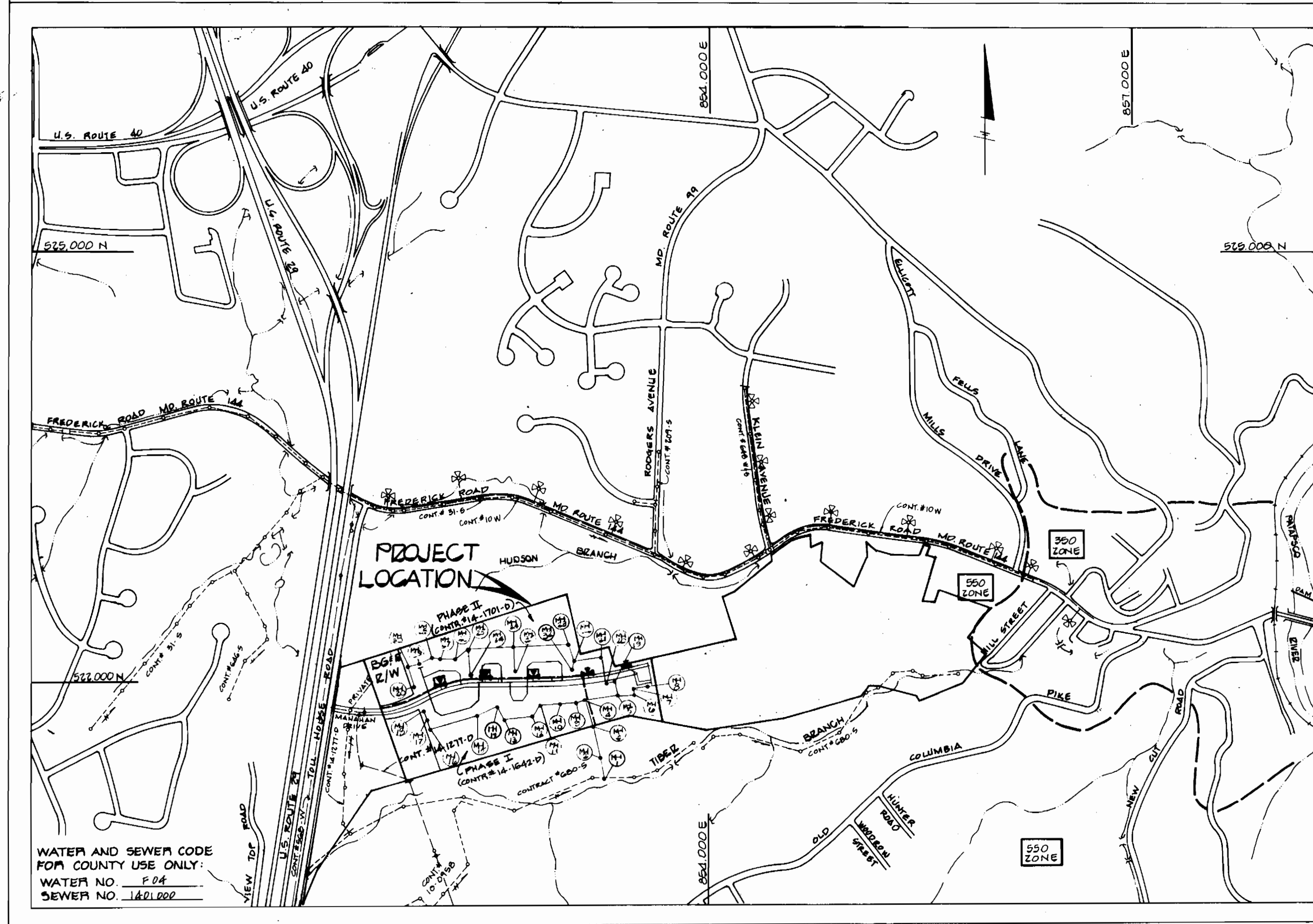


| QUANTITIES | | | |
|-------------------------------|-----------|----------------|-----------------------------|
| ITEM | EST'D | AS BUILT | SUPPLIER |
| 12" WATER | 536 L.F. | 523 L.F. | WATER MAIN PRODUCTS CO. |
| 8" SEWER | D.I.P. | 131 L.F. | " |
| 6" WATER | 1336 L.F. | 1379 L.F. | " |
| 3/4" WHC | 732 | 628 L.F. | WATER MAIN PRODUCTS CO. |
| 1" WHC | 959 | 1058 L.F. | " |
| FIRE HYDRANTS | 2 | 2 EA. C.I. | KENNEDY |
| 12" TAPPING SLEEVE / 6" VALVE | | | |
| 8" SEWER | 2366 L.F. | 2815 L.F. | HUNTER |
| 1 1/2" BLOW-OFF | 2 | 2 EA. BRASS | FORD |
| MANHOLES | 20 | 20 EA. PRECAST | ATLANTIC CONC PRODUCTS INC. |
| 6" SHC | 618 L.F. | 736 L.F. | HUNTER |
| 8" VALVES | | | |
| 6" VALVES EXCLUDING FH'S | 1 | 1 EA. C.I. | KENNEDY |
| 6" F.H. VALVES | 2 | 2 " | " |



WATER AND SEWER CODE FOR COUNTY USE ONLY:
 WATER NO. P.04
 SEWER NO. 1421.002

| | |
|--------------------------------|----------------|
| TYPE OF BUILDING | TOWNHOUSES |
| NUMBER OF LOTS | 84 |
| NO. OF WATER HOUSE CONNECTIONS | 84 |
| NO. OF SEWER HOUSE CONNECTIONS | 84 |
| DRAINAGE AREA | PALAPSCO RIVER |

SCALE: 1" = 600'

- GENERAL NOTES**
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
 - ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITIES COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM THE MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.
 - BALTIMORE GAS & ELECTRIC COMPANY - CONTRACTOR SERVICES: 561-2585
 - BALTIMORE GAS & ELECTRIC COMPANY - UNDER GROUND DAMAGE CONTROL: 234-5571
 - BALTIMORE GAS & ELECTRIC COMPANY - TROUBLE SHOOTING: 298-9013
 - *MESA UTILITY: 1-559-0100
 - *CHESAPEAKE & POTOMAC TELEPHONE COMPANY: 725-9976
 - BUREAU OF UTILITIES - HOWARD COUNTY: 992-2366
 - TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
 - ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., P.V.C., V.C.P.X., OR ACP CLASS 2400 UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALLS.
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER, UNLESS OTHERWISE NOTED.
 - MANHOLES SHOWN WITH 12" AND 18" WALLS ARE BRICK MANHOLES ONLY.
 - ALL WATER MAINS TO BE D.I.P. UNLESS OTHERWISE NOTED.
 - TOP OF WATER MAINS TO HAVE A MINIMUM OF 3'-4" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT TO BE COMPACTED IN ACCORDANCE WITH SECTION 1003 AND 1008 OF THE STANDARD SPECIFICATIONS.
 - ALL WATER HOUSE CONNECTIONS SHALL BE FOR AN INSIDE METER SETTING.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING SYSTEM.
 - WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE AT LEAST ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
 - MANHOLES LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL G3.51.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER TIGHT FRAME AND COVER, STANDARD DETAIL G3.52. WHERE WATER TIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-4" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - W.T. DESIGNATES WATER TIGHT MANHOLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [X] AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN MADE SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.

PHASE II
CONTRACT NO.14-1701-D
TOLL HOUSE
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL IN DEVELOPING AREAS & ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F85-87 (EP-85-28)

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 APPROVED: *[Signature]* 8/24/87
 U.S. SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT
 APPROVED: *[Signature]* 8/24/87
 HOWARD SOIL CONSERVATION DISTRICT DATE

STABILIZATION NOTES
 FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: 1.) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWAILS, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1 2.) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

CONTRACT NO. 14-1701-D
 TOLL HOUSE PHASE II
 SECTION TWO
 WATER & SEWER EXTENSION
 HOWARD COUNTY, MARYLAND

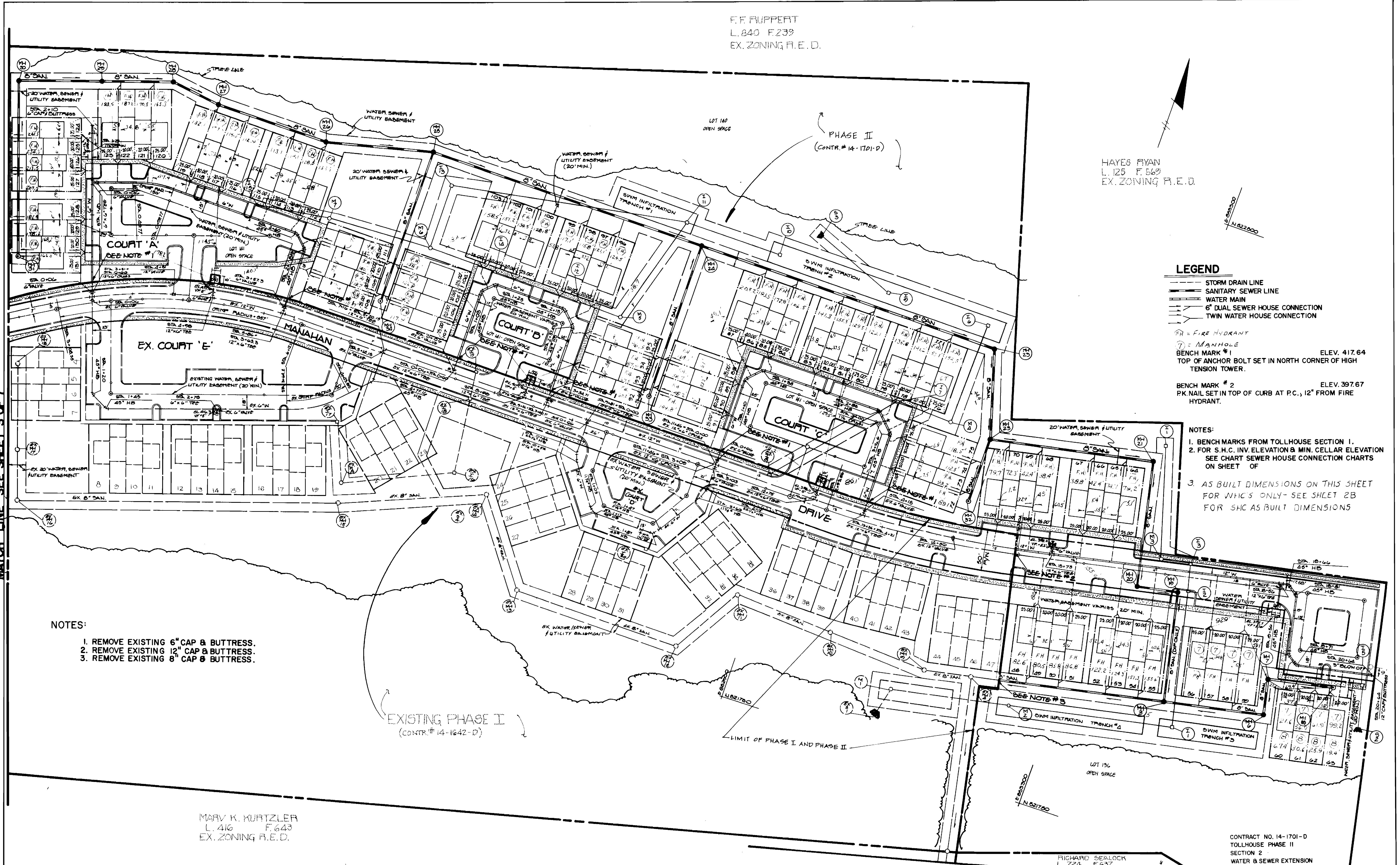
| | | | |
|--|---|--|---|
| DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS <i>[Signature]</i> 8/27/87 CHIEF, BUREAU OF UTILITIES DATE | DEWBERRY & DAVIS ARCHITECTS ENGINEERS PLANNERS SURVEYORS 3300 N. RIDGE ROAD SUITE 100 ELLICOTT CITY, MARYLAND 21043 (301) 461-7478 STEVEN G. ZAHN DATE 8/21/87 | TITLE SHEET PHASE II 600' SCALE MAP NO. 24125 BLOCK NO. 1218, 713 | CONTRACT NO. 14-1701-D TOLL HOUSE SECTION 2 CONTRACT NO. 14-1701-D 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 7 |
|--|---|--|---|

BRUNING 44-132 69150

F.F. RUPPERT
L. 840 F. 239
EX. ZONING P.E.D.

HAYES RYAN
L. 125 F. 562
EX. ZONING P.E.D.

