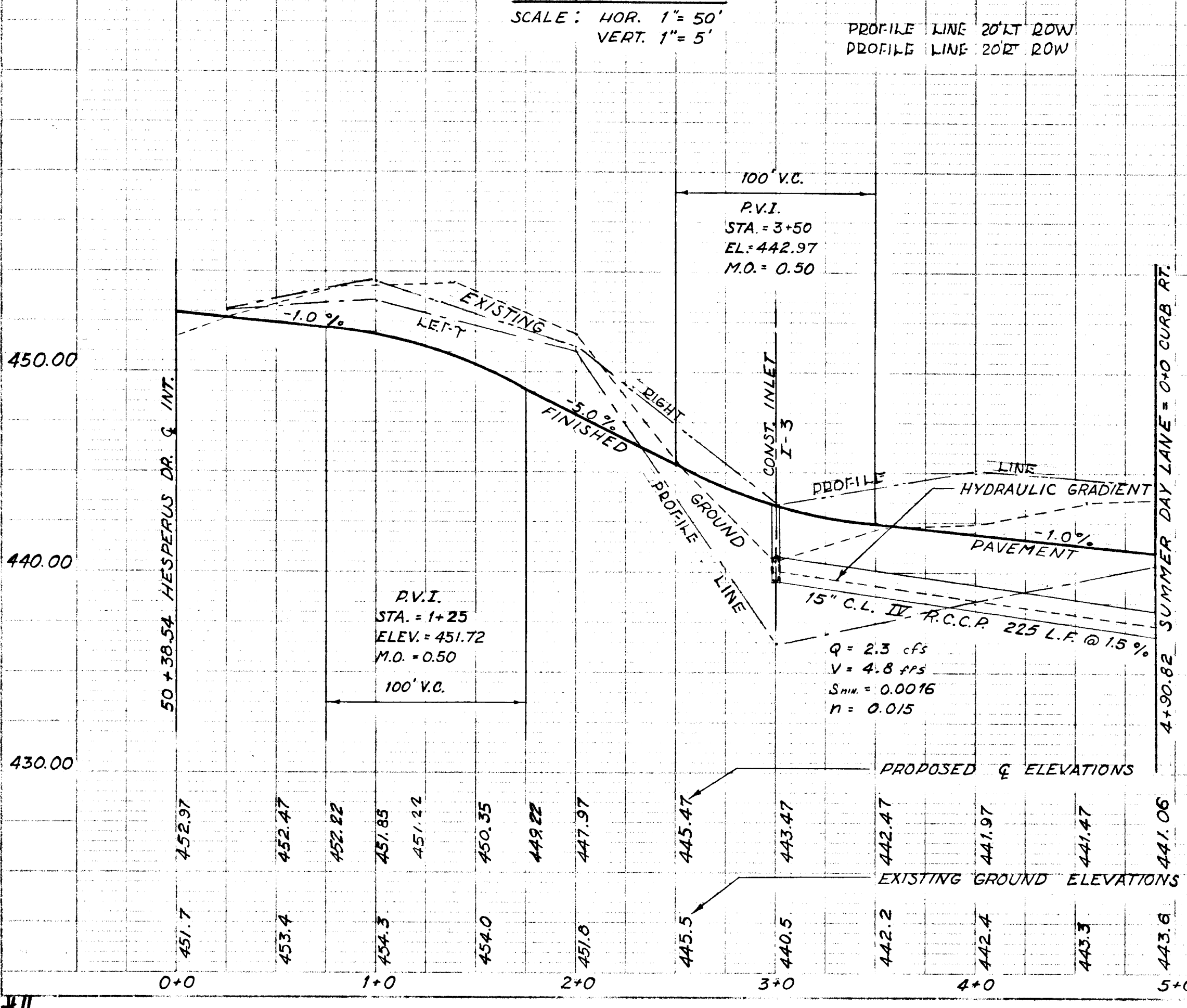
PROJECT AREA  
VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4

PROJECT TITLE  
PLAN & PROFILE  
SUMMER DAY LANE

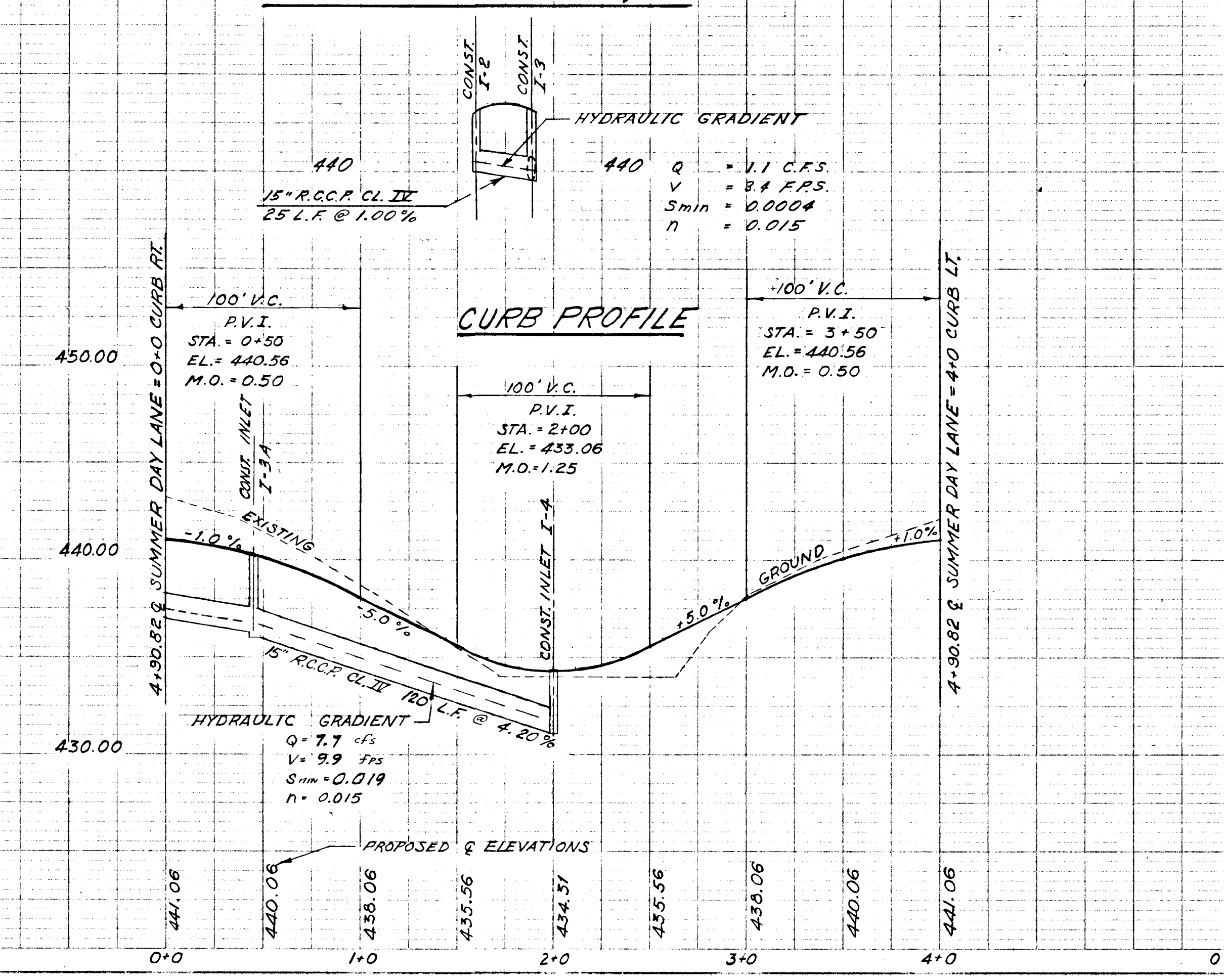
Des. By C.Y. Scale AS SHOWN Dwg. No. 7 OF 14  
Din. By S.M.C. Date AUG. 14 1967 C.C.F. No.  
Chk. By W.P. Approved

## Q PROFILE

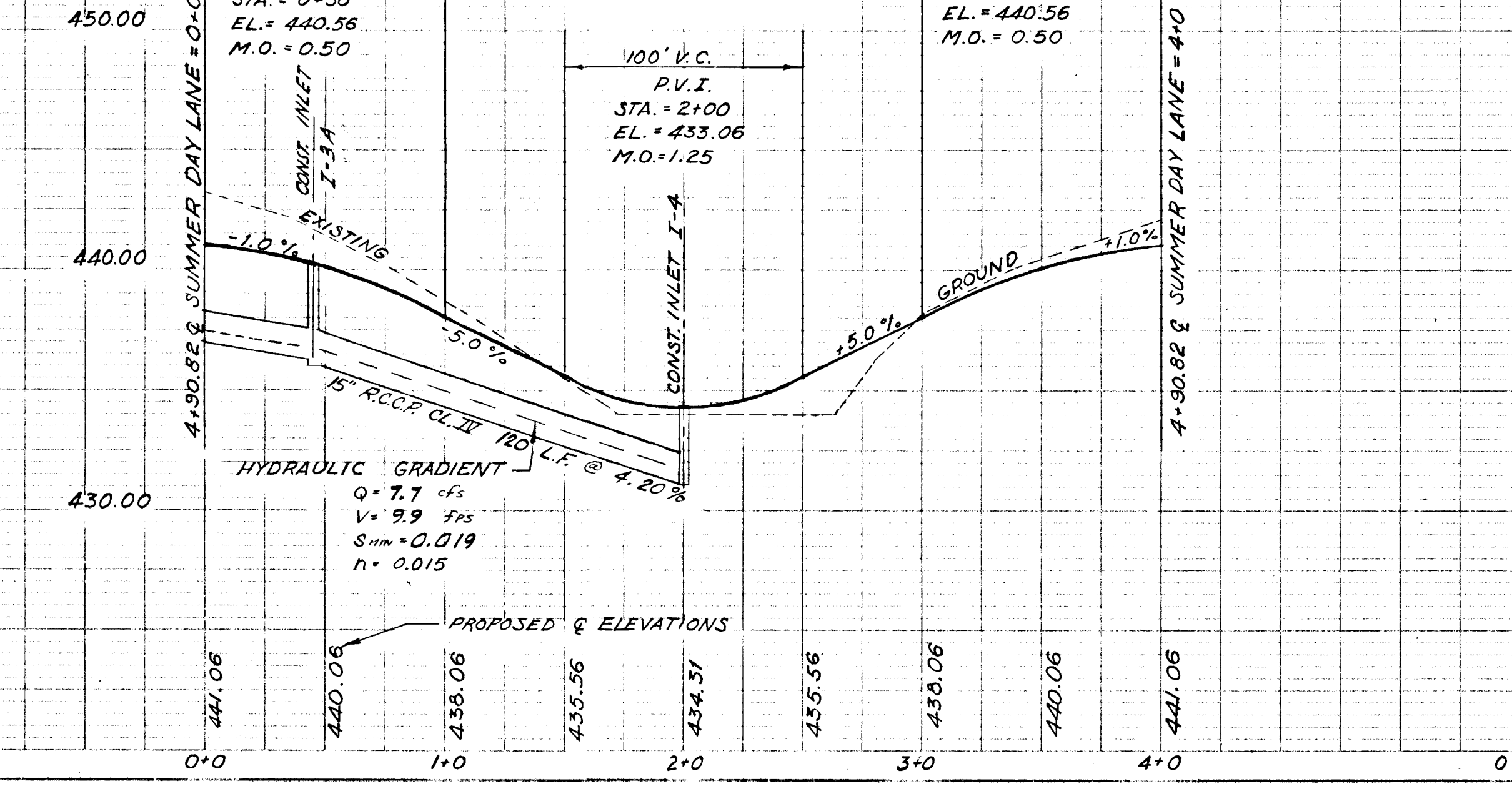
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VERT. 1" = 5'



