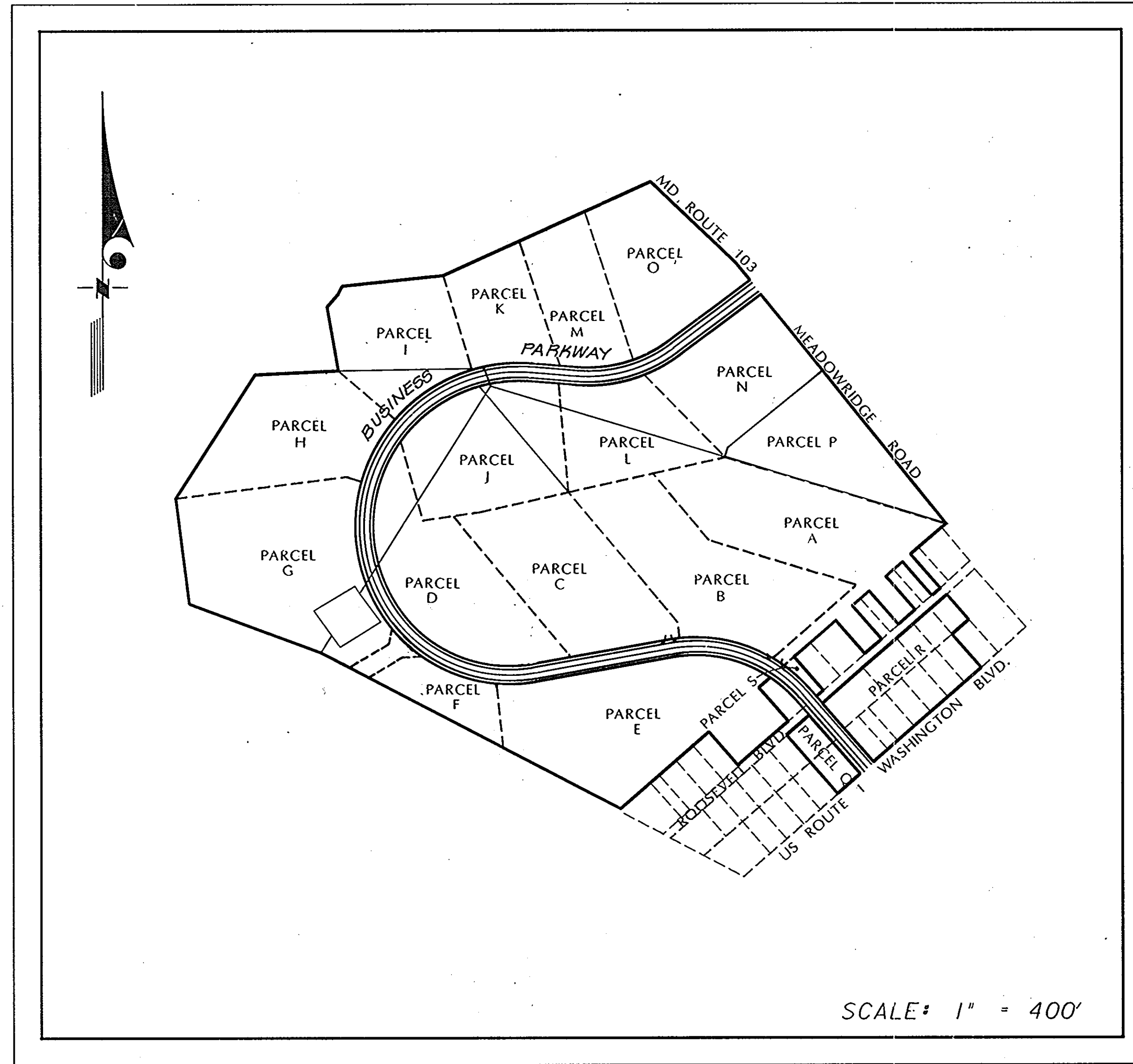


| SHEET NO. | TITLE   |
|-----------|---|
| 1         | TITLE SHEET   |
| 2         | PLAN & PROFILE (E STA. 0+00 TO STA. 13+00.)             |
| 3         | PLAN & PROFILE (E STA. 13+00 TO STA. 26+00.)            |
| 4         | PLAN & PROFILE (E STA. 26+00 TO STA. 39+00.)            |
| 5         | PLAN & PROFILE (E STA. 39+00 TO STA. 51+64.41)          |
| 6         | PLAN DETAIL & TABLES (E STA. 0+00 TO STA. 4+57.99)      |
| 7         | PLAN DETAIL & TABLES (E STA. 40+38.58 TO STA. 51+64.41) |
| 8         | TYPICAL SECTIONS & DETAILS                              |
| 9         | TYPICAL SECTIONS - TAPERED ROADWAY                      |
| 10        | MEADOWRIDGE ROAD (RT. 103) IMPROVEMENTS                 |
| 11        | MEADOWRIDGE ROAD (RT. 103) IMPROVEMENTS                 |
| 12        | WASHINGTON BLVD. (RT. 1) IMPROVEMENTS                   |
| 13        | ROAD IMPROVEMENT DETAILS                                |
| 14        | STORM DRAIN PROFILES                                    |
| 15        | STORM DRAIN PROFILES                                    |
| 16        | STORM DRAIN PROFILES                                    |
| 17        | STORM DRAIN PROFILES                                    |
| 18        | SEDIMENT CONTROL PLAN (E STA. 0+00 TO STA. 8+70.)       |
| 19        | SEDIMENT CONTROL PLAN (E STA. 8+70 TO STA. 27+20.)      |
| 20        | SEDIMENT CONTROL PLAN (E STA. 27+20 TO STA. 43+20.)     |
| 21        | SEDIMENT CONTROL PLAN (E STA. 43+20 TO STA. 51+64.41)   |
| 22        | SEDIMENT CONTROL DETAILS                                |
| 23        | DRAINAGE AREA MAP                                       |
| 24        | DRAINAGE AREA MAP                                       |
| 25        | STORM DRAIN PLAN  |
| 26        | STORM DRAIN PROFILES                                    |
| 27        | Basin #1 PLAN AND DETAILS                               |
| 28        | NOTES AND DETAILS - BASIN #1                            |
| 29        | NOTES AND DETAILS - BASIN #1                            |
| 30        | HEADWALL DETAILS FOR 30" X 19" OVAL CONCRETE PIPES      |
| 31        |   |
| 32        |   |
| 33        |   |
| 34        |   |
| 35        |   |

HORIZONTAL & VERTICAL CONTROL USED FOR AS-BUILT SURVEY  
 STATION 2846022 - CONCRETE MONUMENT SET WITH GROUND WITH GROUND  
 N 40005.037 E 866707.010  
 ELEVATION 200.626  
 STATION 2846004 - N 480052.478 E 864447.100  
 ELEVATION 210.611

NOTE: "AS-BUILT" CERTIFICATION DATED SEPT. 1, 1992 WAS ADDED BY RIEMER MUEGGE & ASSOC., INC. FOR ROADS AND STORM DRAINAGE LOCATION ONLY.



GENERAL NOTES  
 STORM DRAIN NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. IV, DETAILS AND SPECIFICATIONS FOR CONSTRUCTION.
- ALL UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF CONSTRUCTION.
- ALL INLETS SHALL BE HOWARD COUNTY STANDARD UNLESS OTHERWISE SHOWN.
- ALL STREET CURB RETURNS SHALL HAVE A 30.0' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
- TEMPORARY COMPACTED 18" HIGH EARTH FILL DIVERSION DIKES SHALL BE CONSTRUCTED ABOUT THE TOES OF FILL SLOPES ON THE R.O.W. CONCURRENTLY WITH THE INITIAL GRADING AND DIRECTED TO UNDISTURBED SOD AREAS AT THE END OF EACH DAY.
- CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPT. OF INSPECTIONS AND PERMITS AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 992-2436.
- DISTURBED SLOPE AREA TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3500 P.S.I.
- ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDED. SEE THE SEED SPECIFICATIONS ON SHEET 7.
- TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1984 REVISED EDITION.
- POLY-FILTER-X OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP RAP (FULL WIDTH AND LENGTH OF STONE).
- STONE FOR RIP RAP SHALL BE AS SPECIFIED ON THE DRAWINGS. ALL RIP RAP SHALL BE UNPAVED UNLESS OTHERWISE NOTED.
- STUBS FOR 6" P.V.C. UNDERDRAIN PIPE TO BE INSTALLED AT CENTER OF EACH WALL OF EVERY INLET.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - STATE HIGHWAY ADMINISTRATION - 531-5533
  - BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND ELECTRIC DISTRIBUTION CUSTOMER SERVICE - 685-0123
  - BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND GAS DISTRIBUTION CUSTOMER SERVICE - 685-0123
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 992-2366
  - CHESAPEAKE & POTOMAC TELEPHONE COMPANY - 725-9976
  - AMERICAN TELEPHONE & TELEGRAPH - CABLE LOCATION DIVISION 393-3553
  - MISS UTILITY - 795-1390
- STREET TREES (223 TOTAL) THE LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITION AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 15.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE OFFICE OF PLANNING AND ZONING.
- PROVIDE TEN 150 WATT "MODERN" HIGH PRESSURE SODIUM VAPOR LAMP POST TOP FIXTURES ON A 14 FOOT GRAY FIBERGLASS POLE LOCATED AS SHOWN ON PLAN.
- PROVIDE THREE COBRA DOUBLE HEAD STREET LIGHTS AND TWO COBRA SINGLE HEAD STREET LIGHTS AS SHOWN ON PLAN. THE COBRA HEAD STREET LIGHTS ARE TO BE 200 WATT HIGH PRESSURE SODIUM VAPOR PENDANT ON 30 FOOT POLE.

# MEADOWRIDGE BUSINESS PARK

HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 1

ROAD CONSTRUCTION DRAWINGS  
 BUSINESS PARKWAY STA. 0+00 TO STA. 51+64.41

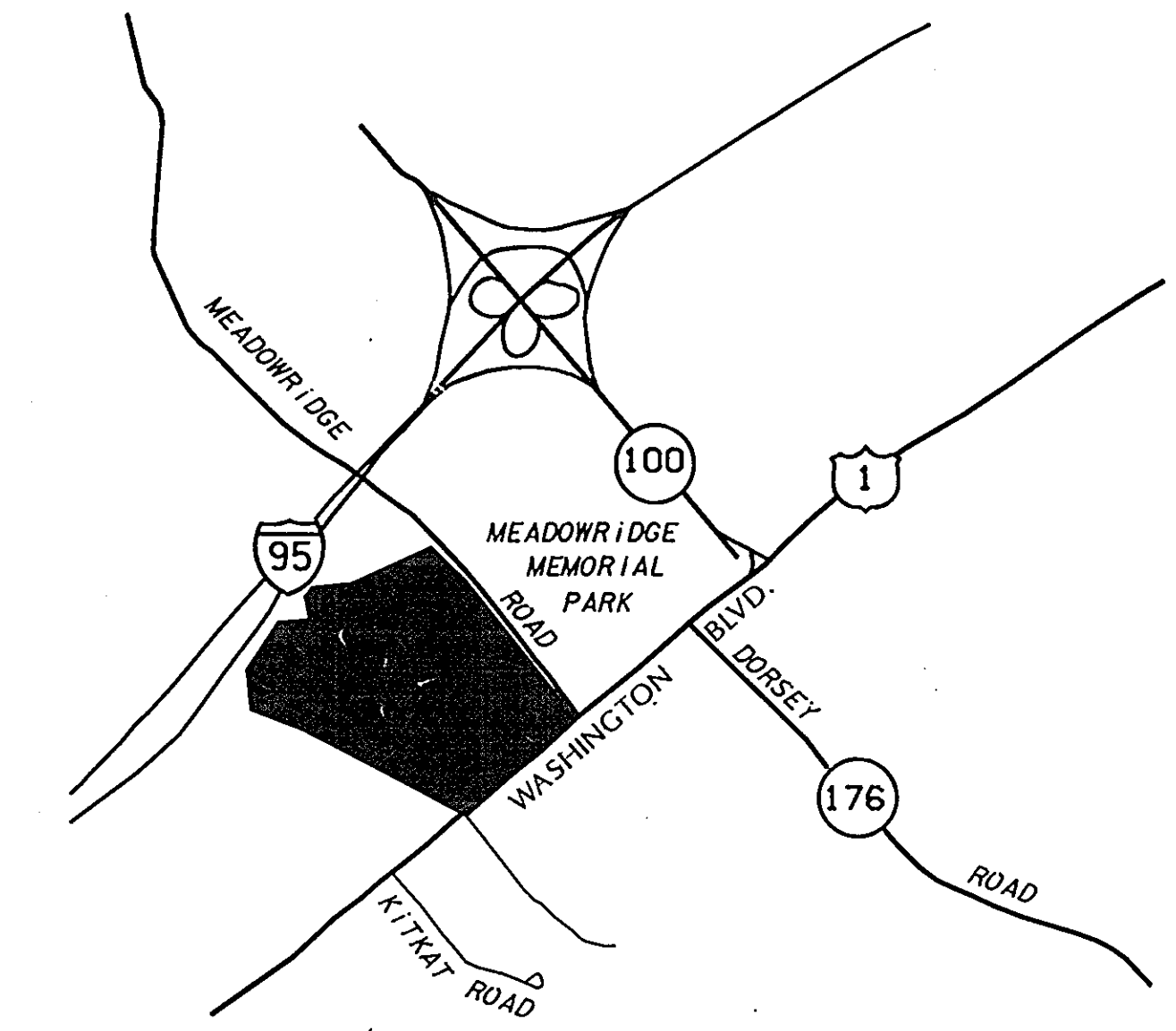


J. Parekh 9.1.92  
 JAYKANT D. PAREKH #15146 DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 [Signature] DATE 9/27/89  
 CHIEF, BUREAU OF ENGINEERING  
 [Signature] DATE 9/22/89  
 CHIEF, BUREAU OF HIGHWAYS



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] DATE 9/22/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT



VICINITY MAP SCALE: 1" = 2000'

OWNER/DEVELOPER:  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |
|     |          |      |    |
|     |          |      |    |
|     |          |      |    |
|     |          |      |    |

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS

**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
 (301) 296-4100

ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • EXPORT, PA • FAIRFAX, VA  
 GREENBELT, MD • MANASSAS, VA • MONROE, MI • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL

PARCELS A - S

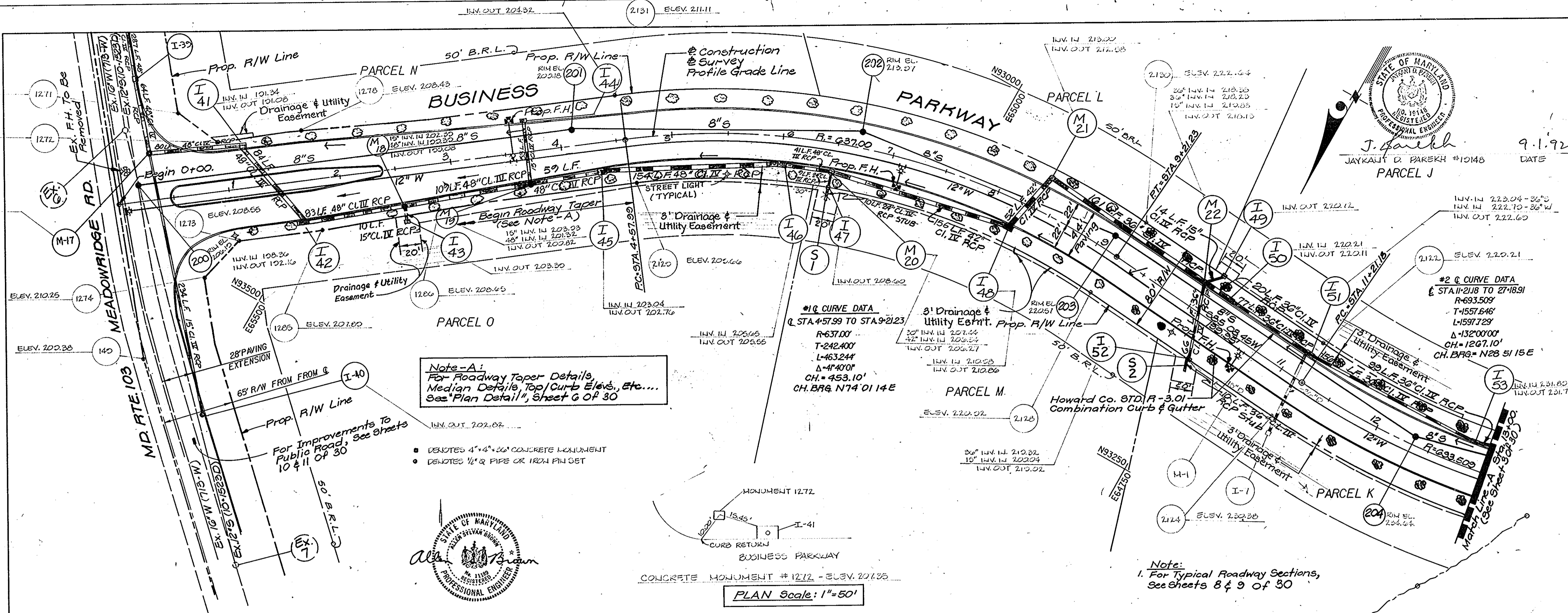
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49

DESIGN SCALE AS SHOWN  
 CADD/RLP DRAWN 1 OF 30  
 RHM CHECKED SHEET  
 ZONE: M-1 JAN. 1989  
 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE JOB No. B-1121-X FILE No.

| DATE                           |  |
|--------------------------------|--|
| BY                             |  |
| REVISIONS                      |  |
| 1. SURVEYED                    |  |
| 2. PLOTTED                     |  |
| 3. ADJUSTED CHECKED            |  |
| 4. IN FIELD                    |  |
| 5. STRUCTURE NOTATIONS CHECKED |  |
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**Note-A:**  
For Roadway Taper Details, Median Details, Top/Curb Elevs, Etc.... See 'Plan Detail', Sheet 6 of 30

- DENOTES 4" x 4" x 24" CONCRETE MONUMENT
- DENOTES 1/2" x 2" PIPE OR 1/2" x 1" PIN SET

**#10 CURVE DATA**  
Q STA. 4+57.99 TO STA. 9+21.23  
R=637.00'  
T=242.400'  
L=463.244'  
Δ=41°40'01"  
CH. BRG. N74°01'14"E



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*James W. Clelland* 9/27/89  
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Mark S. DeLange* 9/22/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

**MEADOWRIDGE BUSINESS PARK**  
 PARCELS A-5  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND.

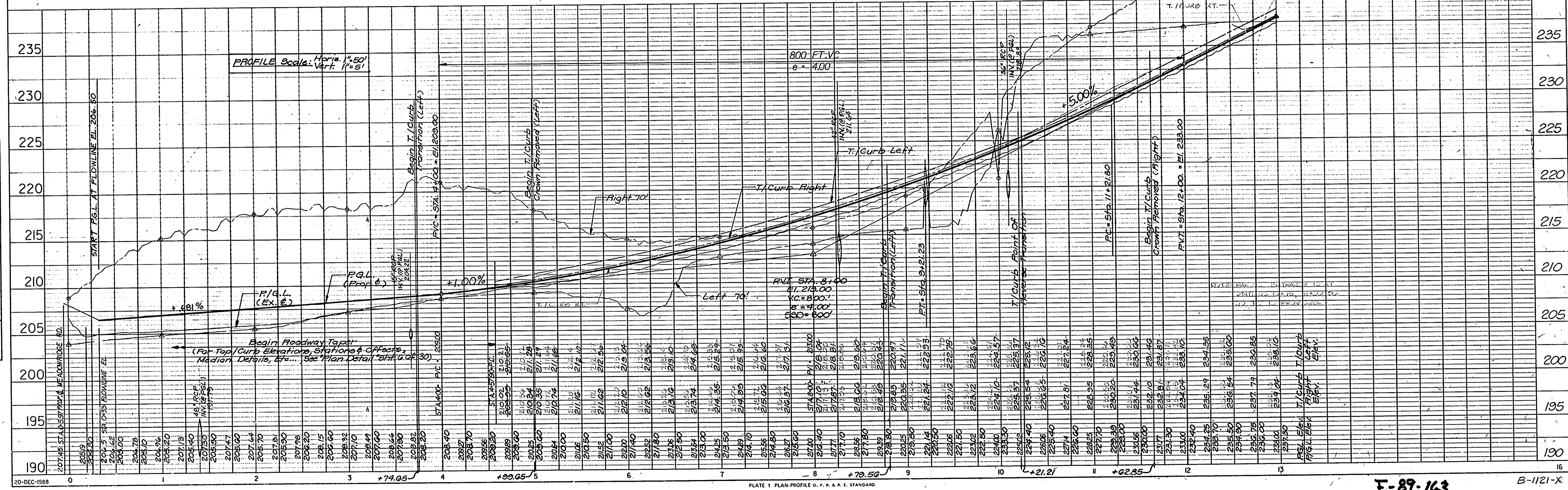
OWNER & DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

GREENHORNE AND O'MARA, INC.  
 ENGINEERS ARCHITECTS PLANNERS SURVEYORS  
 113 WEST ROAD SUITE 208  
 TOWSON, MARYLAND 21204  
 (301) 296-4440

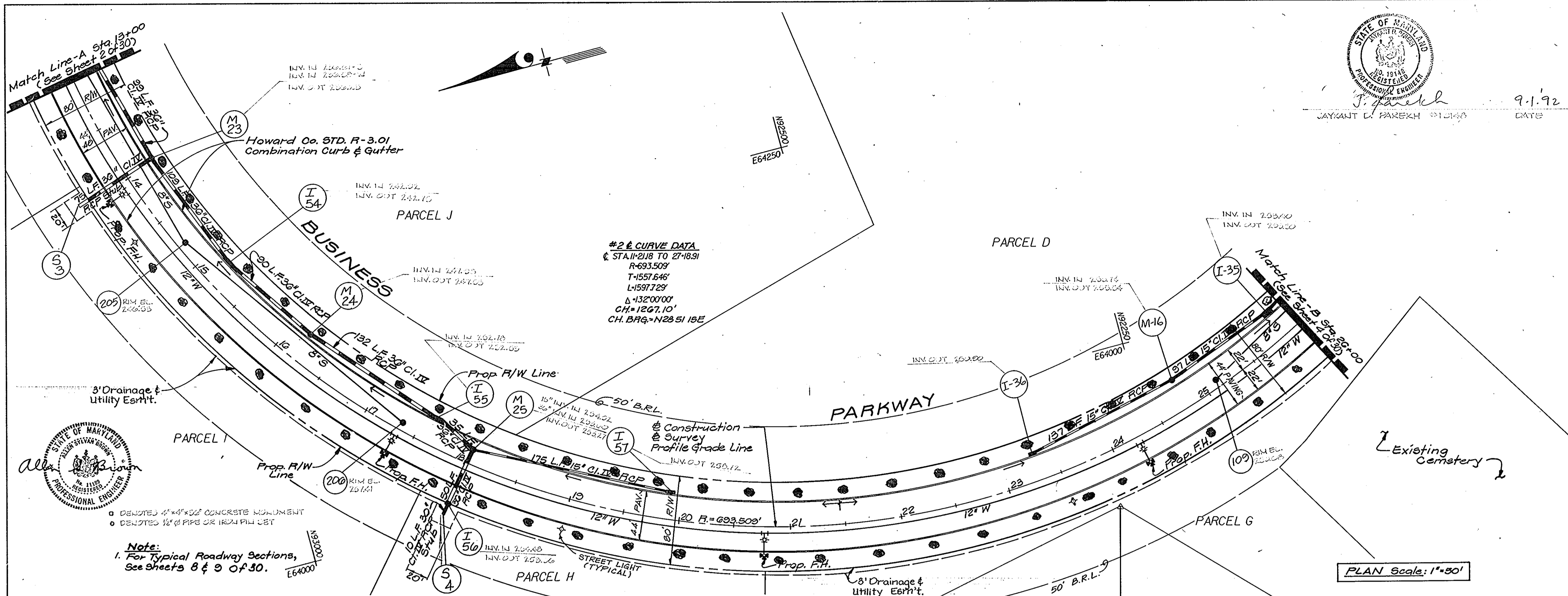
AREA

TITLE  
**PLAN AND PROFILE: BUSINESS PARKWAY**  
 STA. 0+00 TO STA. 13+00

DESIGNED BY: RLP SCALE: AS SHOWN PROJECT NO.  
 DRAWN BY: RLP DATE: JAN. 1989 DRAWING NUMBER  
 CHECKED BY: RHM APPROVED: **2 OF 30**



**PROFILE Scale:** Horz. 1"=50'  
Vert. 1"=5'



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*Donald E. Pagan* 2/27/89  
 CHIEF, LAND DEVELOPMENT DIVISION

*Donald W. Weiland* 9/22/89  
 CHIEF, BUREAU OF HIGHWAYS

*William E. Pugh* 10-11-89  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Mark J. ...* 10/1/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

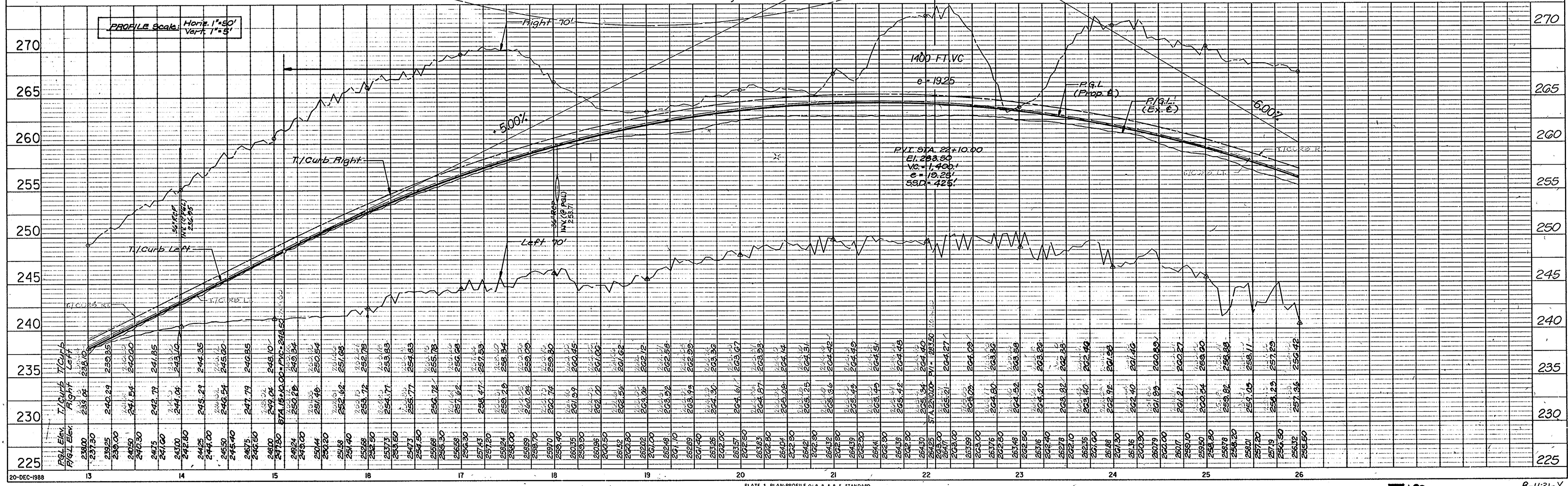
**MEADOWRIDGE BUSINESS PARK  
 PARCELS A-5  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND**

OWNER & DEVELOPER  
**MEADOWRIDGE INDUSTRIAL PARTNERSHIP**  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

**GREENHORNE AND O'MARA, INC.**  
 ENGINEERS ARCHITECTS PLANNERS SURVEYORS  
 113 WEST ROAD SUITE 208  
 TOWSON, MARYLAND 21204  
 (301) 296-4440

TITLE  
**PLAN AND PROFILE  
 BUSINESS PARKWAY  
 & STA. 13+00 TO & STA. 26+00**

DESIGNED BY: RLP SCALE: AS SHOWN PROJECT NO.  
 DRAWN BY: RLP DATE: JAN. 1989 DRAWING NUMBER  
 CHECKED BY: RHM APPROVED: **3 OF 30**



| DATE | BY | REVISION |
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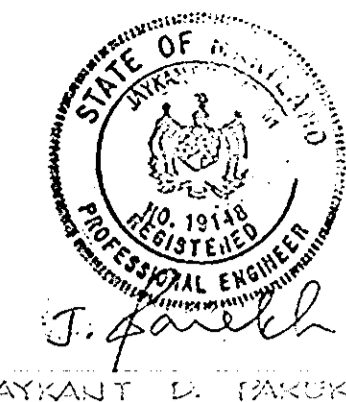
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| PROPOSED          |  |
| ASSEMBLY CHECKED  |  |
| FOR PRINT CHECKED |  |
| PLAN              |  |
| NOTE BOOK         |  |
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| FOR PRINT CHECKED |  |
| PROFILE           |  |
| NOTE BOOK         |  |
| NO.               |  |

1474



JAYANT L. TARKOTI, ENGINEER

9-1-92

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

*Paul J. Seaman* 9/27/89  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Drainville W. Wehland* 9/2/89  
 CHIEF, BUREAU OF HIGHWAYS  
*Richard S. Ryan* 10-11-89  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*David J. Taylor* 11/2/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

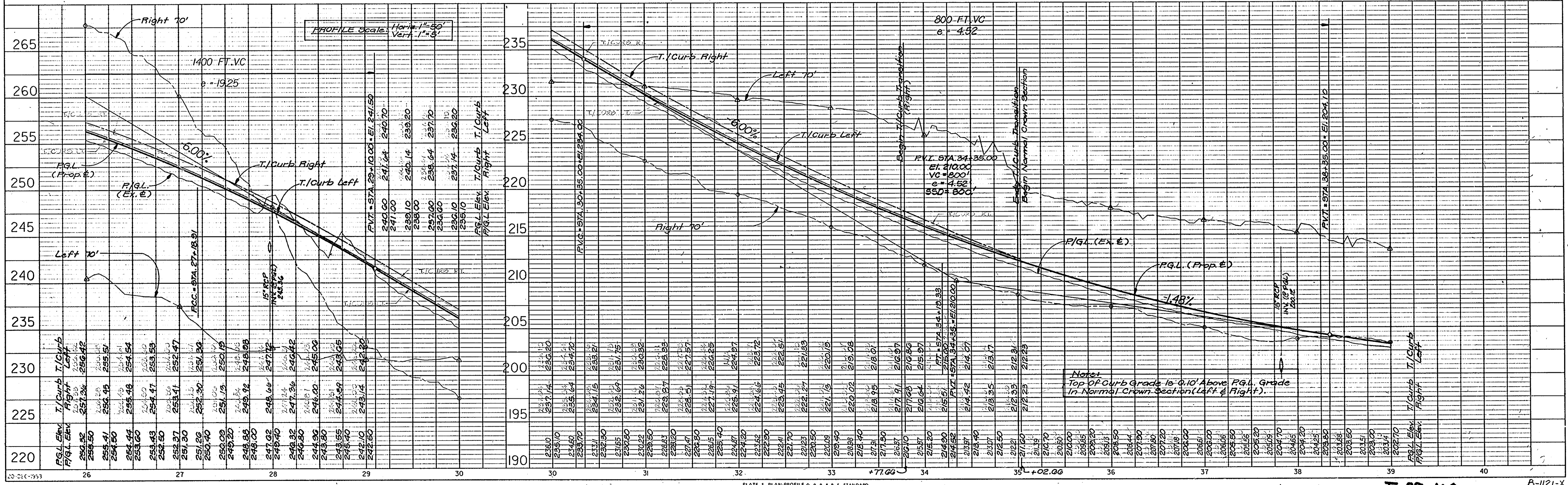
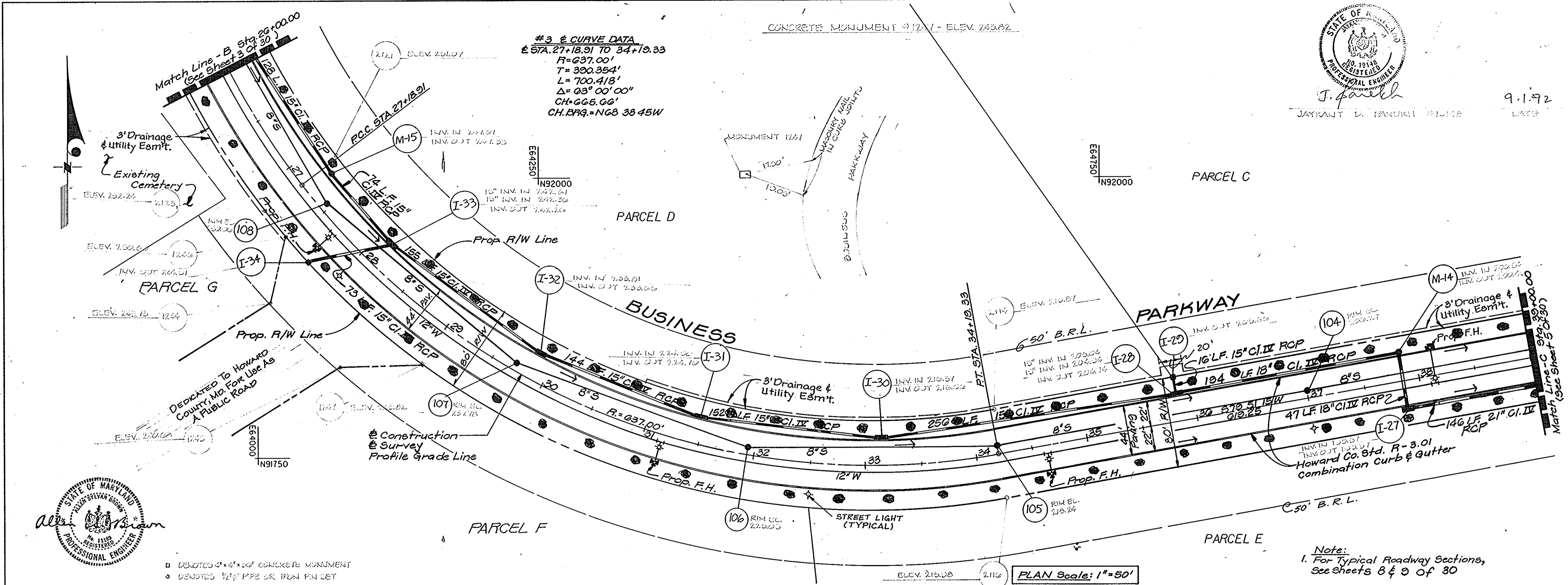
**MEADOWRIDGE BUSINESS PARK**  
 PARCELS A-S  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

OWNER & DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 1005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

GREENHORNE AND O'MARA, INC.  
 ENGINEERS ARCHITECTS PLANNERS SURVEYORS  
 113 WEST ROAD SUITE 208  
 TOWSON, MARYLAND 21204  
 (301) 296-4440

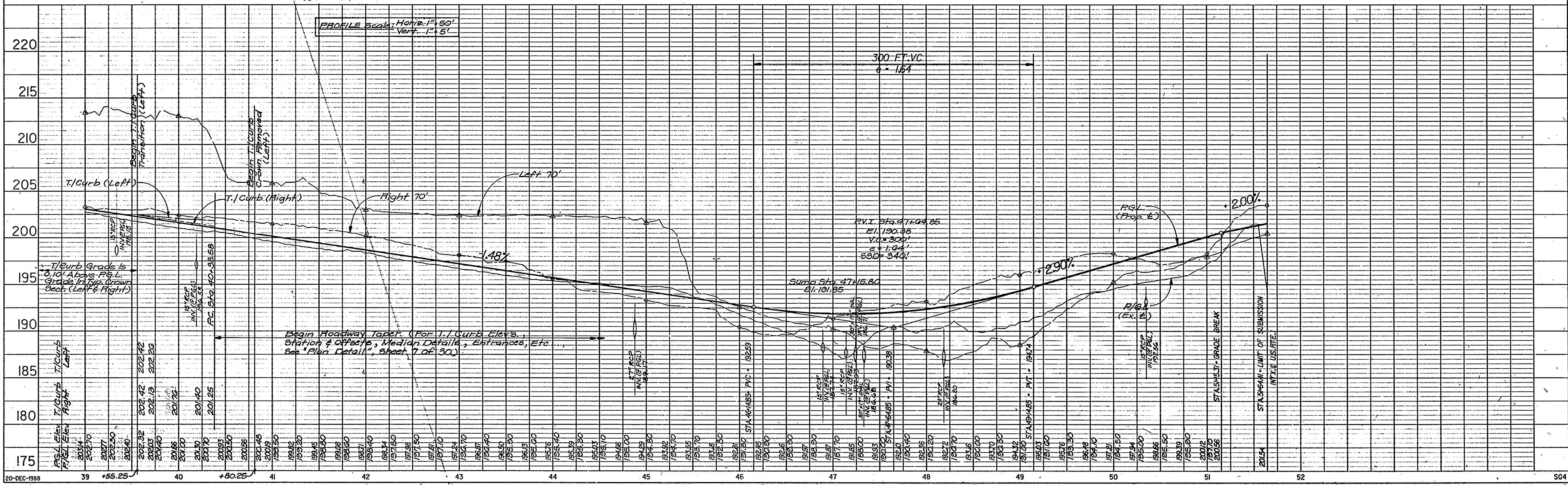
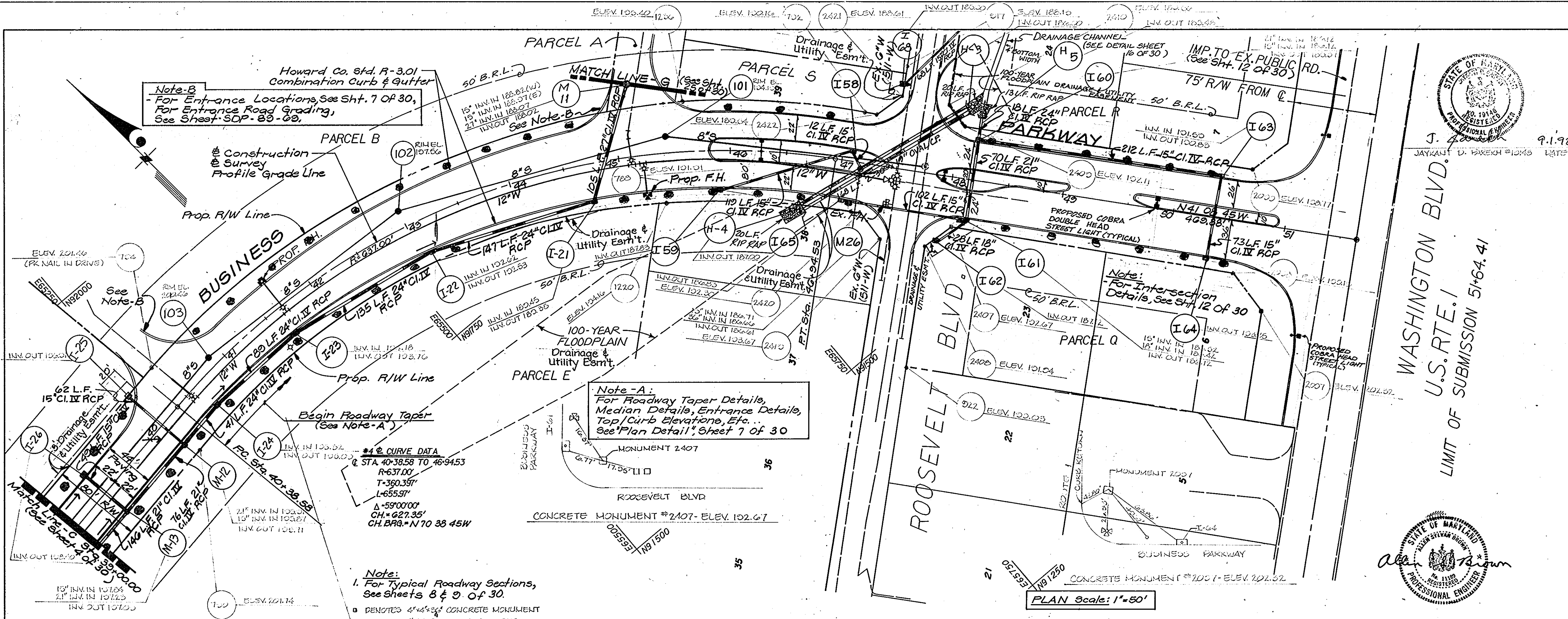
TITLE  
**PLAN AND PROFILE**  
**BUSINESS PARKWAY**  
 & STA. 26+00 TO & STA. 39+00

|                  |                 |                |
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| DESIGNED BY: RLP | SCALE: AS SHOWN | PROJECT NO.    |
| DRAWN BY: RLP    | DATE: JAN. 1989 | DRAWING NUMBER |
| CHECKED BY: RHM  | APPROVED:       | 4 OF 30        |



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| DATE     |  |
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APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*Paul D. Brown* 2/27/89  
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*David W. Weiland* 2/22/89  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*John R. Brown* 10-11-89  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*David S. Taylor* 10/1/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

**MEADOWRIDGE BUSINESS PARK**  
 PARCELS A-5  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

OWNER & DEVELOPER  
**MEADOWRIDGE INDUSTRIAL PARTNERSHIP**  
 10005 OLD COLUMBIA ROAD  
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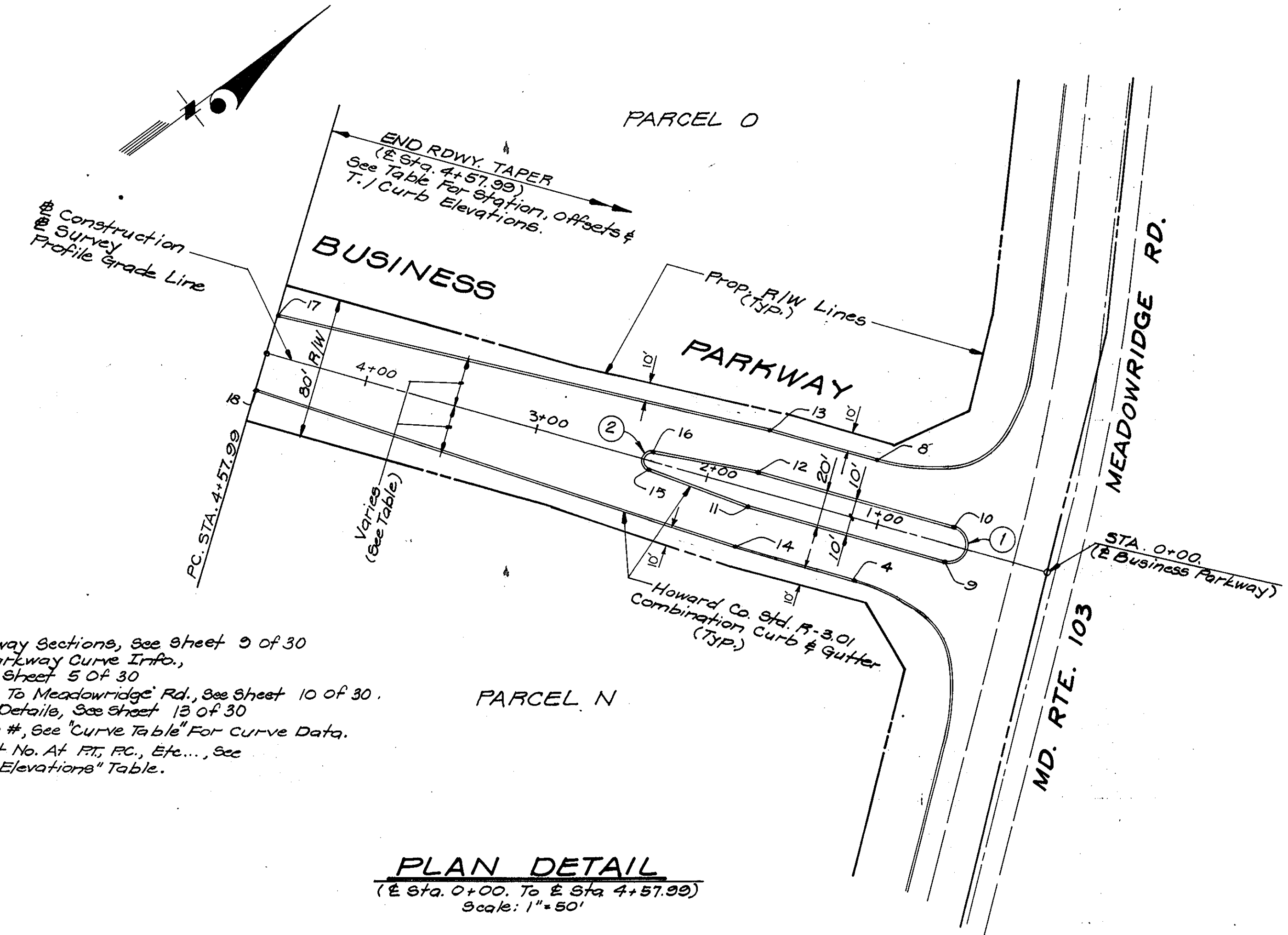
TITLE  
**PLAN AND PROFILE**  
**BUSINESS PARKWAY**  
 & STA. 39+00 TO & STA. 51+64.41

DESIGNED BY: RLP SCALE: AS SHOWN PROJECT NO.  
 DRAWN BY: RLP DATE: JAN. 1989 DRAWING NUMBER  
 CHECKED BY: RHM APPROVED: 5 OF 30

1474



J. Parekh  
 JAYKANT D. PAREKH #10146  
 9.1.92  
 DATE



- Notes:**
1. For Typical Roadway Sections, See Sheet 9 of 30
  2. For Business Parkway Curve Info., See "Plan & Profile", Sheet 5 of 30
  3. For Improvements To Meadowridge Rd., See Sheet 10 of 30
  4. For Intersection Details, See Sheet 13 of 30
  5. (Circled numbers) = Denotes Curve #, See "Curve Table" For Curve Data.  
 (No.) = Denotes Point No. At P.T., P.C., Etc., See "Stations, Offsets, Elevations" Table.

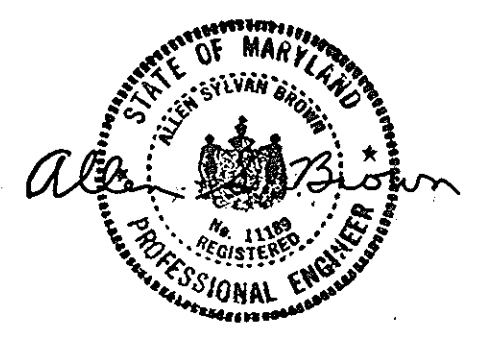
**PLAN DETAIL**  
 (E Sta. 0+00. To E Sta. 4+57.99)  
 Scale: 1" = 50'

**STATIONS / OFFSETS / ELEVATIONS**

| Station | Left Offset | T/Curb Elev.     | Right Offset | T/Curb Elev.     | Remarks              |
|---------|-------------|------------------|--------------|------------------|----------------------|
| 0+57.87 | 10.00       | 207.07           | 10.00        | 207.53           | #9 & #10             |
| 0+25.00 | 10.00       | 207.10           | 10.00        | 207.57           |                      |
| 1+00.00 | 10.00       | 207.36           | 10.00        | 207.64           |                      |
| 1+03.45 | 35.00       | 207.23<br>206.90 | ---          | ---              | #4                   |
| 1+09.73 | ---         | ---              | 35.00        | 207.28           | #8                   |
| 1+25.00 | 34.78       | 206.10           | 35.00        | 207.04           |                      |
| 1+25.00 | 10.00       | 207.53           | 10.00        | 207.70           |                      |
| 1+50.00 | 34.53       | 207.21           | 35.00        | 207.42           |                      |
| 1+50.00 | 10.00       | 207.46<br>207.70 | 10.00        | 207.50<br>207.74 |                      |
| 1+72.87 | 34.30       | 207.36           | 35.00        | 207.55           | #14 & #13            |
| 1+72.87 | 10.00       | 207.05           | 10.00        | 207.05           | #11 & #12            |
| 1+75.00 | 34.27       | 207.46<br>207.37 | 35.00        | 207.50<br>207.36 |                      |
| 2+00.00 | 33.13       | 207.65<br>207.50 | 33.76        | 207.52<br>207.55 |                      |
| 2+25.00 | 32.05       | 207.74           | 32.62        | 207.75           |                      |
| 2+32.87 | 5.00        | 208.35           | 5.00         | 208.35           | #15 & #16            |
| 2+50.00 | 30.97       | 207.20<br>207.35 | 31.48        | 208.10<br>207.94 |                      |
| 2+75.00 | 29.89       | 208.14           | 30.34        | 208.15           |                      |
| 3+00.00 | 28.81       | 208.35<br>208.35 | 29.20        | 208.38<br>208.32 |                      |
| 3+25.00 | 27.74       | 208.52           | 28.06        | 208.52           |                      |
| 3+50.00 | 26.66       | 208.76<br>208.76 | 26.92        | 208.75<br>208.71 |                      |
| 3+75.00 | 25.58       | 208.91           | 25.78        | 208.90           |                      |
| 4+00.00 | 24.50       | 209.30<br>209.31 | 24.64        | 209.10<br>209.10 |                      |
| 4+25.00 | 23.42       | 209.04<br>209.78 | 23.50        | 209.44<br>209.40 |                      |
| 4+50.00 | 22.34       | 210.26<br>210.25 | 22.36        | 209.76<br>209.71 |                      |
| 4+57.99 | 22.00       | 210.41           | 22.00        | 209.82           | #18 & #19, End Taper |

**CURVE TABLE**

| Curve # | P.C. | P.T. | Radius | Tangent | Arc.  | Delta      | Chord Length | Chord Bearing |
|---------|------|------|--------|---------|-------|------------|--------------|---------------|
| 1       | #10  | #9   | 10.00  | ---     | 31.42 | 180° 0' 0" | 20.00        | S 36 48 46 E  |
| 2       | #15  | #16  | 5.00   | ---     | 15.71 | 180° 0' 0" | 10.00        | N 36 48 46 W  |



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 DATE: 10/11/89  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE: 9/27/89  
 APPROVED: DATE: 9/22/89

OWNER/DEVELOPER:  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
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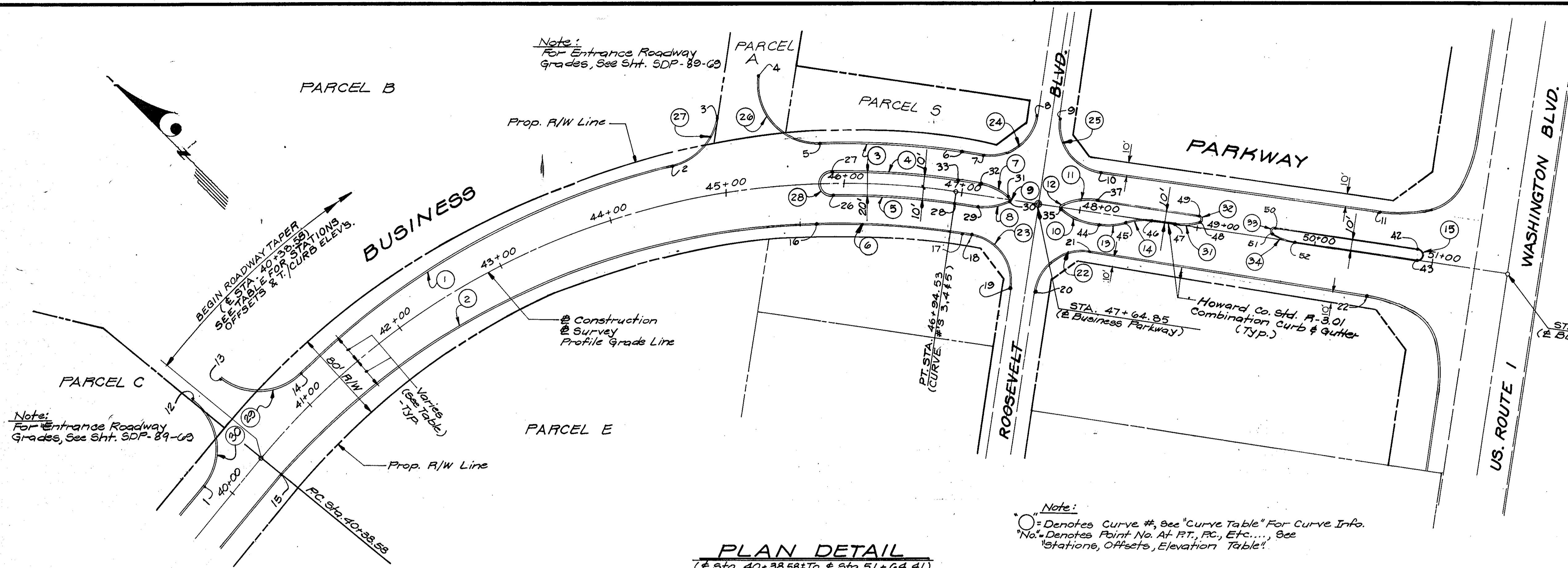


ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS  
**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
 (301) 296-4100  
 ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • DULUTH, GA • EXPORT, PA • FAIRFAX, VA • GREENBELT, MD  
 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

PLAN DETAIL & TABLES (E STA. 0+00 TO E STA. 4+57.99)  
**PARCELS A-S**  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1ST. ELECTION DISTRICT  
 ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|                |                |
|----------------|----------------|
| KAM DESIGN     | SCALE 1" = 50' |
| RIP DRAWN      | 6 OF 30        |
| RHM CHECKED    |                |
| JAN. 1989 DATE | SHEET          |
| JOB No.        | FILE No.       |

F-89-163



**PLAN DETAIL**  
 (± Sta. 40+38.58 to ± Sta. 51+64.41)  
 Scale: 1" = 50'

- Notes:
1. For Typical Roadway Sections, See Sheet 9 of 30.
  2. For Entrance Locations, See Table.
  3. For ± Business Parkway Info., See "Plan & Profile" Sheet 7 of 30.
  4. For Improvements To US Route 1, See Sheet 12 of 30.
  5. For Intersection Details, See Sheet 12 of 30.

