

PLAN
SCALE: 1" = 50'

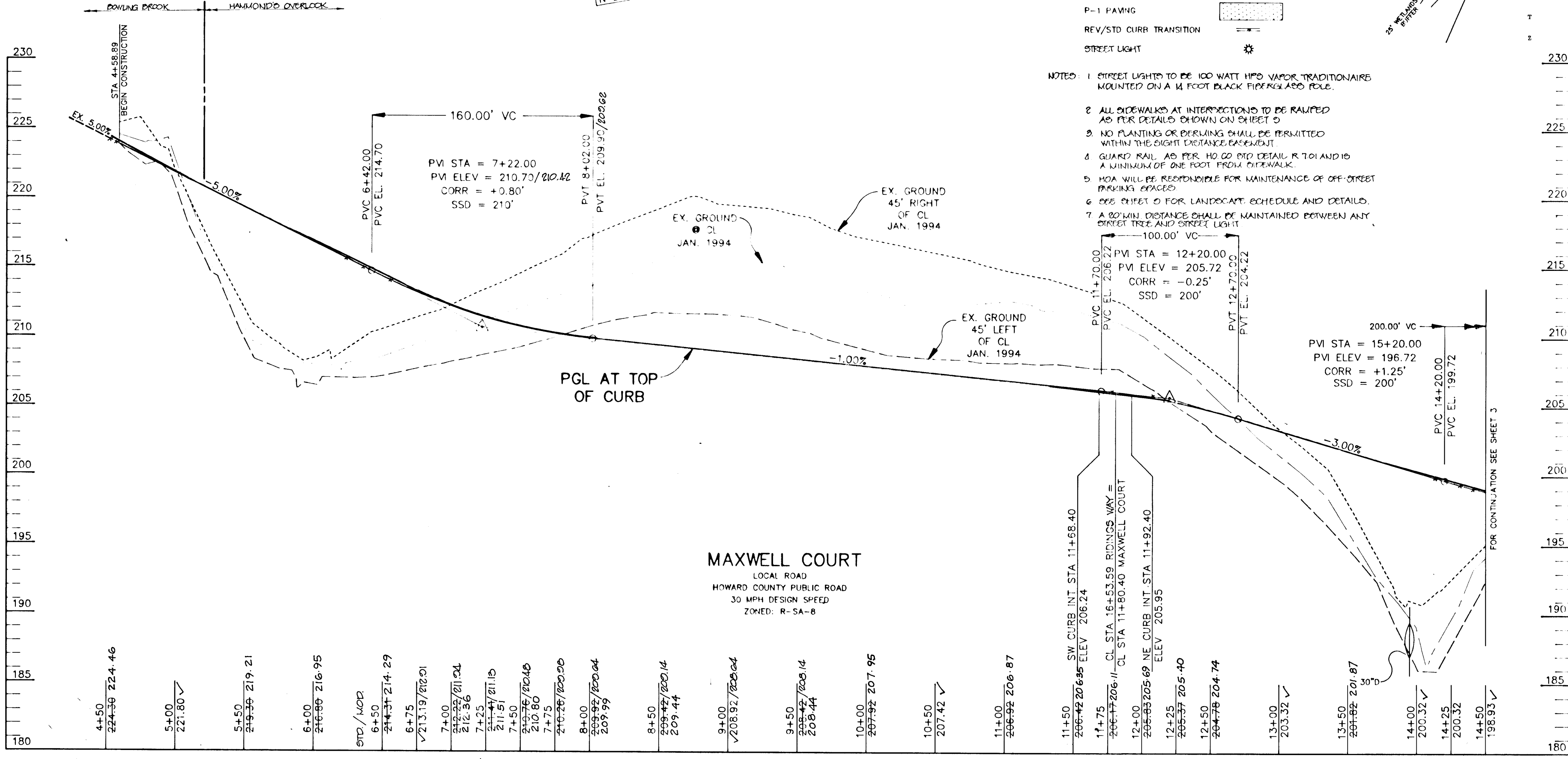
PLANT LIST

| KEY | QTY | NAME | SIZE | REMARKS |
|-----|-----|------------------------------------|------------------------------|-----------------|
| F | 32 | FRAXINUS AMERICANA 'AUTUMN PURPLE' | 2 1/2" - 3" CAL. 12'-14' HT. | B & B Full head |
| T | 35 | TILIA CORDATA 'GREENSPIRE' | 2 1/2" - 3" CAL. 12'-14' HT. | B & B Full head |
| Z | 41 | ZELEKOVA SPERATA 'VILLAGE GREEN' | 2 1/2" - 3" CAL. 12'-14' HT. | B & B Full head |

LEGEND

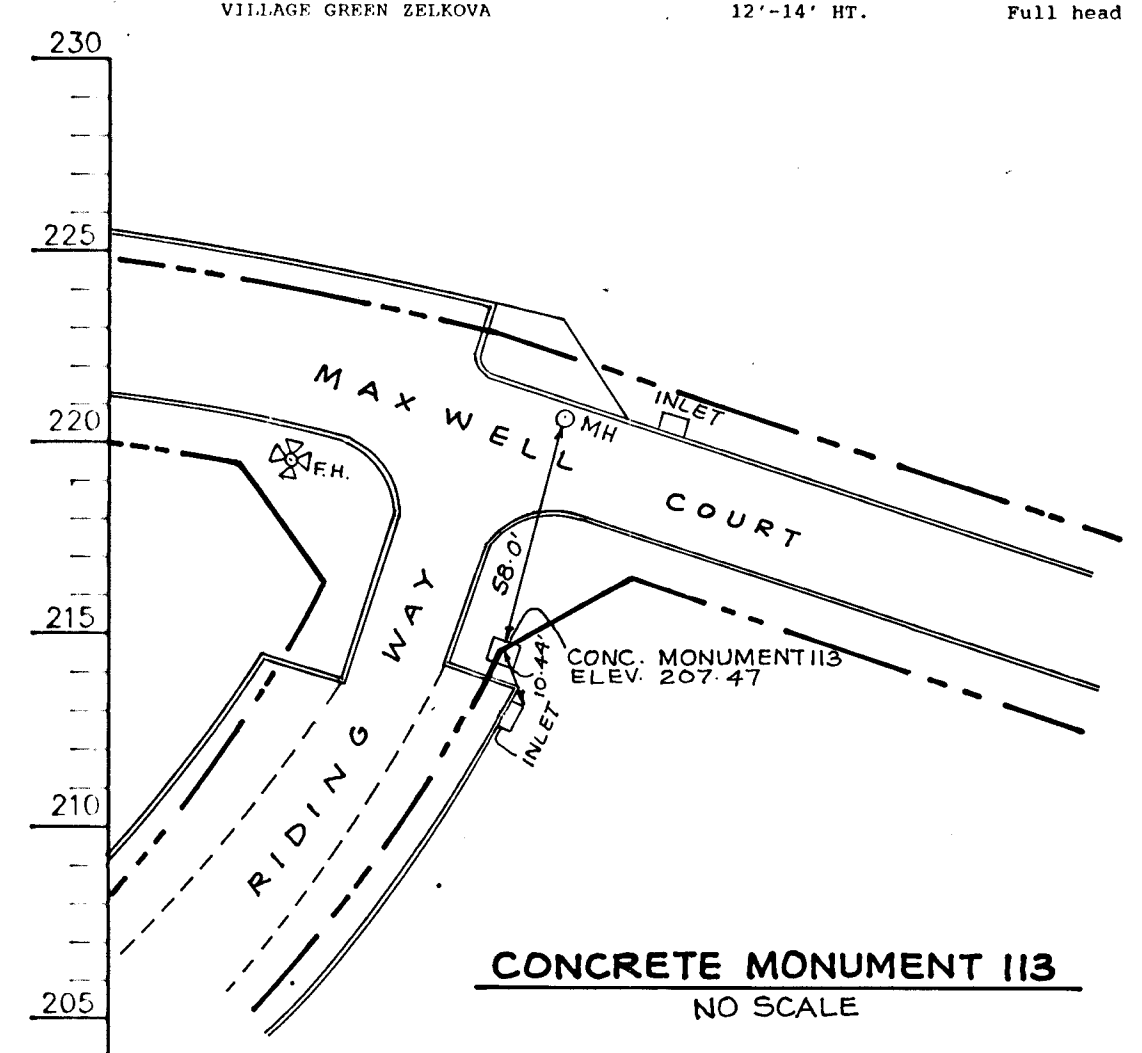
- P-1 PAVING
- REV/STD CURR TRANSITION
- STREET LIGHT

- NOTED:**
- STREET LIGHTS TO BE 100 WATT HPS VAPOR TRADITIONAIRE MOUNTED ON A 14 FOOT BLACK PIPE AND POLE.
 - ALL SIDEWALKS AT INTERSECTIONS TO BE RAISED AS PER DETAILS SHOWN ON SHEET 3.
 - NO PLANTING OR EXCAVATION SHALL BE PERMITTED WITHIN THE SIGHT DISTANCE BASEMENT.
 - GUARD RAIL AS PER HO GO STD DETAIL R 101 AND IS A MINIMUM OF ONE FOOT FROM SIDEWALK.
 - HOA WILL BE RESPONSIBLE FOR MAINTENANCE OF OFF-STREET PARKING SPACES.
 - SEE SHEET 3 FOR LANDSCAPE SCHEDULE AND DETAILS.
 - A 20' MIN. DISTANCE SHALL BE MAINTAINED BETWEEN ANY STREET TREE AND STREET LIGHT.