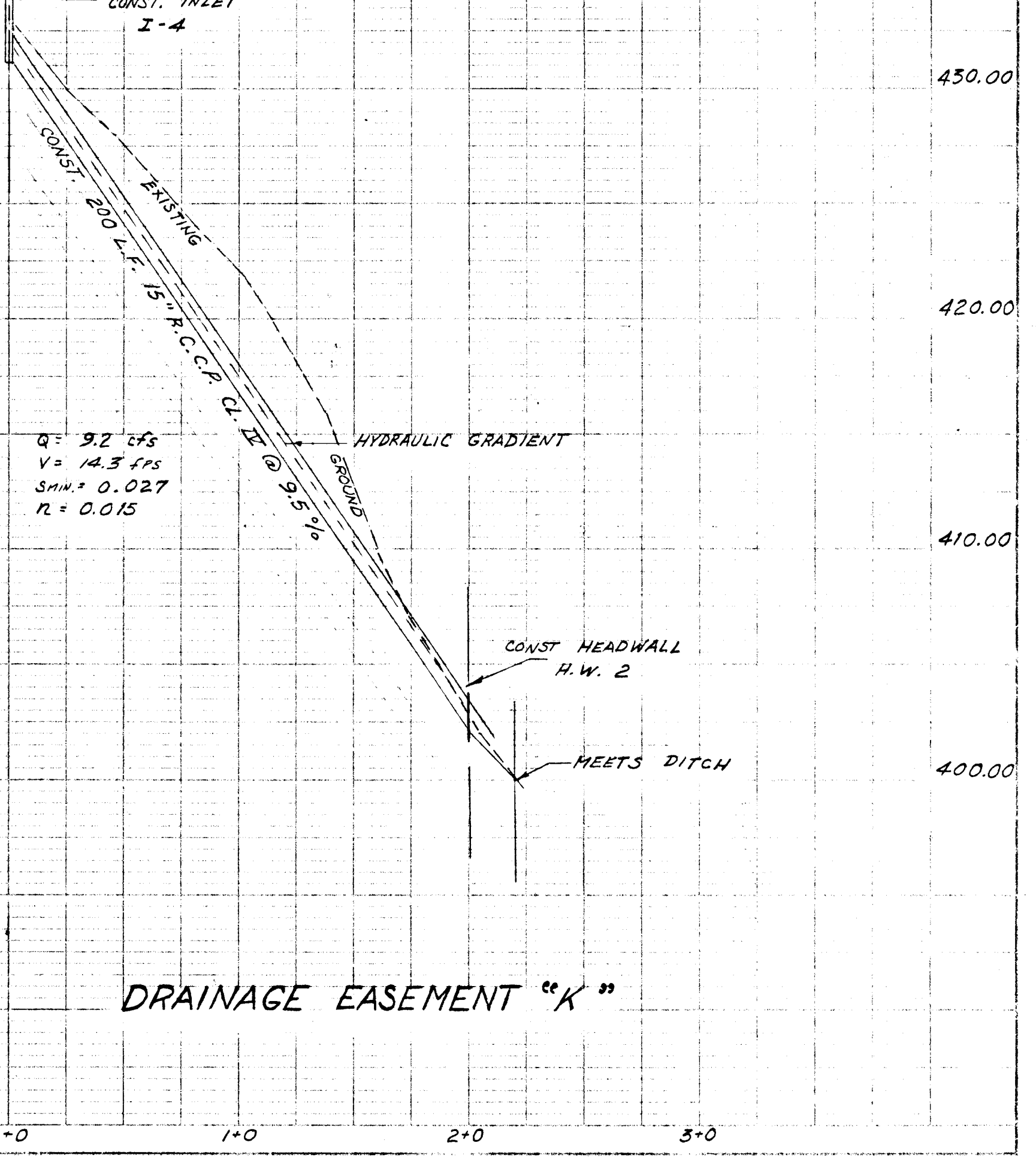
## DRAINAGE PROFILE I-2, I-3



## CURB PROFILE



## DRAINAGE EASEMENT "K"



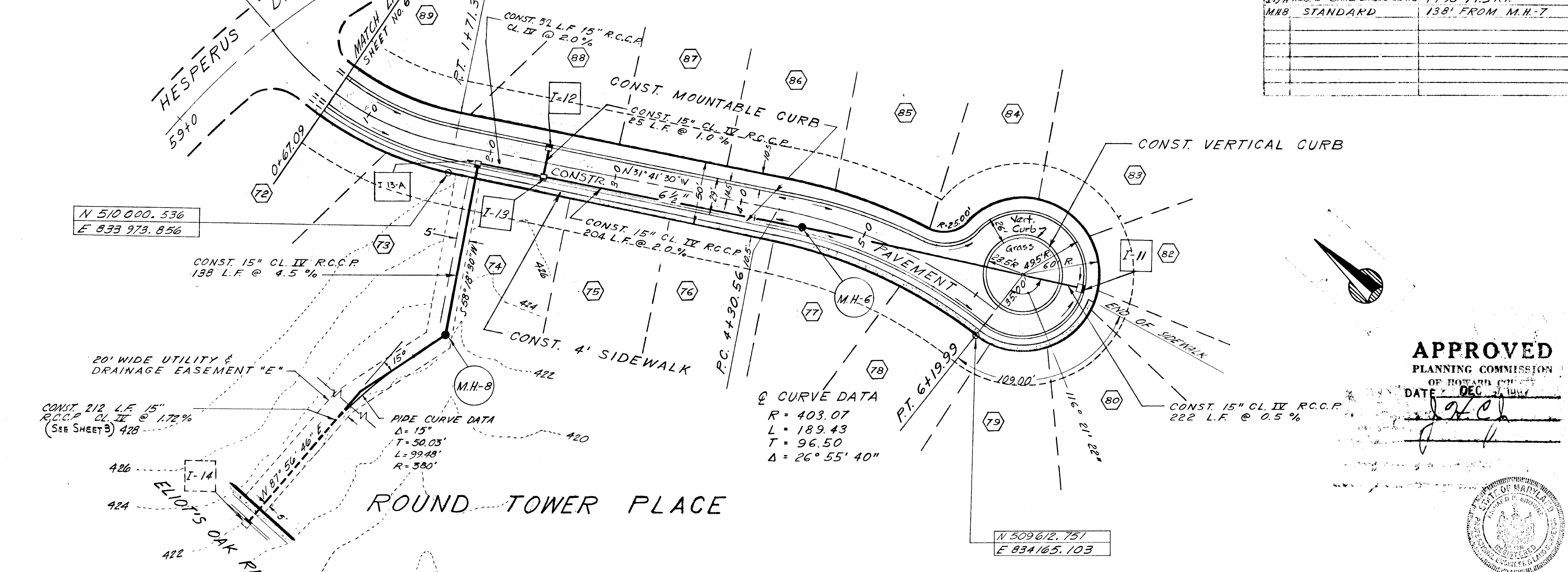
# PLAN

SCALE: 1" = 50'

Q CURVE DATA  
 R = 234.32  
 L = 171.34  
 T = 89.70  
 Δ = 41° 53' 40"

P.C. 0+00 ROUND TOWER PL.  
 P.O.C. 58+00.95 HESPERUS DR.

| NO.    | TYPE                        | LOCATION          | INV. IN | INV. OUT | T.C.P. ELEV. | REMARKS   |
|--------|-----------------------------|-------------------|---------|----------|--------------|-----------|
| I-11   | MOD. 15" COMB. SINGLE GRATE | 1+75 CURB PROFILE | 432.25  | 435.59   |              |           |
| M.H. 6 | STANDARD                    | 4+50 12.5' RT.    | 431.14  | 431.10   | T.R. 437.49  | DEPRESSED |
| I-12   | MOD. 15" COMB. SINGLE GRATE | 2+44.5 14.5' LT.  | 426.99  | 431.38   |              | DEPRESSED |
| I-13   | MOD. 15" COMB. SINGLE GRATE | 2+44.5 14.5' RT.  | 427.02  | 426.95   | 431.38       | DEPRESSED |
| I-14   | MOD. 15" COMB. SINGLE GRATE | 1+93 14.5' RT.    | 425.91  | 425.81   | 432.25       | DEPRESSED |
| M.H. 8 | STANDARD                    | 138' FROM M.H. 7  | 419.60  | 419.40   | 423.00       |           |



**APPROVED**  
 PLANNING COMMISSION  
 OF HOWARD COUNTY  
 DATE: DEC 27 1967

**BROWNE-PANDULLO & ASSOCIATES**  
 ENGINEERS  
 COLUMBIA, MARYLAND

10/30/67  
 Rec. Date: 1 Rev. No. Revision Description

**COLUMBIA**  
 MARYLAND

OWNER AND DEVELOPER  
**HOWARD RESEARCH AND DEVELOPMENT CORP.**  
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

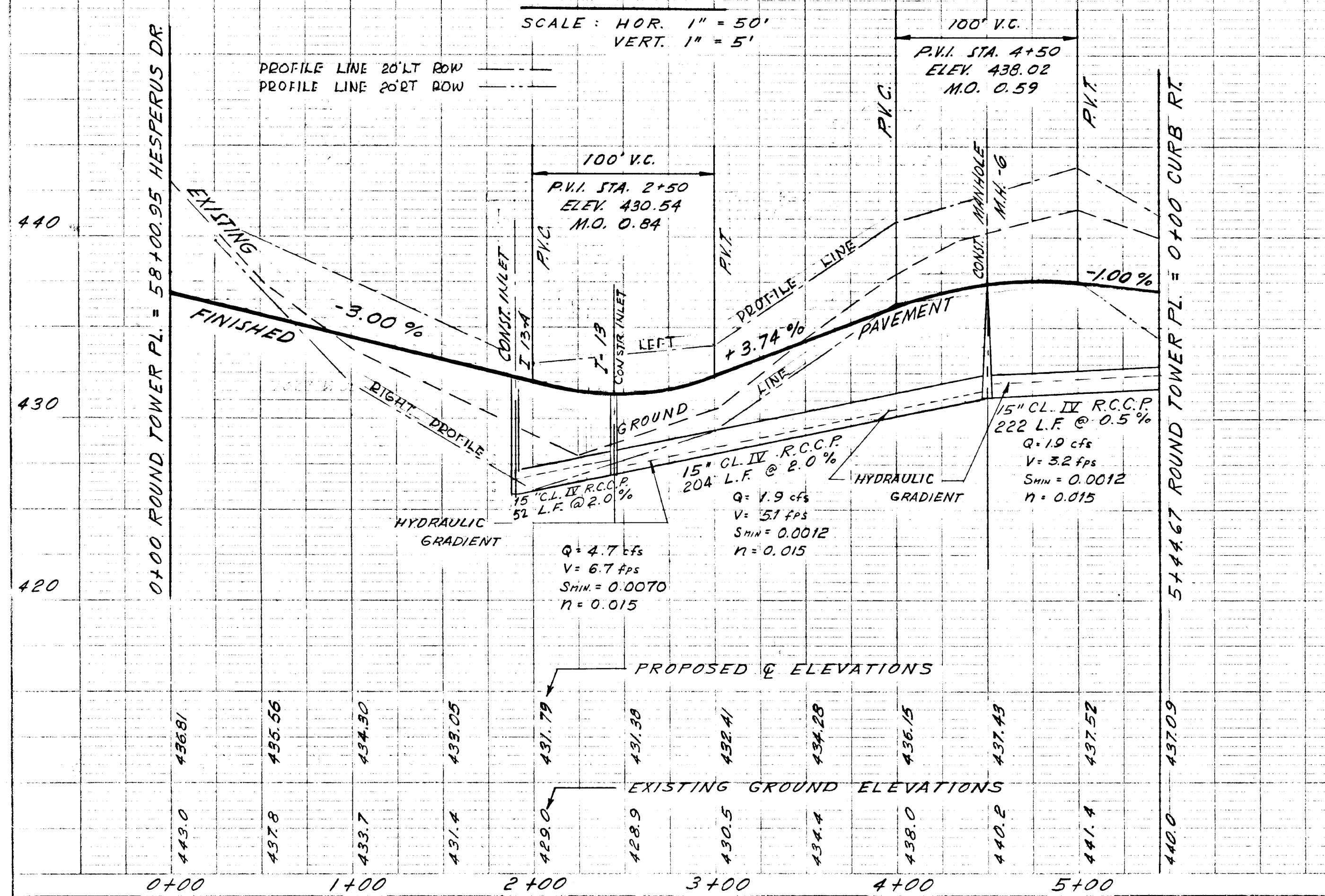
PROJECT AREA  
**VILLAGE OF HADDER'S CHOICE SEC. No. 1  
 LONGFELLOW AREA No. 4**

PROJECT TITLE  
**PLAN & PROFILE  
 ROUND TOWER PLACE**

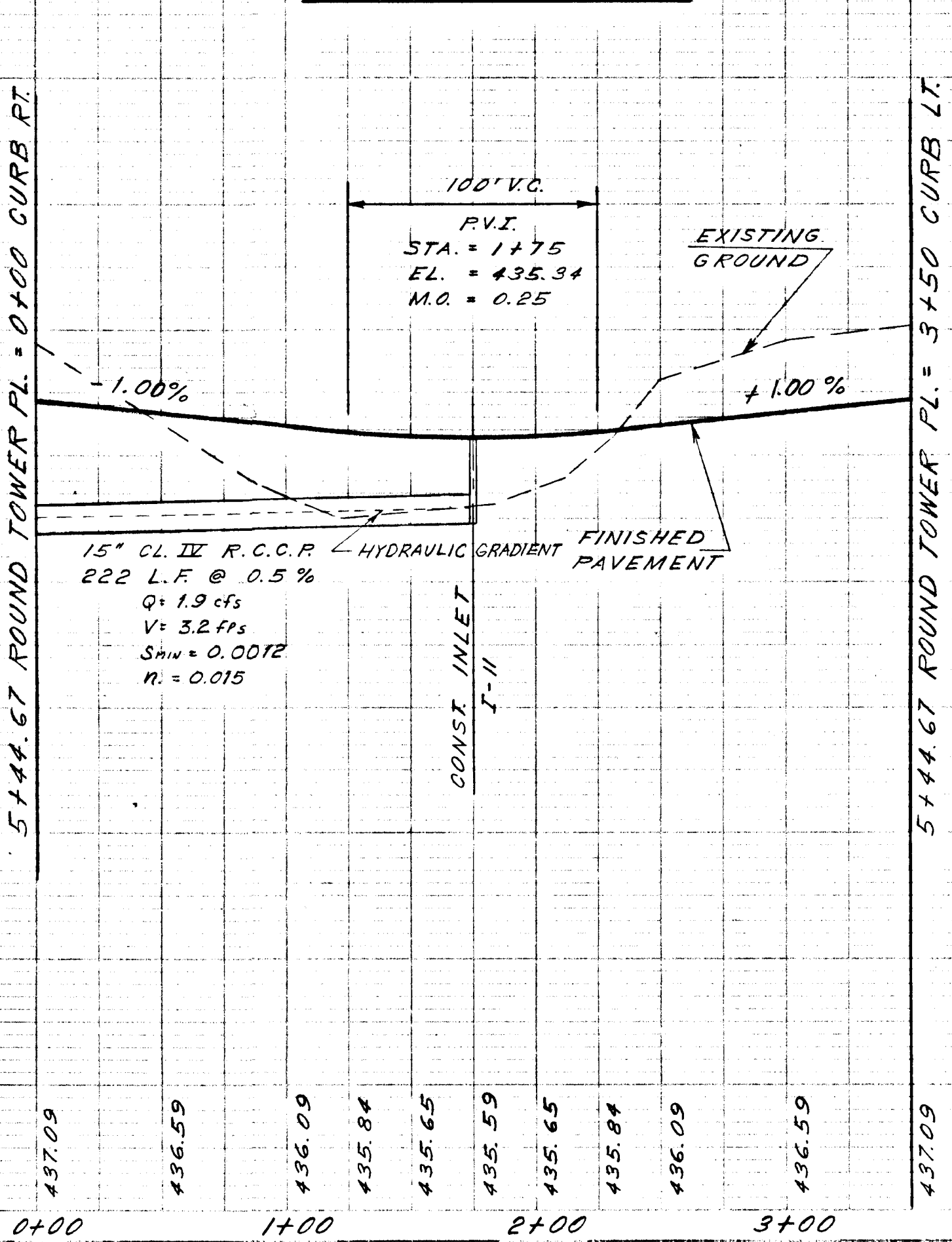
Des. By: C.Y. Scale: AS SHOWN Dwg. No. 8 OF 14  
 Dra. By: S.M.C. Date: AUG. 14, 1967 C.C.F. No.  
 Chk. By: W.P. Approved

## Q PROFILE

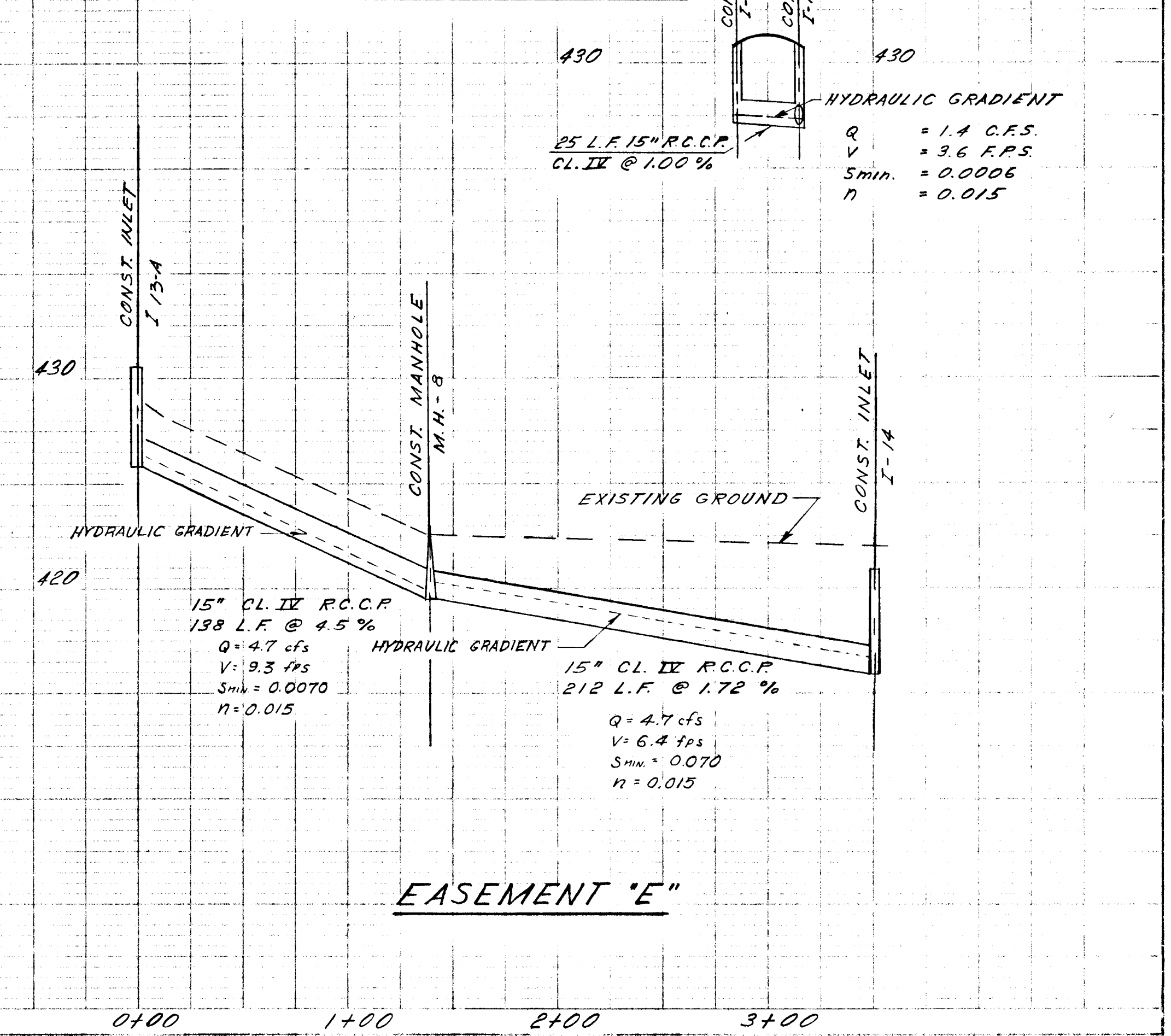
SCALE: HOR. 1" = 50'  
 VERT. 1" = 5'