Note:  
 ○ = Denotes Curve #, See "Curve Table" For Curve Info.  
 \* = Denotes Point No. At P.T., P.C., ETC., See "Stations, Offsets, Elevation Table".

| STATIONS / OFFSETS / ELEVATIONS |             |              |              |              |                    |           |             |              |              |              |                    |
|---------------------------------|-------------|--------------|--------------|--------------|--------------------|-----------|-------------|--------------|--------------|--------------|--------------------|
| ± Station                       | Left Offset | T/Curb Elev. | Right Offset | T/Curb Elev. | Remarks            | ± Station | Left Offset | T/Curb Elev. | Right Offset | T/Curb Elev. | Remarks            |
| 39+89.42                        | 22.00       | 202.23       | ---          | ---          | #1                 | 44+75.    | 31.40       | *195.28      | 32.30        | 194.58       | *=El. @ T/Pavement |
| 40+00.                          | 22.00       | *201.54      | ---          | ---          | *=El. @ T/Pavement | 45+00.    | 31.79       | *194.93      | 32.76        | 194.20       | *=El. @ T/Pavement |
| 40+25.                          | 22.00       | *201.35      | ---          | ---          | *=El. @ T/Pavement | 45+01.71  | 64.65       | ---          | ---          | ---          | #3                 |
| 40+38.58                        | ---         | ---          | 22.00        | 201.25       | #15, Begin Taper   | 45+25.    | 32.15       | *194.56      | 33.19        | 193.86       | *=El. @ T/Pavement |
| 40+39.42                        | 71.84       | ---          | ---          | ---          | #12                | 45+36.95  | 94.63       | ---          | ---          | ---          | #4                 |
| 40+50.                          | 22.29       | *201.16      | 22.31        | 201.04       | *=El. @ T/Pavement | 45+50.    | 32.49       | *194.20      | 33.61        | 193.43       | *=El. @ T/Pavement |
| 40+66.41                        | 69.37       | ---          | ---          | ---          | #13                | 45+75.    | 32.81       | *193.84      | ---          | ---          | *=El. @ T/Pavement |
| 40+75.                          | 22.92       | *200.98      | 22.97        | 200.70       | *=El. @ T/Pavement | 45+75.    | ---         | ---          | 34.00        | 193.10       | #16                |
| 41+00.                          | 23.55       | *200.66      | 23.63        | 200.52       | *=El. @ T/Pavement | 45+79.81  | 34.00       | 194.39       | ---          | ---          | #15                |
| 41+12.25                        | 23.85       | 201.09       | ---          | ---          | #14                | 45+89.53  | 10.00       | 193.76       | 10.00        | 193.36       | #26 & #27          |
| 41+25.                          | 24.16       | 200.90       | 24.29        | 199.93       | ---                | 46+00.    | 34.00       | 194.09       | 34.31        | 192.72       | ---                |
| 41+50.                          | 24.77       | 200.55       | 24.94        | 199.55       | ---                | 46+25.    | 34.00       | 193.73       | 34.46        | 192.36       | ---                |
| 41+75.                          | 25.37       | 200.19       | 25.58        | 199.17       | ---                | 46+50.    | 34.00       | 193.22       | 34.46        | 192.07       | ---                |
| 42+00.                          | 25.95       | 199.83       | 26.21        | 198.47       | ---                | 46+75.    | 34.00       | 193.01       | 35.31        | 191.86       | ---                |
| 42+25.                          | 26.53       | 199.47       | 26.83        | 198.40       | ---                | 46+94.53  | 34.00       | 192.71       | ---          | ---          | #16                |
| 42+50.                          | 27.09       | 199.12       | 27.44        | 197.03       | ---                | 46+94.53  | 10.00       | 192.55       | 10.00        | 192.28       | #33 & #28          |
| 42+75.                          | 27.63       | 198.76       | 28.04        | 197.65       | ---                | 47+05.23  | ---         | ---          | 34.00        | 191.78       | #17                |
| 43+00.                          | 28.17       | 198.40       | 28.62        | 197.27       | ---                | 47+12.28  | ---         | ---          | 34.00        | 191.77       | #18                |
| 43+25.                          | 28.68       | 198.04       | 29.20        | 196.87       | ---                | 47+12.47  | 34.00       | 192.48       | ---          | ---          | #17                |
| 43+50.                          | 29.18       | 197.68       | 29.75        | 196.50       | ---                | 47+13.99  | ---         | ---          | 10.00        | 192.25       | #29                |
| 43+75.                          | 29.66       | 197.32       | 30.30        | 196.12       | ---                | 47+14.05  | 10.00       | 192.45       | ---          | ---          | #32                |
| 44+00.                          | 30.13       | 196.96       | 30.82        | 195.74       | ---                | 47+25.    | 34.00       | *191.75      | 34.00        | *191.17      | *=El. @ T/Pavement |
| 44+25.                          | 30.57       | 196.60       | 31.33        | 195.36       | ---                | 47+41.00  | .86         | 192.46       | ---          | ---          | #31                |
| 44+50.                          | 31.00       | 196.25       | 31.83        | 194.97       | ---                | 47+41.04  | ---         | ---          | .77          | 192.46       | #30                |
| 44+60.04                        | 31.16       | 196.07       | ---          | ---          | #2                 | 47+50.    | 34.00       | *191.55      | 34.00        | *191.25      | *=El. @ T/Pavement |
|                                 |             |              |              |              |                    | 47+52.04  | ---         | ---          | 74.05        | 189.00       | #19                |
|                                 |             |              |              |              |                    | 47+52.23  | 73.95       | 189.50       | ---          | ---          | #18                |

| CURVE DATA |      |      |        |         |        |            |              |               |  |  |
|------------|------|------|--------|---------|--------|------------|--------------|---------------|--|--|
| Curve #    | P.C. | P.T. | Radius | Tangent | Arc    | Delta      | Chord Length | Chord Bearing |  |  |
| 1          | #2   | #14  | 655.08 | 185.98  | 362.42 | 31°42'08"  | 357.81       | N 79°01'48" W |  |  |
| 2          | #16  | #15  | 617.11 | 272.10  | 512.55 | 47°35'17"  | 497.94       | N 74°45'40" W |  |  |
| 3          | #6   | #5   | 671.00 | 60.59   | 120.84 | 10°19'07"  | 120.68       | N 46°18'18" W |  |  |
| 4          | #27  | #33  | 647.00 | 53.45   | 106.65 | 9°26'40"   | 106.53       | S 45°52'04" E |  |  |
| 5          | #28  | #26  | 627.00 | 51.79   | 103.35 | 9°26'40"   | 103.24       | N 45°52'04" W |  |  |
| 6          | #17  | #16  | 722.22 | 62.05   | 123.80 | 9°49'16"   | 123.65       | N 46°03'23" W |  |  |
| 7          | #32  | #31  | 50.00  | 14.87   | 28.91  | 33°07'44"  | 28.51        | S 22°19'38" E |  |  |
| 8          | #30  | #29  | 50.00  | 14.88   | 28.92  | 33°08'28"  | 28.52        | N 59°46'45" W |  |  |
| 9          | #31  | #30  | 3.00   | .841    | 1.64   | 31°20'15"  | 1.62         | S 49°45'02" W |  |  |
| 10         | #35  | #34  | 50.00  | 16.74   | 32.30  | 37°00'45"  | 31.74        | S 24°16'08" E |  |  |
| 11         | #37  | #36  | 50.00  | 16.65   | 32.14  | 36°49'58"  | 31.60        | N 57°55'59" W |  |  |
| 12         | #36  | #35  | 3.00   | .841    | 1.64   | 31°20'15"  | 1.62         | S 49°45'02" W |  |  |
| 13         | #44  | #45  | 50.00  | 11.47   | 22.55  | 25°50'25"  | 22.36        | S 54°03'58" E |  |  |
| 14         | #45  | #46  | 50.00  | 11.47   | 22.55  | 25°50'38"  | 22.36        | S 54°03'51" E |  |  |
| 15         | #43  | #42  | 5.00   | 321.80  | 15.86  | 181°46'49" | 10.00        | N 47°57'51" E |  |  |
| 22         | #20  | #21  | 40.00  | 40.50   | 63.33  | 90°42'39"  | 56.92        | S 85°59'42" E |  |  |
| 23         | #18  | #19  | 40.00  | 39.81   | 62.64  | 89°43'24"  | 56.43        | S 04°03'57" W |  |  |
| 24         | #7   | #8   | 40.00  | 39.70   | 62.54  | 89°34'30"  | 56.36        | S 86°17'06" E |  |  |
| 25         | #9   | #10  | 40.00  | 40.21   | 63.04  | 90°18'09"  | 56.72        | S 03°29'54" W |  |  |
| 26         | #5   | #4   | 50.00  | 59.95   | 87.56  | 100°20'22" | 76.80        | N 01°17'41" W |  |  |
| 27         | #3   | #2   | 50.00  | 33.72   | 59.34  | 67°59'51"  | 59.92        | S 82°52'26" W |  |  |
| 28         | #26  | #27  | 10.00  | ---     | 31.42  | 180°0'0"   | 20.00        | N 39°24'36" E |  |  |
| 29         | #14  | #13  | 50.00  | 45.12   | 73.42  | 84°07'52"  | 67.00        | N 52°48'57" W |  |  |
| 30         | #12  | #11  | 50.00  | 49.84   | 78.38  | 89°48'45"  | 70.60        | S 34°56'53" W |  |  |
| 31         | #47  | #48  | 50.00  | 10.54   | 20.78  | 23°48'34"  | 20.63        | S 53°03'02" E |  |  |
| 32         | #48  | #49  | 3.00   | 13.00   | 8.06   | 154°01'09" | 5.85         | N 38°02'07" E |  |  |
| 33         | #51  | #50  | 3.00   | 16.232  | 8.33   | 159°03'28" | 5.90         | N 62°11'33" E |  |  |
| 34         | #52  | #51  | 50.00  | 10.54   | 20.78  | 23°48'34"  | 20.63        | N 29°14'28" W |  |  |

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 10-11-89  
 CHIEF, BUREAU OF ENGINEERING  
 DATE  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 10-12-89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT  
 DATE

OWNER/DEVELOPER:  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |
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 (301) 296-4100

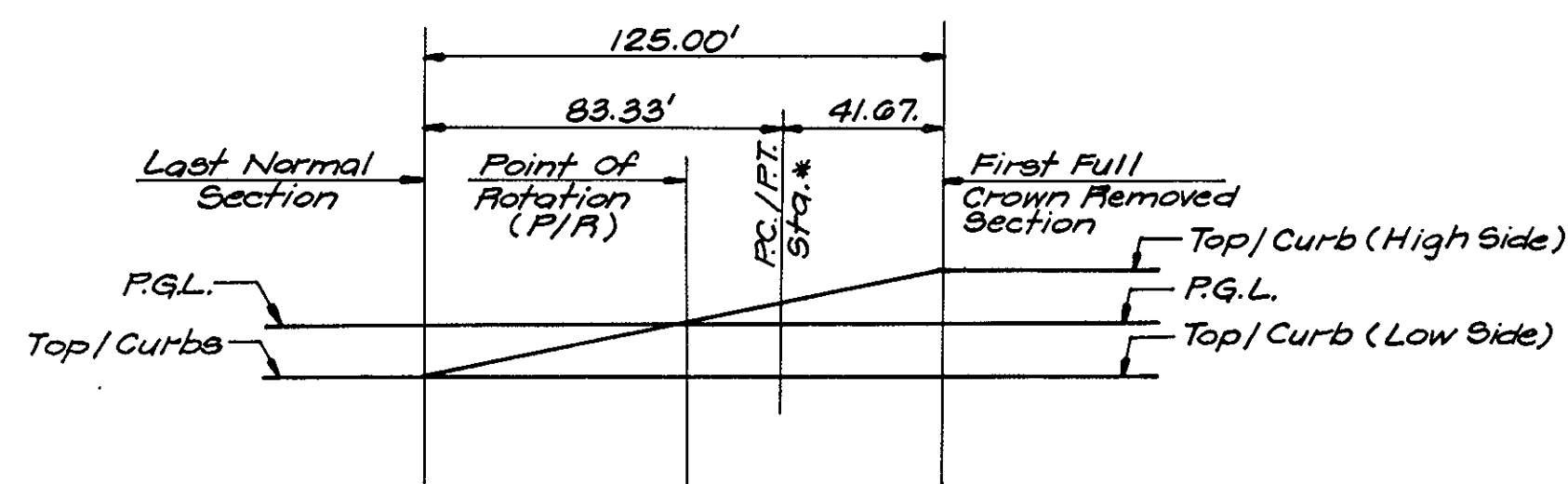
ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • DULUTH, GA • EXPORT, PA • FAIRFAX, VA • GREENBELT, MD  
 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

PLAN DETAIL & TABLES (± STA. 40+38.58 TO ± STA. 51+64.41)  
 PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1 ZONING MAPS 37-43 HOWARD CO., MARYLAND  
 1st. ELECTION DISTRICT

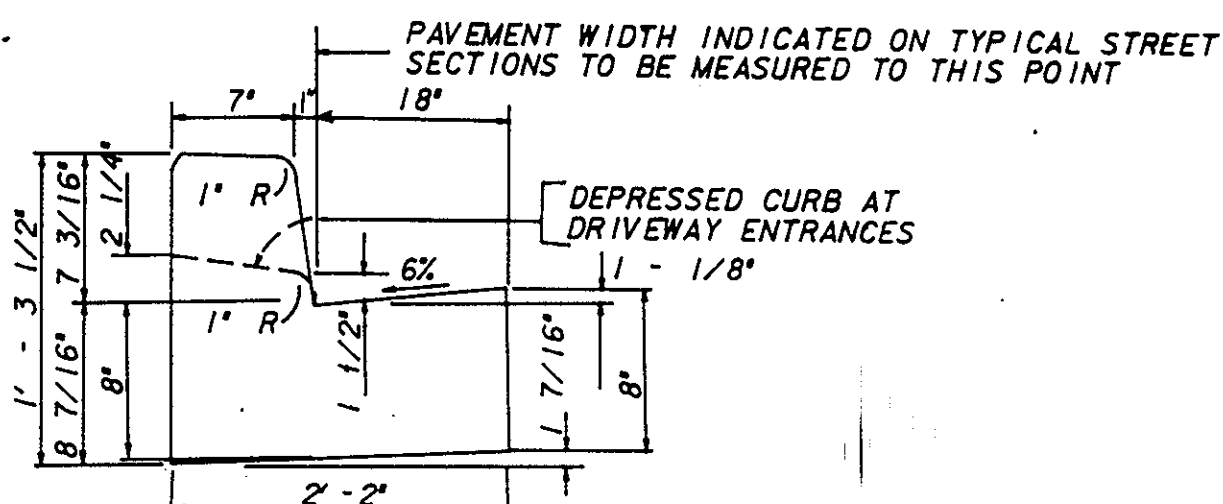
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 RLP DRAWN  
 RHM CHECKED SHEET  
 JAN. 1989 DATE JOB No. B-1121-X FILE No.

7 OF 30

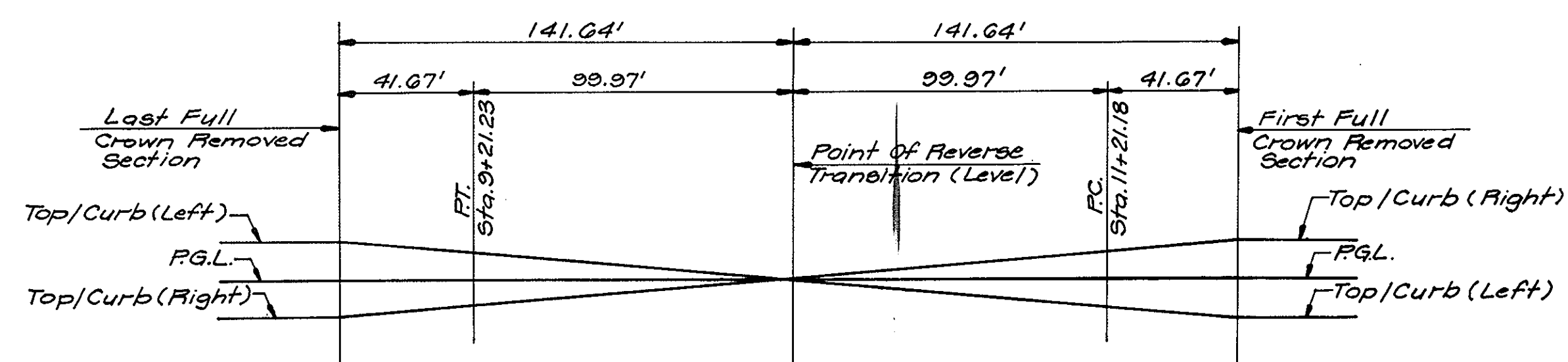
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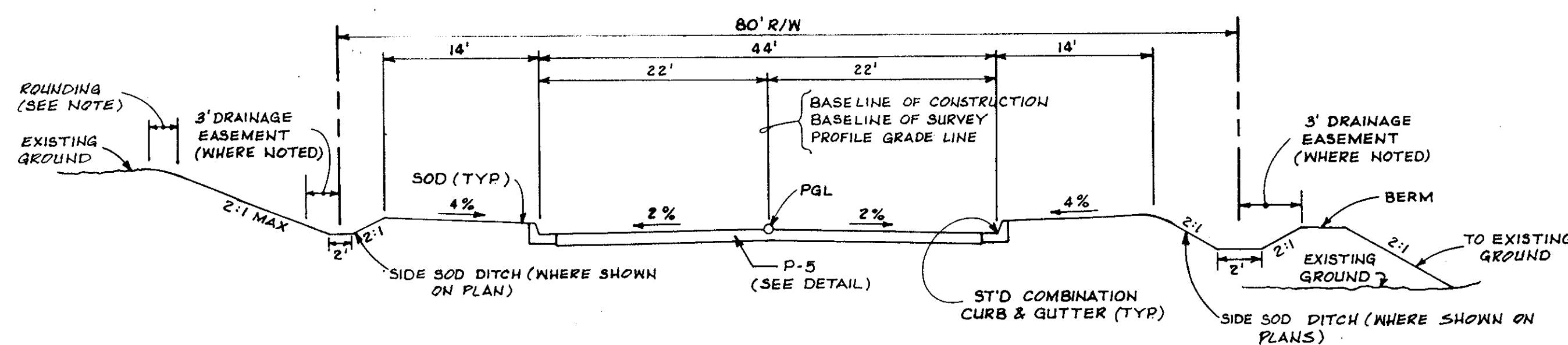
**\*Crown Removed Transition Locations:**  
 P.C. Sta. 4+57.89  
 P.T. Sta. 34+19.33  
 P.C. Sta. 40+38.58  
 P.T. Sta. 46+04.53  
**BUSINESS PARKWAY**  
**TYPICAL CROWN REMOVED**  
**TRANSITION PROFILE**  
 Not To Scale



**STD. 7" COMB CONC. CURB & GUTTER**  
 HO. CO. STD. SPECS. R. 3.01 (NOT TO SCALE)



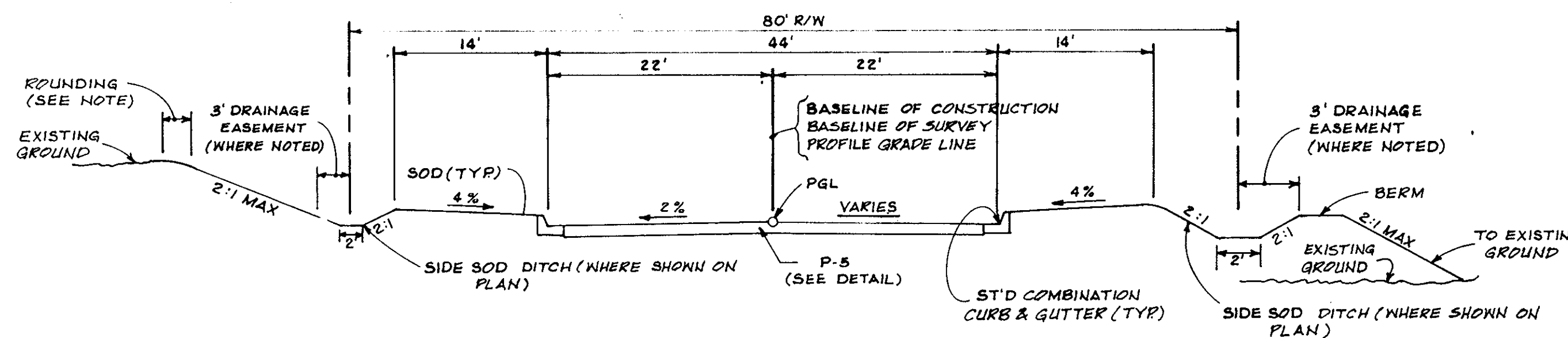
**Crown Removed Transition Location:**  
 P.T. Sta. 9+21.13 & P.C. Sta. 11+21.18  
**BUSINESS PARKWAY**  
**CROWN REMOVED TRANSITION PROFILE**  
 Not To Scale



**TYPICAL CROWNED SECTION**

**BUSINESS PARKWAY**  
 ± STA. 35+02.66 TO STA. 39+55.23  
 NOT TO SCALE  
 DESIGN SPEED 40 M.P.H.

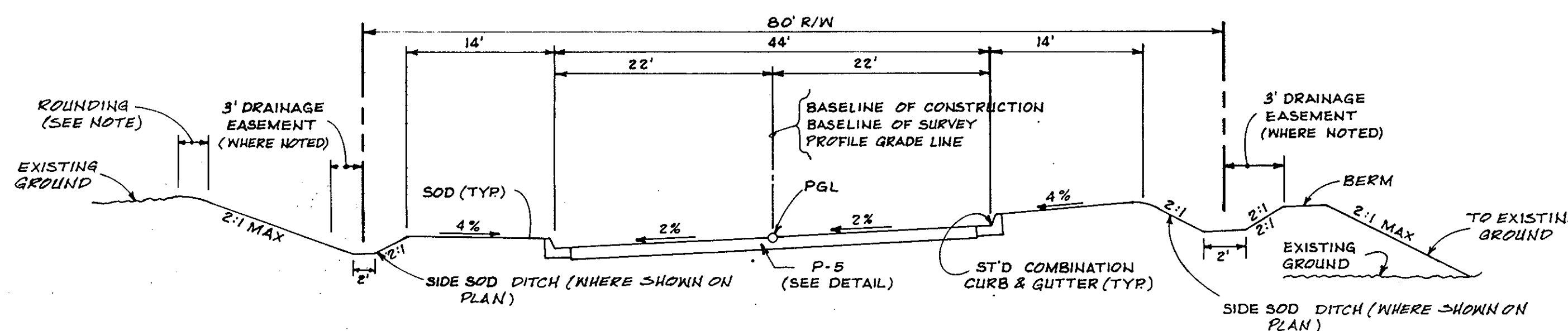
**NOTE:** ROUNDING ON CUT SLOPES 8 FT OR MORE IN LENGTH SHALL BE 4 FT. ROUNDING ON SLOPES LESS THAN 8 FT. IN LENGTH SHALL BE 1/2 OF THE SLOPE LENGTH. LENGTH OF SLOPES SHALL BE DETERMINED BY MEASUREMENT ON THE SURFACE OF THE SLOPE.



**TYPICAL TRANSITION SECTION**

**BUSINESS PARKWAY**  
 ± STA. 8+79.56 TO STA. 10+21.21 (HIGH SIDE LEFT)  
 ± STA. 10+21.21 TO STA. 11+62.85 (HIGH SIDE RIGHT)  
 ± STA. 33+77.66 TO STA. 35+02.66 (HIGH SIDE RIGHT)  
 ± STA. 39+55.23 TO STA. 40+80.23 (HIGH SIDE LEFT)  
 NOT TO SCALE  
 DESIGN SPEED 40 M.P.H.

**NOTE:** ROUNDING ON CUT SLOPES 8 FT OR MORE IN LENGTH SHALL BE 4 FT. ROUNDING ON SLOPES LESS THAN 8 FT. IN LENGTH SHALL BE 1/2 OF THE SLOPE LENGTH. LENGTH OF SLOPES SHALL BE DETERMINED BY MEASUREMENT ON THE SURFACE OF THE SLOPE.



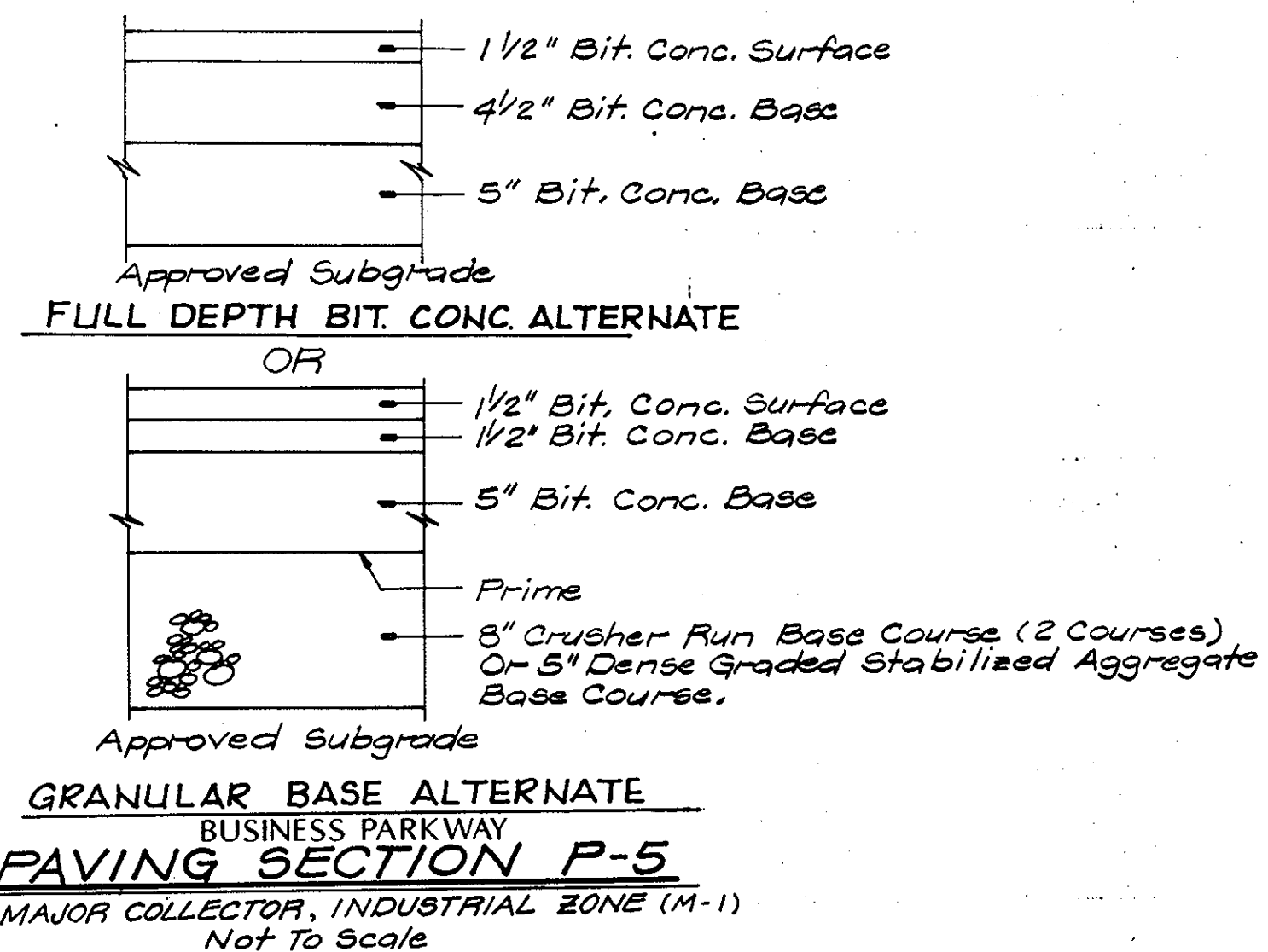
**TYPICAL CROWNED SECTION**

**BUSINESS PARKWAY**  
 ± STA. 4+99.65 TO STA. 8+79.56 (HIGH SIDE LEFT)  
 ± STA. 11+62.85 TO STA. 33+77.66 (HIGH SIDE RIGHT)  
 NOT TO SCALE  
 DESIGN SPEED 40 M.P.H.

**NOTE:** ROUNDING ON CUT SLOPES 8 FT OR MORE IN LENGTH SHALL BE 4 FT. ROUNDING ON SLOPES LESS THAN 8 FT. IN LENGTH SHALL BE 1/2 OF THE SLOPE LENGTH. LENGTH OF SLOPES SHALL BE DETERMINED BY MEASUREMENT ON THE SURFACE OF THE SLOPE.

**NOTE:** SIDE DITCH NOT INSTALLED FROM STA. 30+80 TO STA. 35+80 ON NORTH SIDE OF BUSINESS PARKWAY DUE TO SITE GRADING. 2:1 SLOPE BEGINS AT RIGHT OF WAY LINE IN THIS AREA.

**SEDIMENT CONTROL**  
 BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT MANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.  
 I ALSO AUTHORIZE THE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 REVIEWED FOR: HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.  
 U.S. SOIL CONSERVATION SERVICE DATE: \_\_\_\_\_  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 HOWARD S.C.D. DATE: \_\_\_\_\_  
 APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 DATE: 10-11-89  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE: 10-11-89



| No. | REVISION | DATE | BY |
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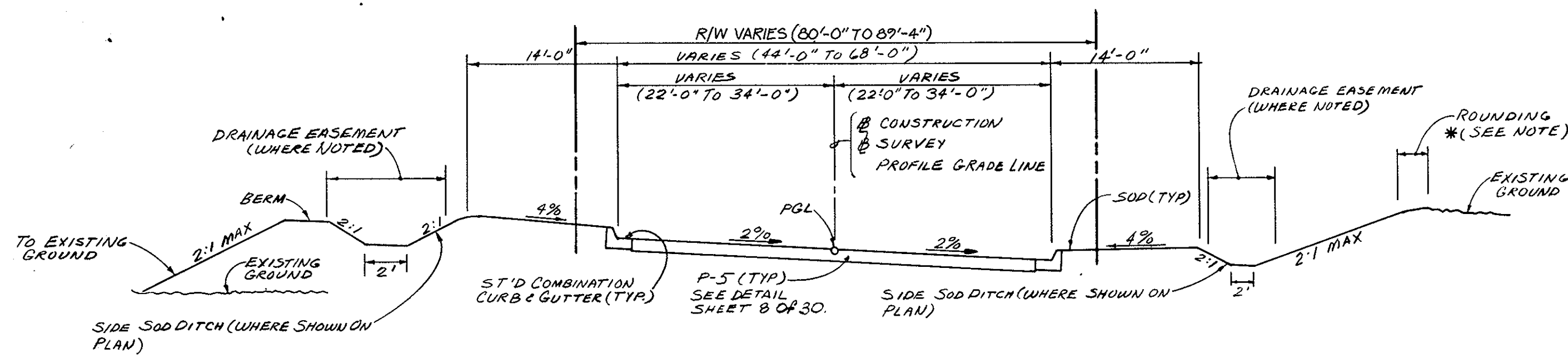


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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

TYPICAL SECTIONS & DETAILS  
 PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT  
 ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|                 |                   |
|-----------------|-------------------|
| RLP DESIGN      | SCALE N/A         |
| DTW DRAWN       | 8 OF 30           |
| MFF/RHM CHECKED | SHEET             |
| JAN. 1989 DATE  | JOB No.           |
|                 | B-1121-X FILE No. |

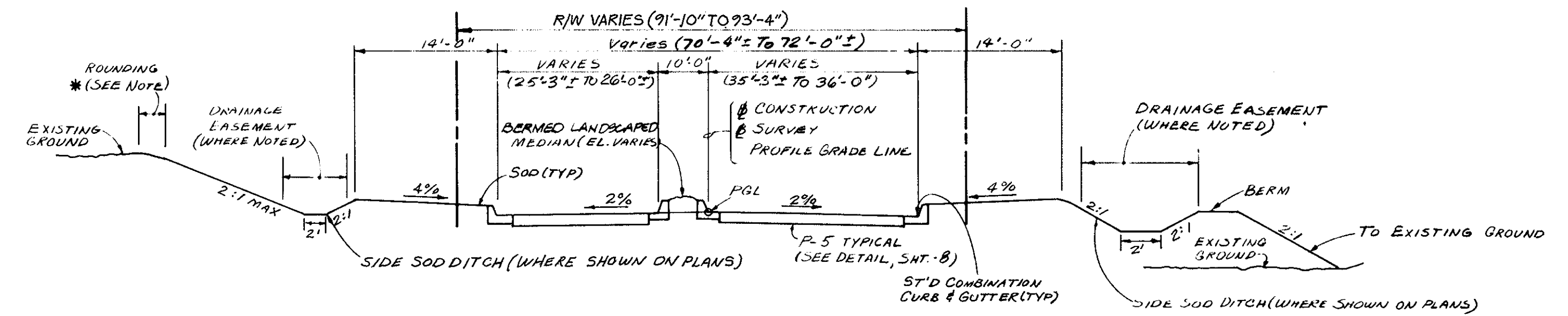




**TYPICAL CROWN REMOVED SECTION**

± STA. 40+38.58 TO ± STA. 45+75± BUSINESS PARKWAY

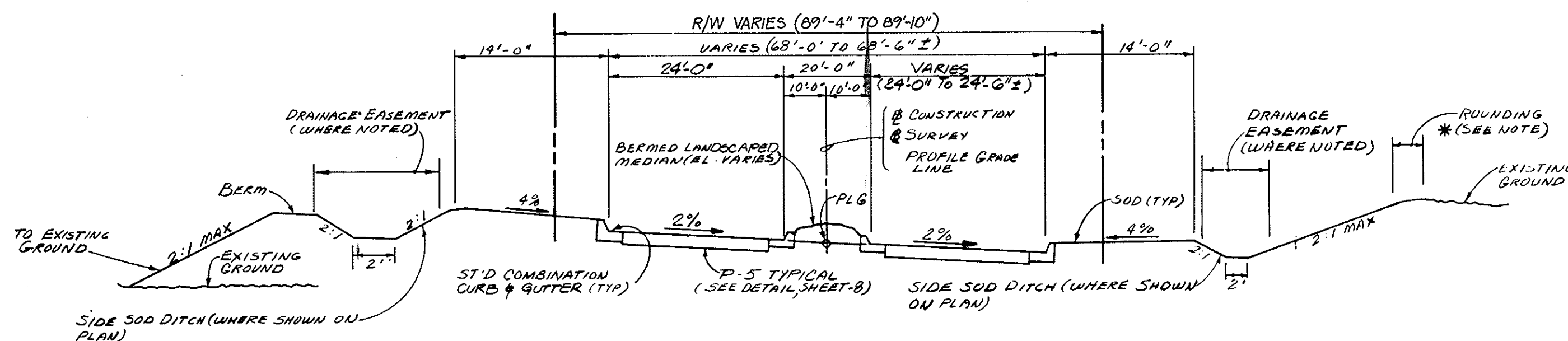
NOT TO SCALE  
DESIGN SPEED 40 M.P.H.



**TYPICAL CROWNED SECTION**

± STA. 49+61± TO ± STA. 50+48± BUSINESS PARKWAY

NOT TO SCALE  
DESIGN SPEED 40 M.P.H.

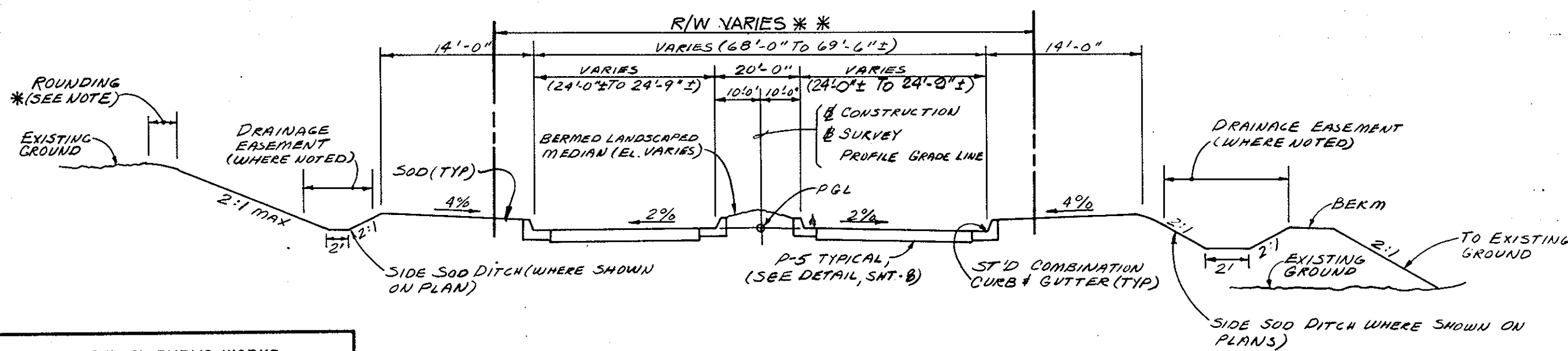


**TYPICAL CROWN REMOVED SECTION**

± STA. 45+79± TO ± STA. 46+50± BUSINESS PARKWAY

NOT TO SCALE  
DESIGN SPEED 40 M.P.H.

**\* NOTE:** ROUNDING ON CUT SLOPES 8 FT. OR MORE IN LENGTH SHALL BE 4 FT. ROUNDING ON SLOPES LESS THAN 8 FT. IN LENGTH SHALL BE 1/2 OF THE SLOPE LENGTH. LENGTH OF SLOPES SHALL BE DETERMINED BY MEASUREMENT ON THE SURFACE OF THE SLOPE.



**TYPICAL CROWNED SECTION**

± STA. 1+03± TO ± STA. 2+40± BUSINESS PARKWAY  
± STA. 48+12± TO ± STA. 49+00± BUSINESS PARKWAY

NOT TO SCALE  
DESIGN SPEED 40 M.P.H.  
± STA. 1+03± TO ± STA. 2+40±: R/W VARIES FROM 91'-4" TO 84'-8"±  
± STA. 48+12± TO ± STA. 49+00±: R/W VARIES FROM 89'-4" TO 90'-10"±

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
10-11-89  
DATE  
9/27/89  
DATE  
9/22/89  
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
DATE



OWNER/DEVELOPER:  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
(301) 381-4444

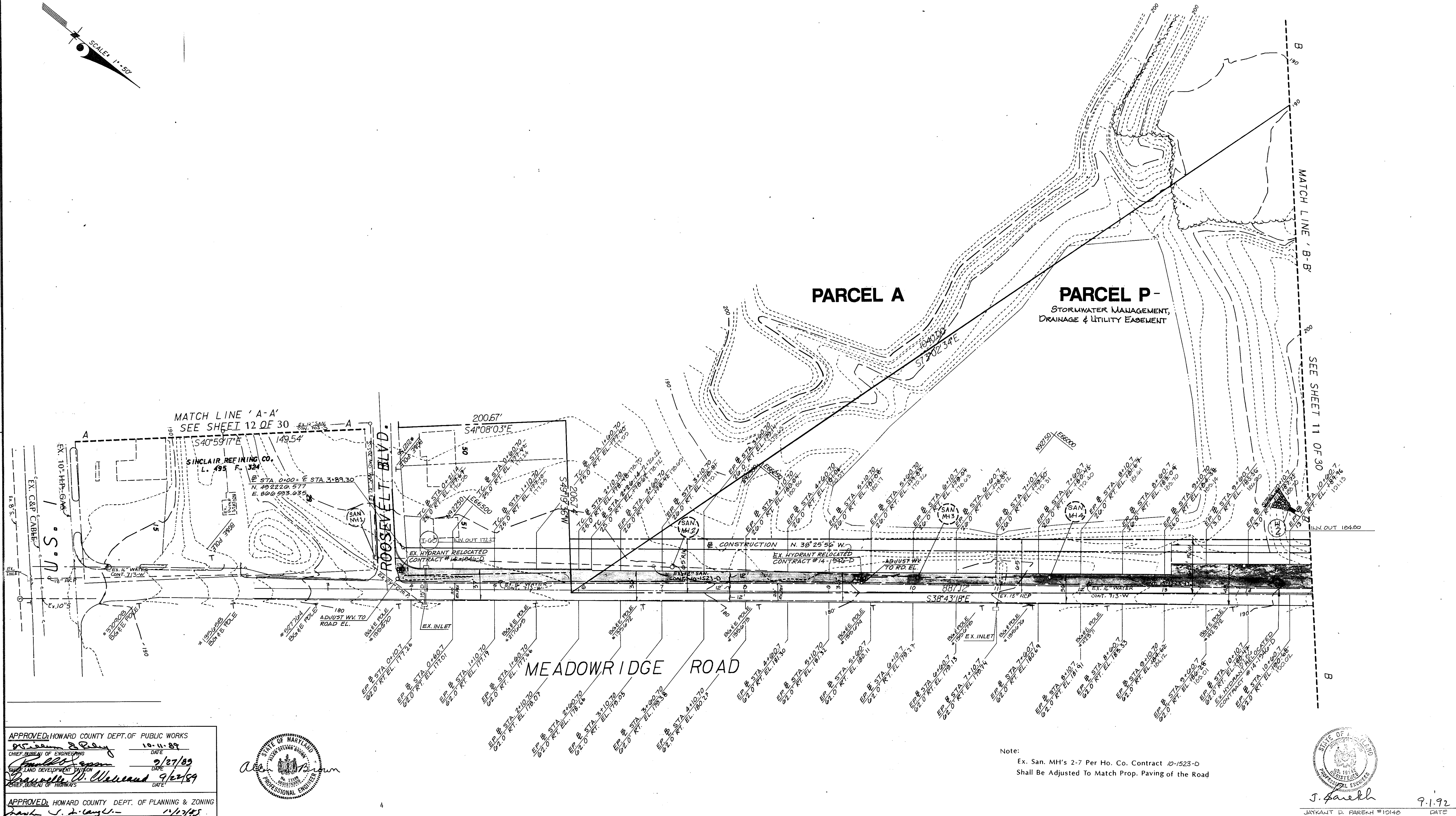
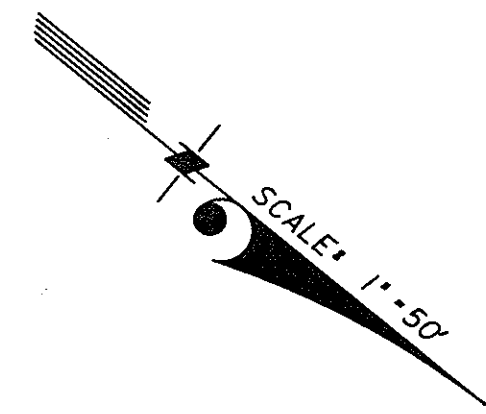
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TYPICAL SECTIONS - TAPERED ROADWAY  
PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
ZONE: M-1 ZONING MAPS 37-43  
1ST. ELECTION DISTRICT HOWARD CO., MARYLAND

|             |           |
|-------------|-----------|
| R/LP DESIGN | SCALE N/A |
| SS DRAWN    | 9 OF 30   |
| RHM CHECKED |           |
| JAN. 1989   | B-1121-X  |
| DATE        | FILE No.  |

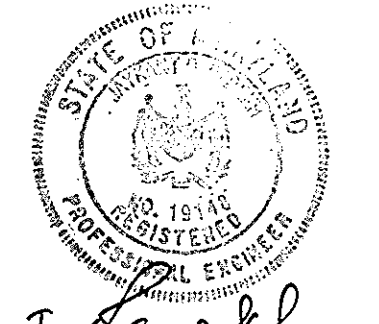


APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 Chief, Bureau of Engineering  
 Date: 10-11-89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief, Div. of Community Planning and Land Development  
 Date: 11/17/89



Note:  
 Ex. San. MH's 2-7 Per Ho. Co. Contract 10-1523-D  
 Shall Be Adjusted To Match Prop. Paving of the Road



J. Farrell  
 Jaykant D. Parekh #10140  
 DATE: 9-1-92

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION | DATE | BY |
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 (301) 296-4100

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**MEADOWRIDGE ROAD (RT. 103) IMPROVEMENTS**  
 PARCELS A-S  
**MEADOWRIDGE BUSINESS PARK**

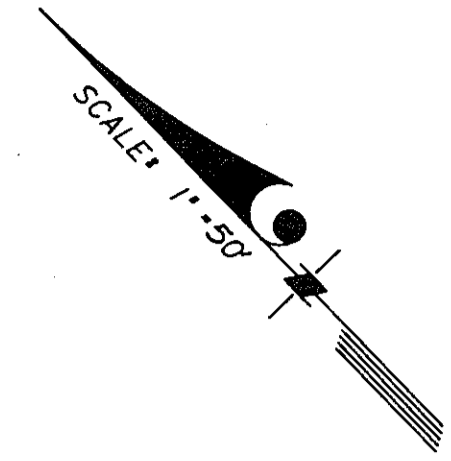
LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|                 |                   |
|-----------------|-------------------|
| KAM DESIGN      | SCALE 1" = 50'    |
| JRC DRAWN       | 10 OF 30          |
| RHM CHECKED     | SHEET             |
| FEB., 1989 DATE | B-1121-X FILE No. |
| JOB No.         |                   |