MATCH LINE SEE SHEET 3 OF 7



- LEGEND**
- STORM DRAIN LINE
 - SANITARY SEWER LINE
 - WATER MAIN
 - 6" DUAL SEWER HOUSE CONNECTION
 - TWIN WATER HOUSE CONNECTION
- ⊕ = FIRE HYDRANT
 ⊙ = MANHOLE
 ⊙ = BENCH MARK #1 ELEV. 417.64
 TOP OF ANCHOR BOLT SET IN NORTH CORNER OF HIGH TENSION TOWER.
 ⊙ = BENCH MARK #2 ELEV. 397.67
 PK NAIL SET IN TOP OF CURB AT P.C., 12" FROM FIRE HYDRANT.

- NOTES:**
1. BENCH MARKS FROM TOLLHOUSE SECTION 1.
 2. FOR S.H.C. INV. ELEVATION & MIN. CELLAR ELEVATION SEE CHART SEWER HOUSE CONNECTION CHARTS ON SHEET OF
 3. AS BUILT DIMENSIONS ON THIS SHEET FOR WHCS ONLY - SEE SHEET 2B FOR SHC AS BUILT DIMENSIONS

- NOTES:**
1. REMOVE EXISTING 6" CAP & BUTTRESS.
 2. REMOVE EXISTING 12" CAP & BUTTRESS.
 3. REMOVE EXISTING 8" CAP & BUTTRESS.

MARY K. KURTZLER
L. 416 F. 643
EX. ZONING P.E.D.

RICHARD SEALOCK
L. 724 F. 637
EX. ZONING P.E.D.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 8-28-87
DIRECTOR OF PUBLIC WORKS DATE

Richard Sealock 8-27-87
CHIEF, BUREAU OF ENGINEERING DATE

Steven G. Zahn 8-28-87
CHIEF, LAND DEVELOPMENT DIV DATE

DEWBERRY & DAVIS
ARCHITECTS-ENGINEERS-PLANNERS-SURVEYORS

3300 N. RIDGE ROAD SUITE 100
ELLCOTT CITY, MARYLAND 21043
(301) 461-7478

| | | | | | |
|---------------|-----|------|-----------|-------|--|
| DES: C.H.L. | | | | | |
| DRN: | | | | | |
| CHK: | | | | | |
| DATE: 8/20/87 | BY: | NO.: | REVISION: | DATE: | |

PLAN
WATER & SEWER MAINS
PHASE II

SCALE: 1" = 50'
600' SCALE MAP NO. 24.9.25 BLOCK NO. 12.9.18, 7.9.13

DATE: AUGUST 1987

CONTRACT NO. 14-1701-D
TOLL HOUSE
TAX MAPS 24 & 25 PARCELS 254 & 210
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

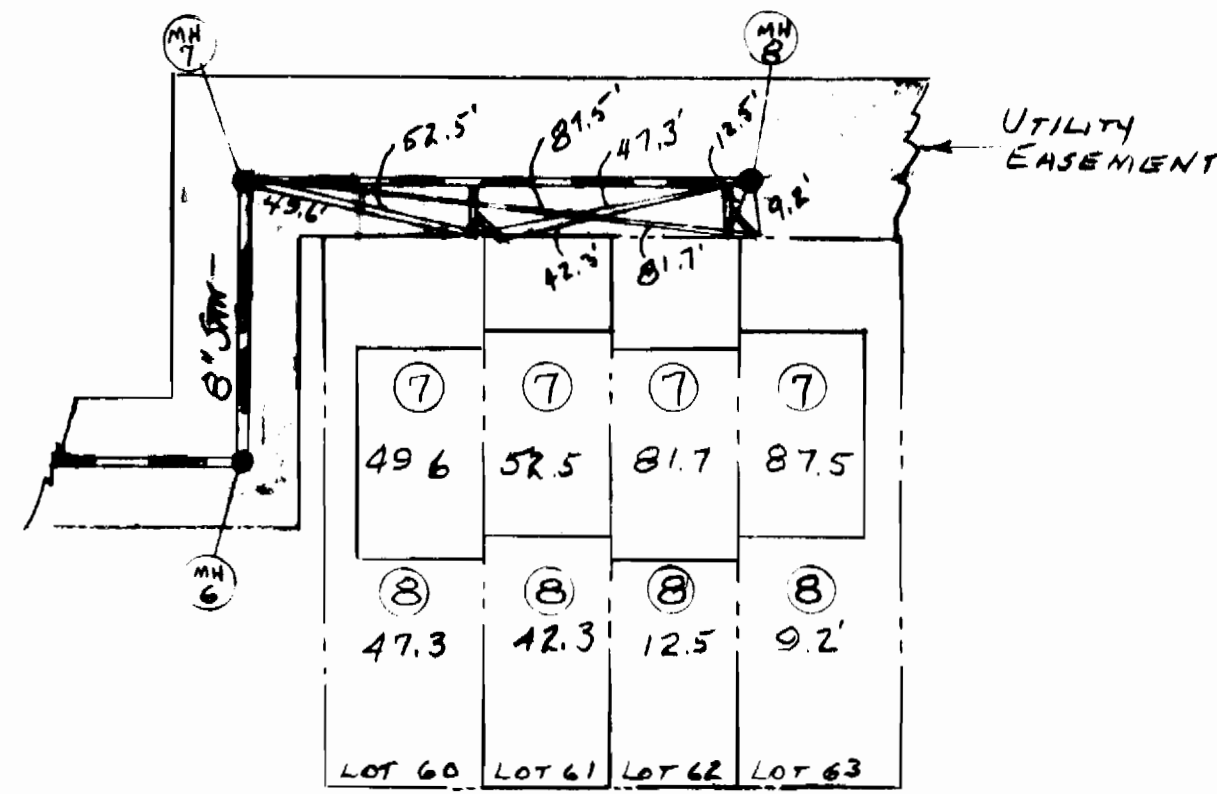
SCALE AS SHOWN
SHEET 2 OF 7

BRUNING 44-132 (91) 50

SEWER HOUSE CONNECTIONS

| LOT No. | MANHOLE No. | MEASURE TO S.H.C. | MANHOLE No. | MEASURE TO S.H.C. |
|---------|-------------|-------------------|-------------|-------------------|
| 48 | 4 | 67.5 | 5 | 170.9 |
| 49 | 4 | 72.5 | 5 | 165.1 |
| 50 | 4 | 107.4 | 5 | 131.5 |
| 51 | 4 | 112.8 | 5 | 125.8 |
| 52 | 4 | 165.9 | 5 | 73.0 |
| 53 | 4 | 170.1 | 5 | 67.6 |
| 54 | 4 | 205.8 | 5 | 33.8 |
| 55 | 4 | 211.5 | 5 | 27.6 |
| 56 | 5 | 42.3 | 6 | 78.5 |
| 57 | 5 | 47.3 | 6 | 73.5 |
| 58 | 5 | 78.8 | 6 | 42.7 |
| 59 | 5 | 85.5 | 6 | 36.5 |
| 60 | 7 | 49.6 | 8 | 47.3 |
| 61 | 7 | 52.5 | 8 | 42.3 |
| 62 | 7 | 81.7 | 8 | 12.5 |
| 63 | 7 | 87.5 | 8 | 9.2 |
| 64 | 21 | 36.2 | 22 | 168.9 |
| 65 | 21 | 41.7 | 22 | 163.2 |
| 66 | 21 | 74.1 | 22 | 130.9 |
| 67 | 21 | 77.2 | 22 | 127.1 |
| 68 | 21 | 133.3 | 22 | 66.7 |
| 69 | 21 | 145.8 | 22 | 59.2 |
| 70 | 21 | 176.5 | 22 | 28.9 |
| 71 | 21 | 181.5 | 22 | 23.3 |
| 72 | 22 | 75.5 | 32 | 11.7 |
| 73 | 22 | 70.0 | 32 | 14.1 |
| 74 | 22 | 38.4 | 32 | 46.3 |
| 75 | 22 | 33.6 | 32 | 51.3 |
| 76 | 23 | 54.1 | 24 | 326.4 |
| 77 | 23 | 58.9 | 24 | 321.5 |
| 78 | 23 | 92.5 | 24 | 286.8 |
| 79 | 23 | 99.2 | 24 | 281.2 |
| 80 | 23 | 153.9 | 24 | 226.8 |
| 81 | 23 | 158.7 | 24 | 220.5 |
| 82 | 23 | 193.8 | 24 | 185.8 |
| 83 | 23 | 199.7 | 24 | 180.3 |
| 84 | 23 | 253.8 | 24 | 126.8 |
| 85 | 23 | 259.7 | 24 | 120.3 |
| 86 | 23 | 294.2 | 24 | 86.5 |
| 87 | 23 | 301.2 | 24 | 80.2 |
| 88 | 24 | 144.3 | 33 | 51.4 |
| 89 | 24 | 150.1 | 33 | 44.7 |
| 90 | 24 | 182.5 | 33 | 12.9 |
| 91 | 24 | 188.3 | 33 | 8.2 |
| 92 | 24 | 192.6 | 33 | 7.1 |
| 93 | 24 | 187.3 | 33 | 10.1 |
| 94 | 24 | 152.4 | 33 | 41.5 |
| 95 | 24 | 147.6 | 33 | 46.4 |
| 96 | 24 | 102.5 | 25 | 249.2 |
| 97 | 24 | 109.4 | 25 | 241.3 |
| 98 | 24 | 142.3 | 25 | 208.0 |
| 99 | 24 | 150.1 | 25 | 200.5 |
| 100 | 24 | 201.3 | 25 | 149.1 |
| 101 | 24 | 206.5 | 25 | 142.5 |
| 102 | 24 | 242.5 | 25 | 109.3 |
| 103 | 24 | 247.3 | 25 | 103.8 |
| 104 | 25 | 145.0 | 34 | 45.4 |
| 105 | 25 | 149.7 | 34 | 39.9 |
| 106 | 25 | 180.8 | 34 | 13.8 |
| 107 | 25 | 184.5 | 34 | 9.3 |
| 108 | 25 | 188.6 | 34 | 7.8 |
| 109 | 25 | 183.4 | 34 | 11.3 |
| 110 | 25 | 157.2 | 34 | 41.3 |
| 111 | 25 | 145.0 | 34 | 47.2 |
| 112 | 26 | 13.7 | 27 | 142.1 |
| 113 | 26 | 14.4 | 27 | 136.7 |
| 114 | 26 | 38.5 | 27 | 102.9 |
| 115 | 26 | 43.6 | 27 | 97.4 |
| 116 | 26 | 97.5 | 27 | 43.5 |
| 117 | 26 | 102.5 | 27 | 38.6 |
| 118 | 26 | 138.7 | 27 | 12.2 |
| 119 | 26 | 144.2 | 27 | 13.0 |
| 120 | 28 | 27.5 | 29 | 70.7 |
| 121 | 28 | 32.1 | 29 | 65.5 |
| 122 | 28 | 65.3 | 29 | 26.9 |
| 123 | 28 | 71.3 | 29 | 21.4 |
| 124 | 30 | 68.6 | 31 | 149.5 |
| 125 | 30 | 73.7 | 31 | 144.4 |
| 126 | 30 | 107.1 | 31 | 110.6 |
| 127 | 30 | 112.3 | 31 | 104.8 |
| 128 | 30 | 167.8 | 31 | 48.2 |
| 129 | 30 | 174.0 | 31 | 42.2 |
| 130 | 30 | 203.1 | 31 | 15.7 |
| 131 | 30 | 210.0 | 31 | 10.6 |