## CURB PROFILE



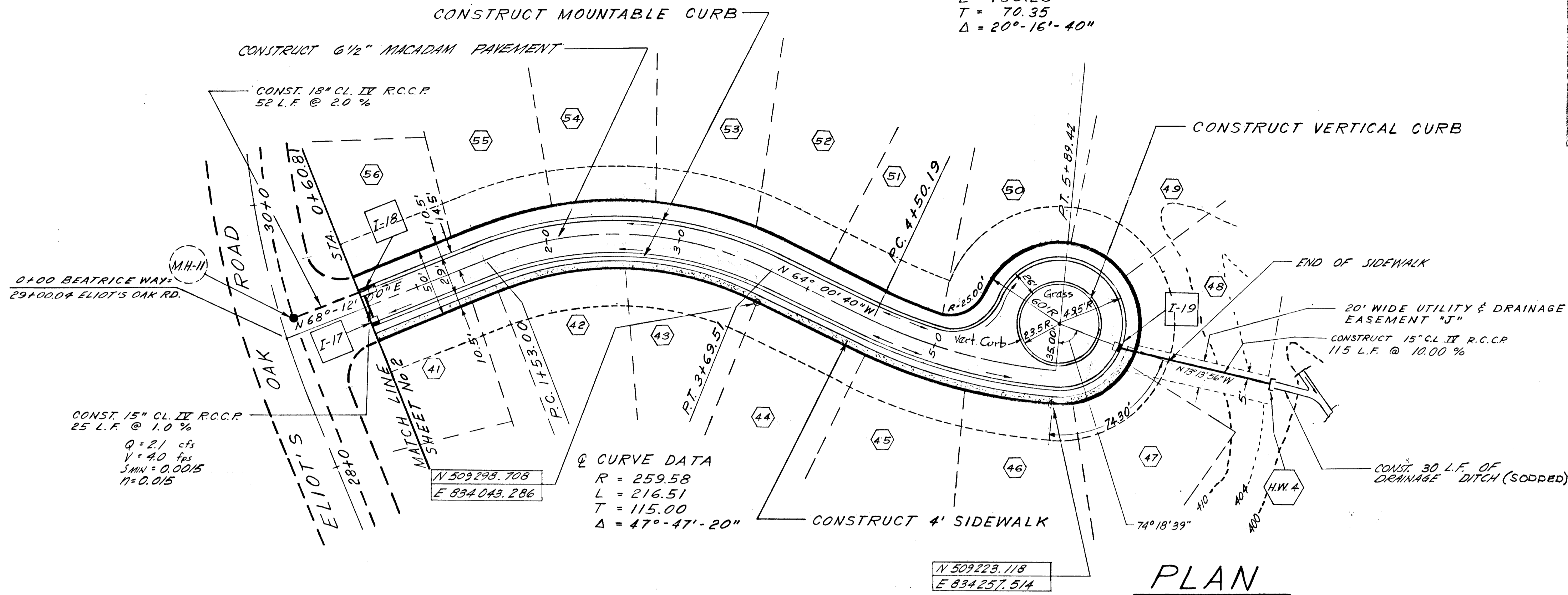
## DRAINAGE PROFILE I-12, I-13



EASEMENT 'E'



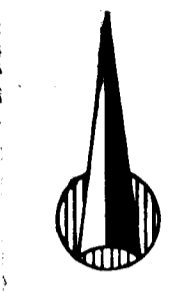
Q CURVE DATA  
 R = 393.40  
 L = 139.23  
 T = 70.35  
 $\Delta = 20^\circ-16'-40''$



BEATRICE WAY

PLAN  
 SCALE: 1" = 50'

| STORM DRAINAGE STRUCTURE SCHEDULE |                            |                    |         |          |            |           |
|-----------------------------------|----------------------------|--------------------|---------|----------|------------|-----------|
| NO.                               | TYPE                       | LOCATION           | INV. IN | INV. OUT | I.C. ELEV. | REMARKS   |
| I-17                              | MOD. 5" COMB. SINGLE GRATE | 0+65 14.5' RT.     | 403.65  | 407.59   |            | DEPRESSED |
| I-18                              | MOD. 5" DOUBLE GRATE       | 0+65 14.5' LT.     | 403.50  | 407.71   |            | DEPRESSED |
| I-19                              | MOD. 5" COMB. SINGLE GRATE | 2+085 CURB PROFILE | 414.25  | 419.00   |            | DEPRESSED |
| H.W.4                             | "G"                        | 105' FROM I-19     | 402.75  |          |            |           |
|                                   |                            |                    |         |          |            |           |
|                                   |                            |                    |         |          |            |           |
|                                   |                            |                    |         |          |            |           |
|                                   |                            |                    |         |          |            |           |
|                                   |                            |                    |         |          |            |           |



APPROVED  
 PLANNING COMMISSION  
 OF HOWARD COUNTY  
 DATE DEC 7 1967

BROWNE-PANDULLO & ASSOCIATES  
 ENGINEERS  
 COLUMBIA, MARYLAND

10/30/67 /  
 Rev. Date Rev. No. Revision Description

**COLUMBIA**  
 MARYLAND

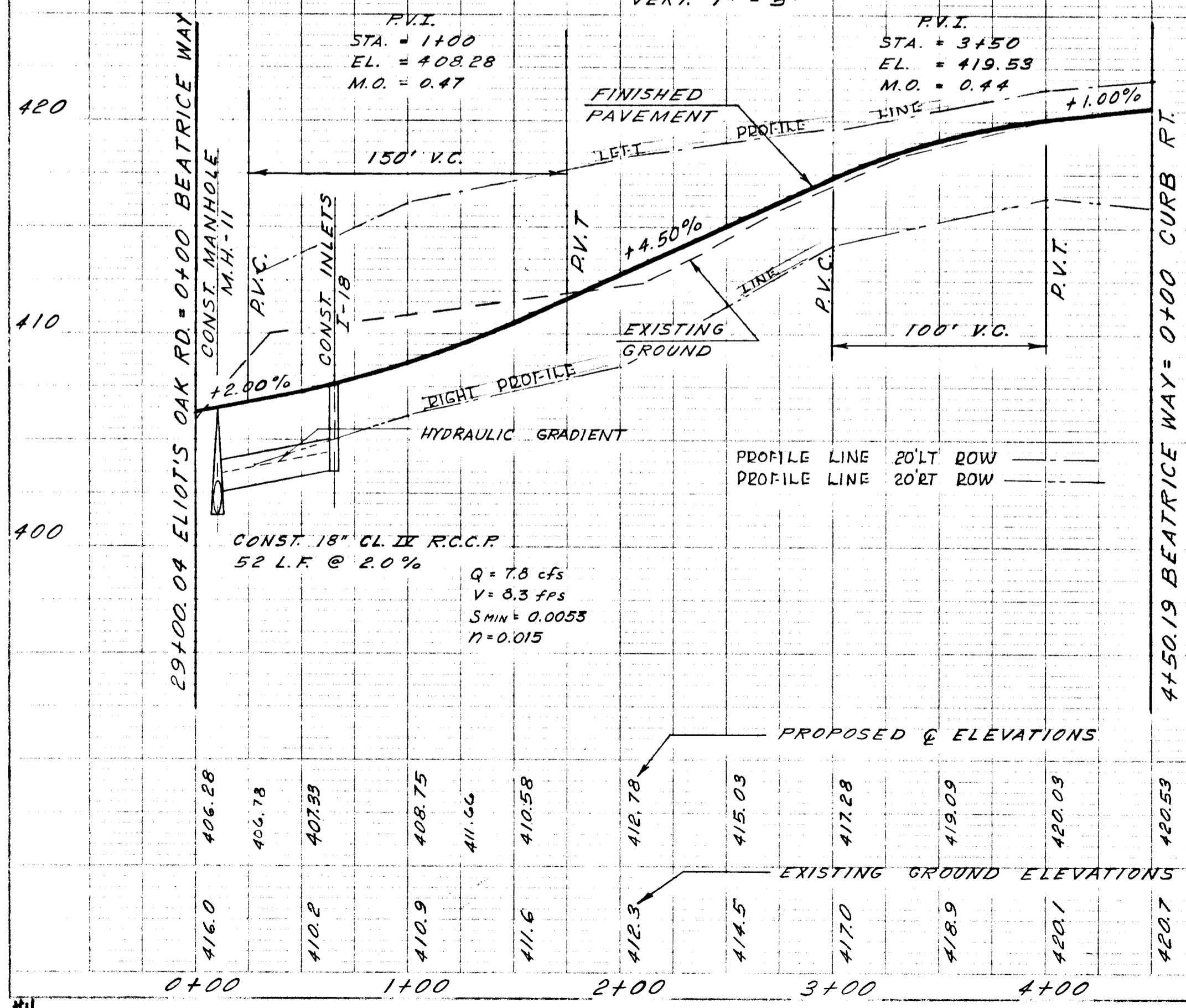
OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT CORP.  
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT TITLE  
 VILLAGE OF HARRPER'S CHOICE SEC. No. 1  
 LONGFELLOW AREA No. 4

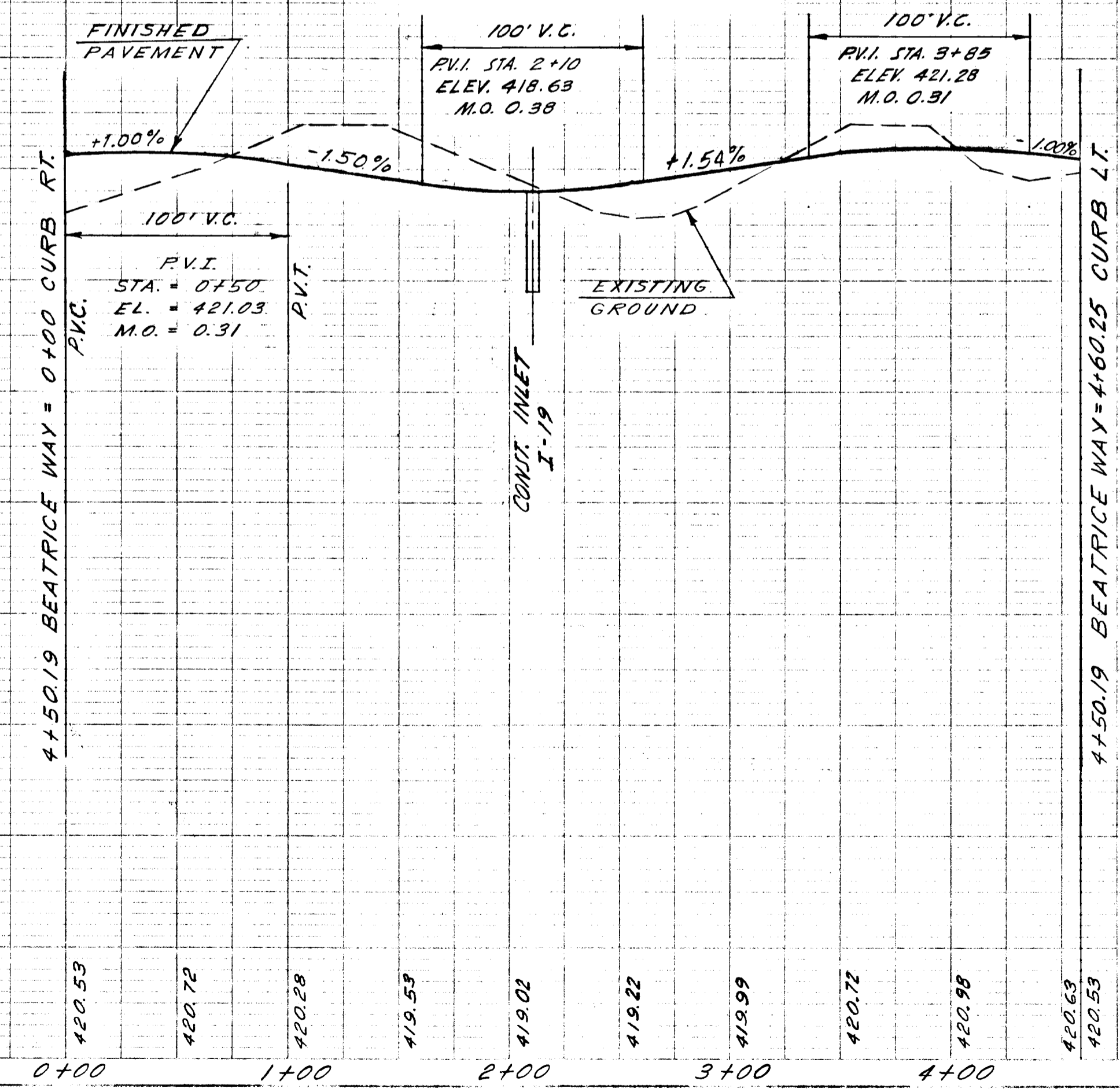
PROJECT TITLE  
 PLAN & PROFILE  
 BEATRICE WAY

Des. By C.Y. Scale AS SHOWN Dwg. No. 9 OF 14  
 Dwn. By S.M.C. Date AUG. 14, 1967 C.C.F. No.  
 Chk. By W.P. Approved