1474

N92°50' E65250



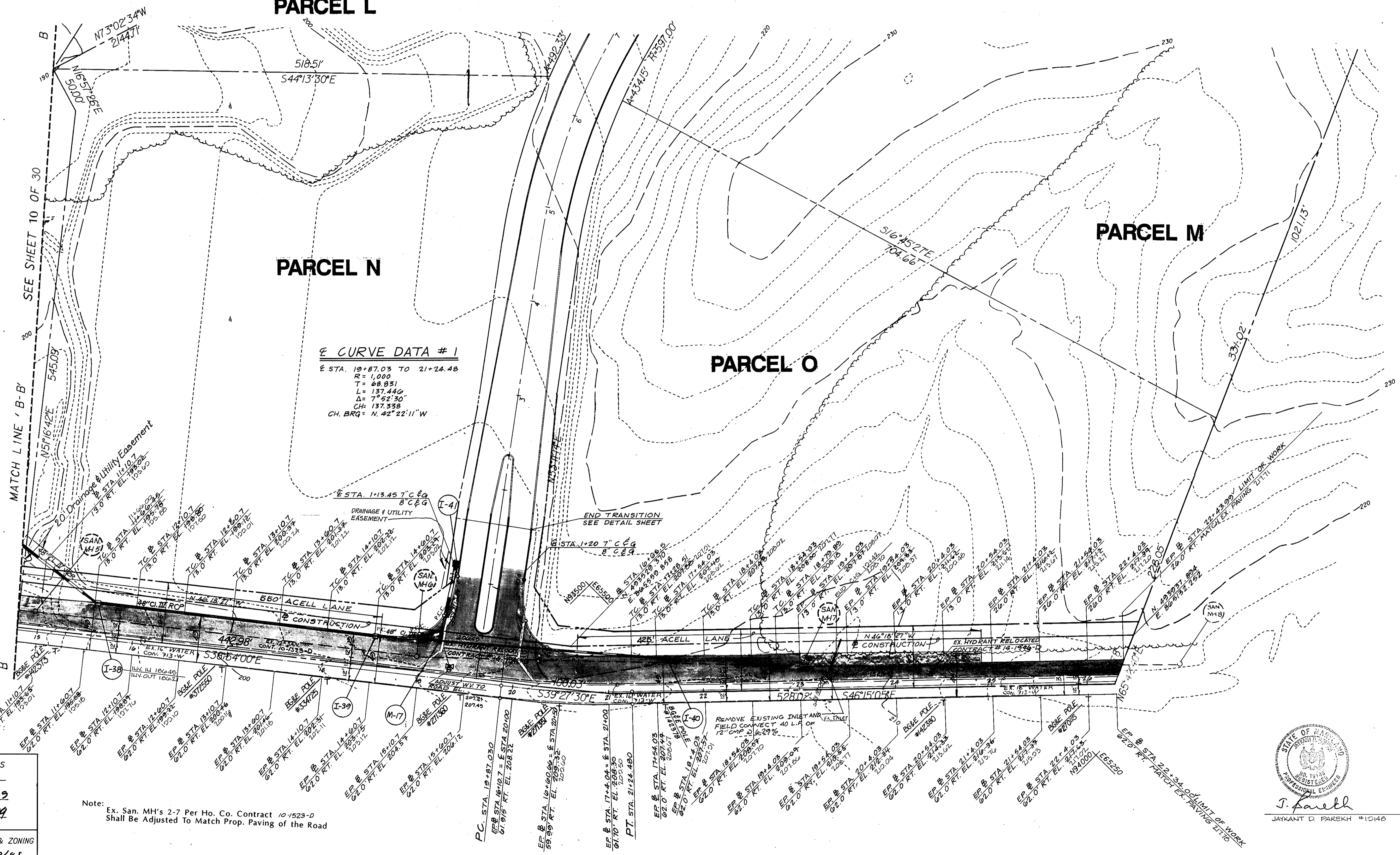
PARCEL L

PARCEL N

PARCEL O

PARCEL M

☉ CURVE DATA # 1  
 E STA. 19+87.03 TO 21+24.48  
 R = 1,000  
 T = 68.831  
 L = 137.440  
 Δ = 7°52'30"  
 CH. BRG = N. 42°22'11" W



SEE SHEET 10 OF 30  
MATCH LINE 'B-B'

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 DATE: 10-11-89  
 CHIEF, BUREAU OF ENGINEERING  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE: 9/27/89  
 CHIEF, DIV. OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE: 9/27/89  
 CHIEF, DIV. OF COMMUNITY PLANNING AND LAND DEVELOPMENT

Note: Ex. San. MH's 2-7 Per Ho. Co. Contract 10-1523-D  
 Shall Be Adjusted To Match Prop. Paving of the Road

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION | DATE | BY |
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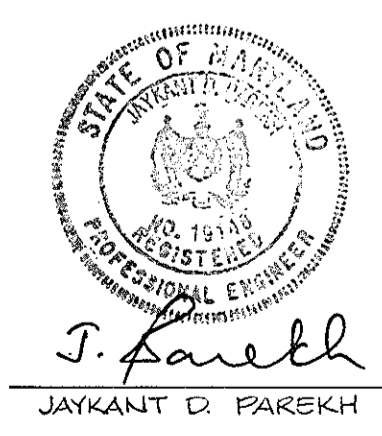
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**MEADOWRIDGE ROAD (RT. 103) IMPROVEMENTS**  
 PARCELS A - 5  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 17, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONING MAPS 37-43  
 ZONE: M-1  
 1st. ELECTION DISTRICT

|             |                |
|-------------|----------------|
| KAM DESIGN  | SCALE 1" = 50' |
| JRC DRAWN   | 11 OF 30       |
| RHM CHECKED |                |
| FEB. 1989   | JOB No.        |
| DATE        | FILE No.       |



J. Parekh  
 JAYKANT D. PAREKH #15148  
 DATE: 9.1.92

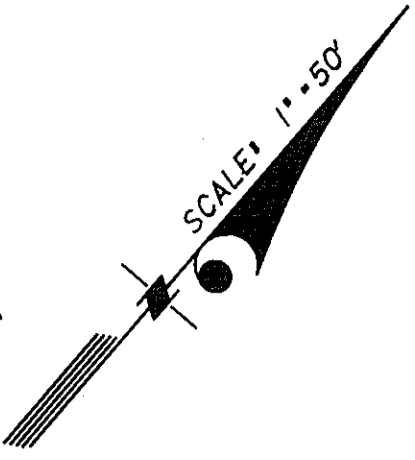
1474

12-DEC-1988

F-89-163

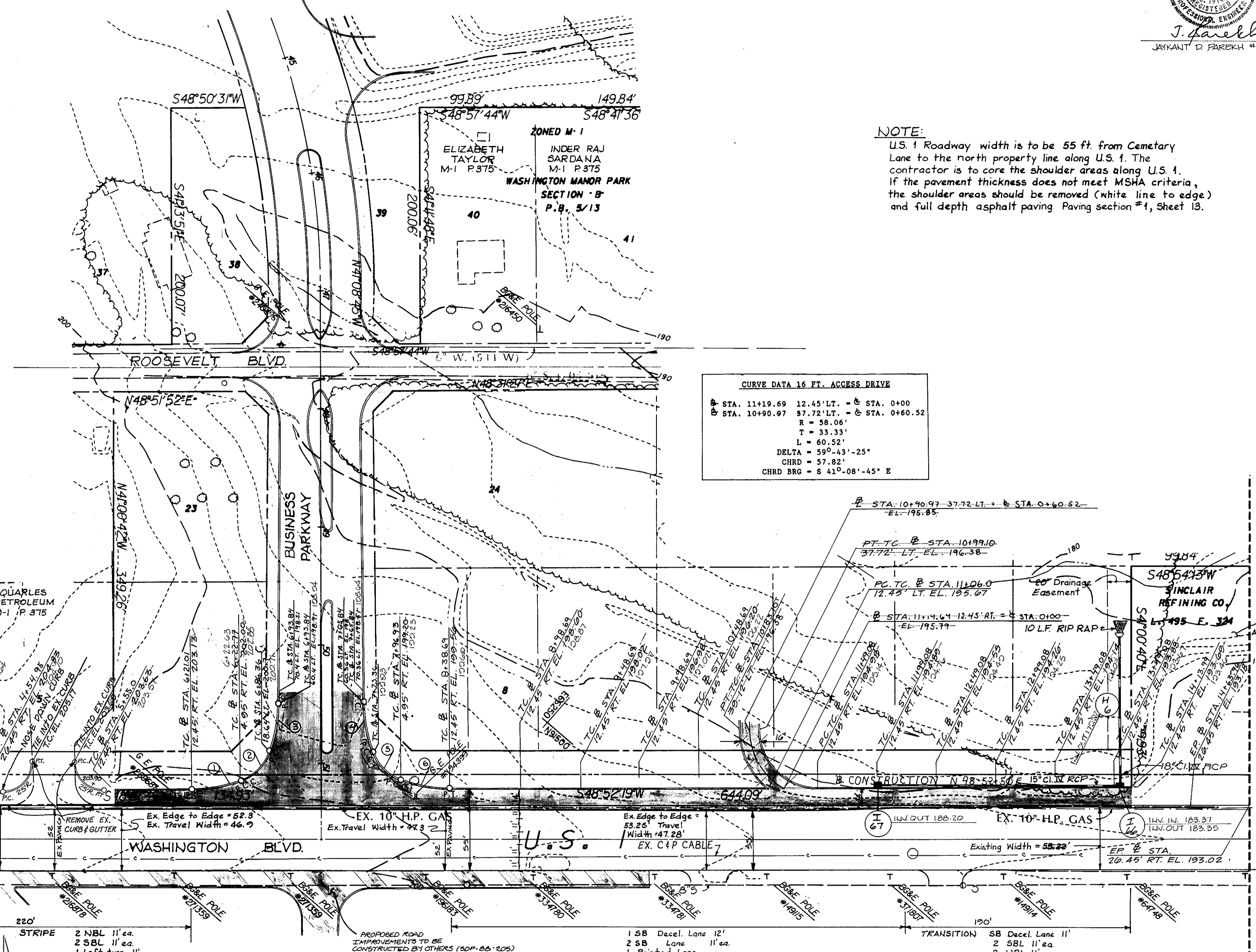


J. Farekh 9.1.92  
JAYKANT R. FAREKH #1046 DATE



EG5500  
1/87.500

**NOTE:**  
U.S. 1 Roadway width is to be 55 ft. from Cemetery Lane to the north property line along U.S. 1. The contractor is to core the shoulder areas along U.S. 1. If the pavement thickness does not meet MSHA criteria, the shoulder areas should be removed (white line to edge) and full depth asphalt paving. Paving section #1, Sheet 13.



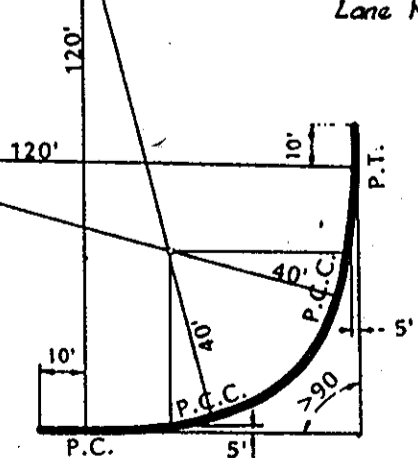
**CURVE DATA 16 FT. ACCESS DRIVE**

|                            |            |   |              |
|----------------------------|------------|---|--------------|
| B STA. 11+19.69            | 12.45' LT. | = | STA. 0+00    |
| B STA. 10+90.97            | 87.72' LT. | = | STA. 0+60.52 |
| T = 58.06'                 |            |   |              |
| L = 33.33'                 |            |   |              |
| L = 60.52'                 |            |   |              |
| DELTA = 59°43'-25"         |            |   |              |
| CHRD = 57.82'              |            |   |              |
| CHRD BRG = S 41°-08'-45" E |            |   |              |

**THREE-CENTERED CURVE DATA**

| CURVE # | RADIUS | TANGENT | ARC   | DELTA       | CHRD LNTH | CHRD BEARING    |
|---------|--------|---------|-------|-------------|-----------|-----------------|
| 1       | 120.00 | 21.55   | 42.65 | 20°-21'-51" | 42.43     | N 38°-41'-55" E |
| 2       | 40.00  | 18.36   | 34.42 | 49°-17'-53" | 33.37     | N 03°-52'-03" E |
| 3       | 120.00 | 21.55   | 42.65 | 20°-21'-51" | 42.43     | N 30°-57'-49" W |
| 4       | 120.00 | 21.55   | 42.65 | 20°-21'-51" | 42.43     | S 51°-19'-40" W |
| 5       | 40.00  | 18.33   | 34.48 | 49°-14'-44" | 33.33     | S 86°-07'-57" E |
| 6       | 120.00 | 21.55   | 42.65 | 20°-21'-51" | 42.43     | N 59°-03'-45" E |

**NOTE:**  
ALL ADDITIONAL PAVEMENT NEEDED TO CREATE THE REQUIRED 55' WIDTH WILL BE ADDED TO THE WEST SIDE OF THE EXISTING PAVEMENT.



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
10-11-89  
CHIEF, BUREAU OF ENGINEERING



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
10/13/89  
CHIEF, DIV. OF COMMUNITY PLANNING AND LAND DEVELOPMENT

OWNER/DEVELOPER  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
PH. (301) 381-4444

| No. | REVISION | DATE | BY |
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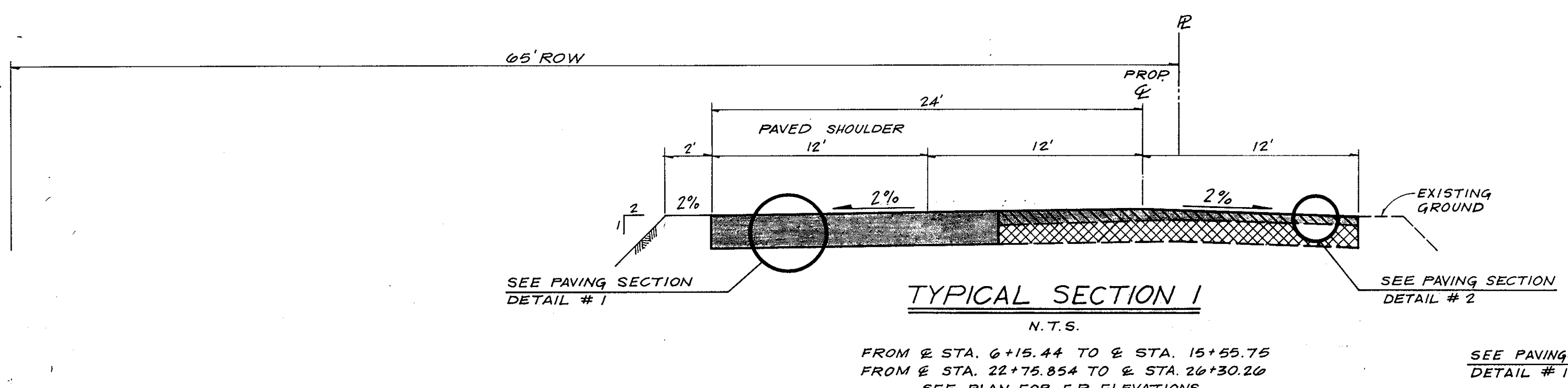


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**WASHINGTON BLVD. (RT. 1) IMPROVEMENTS**  
PARCELS A-S  
**MEADOWRIDGE BUSINESS PARK**  
LIBER. 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
ZONING MAPS 37-43  
HOWARD CO., MARYLAND  
1ST. ELECTION DISTRICT

KAM DESIGN SCALE 1" = 50'  
JRC DRAWN  
RHM CHECKED  
FEB., 1989 DATE  
JOB No. B-1121-X  
FILE No. 12 OF 30 SHEET

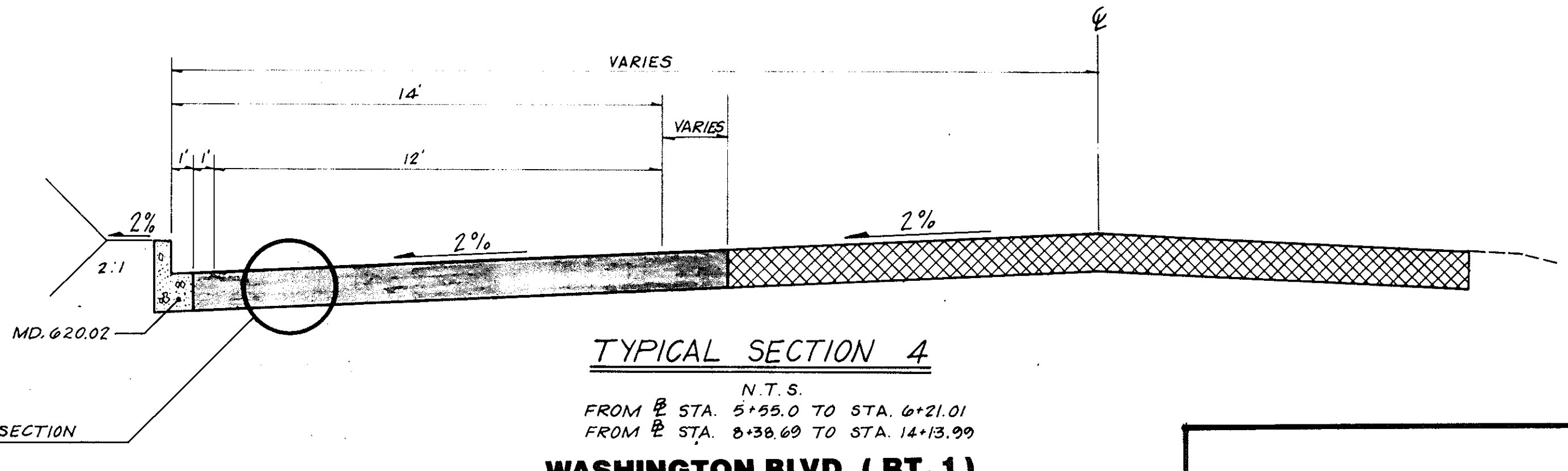
F-89-163



**TYPICAL SECTION 1**  
N.T.S.

FROM STA. 6+15.44 TO STA. 15+55.75  
FROM STA. 22+75.854 TO STA. 26+30.26  
SEE PLAN FOR E.P. ELEVATIONS

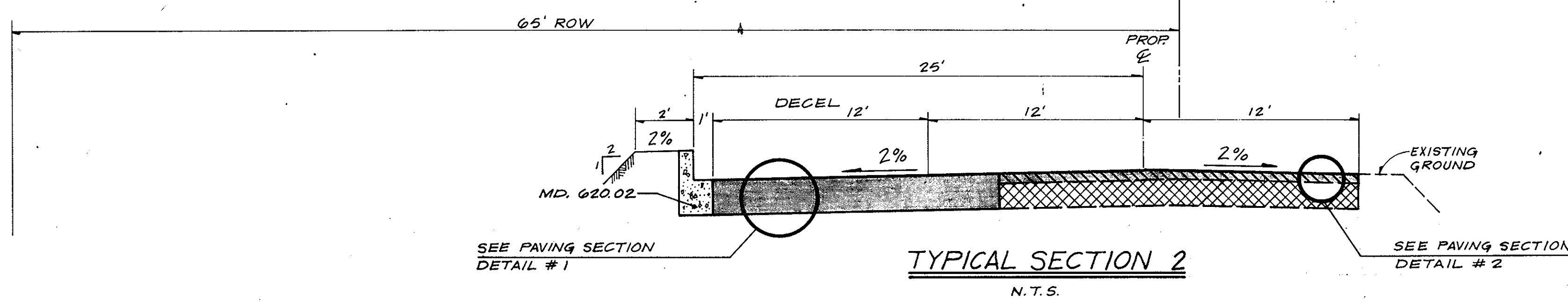
**MEADOWRIDGE ROAD (RT. 103)**  
M-1 ZONING, DESIGN SPEED - 50 M.P.H., MINOR ARTERIAL



**TYPICAL SECTION 4**  
N.T.S.

FROM STA. 5+55.0 TO STA. 6+21.01  
FROM STA. 8+38.69 TO STA. 14+13.99

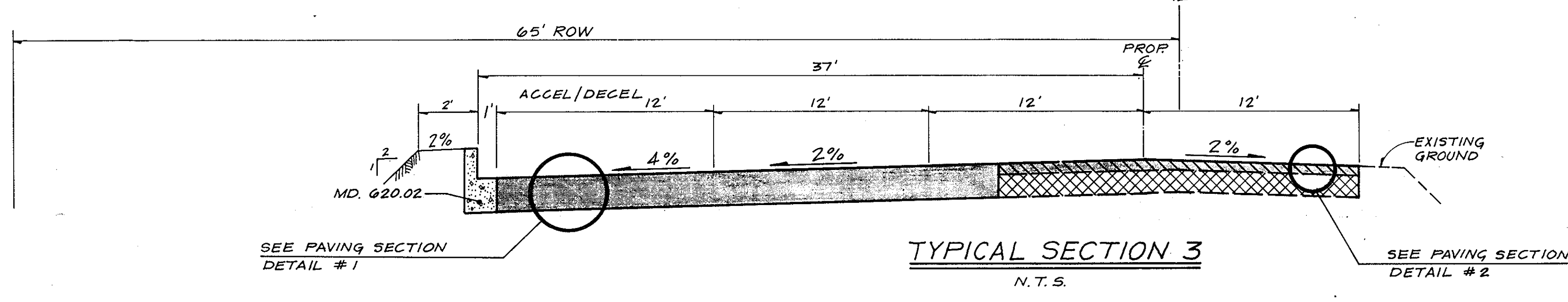
**WASHINGTON BLVD. (RT. 1)**  
M-1 ZONING, DESIGN SPEED - 50 M.P.H., MINOR ARTERIAL



**TYPICAL SECTION 2**  
N.T.S.

FROM STA. 4+10.438 TO STA. 6+10.44  
SEE PLAN FOR E.P. & T.C. ELEVATIONS

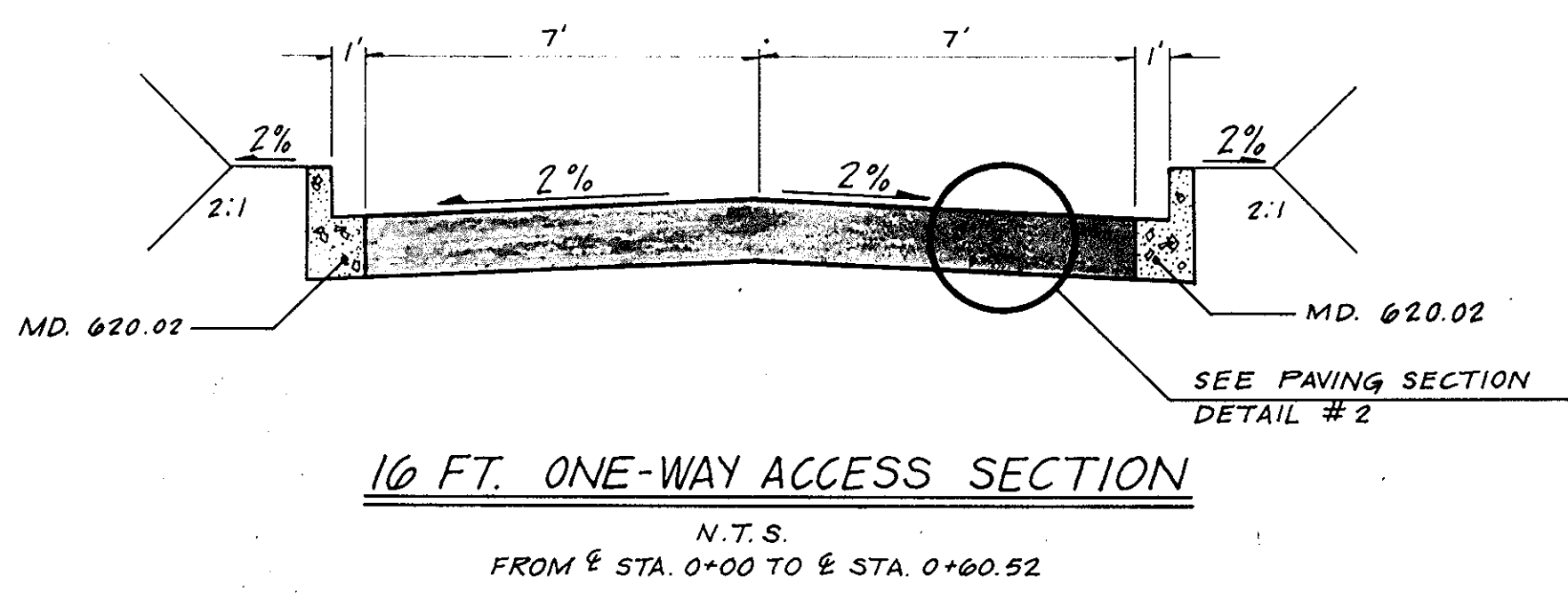
**MEADOWRIDGE ROAD (RT. 103)**  
M-1 ZONING, DESIGN SPEED - 50 M.P.H., MINOR ARTERIAL



**TYPICAL SECTION 3**  
N.T.S.

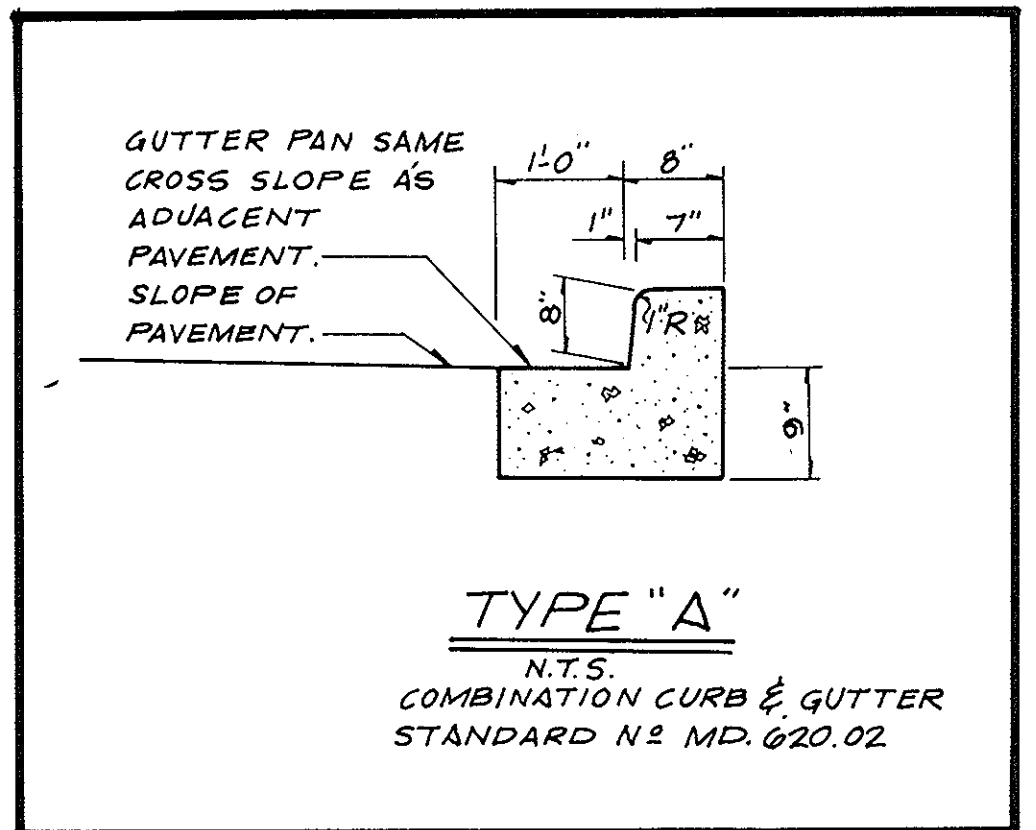
FROM STA. TO 15+55.75 TO STA. 18+55.75  
FROM STA. TO 20+60.19 TO STA. 22+75.854  
SEE PLAN FOR E.P. & T.C. ELEVATIONS

**MEADOWRIDGE ROAD (RT. 103)**  
M-1 ZONING, DESIGN SPEED - 50 M.P.H., MINOR ARTERIAL



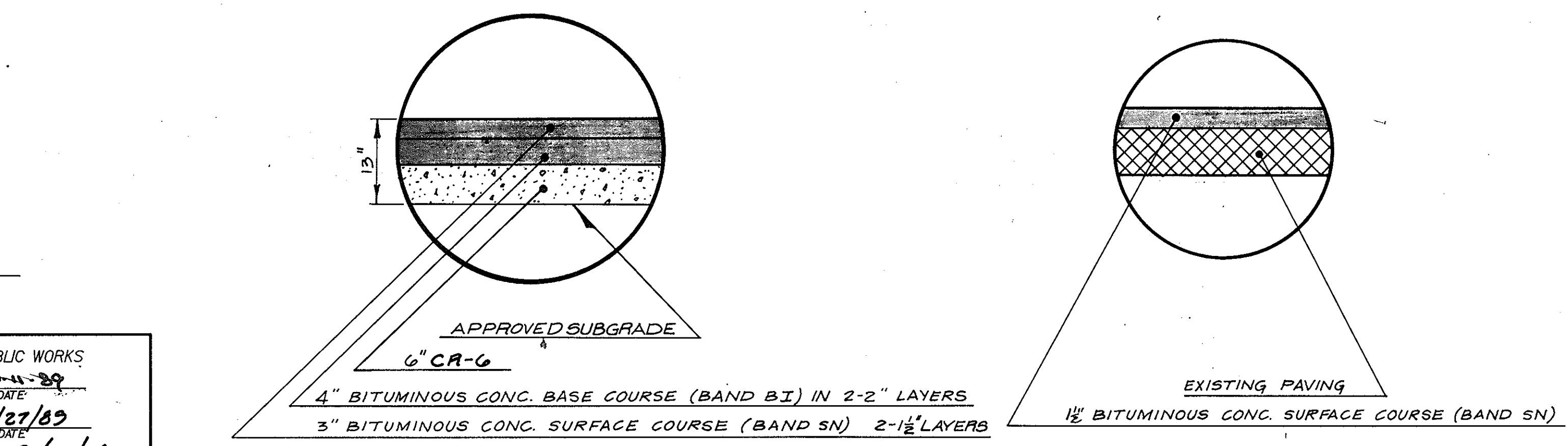
**16 FT. ONE-WAY ACCESS SECTION**  
N.T.S.

FROM STA. 0+00 TO STA. 0+60.52



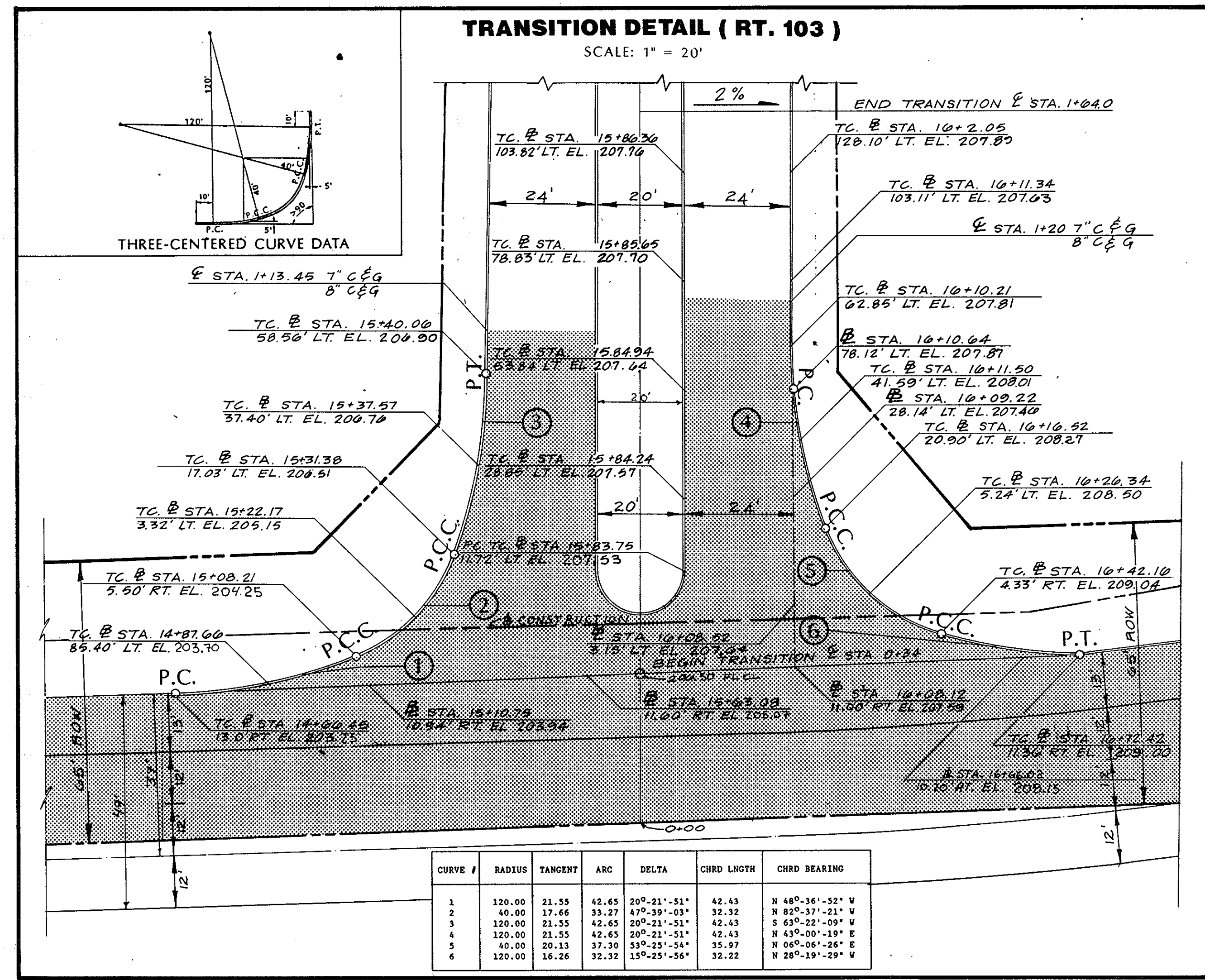
**TYPE "A"**  
N.T.S.

COMBINATION CURB & GUTTER  
STANDARD N2 MD. 620.02



**PAVING SECTION #1**  
N.T.S.

**PAVING SECTION #2**  
N.T.S.



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
9/27/89  
DATE: 10-11-89  
DATE: 9/27/89  
DATE: 9/27/89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
DATE: 9/27/89

OWNER/DEVELOPER  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
PH. (301) 381-4444

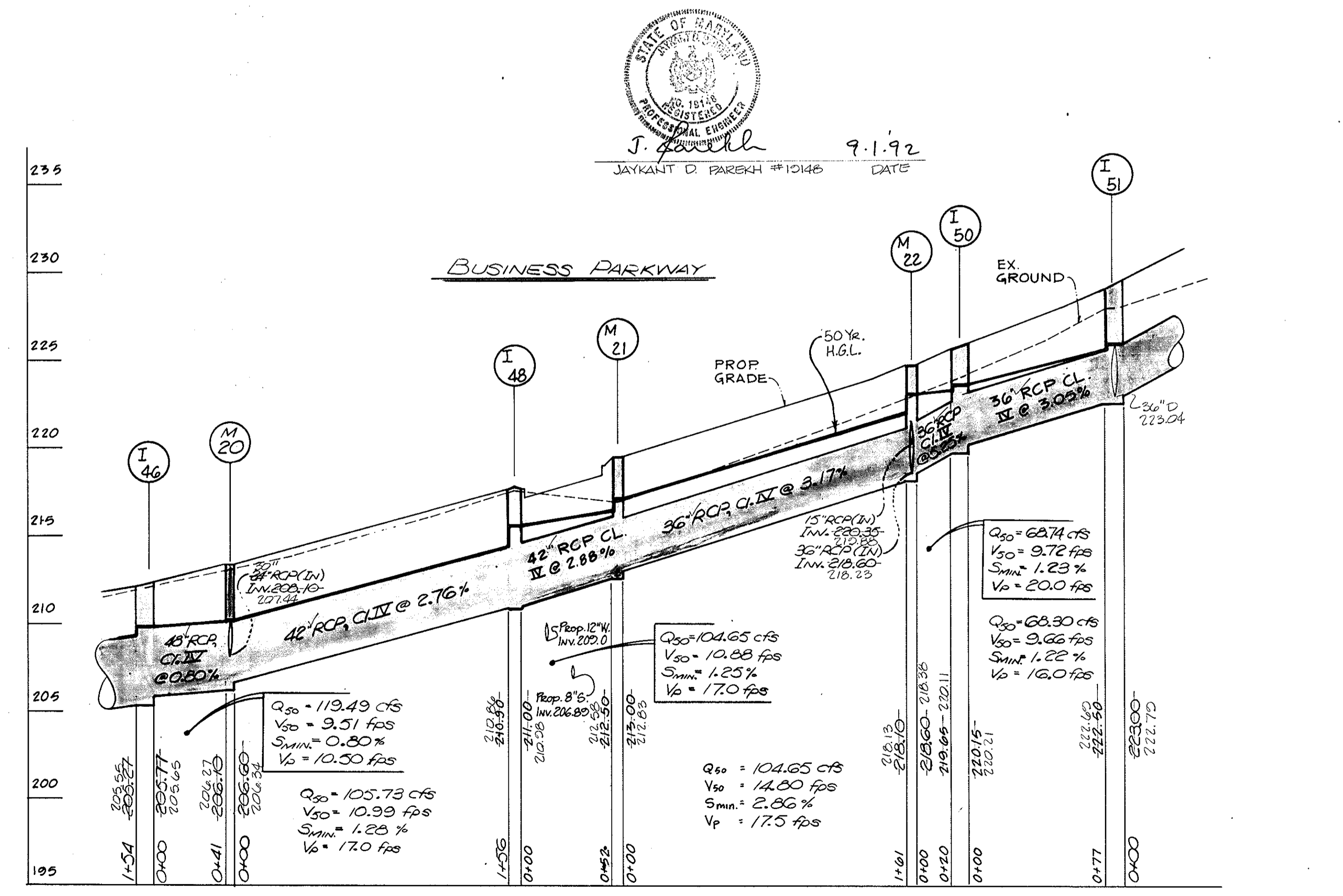
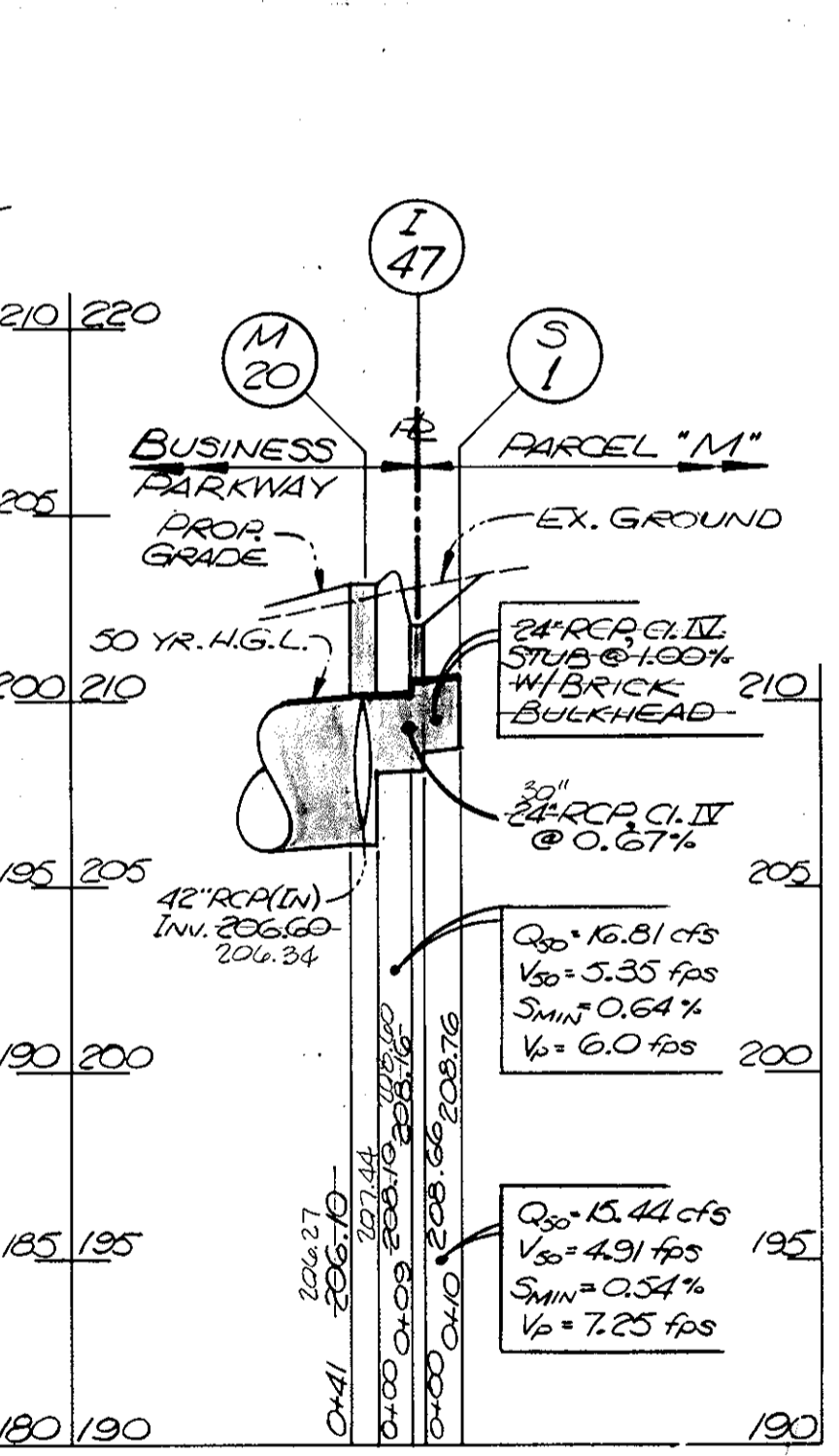
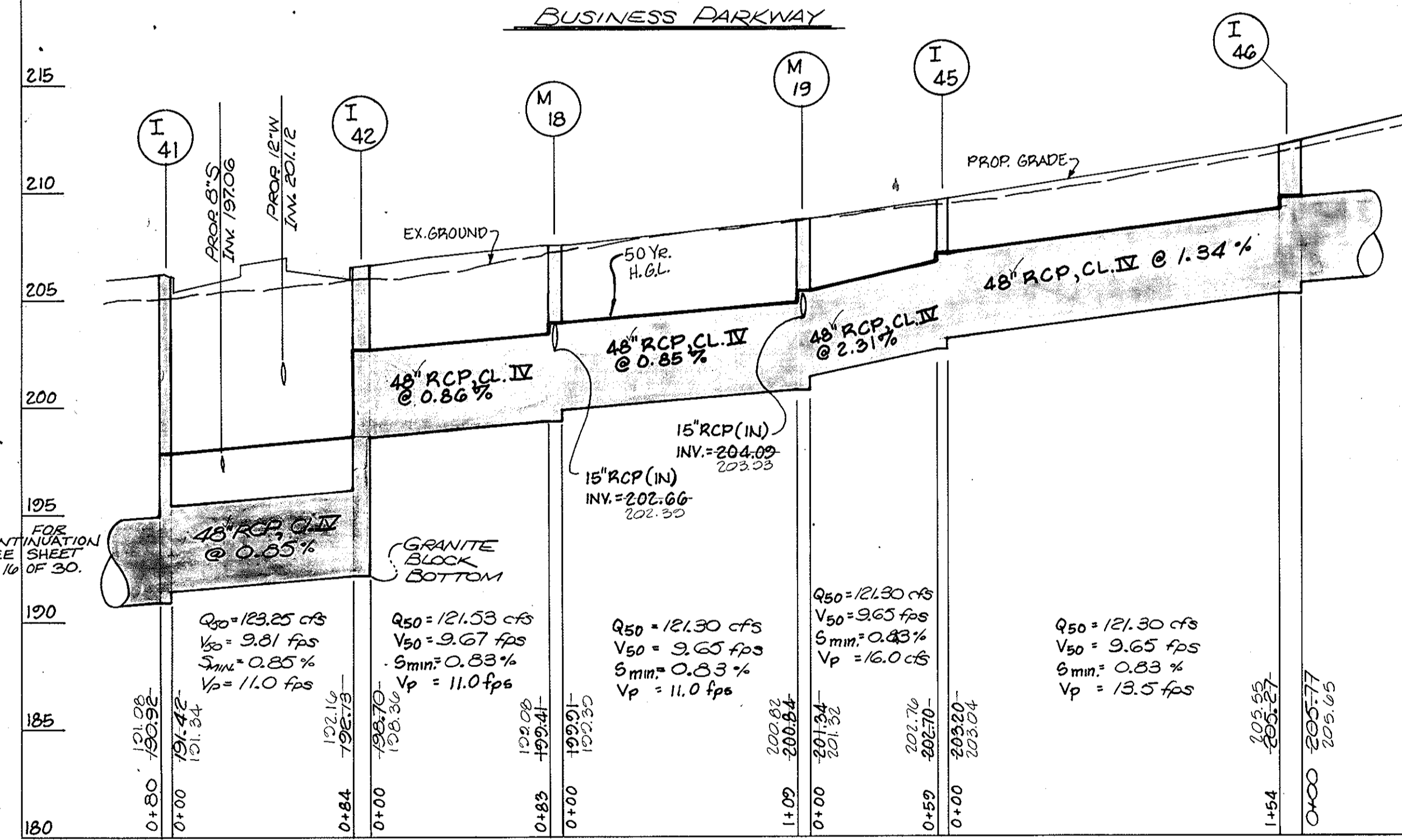
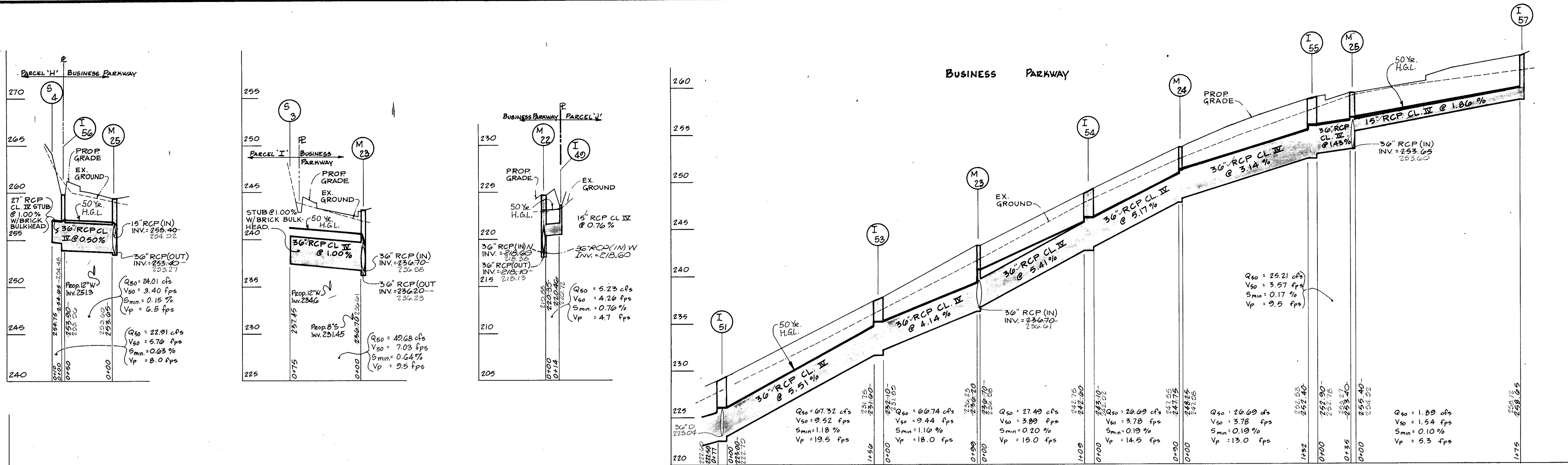
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LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

ROAD IMPROVEMENT DETAILS  
PARCELS A-S  
**MEADOWRIDGE BUSINESS PARK**  
LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
ZONE: M-1  
1st. ELECTION DISTRICT  
ZONING MAPS 37-43  
HOWARD CO., MARYLAND

KAM DESIGN SCALE NO SCALE  
JRC DRAWN  
RHM CHECKED  
FEB. 1989  
DATE  
JOB No.  
B-1121-X  
FILE No.  
**13 OF 30**  
SHEET

F-89-163



STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 J. J. BARKER  
 JAYKANT D. BARKER #10146  
 DATE 9.1.92

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 ALBERT BARKER  
 PROFESSIONAL ENGINEER

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 DATE 10-11-89  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE 9/27/89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE 10/12/88