EXAMPLE OF MEASUREMENT METHOD



⑦ - NUMBERED SEWER MANHOLE

WATER HOUSE CONNECTIONS

| LOT No. | FIRE HYDRANT STATION | MEASURE TO MANHOLE | MANHOLE No. | MEASUREMENT TO W.H.C. |
|---------|----------------------|--------------------|-------------|-----------------------|
| 48 | 15+73 | 82.6 | | |
| 49 | " | 80.5 | | |
| 50 | " | 85.8 | | |
| 51 | " | 86.8 | | |
| 52 | " | 122.2 | | |
| 53 | " | 124.3 | | |
| 54 | " | 157.3 | | |
| 55 | " | 155.6 | | |
| 56 | 19+56 | 92.9 | 7 | 92.6 |
| 57 | " | 89.4 | 7 | 79.4 |
| 58 | " | 61.8 | 7 | 62.1 |
| 59 | " | 58.4 | 7 | 59.1 |
| 60 | MH# 7 | 21.6 | MH 8 | 67.4 |
| 61 | " | 56.9 | 8 | 50.6 |
| 62 | " | 61.9 | 8 | 25.9 |
| 63 | " | 99.2 | 8 | 19.4 |
| 64 | 15+73 | 79.2 | | |
| 65 | " | 74.7 | | |
| 66 | " | 42.4 | | |
| 67 | " | 38.8 | | |
| 68 | " | 38.4 | | |
| 69 | " | 42.4 | | |
| 70 | " | 72.3 | | |
| 71 | " | 78.7 | | |
| 72 | 2+93.56 | 89.1 | | |
| 73 | " | 93.2 | | |
| 74 | " | 112.5 | | |
| 75 | " | 118.5 | | |
| 76 | " | 159.5 | | |
| 77 | " | 153.1 | | |
| 78 | " | 141.2 | | |
| 79 | " | 135.8 | | |
| 80 | " | 129.1 | | |
| 81 | " | 129.5 | | |
| 82 | " | 135.3 | | |
| 83 | " | 141.3 | | |
| 84 | " | 166.5 | | |
| 85 | " | 172.8 | | |
| 86 | " | 193.5 | | |
| 87 | " | 203.2 | | |
| 88 | " | 164.3 | | |
| 89 | " | 158.7 | | |
| 90 | " | 148.2 | | |
| 91 | " | 144.8 | | |
| 92 | 8+98 | 60.2 | | |
| 93 | " | 67.5 | | |
| 94 | " | 87.9 | | |
| 95 | " | 96.5 | | |
| 96 | " | 124.5 | | |
| 97 | " | 121.1 | | |
| 98 | " | 115.8 | | |
| 99 | " | 117.1 | | |
| 100 | " | 128.8 | | |
| 101 | " | 134.5 | | |
| 102 | " | 151.2 | | |
| 103 | " | 158.5 | | |
| 104 | " | 138.5 | | |
| 105 | " | 132.8 | | |
| 106 | " | 119.2 | | |
| 107 | " | 117.9 | | |
| 108 | 4+98 | 119.7 | | |
| 109 | " | 119.9 | | |
| 110 | " | 140.1 | | |
| 111 | " | 142.3 | | |
| 112 | " | 133.5 | | |
| 113 | " | 128.8 | | |
| 114 | " | 114.1 | | |
| 115 | " | 113.1 | | |
| 116 | " | 112.9 | | |
| 117 | " | 114.5 | | |
| 118 | " | 127.5 | | |
| 119 | " | 132.1 | | |
| 120 | " | 165.3 | | |
| 121 | " | 170.5 | | |
| 122 | " | 187.2 | | |
| 123 | " | 193.5 | | |
| 124 | " | 241.5 | | |
| 125 | " | 234.3 | | |
| 126 | " | 213.5 | | |
| 127 | " | 207.3 | | |
| 128 | " | 182.4 | | |
| 129 | " | 178.2 | | |
| 130 | " | 168.2 | | |
| 131 | " | 166.1 | | |

REFER TO SHEET 2 FOR WHC DIMENSIONS LOT TO LOT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

DES:

DRN:

CHK:

DATE:

BY NO. REVISION

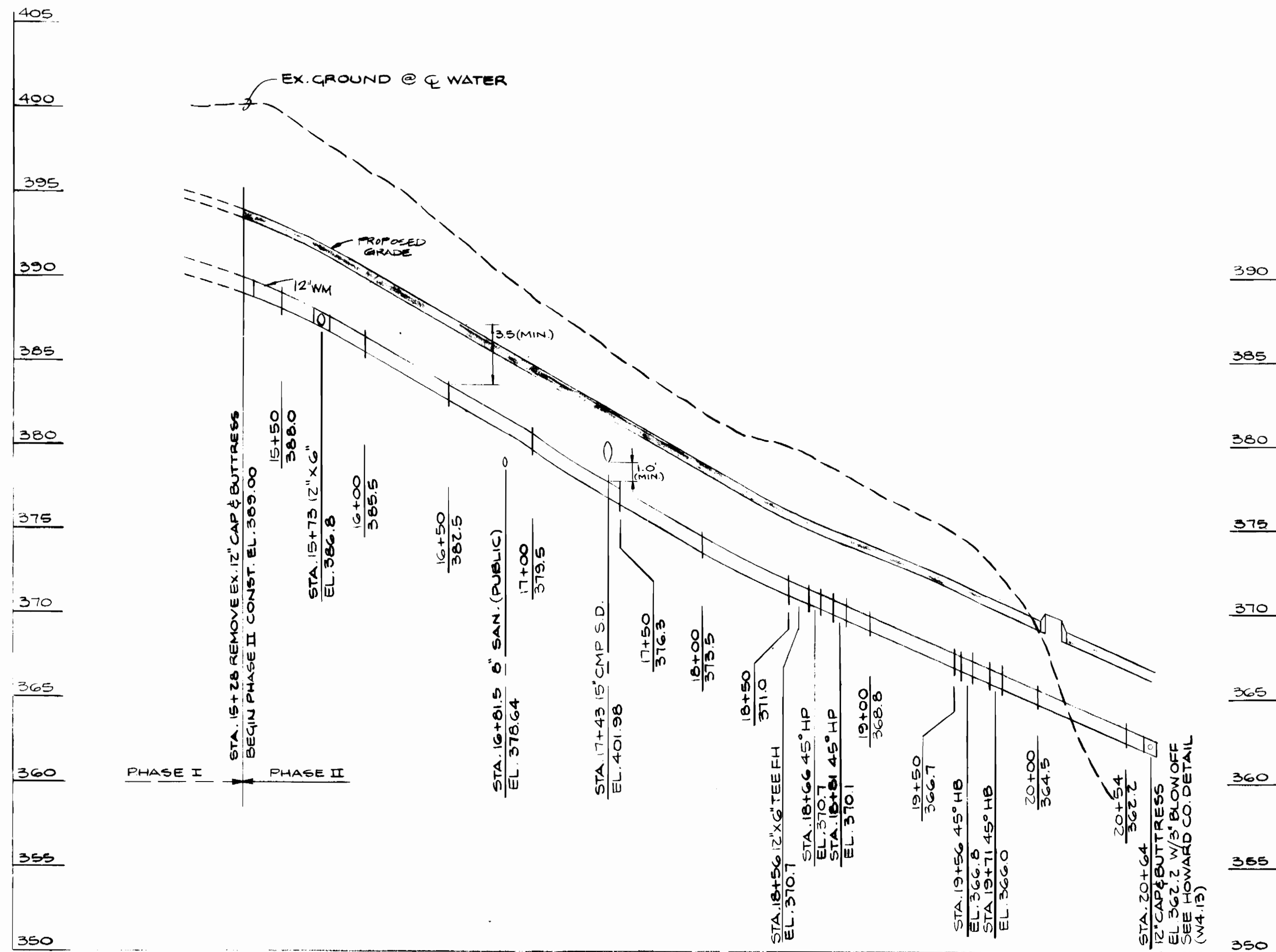
AS BUILT DIMENSION LEDGER
WATER & SEWER MAINS
PHASE II

DATE 600' SCALE MAP NO. BLOCK NO.

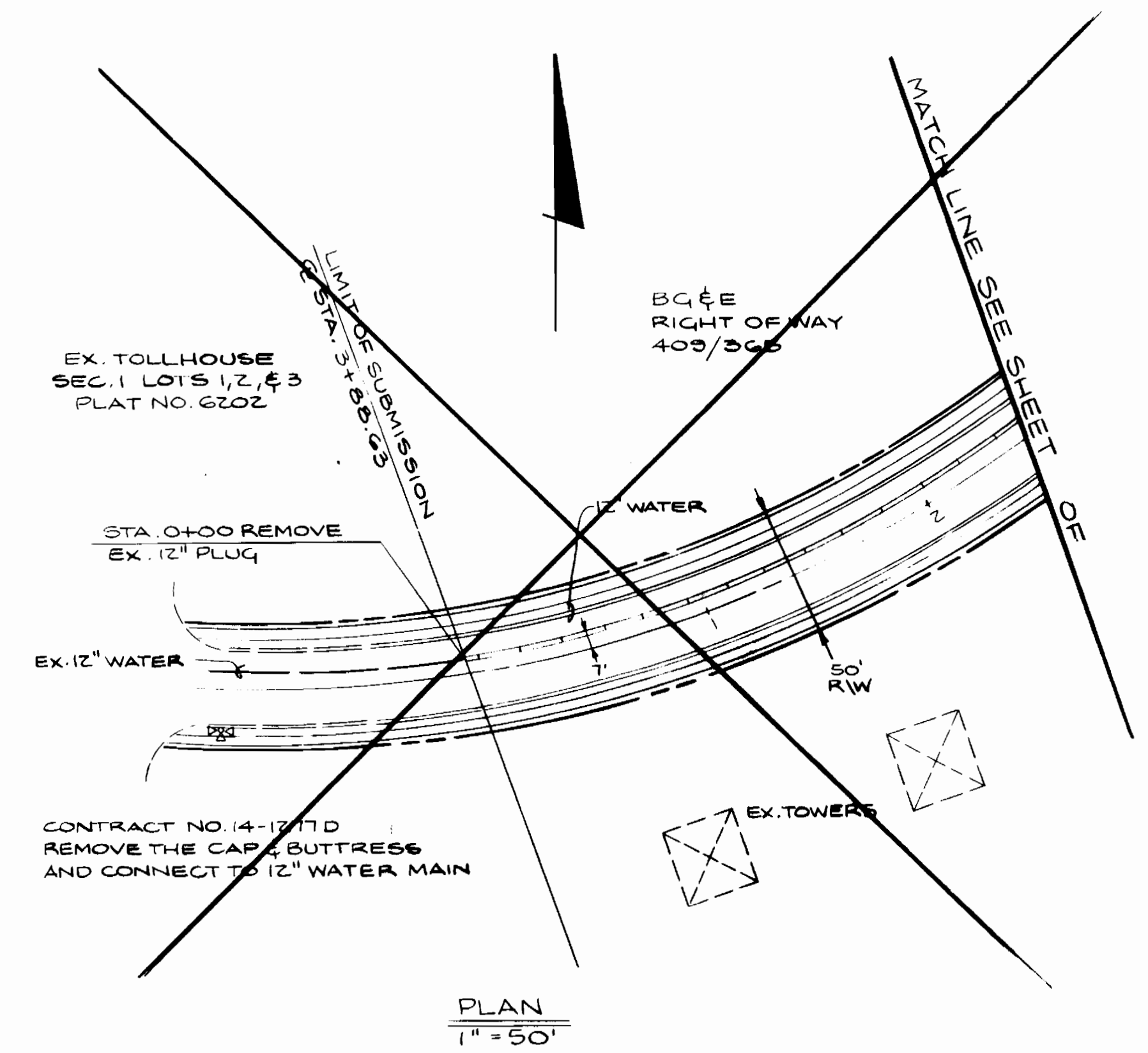
CONTRACT NO. 14-1701-D
TOLL HOUSE
TAX MAPS 24 & 25 PARCELS 254 & 210
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 28 OF 71



PROFILE
SCALE 1" = 5' VERT.
1" = 50' HORIZ.



PLAN
1" = 50'

DRAWING 44-132 05150

| | | | |
|---|--|--|--|
| DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works DATE: 8/22/87 | | DEWBERRY & DAVIS ARCHITECTS ENGINEERS PLANNERS SURVEYORS 3300 N. RIDGE ROAD SUITE 100 ELLICOTT CITY, MARYLAND 21043 (301) 461-7478 Chief, Land Development Division DATE: 8/22/87 | |
|---|--|--|--|