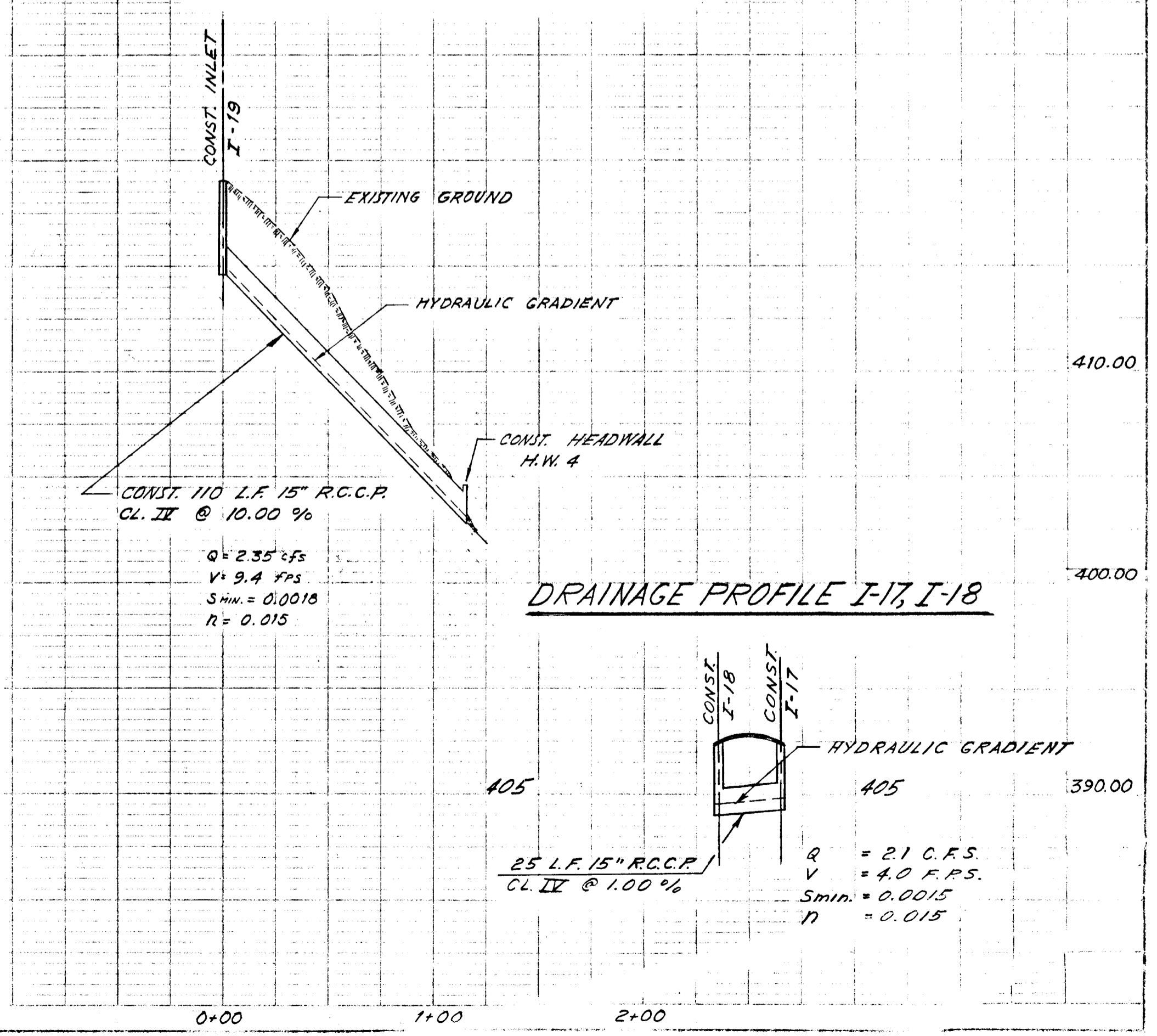
Q PROFILE  
 SCALE: HOR. 1" = 50'  
 VERT. 1" = 5'



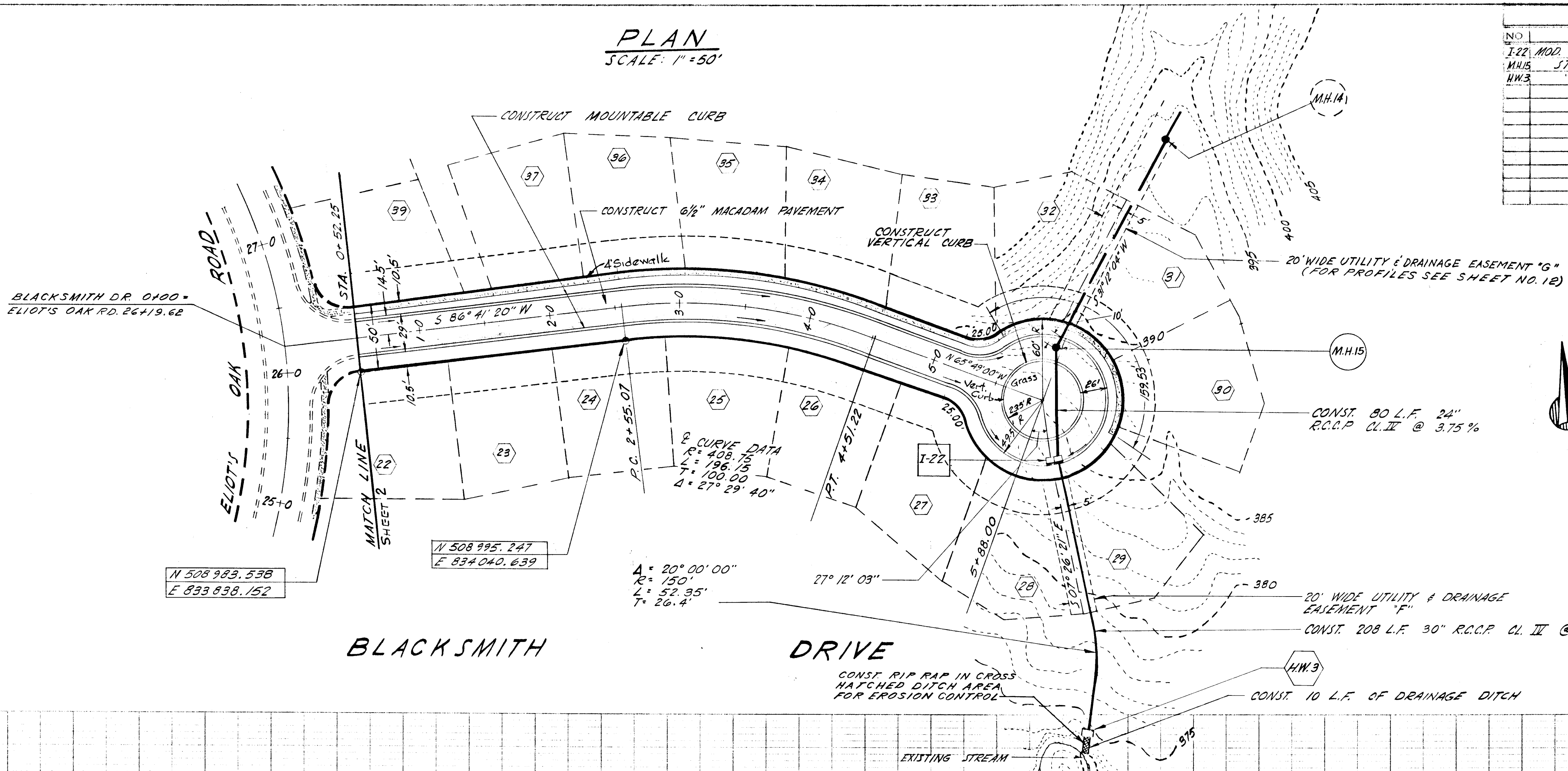
CURB PROFILE



DRAINAGE EASEMENT "J"



**PLAN**  
SCALE: 1" = 50'



| STORM DRAINAGE STRUCTURE SCHEDULE |                     |                        |         |          |            |           |
|-----------------------------------|---------------------|------------------------|---------|----------|------------|-----------|
| NO                                | TYPE                | LOCATION               | INV. IN | INV. OUT | FG. PELEV. | REMARKS   |
| I-22                              | MOD. 5" DOUBLE GATE | 2+22.77 - CURB PROFILE | 378.00  | 378.00   | 382.96     | DEPRESSED |
| M.H.15                            | STANDARD            | 80' FROM I-22          | 381.00  | 381.28   | TR. 306.95 |           |
| M.H.3                             | "G"                 | 208' FROM I-22         |         | 371.76   |            |           |
|                                   |                     |                        |         |          |            |           |
|                                   |                     |                        |         |          |            |           |
|                                   |                     |                        |         |          |            |           |
|                                   |                     |                        |         |          |            |           |
|                                   |                     |                        |         |          |            |           |

**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE: DEC 7 1967

**BROWNE-PANDULLO & ASSOCIATES**  
ENGINEERS  
COLUMBIA, MARYLAND

10/30/67 1  
Rev. Date Rev. No. Revision Description

**COLUMBIA**  
MARYLAND

OWNER AND DEVELOPER:  
**HOWARD RESEARCH AND DEVELOPMENT CORP.**  
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

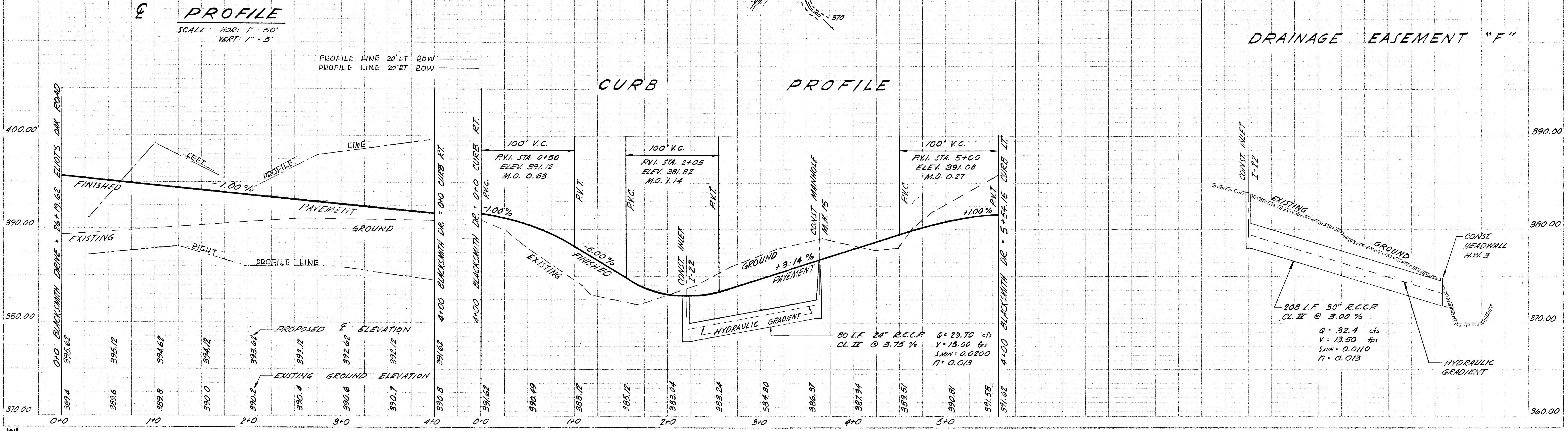
PROJECT AREA:  
**VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4**

PROJECT TITLE:  
**PLAN & PROFILE  
BLACKSMITH DRIVE**

Des. By: C.Y. Scale: AS SHOWN Dwg. No. 10 OF 14  
Dwn. By: J.K.M. Date: AUG. 14, 1967 C.C.F. No.  
Chk. By: W.R. Approved

**BLACKSMITH DRIVE**

**CURB PROFILE**



# PLAN

SCALE: 1" = 50'

| STORM DRAINAGE STRUCTURE SCHEDULE |                            |                   |         |          |             |           |
|-----------------------------------|----------------------------|-------------------|---------|----------|-------------|-----------|
| NO.                               | TYPE                       | LOCATION          | INV. IN | INV. OUT | COEFFICIENT | REMARKS   |
| I-1                               | MOD. 3" CORR. SINGLE GRATE | 1+44 CURB PROFILE |         | 442.65   | 446.66      | DEPRESSED |
|                                   | M.H. STANDARD              | 140 L.F. FROM I-1 | 439.85  | 439.75   | TR. 445.00  |           |