PROFILE

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



AS-BUILT CERTIFICATE

11-15-99
DATE

CHRISTOPHER J. REID #19949
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

1/4/95
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

1/3/95
DATE

12-21-94
DATE

1/3/95
DATE

12-29-95 | REV. STD. CIG TO MOD. CIG FOR LOTS 84-47

DATE NO. REVISION

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT **HAMMOND'S OVERLOOK**
LOTS 1-118
A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE

AREA TAX MAP NO. 47 ZONED R-SA-8
PARCEL "A"
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **PLAN AND PROFILE OF MAXWELL COURT**
FROM STA 4+58.89 TO STA 14+50

RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
410-997-8900 FAX: 410-997-9282

11-18-99
DATE

S-94-15 P-94-14
WP-94-112 F-60-173

DESIGNED BY: C.J.R.

DRAWN BY: DAM

PROJECT NO: 88815

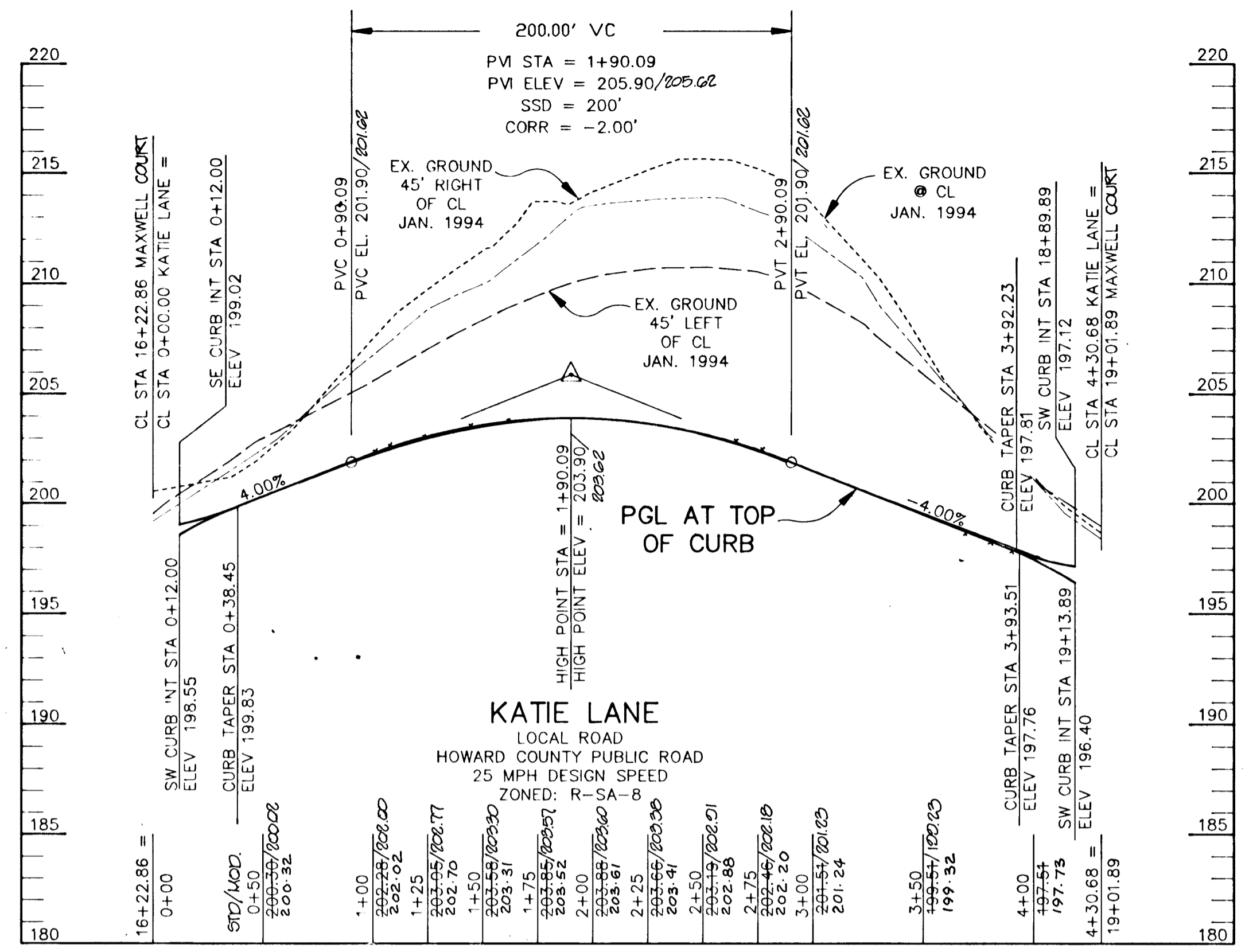
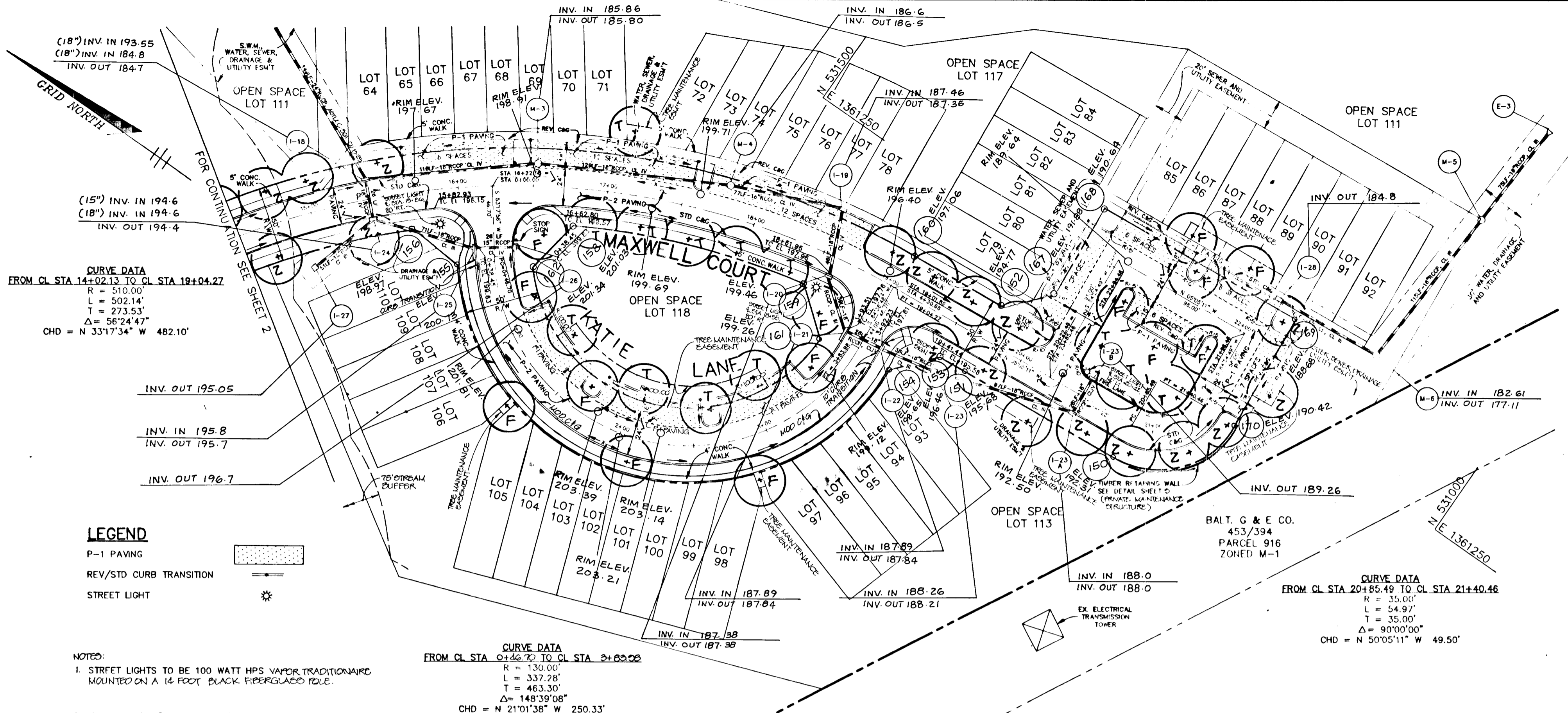
DATE: NOVEMBER 22, 1994