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

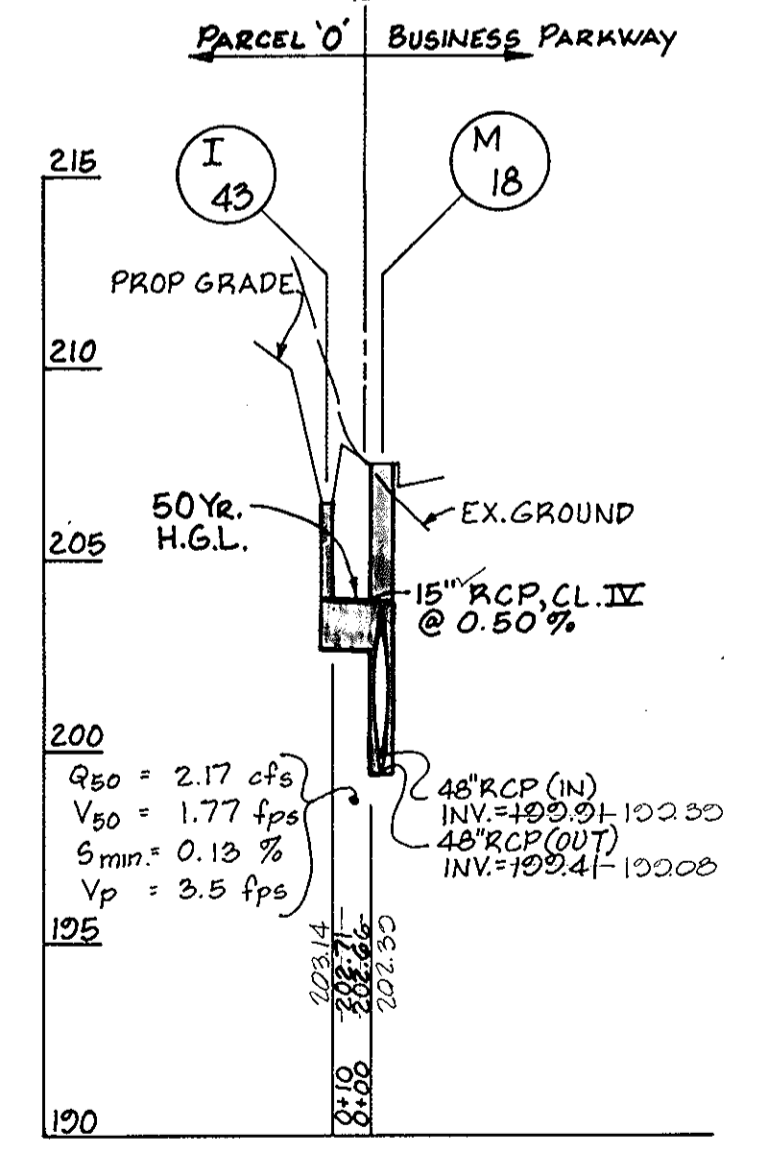
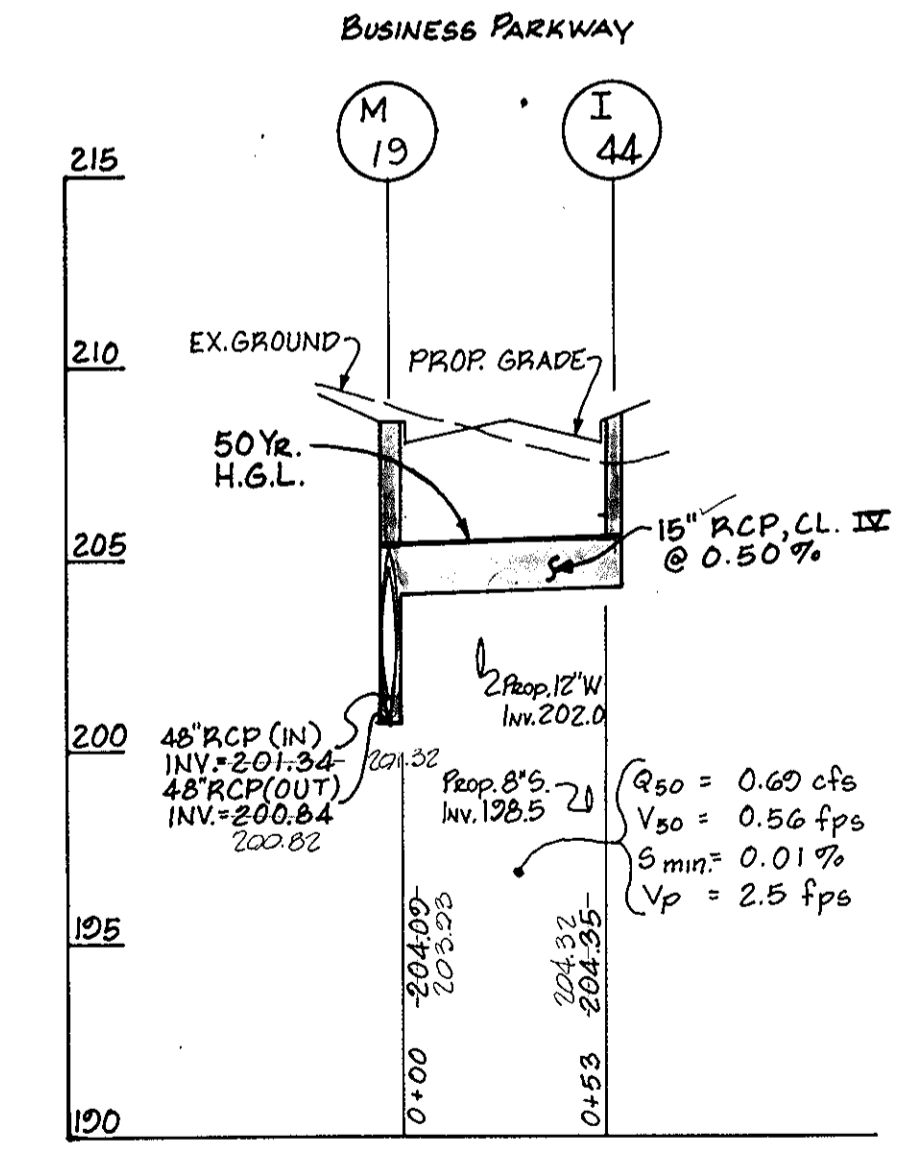
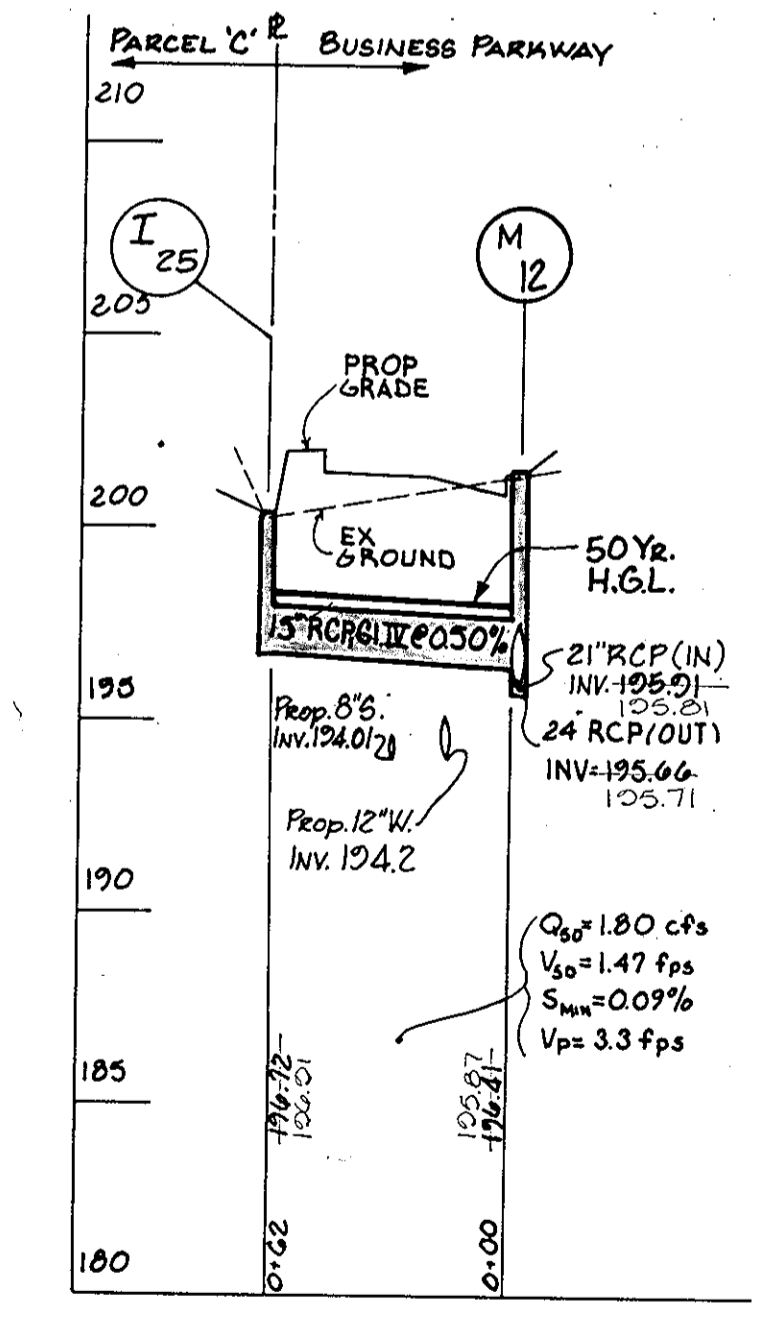
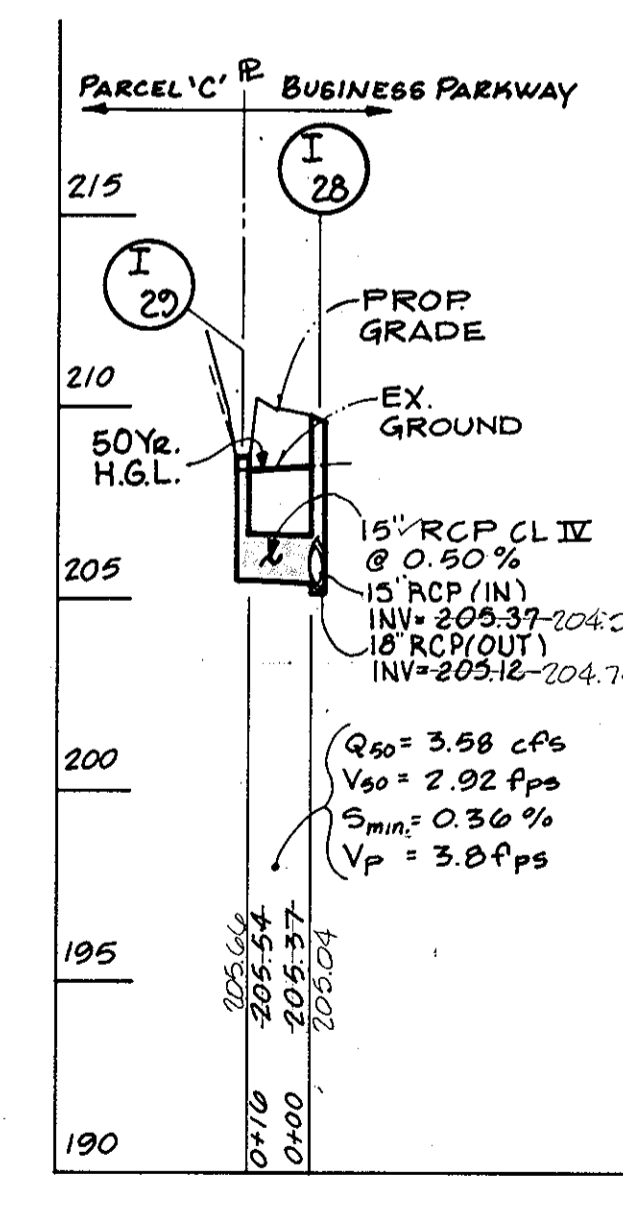
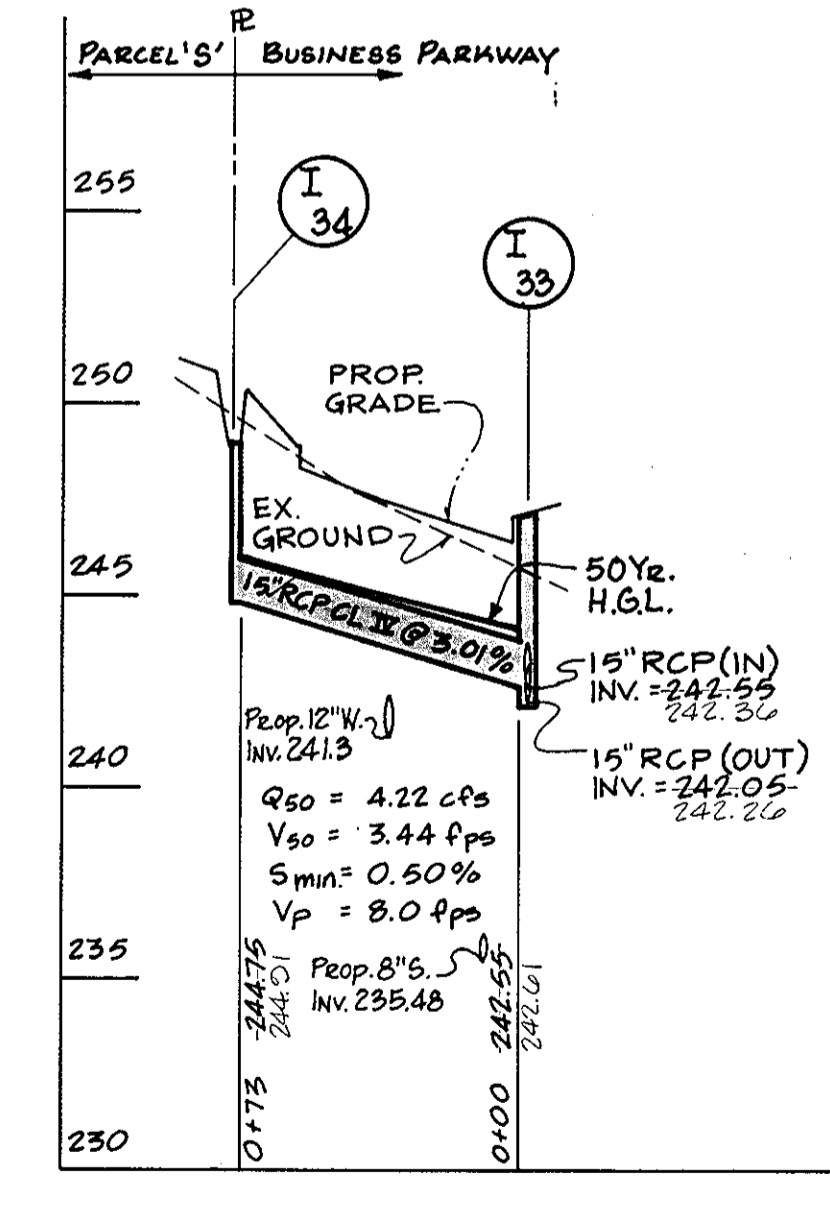
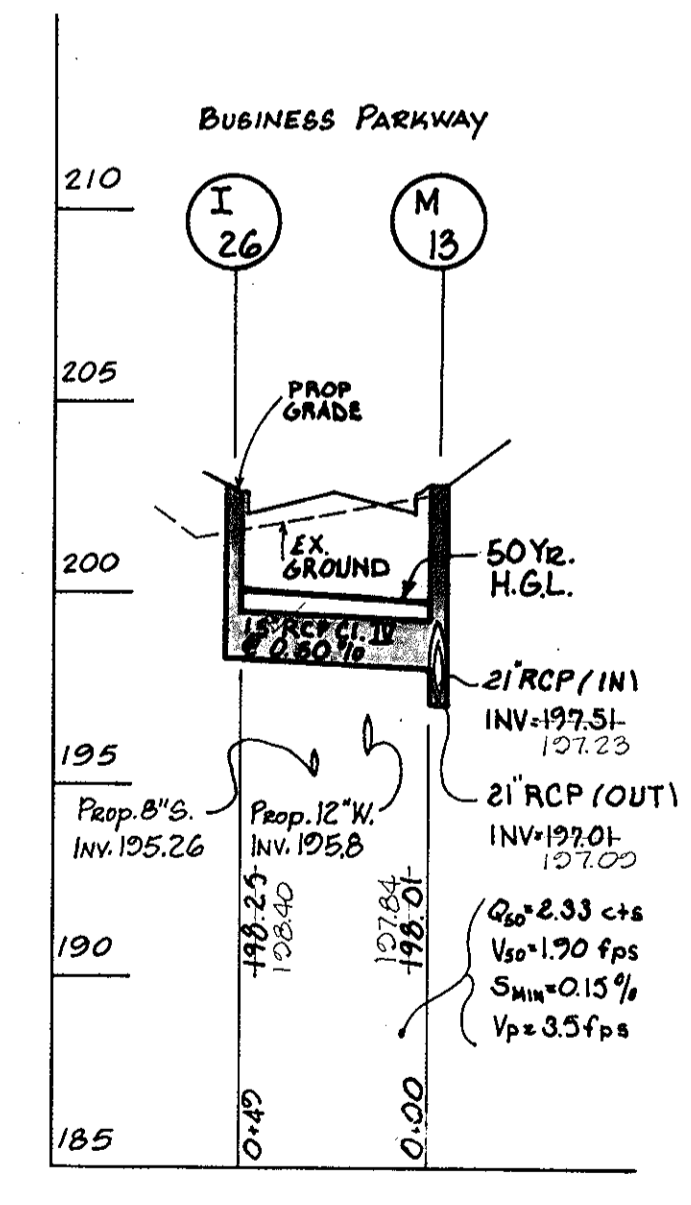
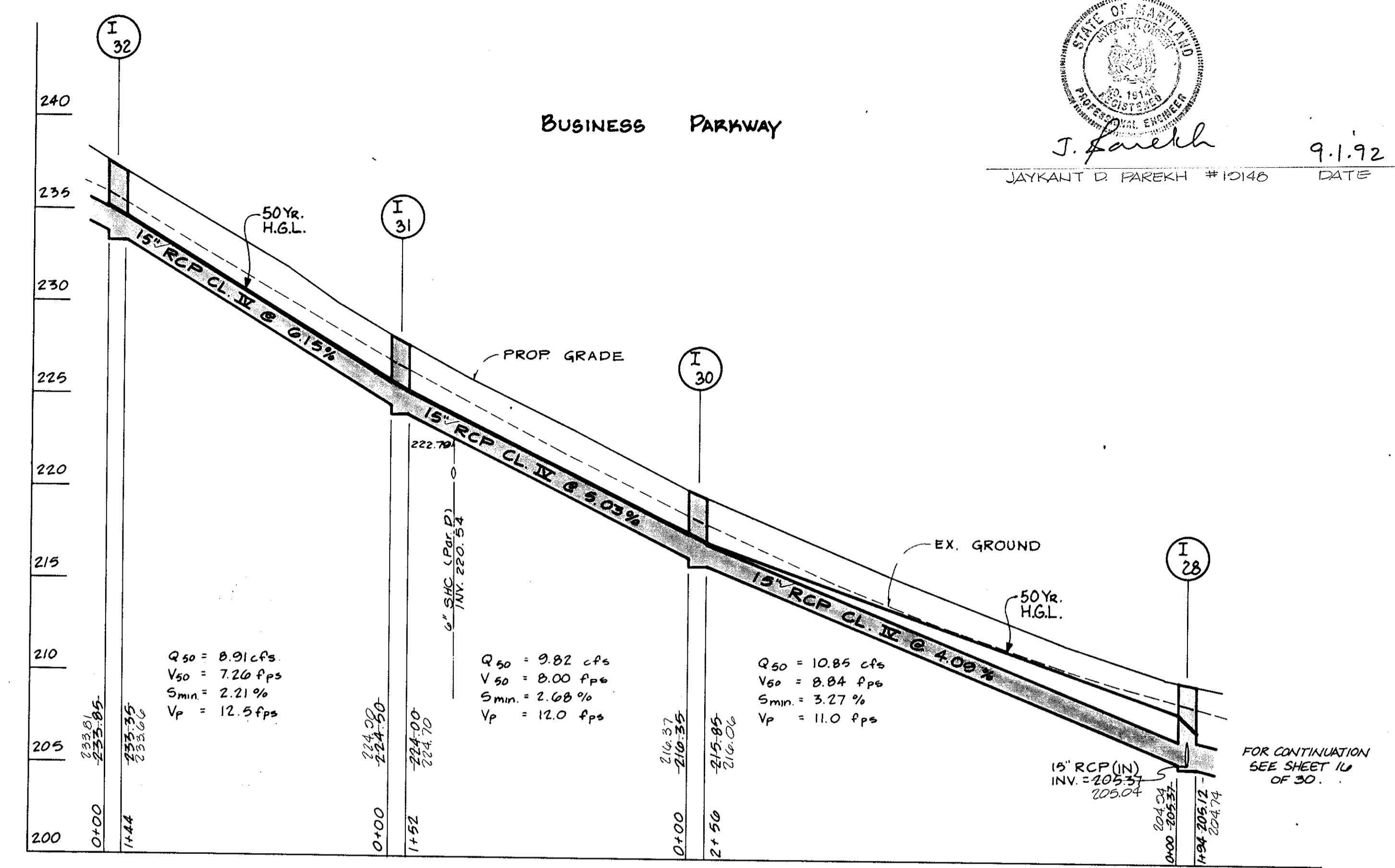
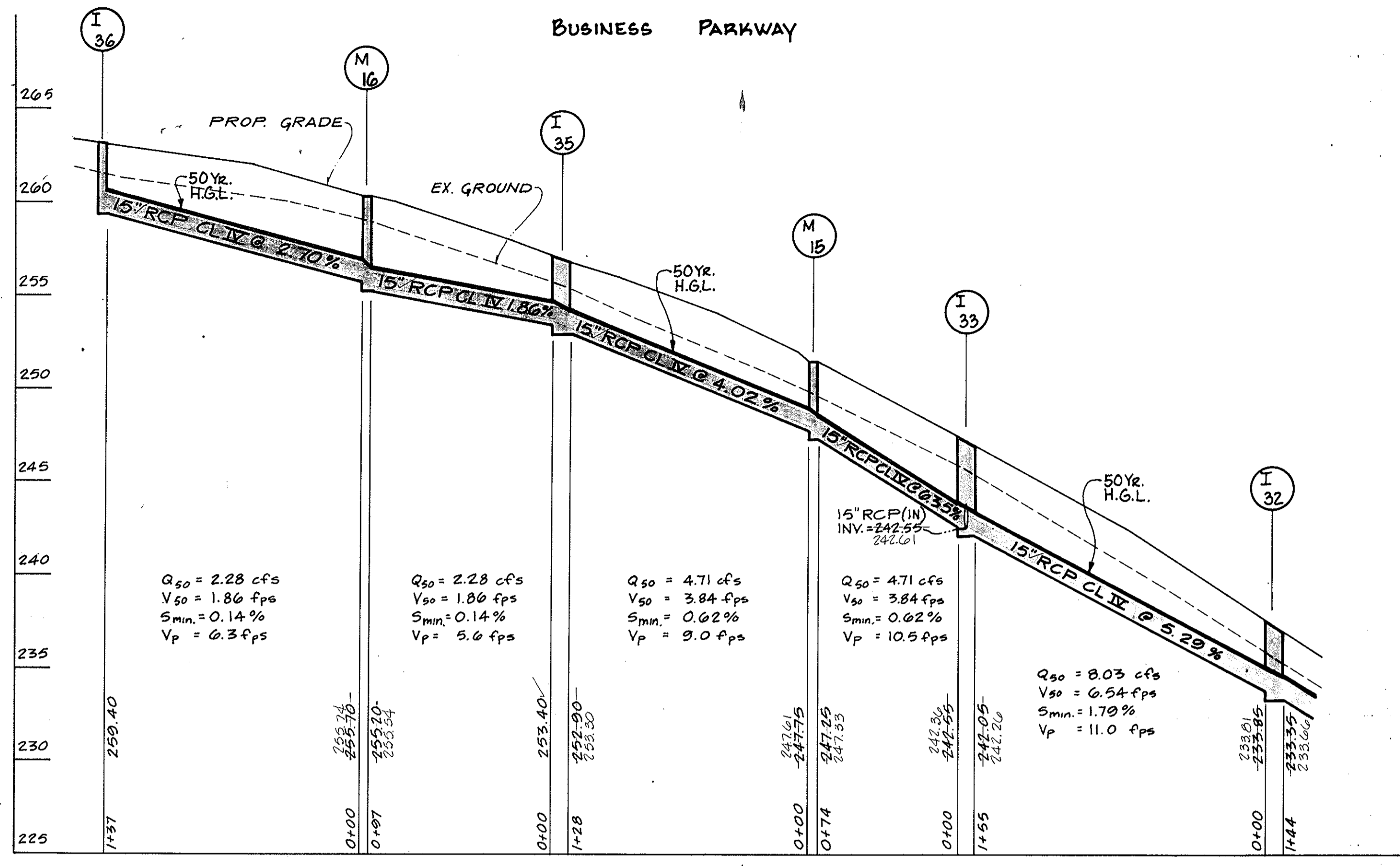
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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

**STORM DRAIN PROFILES**  
 PARCELS A-S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT  
 ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|        |           |       |     |         |       |           |      |         |          |
|--------|-----------|-------|-----|---------|-------|-----------|------|---------|----------|
| DESIGN | JRC / MTY | DRAWN | RHM | CHECKED | SHEET | FEB. 1989 | DATE | JOB No. | FILE No. |
|        |           |       |     |         |       |           |      |         |          |



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 9/21/89 DATE 10.11.89  
 CHIEF, BUREAU OF ENGINEERING  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 9/27/89 DATE 9/22/89  
 CHIEF, LAND DEVELOPMENT DIVISION  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 9/22/89 DATE 9/22/89  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 9/22/89 DATE 9/22/89  
 CHIEF, DIV. OF COMMUNITY PLANNING AND LAND DEVELOPMENT

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
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|     |          |      |    |
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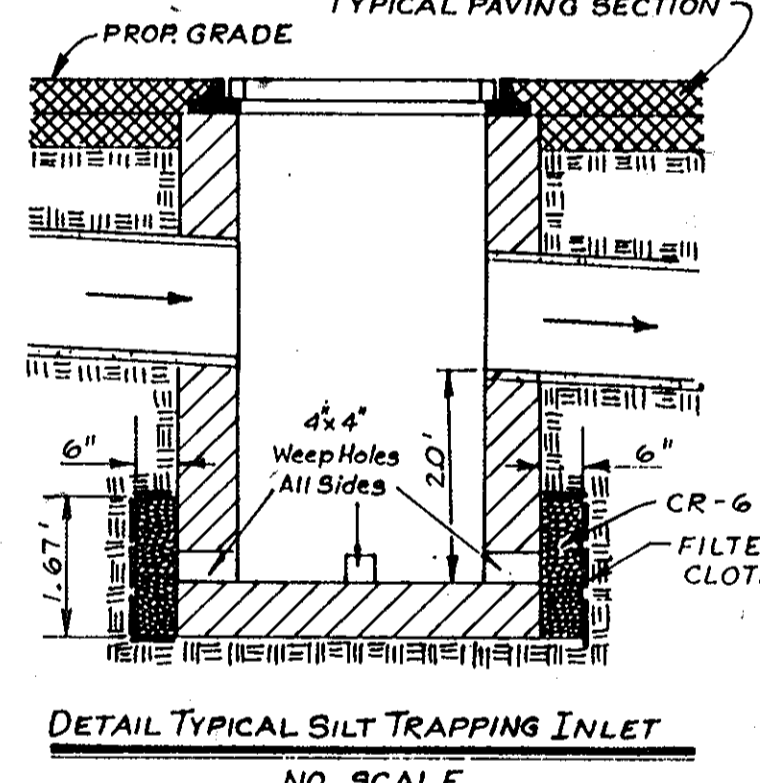
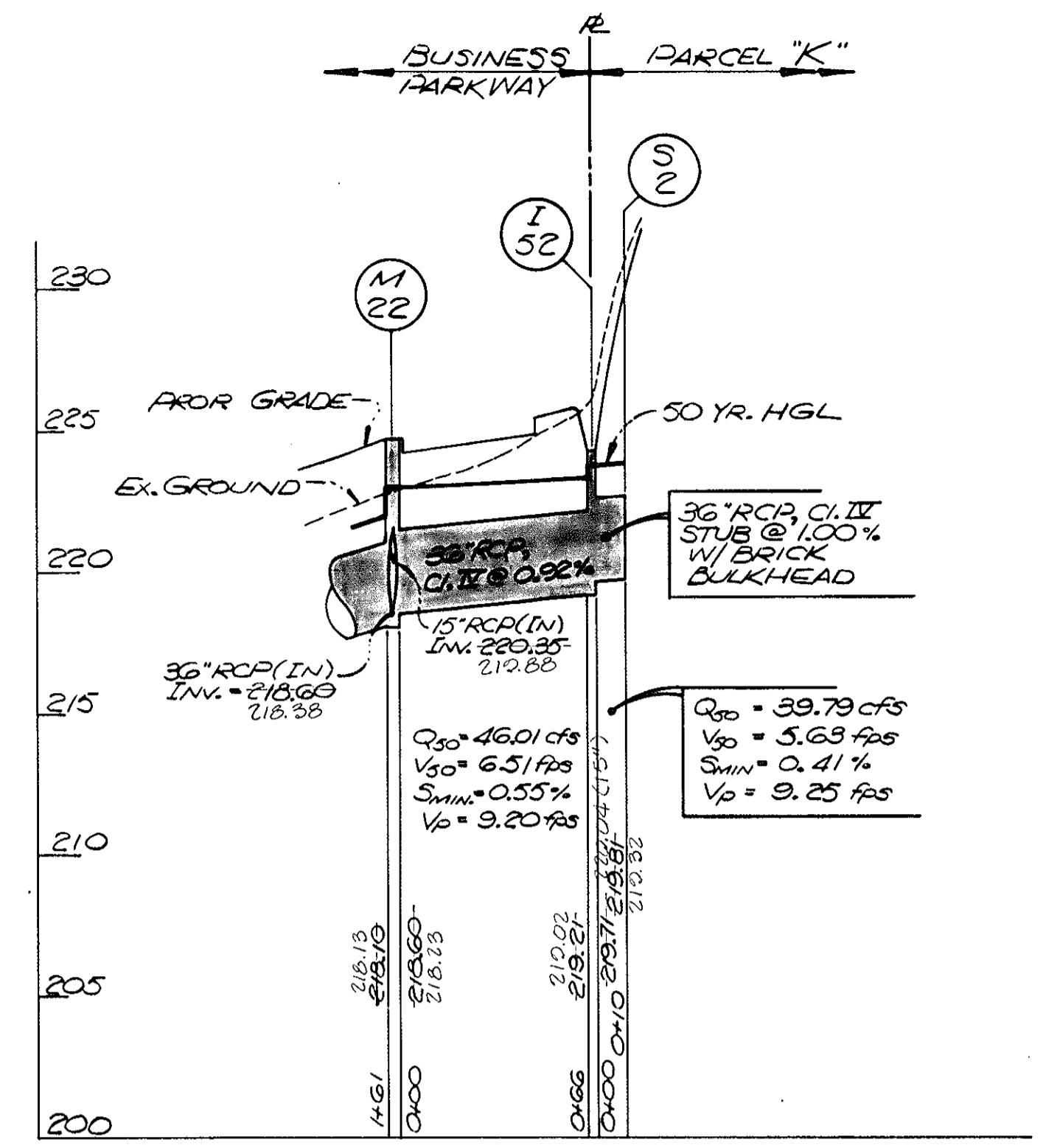
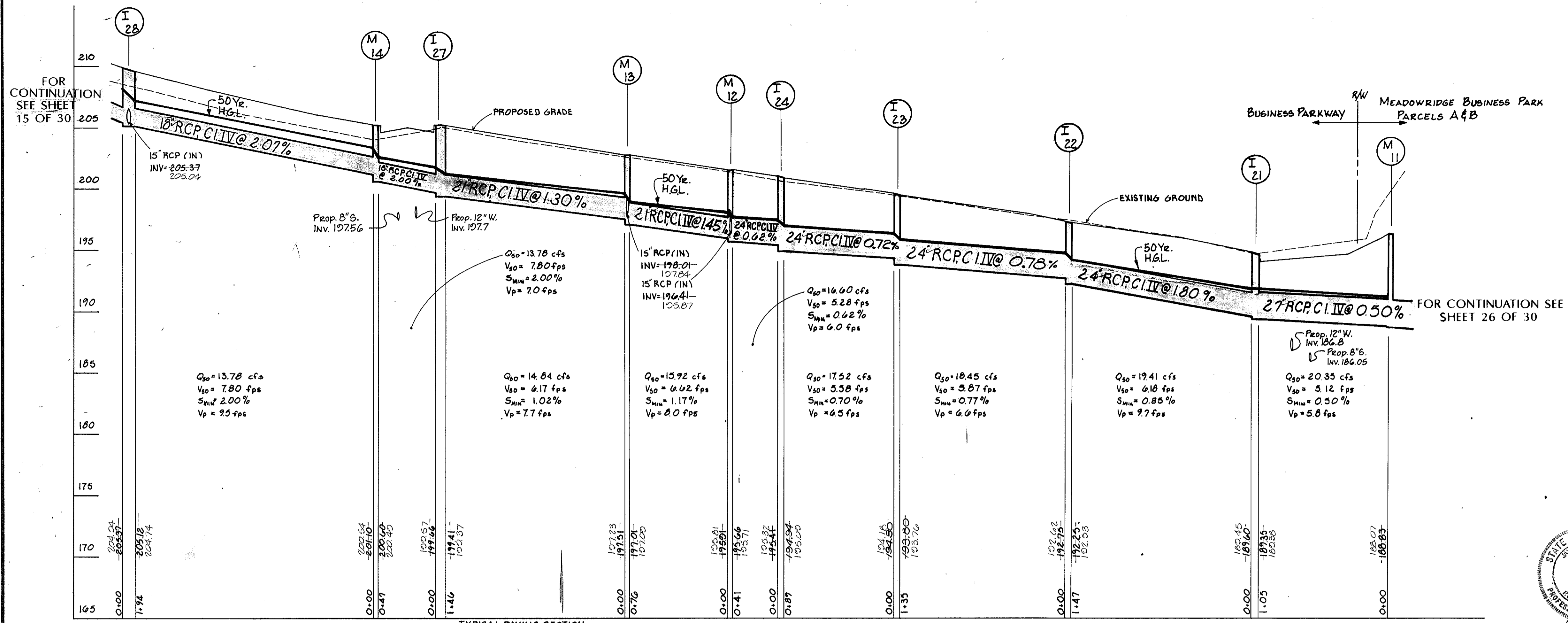
**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
 (301) 296-4100

ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • DULUTH, GA • EXPORT, PA • FAIRFAX, VA • GREENBELT, MD  
 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

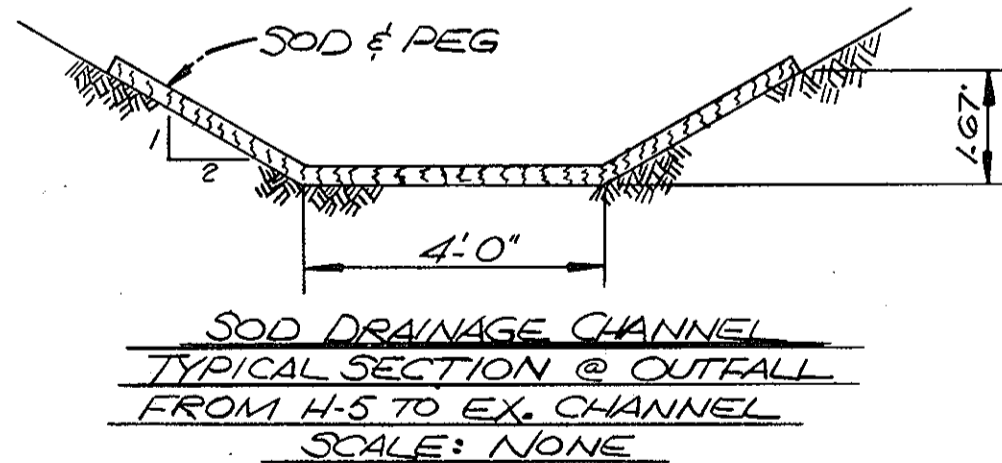
**STORM DRAIN PROFILES**  
 PARCELS A - 5  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|                 |          |                   |             |
|-----------------|----------|-------------------|-------------|
| JCH DESIGN      | SCALE    | HOR. 1"=50'       | VERT. 1"=5' |
| JRC / MTY DRAWN | 15 OF 30 |                   |             |
| RHM CHECKED     | SHEET    |                   |             |
| FEB. 1989 DATE  | JOB No.  | E-1121-X FILE No. |             |

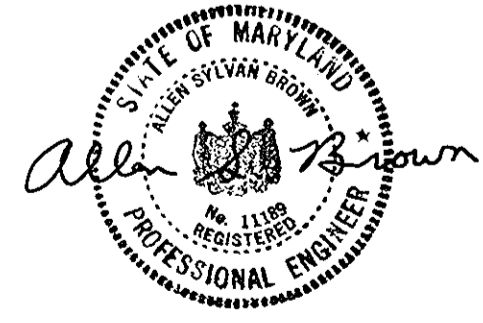


DETAIL TYPICAL SILT TRAPPING INLET  
NO SCALE

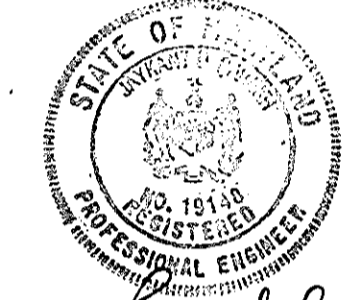
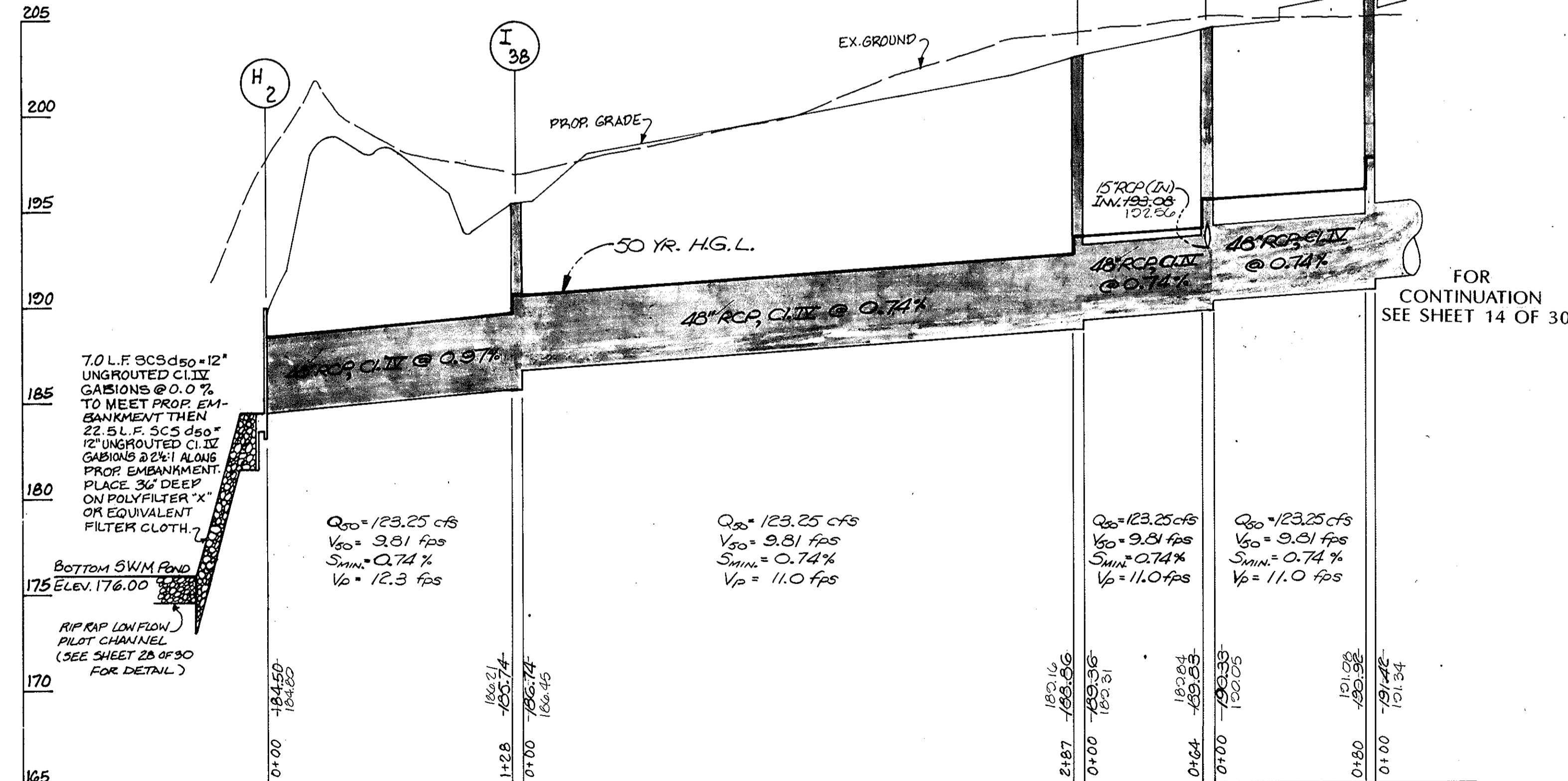
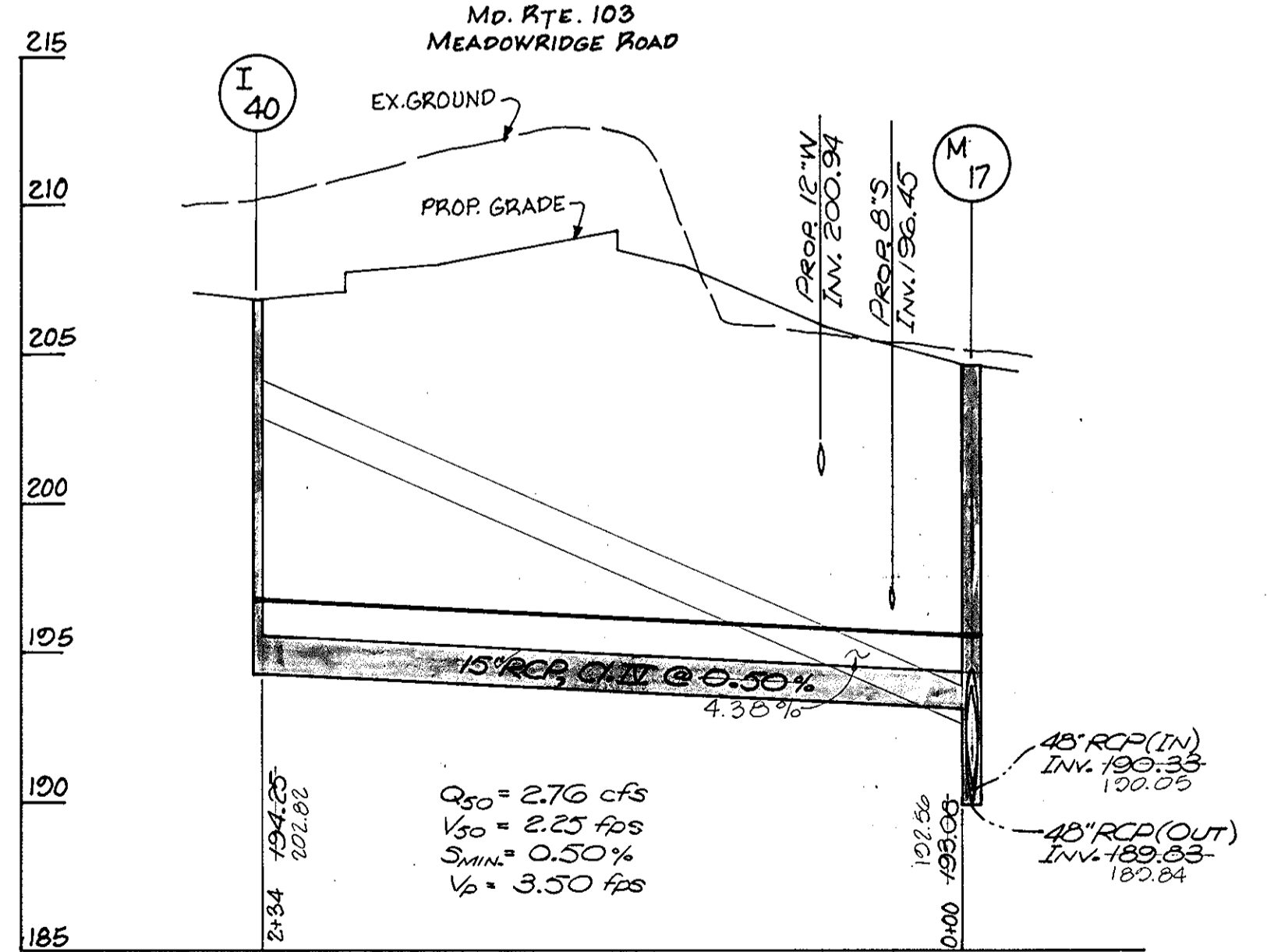


SOD DRAINAGE CHANNEL  
TYPICAL SECTION @ OUTFALL  
FROM H-S TO EX. CHANNEL  
SCALE: NONE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 DATE: 10-11-89  
 DATE: 9/27/89



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE: 11/17/89



J. Parekh  
 JAYKANT D. PAREKH #10148  
 DATE: 9.1.92

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |
|     |          |      |    |
|     |          |      |    |

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**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
 (301) 296-4100

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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

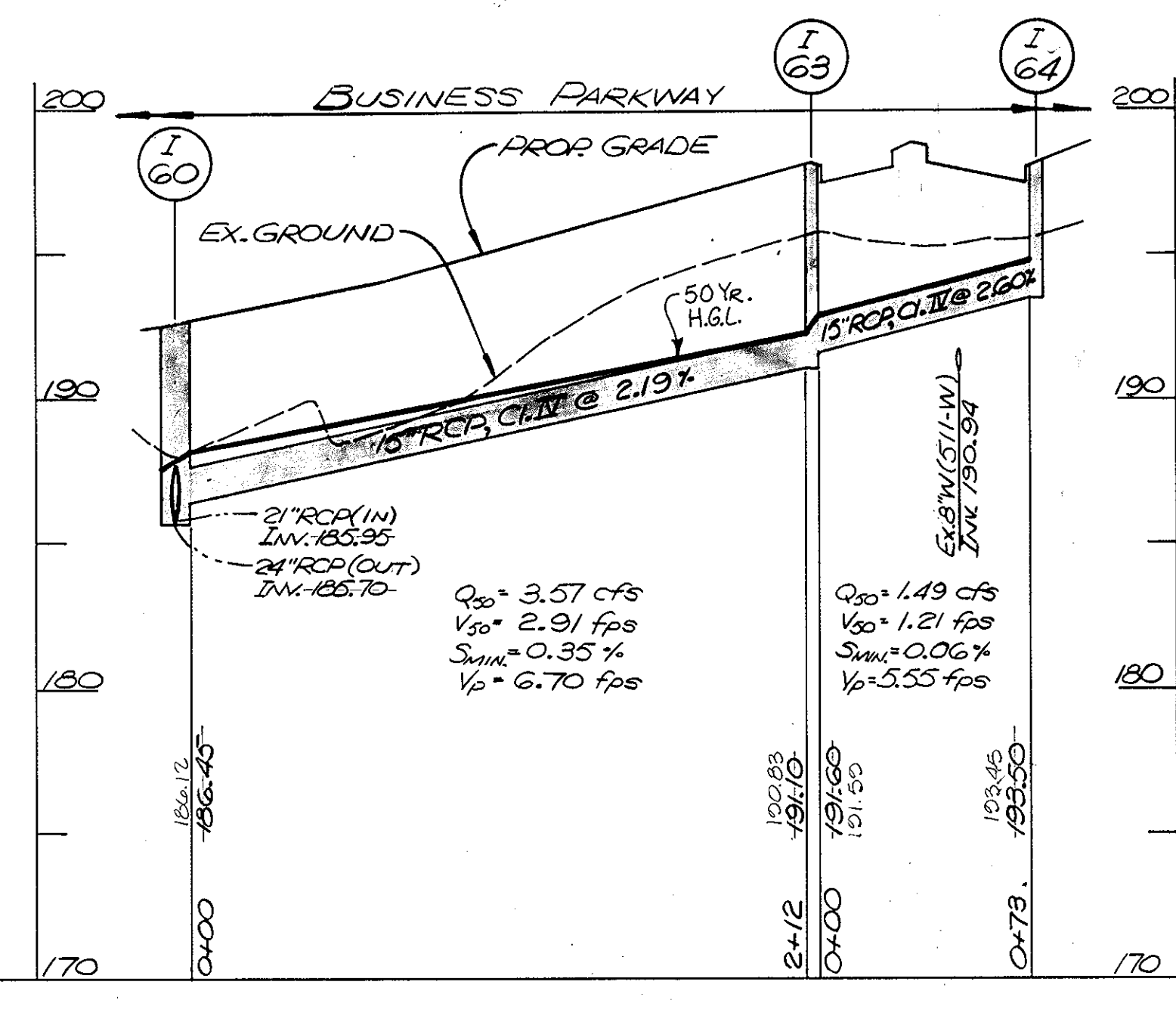
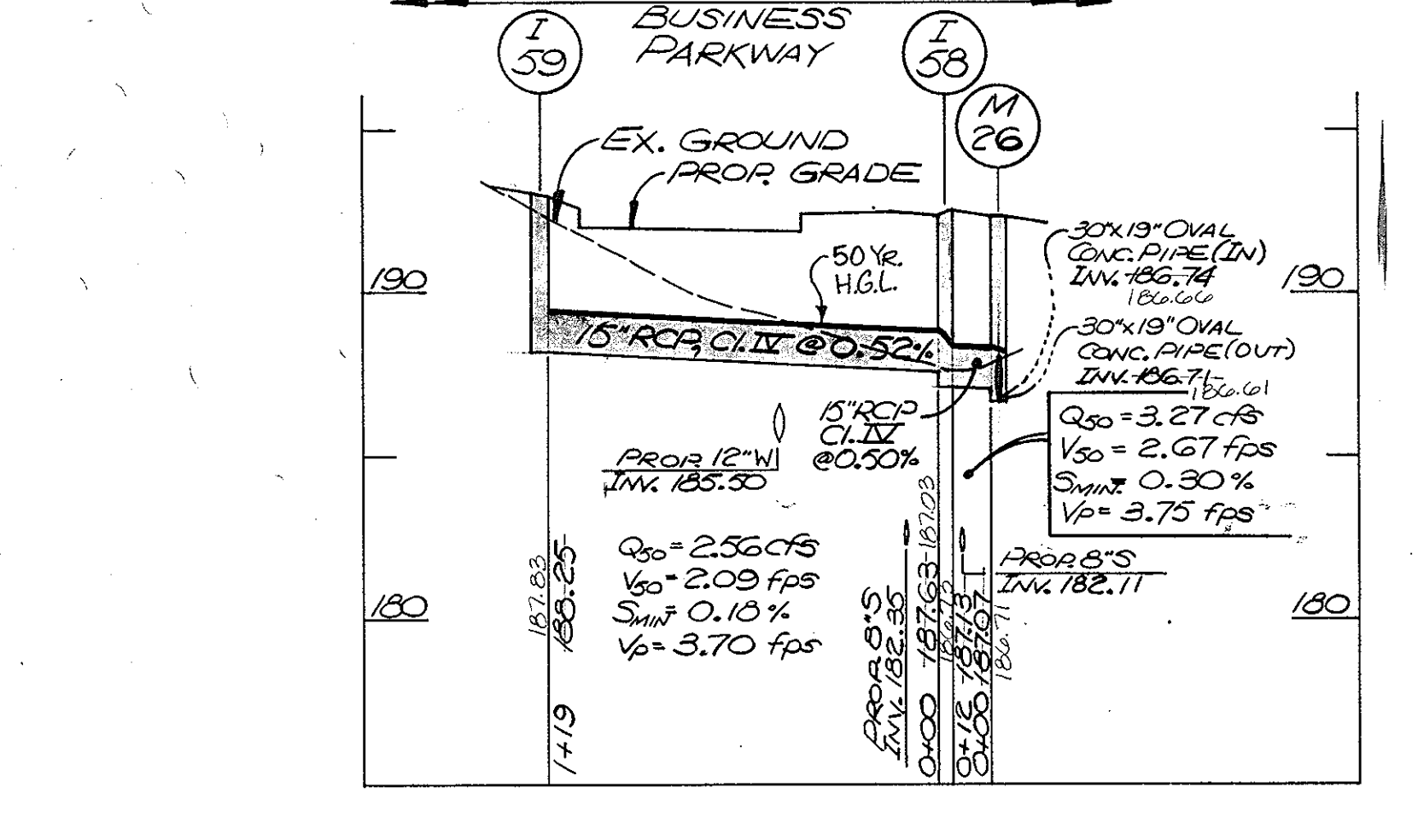
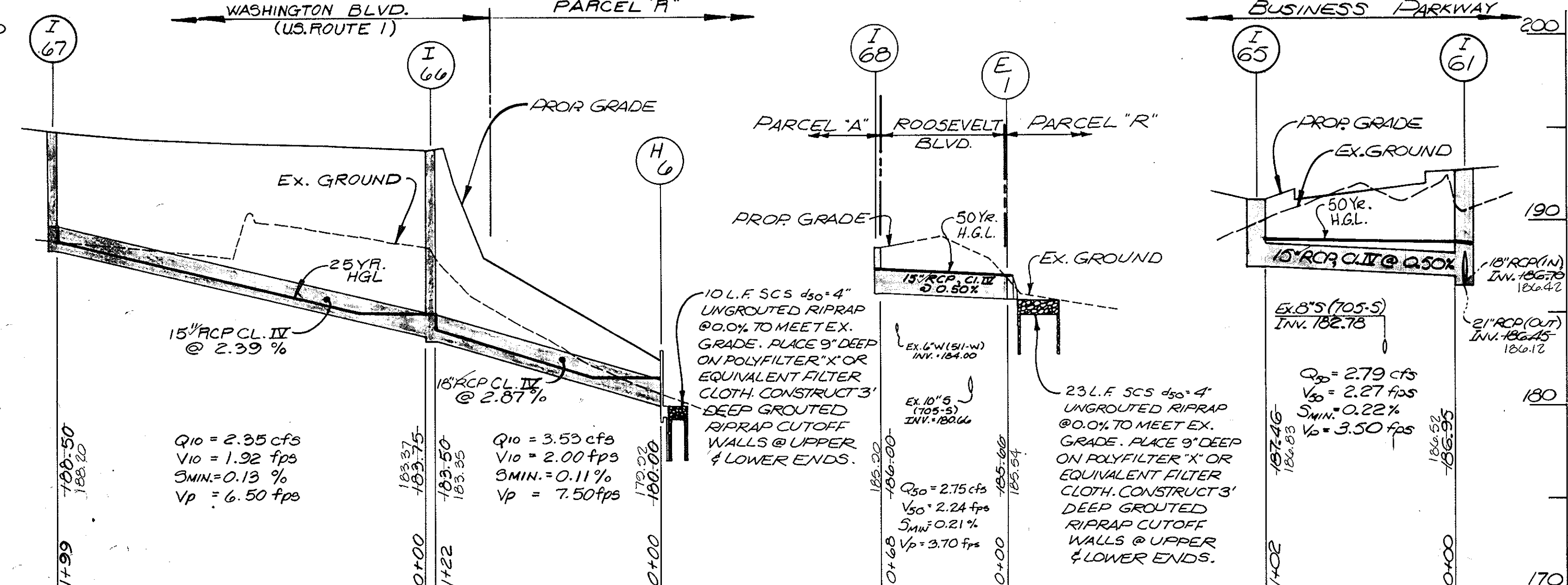
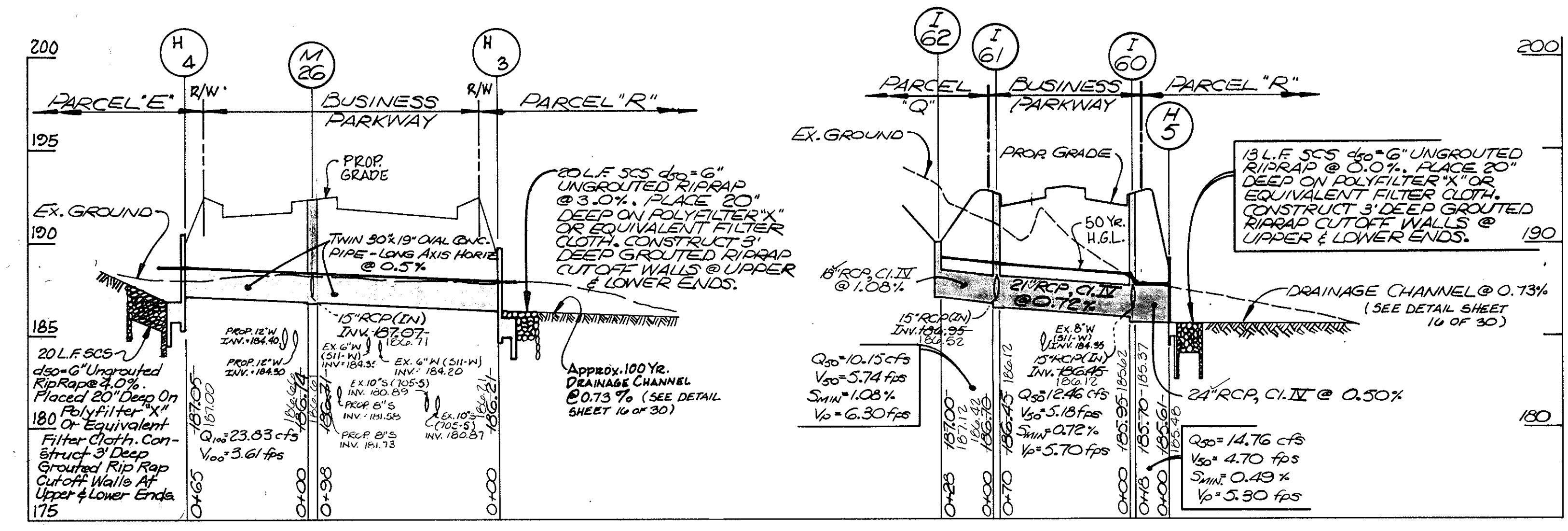
**STORM DRAIN PROFILES**  
 PARCELS A-S  
**MEADOWRIDGE BUSINESS PARK**

LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|                 |                   |
|-----------------|-------------------|
| JCH DESIGN      | HOR. 1"=50'       |
| JRC / MTY DRAWN | SCALE VERT. 1"=5' |
| RHM CHECKED     | <b>16 OF 30</b>   |
| FEB., 1989      | SHEET             |
| DATE            | JOB No.           |
|                 | B-112-X FILE No.  |





| STRUCTURE NO.  | TYPE                                  | INVERT |        | TOP ELEVATION |        | LOCATION          | STRUCTURE NO. | TYPE | INVERT |     | TOP ELEVATION |       | LOCATION |
|--|---------------------------------------|--------|--------|---------------|--------|-------------------|---------------|------|--------|-----|---------------|-------|----------|
|  |                                       | IN     | OUT    | UPPER         | LOWER  |                   |               |      | IN     | OUT | UPPER         | LOWER |          |
| I-21   | A-5 INLET                             | 180.40 | 180.35 | 194.74        | 194.65 | E BOX - 32'24\"/> |               |      |        |     |               |       |          |
| I-22   | "                                     | 192.75 | 192.25 | 197.31        | 197.24 | E BOX - 28'91\"/> |               |      |        |     |               |       |          |
| I-23   | "                                     | 194.22 | 193.79 | 199.45        | 199.37 | E BOX - 25'31\"/> |               |      |        |     |               |       |          |
| I-24   | "                                     | 195.41 | 194.91 | 200.87        | 200.81 | E BOX - 22'75\"/> |               |      |        |     |               |       |          |
| I-25   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 196.72 | 200.50        | 200.45 | E BOX - 40'00\"/> |               |      |        |     |               |       |          |
| I-26   | A-5 INLET                             | -      | 198.25 | 202.67        | 202.60 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-27   | "                                     | 199.66 | 199.41 | 205.19        | 205.02 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-28   | A-10 INLET                            | 203.15 | 203.12 | 209.78        | 209.51 | E BOX - 40'00\"/> |               |      |        |     |               |       |          |
| I-29   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 205.45 | 208.74        | 208.64 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-30   | A-10 INLET                            | 216.35 | 215.85 | 219.90        | 219.43 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-31   | "                                     | 224.50 | 224.00 | 228.22        | 227.66 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-32   | "                                     | 233.85 | 233.35 | 237.45        | 236.91 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-33   | "                                     | 242.55 | 242.05 | 247.37        | 246.79 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-34   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 244.75 | 249.00        | 248.83 | E BOX - 32'70\"/> |               |      |        |     |               |       |          |
| I-35   | A-10 INLET                            | 253.40 | 252.90 | 257.03        | 256.69 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-36   | A-5 INLET                             | -      | 259.40 | 263.11        | 263.04 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| SEE SHEET 26 OF 30 FOR CONTINUATION OF STRUCTURE TABLE |                                       |        |        |               |        |                   |               |      |        |     |               |       |          |
| I-38   | STD. 'WRM' INLET                      | 186.74 | 185.74 | 195.70        | 195.33 | E BOX - 13'00\"/> |               |      |        |     |               |       |          |
| I-39   | "                                     | 189.36 | 188.86 | 203.67        | 203.14 | E BOX - 13'00\"/> |               |      |        |     |               |       |          |
| I-40   | SINGLE 'WR' INLET                     | -      | 194.25 | 206.83        | 207.37 | E BOX - 13'00\"/> |               |      |        |     |               |       |          |
| I-41   | A-5 INLET                             | 191.42 | 190.72 | 206.54        | 206.48 | E BOX - 34'82\"/> |               |      |        |     |               |       |          |
| I-42   | A-10 INLET                            | 198.70 | 197.13 | 206.54        | 206.48 | E BOX - 35'00\"/> |               |      |        |     |               |       |          |
| I-43   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 202.71 | 206.50        | 206.44 | E BOX - 48'30\"/> |               |      |        |     |               |       |          |
| I-44   | A-5 INLET                             | -      | 204.35 | 208.71        | 208.66 | E BOX - 25'92\"/> |               |      |        |     |               |       |          |
| I-45   | "                                     | 208.29 | 207.79 | 209.53        | 209.47 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-46   | A-10 INLET                            | 208.29 | 205.27 | 212.28        | 212.05 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-47   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 208.66 | 208.16        | 212.16 | E BOX - 40'00\"/> |               |      |        |     |               |       |          |
| I-48   | A-10 INLET                            | 211.00 | 210.90 | 217.85        | 217.52 | E BOX - 38'30\"/> |               |      |        |     |               |       |          |
| I-49   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 220.35 | 223.75        | 223.62 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-50   | A-10 INLET                            | 220.15 | 220.11 | 225.85        | 225.49 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-51   | "                                     | 221.33 | 220.00 | 222.50        | 222.38 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-52   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 219.71 | 219.21        | 223.33 | E BOX - 40'00\"/> |               |      |        |     |               |       |          |
| I-53   | A-10 INLET                            | 232.10 | 231.80 | 237.78        | 237.24 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-54   | "                                     | 243.10 | 242.60 | 249.25        | 248.75 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-55   | "                                     | 252.90 | 252.40 | 258.87        | 258.60 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-56   | STD. SINGLE OPENING TYPE 'K' INLET    | -      | 254.65 | 258.77        | 258.69 | E BOX - 41'00\"/> |               |      |        |     |               |       |          |
| I-57   | A-5 INLET                             | -      | 258.66 | 263.36        | 263.29 | E BOX - 22'00\"/> |               |      |        |     |               |       |          |
| I-58   | A-5 INLET *                           | 197.63 | 197.13 | 192.48        | 192.45 | E BOX - 10'00\"/> |               |      |        |     |               |       |          |
| I-59   | A-10 INLET *                          | 193.25 | 192.75 | 192.81        | 192.81 | E BOX - 24'21\"/> |               |      |        |     |               |       |          |
| I-60   | A-10 INLET *                          | 195.45 | 194.95 | 192.60        | 192.45 | E BOX - 34'05\"/> |               |      |        |     |               |       |          |
| I-61   | A-10 INLET *                          | 198.95 | 198.45 | 192.61        | 192.46 | E BOX - 34'05\"/> |               |      |        |     |               |       |          |
| I-62   | STD. SINGLE OPENING TYPE 'K' INLET ** | -      | 197.00 | 197.00        | 197.00 | E BOX - 38'8\"/>  |               |      |        |     |               |       |          |
| I-63   | A-5 INLET *                           | 191.50 | 191.50 | 198.16        | 198.01 | E BOX - 35'97\"/> |               |      |        |     |               |       |          |
| I-64   | A-10 INLET *                          | 193.30 | 192.80 | 193.23        | 193.14 | E BOX - 35'36\"/> |               |      |        |     |               |       |          |
| I-65   | A-10 INLET *                          | -      | 197.45 | 197.07        | 197.07 | E BOX - 34'0\"/>  |               |      |        |     |               |       |          |
| I-66   | 10' COG INLET *                       | 193.35 | 193.50 | 193.90        | 193.73 | E BOX - 12'45\"/> |               |      |        |     |               |       |          |
| I-67   | 15' COG INLET *                       | -      | 193.50 | 194.91        | 194.80 | E BOX - 12'45\"/> |               |      |        |     |               |       |          |
| I-68   | HO. CO. 'K' INLET **                  | -      | 182.00 | 182.50        | 182.50 | E BOX - 75'50\"/> |               |      |        |     |               |       |          |
| I-69   | 5' COG INLET                          | -      | 172.27 | 172.03        | 172.03 | E BOX - 55'97\"/> |               |      |        |     |               |       |          |
| I-11   | 5\"/>                                 |        |        |               |        |                   |               |      |        |     |               |       |          |
| I-12   | 5\"/>                                 |        |        |               |        |                   |               |      |        |     |               |       |          |
| I-13   | 5\"/>                                 |        |        |               |        |                   |               |      |        |     |               |       |          |

| PIPE SCHEDULE |                |            |
|---------------|----------------|------------|
| SIZE          | TYPE           | LENGTH (#) |
| 15"           | CI.IV RCP      | 2614       |
| 18"           | CI.IV RCP      | 391        |
| 21"           | CI.IV RCP      | 292        |
| 24"           | CI.IV RCP      | 489        |
| 27"           | CI.IV RCP      | 132        |
| 36"           | CI.IV RCP      | 1487       |
| 42"           | CI.IV RCP      | 198        |
| 48"           | CI.IV RCP      | 1650       |
| 30x19'        | OV. CONG. PIPE | 331        |
| 30"           | CI.IV RCP      | 175        |
| 33"           | CI.IV RCP      | 481        |

**STATE OF MARYLAND**  
**REGISTERED PROFESSIONAL ENGINEER**  
 J. Farrell  
 JAWKAIT D. PAREKH #10148  
 DATE 9.1.92

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 Chief, Bureau of Engineering  
 DATE 10.11.89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE 9/27/89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 DATE 9/27/89

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |



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**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
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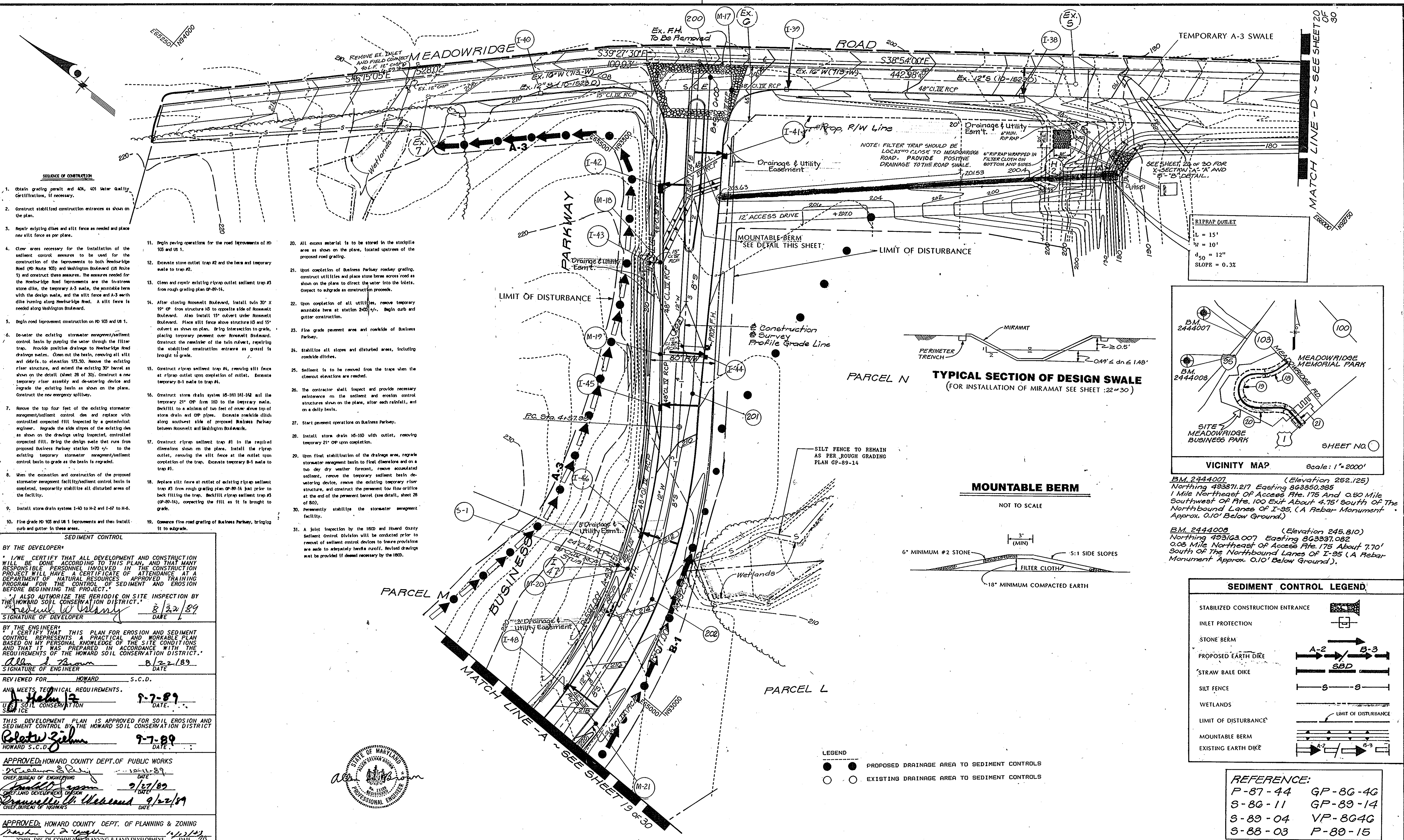
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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

**STORM DRAIN PROFILES**  
 PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
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JCH DESIGN  
 MTY DRAWN  
 RHM CHECKED  
 DATE FEB. 1989

HOR. 1"=50'  
 SCALE  
 SHEET 17 OF 30  
 JOB No. B-1121-X  
 FILE No.

F-89-163



- SEQUENCE OF CONSTRUCTION**
- Obtain grading permit and 404, 401 later dually certification, if necessary.
  - Construct stabilized construction entrances as shown on the plan.
  - Repair existing dikes and silt fence as needed and place new silt fence as per plan.
  - Clear areas necessary for the installation of the sediment control measures to be used for the construction of the improvements to both Meadowridge Road (MD Route 103) and Washington Boulevard (US Route 1) and construct these measures. The measures needed for the Meadowridge Road improvements are the in-stream stone dikes, the temporary A-3 walls, the roadside berm with the design swale, and the silt fence and A-3 wall dikes turning along Meadowridge Road. A silt fence is needed along Washington Boulevard.
  - Begin road improvement construction on MD 103 and US 1.
  - De-water the existing stormwater management/sediment control basin by pumping the water through the filter trap. Provide positive drainage to Meadowridge road drainage swale. Clean out the basin, removing all silt and debris to elevation 173.50. Remove the existing riser structure, and extend the existing 30" barrel as shown on the detail (sheet 28 of 30). Construct a new temporary riser assembly and de-watering device and regrade the existing basin as shown on the plan. Construct the new emergency spillway.
  - Remove the top four feet of the existing stormwater management/adjacent control dike and replace with controlled compacted fill inspected by a geotechnical engineer. Regrade the side slopes of the existing dike as shown on the drawings using inspected, controlled compacted fill. Bring the design side dike run from proposed Business Parkway station 1470 +/- to the existing temporary stormwater management/sediment control basin to the basin as required.
  - When the excavation and construction of the proposed stormwater management facility/sediment control basin is completed, temporarily stabilize all disturbed areas of the facility.
  - Install storm drain system 1-40 to H-2 and I-67 to H-6.
  - Final grade MD 103 and US 1 improvements and then install curb and gutter in these areas.
  - Begin paving operations for the road improvements of MD 103 and US 1.
  - Excavate stone outlet trap #2 and the berm and temporary swale to trap #2.
  - Clean and repair existing riprap outlet sediment trap #3 from rough grading plan GP-89-14.
  - After closing Roosevelt Boulevard, install twin 30" X 10' CP from structure 10 to opposite side of Roosevelt Boulevard. Also install 15' culvert under Roosevelt Boulevard. Place silt fence above structure 10 and 15' culvert as shown on plan. Bring intersection to grade, placing temporary pavement over Roosevelt Boulevard.
  - Final grade pavement area and roadside of Business Parkway.
  - Stabilize all slopes and disturbed areas, including roadside ditches.
  - Sediment is to be removed from the trace when the clearance elevations are reached.
  - The contractor shall inspect and provide necessary maintenance on the sediment and erosion control structures shown on the plans, after each rainfall, and on a daily basis.
  - Start pavement operations on Business Parkway.
  - Install storm drain 10-100 with outlet, removing temporary 21" CP upon completion.
  - Upon final stabilization of the drainage area, regrade stormwater management basin to final dimension and on a two day dry weather forecast, remove accumulated sediment, remove the temporary sediment basin de-watering device, remove the existing temporary riser structure, and construct the permanent low flow orifice at the end of the permanent barrel (see detail, sheet 28 of 30).
  - Permanently stabilize the stormwater management facility.
  - A joint inspection by the 1800 and Howard County Sediment Control Division will be conducted prior to removal of sediment control devices to insure provisions are made to adequately handle runoff. Revised drawings must be provided if deemed necessary by the 1800.

**SEDIMENT CONTROL**  
BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT MANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE OBTAINED CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.  
I ALSO AUTHORIZE THE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Richard W. Volany* 8/22/89  
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Allen J. Brown* 8/22/89  
SIGNATURE OF ENGINEER DATE

REVIEWED FOR: HOWARD S.C.D.  
AND MEETS TECHNICAL REQUIREMENTS.  
*J. Helm* 9-7-89  
U.S. SOIL CONSERVATION SERVICE DATE

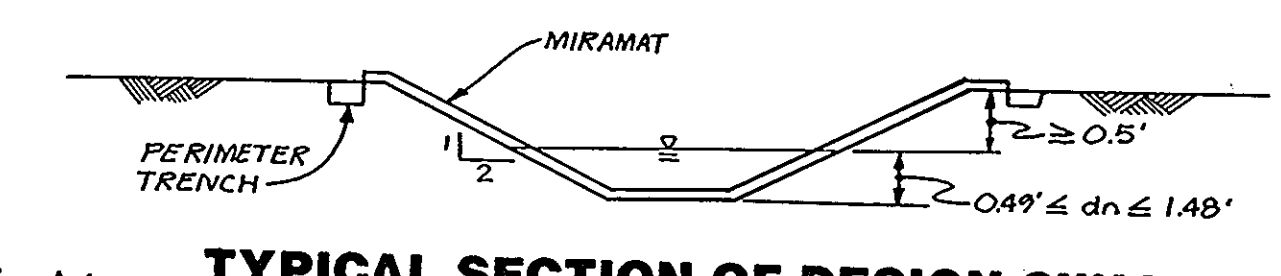
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
*Robert Zehner* 9-7-89  
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*DC* 9/17/89  
CHIEF BUREAU OF ENGINEERING DATE  
*Donald W. McLeod* 9/22/89  
CHIEF BUREAU OF HIGHWAYS DATE

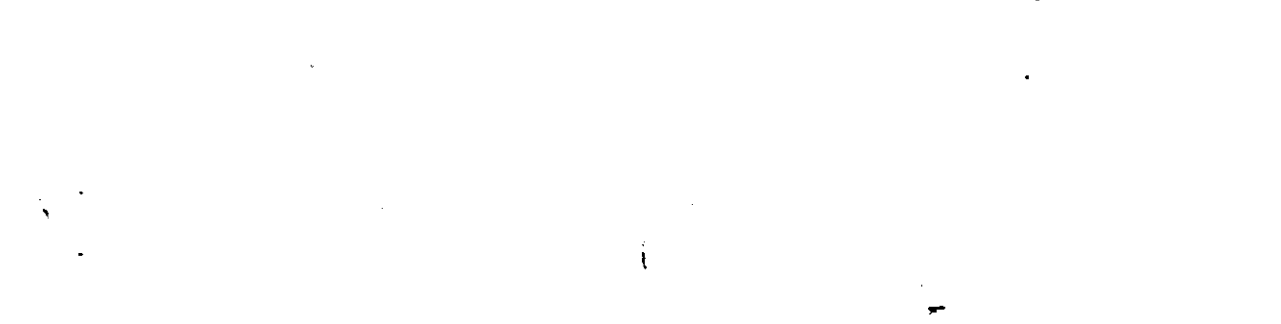
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Paul J. ...* 9/22/89  
CHIEF DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

OWNER/DEVELOPER  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
PH. (301) 381-4444

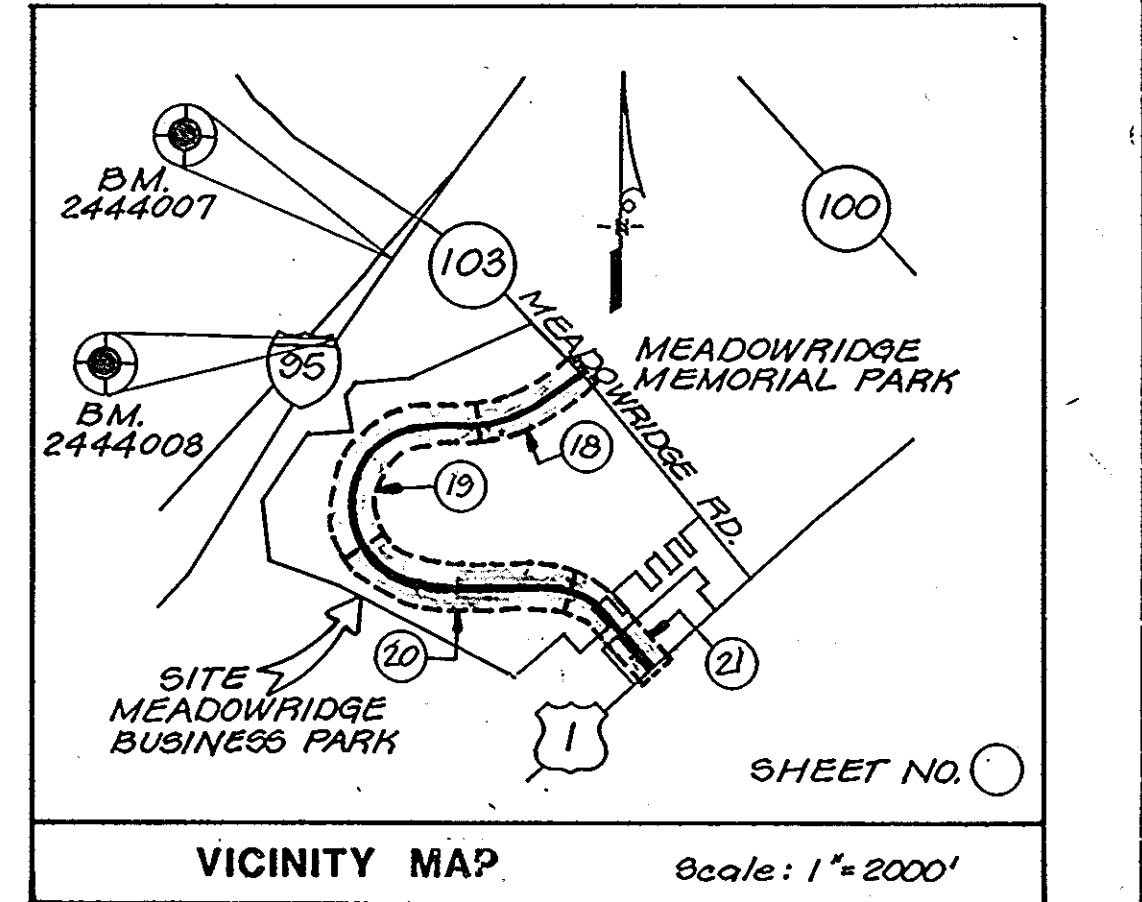
- All access material is to be stored in the stockpile area as shown on the plans, located upstream of the proposed road grading.
- Upon completion of Business Parkway roadway grading, construct utilities and place stone berms across road as shown on the plans to direct the water into the inlets. Compact to subgrade as construction proceeds.
- Upon completion of all utilities, remove temporary portable berms at station 2402 +/-.
- Final grade pavement area and roadside of Business Parkway.
- Stabilize all slopes and disturbed areas, including roadside ditches.
- Sediment is to be removed from the trace when the clearance elevations are reached.
- The contractor shall inspect and provide necessary maintenance on the sediment and erosion control structures shown on the plans, after each rainfall, and on a daily basis.
- Start pavement operations on Business Parkway.
- Install storm drain 10-100 with outlet, removing temporary 21" CP upon completion.
- Upon final stabilization of the drainage area, regrade stormwater management basin to final dimension and on a two day dry weather forecast, remove accumulated sediment, remove the temporary sediment basin de-watering device, remove the existing temporary riser structure, and construct the permanent low flow orifice at the end of the permanent barrel (see detail, sheet 28 of 30).
- Permanently stabilize the stormwater management facility.
- A joint inspection by the 1800 and Howard County Sediment Control Division will be conducted prior to removal of sediment control devices to insure provisions are made to adequately handle runoff. Revised drawings must be provided if deemed necessary by the 1800.



**TYPICAL SECTION OF DESIGN SWALE**  
(FOR INSTALLATION OF MIRAMAT SEE SHEET 22 OF 30)



**MOUNTABLE BERM**  
NOT TO SCALE



**B.M. 2444007** (Elevation 262.125)  
Northing 493871.217 Easting 863350.385  
1 Mile Northeast of Access Rte. 175 And 0.50 Mile Southwest of Rte. 100 Exit About 4.75' South of The Northbound Lanes of I-95. (A Rebar Monument Approx. 0.10' Below Ground).

**B.M. 2444008** (Elevation 245.810)  
Northing 493163.007 Easting 863337.082  
0.08 Mile Northeast of Access Rte. 175 About 7.70' South of The Northbound Lanes of I-95. (A Rebar Monument Approx. 0.10' Below Ground).

**SEDIMENT CONTROL LEGEND**

|                                  |  |
|----------------------------------|--|
| STABILIZED CONSTRUCTION ENTRANCE |  |
| INLET PROTECTION                 |  |
| STONE BERM                       |  |
| PROPOSED EARTH DIKE              |  |
| STRAW BALE DIKE                  |  |
| SILT FENCE                       |  |
| WETLANDS                         |  |
| LIMIT OF DISTURBANCE             |  |
| MOUNTABLE BERM                   |  |
| EXISTING EARTH DIKE              |  |

**REFERENCE:**

|         |          |
|---------|----------|
| P-87-44 | GP-86-46 |
| S-86-11 | GP-89-14 |
| S-89-04 | VP-8646  |
| S-88-03 | P-80-15  |



| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |
|     |          |      |    |

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**GREENHORNE & O'MARA, INC.**  
113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
(301) 296-4100

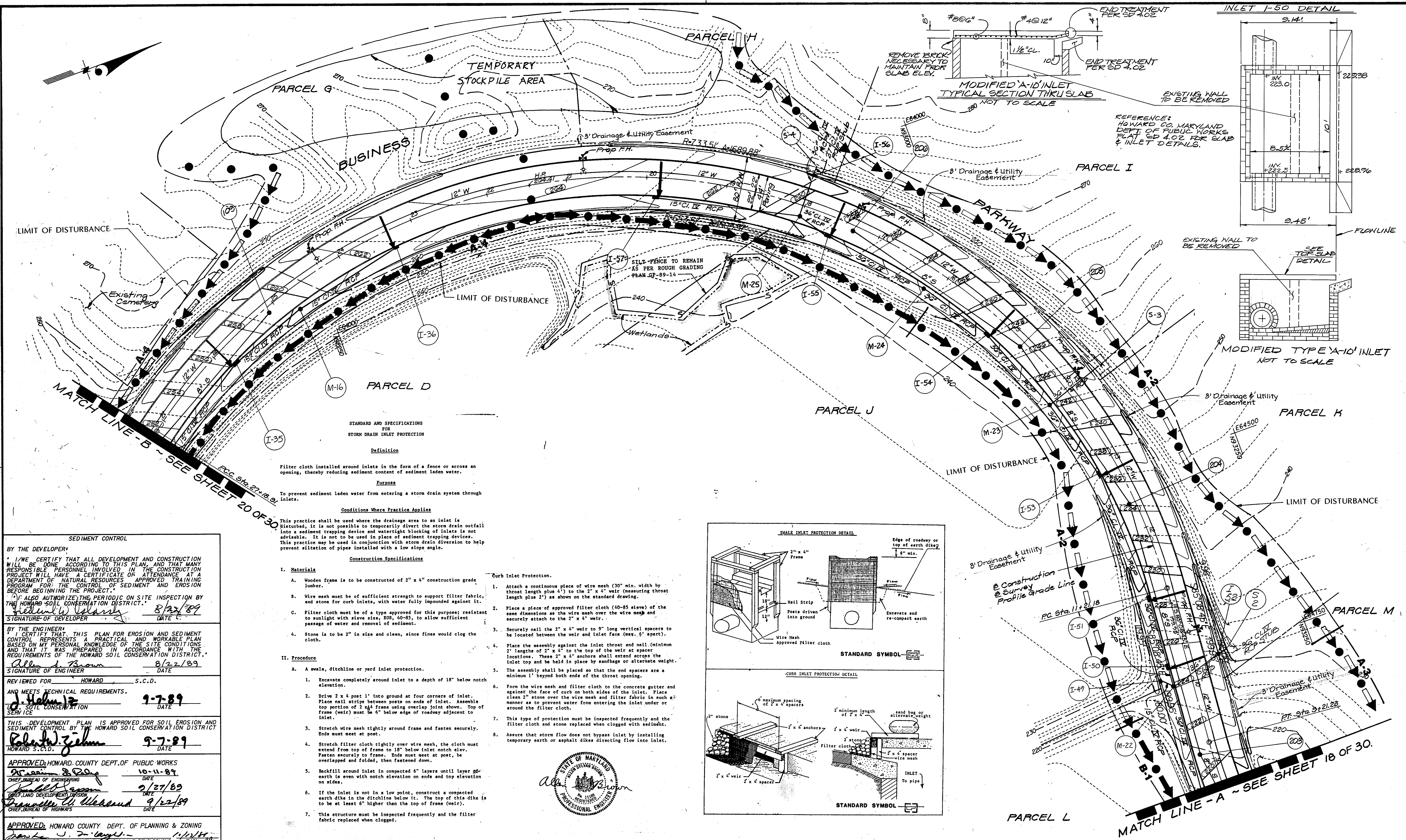
ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • DULUTH, GA • EXPORT, PA • FAIRFAX, VA • GREENBELT, MD  
LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

SEDIMENT CONTROL PLAN  
BUSINESS PARKWAY (E STA. 0+00 TO E STA. 8+70)

**MEADOWRIDGE BUSINESS PARK**  
PARCELS A-S  
LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
ZONE 1-M-1  
1st. ELECTION DISTRICT

TJW DESIGN SCALE 1" = 50'  
RPL DRAWN  
MFF/RHM CHECKED SHEET  
JAN. 1989 DATE  
JOB No. B-1121-X  
FILE No.

18 OF 30



**STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION**

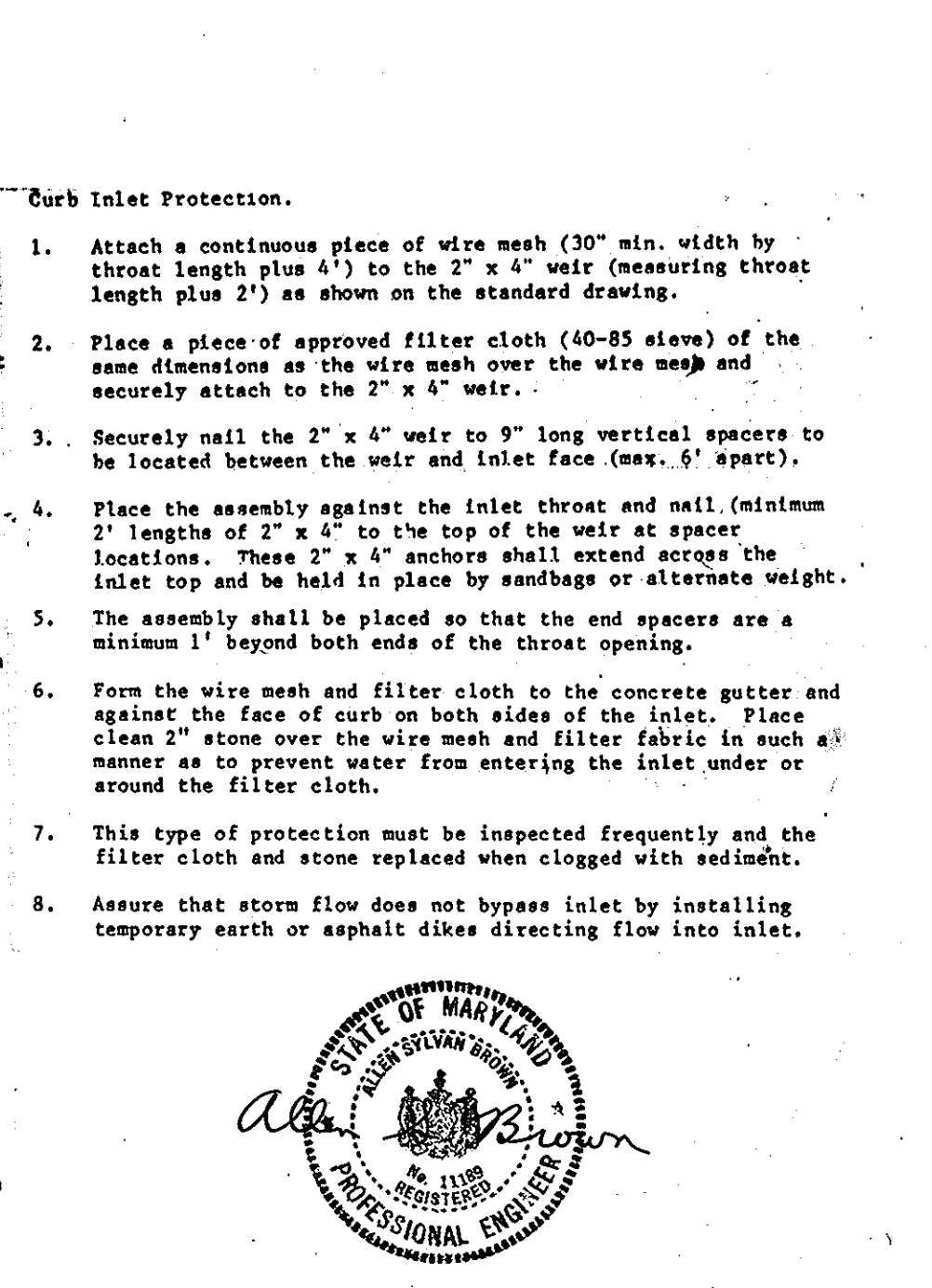
**Definition**  
Filter cloth installed around inlets in the form of a fence or across an opening, thereby reducing sediment content of sediment laden water.

**Purpose**  
To prevent sediment laden water from entering a storm drain system through inlets.

**Conditions Where Practice Applies**  
This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a sediment trapping device and watertight blocking of inlets is not advisable. It is not to be used in place of sediment trapping devices. This practice may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with a low slope angle.

**Construction Specifications**

- I. Materials**
- Wooden frame is to be constructed of 2" x 4" construction grade lumber.
  - Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
  - Filter cloth must be of a type approved for this purpose resistant to sunlight with sieve size, 80S, 40-85, to allow sufficient passage of water and removal of sediment.
  - Stone is to be 2" in size and clean, since fines would clog the cloth.
- II. Procedure**
- A swale, ditchline or yard inlet protection.
    - Excavate completely around inlet to a depth of 18" below notch elevation.
    - Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
    - Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
    - Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
    - Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
    - If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
    - This structure must be inspected frequently and the filter fabric replaced when clogged.



**SEDIMENT CONTROL**

BY THE DEVELOPER:  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT MANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.  
I ALSO AUTHORIZE THE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Richard W. Zelensky* 8/22/89  
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Allen J. Brown* 8/22/89  
SIGNATURE OF ENGINEER DATE

REVIEWED FOR HOWARD S.C.D.  
AND MEETS TECHNICAL REQUIREMENTS.  
*J. Helms* 9-7-89  
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert J. Zelman* 9-7-89  
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*Richard W. Zelensky* 10-11-89  
CHIEF, BUREAU OF ENGINEERING DATE

*Franklin J. Simpson* 9/27/89  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Barbara W. Weiland* 9/22/89  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*James J. ...* 1/12/89  
CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

OWNER/DEVELOPER  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
PH. (301) 381-4444

| No. | REVISION           | DATE    | BY  |
|-----|--------------------|---------|-----|
| 1   | ADDED INLET DETAIL | 4/23/90 | gfo |

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**GREENHORNE & O'MARA, INC.**  
113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
(301) 296-4100

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LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

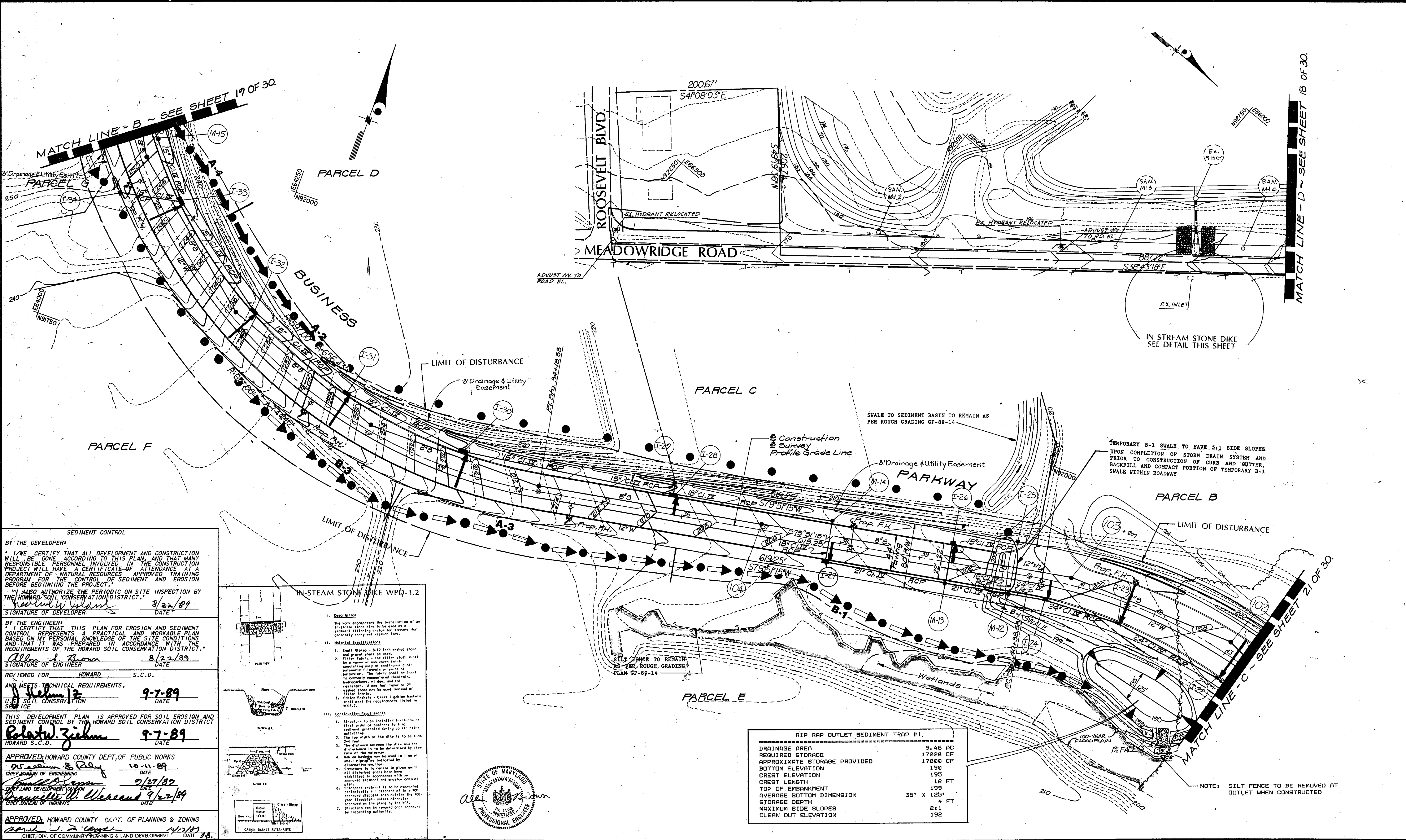
SEDIMENT CONTROL PLAN  
BUSINESS PARKWAY ( E STA. 8+70 TO E STA. 27+20 )  
**MEADOWRIDGE BUSINESS PARK**  
LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
ZONE: M-1  
1st. ELECTION DISTRICT

PARCELS A-S

ZONING MAPS 37-43  
HOWARD CO., MARYLAND

TJW DESIGN SCALE 1" = 50'  
RIP DRAWN  
MFF/RHM CHECKED SHEET  
JAN. 1989 DATE JOB No. 6-112-X  
FILE No.

**19 OF 30**



**SEDIMENT CONTROL**

BY THE DEVELOPER  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT MANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.  
 I ALSO AUTHORIZE THE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature of Developer: *John W. Ziehm* DATE: 3/22/89

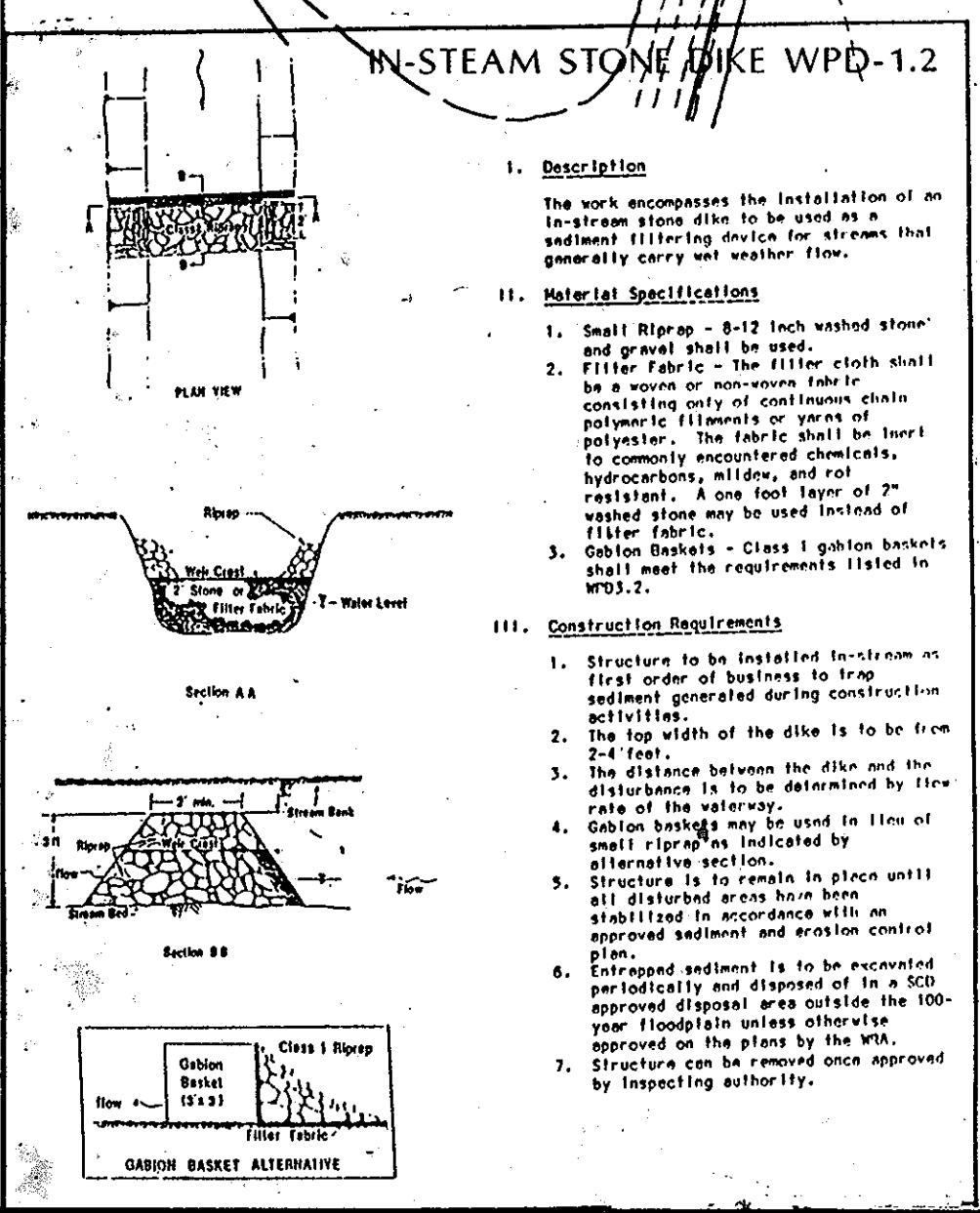
BY THE ENGINEER  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature of Engineer: *John W. Ziehm* DATE: 8/22/89

REVIEWED FOR HOWARD S.C.D.  
 AND MEETS TECHNICAL REQUIREMENTS.  
 U.S. SOIL CONSERVATION SERVICE  
 Signature: *John W. Ziehm* DATE: 9-7-89

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
 Signature: *John W. Ziehm* DATE: 9-7-89

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 Signature: *John W. Ziehm* DATE: 10-11-89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Signature: *John W. Ziehm* DATE: 10/2/89



- 1. Description**  
 The work encompasses the installation of an in-stream stone dike to be used as a sediment filtering device for streams that generally carry no weather flow.
- II. Material Specifications**
- Small Riprap - 8-12 inch washed stone and gravel shall be used.
  - Filter Fabric - The filter cloth shall be a woven or nonwoven fabric containing only of suitable chain polymer filaments or yarns of polyester. The fabric shall be torn to completely encase rocks, hydrocarbons, silt, and roll resistant. A one foot layer of 2" washed stone may be used instead of filter fabric.
  - Carbon Baskets - Class I galton baskets shall meet the requirements listed in WPS-2.
- III. Construction Requirements**
- Structure to be installed in-stream in final order of business to trap sediment generated during construction activities.
  - The top width of the dike is to be from 2-4 feet.
  - The distance between the dike and the disturbance is to be determined by the rate of the velocity.
  - Galton baskets may be used in place of small riprap as indicated by alternative section.
  - Structure is to remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan.
  - Entrapped sediment is to be excavated periodically and disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WPA.
  - Structure can be removed once approved by inspecting authority.