**APPROVED**  
PLANNING COMMISSION  
OF HOWARD COUNTY  
DATE: DEC. 7, 1967

**BROWNE-PANDULLO & ASSOCIATES**  
ENGINEERS  
COLUMBIA, MARYLAND

10/30/67 /  
Rev Date Rev No Revision Description

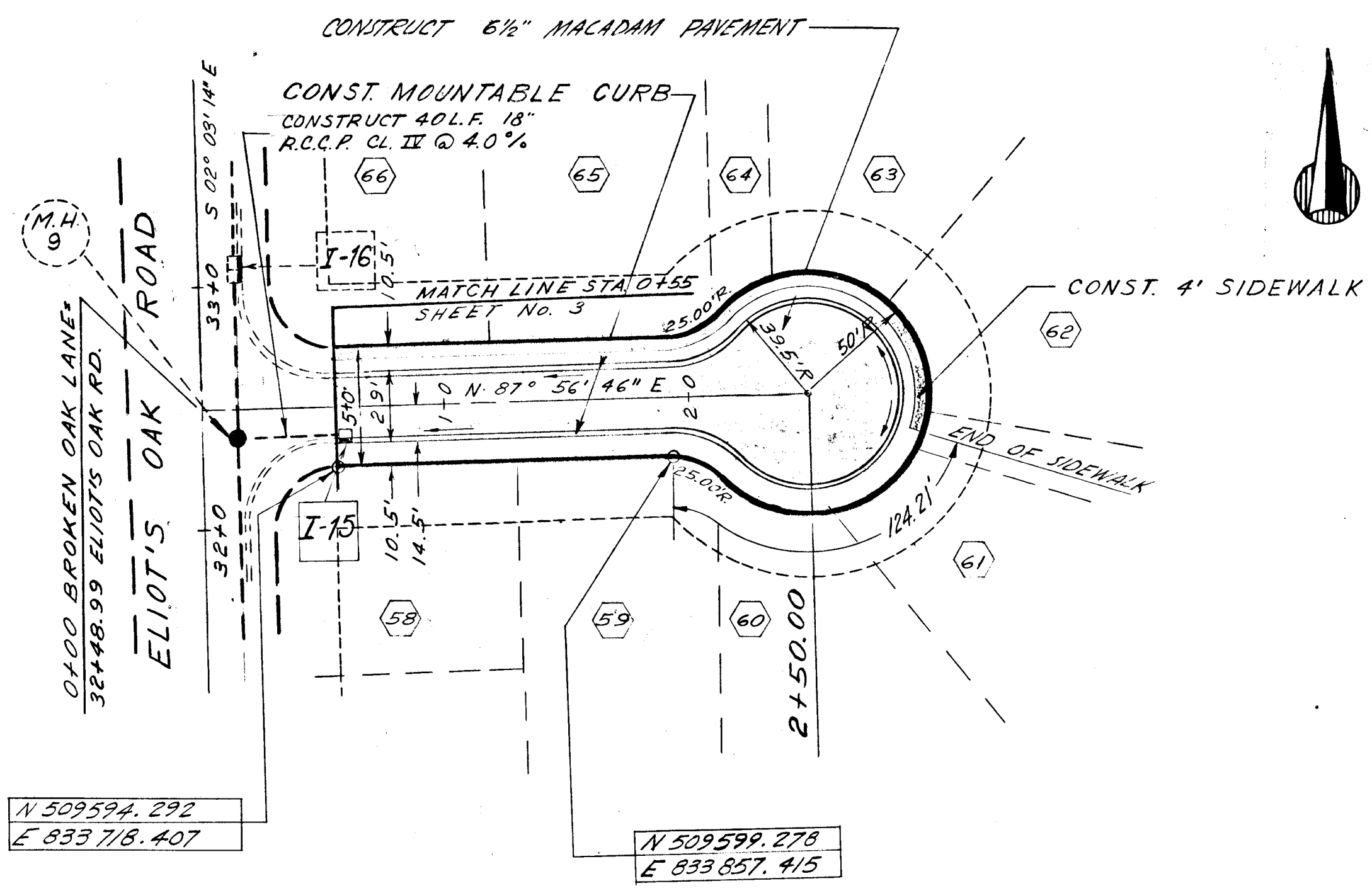
**COLUMBIA**  
MARYLAND

OWNER AND DEVELOPER  
**HOWARD RESEARCH AND DEVELOPMENT CORP.**  
THE VILLAGE OF GROVE KEYS - BALTIMORE, MARYLAND 21210

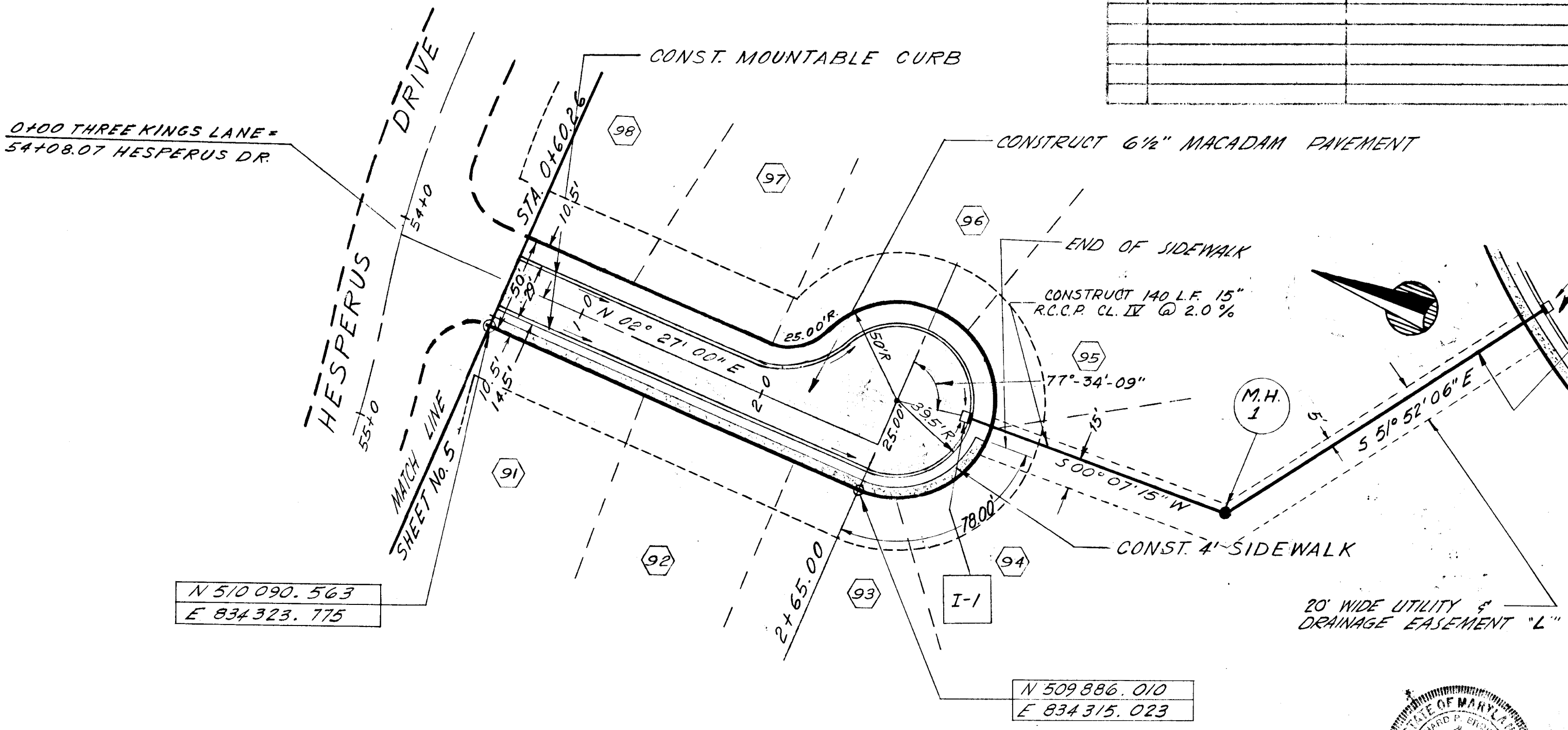
PROJECT AREA  
VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4

PROJECT TITLE  
PLAN & PROFILE  
BROKEN OAK LANE & THREE KINGS LANE

Des. By C.Y. Scale AS SHOWN Dwg. No. 11 OF 14  
Dir. By J.V.M. Date AUG. 14, 1967 C.C.F. No.  
Chk. By W.P. Approved



BROKEN OAK LANE



THREE KINGS LANE

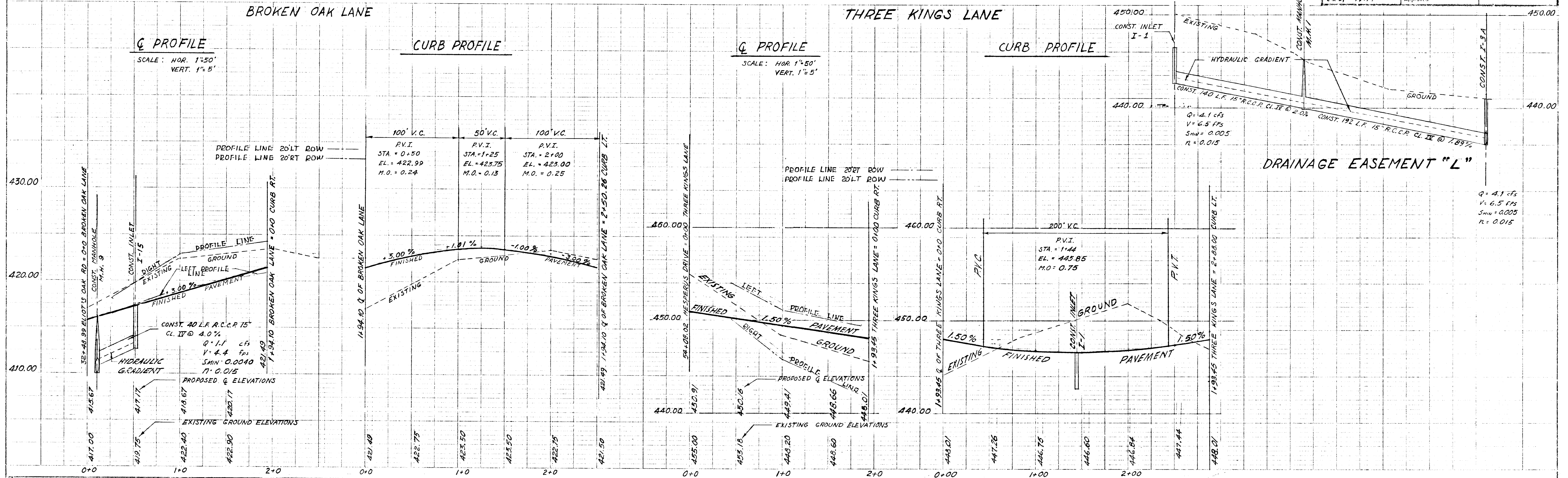
Q PROFILE  
SCALE: HOR. 1"=50'  
VERT. 1"=5'

CURB PROFILE

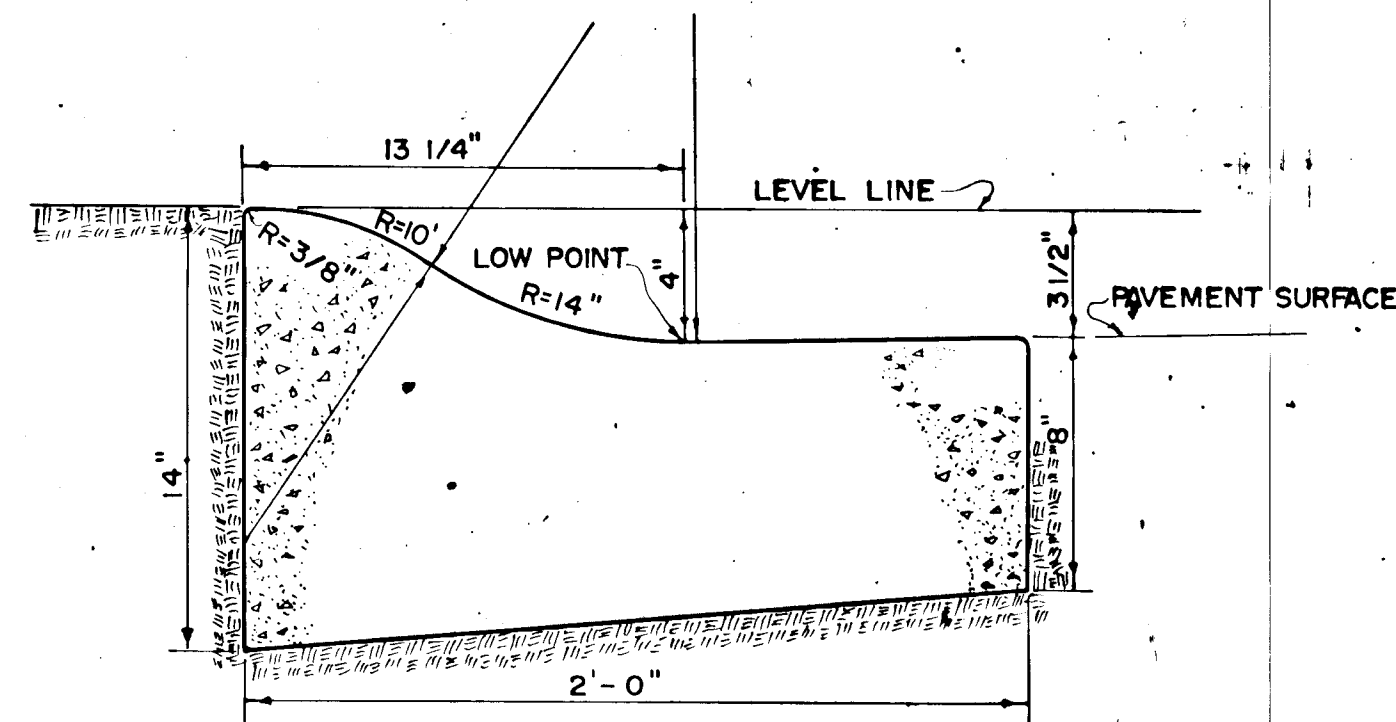
Q PROFILE  
SCALE: HOR. 1"=50'  
VERT. 1"=5'

CURB PROFILE

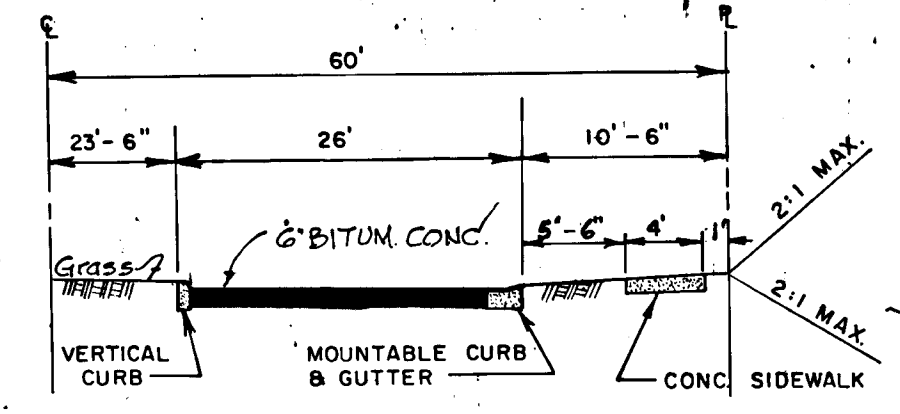
DRAINAGE EASEMENT "L"