SCALE: AS SHOWN

DRAWING NO. 2 OF 2

AS-BUILT F-05-24
11/05/99

1718

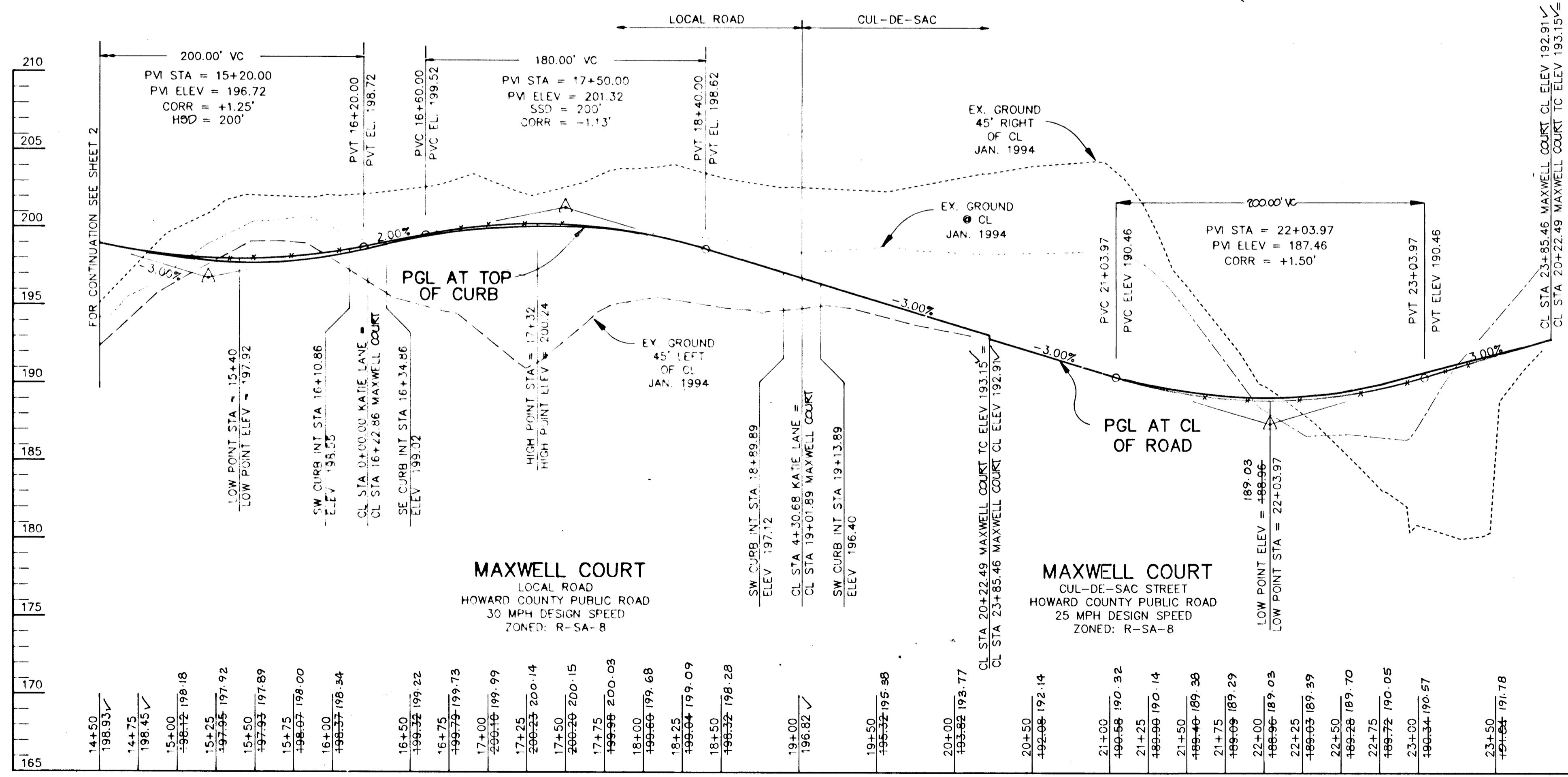


- LEGEND**
- P-1 PAVING
 - REV/STD CURB TRANSITION
 - STREET LIGHT

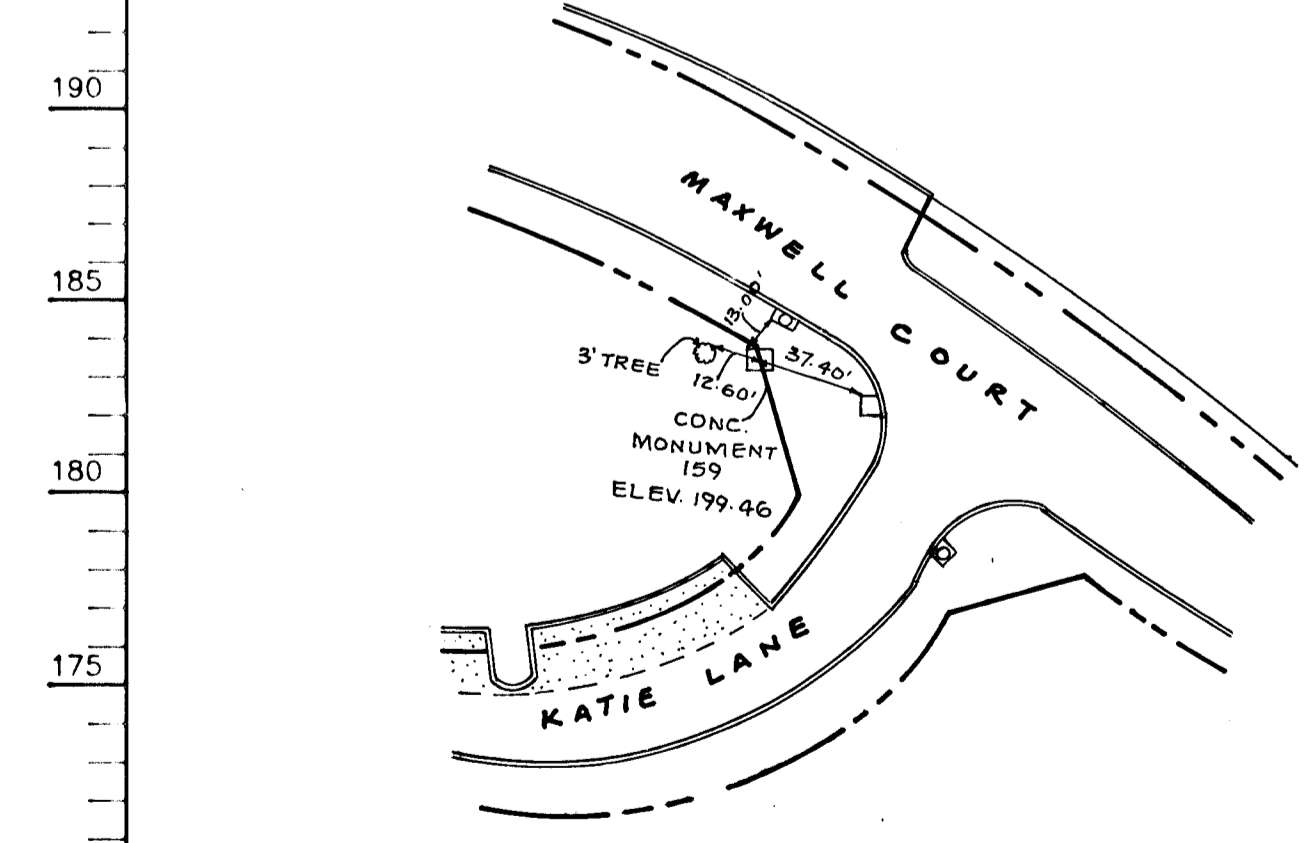
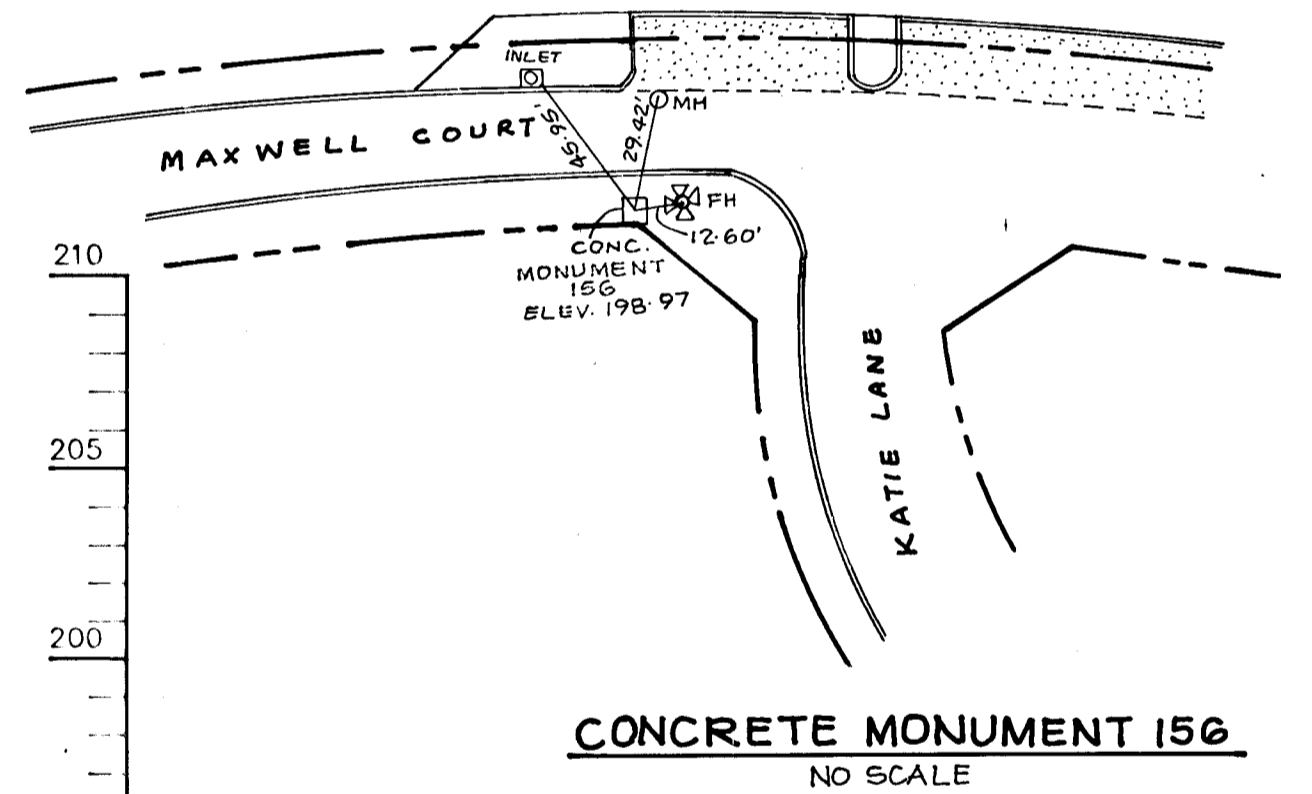
- NOTES:**
- STREET LIGHTS TO BE 100 WATT HPS VAPOR TRADITIONARY MOUNTED ON A 14 FOOT BLACK FERROGLASS POLE.
 - ALL SIDEWALKS AT INTERSECTIONS TO BE RAMPED AS PER DETAILS SHOWN ON SHEET D.
 - SEE SHEET 2 FOR PLANT LIST.
 - HOA WILL BE RESPONSIBLE FOR MAINTENANCE OF OFF STREET PARKING SPACES.
 - HOWARD COUNTY TO MAINTAIN ONLY DRIVE LANE AT TERMINATION OF MAXWELL COURT.
 - SEE SHEET D FOR LANDSCAPE SCHEDULE AND DETAILS.
 - A 20' MIN DISTANCE SHALL BE MAINTAINED BETWEEN ANY STREET TREE AND STREET LIGHT.

PLAN
SCALE: 1" = 50'

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



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



BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Christopher J. Reid 11-15-99 DATE
CHRISTOPHER J. REID # 19949

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Gina Trimmajil 1/4/95 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William J. ... 1/3/95 DATE
CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Howard ... 12-21-94 DATE
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Richard ... 1/3/95 DATE
CHIEF, BUREAU OF ENGINEERING

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

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT **HAMMOND'S OVERLOOK**
LOTS 1-118
A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE

AREA TAX MAP NO. 47 ZONED R-SA-8
PARCEL "A"
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

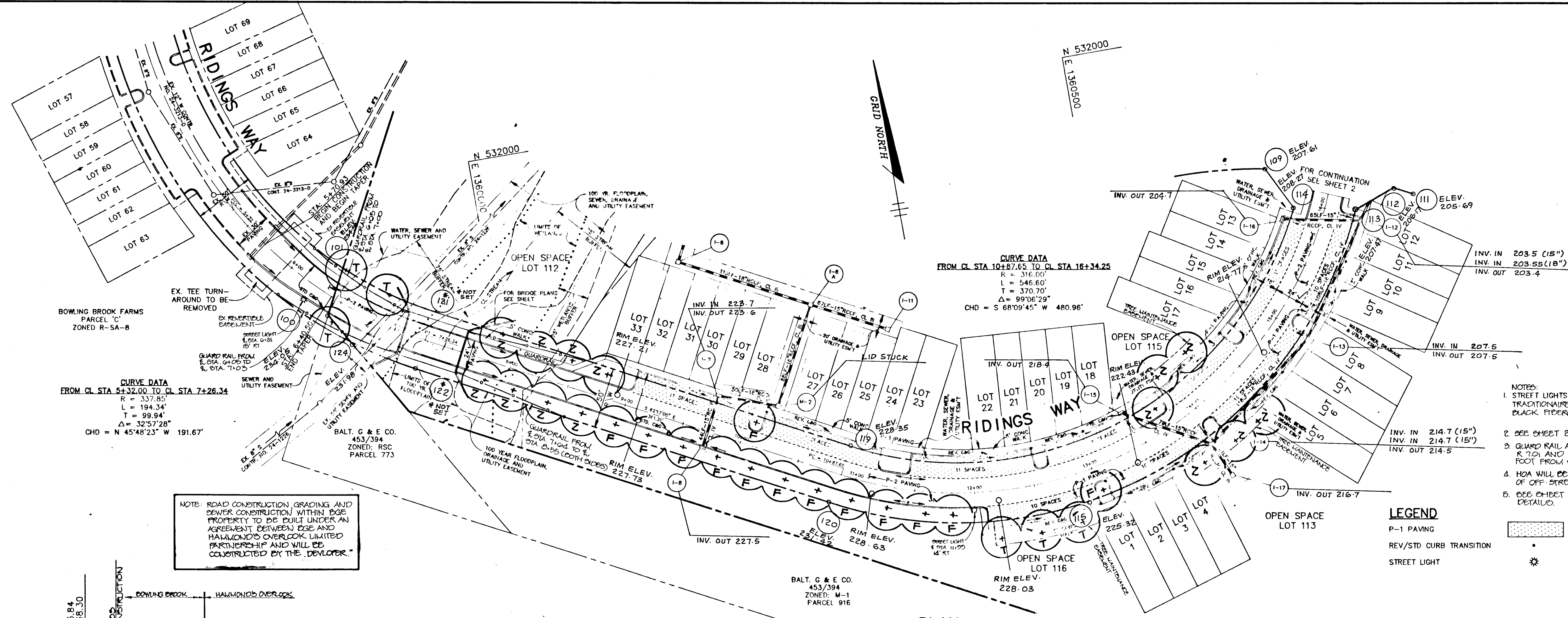
TITLE **PLAN AND PROFILE OF MAXWELL COURT FROM STA 14+50 TO END AND KATIE LANE**

RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
410-997-8900 FAX: 410-997-9282