| | | | |
|----------|----------|------|---------------|
| DES: CHL | DRN: GMM | CHK: | DATE: 8/20/87 |
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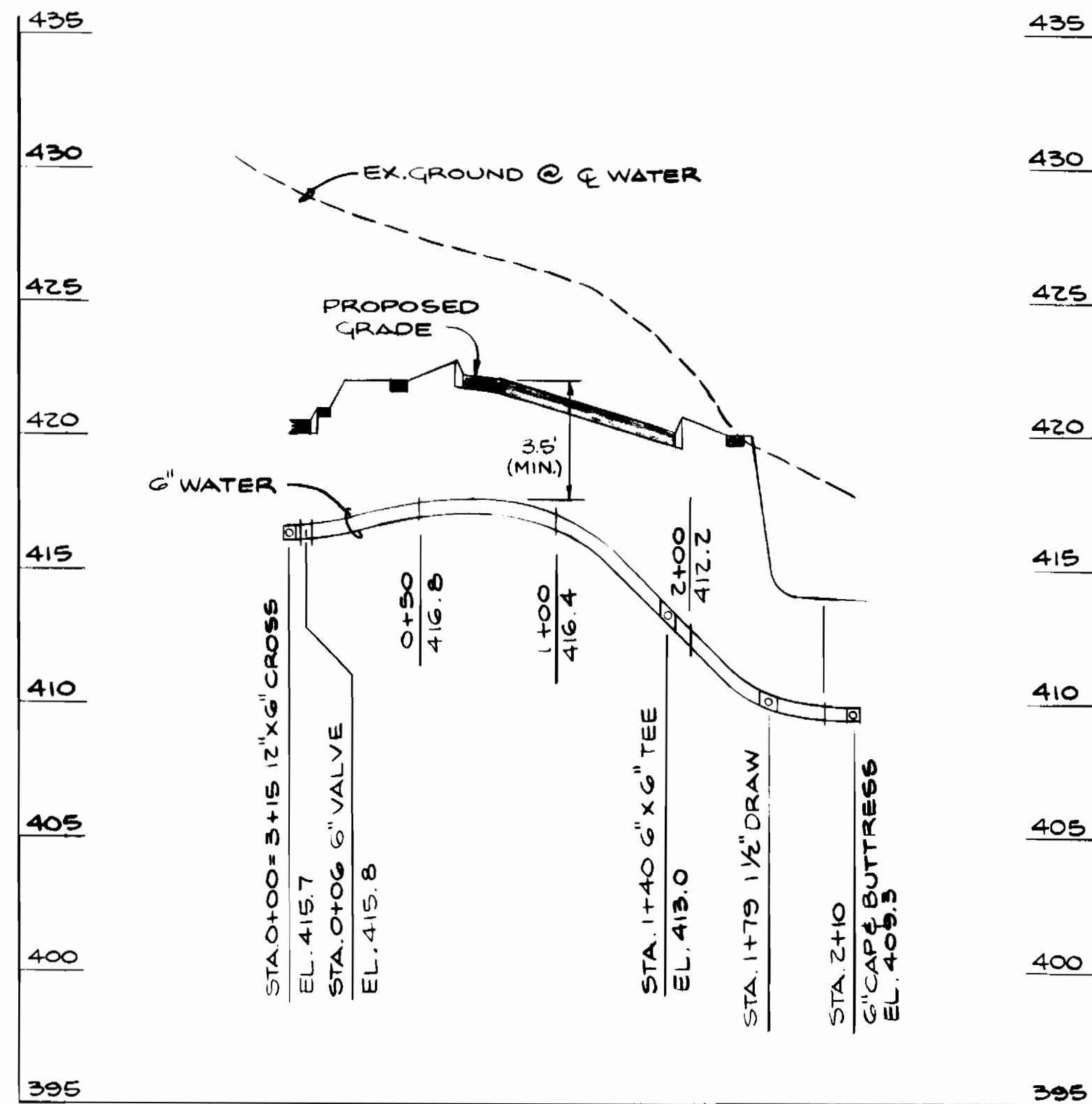
STEVEN G. ZAHN
DATE: 8/21/87

| BY | NO. | REVISION | DATE |
|----|-----|----------|------|
| | | | |
| | | | |

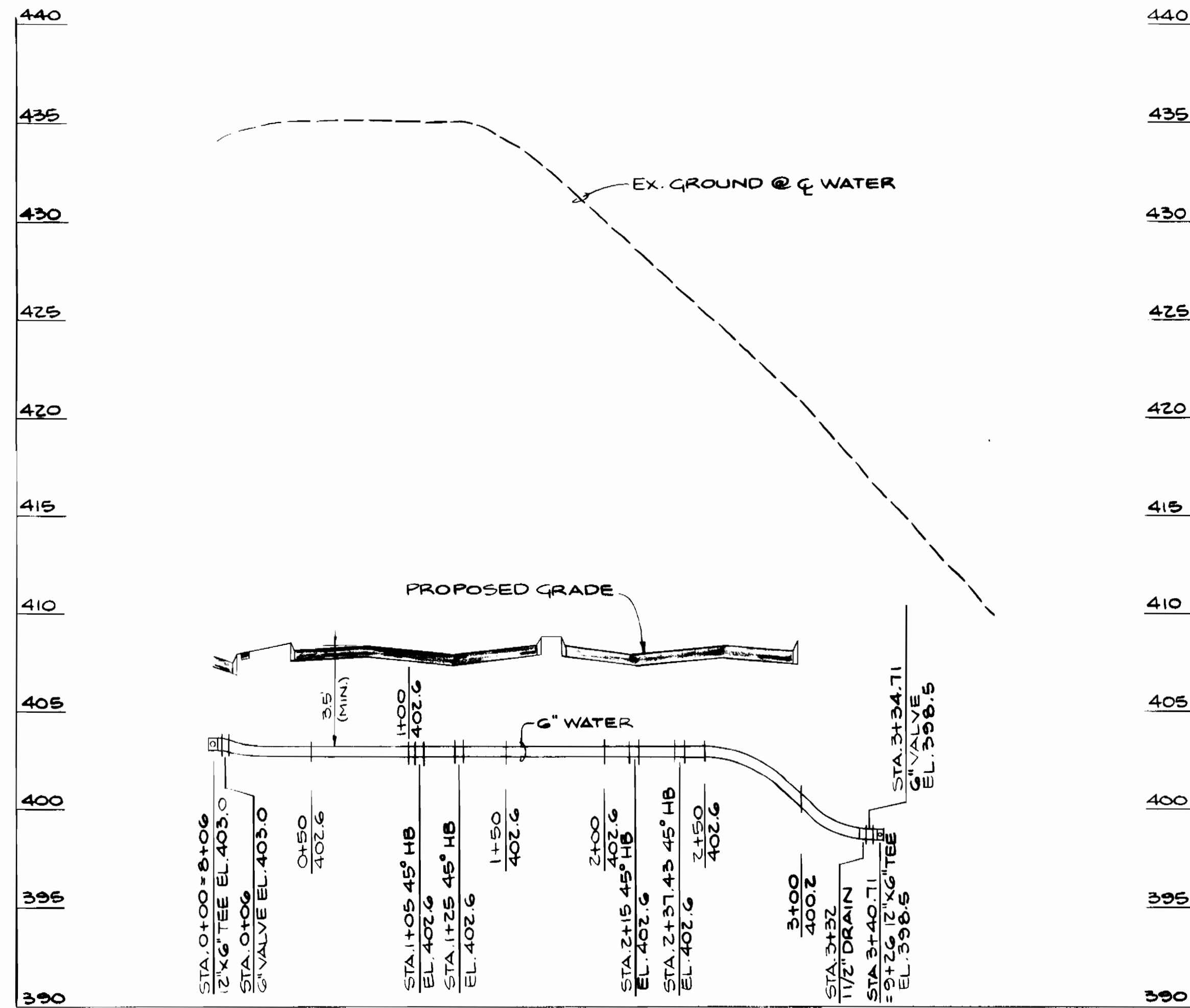
PROFILE WATER MAINS PHASE II
 SCALE: 1" = 5' VERT., 1" = 50' HORIZ. DATE: 8/22/87
 600' SCALE MAP NO. _____ BLOCK NO. _____

CONTRACT NO. 14-1701-D
TOLL HOUSE
 TAX MAPS 24 & 25 PARCELS 254 & 210
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

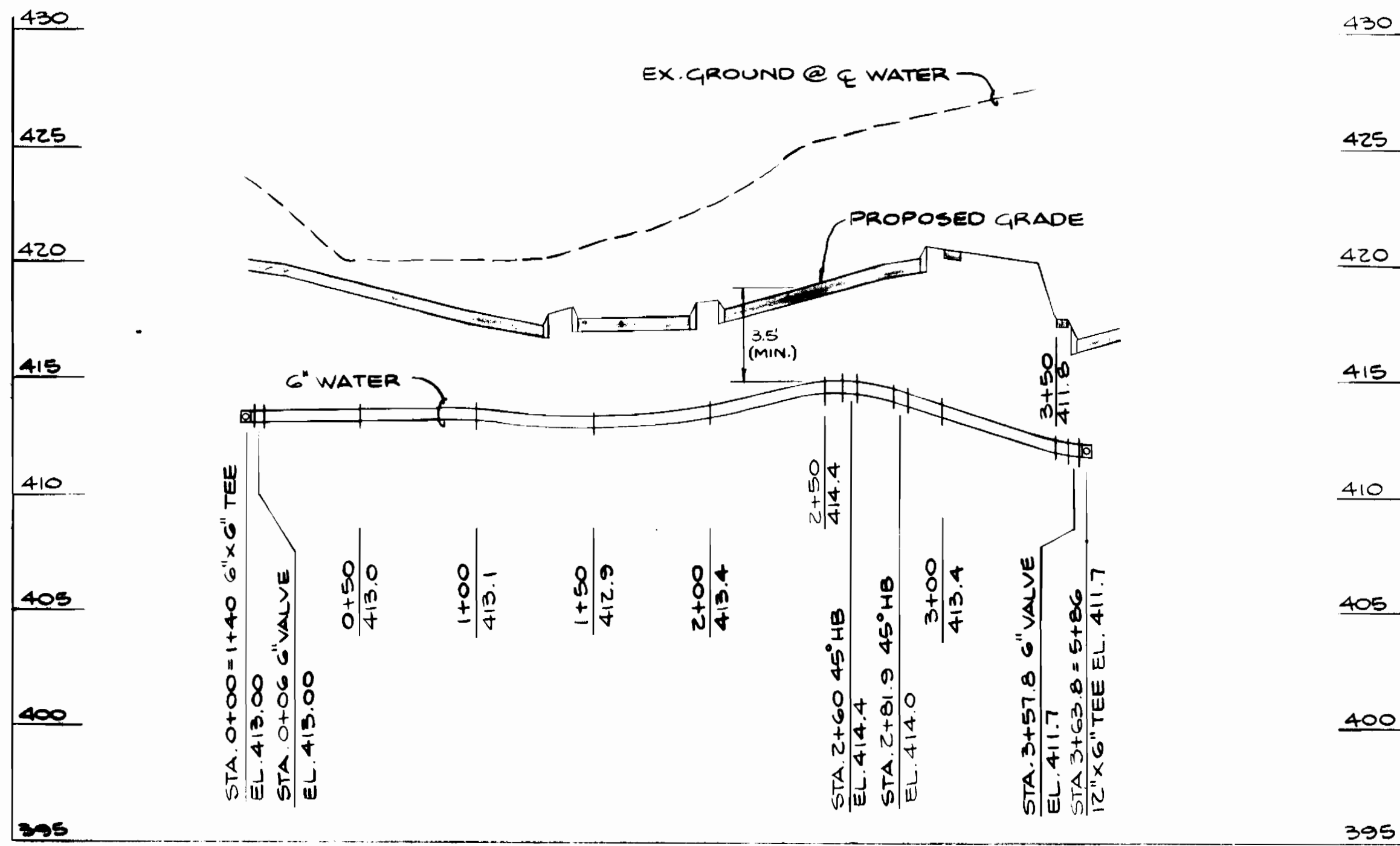
| |
|----------------|
| SCALE AS SHOWN |
| SHEET 3 OF 7 |