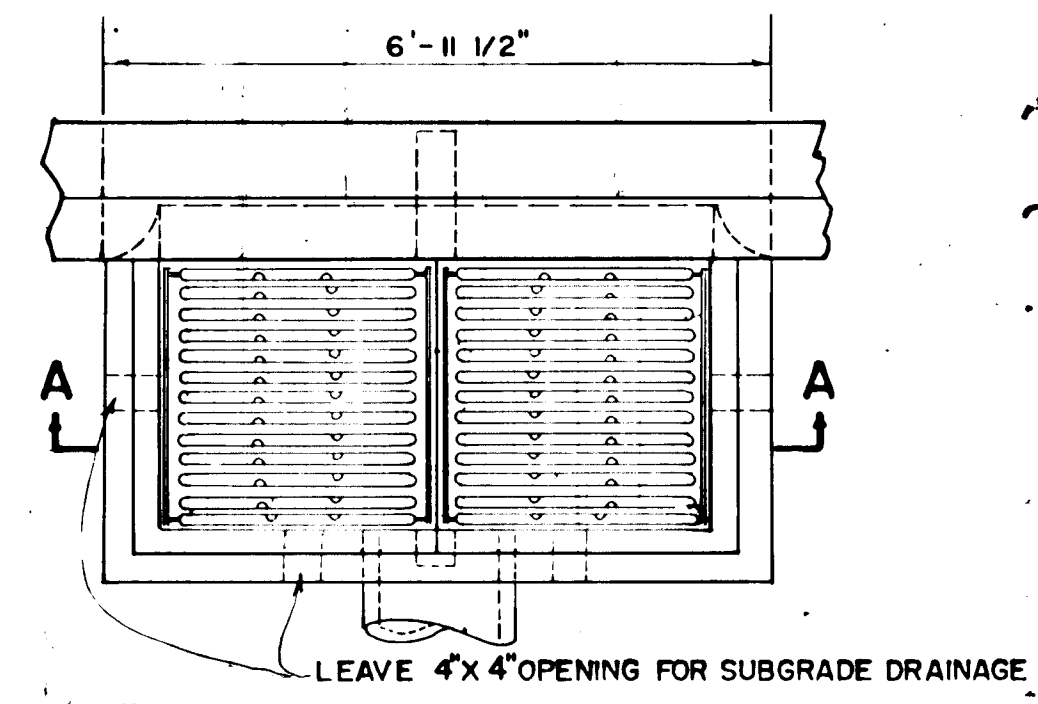




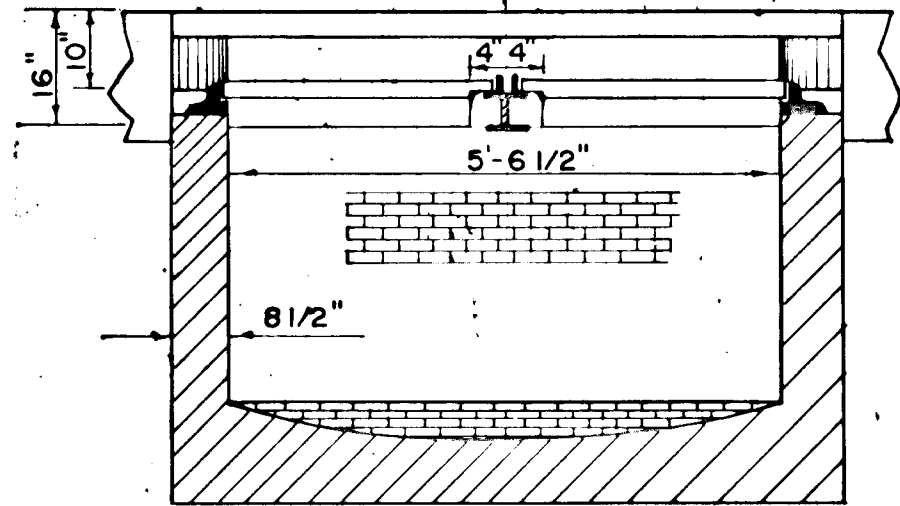
**MOUNTABLE CURB & GUTTER**  
NO SCALE



**TYPICAL HALF-SECTION CUL-DE-SAC**  
NO SCALE

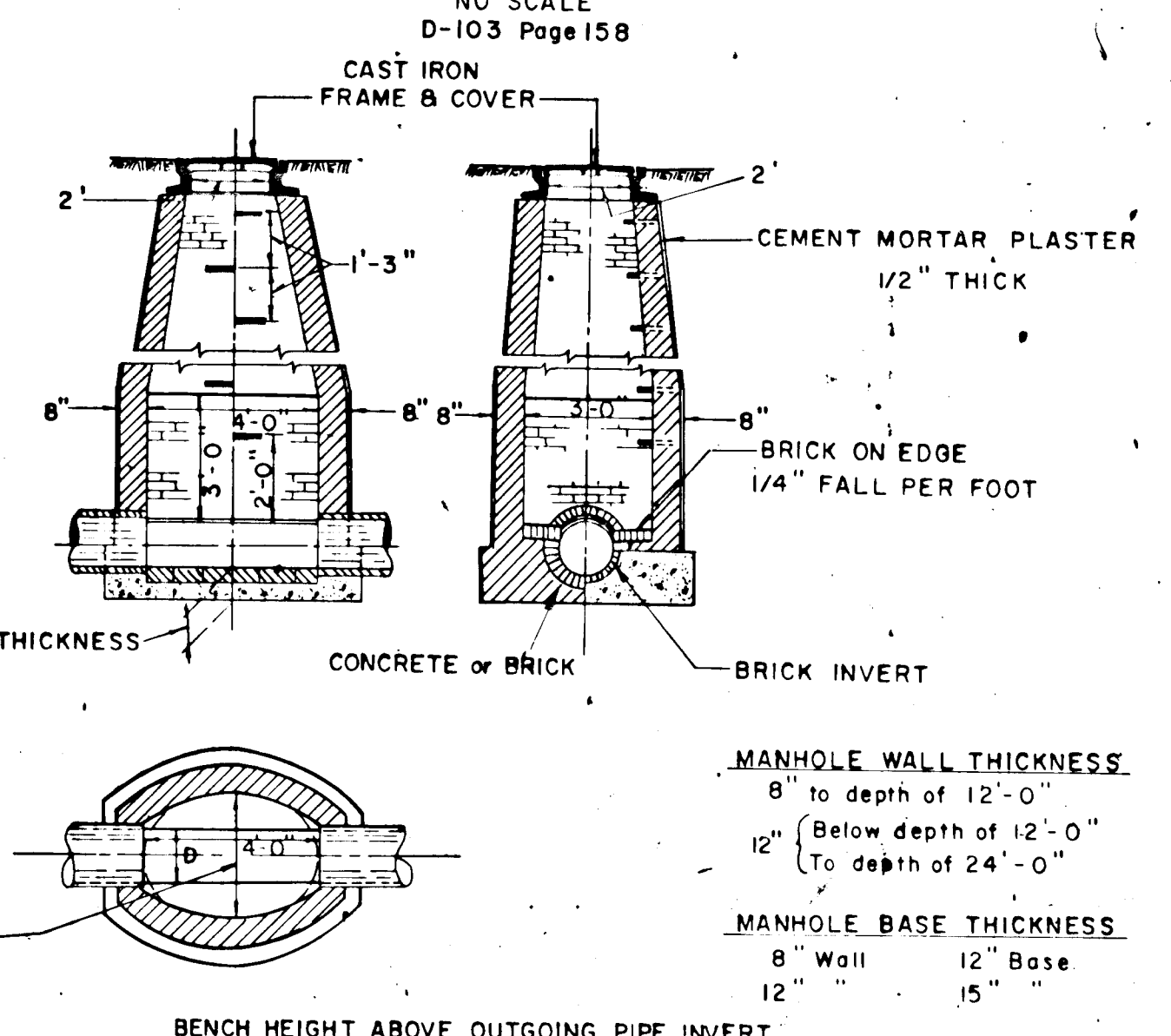


**"S" COMBINATION INLET (DOUBLE GRATE)**  
NO SCALE



**SECTION "A-A"**  
NO SCALE  
D-99 Page 154

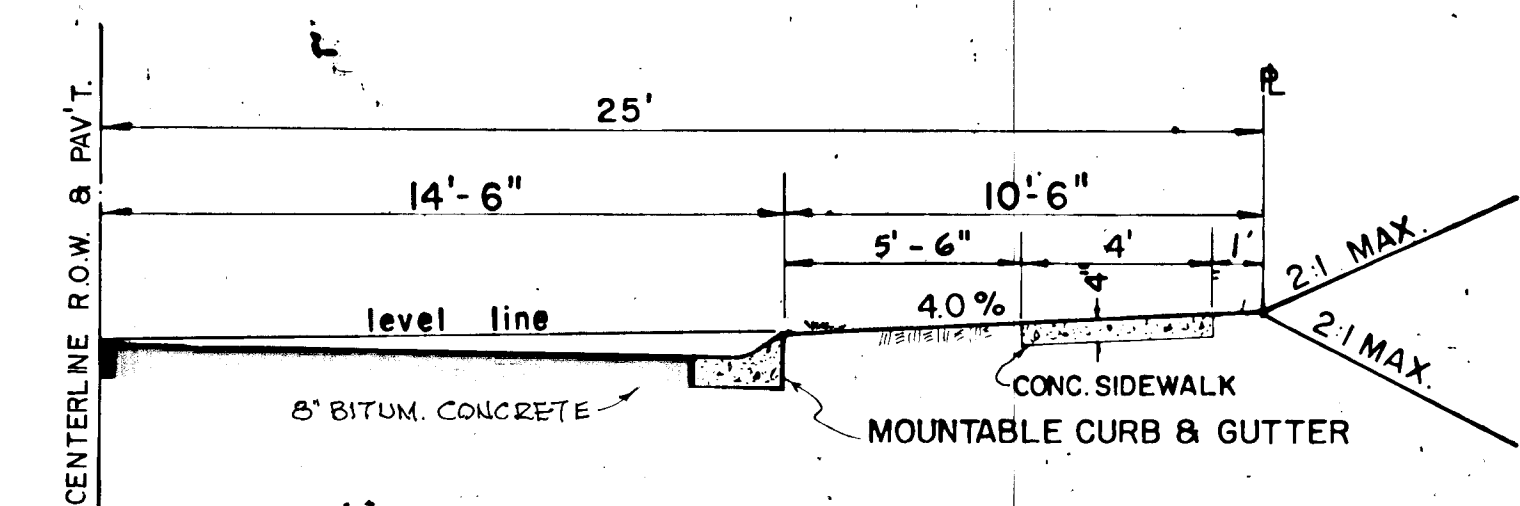
**STANDARD MANHOLE DETAIL**



MANHOLE WALL THICKNESS  
8" to depth of 12'-0"  
12" Below depth of 12'-0"  
To depth of 24'-0"

MANHOLE BASE THICKNESS  
8" Wall 12" Base  
12" 15"

BENCH HEIGHT ABOVE OUTGOING PIPE INVERT  
Storm Water 0.5 D



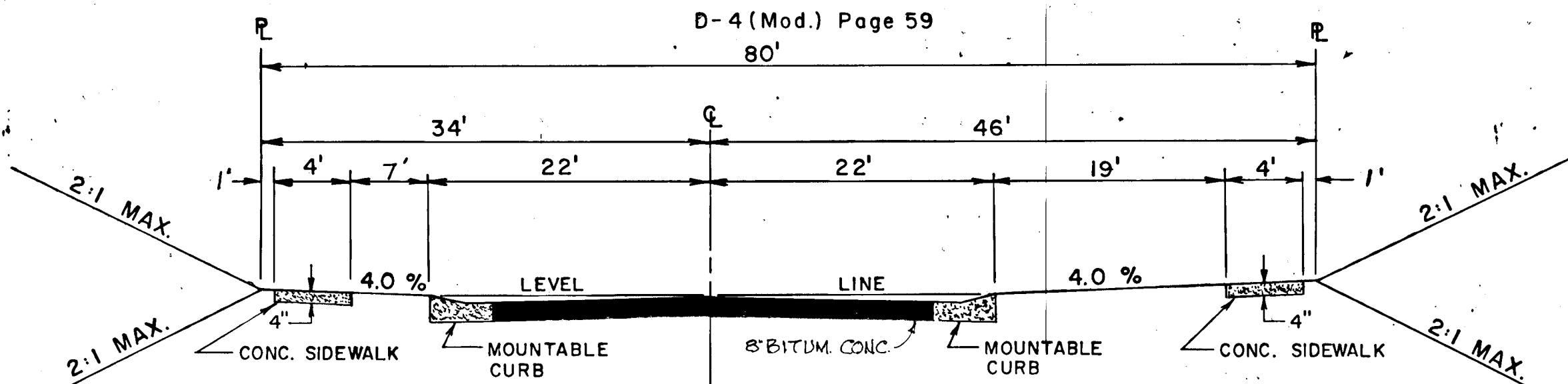
**TYPICAL STREET HALF SECTION**  
NO SCALE  
D-4 (Mod.) Page 59  
80'

|   |      |                 |             |
|---|------|-----------------|-------------|
| BITUMINOUS CONCRETE SURFACE                     | 1.5" | BAND C-3        | FINAL PHASE |
| BITUMINOUS CONCRETE BINDER                      | 1.5" | BAND A-3        |             |
| BITUMINOUS CONCRETE BASE (PLACED IN ONE COURSE) | 5"   | BAND C-2 OR G-3 | FIRST PHASE |

CLEARING AND GRADING ARTICLE C-1  
SUBGRADE ARTICLE C-2  
BASE COURSE ARTICLE C-31 OR C-33  
BINDER COURSE ARTICLE C-31  
SURFACE COURSE ARTICLE C-31

TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS.

**RESIDENTIAL STREET**  
NO SCALE  
D-113 Page 165 C



**ELIOT'S OAK ROAD TYPICAL 80' R.O.W. SECTION**  
NO SCALE  
Span 38'-08.99 To Span 42'-74.34

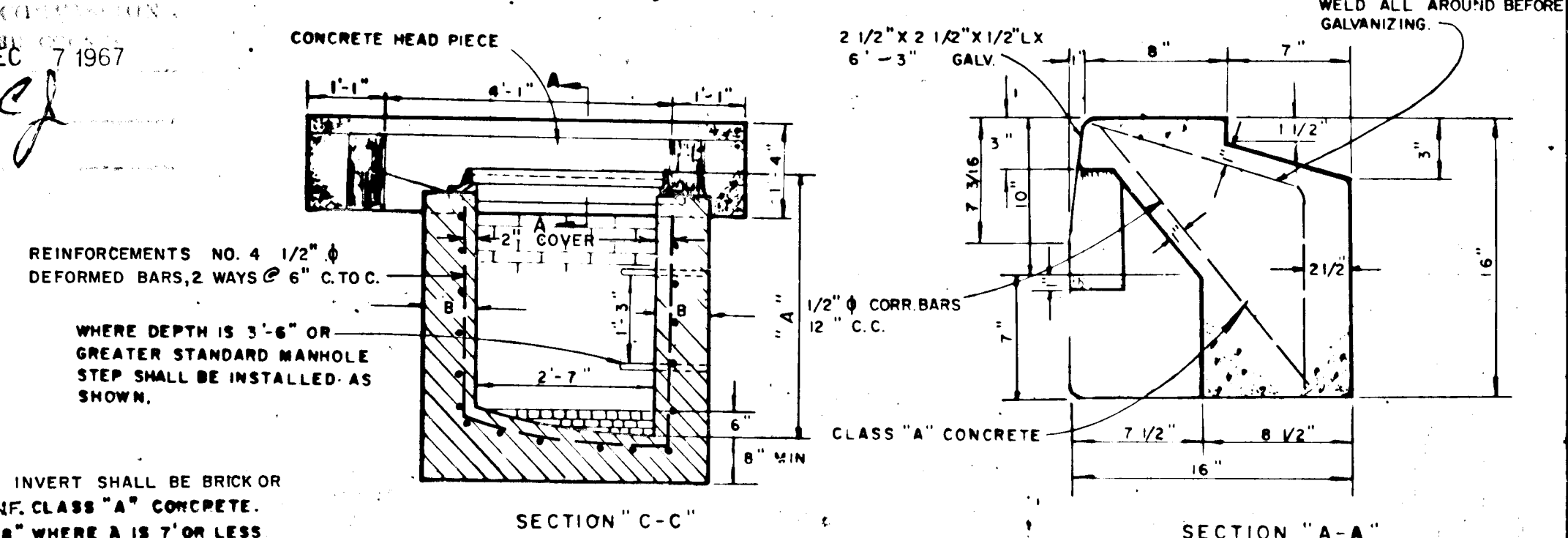
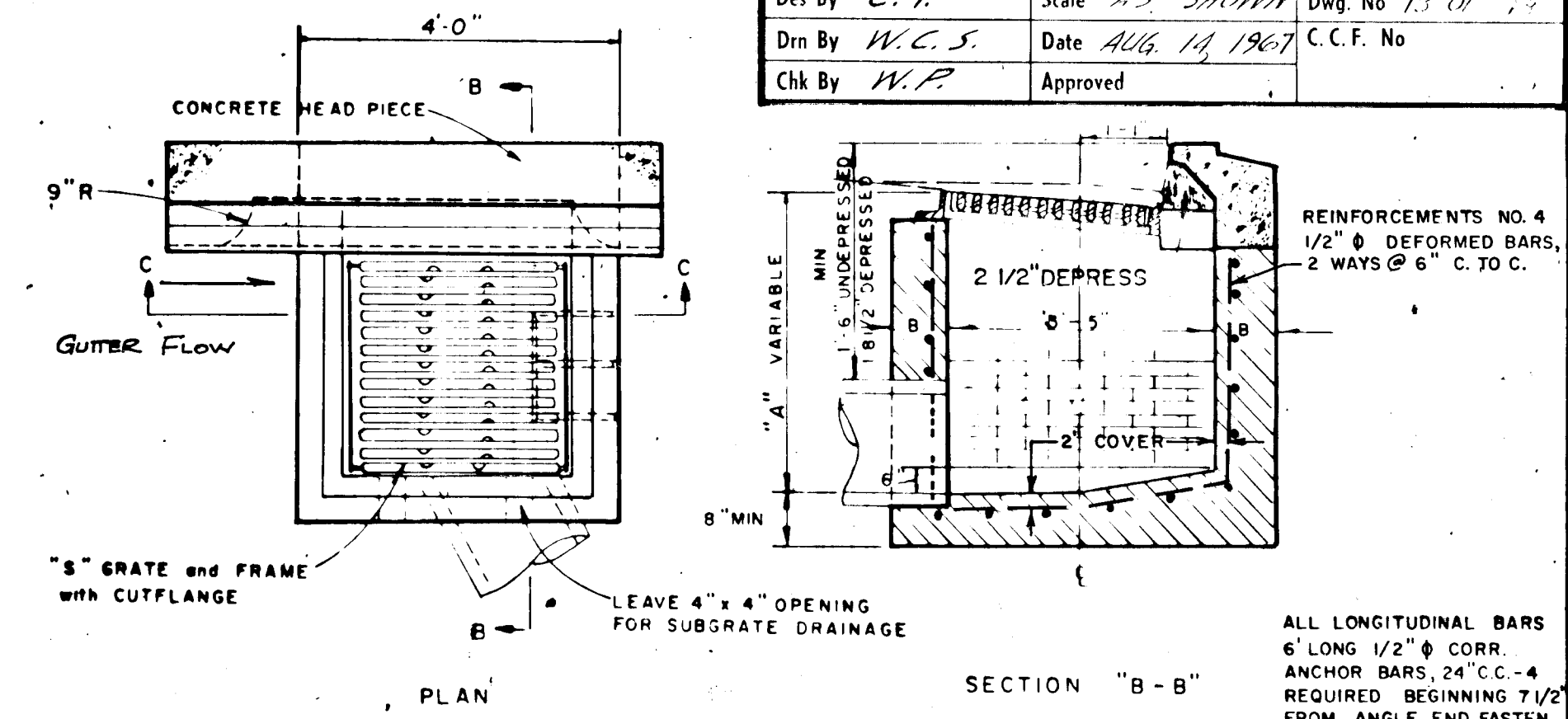
|   |      |                 |             |
|---|------|-----------------|-------------|
| BITUMINOUS CONCRETE SURFACE                     | 1.5" | BAND C-3        | FINAL PHASE |
| BITUMINOUS CONCRETE BASE (PLACED IN ONE COURSE) | 5"   | BAND C-2 OR G-3 | FIRST PHASE |

CLEARING and GRADING ARTICLE C-1  
SUBGRADE ARTICLE C-2  
BASE COURSE ARTICLE C-31 or C-33  
SURFACE COURSE ARTICLE C-31

TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS.