**RIP RAP OUTLET SEDIMENT TRAP #1.**

|                              |            |
|------------------------------|------------|
| DRAINAGE AREA                | 9.46 AC    |
| REQUIRED STORAGE             | 17028 CF   |
| APPROXIMATE STORAGE PROVIDED | 17800 CF   |
| BOTTOM ELEVATION             | 190        |
| CREST ELEVATION              | 195        |
| CREST LENGTH                 | 12 FT      |
| TOP OF EMBANKMENT            | 199        |
| AVERAGE BOTTOM DIMENSION     | 35' X 125' |
| STORAGE DEPTH                | 4 FT       |
| MAXIMUM SIDE SLOPES          | 2:1        |
| CLEAN OUT ELEVATION          | 192        |



| OWNER/DEVELOPER<br>MEADOWRIDGE INDUSTRIAL PARTNERSHIP<br>10005 OLD COLUMBIA ROAD<br>COLUMBIA, MARYLAND 21046<br>PH. (301) 381-4444 | <table border="1"> <tr><th>No.</th><th>REVISION</th><th>DATE</th><th>BY</th></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table> | No. | REVISION | DATE | BY |  |  |  |  |  |  |  |  |  |  |  |  | <p><b>GREENHORNE &amp; O'MARA, INC.</b><br/>         113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204<br/>         (301) 296-4100</p> <p>ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • DULUTH, GA • EXPORT, PA • FAIRFAX, VA • GREENBELT, MD<br/>         LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL</p> | <p>SEDIMENT CONTROL PLAN<br/>         BUSINESS PARKWAY (E STA. 27+20 TO STA. 43+20)</p> <p><b>MEADOWRIDGE BUSINESS PARK</b></p> <p>PARCELS A-5<br/>         LIBER 1419, FOLIO 500 TAX MAPS 37 &amp; 43, P. 177, 178, 362, P/O 375<br/>         WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49<br/>         ZONE M-1<br/>         1ST. ELECTION DISTRICT</p> <p>HOWARD CO., MARYLAND</p> | TJW DESIGN<br>SCALE 1" = 50'<br>RLP DRAWN<br>MFF/RHM/CHECKED<br>SHEET<br>JAN. 1989<br>DATE<br>JOB No. | 20 of 30<br>B-1121-X<br>FILE No. |
|--|--|-----|----------|------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|----------------------------------|
|  |  | No. | REVISION | DATE | BY |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |                                  |
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| 5-DEC-1988   | F-89-163   |     |          |      |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |                                  |

**SEDIMENT CONTROL**

BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT MANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.  
 I ALSO AUTHORIZE THE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert W. Blanton* 8/22/89  
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Allen S. Brown* 8/22/89  
 SIGNATURE OF ENGINEER DATE

REVIEWED FOR: HOWARD S.C.D.  
 AND MEETS TECHNICAL REQUIREMENTS.  
*J. Helms* 9-7-89  
 U.S. SOIL CONSERVATION SERVICE DATE

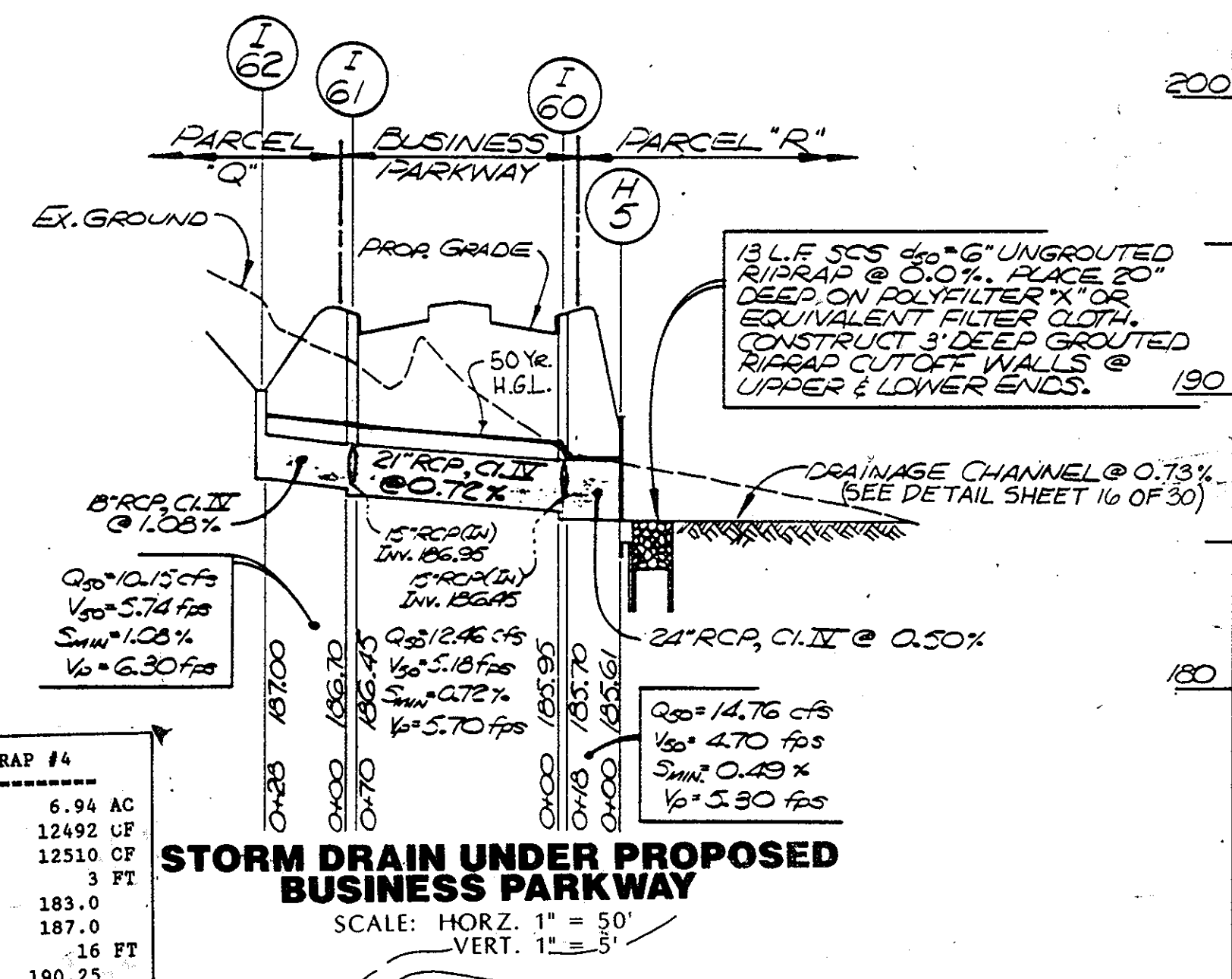
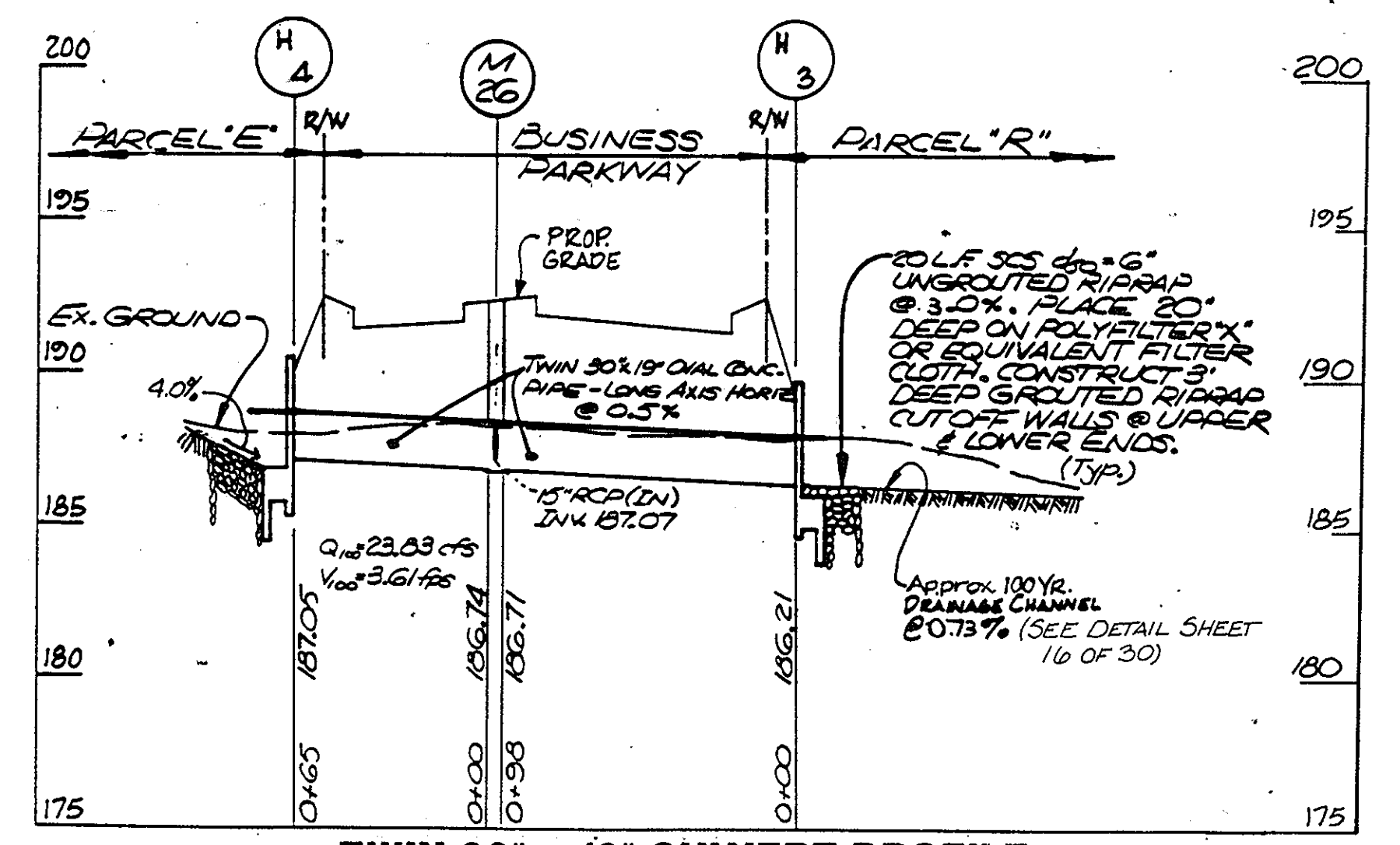
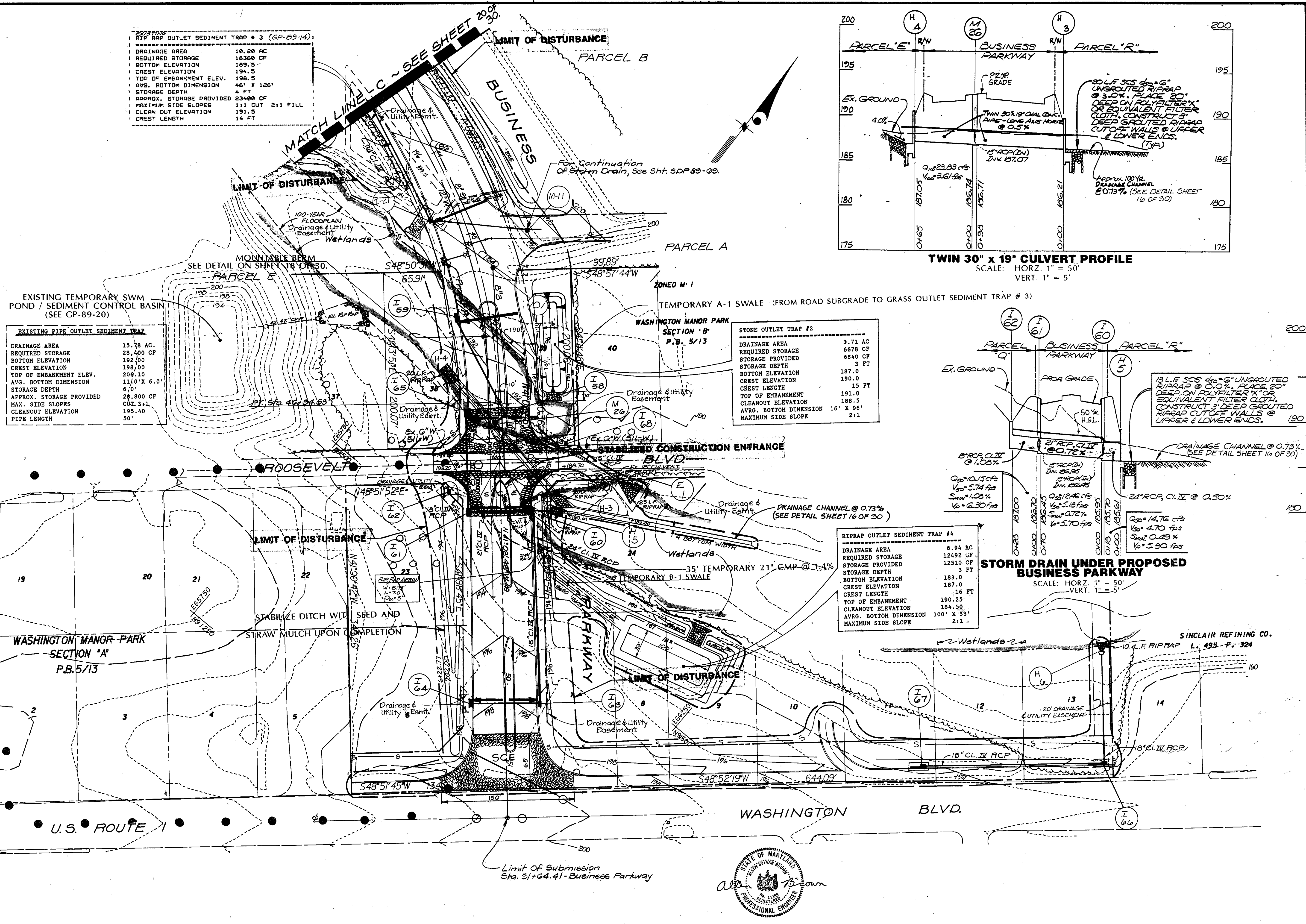
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Robert Ziehm* 9-7-89  
 HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*James R. King* 10-11-89  
 CHIEF BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Paul S. ...* 11-27-89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

22757026  
 RIP RAP OUTLET SEDIMENT TRAP # 3 (GP-89-14)

|                          |                  |
|--------------------------|------------------|
| DRAINAGE AREA            | 18.28 AC         |
| REQUIRED STORAGE         | 18360 CF         |
| BOTTOM ELEVATION         | 189.5            |
| CREST ELEVATION          | 194.5            |
| TOP OF EMBANKMENT ELEV.  | 198.5            |
| AVG. BOTTOM DIMENSION    | 46' X 126'       |
| STORAGE DEPTH            | 4 FT             |
| APPROX. STORAGE PROVIDED | 23400 CF         |
| MAXIMUM SIDE SLOPES      | 1:1 CUT 2:1 FILL |
| CLEAN OUT ELEVATION      | 191.5            |
| CREST LENGTH             | 14 FT            |



OWNER/DEVELOPER  
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 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

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|-----|----------|------|----|
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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

SEDIMENT CONTROL PLAN  
 BUSINESS PARKWAY (E. STA. 43+20 TO E. STA. 51+64.41)

**MEADOWRIDGE BUSINESS PARK**

LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

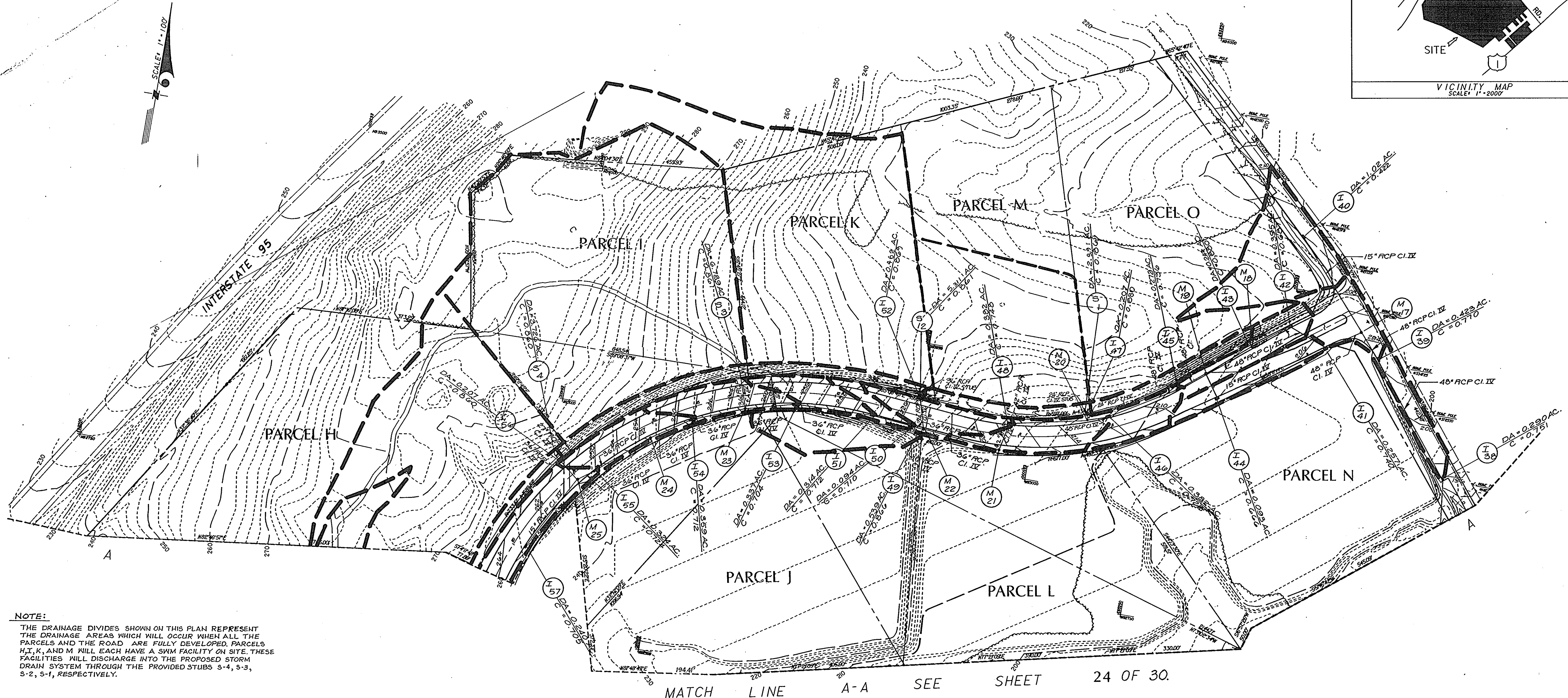
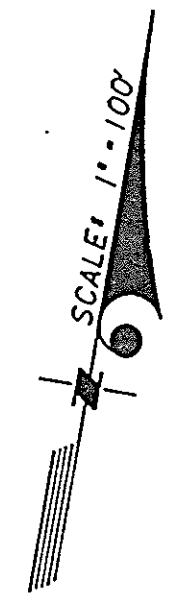
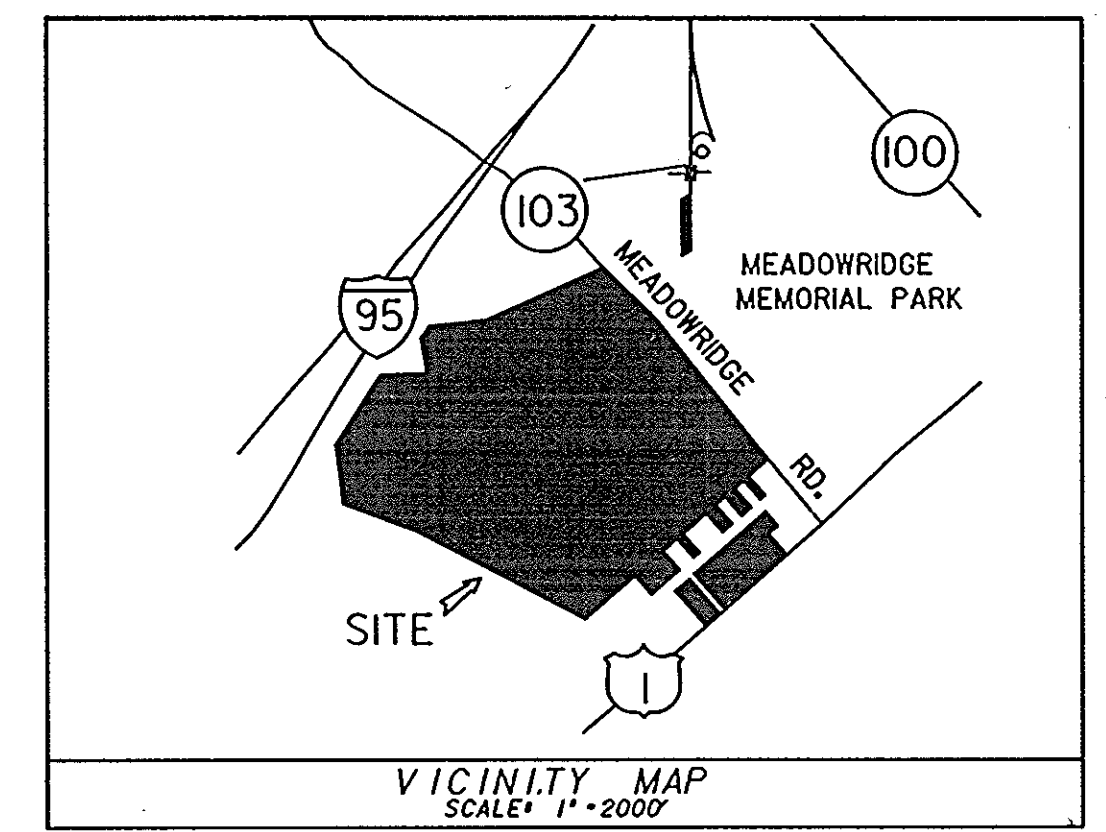
TJW DESIGN SCALE 1" = 50'

RLP DRAWN 21 OF 30

MFF/RHM CHECKED SHEET

JAN. 1989 DATE B-1121-X FILE No.





**NOTE:**  
THE DRAINAGE DIVIDES SHOWN ON THIS PLAN REPRESENT THE DRAINAGE AREAS WHICH WILL OCCUR WHEN ALL THE PARCELS AND THE ROAD ARE FULLY DEVELOPED. PARCELS H, I, K, AND M WILL EACH HAVE A SWIM FACILITY ON SITE. THESE FACILITIES WILL DISCHARGE INTO THE PROPOSED STORM DRAIN SYSTEM THROUGH THE PROVIDED STUBS S-4, S-3, S-2, S-1, RESPECTIVELY.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 10-11-89  
 DATE  
 CHIEF BUREAU OF ENGINEERING  
 2/27/89  
 DATE  
 CHIEF LAND DEVELOPMENT DIVISION  
 9/22/89  
 DATE  
 CHIEF BUREAU OF HIGHWAYS



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 10/13/89  
 DATE  
 CHIEF DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

REFERENCE: S88-03  
 P-87-44 GP 86-46  
 S-86-11 VP-8646  
 S-89-04

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 PH. (301) 381-4444

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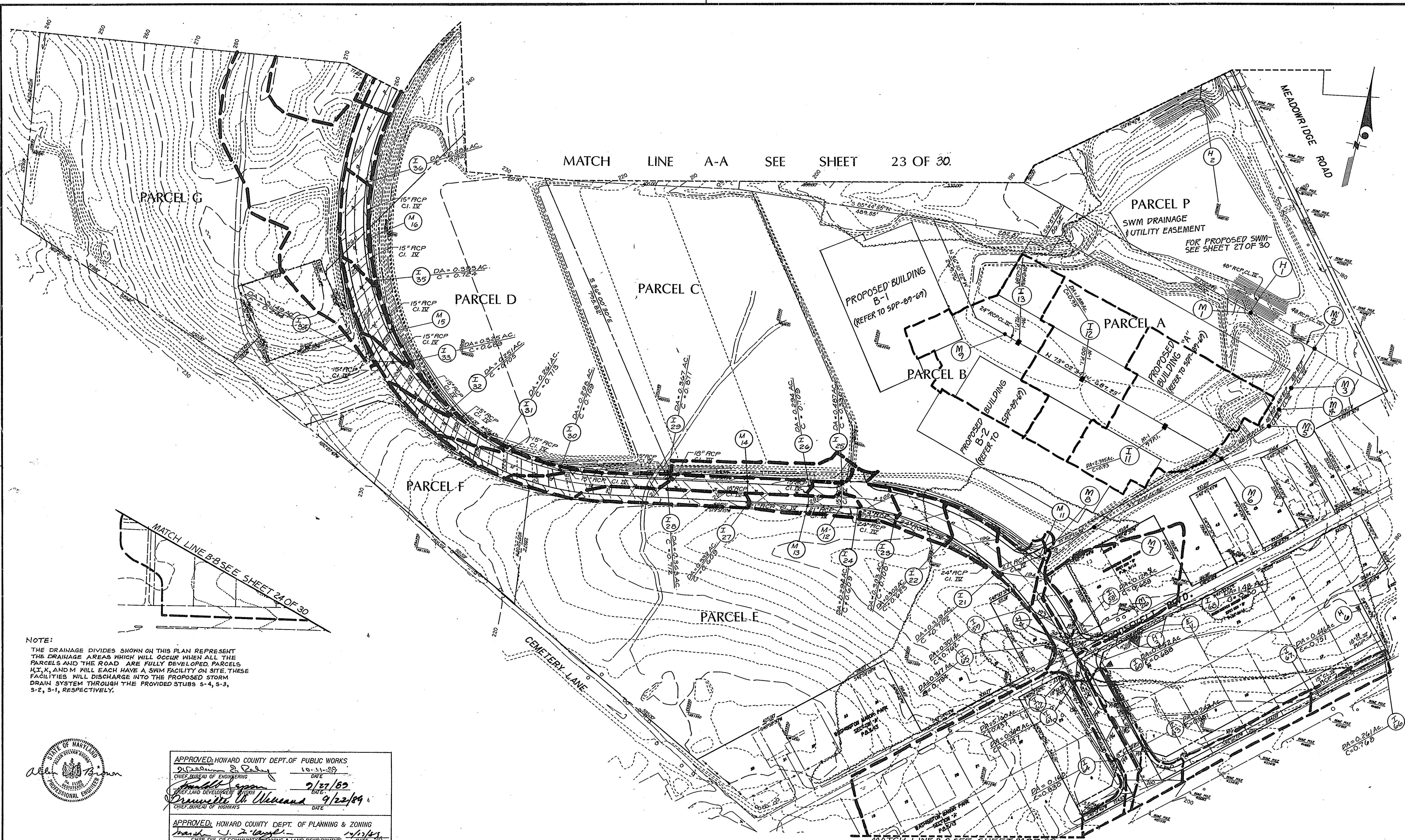


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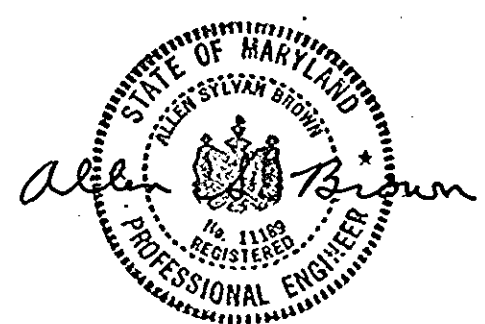
DRAINAGE AREA MAP  
 PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT  
 ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

JCH DESIGN SCALE 1" = 100'  
 KFM DRAWN 23 OF 30  
 FHM CHECKED SHEET  
 FEB, 1988 DATE JOB No. B-1121-X FILE No.

F-89-143



NOTE:  
 THE DRAINAGE DIVIDES SHOWN ON THIS PLAN REPRESENT THE DRAINAGE AREAS WHICH WILL OCCUR WHEN ALL THE PARCELS AND THE ROAD ARE FULLY DEVELOPED. PARCELS H, I, K, AND M WILL EACH HAVE A SWM FACILITY ON SITE. THESE FACILITIES WILL DISCHARGE INTO THE PROPOSED STORM DRAIN SYSTEM THROUGH THE PROVIDED STUBS S-4, S-3, S-2, S-1, RESPECTIVELY.



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*William S. Raley* 10-11-89  
 CHIEF, BUREAU OF ENGINEERING  
 DATE  
*William S. Raley* 9/27/89  
 CHIEF, BUREAU OF ENGINEERING  
 DATE  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*James W. Williams* 9/22/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT  
 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*James W. Williams* 9/22/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT  
 DATE

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |
|     |          |      |    |
|     |          |      |    |
|     |          |      |    |

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS  
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 (301) 296-4100  
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 GREENBELT, MD • LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • TAMPA, FL • WEST PALM BEACH, FL

DRAINAGE AREA MAP  
 PARCELS A-S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT  
 ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

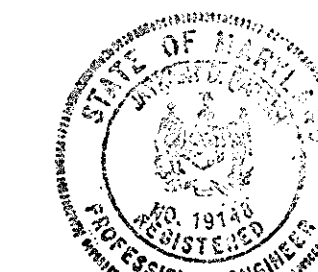
|               |                   |
|---------------|-------------------|
| JCH DESIGN    | SCALE 1" = 100'   |
| KRM DRAWN     | 24 OF 30          |
| FHM CHECKED   | SHEET             |
| FEB 1989 DATE | B-1121-X FILE No. |
| JOB No.       |                   |

F-89-163

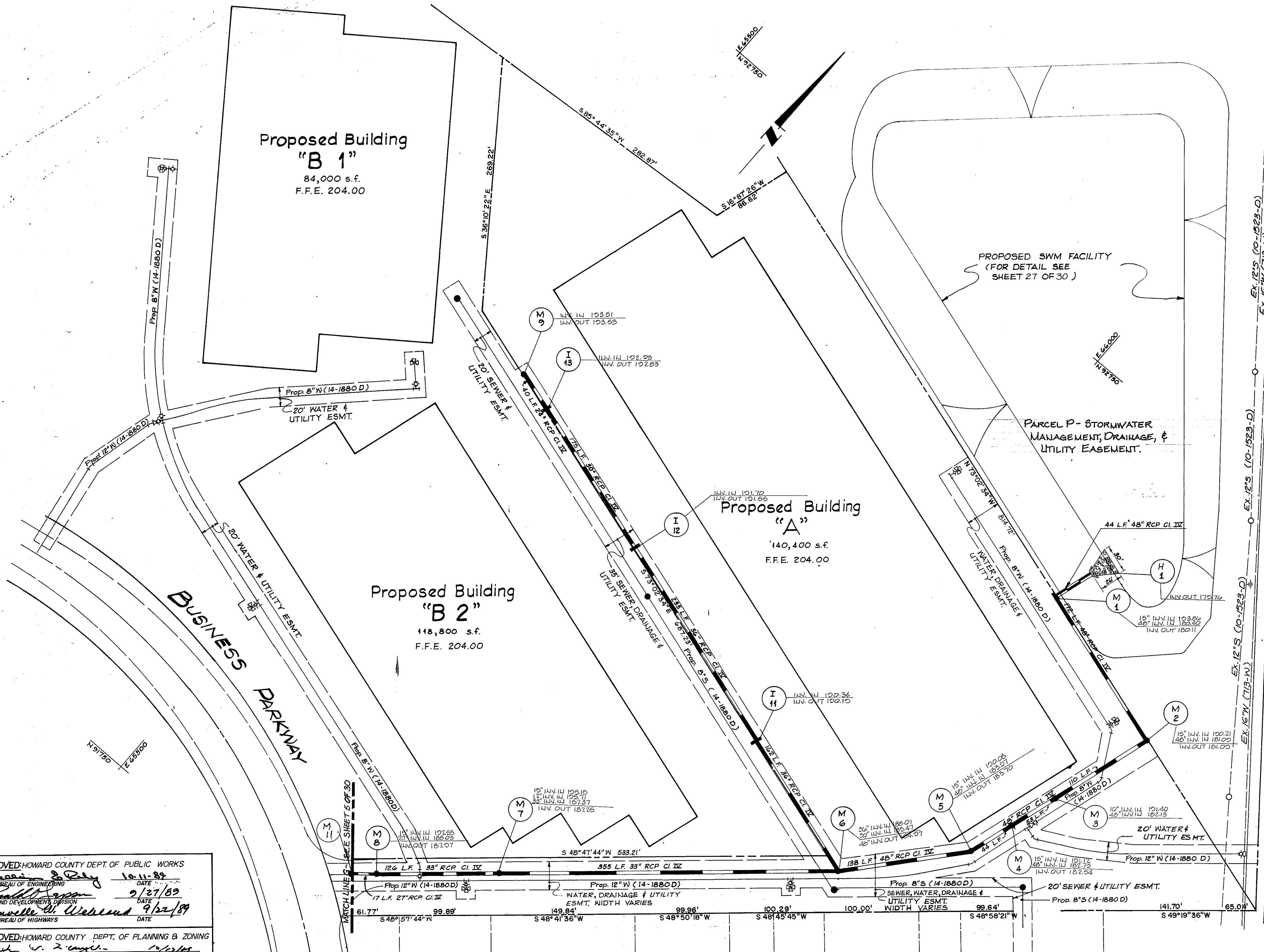
1974

13-DEC-1988





J. Farrell  
 JAYWALT D. FARREKH #10146  
 9.1.92  
 DATE



MEADOWRIDGE ROAD MD RT. 103

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 10-11-89  
 DATE  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 9/27/89  
 DATE  
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 9/22/89  
 DATE

OWNER/DEVELOPER:  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 (301) 381-4444

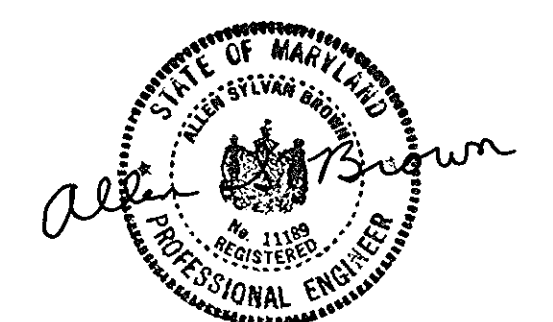
| No. | REVISION | DATE | BY |
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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

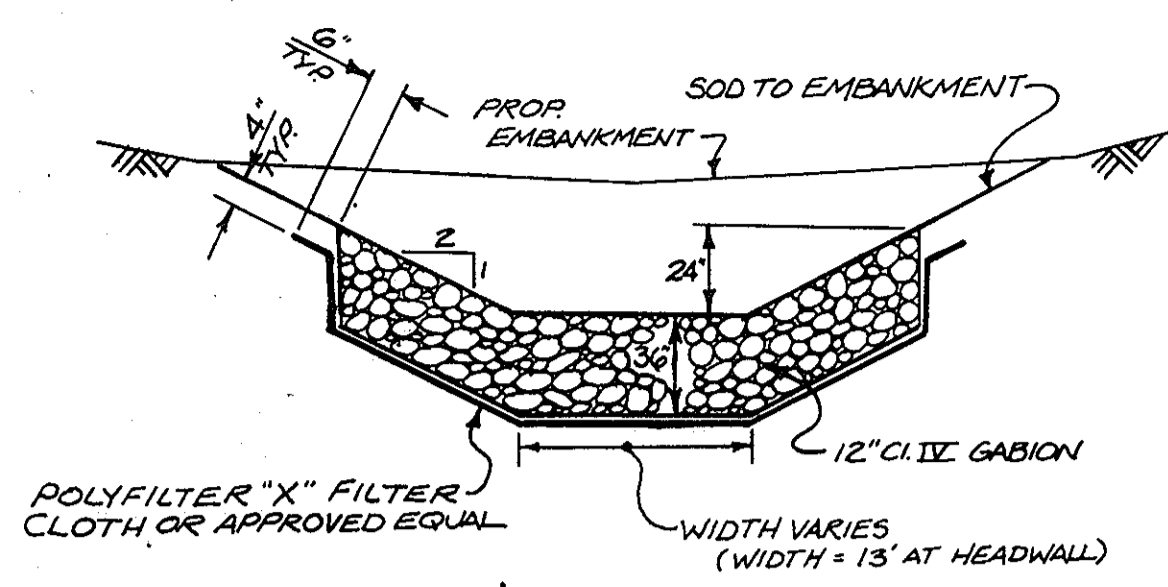
STORM DRAIN PLAN  
**MEADOWRIDGE BUSINESS PARK**  
 PARCELS A-S  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

|               |                |
|---------------|----------------|
| DM DESIGN     | SCALE 1" = 50' |
| DTW DRAWN     | 25 OF 30       |
| RHM CHECKED   | SHEET          |
| MAY 1989 DATE | JOB No.        |
|               | FILE No.       |



F-89-163

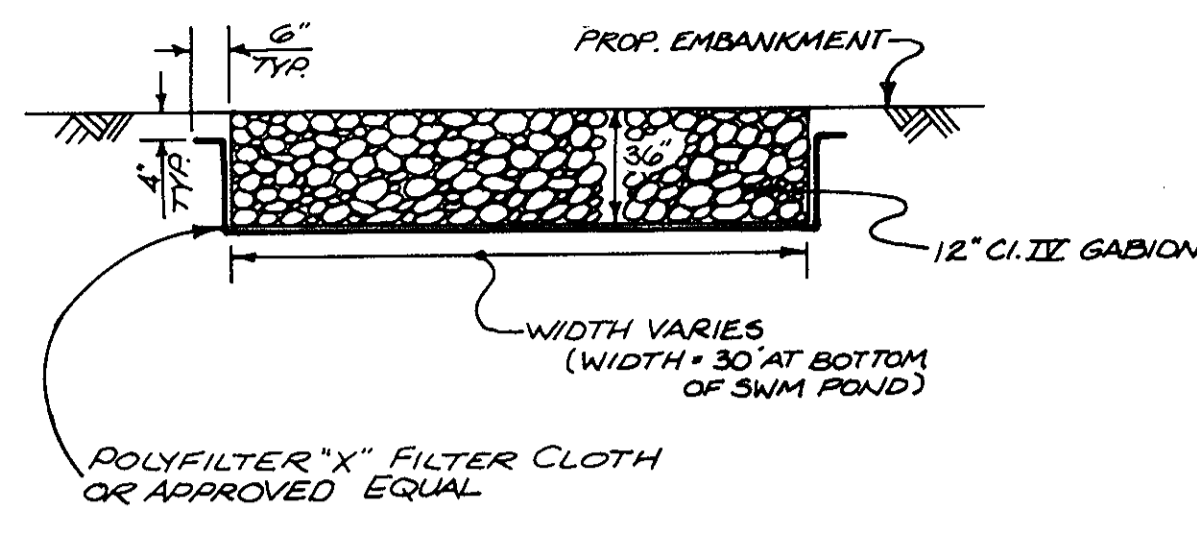
1474



X-SECTION "A"- "A"  
GABION OUTFALL AT H-1 AND H-2

NO SCALE

(SEE SHEETS 18 AND 27 FOR X-SECTION LOCATIONS)

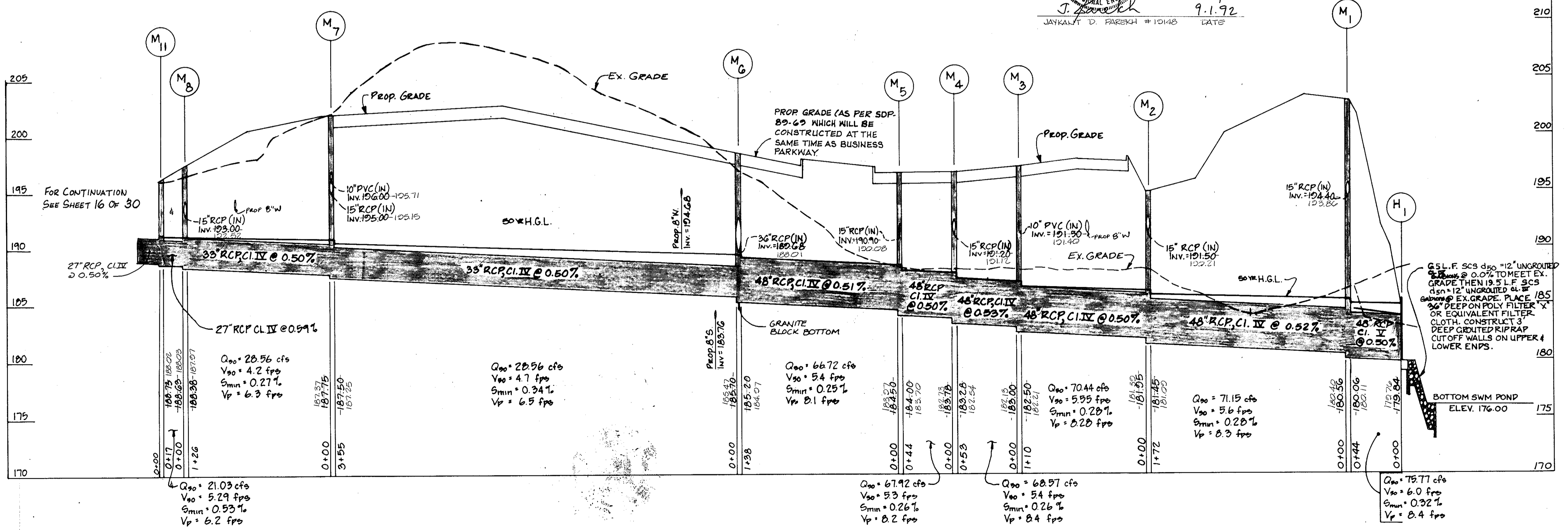
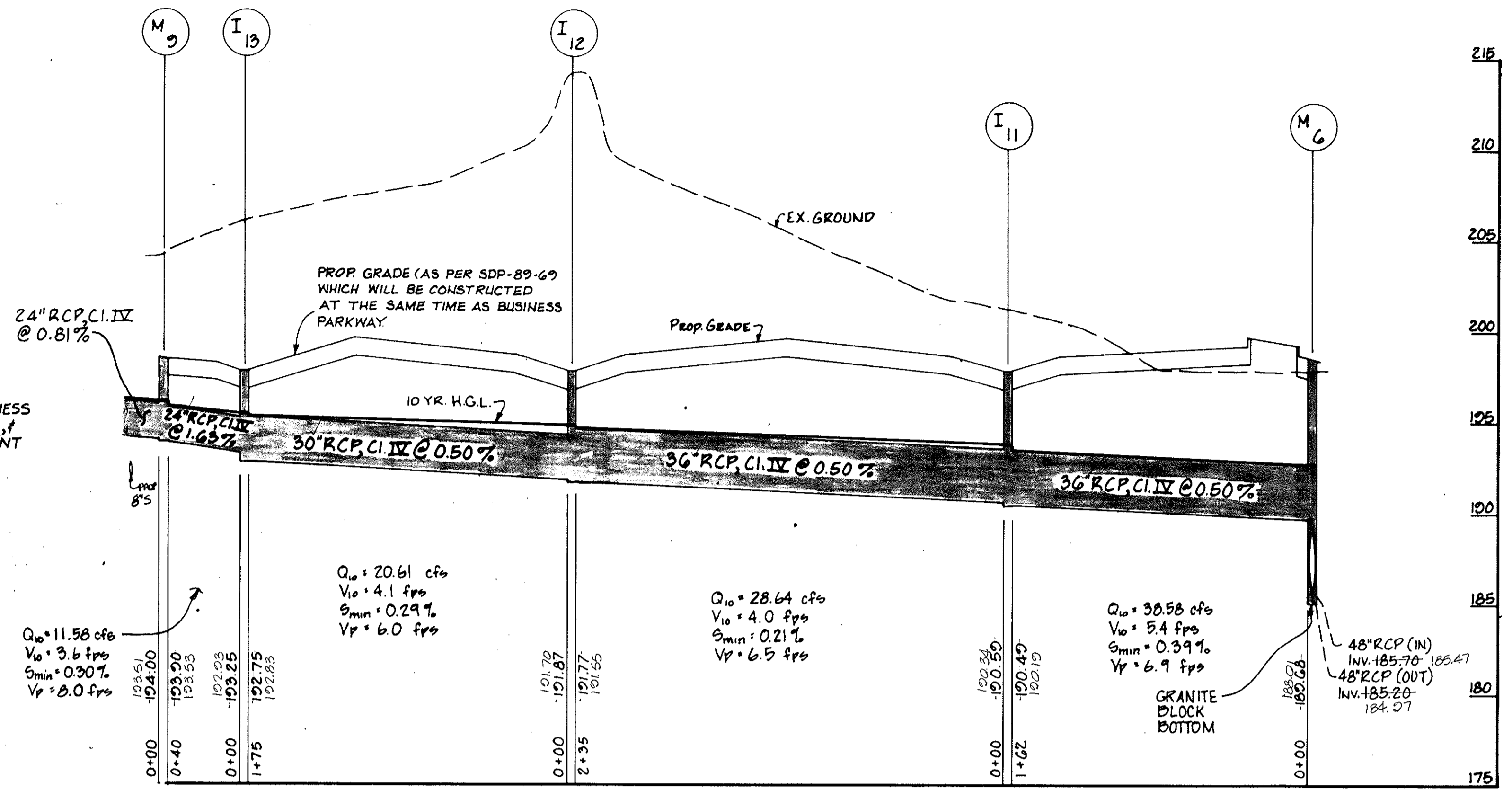


X-SECTION "B"- "B"  
GABION OUTFALL AT H-1 AND H-2

NO SCALE

| N#   | TYPE                                  | INVERT ELEVATION |        | TOP ELEVATION |        | REMARKS            |
|------|---------------------------------------|------------------|--------|---------------|--------|--------------------|
|      |                                       | IN               | OUT    | UPPER         | LOWER  |                    |
| M-1  | BRICK MANHOLE                         | 184.22           | 180.06 | 202.80        | 203.26 | HCDPW STD. G 5.03  |
| M-2  | "                                     | 181.85           | 181.45 | 197.30        | 197.26 | "                  |
| M-3  | "                                     | 182.50           | 182.50 | 197.30        | 197.26 | "                  |
| M-4  | "                                     | 183.28           | 183.28 | 196.75        | 196.72 | "                  |
| M-5  | "                                     | 184.00           | 184.00 | 196.75        | 196.72 | "                  |
| M-6  | BRICK MANHOLE W/ GRANITE BLOCK BOTTOM | 185.70           | 185.20 | 198.50        | 198.30 | "                  |
| M-7  | BRICK MANHOLE                         | 187.50           | 187.50 | 201.70        | 201.25 | HCDPW STD. G 5.02  |
| M-8  | "                                     | 188.98           | 188.98 | 197.20        | 197.27 | "                  |
| M-9  | BRICK MANHOLE                         | 194.00           | 193.90 | 198.52        | 198.31 | HCDPW STD. G 5.01  |
| M-10 | "                                     | 195.07           | 195.07 | 201.75        | 201.75 | "                  |
| M-11 | "                                     | 189.85           | 189.73 | 196.40        | 196.47 | HCDPW STD. G 5.02  |
| H-1  | 'A' HEADWALL                          | 179.84           | 179.76 | 184.84        |        | HCDPW STD. SD 5.11 |

NOTE: FOR CONTINUATION OF STRUCTURE SCHEDULE, SEE SHEET 17 OF 30.