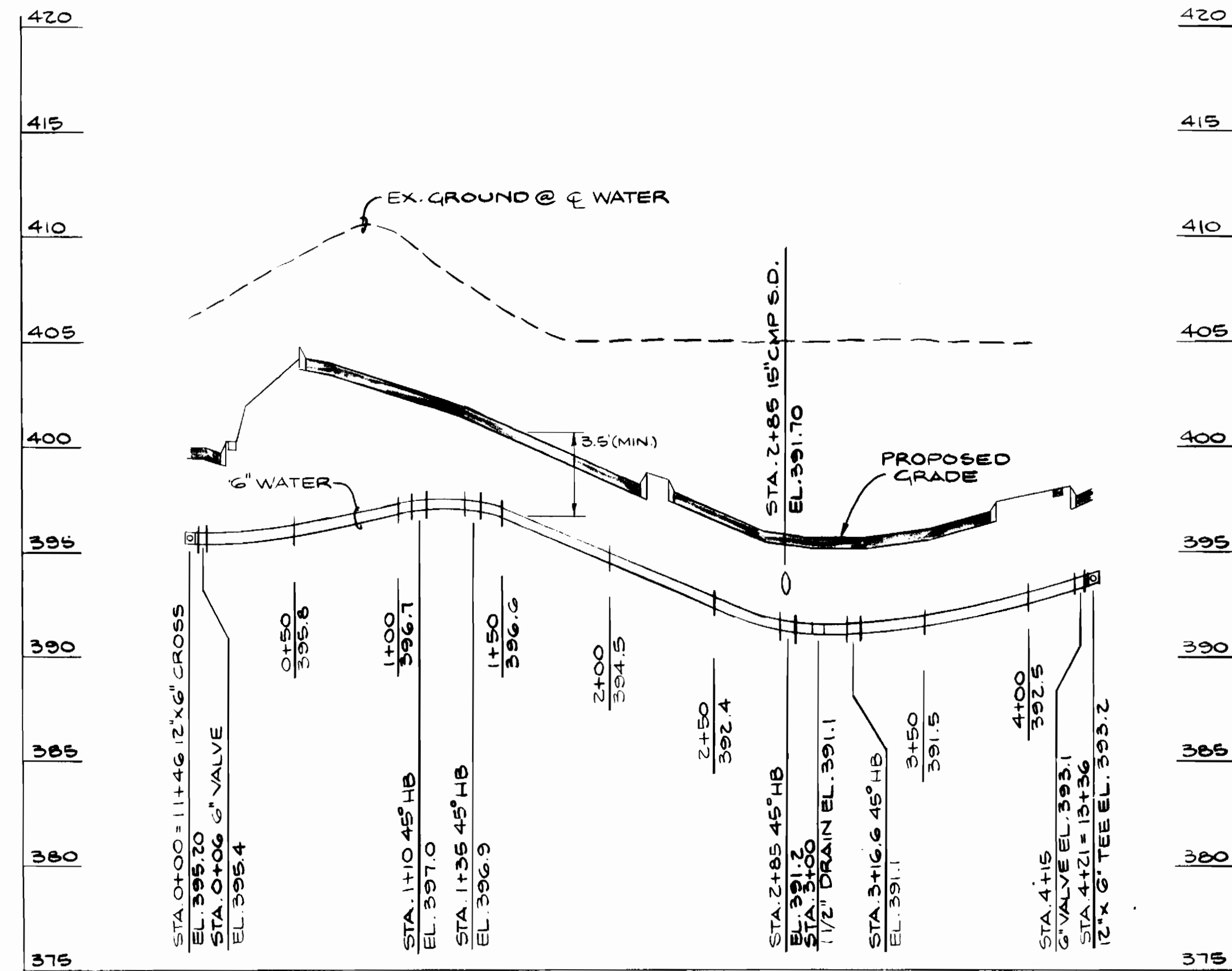
COURT A



COURT B



COURT A



COURT C

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEWBERRY & DAVIS
ARCHITECTS ENGINEERS PLANNERS SURVEYORS

Director of Public Works
DATE: 8-27-87

Chief, Bureau of Engineering
Chief, Land Development Division
DATE: 8-27-87

3300 N. RIDGE ROAD SUITE 100
ELLICOTT CITY, MARYLAND 21043
(301) 461-7478



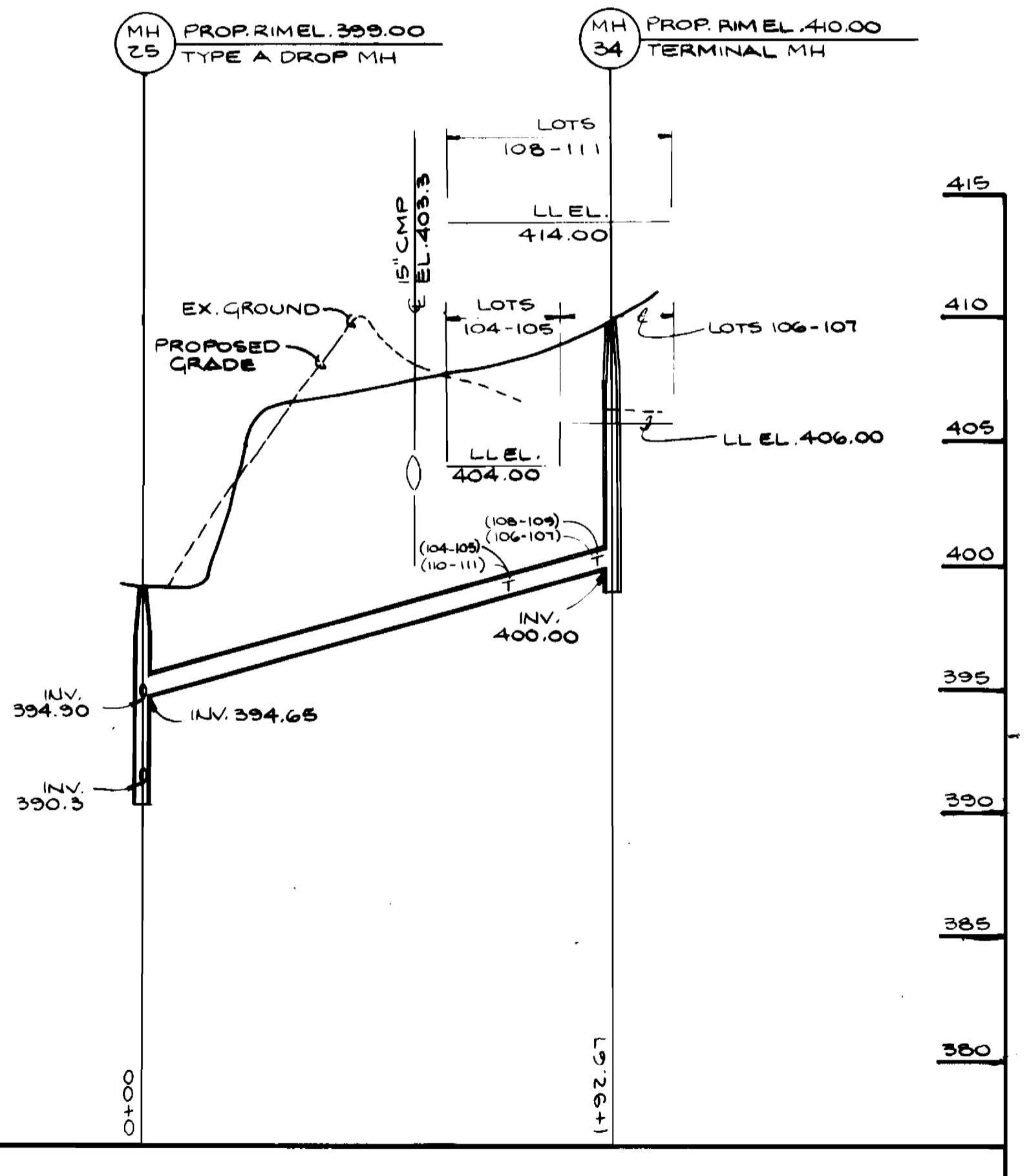
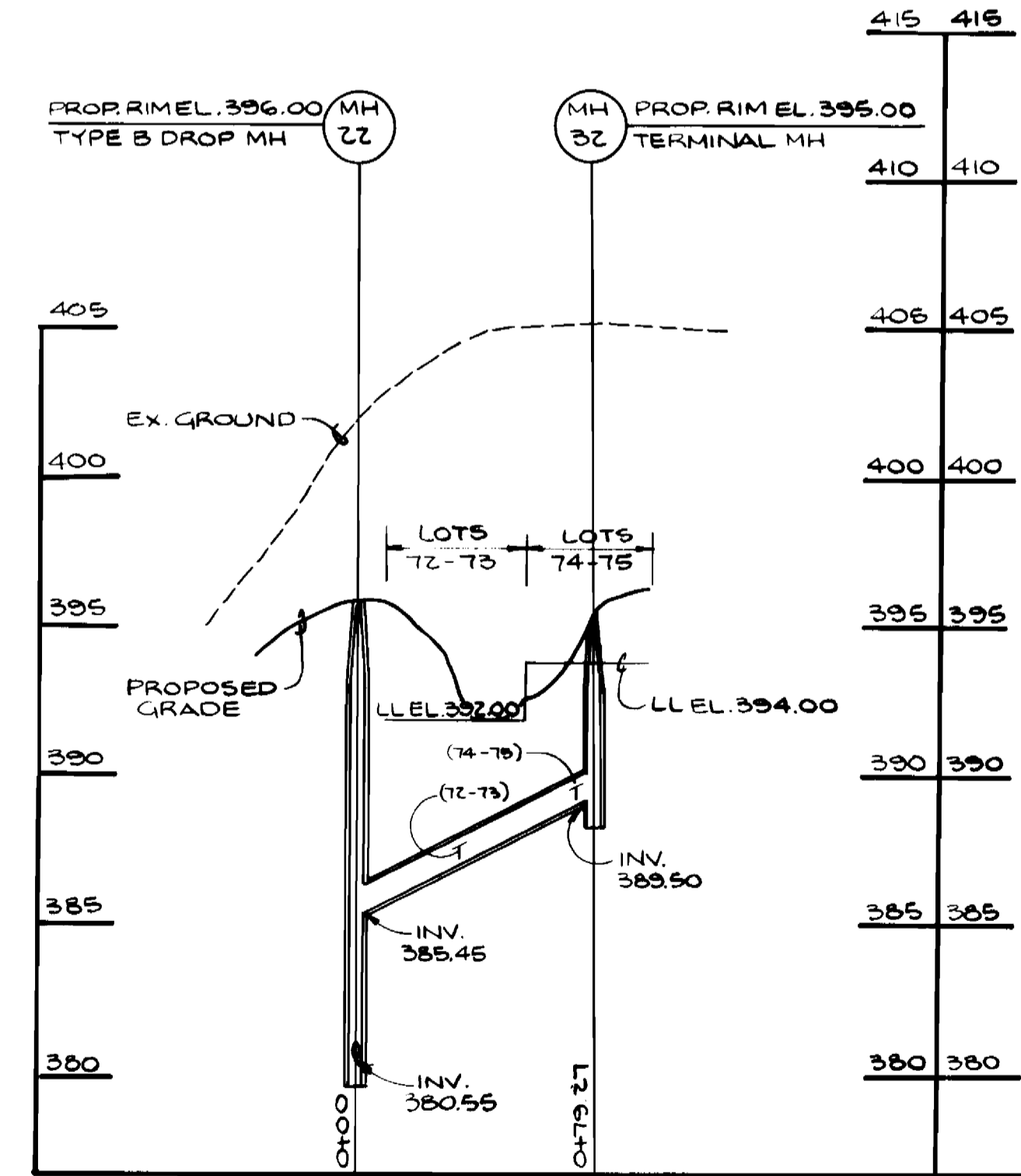
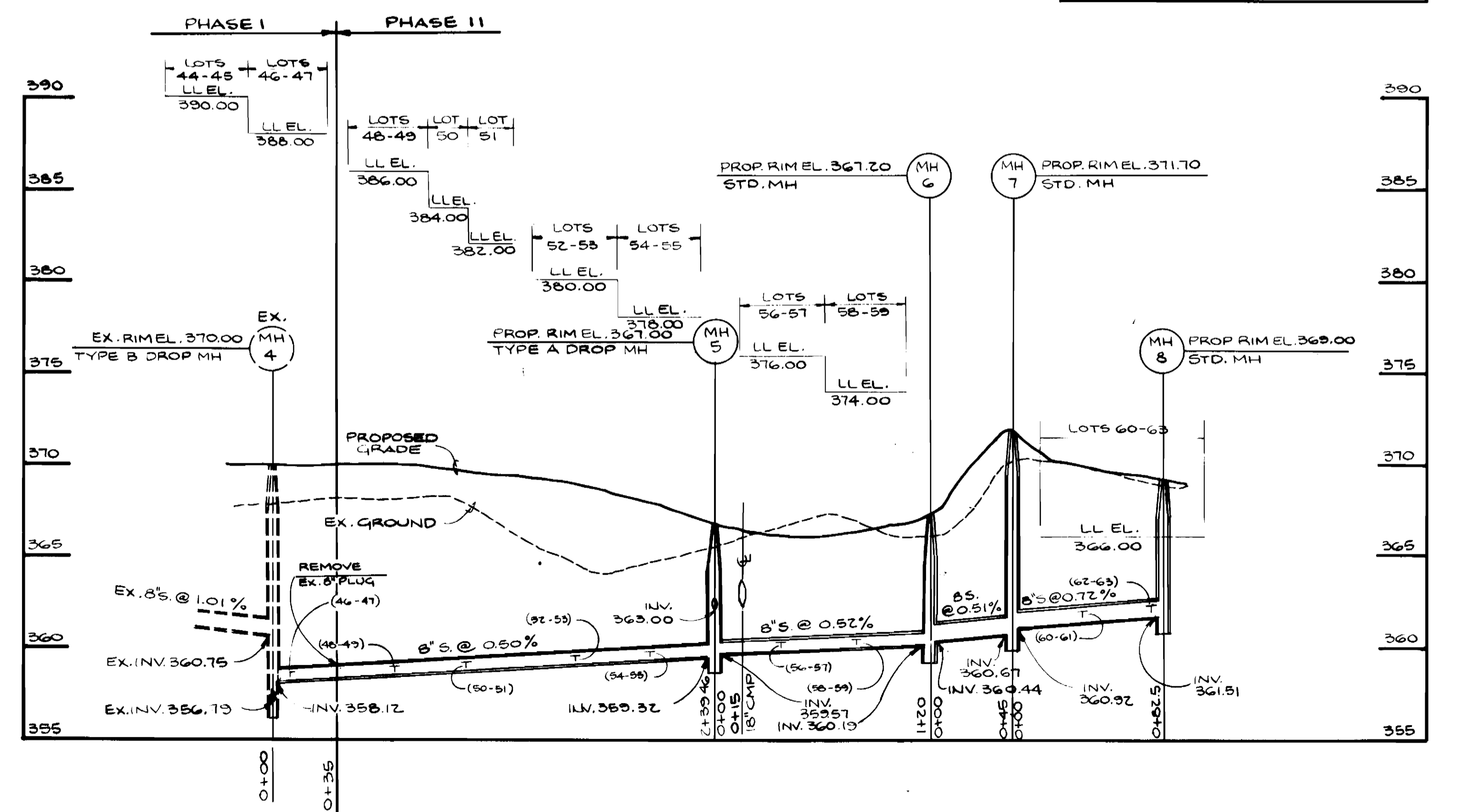
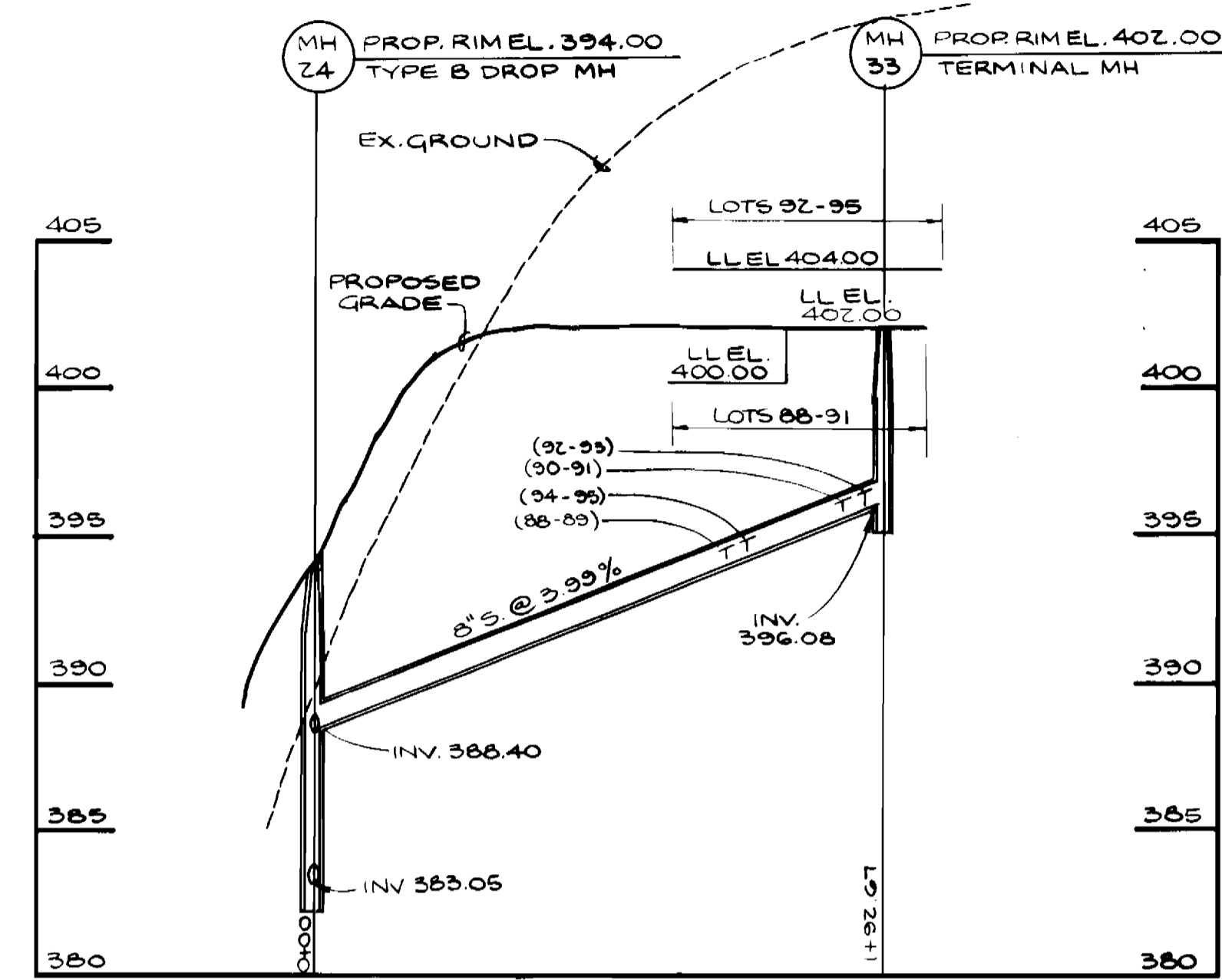
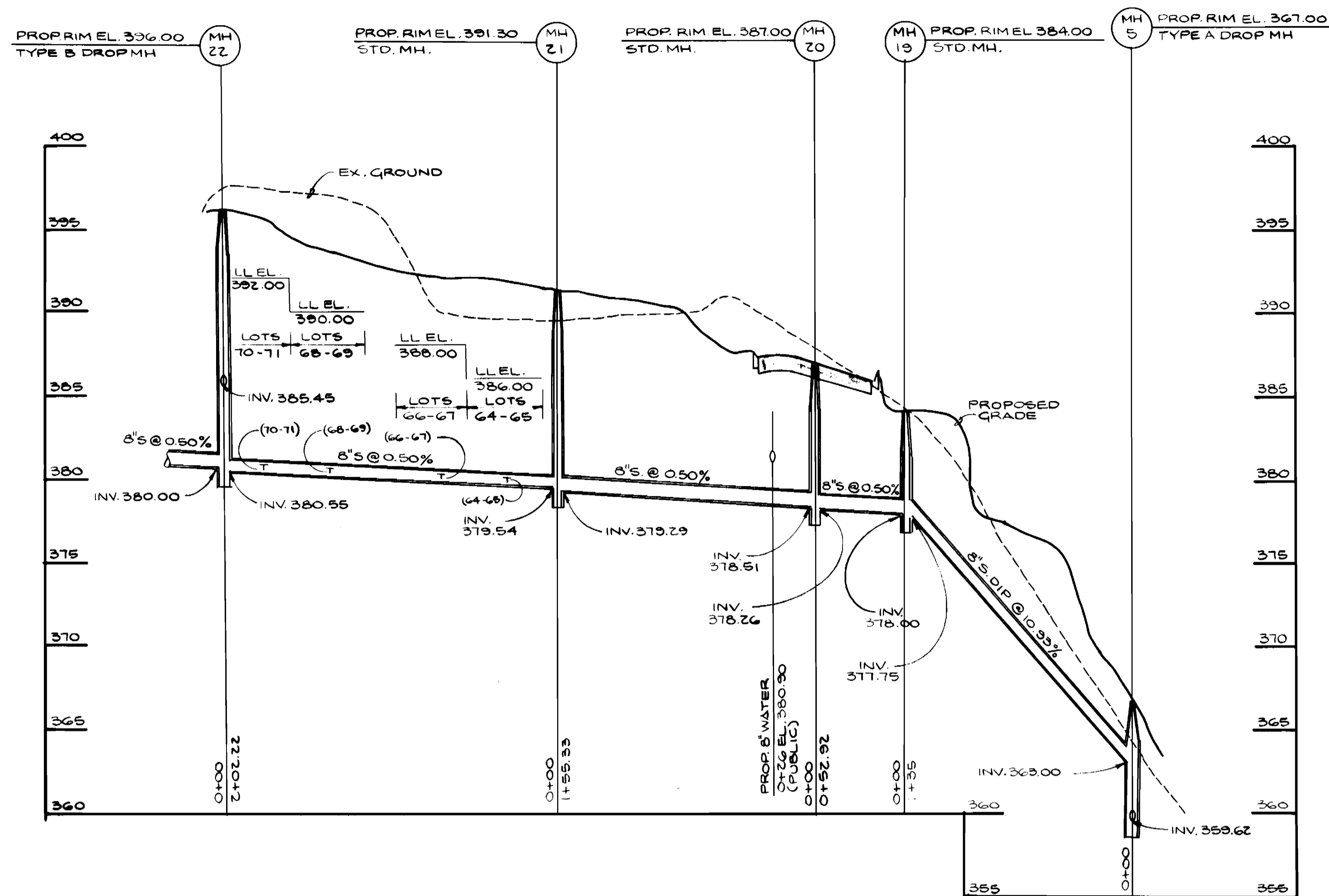
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|---------------|-----|------|-----------|
| DES: CHL | | | |
| DRN: WDC | | | |
| CHK: | | | |
| DATE: 8/27/87 | BY: | NO.: | REVISION: |