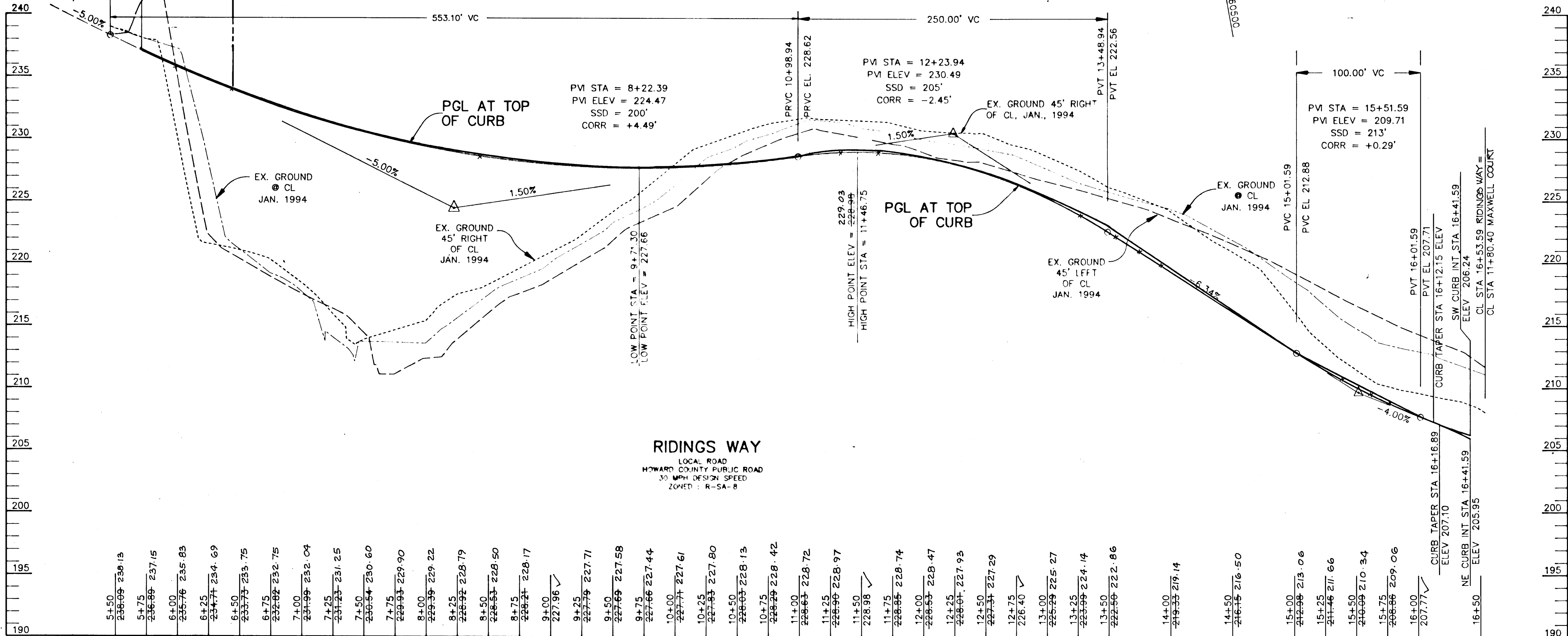
DATE 11-28-94
DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO: 88815
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 3 OF 25

ARTHUR E. MUEGGE #2107

1718



PLAN
SCALE: 1" = 50'



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

- NOTES:**
- STREET LIGHTS TO BE 100 WATT HPS VAPOR TRADITIONAL MOUNTED ON A 14 FOOT BLACK HYDROGLASS POLE.
 - SEE SHEET 2 FOR PLANT LIST.
 - GUARD RAIL AS PER HO COUNTY DETAIL R 701 AND IS A MINIMUM OF ONE FOOT FROM SIDEWALK.
 - HOA WILL BE RESPONSIBLE FOR MAINTENANCE OF OFF STREET PARKING SPACES.
 - SEE SHEET 2 FOR LANDSCAPE SCHEDULE AND DETAILS.

- LEGEND**
- P-1 PAVING
 - REV/STD CURB TRANSITION
 - STREET LIGHT

PROFESSIONAL ENGINEER'S BUILT CERTIFICATE

Christopher J. Reid #19949 DATE 11-15-99

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Gima Sriramamji, CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH, DATE 1/4/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signature], CHIEF, LAND DEVELOPMENT DIVISION, DATE 1/2/95
 [Signature], CHIEF, BUREAU OF HIGHWAYS, DATE 12-21-99
 [Signature], CHIEF, BUREAU OF ENGINEERING, DATE 1/3/95

OWNER / DEVELOPER: HAMMOND'S OVERLOOK LIMITED PARTNERSHIP, 110 WEST ROAD, SUITE 203, TOWSON, MARYLAND 21204, 410-321-1000

PROJECT: HAMMOND'S OVERLOOK, LOTS 1-118, A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE

AREA: TAX MAP NO. 47, ZONED R-SA-8, PARCEL 'A', 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF RIDINGS WAY

RIEMER MUEGGE & ASSOCIATES, INC. Planners, Engineers, Surveyors, 8818 Centre Park Drive, Suite 200, Columbia, Maryland 21045, 410-997-8900, FAX: 410-997-9282

DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 88815
 DATE: NOVEMBER 20, 1994
 SCALE: AS SHOWN
 DRAWING NO. 4 OF 35

1718

| DESIGN STORM (IN.) | ALLOWABLE* RELEASE (C.F.D.) | FACILITY INFLOW (C.F.D.) | FACILITY DISCHARGE (C.F.D.) | ROUTED* DISCHARGE (C.F.D.) | WATER SURFACE ELEVATION (FT.) | STORAGE VOLUME (AC. FT.) | REMARKS |
|--------------------|-----------------------------|--------------------------|-----------------------------|----------------------------|-------------------------------|--------------------------|---------|
| 2 | 25.81 | 15 | 2 | 21 | 100.28 | 0.45 | |
| 10 | 64.74 | 30 | 20 | 54 | 101.50 | 0.76 | |
| 100 | N/A | 40 | 40 | N/A | 102.12 | 0.87 | ** |

* DESIGN POINT - AT POINT WHERE HAMMOND'S BRANCH EXITS THE SITE
 ** NO MANAGEMENT REQUIRED
 WATERSHED AREA TO FACILITY - 7.5 AC.
 LEVEL OF MANAGEMENT - 10 YEAR.

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.
 I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERSONNEL ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 DATE: 11-23-94

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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 DATE: 11-23-94

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.
 DATE: 12/15/94

AS BUILT CERTIFICATE
 DATE: 10/15/94

DATE: 11-15-99

DATE: 1/4/95

DATE: 1/3/95

DATE: 1/3/95

DATE: 3-22-96

DATE: 11-28-94

DATE: 11-28-94

DATE: 11-28-94

DATE: 11-28-94

DATE: 11/05/99

SEDIMENT BASIN #1

| | |
|--------------------------|--------------------|
| DRAINAGE AREA | 7.9 ACRES |
| STORAGE VOLUME REQUIRED | 529 CY |
| STORAGE VOLUME PROVIDED | 2853 CY |
| RISER SIZE | MODIFIED A-5 INLET |
| EMERGENCY SPILLWAY WIDTH | 20' |
| EMERGENCY SPILLWAY CREST | 192.0 |
| TOP OF DAM | 194.0 |
| BOTTOM ELEVATION | 185.0 |
| CLEANOUT ELEVATION | 189.5 |

NOTE: SWMF #1 IS AN EXTENDED DETENTION FACILITY WITH A HAZARD CLASS 'A' DESIGNATION.