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 Chief, Bureau of Engineering  
 DATE: 10-11-89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief, Div. of Community Planning and Land Development  
 DATE: 11/1/89

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief, Div. of Community Planning and Land Development  
 DATE: 11/1/89

OWNER/DEVELOPER  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION | DATE | BY |
|-----|----------|------|----|
|     |          |      |    |
|     |          |      |    |

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**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
 (301) 296-4100

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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

**STORM DRAIN PROFILES**  
 PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|                  |                   |
|------------------|-------------------|
| C. E. G. DESIGN  | HORZ. 1"=50'      |
| R. E. G. DRAWN   | SCALE VERT. 1"=5' |
| R. H. M. CHECKED | 26 OF 30 SHEET    |
| FEB. 1989 DATE   | β-1121 X FILE No. |
| JOB No.          |                   |

F-89-163

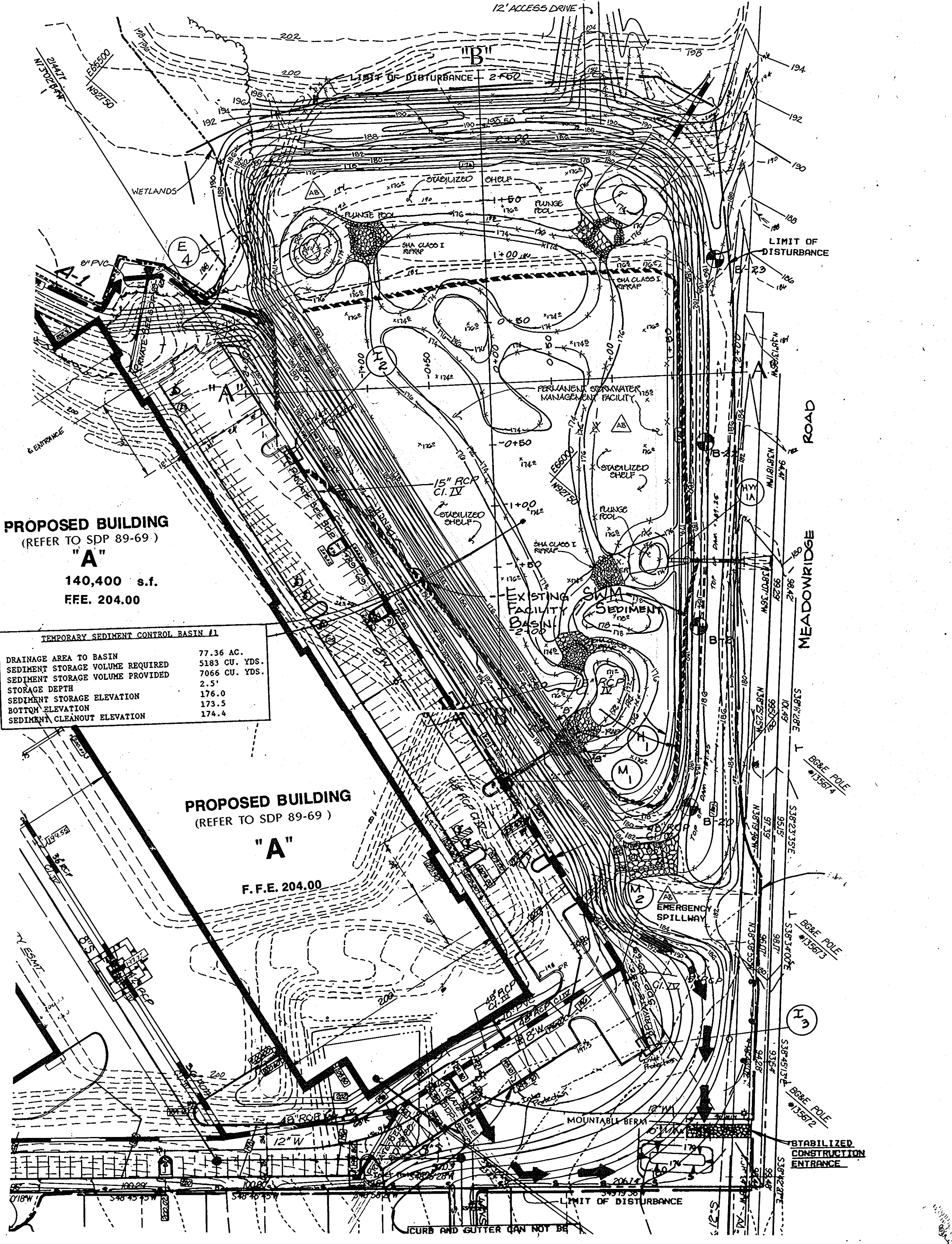
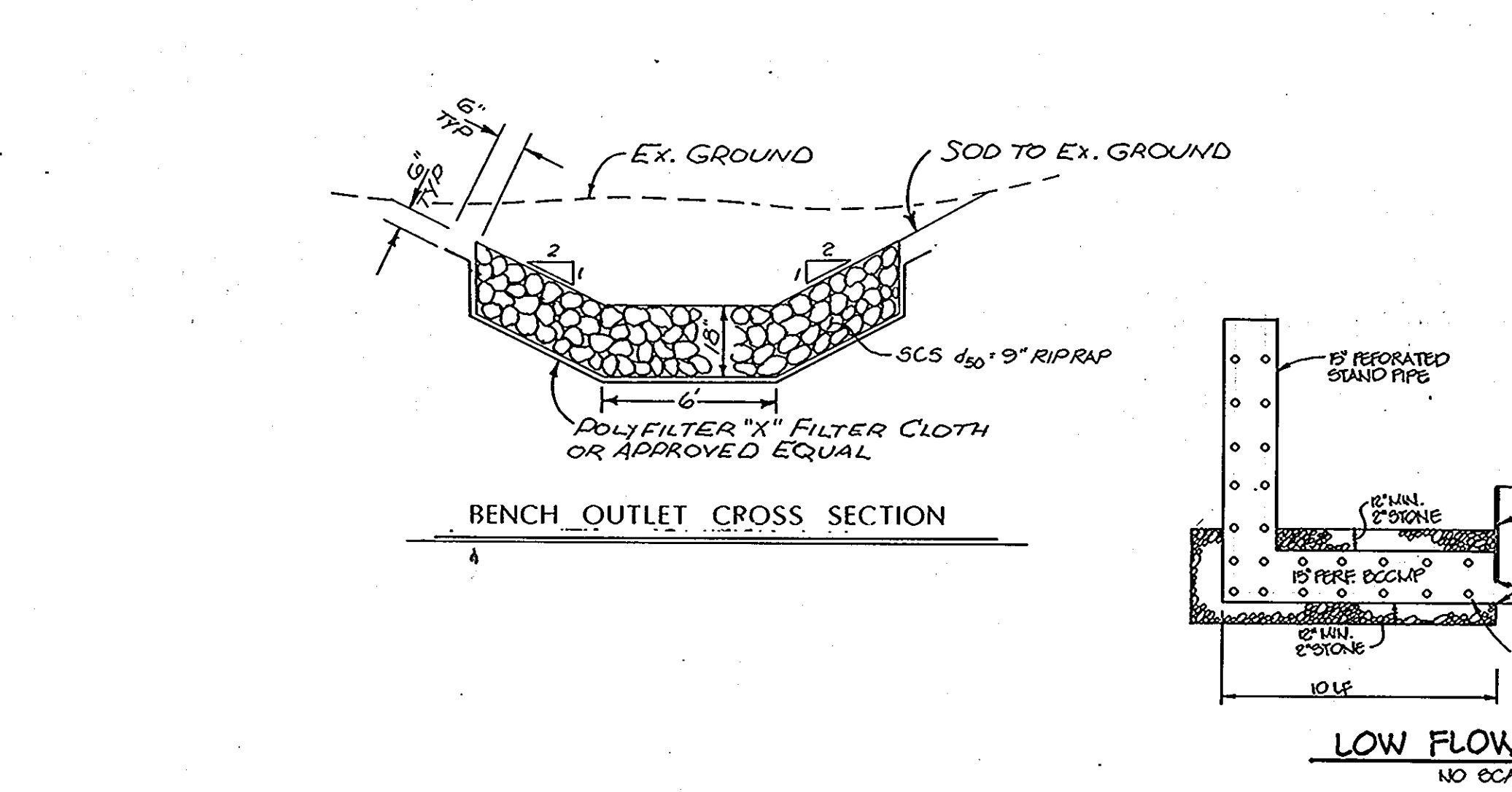
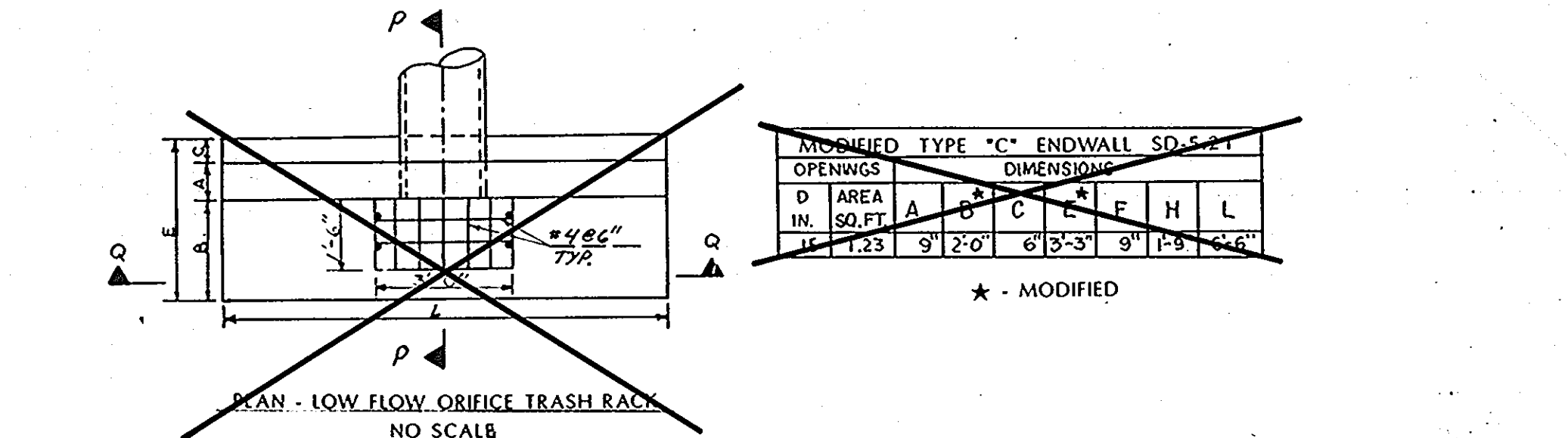
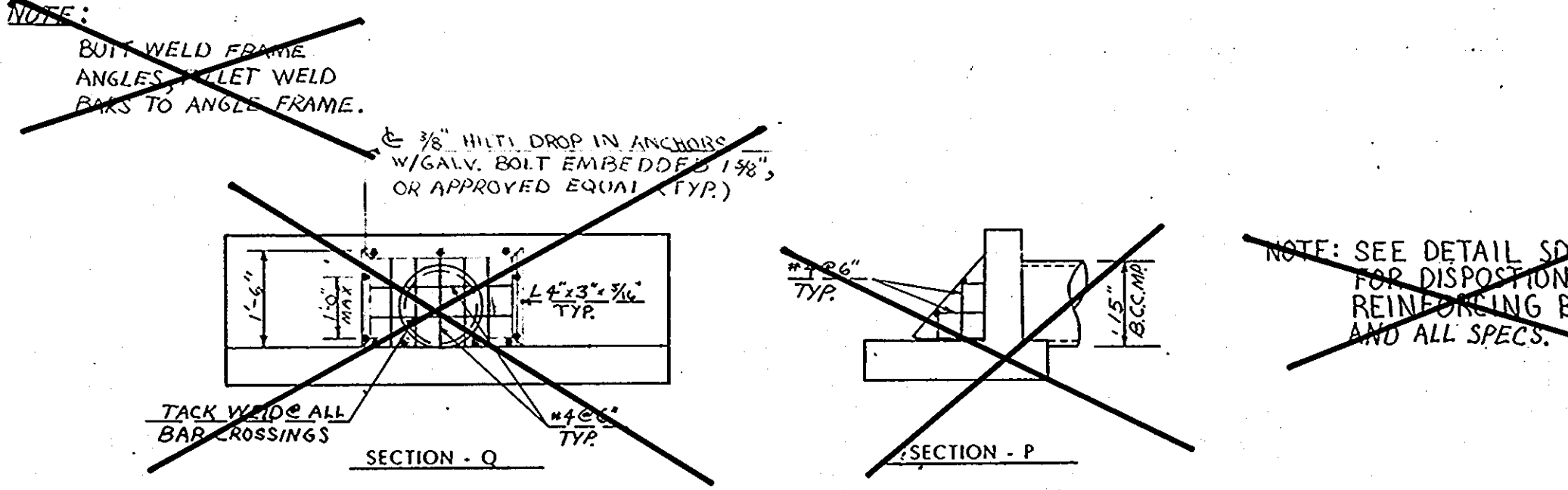
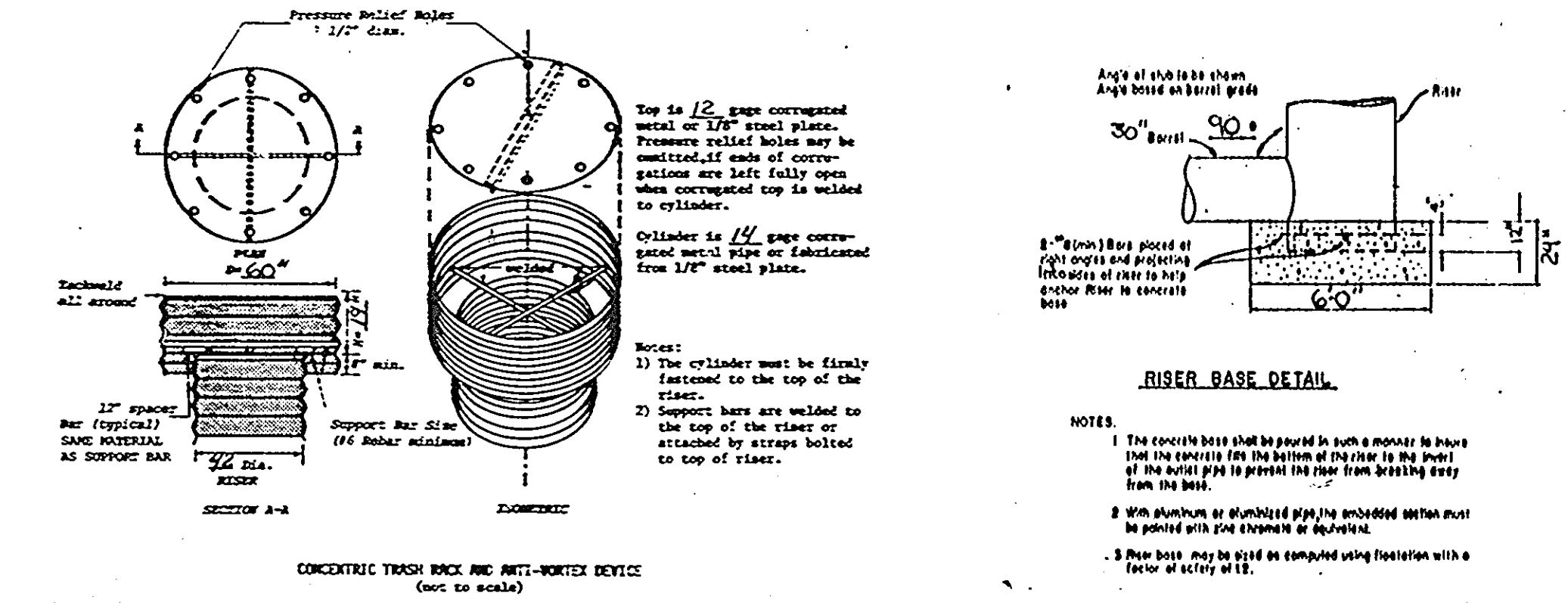
**SEDIMENT CONTROL & POND CONSTRUCTION**

By the Developer:  
 "I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."  
 Frederick W. Blank 9/22/89  
 Signature of Developer Date

By the Engineer:  
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
 Allen J. Brown 8/22/89  
 Signature of Engineer Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
 J. Helm 9/1/89  
 U.S. Soil Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
 Robert W. Ziehm 9/7/89  
 Howard Soil Conservation District Date



**NOTE:** This sheet is for the construction of the proposed stormwater management facility. The proposed building and associated work (parking areas, private storm drain, water and sewer) are not included in this submission. Refer to SDP-89-69 for the building, parking, private water and sewer. For the public water and sewer, refer to contract No. 14-1880-D.

**APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS**  
 10/11/89  
 DATE  
 Chief, Bureau of Engineering  
**APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING**  
 9/27/89  
 DATE  
 Chief, Bureau of Planning and Zoning

**APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING**  
 9/27/89  
 DATE  
 Chief, Bureau of Planning and Zoning

**OWNER/DEVELOPER**  
 MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
 10005 OLD COLUMBIA ROAD  
 COLUMBIA, MARYLAND 21046  
 PH. (301) 381-4444

| No. | REVISION  | DATE   | BY  |
|-----|---|--------|-----|
| 1   | MODIFIED BASIN #1 BOTTOM & SIDE SLOPE GRADING TO CONFORM WITH AS-BUILT CONSTRUCTION | 7-1-96 | RJC |
| 2   | REV. POND BOTTOM GRADING  | 6-8-95 | WAD |
| 1   | ADDED NEW LOW FLOW DET., DELETED OLD LOW FLOW DETAIL                                | 4-4-94 | WAD |

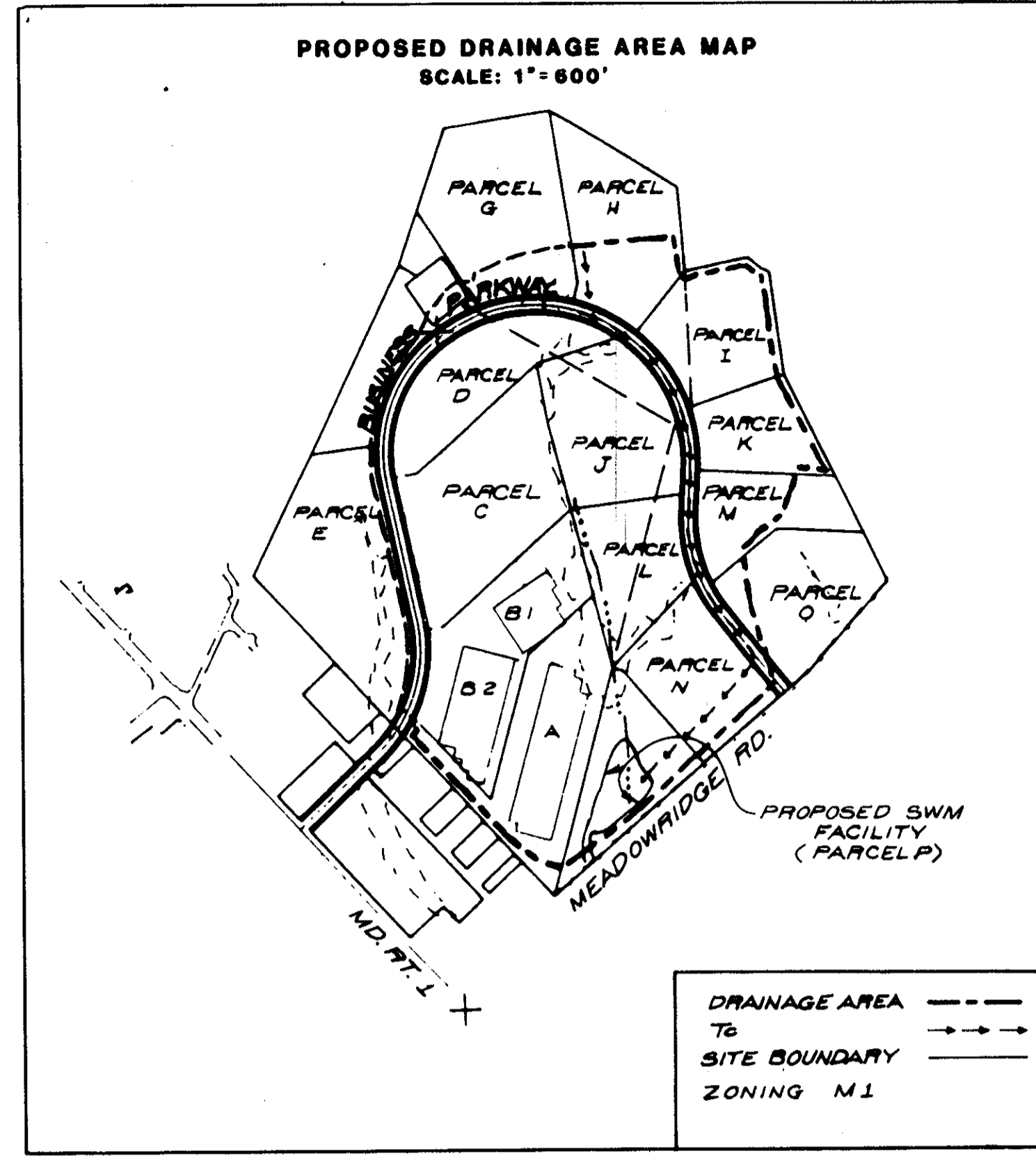
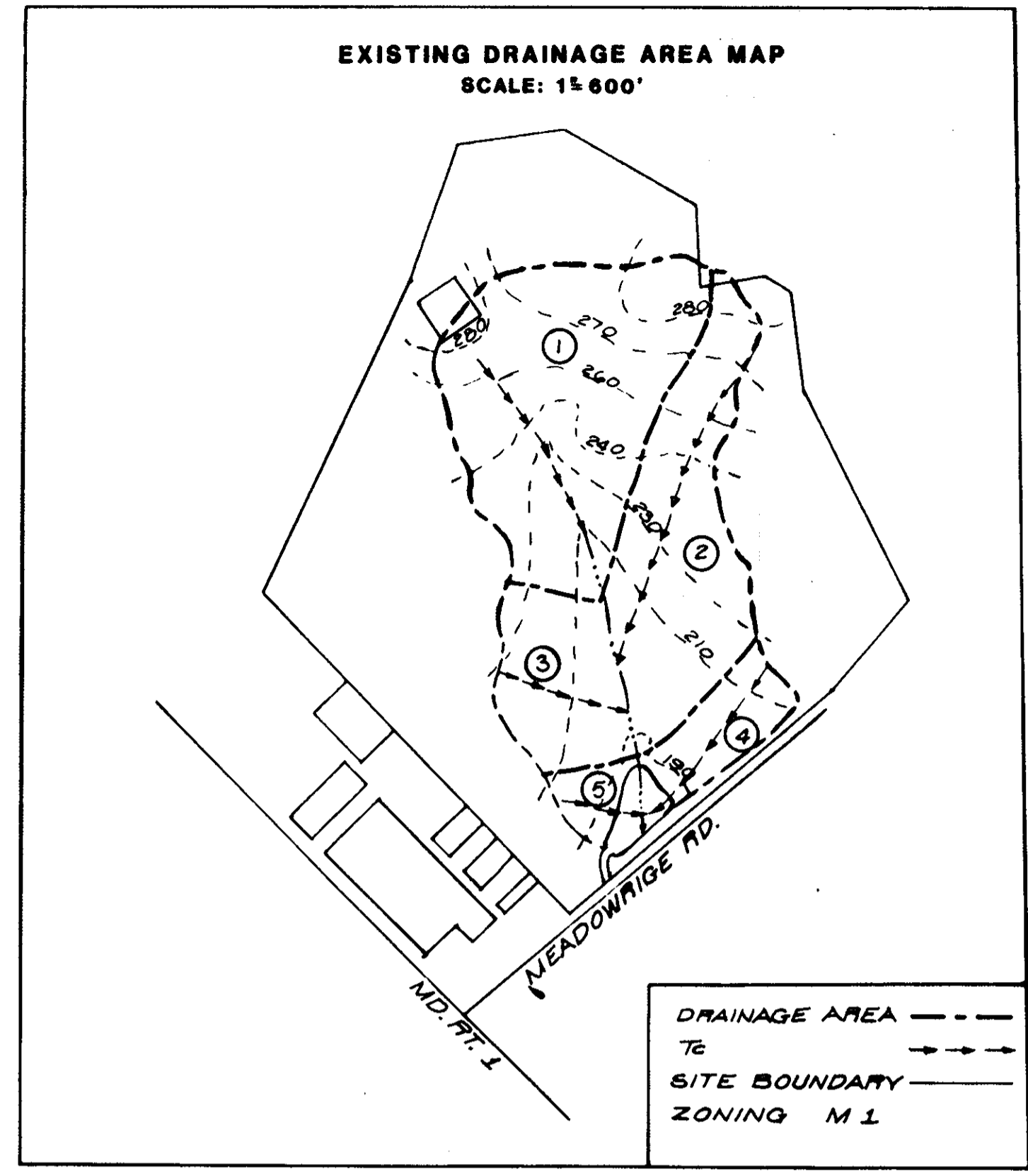
**ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS**  
**GREENHORNE & O'MARA, INC.**  
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204  
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 LEESBURG, VA • MANASSAS, VA • ORLANDO, FL • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL • WEST PALM BEACH, FL

**BASIN #1 PLAN AND DETAILS**  
 PARCELS A & S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT  
 ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

**H.A.M. DESIGN**  
 SCALE 1" = 50'  
**H.R.M. DRAWN**  
**R.H.M. CHECKED**  
 SHEET  
**Oct. 1988**  
 DATE  
 JOB No. FILE No.

**CONSTRUCTION SPECIFICATIONS**

- I. **SITE PREPARATION**  
The fill area and borrow area shall be cleared and grubbed to remove all trees, vegetation, roots and other objectionable material. The topsoil from the embankment area and borrow area shall be removed and stockpiled. The topsoil shall be spread on the completed fill area.
- II. **EARTH FILL**
  - A) **FILL MATERIAL** shall be obtained from on-site under the supervision of a soils engineer. It shall be free from roots, stumps, wood rubbish, oversized stones frozen or other objectionable material. Fill areas shall be constructed to the elevation shown on the plan to allow for anticipated settlement.
  - B) **PLACEMENT** Areas on which fill will be placed shall be scarified prior to placement of fill. Fill materials shall be placed in layers 6" thick maximum (before compaction) and shall be continuous over the entire length of fill. The most porous material shall be placed in areas not adjacent to ponded water.
  - C) **COMPACTION**: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be compacted to the specified density. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used.
  - D) **CORE TRENCH** shall be made of SC or CL material compacted to 95% of A.A.S.H.T.O. T-99 density.
- III. **STRUCTURAL BACKFILL**  
Backfill material shall be the type and quality specified for the adjoining fill material. The fill shall be placed in horizontal layers 4" thick maximum and compacted by hand tamping or manually directed power tampers or plate vibrators. At no time during backfilling operations shall driven equipment be allowed to operate any closer than four feet measured horizontally to any part of a structure. Under no circumstances shall the contractor drive equipment over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Materials shall fill completely all spaces under and adjacent to newly installed pipe.
- IV. **CONCRETE**  
Concrete shall meet the minimum requirements set forth in the Maryland State Highway Administration "Specifications for Construction and Materials" January 1982 Section 918.06 - "Portland Cement Concrete Mixtures", Mix No. 3 Reinforcing steel shall be A.S.T.M. A 615, Grade 60.
- V. **STABILIZATION**  
The storm water management facility will be stabilized with "Permanent Slope Seeding" as follows:  
After spreading 4" topsoil seed with a mixture of 30% inoculated crown vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs./Ac., 10-20-20 fertilizer shall be applied at a rate of 25 lbs./1000 square feet, lime at a rate of 92 lbs./1000 square feet, mulch area with unweathered small grain straw at a rate of 1.5 T/Ac., anchor with rapid curing asphalt (R.C.-70, R.C.-250 or R.C.-800) at a rate of 0.1 Gal. S.V.
- VI. **PIPE CONDUITS**  
B.C.C.M.P., Type C-1, 100% Lined.
  - A. **Corrugated Metal Pipe**
    1. **Materials** - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of MASHTO Specification H-90 with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
    2. **Connections** - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.
    3. **Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
    4. **Laying pipe** - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.
    5. **Backfilling** shall conform to structural backfill as shown above.
    6. **Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.
  - B. **FILTER CLOTH**  
MIRAFI 1405 or equivalent shall be used.
  - C. **SEDIMENT CONTROL**  
Construction to be in accordance with "1983 Maryland Standards and Specifications For Soil Erosion and Sediment Control". In release structure install dewatering device by connecting 25 L.F. of 12" perforated underdrain to the low flow pipe. The 12" underdrain shall be wrapped in filter cloth and covered with minimum 12" thick #2 stone.



**SOILS LEGEND**

AhB2 - Aldine Silt Loam, 3-8 % Slopes, Moderately Eroded.

BeB2 - Beltsville Silt Loam, 1-5 % Slopes, Moderately Eroded.

BeC2 - Beltsville Silt Loam, 5-10 % Slopes, Moderately Eroded.

Cmc2 - Chillum Silt Loam, 5-10 % Slopes, Moderately Eroded.

Ha - Hartsboro Silt Loam.

Iub - Iuka loam, Local Alluvium, 1-5 % Slopes.

Keb2 - Kelly Silt Loam, 3-8 % Slopes, Moderately Eroded.

Khc2 - Keyport Silt Loam, 3-8 % Slopes, Moderately Eroded.

L1 - Lenardtown Silt Loam.

Scb - Sandy and Clayey Land, Gentle Slope.

Scd - Sandy and Clayey Land, Moderate Slope.

SFC2 - Sassafras Loam, 5-10 % Slopes, Moderately Eroded.

SfC2 - Sassafras Gravelly Sand Loam, 5-10 % Slopes, Moderately Eroded.

SfE2 - Sassafras Soil, 15-40 % Slopes.

WoB2 - Woodstown Sandy Loam, 1-5 % Slopes, Moderately Eroded.

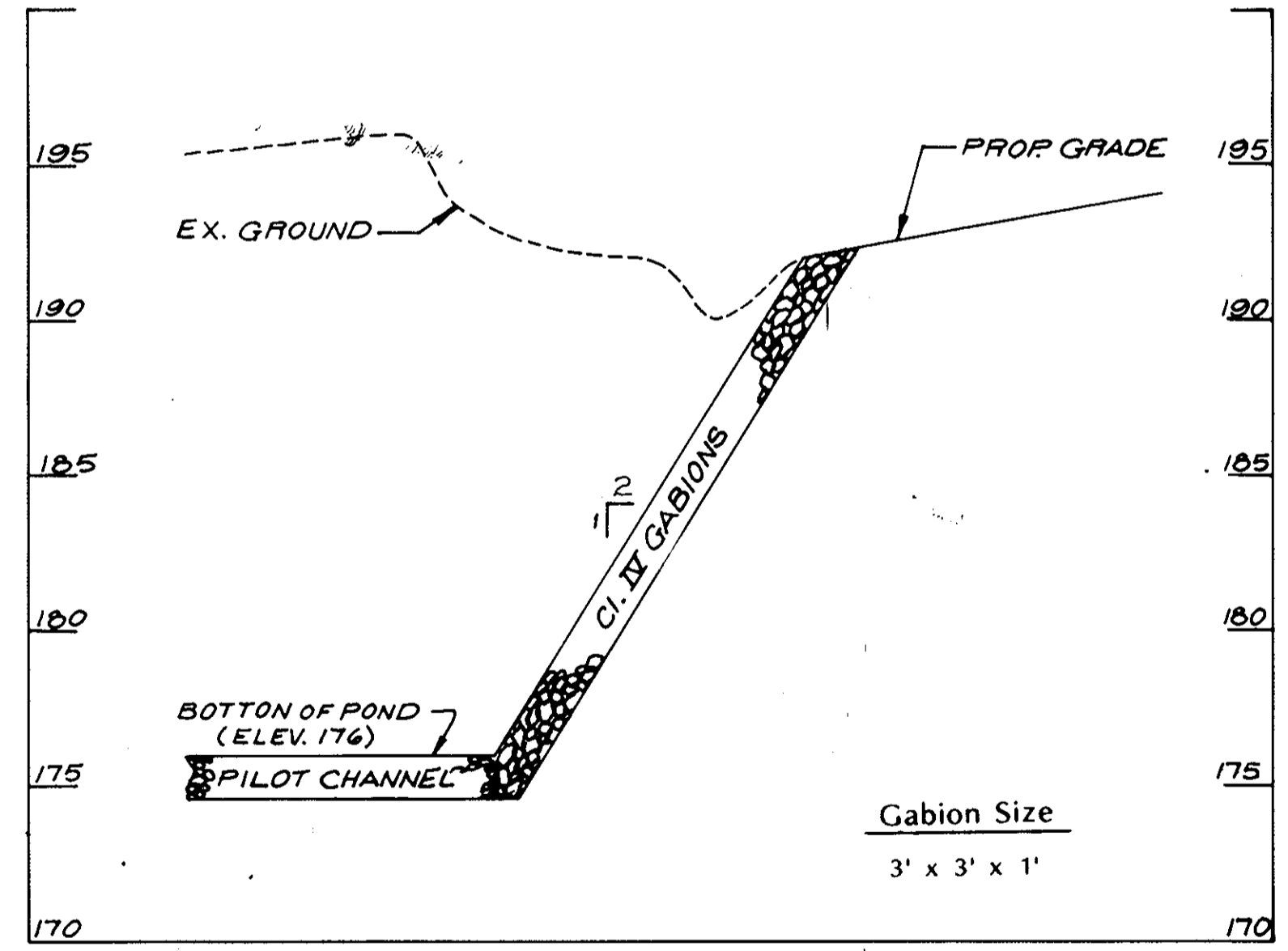
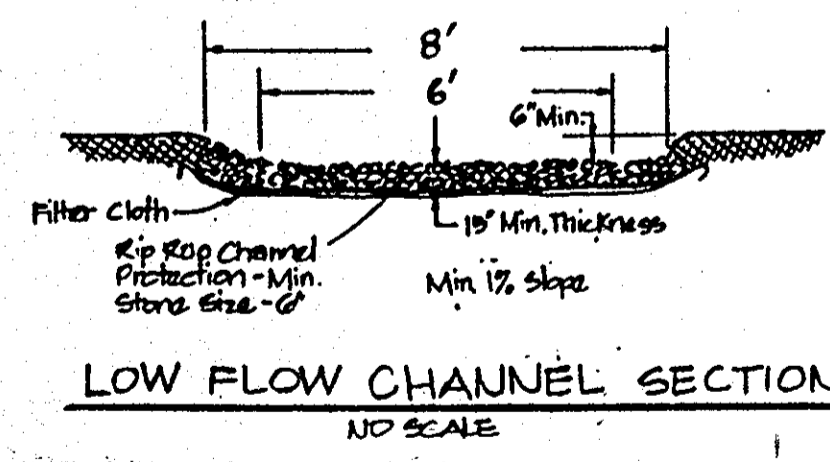
NOTE: (SPECIFIED DENSITY) SUITABLE MATERIAL SHALL BE USED FOR THE EMBANKMENT AND ROLLED TO A MINIMUM DEGREE OF COMPACTION OF 95% OF THE DRY UNIT WEIGHT AS DETERMINED BY A.A.S.H.T.O. T-99. CONSTRUCTION OF SWM FOND SHALL BE PERFORMED UNDER STRICT SUPERVISION OF A SOILS ENGINEER.

**STRUCTURE TABLE**

| No.   | STANDARD            |
|-------|---------------------|
| HW-1  | SD-5.21 (Use D=30") |
| HW-2  | SD-5.11 (Use D=24") |
| HW-1A | MODIFIED SD-5.21    |

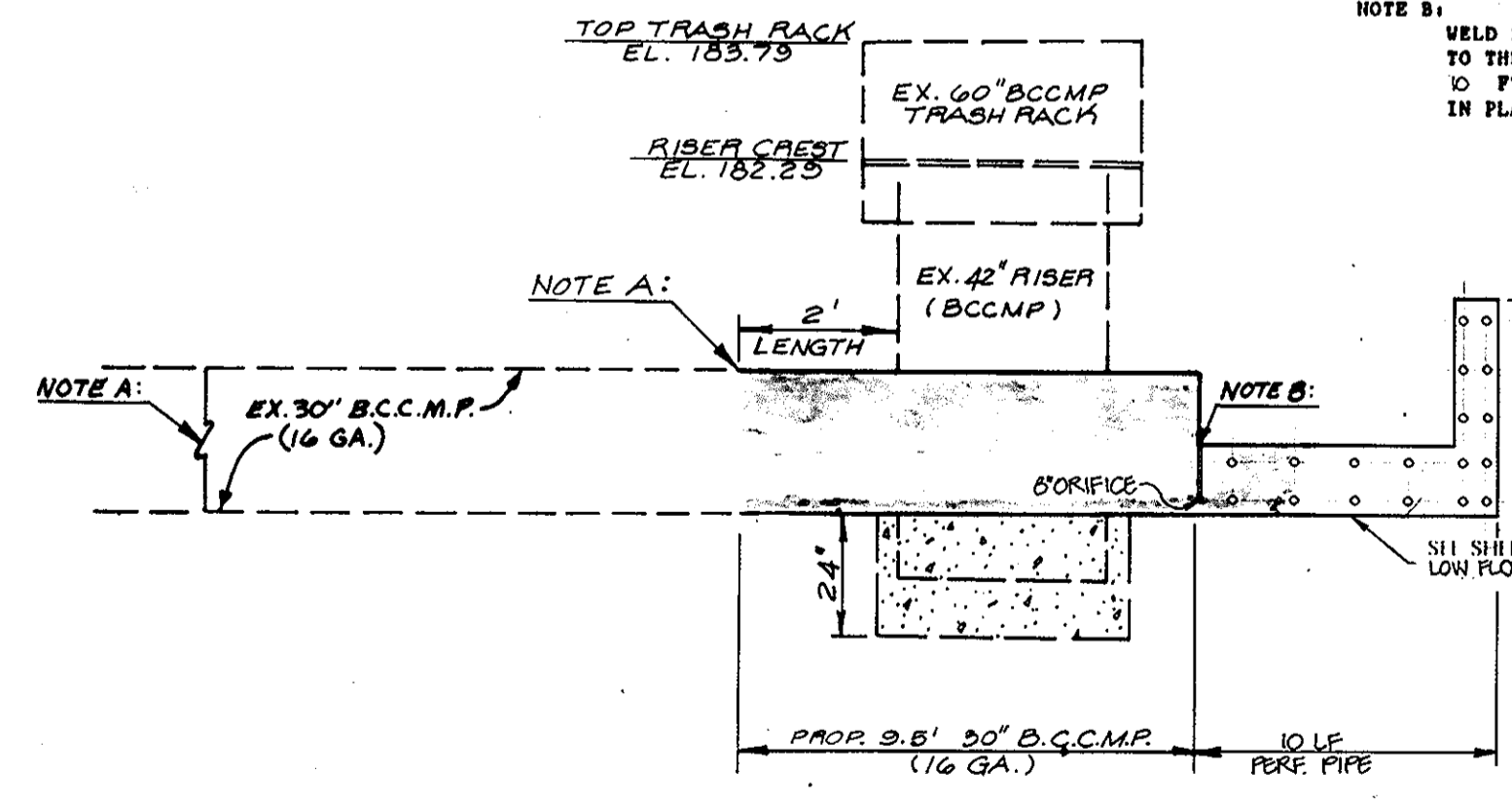
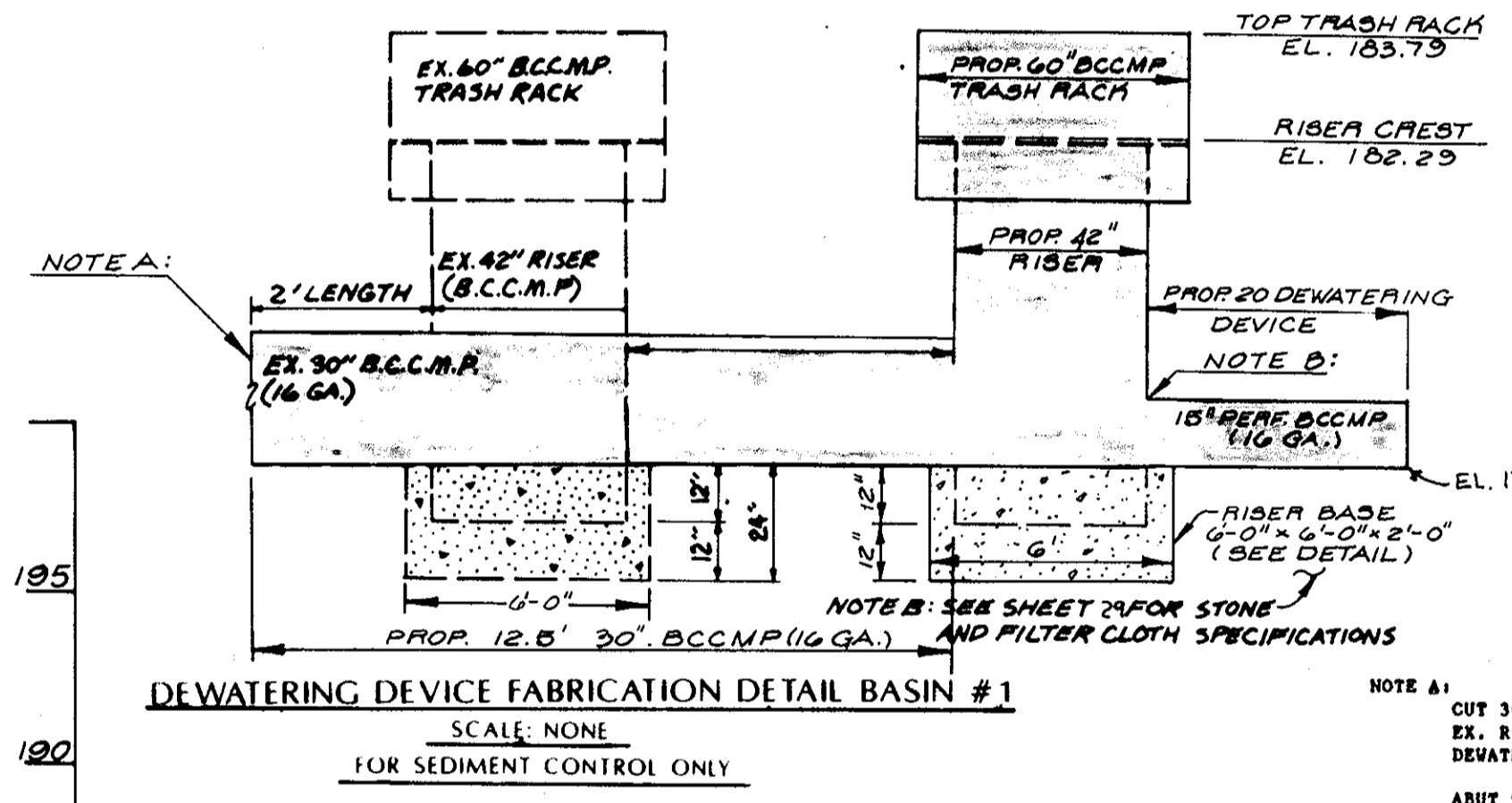
**PIPE SCHEDULE**

|                 |          |
|-----------------|----------|
| 15" BCCMP       | 5' L.F.  |
| 24" CMP         | 44' L.F. |
| 30" BCCMP       | 22' L.F. |
| 15" PERF. BCCMP | 20' L.F. |



TYPICAL GABION SECTION  
SEE SHEET 27 OF 30 FOR LOCATIONS.

SCALE: HORIZ. 1"=20'  
VERT. 1"=5'



15" LOW FLOW ORIFICE FABRICATION DETAIL  
SCALE: NONE  
FOR PERMANENT SWM ONLY

NOTE A: CUT 30" BCCMP TWO (2) FEET FROM EX. RISER. REMOVE RISER RISER BASE AND TRASH RACK.

NOTE B: REMOVE AN AREA OF THE RISER EQUAL TO THE AREA OF THE 15" PERF. BCCMP AT INV. 176.00

WELDING NOTE: ALL PIPE CONNECTIONS SHALL BE SECURELY WELDED ABOUT THEIR ENTIRE CIRCUMFERENCE TO THE RISER. BARE METAL SHALL BE COATED WITH BITUMINOUS COATING.

NOTE A: CUT 30" BCCMP TWO (2) FT. FROM EX. RISER. REMOVE RISER, BASE AND DEWATERING DEVICE.

NOTE B: WELD 30" PLATE WITH A 6" DIA. HOLE TO THE END OF THE 30" BCCMP. ABOUT 10 FT. OF 15" PERF. BCCMP WELD TO HOLE IN PLATE.

**SEDIMENT CONTROL & POND CONSTRUCTION**

By the Developer:

"I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

*Richard W. Blaney* 3/22/89  
Signature of Developer Date

By the Engineer:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

*Allen S. Brown* 8/22/89  
Signature of Engineer Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

*J. Helm* 9-7-89  
U.S. Soil Conservation Service Date

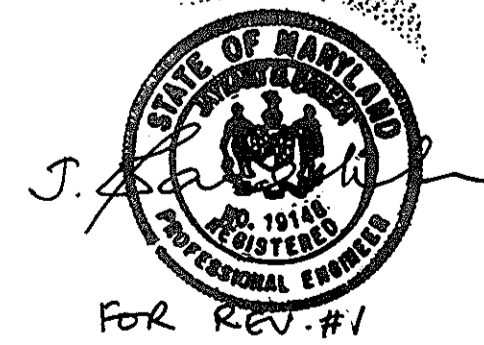
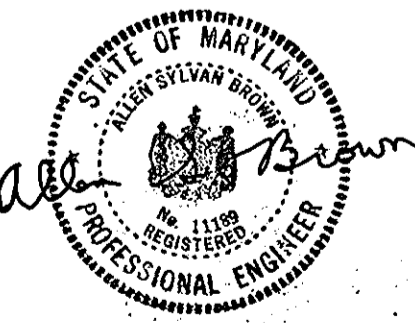
These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*Robert W. Zehn* 9-7-89  
Howard Soil Conservation District Date

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*Richard W. Blaney* 10/11/89  
CHIEF, BUREAU OF ENGINEERING DATE

*Charles W. Ueland* 9/22/89  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Charles W. Ueland* 9/22/89  
CHIEF, BUREAU OF HIGHWAYS DATE



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Charles W. Ueland* 10/22/89  
CHIEF, DIV. OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

OWNER/DEVELOPER  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
PH. (301) 381-4444

| No. | REVISION                                     | DATE   | BY  |
|-----|--|--------|-----|
| 1   | REV. 15" LOW FLOW ORIFICE FABRICATION DETAIL | 4-4-04 | WAD |



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**GREENHORNE & O'MARA, INC.**

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NOTES AND DETAILS - BASIN # 1  
PARCELS A-S

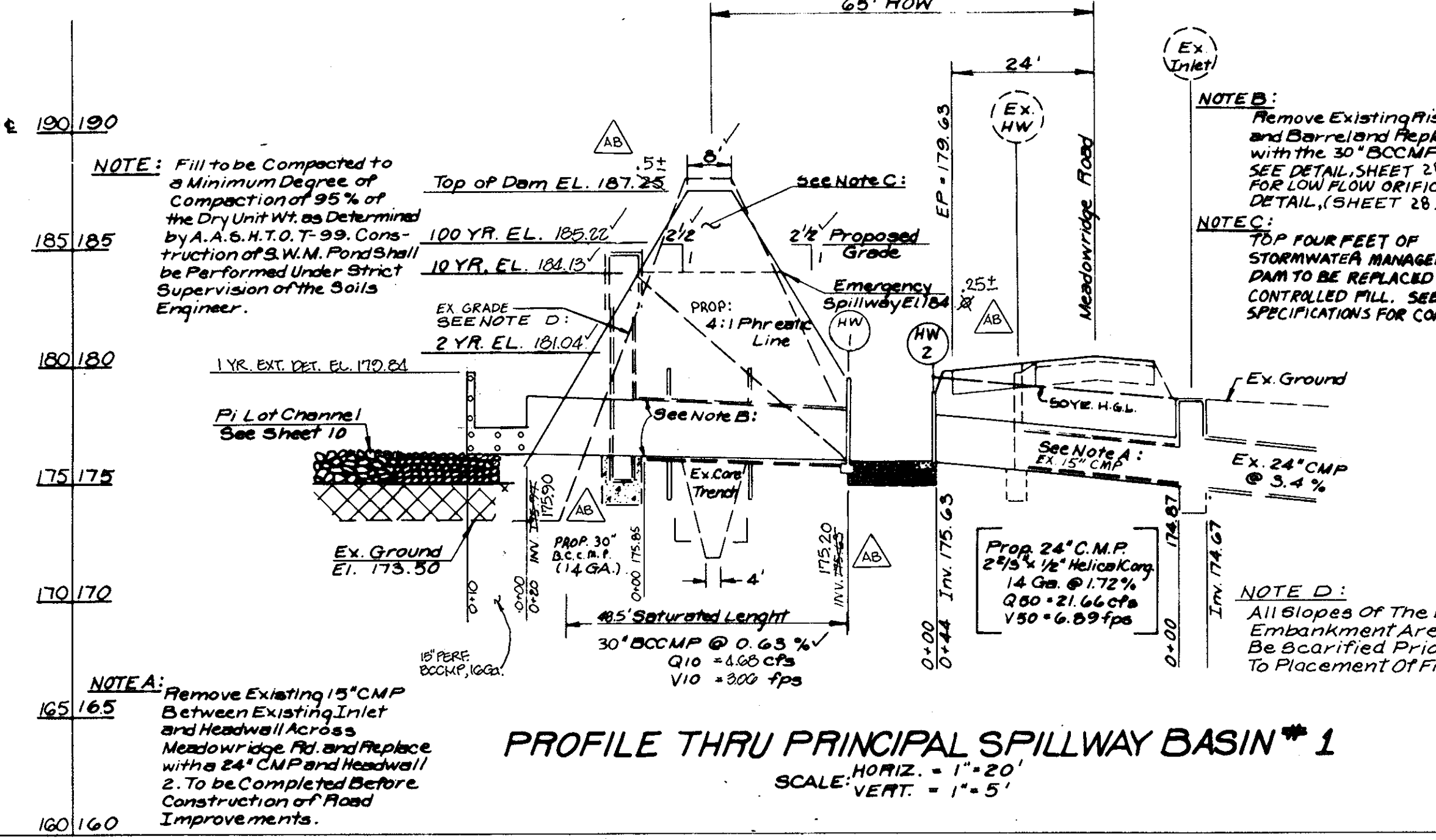
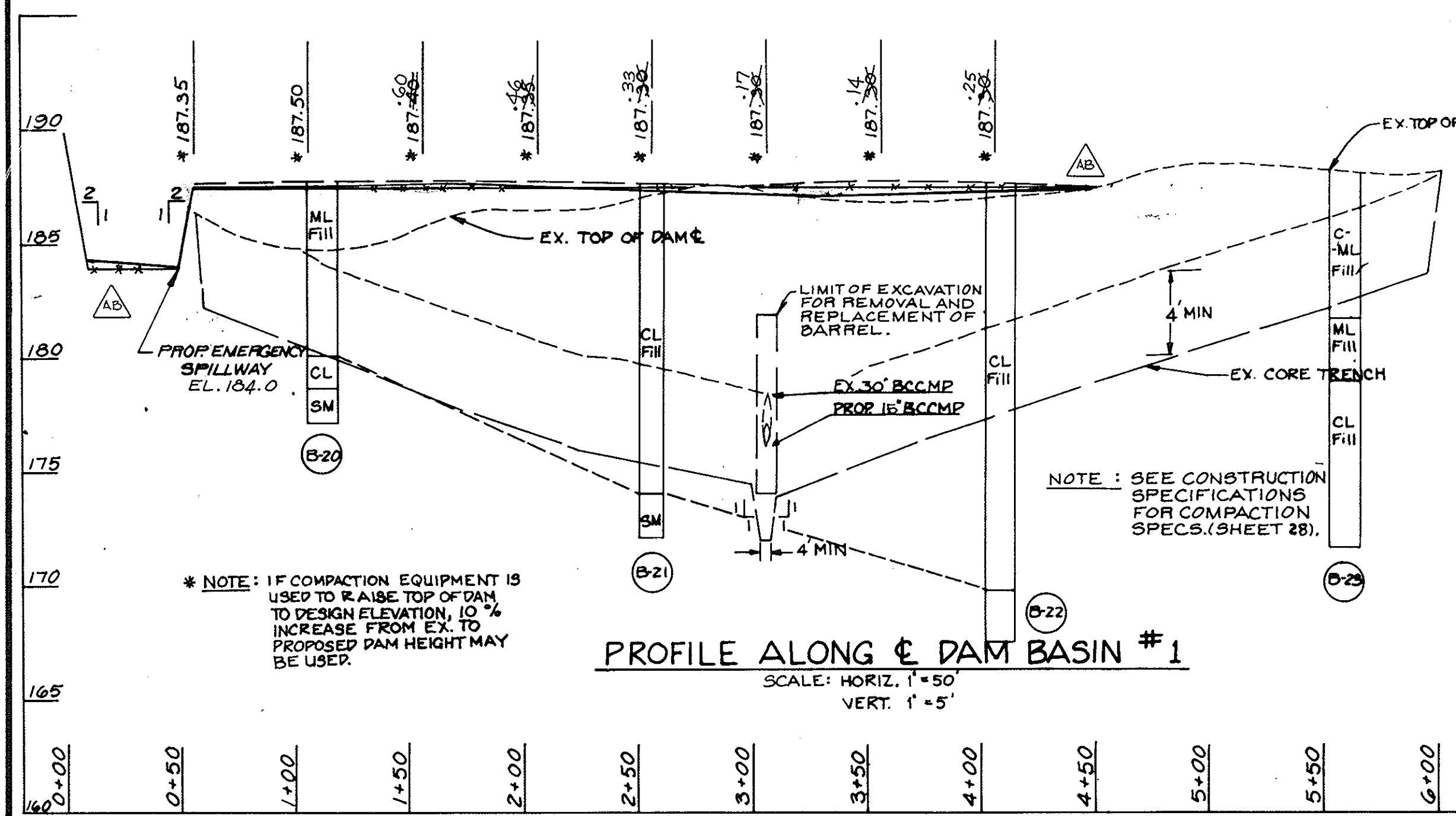
**MEADOWRIDGE BUSINESS PARK**

LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28; 35-39, 42, 45, 46, 49

ZONE: M-1  
1ST. ELECTION DISTRICT

ZONING MAPS 37-43  
HOWARD CO., MARYLAND

|                |                  |
|----------------|------------------|
| K.A.M. DESIGN  | SCALE AS SHOWN   |
| K.R.M. DRAWN   | 28 OF 30         |
| R.H.M. CHECKED | SHEET            |
| OCT. 1988 DATE | JOB No. FILE No. |



**NOTES:**

- UPON COMPLETING REMOVAL OF WATER AND SEDIMENT FROM EXISTING POND AND ON A TWO DAY DRY WEATHER FORECAST, REMOVE EX. BANK AND REPAIR AND REPAIR WITH 30" BCCMP. SEE DETAIL SHEET 28 FOR LOW FLOW ORIFICE FABRICATION DETAIL. (SHEET 28).
- DEWATERING DEVICE IS TO REMAIN UNTIL PROPOSED DRAINAGE AREA IS FULLY STABILIZED.
- UPON FINAL STABILIZATION, REMOVE DEWATERING DEVICE AND INSTALL PERMANENT LOW FLOW ORIFICE. (SEE LOW FLOW ORIFICE FABRICATION DETAIL, SHEET 28).