PROFILE
WATER MAINS
PHASE II

SCALE: 1"=5' VERT., 1"=50' HORZ.
600' SCALE MAP NO. _____ BLOCK NO. _____

CONTRACT NO. 14-1701-D
TOLL HOUSE
TAX MAPS 248 25 PARCELS 254 & 210
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 7



BRUNING 44-132 89150

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 8-27-87
 Chief, Bureau of Engineering: *[Signature]* DATE: 8-28-87
 Chief, Bureau of Utilities: *[Signature]* DATE: 8-27-87
 Chief, Land Development Division: *[Signature]* DATE: 8-27-87

DEWBERRY & DAVIS
ARCHITECTS ENGINEERS PLANNERS SURVEYORS
3300 N. RIDGE ROAD SUITE 100
ELLCOTT CITY, MARYLAND 21043
(301) 461-7478

DES: CHL
 DRN: W.O. WDC
 CHK: *[Signature]*
 DATE: 8/20/87
 BY: NO. _____ REVISION _____ DATE _____

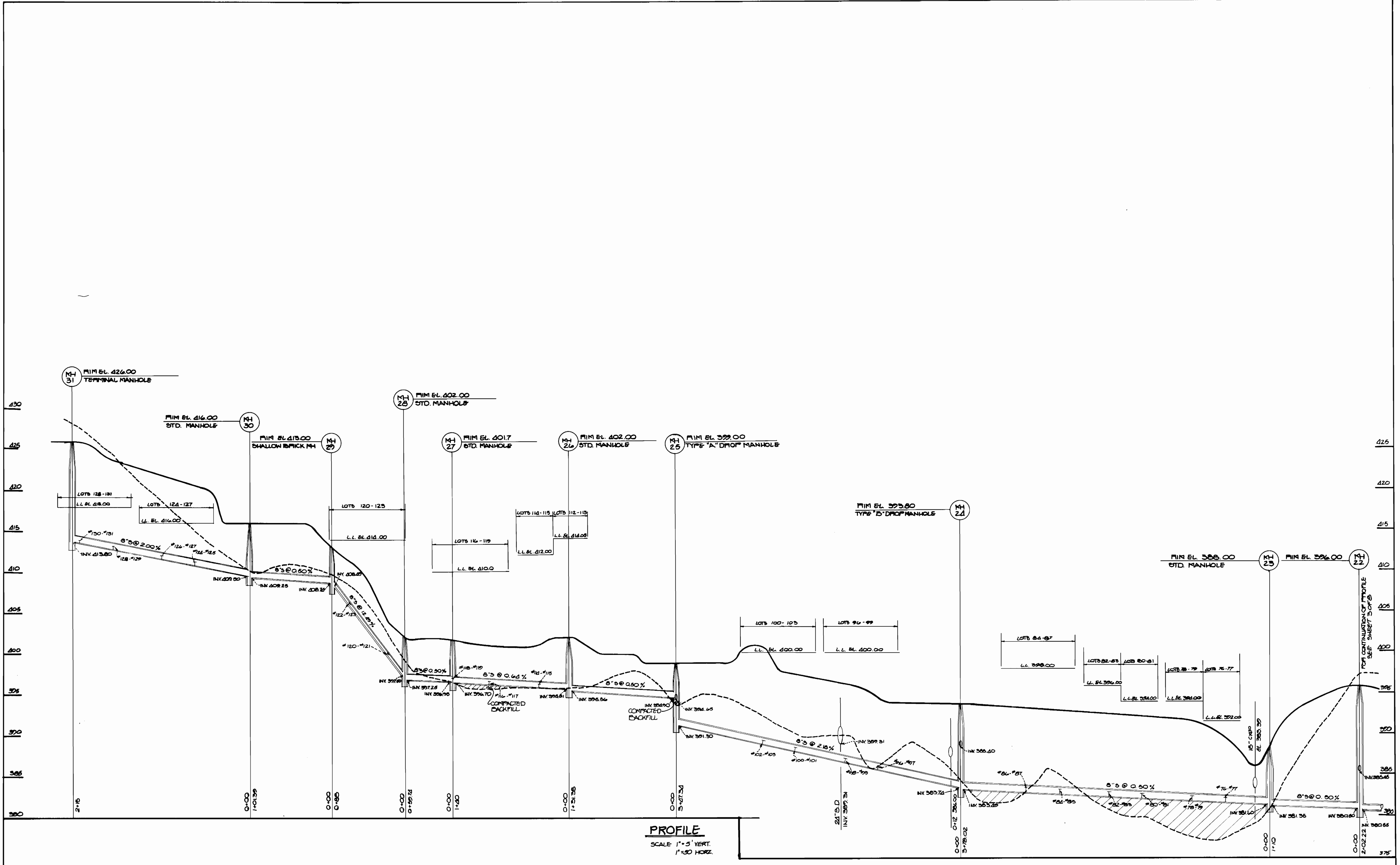
PROFILE SEWER MAINS
PHASE II

SCALE: 1" = 5' VERT.; 1" = 50' HORIZ.
 DATE: _____
 600' SCALE MAP NO. _____ BLOCK NO. _____

CONTRACT NO. 14-1701 -D
TOLL HOUSE
 TAX MAPS 24825 PARCELS 2548 210
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 6 OF 7