LEGEND

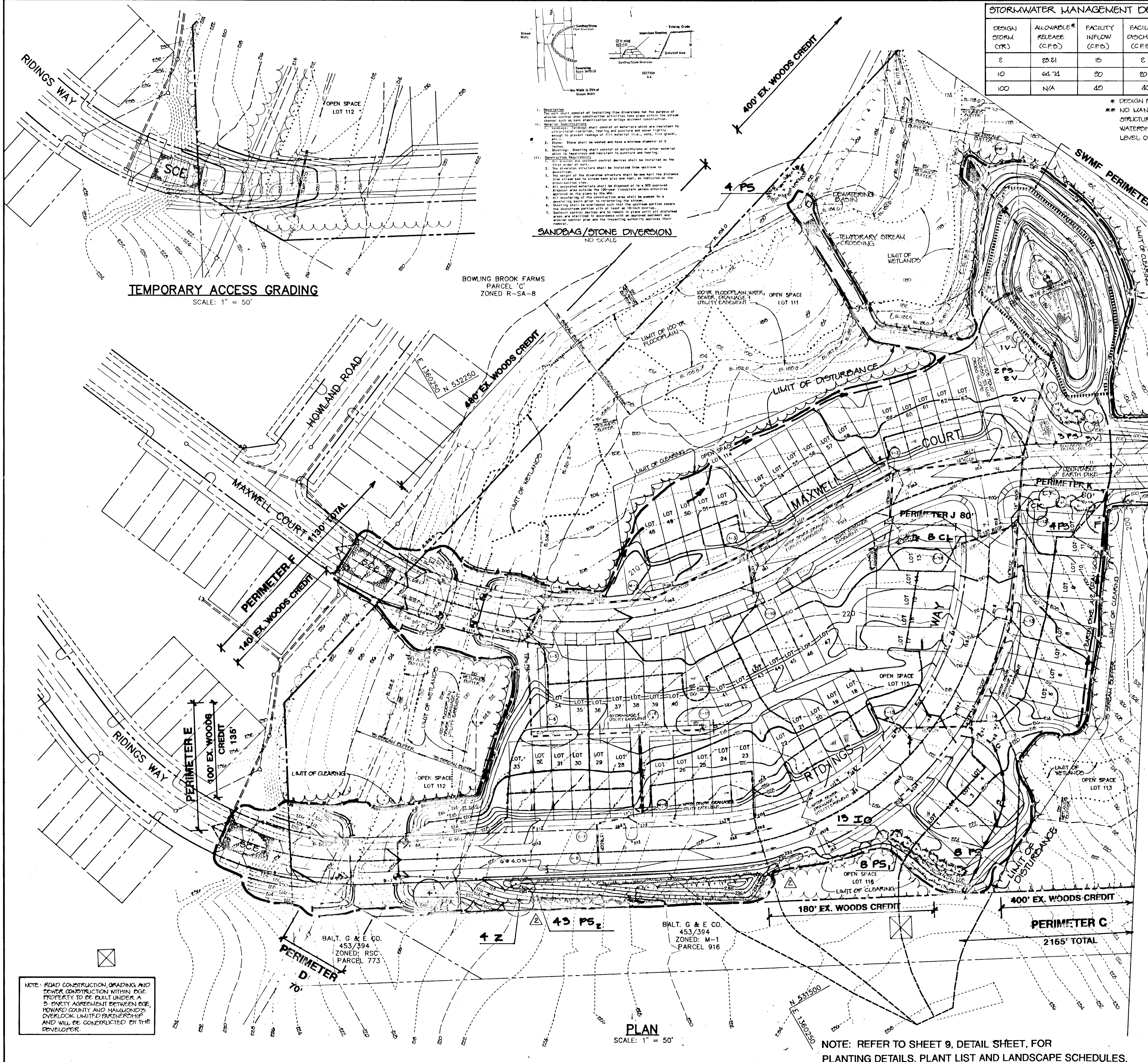
| | |
|----------|------------------------------------|
| [Symbol] | LIMIT OF DISTURBANCE |
| [Symbol] | EARTH DIKE |
| [Symbol] | SILT FENCE |
| [Symbol] | DOUBLE ROW BUILT FENCE |
| [Symbol] | PROTECTIVE TREE FENCING |
| [Symbol] | TEMPORARY SWALE |
| [Symbol] | DISAPPOINTED CONSTRUCTION ENTRANCE |
| [Symbol] | DRAINAGE AREA LINES |

NOTE: 1. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ALONG ALL EARTH DIKES.
 2. ONE SHEET OF FOR PLANT LOT AND PLANTING SCHEDULES.
 3. A 20' MIN. DISTANCE SHALL BE MAINTAINED BETWEEN ANY STREET TREE AND STREET LIGHT.
 SEE SHEET 34 FOR FOREST CONSERVATION FENCE & SIGN DETAILS & RESTRICTIONS

NOTE: AT SITE DEVELOPMENT PLAN STAGE, GRADING WILL BE PERFORMED TO MATCH THE DRAINAGE DIVIDE LINES SHOWN ON THESE PLANS.

DRAINAGE AREA DATA

| INLET NO. | DRAINAGE AREA (AC.) | FACTOR | % IMPERVIOUS |
|-----------|---------------------|--------|--------------|
| 1-1 | 0.20 | 0.60 | 55 |
| 1-2 | 0.30 | 0.67 | 67 |
| 1-3 | 0.30 | 0.70 | 63 |
| 1-4 | 0.10 | 0.60 | 50 |
| 1-5 | 0.10 | 0.60 | 50 |
| 1-6 | 0.18 | 0.50 | 39 |
| 1-6A | 0.21 | 0.57 | 52 |
| 1-7 | 0.60 | 0.58 | 50 |
| 1-8 | 0.70 | 0.43 | 29 |
| 1-9 | 0.80 | 0.53 | 38 |
| 1-10 | 0.40 | 0.65 | 60 |
| 1-11 | 0.31 | 0.38 | 13 |
| 1-12 | 0.20 | 0.70 | 70 |
| 1-13 | 0.20 | 0.70 | 70 |
| 1-14 | 0.70 | 0.39 | 29 |
| 1-15 | 0.30 | 0.63 | 63 |
| 1-16 | 0.30 | 0.70 | 70 |
| 1-17 | 0.50 | 0.22 | 6 |



1. Description: This plan consists of installing flow diversion for the purpose of erosion control when construction activities have been completed. It shall 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 the Environment approved training program for the control of sediment and erosion before beginning the project.
2. Material: All materials used in the construction of the flow diversion shall be resistant to weathering, erosion, and scouring and shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
3. Slope: Slope shall be based on a minimum of 2% and shall be maintained throughout the life of the structure.
4. Structure: Structure shall consist of a concrete or masonry wall with a top width of 12 inches and a height of 18 inches. The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
5. Installation: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
6. Maintenance: The structure shall be maintained throughout the life of the structure.
7. Erosion Control: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
8. Sedimentation: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
9. Disposal: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
10. Safety: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
11. Construction: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
12. Inspection: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)
13. Completion: The structure shall be installed in a manner which will prevent leakage of fill material (fill, sand, fine gravel, etc.)

NOTE: ROAD CONSTRUCTION, GRADING AND SEWER CONSTRUCTION WITHIN EDGE PROPERTY TO BE BUILT UNDER A 3-PARTY AGREEMENT BETWEEN DCE, HOWARD COUNTY AND HAMMOND'S OVERLOOK LIMITED PARTNERSHIP AND WILL BE CONSTRUCTED BY THE DEVELOPER.

PLAN
 SCALE: 1" = 50'

NOTE: REFER TO SHEET 9, DETAIL SHEET, FOR PLANTING DETAILS, PLANT LIST AND LANDSCAPE SCHEDULES.

812A

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND 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.

William E. Muegge 11-23-94
 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 THE "AS-BUILT" PLAN IS THE RESPONSIBILITY OF THE ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

William E. Muegge 11-23-94
 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.

Patricia Engler 12/15/94
 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 Zieher 12/15/94
 HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

Christopher J. Reid 11-15-99
 CHRISTOPHER J. REID #19949 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Gina Swannick 1/4/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William E. Muegge 1/3/95
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Howard Shild 12-21-94
 CHIEF, BUREAU OF HIGHWAYS DATE

Paul Sapon 1/5/95
 CHIEF, BUREAU OF ENGINEERING DATE

OWNER / DEVELOPER

HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
 110 WEST ROAD., SUITE 203
 TOWSON, MARYLAND 21204
 410-321-1000

PROJECT **HAMMOND'S OVERLOOK**
 LOTS 1-118
 A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE

AREA TAX MAP NO. 47 ZONED R-SA-8
 PARCEL "A"
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **GRADING PLAN, DRAINAGE AREA
 MAP AND LANDSCAPE PLAN**

RIEMER MUEGGE & ASSOCIATES, INC.
 Planners Engineers Surveyors
 8818 Centre Park Drive - Suite 200 - Columbia, Maryland 21046
 410-997-8900 FAX: 410-997-9282