**PERMANENT STORMWATER MANAGEMENT**

- PROPOSED DRAINAGE AREA: 91.0 AC.
- BASIN CLASS: 1
- HEIGHT OF DAM: 8.90 FT.
- TOP WIDTH OF DAM: 8.0 FT.
- SIDE SLOPES: UPSTREAM 2.5:1, DOWNSTREAM 2.5:1
- VOLUME PROVIDED: 29.18 AC. FT.
- TOP OF DAM: 187.25
- 10-YEAR STORAGE ELEVATION: 183.88
- BOTTOM OF POND EL.: 176.0

**VELOCITIES AND DISCHARGES AT OUTFALL**

|        |          |          |
|--------|----------|----------|
| 2-YR   | 0.60 CFS | 2.00 FPS |
| 10-YR  | 4.00 CFS | 0.00 FPS |
| 100-YR | 50.1 CFS | 0.00 FPS |

**By the Developer:**

"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

*Robert W. Ziehm* 8/22/89  
Signature of Developer Date

**By the Engineer:**

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

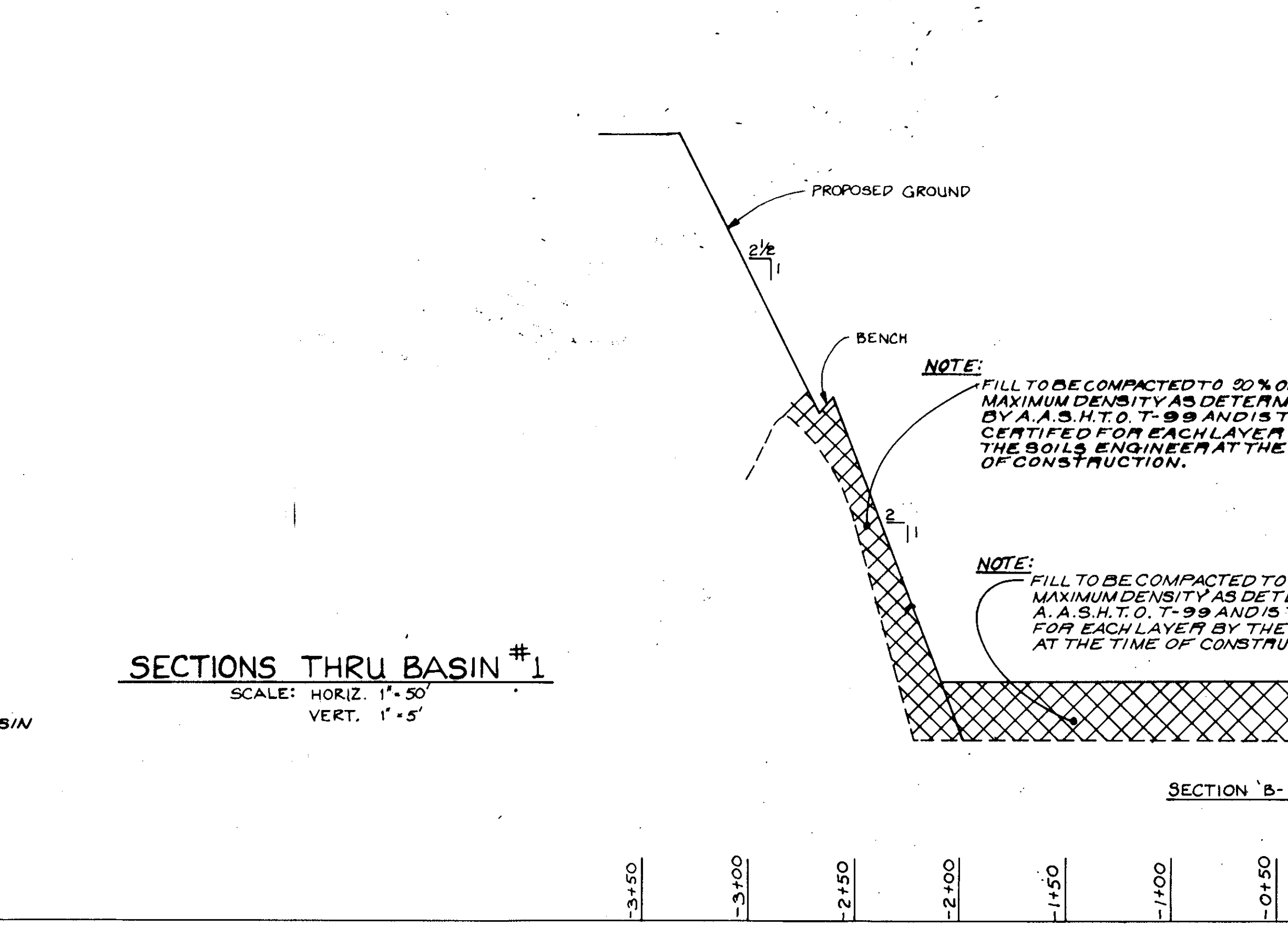
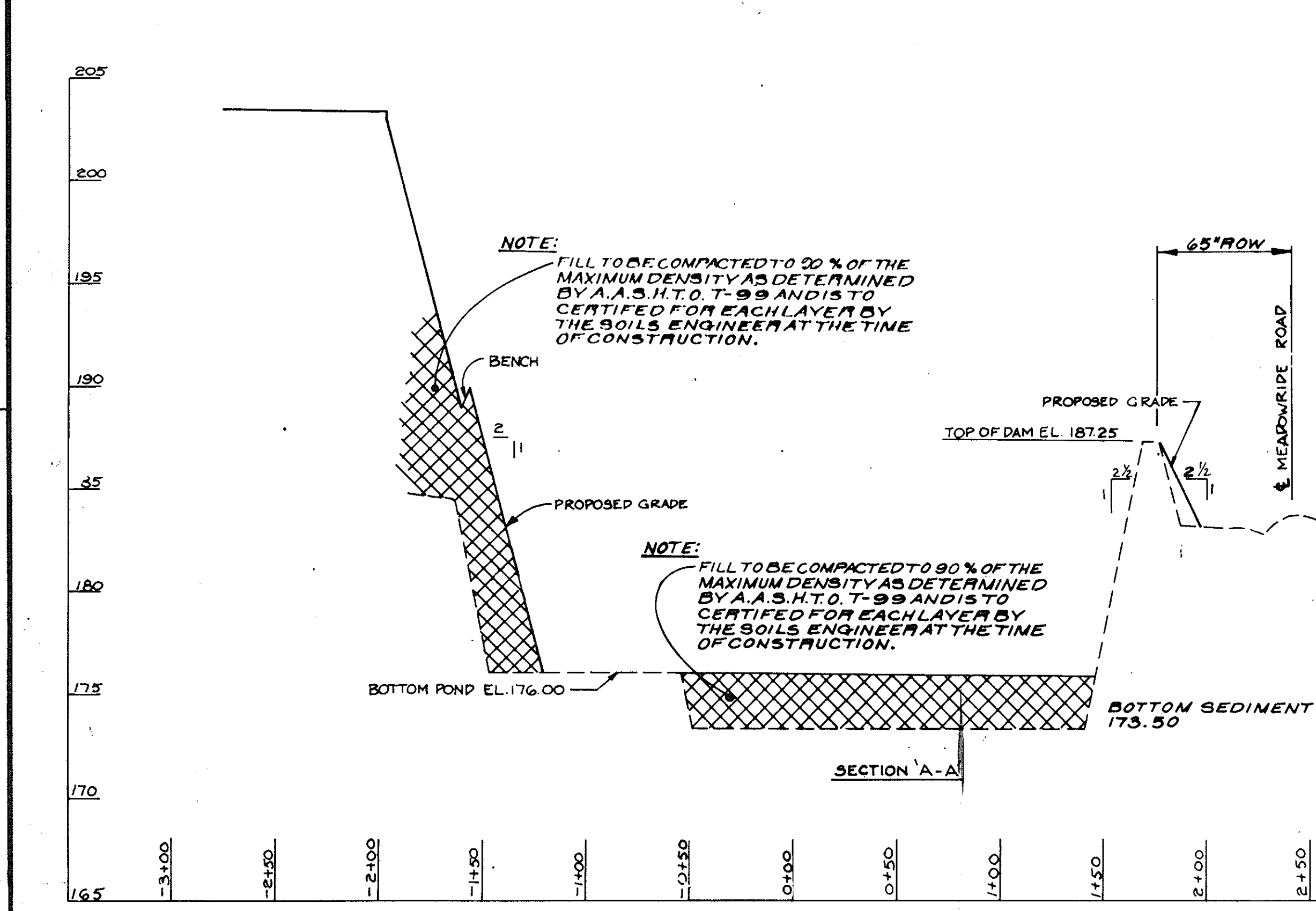
*Alb S. Brown* 8/22/89  
Signature of Engineer Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

*J. Helms* 9-7-89  
Howard Soil Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*Robert W. Ziehm* 9-7-89  
Howard Soil Conservation District Date



**NOTES:**

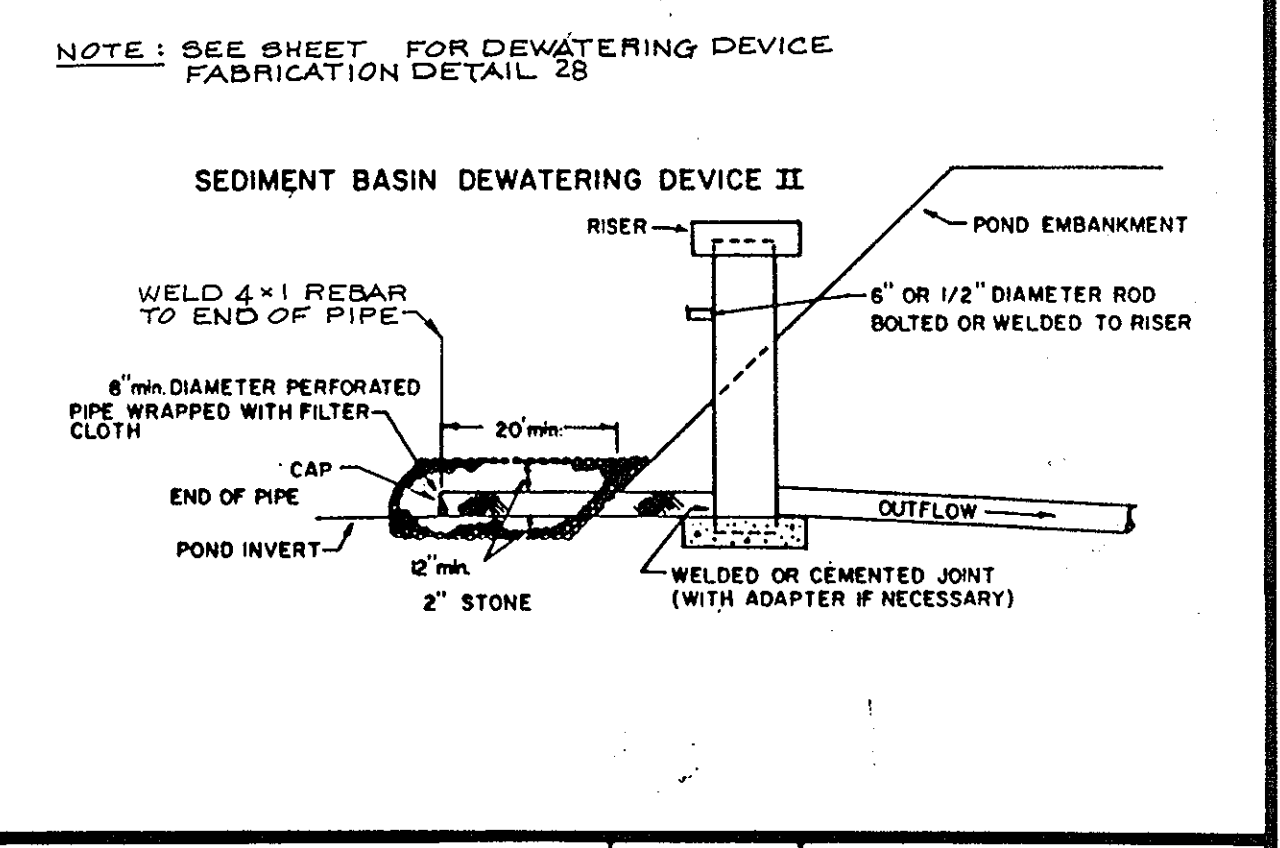
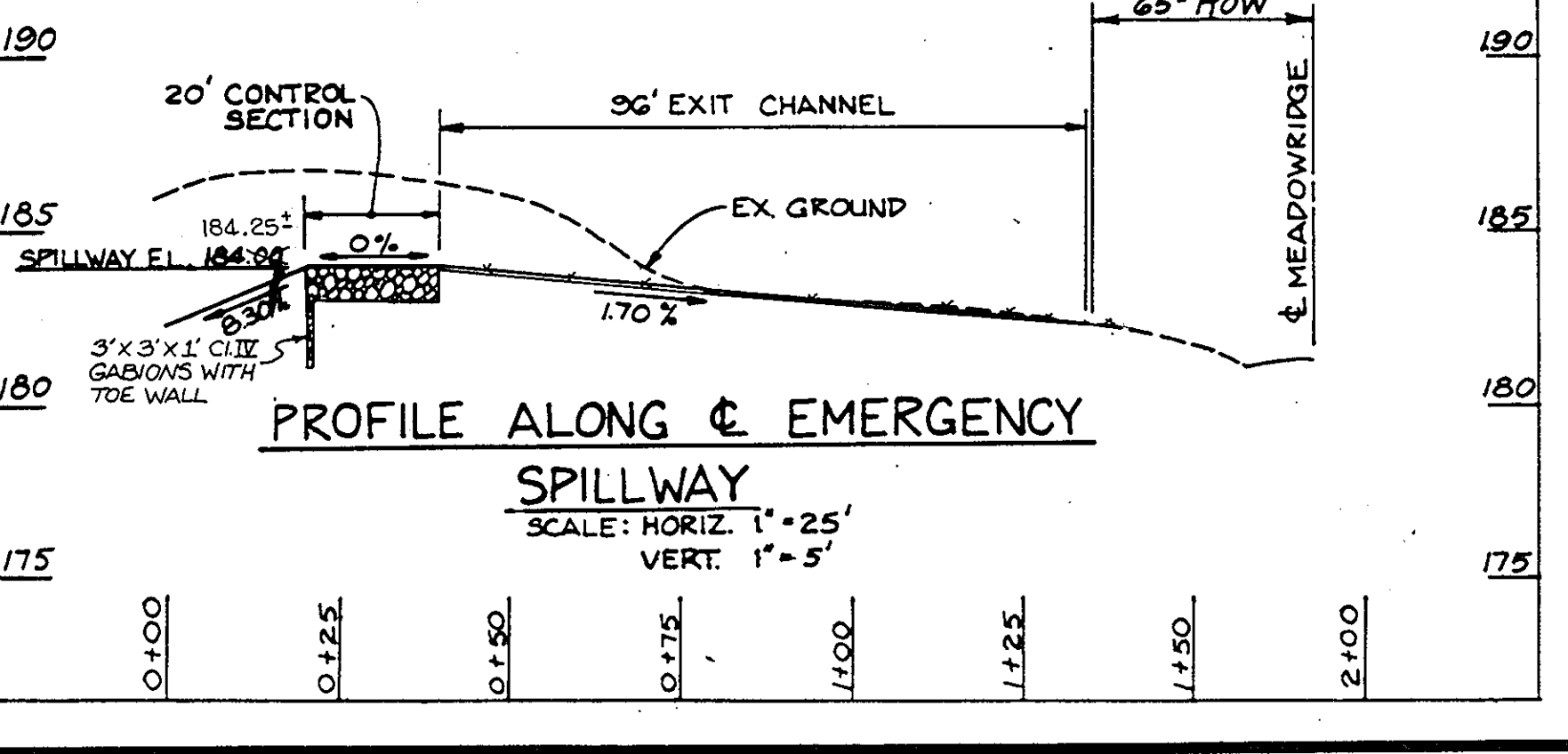
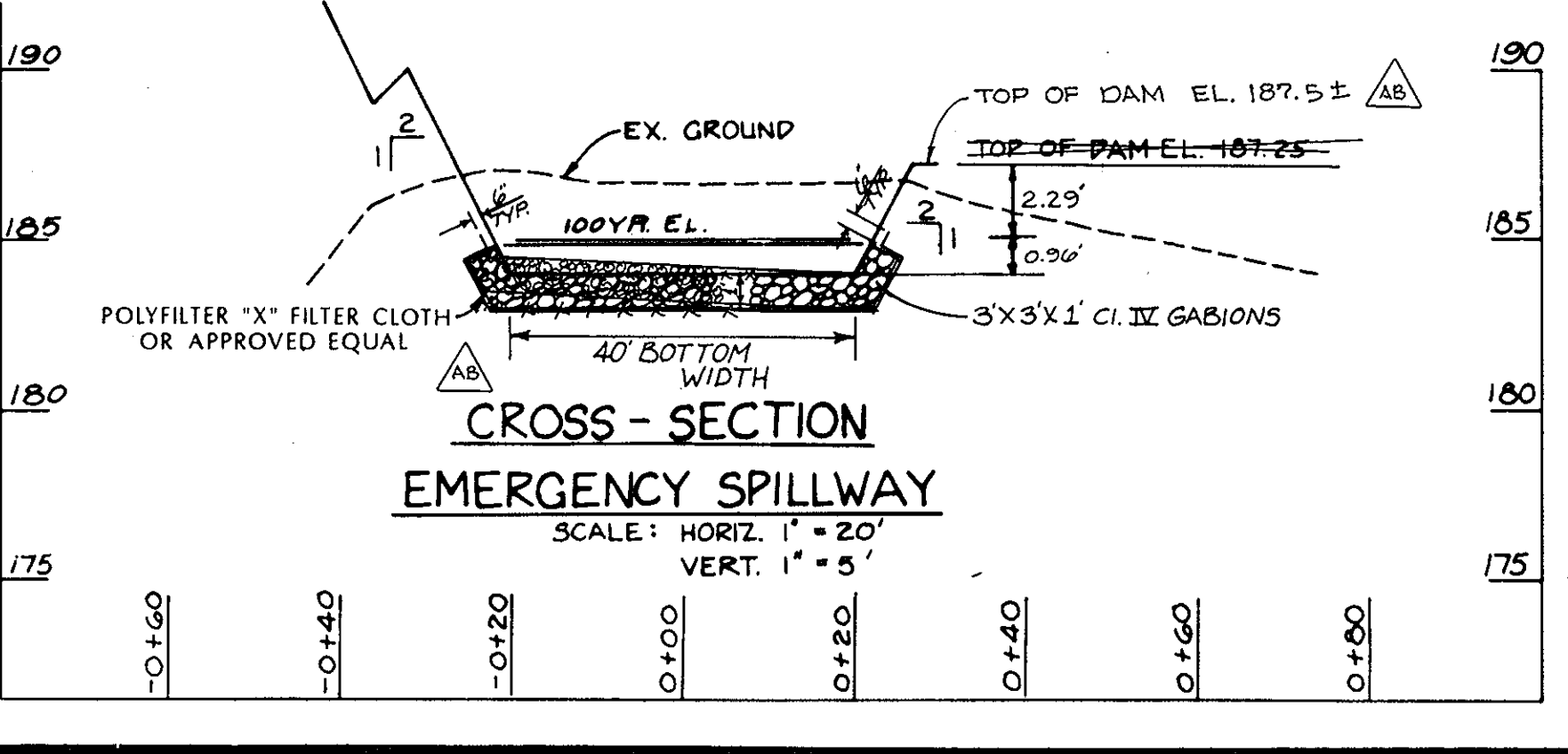
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- DEWATERING DEVICE IS TO REMAIN UNTIL PROPOSED DRAINAGE AREA IS FULLY STABILIZED.
- UPON FINAL STABILIZATION, REMOVE DEWATERING DEVICE AND INSTALL PERMANENT LOW FLOW ORIFICE. (SEE LOW FLOW ORIFICE FABRICATION DETAIL, SHEET 28).

JAYKANT D. PAREKH \*19148 (FOR AS-BUILTS)

APPROVED HOWARD COUNTY, DEPT. OF PUBLIC WORKS  
*[Signature]* 10-11-89  
CHIEF, BUREAU OF ENGINEERING

APPROVED HOWARD COUNTY, DEPT. OF PLANNING & ZONING  
*[Signature]* 10/12/89  
CHIEF, DIV. OF COMMUNITY PLANNING AND LAND DEVELOPMENT

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
FOR REV #1



OWNER/DEVELOPER  
MEADOWRIDGE INDUSTRIAL PARTNERSHIP  
10005 OLD COLUMBIA ROAD  
COLUMBIA, MARYLAND 21046  
PH. (301) 381-4444

| NO. | REVISION  | DATE   | BY  |
|-----|---|--------|-----|
| 1   | ADD PROFILES @ E DAM BASIN #1 & SPILLWAY BASIN #1, ALSO X-SECTION OF EMER SPILLWAY TO MEET AS-BUILT CONSTR. |        | RJC |
| 2   | REV. PROFILE THRU PRINCIPAL SPILLWAY BASIN #1 TO SHOW NEW LOW FLOW ORIFICE                                  | 4-2-04 | MAC |

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NOTES AND DETAILS - BASIN # 1  
PARCELS A-S

**MEADOWRIDGE BUSINESS PARK**  
LIBER 1419; FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
ZONE M-1  
1ST. ELECTION DISTRICT

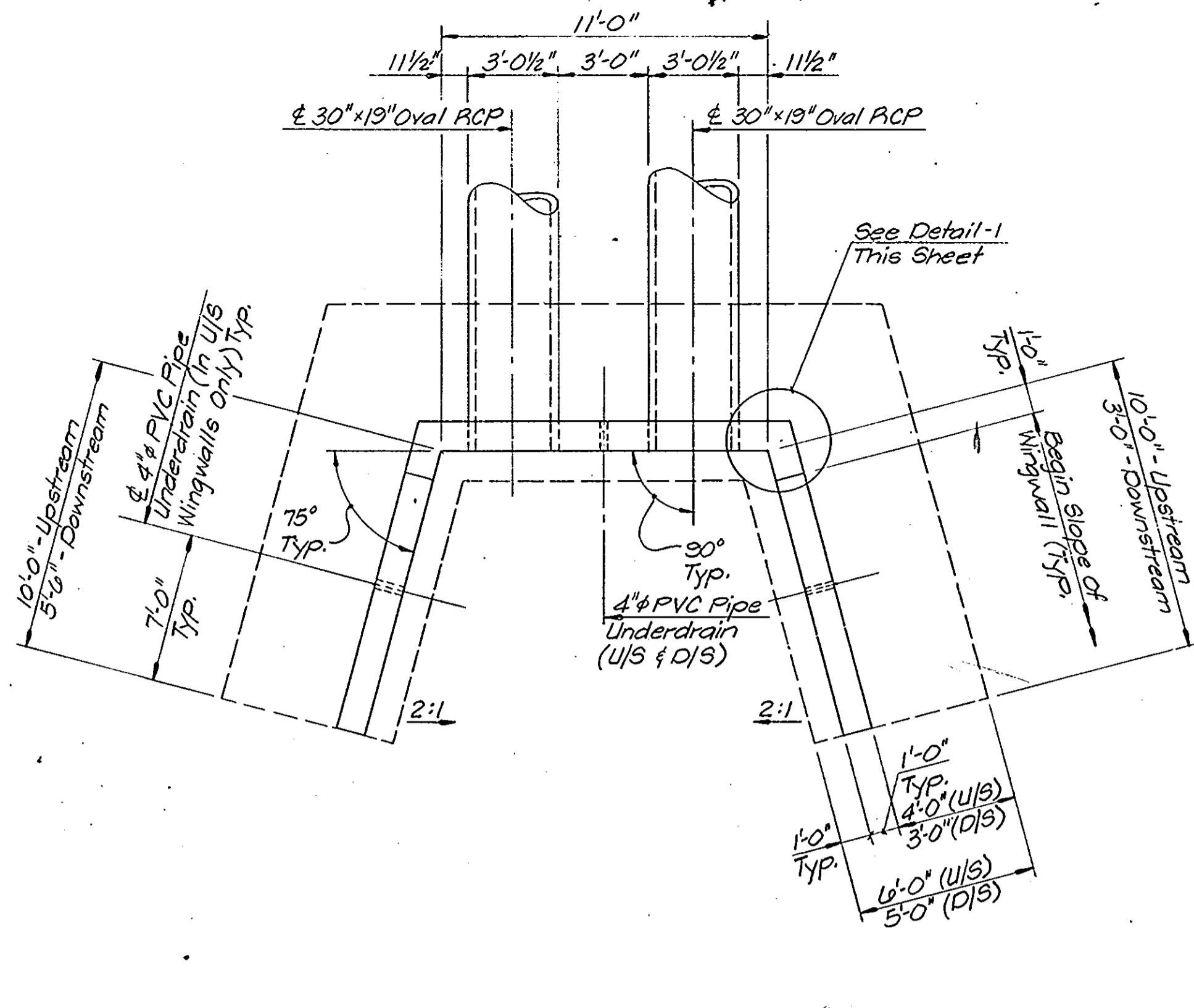
ZONING MAPS 37-43  
HOWARD CO., MARYLAND

K.A.M. DESIGN SCALE AS SHOWN

K.R.M. DRAWN 29 OF 30

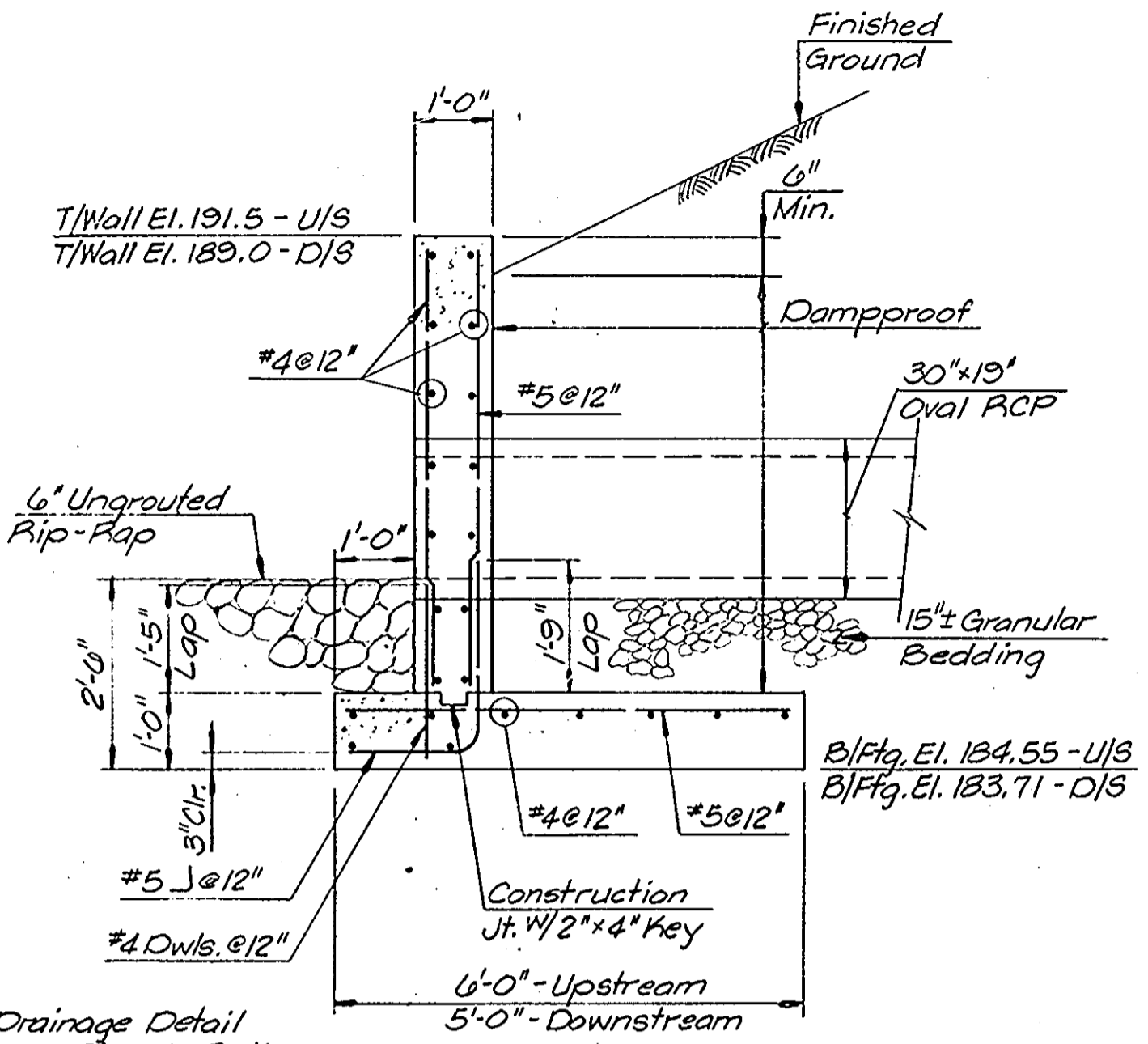
R.H.M. CHECKED SHEET

OCT. 1988 DATE JOB No. B-1121-X FILE No.



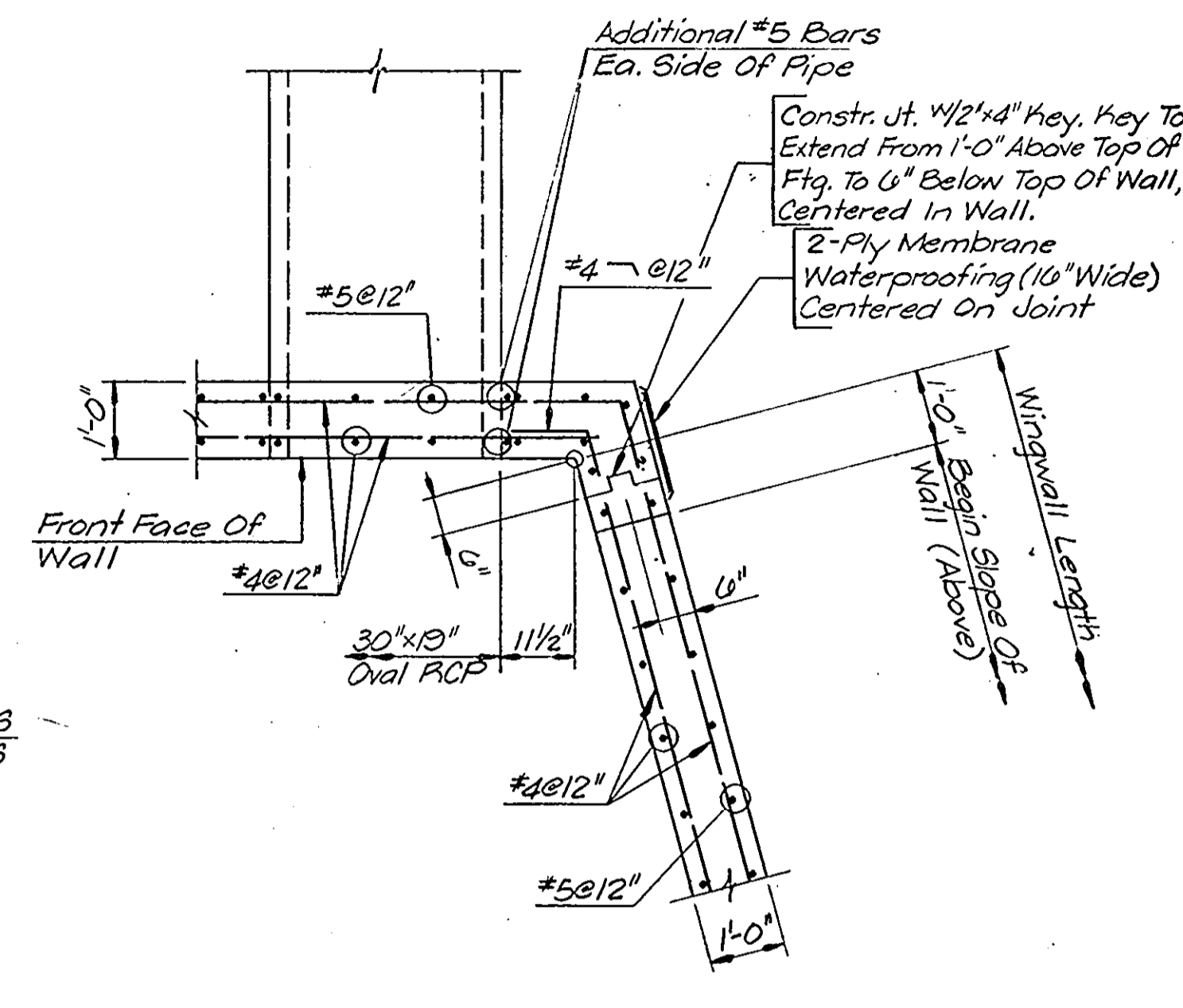
**PLAN**  
Scale: 1/4" = 1'-0"

Note: -U/S = Upstream Endwall (Struct. # H4)  
 -D/S = Downstream Endwall (Struct. # H3)  
 -For Structure Locations, See "Structure Schedule" Sheet 17 of 30.

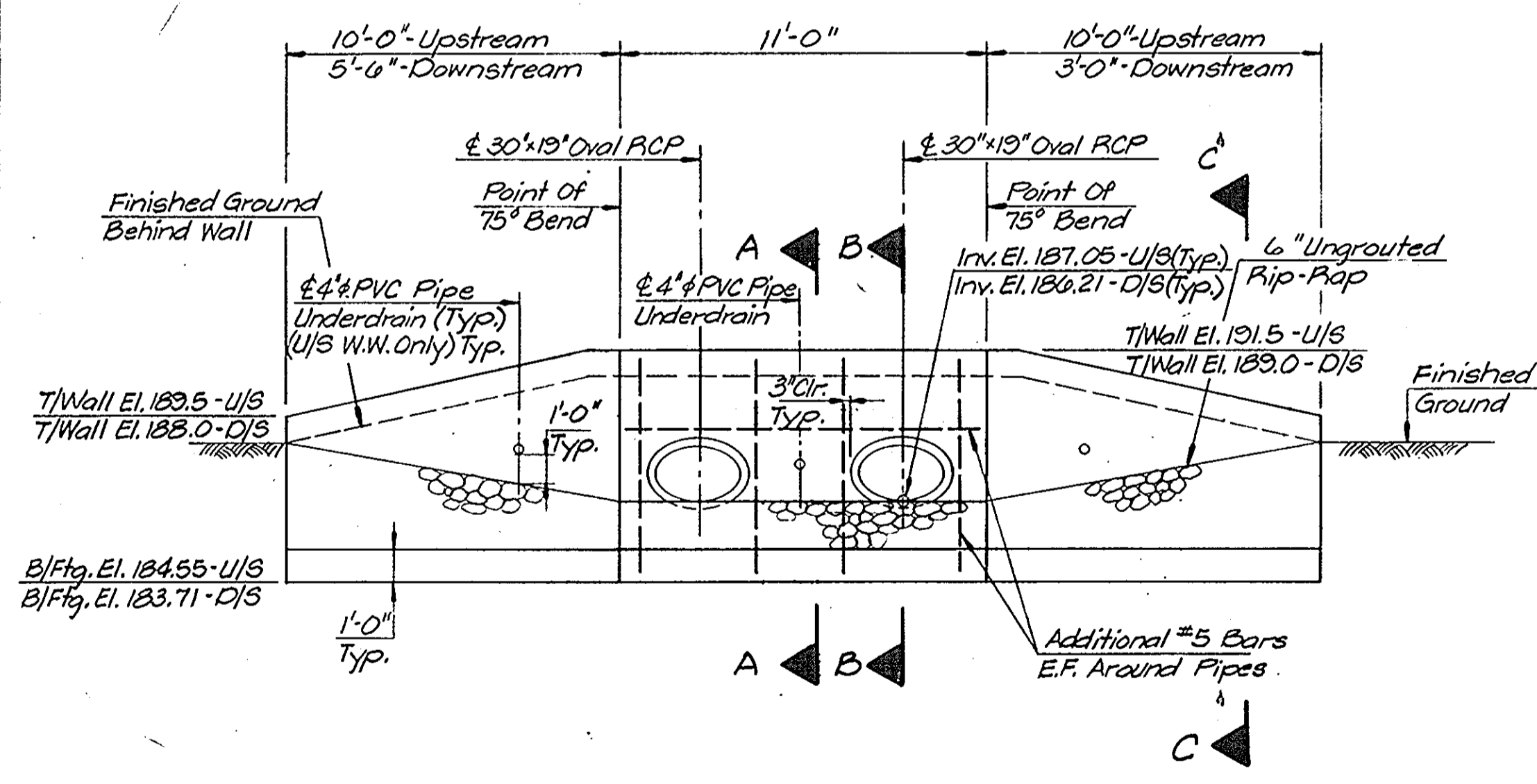


**SECTION-A**  
Scale: 1/2" = 1'-0"

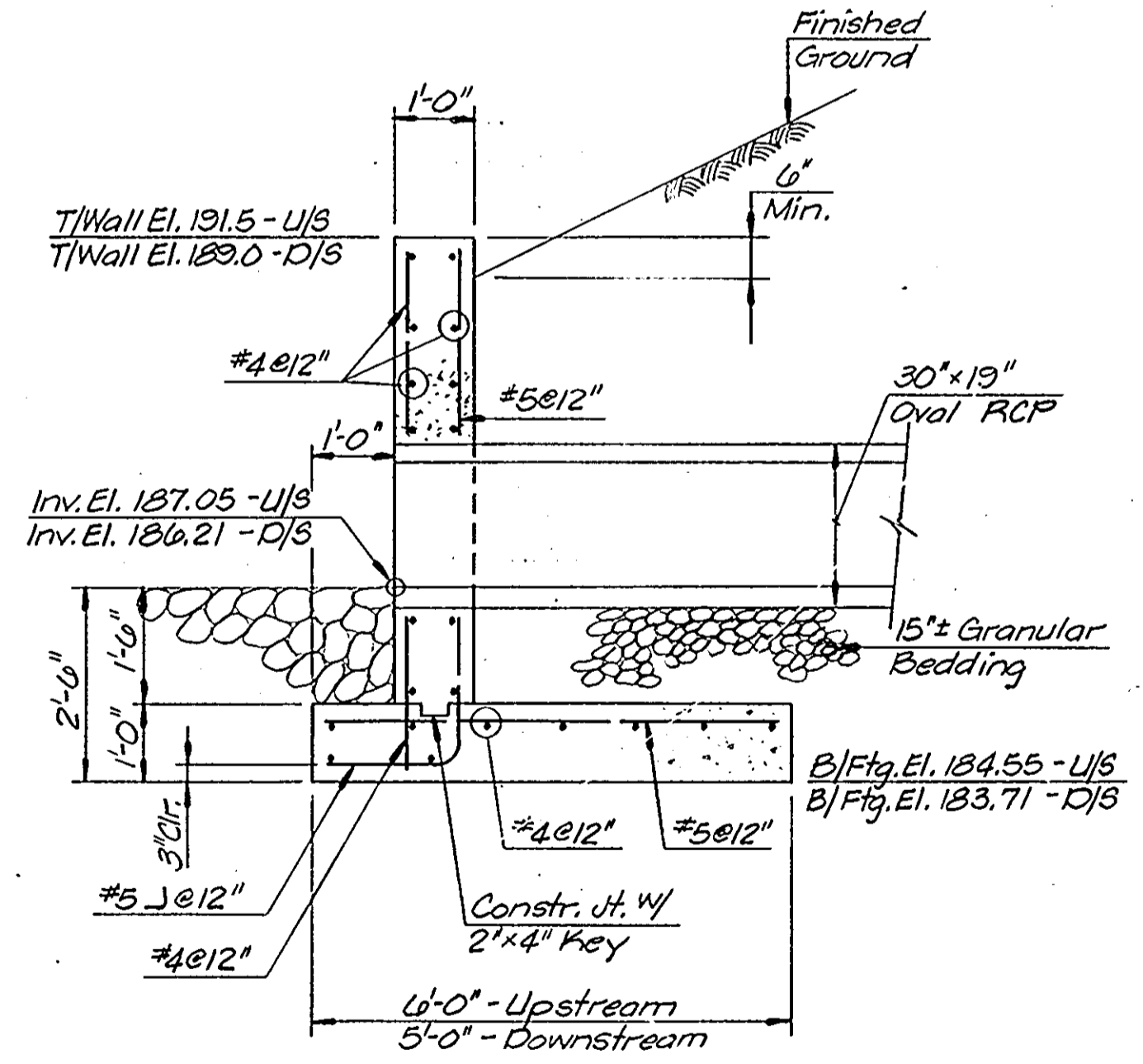
Note: For Drainage Detail Between Pipes In Both Endwalls, See Section-C, This Sheet.



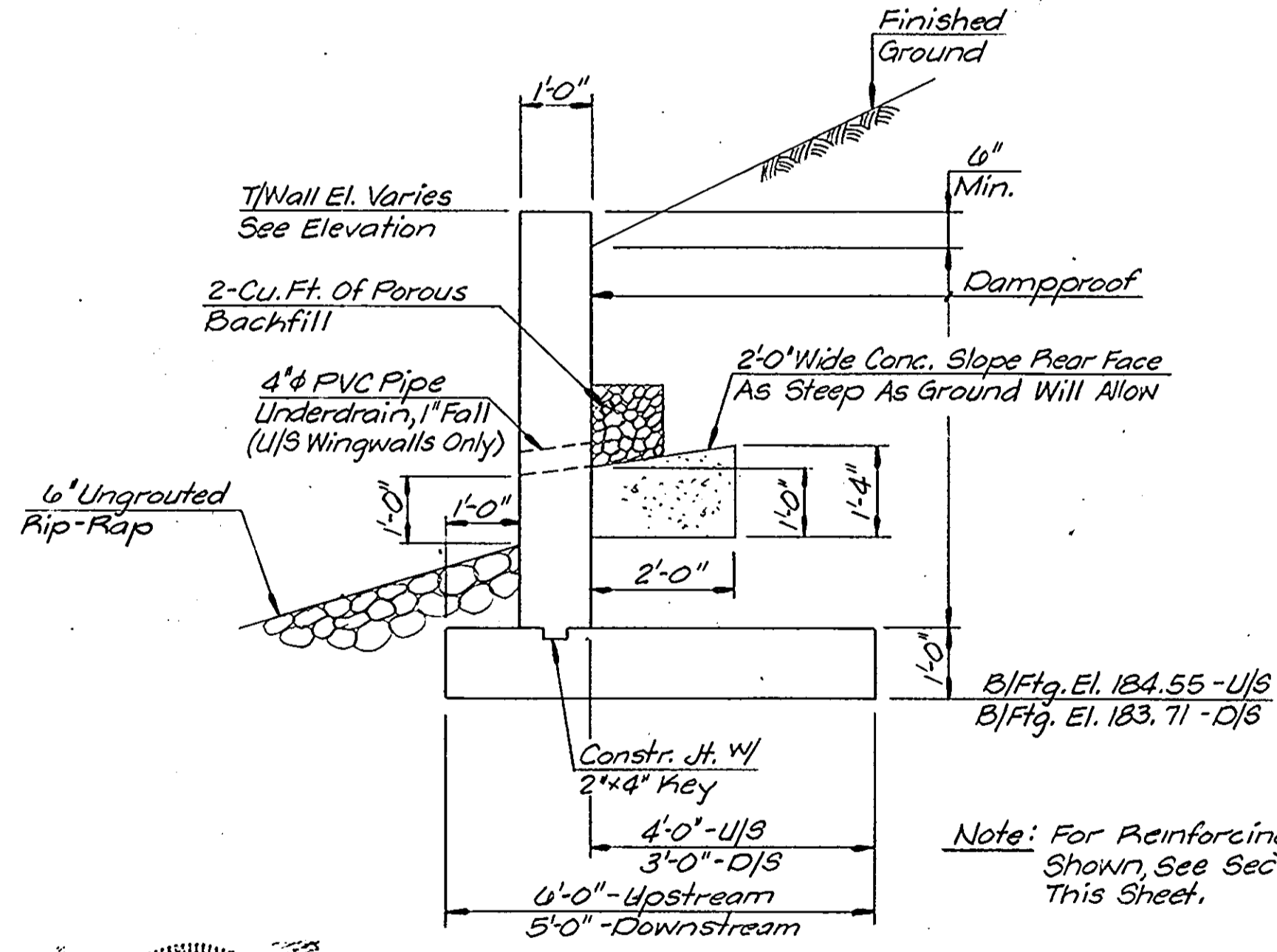
**DETAIL-1**  
Scale: 1/2" = 1'-0"



**ELEVATION**  
Scale: 1/4" = 1'-0"



**SECTION-B**  
Scale: 1/2" = 1'-0"



**SECTION-C**  
Scale: 1/2" = 1'-0"

Note: For Reinforcing Not Shown, See Section-A, This Sheet.

**STRUCTURAL NOTES**

- SPECIFICATIONS:** All construction and materials shall conform to the latest edition of the Howard County Standard Specifications and the Maryland State Highway Standard Specifications for Construction and Materials, including all errata and addenda, and these notes.
- Design is in accordance with the American Concrete Institute Standard 318-83, revised 1986.
- DESIGN METHOD:** Cast-In-Place Concrete Design:  
 Working Stress Method:  $f_c = 1,575$  p.s.i.  
 $f_s = 24,000$  p.s.i.
- LOADINGS:** Assumed Soil Properties for Design:  
 Unit Weight of Wet Soil = 120 pcf  
 Lateral Earth Pressure Coefficient Active = .41 (for 2.8H:1V max backfill slope)
- CONCRETE:** Unless noted otherwise on these Plans, all cast-in-place concrete shall obtain a minimum compressive strength of 3500 psi at 28 days (Mix No. 3). All exposed corners shall be chamfered 3/4" x 3/4".
- REINFORCING STEEL:** All reinforcing steel shall conform to ASTM A-615, Grade 60. Concrete cover over all reinforcing shall be 2" unless noted otherwise. All rebar laps, bends and embedment depths shall meet the requirements of ACI 318-83.
- KEYS:** All keys are nominal size.
- SOIL BEARING PRESSURE:** The design bearing pressure of 1500 psf shall be verified in the field by a qualified Geotechnical Engineer. If the actual bearing capacity of the soil and/or the compacted fill does not meet the design criteria, the Structural Engineer shall be contacted before construction continues.
- CONSTRUCTION DEWATERING:** All work performed for permanent structures shall be carried out in areas free from water. Dewatering of the excavations shall be accomplished by methods approved by the Engineer.
- SHOP DRAWINGS:** All shop drawings, working drawings, and/or design computations submitted to the Structural Engineer for review and/or approval shall bear the signature and seal of a Professional Engineer registered in the State of Maryland.
- MISCELLANEOUS ITEMS:** Structural drawings shall be used in conjunction with the remaining contract drawings, and the Contractor shall be responsible for seeing that the work of all trades is coordinated with the structural work. The Contractor shall be responsible for furnishing, erecting, and removing any shoring and bracing during construction. The Engineer shall be notified at the proper time when all items are ready for inspection. All safety regulations shall be followed strictly. Methods of construction and erection of structural material are the Contractor's responsibility.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 [Signature] 10-11-89  
 CHIEF, BUREAU OF ENGINEERING  
 [Signature] 2/27/89  
 CHIEF, LAND DEVELOPMENT DIVISION  
 [Signature] 9/2/89  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 11/12/89  
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT



OWNER/DEVELOPER  
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**HEADWALL DETAILS FOR 30" X 19" OVAL CONC. PIPES**

PARCELS A - S  
**MEADOWRIDGE BUSINESS PARK**  
 LIBER 1419, FOLIO 500 TAX MAPS 37 & 43, P. 177, 178, 362, P/O 375  
 WASHINGTON MANOR PARK LOTS 6-13, 24-28, 35-39, 42, 45, 46, 49  
 ZONE: M-1  
 1st. ELECTION DISTRICT

ZONING MAPS 37-43  
 HOWARD CO., MARYLAND

|               |                           |
|---------------|---------------------------|
| S.M.K. DESIGN | SCALE AS NOTED            |
| R.M.J. DRAWN  | 30 OF 30                  |
| A.H. CHECKED  | SHEET                     |
| MAY 1989 DATE | JOB No. B-1121-X FILE No. |