AS-BUILT 2-16-88



PROFILE
SCALE: 1"=5' VERT., 1"=50' HORIZ.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works
Ruth Benner
DATE: 8-27-87
CHIEF, BUREAU OF UTILITIES

Chief, Bureau of Engineering
William L. ...
DATE: 8-28-87
CHIEF, LAND DEVELOPMENT DIVISION

DEWBERRY & DAVIS
ARCHITECTS ENGINEERS PLANNERS SURVEYORS
3300 N. RIDGE ROAD SUITE 100
ELLCOTT CITY, MARYLAND 21043
(301) 461-7478

STEVEN G. ZAHN
DATE: 8/28/87

| | | | |
|---------------|--------|----------|------|
| DES: C.H.L. | | | |
| DRN: W.O. | | | |
| CHK: | | | |
| DATE: 8/28/87 | BY NO. | REVISION | DATE |

PROFILE SEWER MAINS PHASE II

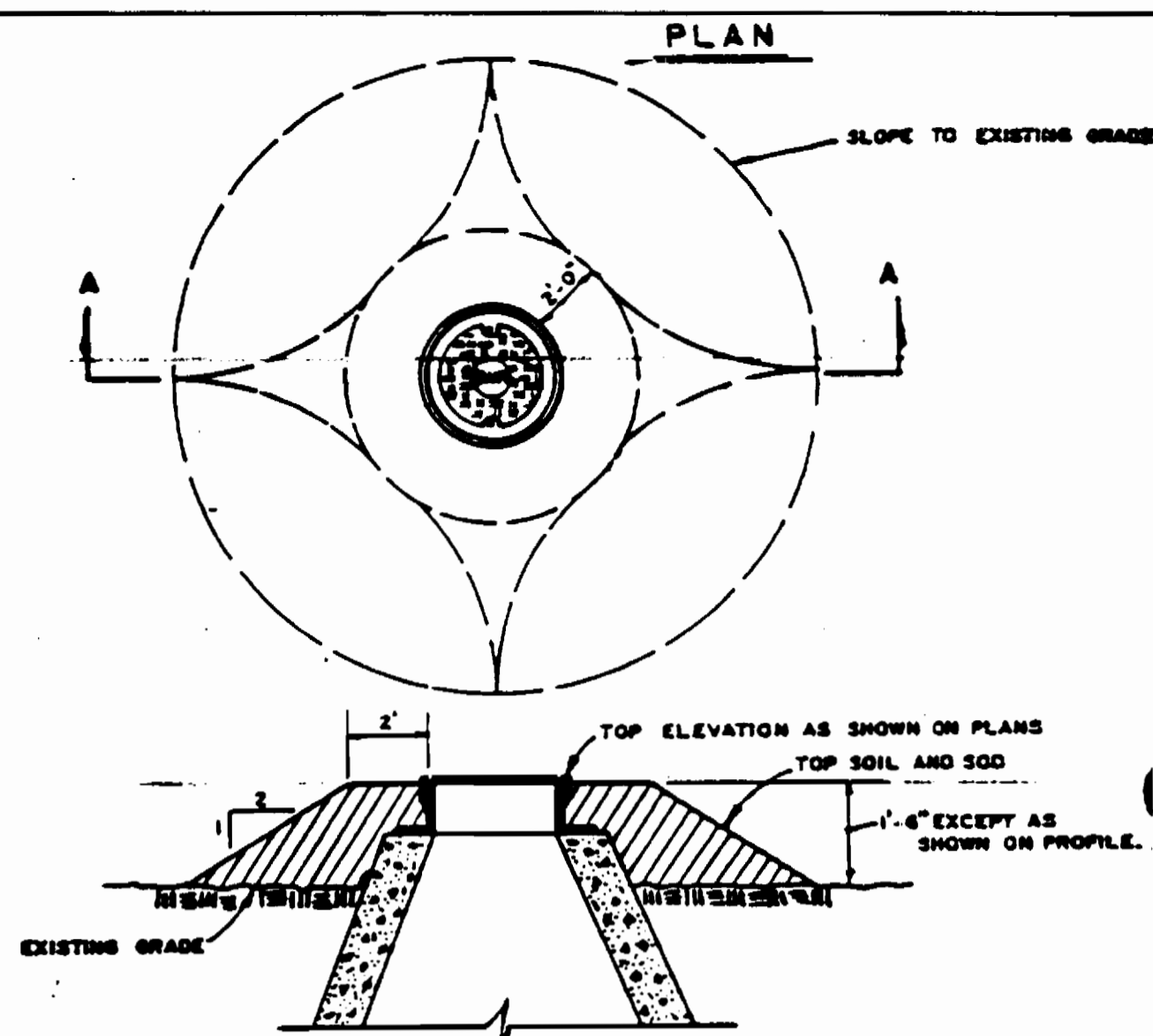
SCALE: 1"=5' VERT., 1"=50' HORIZ.

DATE: _____

600' SCALE MAP NO. _____ BLOCK NO. _____

CONTRACT NO. 14-1701 -D
TOLL HOUSE
TAX MAPS 24825 PARCELS 2548 & 210
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