**RESIDENTIAL STREET PAVEMENT SECTION**  
NO SCALE  
D-114 Page 165 D

APPROVED  
PLANNING COMMISSION  
DATE DEC 7 1967



NOTE:  
1. THE INVERT SHALL BE BRICK OR REINF. CLASS "A" CONCRETE.  
2. B = 8" WHERE A IS 7' OR LESS  
B = 12" WHERE A IS 7' TO 11'  
3. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO EXISTING GRADE IF REQUIRED.  
4. WHERE BRICK IS USED INVERT SHALL BE LAID ON EDGE.  
5. INLET SHALL BE CONSTRUCTED OF BRICK OR REINFORCED CONCRETE.  
6. REINFORCEMENT REQUIRED ON OUTSIDE, AS WELL AS ON INSIDE, OF WALLS BELOW 7'-0" WHEN "A" IS GREATER THAN 7'-0". SPACING SAME AS FOR INSIDE OF WALL.

**"S" COMBINATION INLET DETAIL MODIFIED (SINGLE GRATE)**  
NO SCALE  
D-98 (Mod.) Page 153

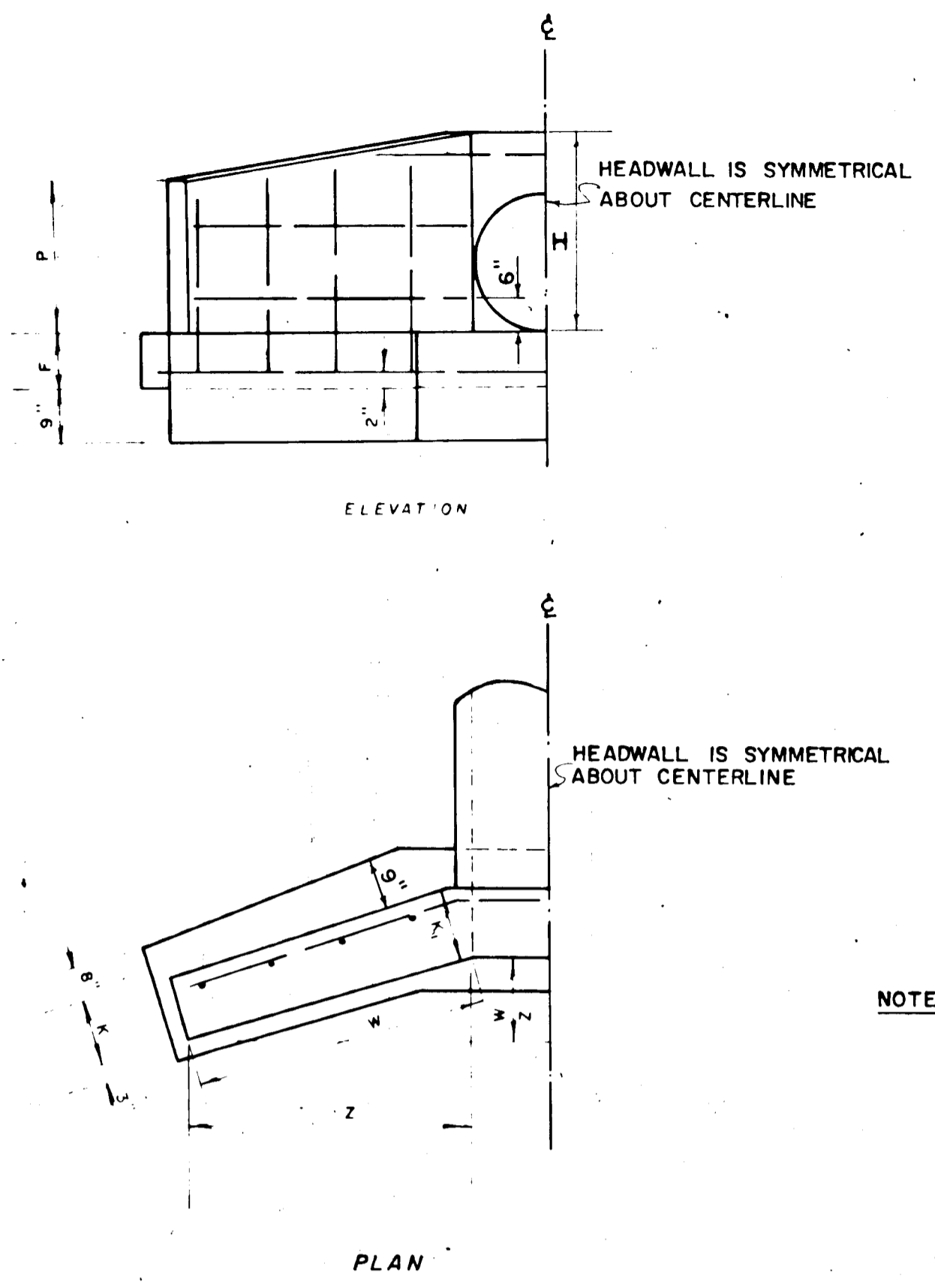
**COLUMBIA MARYLAND**  
OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT CORP.  
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA  
VILLAGE OF HARPER'S CHOICE SEC. No. 1  
LONGFELLOW AREA No. 4

PROJECT TITLE  
CONSTRUCTION DETAILS

Des By C.Y. Scale AS SHOWN Dwg. No. 13 OF 17  
Dwn By W.C.S. Date AUG. 14, 1967 C.C.F. No.  
Chk By W.P. Approved

REVISED 10/30/67 CHECKED



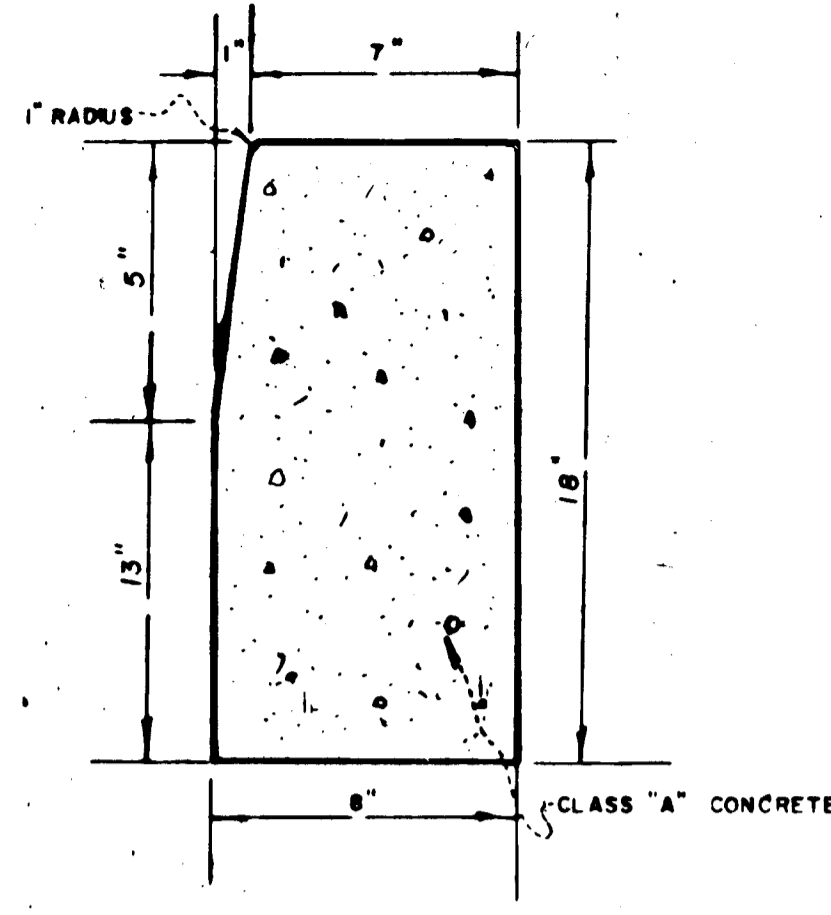
| SLOPE 2:1                 |                             |                        |     |    |        |       |       |                |                |            |                   |               |     |
|---------------------------|-----------------------------|------------------------|-----|----|--------|-------|-------|----------------|----------------|------------|-------------------|---------------|-----|
| OPENING<br>D<br>IN<br>FT. | HEADWALL<br>AREA<br>SQ. FT. | DIMENSION FOR CONCRETE |     |    |        |       |       |                |                | QUANTITIES |                   |               |     |
|                           |                             | L                      | B   | H  | W      | X     | Z     | K <sub>1</sub> | K <sub>2</sub> | P          | CONC.<br>CU. YDS. | STEEL<br>LBS. |     |
| 12"                       | 0.79                        | 2'-0"                  | 9"  | 9" | 2'-3"  | 0"    | 2'-0" | 9"             | 7"             | 1'-3"      | 0.55              | 38            |     |
| 15"                       | 1.23                        | 2'-0"                  | 9"  | 9" | 2'-6"  | 6"    | 2'-9" | 9"             | 8"             | 1'-5"      | 0.75              | 46            |     |
| 16"                       | 1.39                        | 2'-1"                  | 9"  | 9" | 2'-7"  | 6"    | 2'-3" | 9"             | 8"             | 1'-5"      | 0.75              | 46            |     |
| 18"                       | 1.78                        | 2'-3"                  | 9"  | 9" | 2'-9"  | 0"    | 3'-0" | 2'-7"          | 9"             | 8"         | 1'-7"             | 0.89          | 57  |
| 24"                       | 3.14                        | 3'-0"                  | 12" | 9" | 2'-9"  | 4'-0" | 4'-0" | 3'-5"          | 12"            | 11"        | 2'-1"             | 1.64          | 82  |
| 30"                       | 4.91                        | 3'-6"                  | 12" | 9" | 3'-4"  | 4'-8" | 5'-2" | 4'-1"          | 12"            | 11"        | 2'-6"             | 2.14          | 113 |
| 36"                       | 7.07                        | 4'-0"                  | 12" | 9" | 3'-5"  | 4'-6" | 2'-4" | 4'-1"          | 12"            | 11"        | 2'-0"             | 2.48          | 132 |
| 42"                       | 9.62                        | 4'-6"                  | 12" | 9" | 4'-5"  | 6'-4" | 7'-4" | 5'-6"          | 12"            | 11"        | 3'-2"             | 3.30          | 163 |
| 48"                       | 12.57                       | 5'-0"                  | 12" | 9" | 4'-11" | 7'-0" | 8'-4" | 6'-1"          | 12"            | 11"        | 3'-6"             | 3.85          | 193 |

NOTE: (STEEL IN WINGS)  
 VERT 3/4" BARS 12" C.C.  
 HOR 1/2" BARS 12" C.C.  
 HOOKED ON ONE END

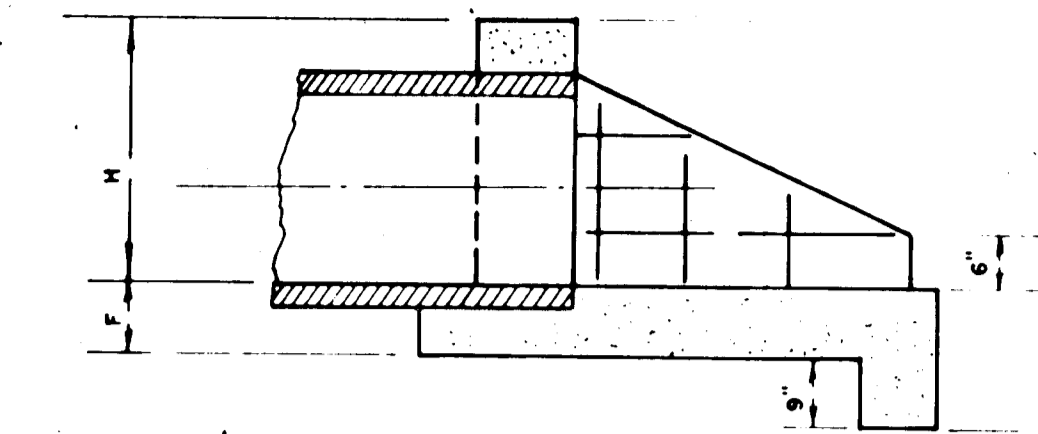
NOTE: CHAMFER ALL EXPOSED EDGES  
 1" x 1" OR AS DIRECTED

**MODIFIED TYPE "F" HEADWALL**

NOTE: 1. HEADWALLS FOR PIPE SIZES NOT SHOWN IN TABLE ABOVE, USE HEADWALL SPECIFIED FOR NEXT LARGEST PIPE.  
 2. HEADWALL IS MODIFIED IN ACCORDANCE WITH CASE 2 FOR A TYPE "F" ENDWALL AS INDICATED IN THE HOWARD COUNTY ROAD CONSTRUCTION CODE & STANDARD SPECIFICATIONS.



**VERTICAL CURB**  
 NO SCALE!



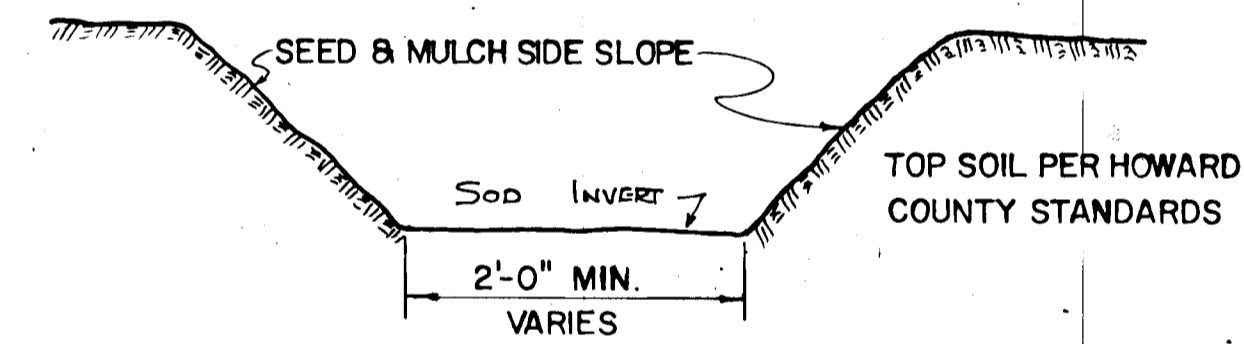
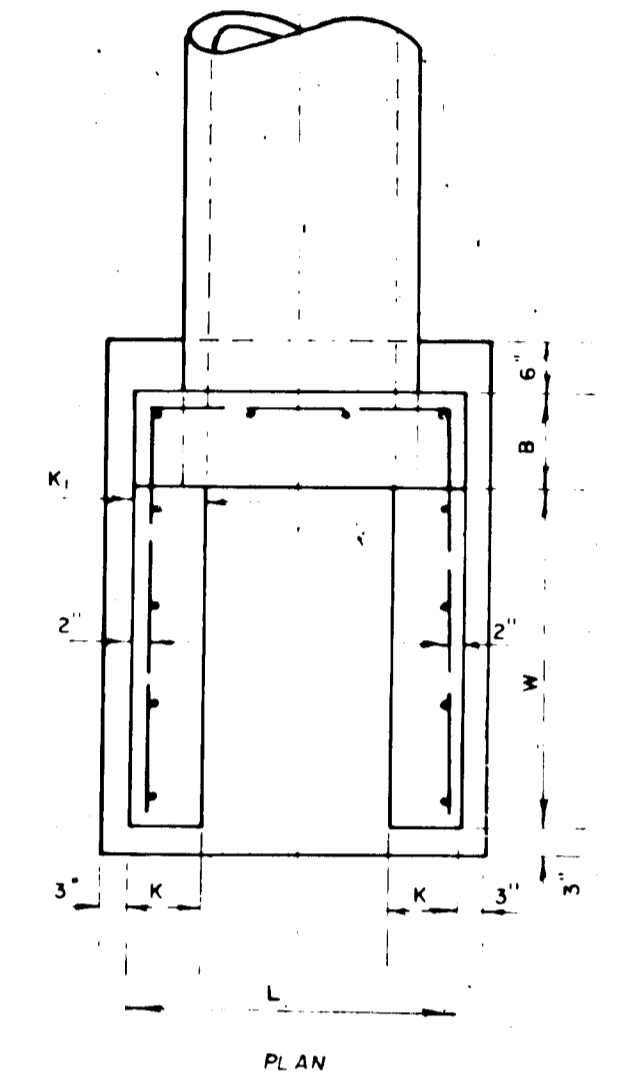
NOTE: (STEEL IN WINGS)  
 VERT 3/4" BARS 12" C.C.  
 HOR 1/2" BARS 12" C.C.  
 HOOKED ON ONE END