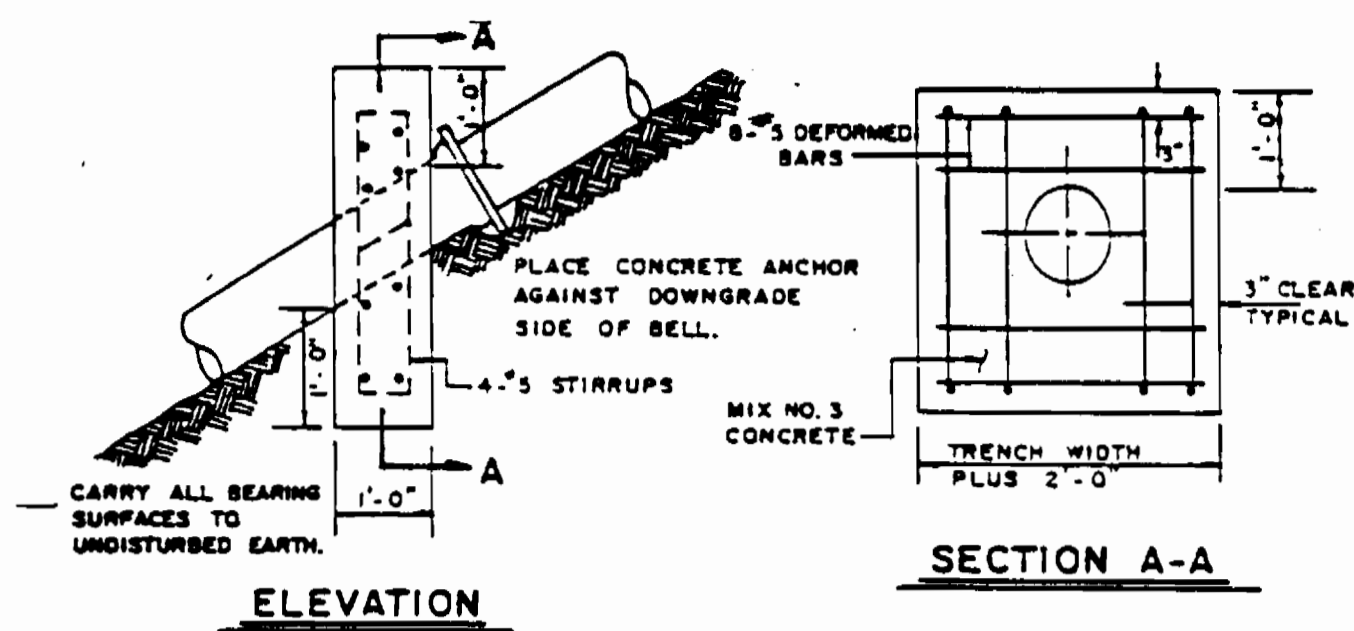
SCALE AS SHOWN
SHEET 6 OF 7



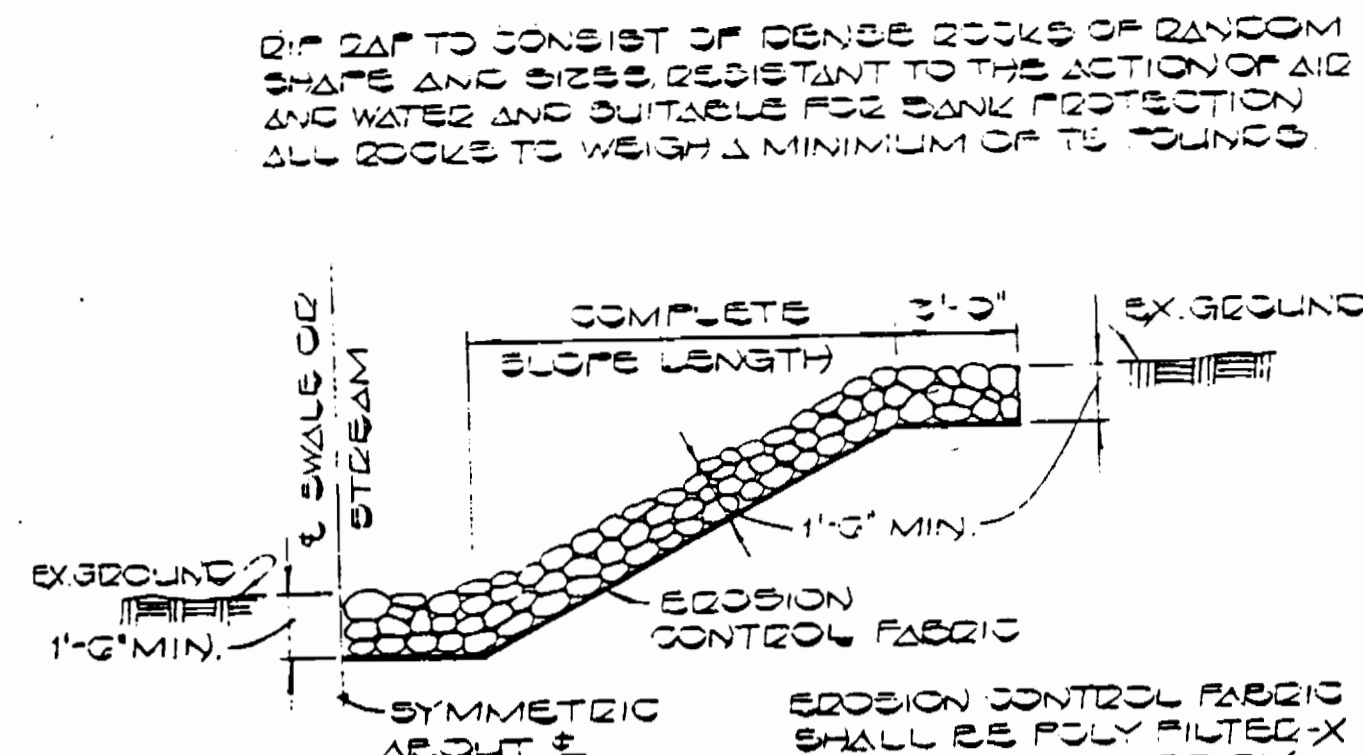
SECTION A-A

NOTES

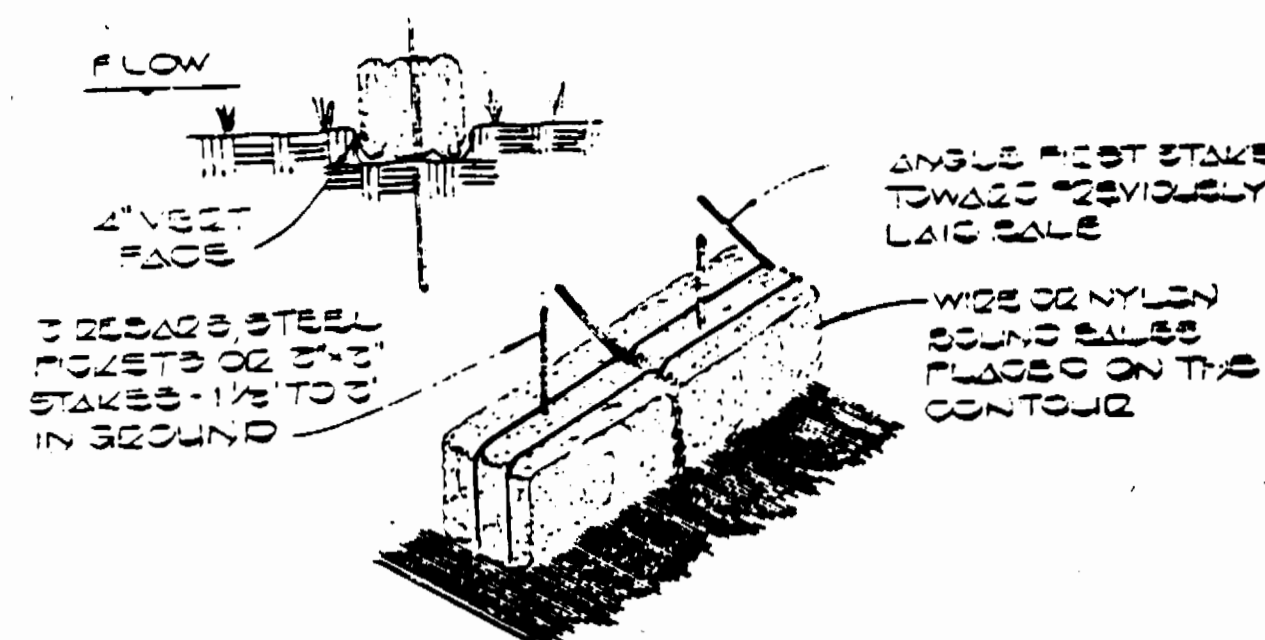
1. ALL MANHOLE FRAME AND COVERS SHALL BE PLUMB WITH GRADE EXCEPT WHEN SHOWN ON PROFILE TO BE SET HIGHER THAN GRADE.
2. MANHOLE FRAME AND COVERS TO BE SET HIGHER THAN GRADE SHALL BE SET IN ACCORDANCE WITH THIS DETAIL.
3. MANHOLE FRAMES AND COVERS TO BE SET HIGHER THAN 1'-6" SHALL BE SET AS NOTED ON THE PROFILE AND IN ACCORDANCE WITH THIS DETAIL.



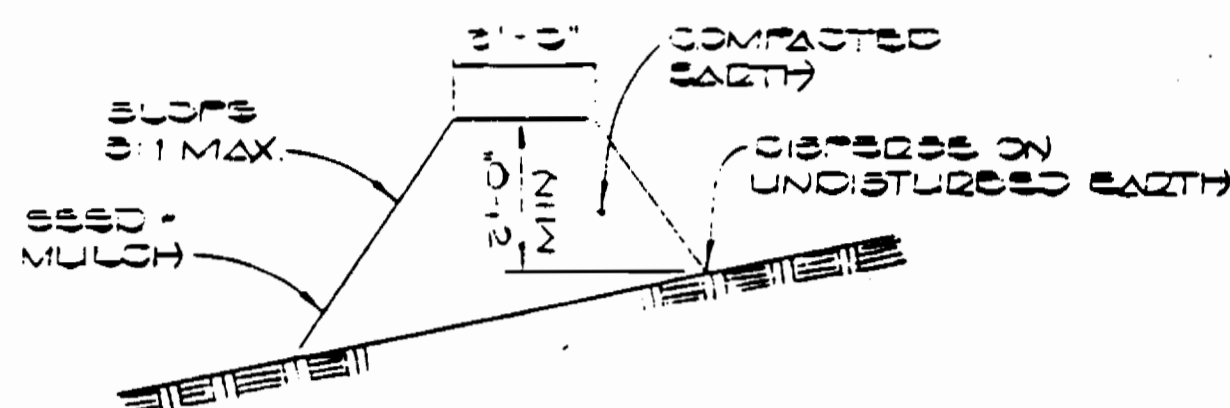
CONCRETE ANCHOR
(FOR USE WHEN PIPE SLOPES EXCEED 20%)



UNGRADED RIP RAP DETAIL
NO SCALE



STRAW BALE DIKE
NO SCALE



TEMPORARY EARTH DIVERSION BEAM
NO SCALE

DIVERSION BEAMS ARE REQUIRED EVERY 300 FEET ON CONTINUOUS SLOPES OF 4% OR GREATER. THE BEAMS SHALL CONFORM TO THE TYPICAL SECTION SHOWN HEREON. THEY SHALL BE CONSTRUCTED ACROSS THE CONSTRUCTION AREA IMMEDIATELY AFTER THE BACKFILLING OF THE PIPE TRENCH AND PRIOR TO PLACING STABILIZATION SOILS TO PREVENT EROSION OF THE BACKFILLED AREAS.

SEWER HOUSE CONNECTION ELEVATION

| STA. | LOT | INV @ E | MIN. CELLAR | STA. | LOT | INV @ E | MIN. CELLAR | | | |
|---------------|-------|---------|-------------|--------|----------------------------------|-----------|-------------|-----------|--------|--------|
| NH 4 - NH 5 | | | | | | | | | | |
| 0 | 12.5 | 46-47 | 358.39 | 382.66 | 0 | 37.5 | 18-19 | 387.34 | 494.66 | |
| 0 | 73.5 | 48-49 | 358.69 | 381.66 | 0 | 77.5 | 16-17 | 318.76 | 424.66 | |
| 1 | 12.5 | 50.51 | 358.89 | 379.66 | 377.66 | 1 | 37.5 | 14-15 | 390.50 | 405.66 |
| 1 | 73.5 | 52-53 | 359.19 | 375.66 | 2 | 77.5 | 12-13 | 391.32 | 405.66 | |
| 2 | 12.5 | 54-55 | 359.29 | 373.66 | 2 | 37.5 | 10-11 | 393.64 | 407.66 | |
| NH 3 - NH 4 | | | | | | | | | | |
| 0 | 40.5 | 56-57 | 359.50 | 371.66 | NH 17 - NH 18 | | | | | |
| 0 | 80.5 | 58-59 | 360.19 | 369.66 | 0 | 37.5 | 6-7 | 410.38 | 412.16 | |
| NH 7 - NH 8 | | | | | | | | | | |
| 0 | 37.5 | 60-61 | 361.39 | 361.66 | 0 | 97.5 | 4-5 | 411.68 | 412.16 | |
| 0 | 77.5 | 62-63 | 361.69 | 361.66 | NH 21 - NH 22 | | | | | |
| NH 6 - NH 7 | | | | | | | | | | |
| 0 | 27 | 44-45 | 361.22 | 385.66 | 0 | 32.5 | 64-65 | 379.78 | 381.66 | |
| NH 9 - NH 10 | | | | | | | | | | |
| 0 | 46.5 | 42-43 | 366.34 | 389.66 | 0 | 72.5 | 66-67 | 380.06 | 383.66 | |
| 0 | 86 | 40-41 | 368.20 | 387.66 | 1 | 32.5 | 64-65 | 380.27 | 395.66 | |
| NH 10 - NH 11 | | | | | | | | | | |
| 0 | 32 | 38-39 | 378.64 | 387.66 | 1 | 72.5 | 75-76 | 380.35 | 397.66 | |
| 0 | 72 | 36-37 | 378.6 | 387.66 | NH 23 - NH 24 | | | | | |
| 1 | 19 | 34-35 | 373.26 | 387.66 | 0 | 33.5 | 66-67 | 387.52 | 393.66 | |
| NH 11 - NH 12 | | | | | | | | | | |
| 0 | 12.5 | 32-33 | 373.26 | 385.66 | 1 | 00.5 | 96-97 | 390.69 | 399.66 | |
| NH 12 - NH 13 | | | | | | | | | | |
| 0 | 26.5 | 30-31 | 377.89 | 385.66 | 1 | 40.5 | 98-99 | 391.2 | 399.66 | |
| 1 | 26.5 | 28-29 | 373.15 | 385.66 | 2 | 00.5 | 100-101 | 392.11 | 399.66 | |
| NH 13 - NH 14 | | | | | | | | | | |
| 0 | 75.5 | 26-27 | 378.33 | 387.66 | 2 | 40.5 | 102-103 | 394.22 | 399.66 | |
| 1 | 13.5 | 24-25 | 380.73 | 389.66 | NH 15 - NH 16 | | | | | |
| NH 14 - NH 15 | | | | | | | | | | |
| 0 | 77 | 22-23 | 380.64 | 399.66 | 0 | 00 | 112-113 | 394.01 | 409.66 | |
| 1 | 13 | 20-21 | 385.01 | 402.66 | 0 | 37.5 | 114-115 | 396.20 | 407.66 | |
| NH 16 - NH 17 | | | | | | | | | | |
| 0 | 77 | 22-23 | 380.64 | 399.66 | 0 | 97.5 | 116-117 | 396.50 | 405.66 | |
| 1 | 13 | 20-21 | 385.01 | 402.66 | 1 | 40 | 118-119 | 396.71 | 405.66 | |
| NH 18 - NH 19 | | | | | | | | | | |
| 0 | 24.5 | 120-121 | 402.20 | 409.66 | NH 25 - NH 26 | | | | | |
| 0 | 64.5 | 122-123 | 404.60 | 409.66 | 0 | 24.5 | 120-121 | 402.20 | 409.66 | |
| NH 20 - NH 21 | | | | | | | | | | |
| 0 | 67.5 | 124-125 | 410.89 | 412.76 | 0 | 64.5 | 122-123 | 404.60 | 409.66 | |
| 1 | 67.5 | 126-127 | 411.69 | 411.76 | FINISHED MANHOLE RISE ELEVATIONS | | | | | |
| 1 | 67.5 | 128-129 | 412.85 | 413.76 | NH # | ELEVATION | NH # | ELEVATION | | |
| 2 | 37.5 | 130-131 | 413.65 | 413.76 | 1 | 287.70 | 18 | 416.00 | | |
| NH 22 - NH 23 | | | | | | | | | | |
| 0 | 31.5 | 74-75 | 387.22 | 387.66 | 2 | 295.00 | 19 | 385.00 | | |
| 0 | 71.5 | 72-73 | 389.36 | 389.66 | 3 | 322.50 | 20 | 387.00 | | |
| NH 24 - NH 25 | | | | | | | | | | |
| 1 | 41.5L | 88-89 | 392.12 | 395.66 | 4 | 364.50 | 21 | 390.50 | | |
| 1 | 45.5R | 94-95 | 393.51 | 397.66 | 5 | 366.00 | 22 | 396.00 | | |
| 1 | 81.5L | 90-91 | 394.14 | 397.66 | 6 | 367.00 | 23 | 392.00 | | |
| 1 | 85.5R | 92-93 | 394.23 | 397.66 | 7 | 372.00 | 24 | 396.50 | | |
| NH 26 - NH 27 | | | | | | | | | | |
| 1 | 69.5L | 104-105 | 399.20 | 399.66 | 8 | 379.00 | 25 | 402.40 | | |
| 1 | 69.5R | 110-111 | 399.20 | 409.66 | 9 | 387.25 | 26 | 402.00 | | |
| 2 | 09.5L | 106-107 | 399.31 | 401.66 | 10 | 388.40 | 27 | 401.00 | | |
| 2 | 09.5R | 108-109 | 399.31 | 409.66 | 11 | 381.30 | 28 | 403.20 | | |
| NH 28 - NH 29 | | | | | | | | | | |
| 1 | 69.5L | 104-105 | 399.20 | 399.66 | 12 | 380.50 | 29 | 414.30 | | |
| 1 | 69.5R | 110-111 | 399.20 | 409.66 | 13 | 380.60 | 30 | 414.00 | | |
| 2 | 09.5L | 106-107 | 399.31 | 401.66 | 14 | 383.20 | 31 | 423.00 | | |
| 2 | 09.5R | 108-109 | 399.31 | 409.66 | 15 | 395.00 | 32 | 394.00 | | |
| NH 30 - NH 31 | | | | | | | | | | |
| 1 | 69.5L | 104-105 | 399.20 | 399.66 | 16 | 404.20 | 33 | 405.00 | | |
| 1 | 69.5R | 110-111 | 399.20 | 409.66 | 17 | 412.65 | 34 | 410.00 | | |

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEWBERRY & DAVIS
ARCHITECTS ENGINEERS PLANNERS SURVEYORS

3300 N. RIDGE ROAD SUITE 100
ELLCOTT CITY, MARYLAND 21043
(301) 461-7478

STEVEN G. ZAHN DATE 8/24/87

DES:

DRN:

CHK:

DATE: 8/20/87

DETAIL SHEET
PHASE II

600' SCALE MAP NO. BLOCK NO.

CONTRACT NO. 14-1701-D
TOLL HOUSE
TAX MAPS 24 & 25 PARCELS 254 & 210
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
7 OF 7