NOTE: CHAMFER ALL EXPOSED EDGES  
 1" x 1" OR AS DIRECTED

| SLOPE 2:1                 |                             |                         |     |    |        |       |       |                |                |            |                   |               |
|---------------------------|-----------------------------|-------------------------|-----|----|--------|-------|-------|----------------|----------------|------------|-------------------|---------------|
| OPENING<br>D<br>IN<br>FT. | HEADWALL<br>AREA<br>SQ. FT. | DIMENSIONS FOR CONCRETE |     |    |        |       |       |                |                | QUANTITIES |                   |               |
|                           |                             | L                       | B   | H  | W      | X     | Z     | K <sub>1</sub> | K <sub>2</sub> | P          | CONC.<br>CU. YDS. | STEEL<br>LBS. |
| 12"                       | 0.79                        | 2'-0"                   | 9"  | 9" | 1'-7"  | 0"    | 1'-4" | 6"             | 6"             |            | 0.36              | 34            |
| 15"                       | 1.23                        | 2'-3"                   | 9"  | 9" | 1'-11" | 0"    | 1'-6" | 6"             | 6"             |            | 0.47              | 37            |
| 16"                       | 1.39                        | 2'-4"                   | 9"  | 9" | 1'-11" | 0"    | 2'-0" | 6"             | 6"             |            | 0.50              | 38            |
| 18"                       | 1.78                        | 2'-6"                   | 9"  | 9" | 2'-2"  | 0"    | 2'-6" | 6"             | 6"             |            | 0.61              | 53            |
| 24"                       | 3.14                        | 3'-0"                   | 12" | 9" | 2'-9"  | 3'-6" | 9"    | 9"             |                |            | 1.17              | 71            |
| 30"                       | 4.91                        | 4'-0"                   | 12" | 9" | 3'-4"  | 4'-7" | 9"    | 9"             |                |            | 1.62              | 91            |
| 36"                       | 7.07                        | 4'-6"                   | 12" | 9" | 3'-0"  | 5'-8" | 9"    | 9"             |                |            | 2.12              | 116           |
| 42"                       | 9.62                        | 5'-0"                   | 12" | 9" | 4'-5"  | 6'-9" | 9"    | 12"            |                |            | 3.15              | 141           |
| 48"                       | 12.57                       | 6'-0"                   | 12" | 9" | 4'-4"  | 7'-0" | 9"    | 12"            |                |            | 3.88              | 174           |

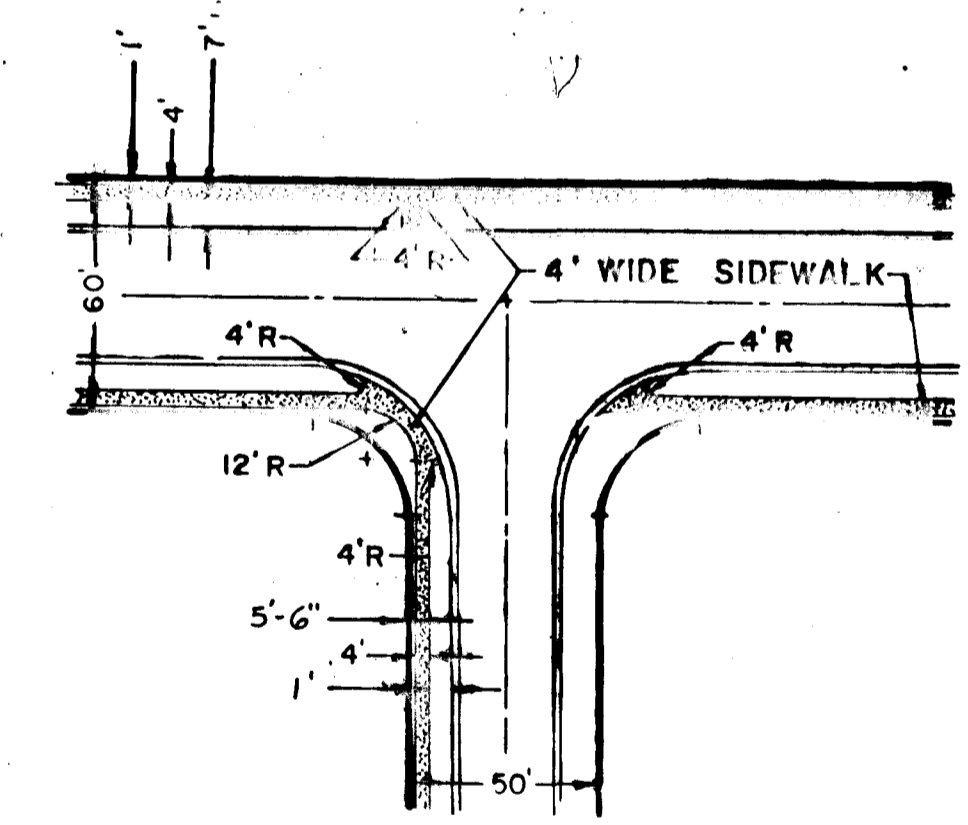
**STANDARD TYPE "G" HEADWALL**

D-61 Page 116

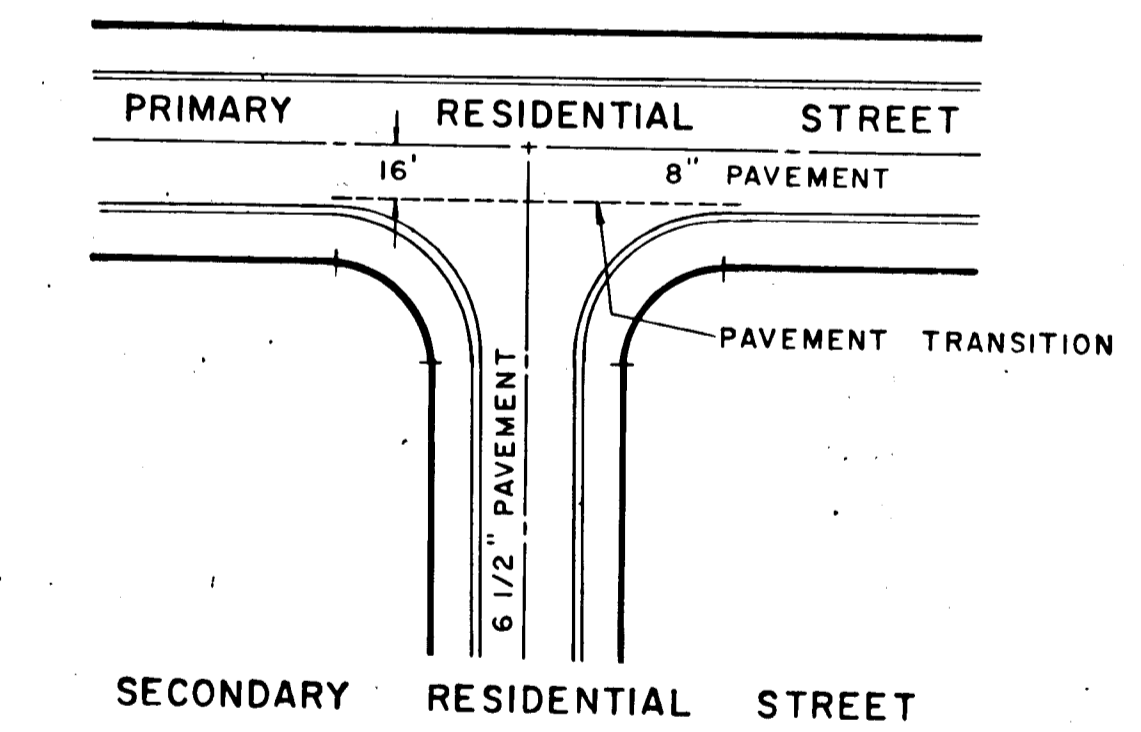


**TYPICAL DRAINAGE DITCH**

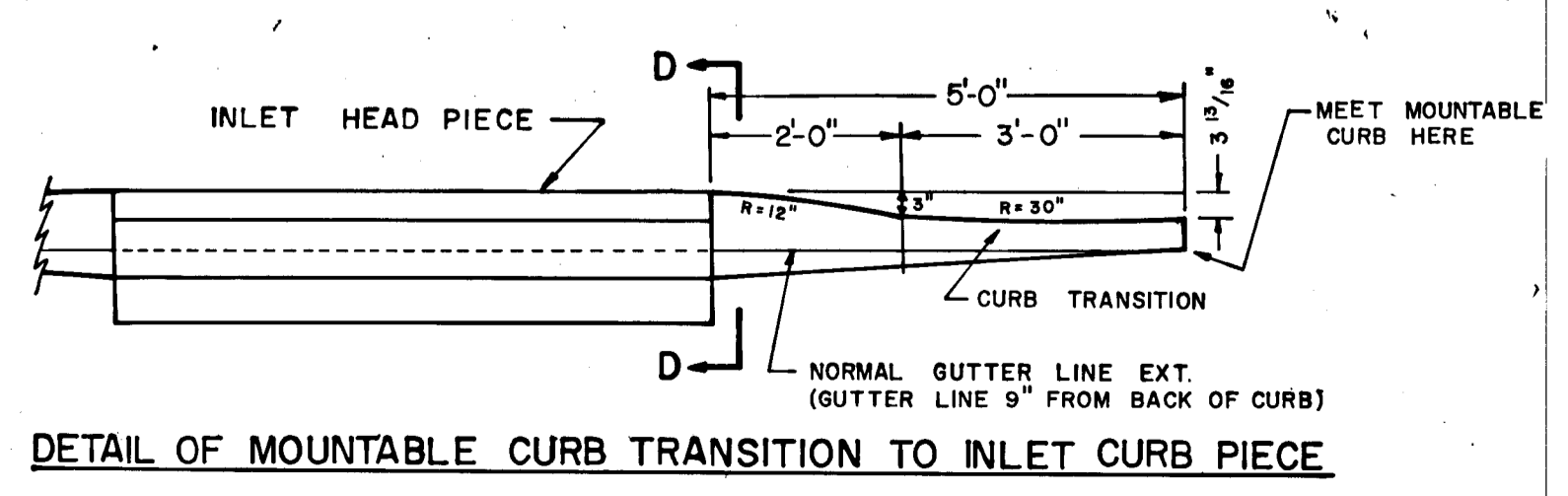
NOTE: ALL EXISTING DITCHES APPROACHING PROPOSED HEADWALLS SHALL BE TRIMMED IN ACCORDANCE WITH ARTICLE C-6 OF THE HOWARD CO. ROAD CONSTRUCTION CODE & STANDARD SPECIFICATIONS.



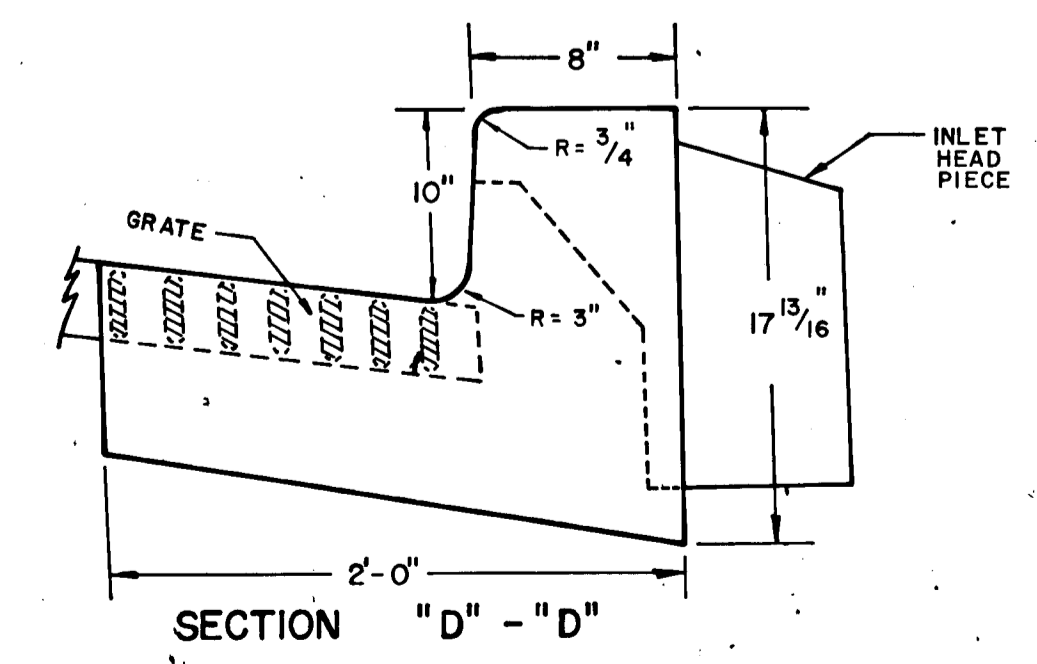
**TYPICAL SIDEWALK DETAIL AT INTERSECTIONS**  
 NO SCALE



**TYPICAL PAVEMENT TRANSITION DETAIL**  
 NO SCALE

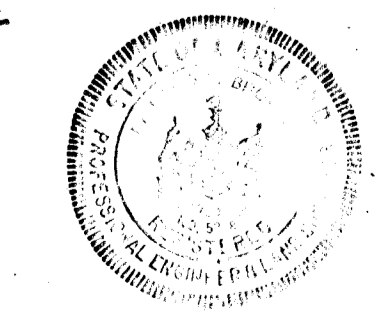


**DETAIL OF MOUNTABLE CURB TRANSITION TO INLET CURB PIECE**



**SECTION "D" - "D"**

**APPROVED**  
 PLANNING COMMISSION  
 OF HOWARD COUNTY  
 DATE: DEC 7 1967



**COLUMBIA MARYLAND**  
 OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT CORP.  
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA  
 VILLAGE OF HARPERS CHOICE SEC. No. 1  
 LONGFELLOW AREA No. 4

PROJECT TITLE  
**CONSTRUCTION DETAILS**

Des By: C. Y. Scale: AS SHOWN Dwg. No. 1A-3-1A  
 Drn By: W.C.S. Date: AUG. 14 1967 C.C.F. No.  
 Chk By: W.P. Approved

REVISED 10/10/67 CHECKED