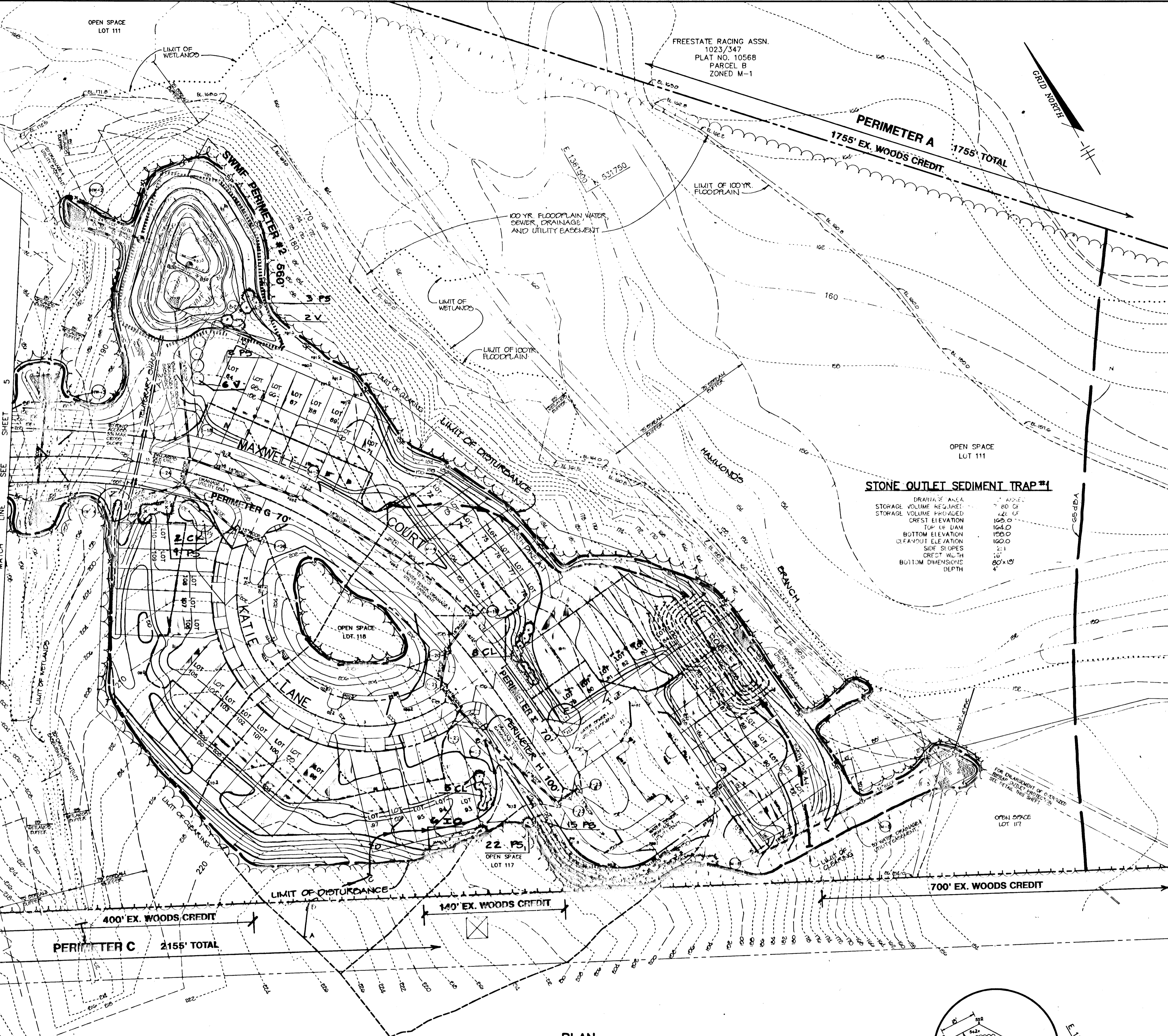
11-23-94 DATE
 S-94-15 P-94-14
 WP-94-112 F-94-12
 DESIGNED BY: C.J.R.

DRAWN BY: DAM

PROJECT NO: 88815

DATE: NOVEMBER 23, 1994

SCALE: AS SHOWN
 DRAWING NO. 6 OF 22
AS-BUILT F-95-24
 11/05/99



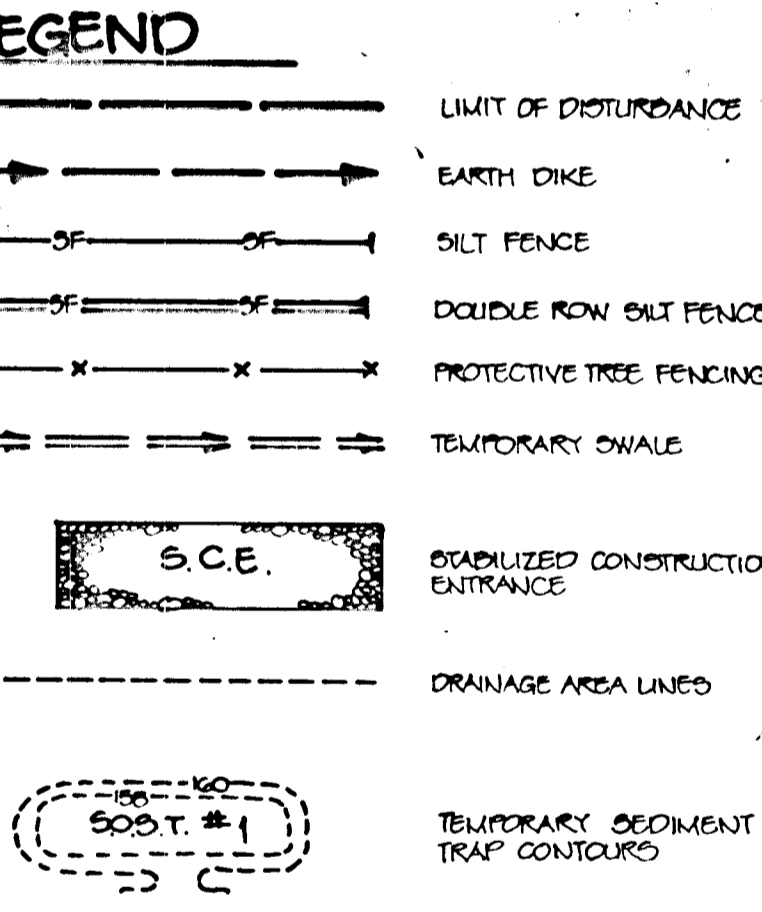
SEDIMENT BASIN #2

| | |
|-------------------------|--------------------|
| DRAINAGE AREA | 5.3 ACRES |
| STORAGE VOLUME REQUIRED | 356 CY |
| STORAGE VOLUME PROVIDED | 2247 CY |
| RISER SIZE | MODIFIED A-5 INLET |
| RISER CREST | 186.5 |
| TOP OF DAM | 190.0 |
| BOTTOM ELEVATION | 180.5 |
| CLEANOUT ELEVATION | 186.0 |

DRAINAGE AREA DATA

| INLET NO. | DRAINAGE AREA (AC) | FACTOR | IMPERVIOUS |
|-----------|--------------------|--------|------------|
| 1-18 | 0.40 | 0.50 | 45 |
| 1-19 | 0.30 | 0.63 | 63 |
| 1-20 | 0.40 | 0.20 | 15 |
| 1-21 | 0.20 | 0.70 | 70 |
| 1-22 | 0.40 | 0.58 | 55 |
| 1-23 | 0.90 | 0.28 | 14 |
| 1-23A | 0.20 | 0.50 | 45 |
| 1-23B | 0.12 | 0.67 | 67 |
| 1-24 | 0.70 | 0.53 | 47 |
| 1-25 | 0.30 | 0.57 | 57 |
| 1-26 | 0.10 | 0.70 | 70 |
| 1-27 | 0.40 | 0.30 | 13 |
| 1-28 | 1.38 | 0.46 | 37 |

NOTE: 1. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ALONG ALL EARTH DIKES.
 2. SEE SHEET 9 FOR PLANT LIST AND PLANTING SCHEDULES.
 3. A 60 MIN DISTANCE SHALL BE MAINTAINED BETWEEN ANY STREET TREE AND STREET LIGHT.
 SEE SHEET 8 FOR FOREST CONSERVATION FENCE & SIGN DETAIL & RESTRICTIONS



NOTE: AT SITE DEVELOPMENT PLAN STAGE GRADING WILL BE PERFORMED TO MATCH THE DRAINAGE DIVIDE LINES SHOWN ON THESE PLANS.

- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT, WETLANDS PERMIT AND WATER QUALITY CERTIFICATION.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY ACCESS CULVERT AT REDWOOD WAY. INSTALL 6" PIPE FROM #18 TO #19 & 10" ALLOW ACCESS TO REMAIN. REMOVE #18 & #19 FROM #18 TO #19 & 10" ALLOW ACCESS TO REMAIN. REMOVE #18 & #19 FROM #18 TO #19 & 10" ALLOW ACCESS TO REMAIN.
 - PERFORM CLEARING AND GRUBBING. (1 WEEK)
 - BEGIN BRIDGE GRADING AND INSTALL STABILIZED CONSTRUCTION ENTRANCE AT MAXWELL CREEK. (1 MONTH)
 - BEGIN BRIDGE CONSTRUCTION AT MAXWELL CREEK. RELOCATION OF EXISTING SANITARY SEWER LINE WILL BE REQUIRED. PROVIDE SANDBAG DIVERSION AS NECESSARY DURING BRIDGE CONSTRUCTION. (1 MONTH)
 - AS SURFACE ELEVATIONS ARE ESTABLISHED, BEGIN CONSTRUCTION OF THE STORM DRAIN, WATER AND SEWER UTILITIES. (3 WEEKS)
 - PROVIDE STABILIZATION IN ACCORDANCE WITH THE TEMPORARY SEEDING NOTES AS NECESSARY. (1 DAY)
 - UPON COMPLETION OF THE MAXWELL CREEK BRIDGE, REMOVE TEMPORARY ACCESS CULVERT AND BEGIN RIDINGS WAY BRIDGE CONSTRUCTION. (1 MONTH)
 - INSTALL CURB AND GUTTER AND DRIVEWAY CUTS AND THEN PAVE. (6 WEEKS)
 - STABILIZE ALL REPAIRING DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1 DAY)
 - COMPLETE BRIDGE CONSTRUCTION AND ANY FIVE GRADING. (1 WEEK)
 - INSTALL STREET TREES, LANDSCAPING, AND STREET LIGHTS. (1 WEEK)
 - UPON APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS' SEDIMENT CONTROL INSPECTION, REMOVE ALL SEDIMENT CONTROLS AND COVER THE SEDIMENT BASINS TO STORMWATER MANAGEMENT FACILITIES PER THE FOLLOWING:
 - POUR OUT ANY STANDING WATER. (2 DAYS)
 - REMOVE SEDIMENT AND GRADE BOTTOM OF FACILITY IN ACCORDANCE WITH THE FINAL GRADING AS SHOWN ON SHEETS 8 AND 9. INCLUDE PORTALS WITH GROUND WINDOWS. (2 DAYS)
 - CLEAN THE SPILL-WATERING DEVICE AS NECESSARY AND ESTABLISH STURDINESS AS PER PROFILE ON SHEET 10. (1 DAY)
 - STABILIZE ALL AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1 DAY)

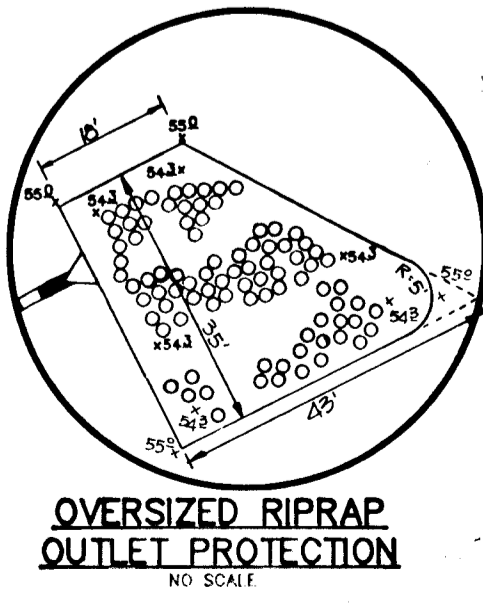
STORMWATER MANAGEMENT DESIGN SUMMARY - 06WTF #2

| DESIGN STORM (YR) | ALLOWABLE* RELEASE (CFD) | FACILITY INFLOW (CFD) | FACILITY DISCHARGE (CFD) | ROUTED* DISCHARGE (CFD) | WATER SURFACE ELEVATION (FT) | STORAGE VOLUME (AC FT) | REMARKS |
|-------------------|--------------------------|-----------------------|--------------------------|-------------------------|------------------------------|------------------------|---------|
| 2 | 25.75 | 7 | 0.1 | 21 | 105.35 | 0.40 | |
| 10 | 64.74 | 16 | 5 | 54 | 106.75 | 0.50 | |
| 100 | N/A | 21 | 20 | N/A | 107.01 | 0.75 | ** |

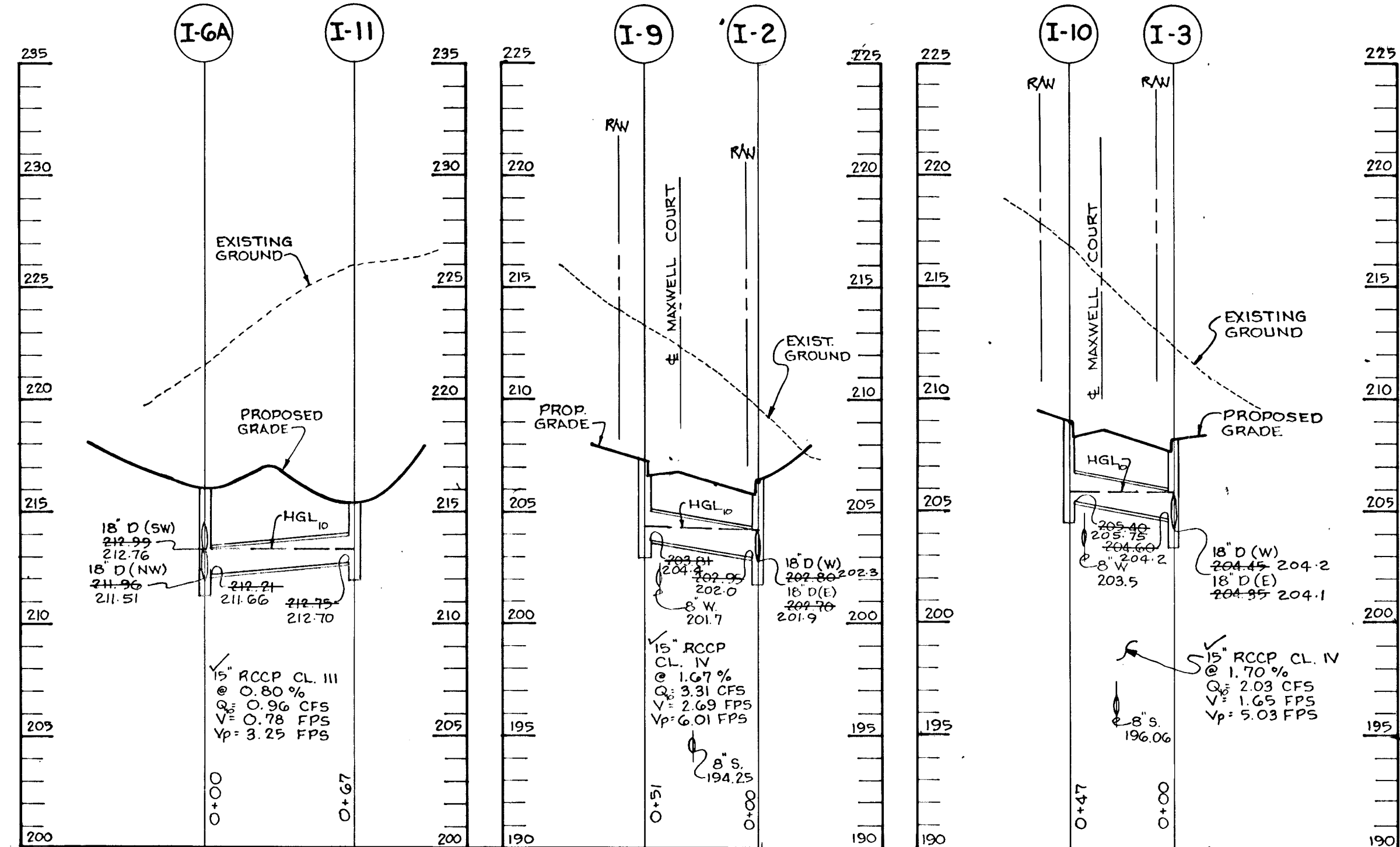
* DESIGN POINT - AT POINT WHERE HAMMOND'S CRANCH EXITS SITE
 ** NO MANAGEMENT REQUIRED
 STRUCTURAL CLASSIFICATION - A
 WATERSHED AREA TO FACILITY - 5.32 AC
 LEVEL OF MANAGEMENT - 10 YEAR

PLAN SCALE: 1" = 50'

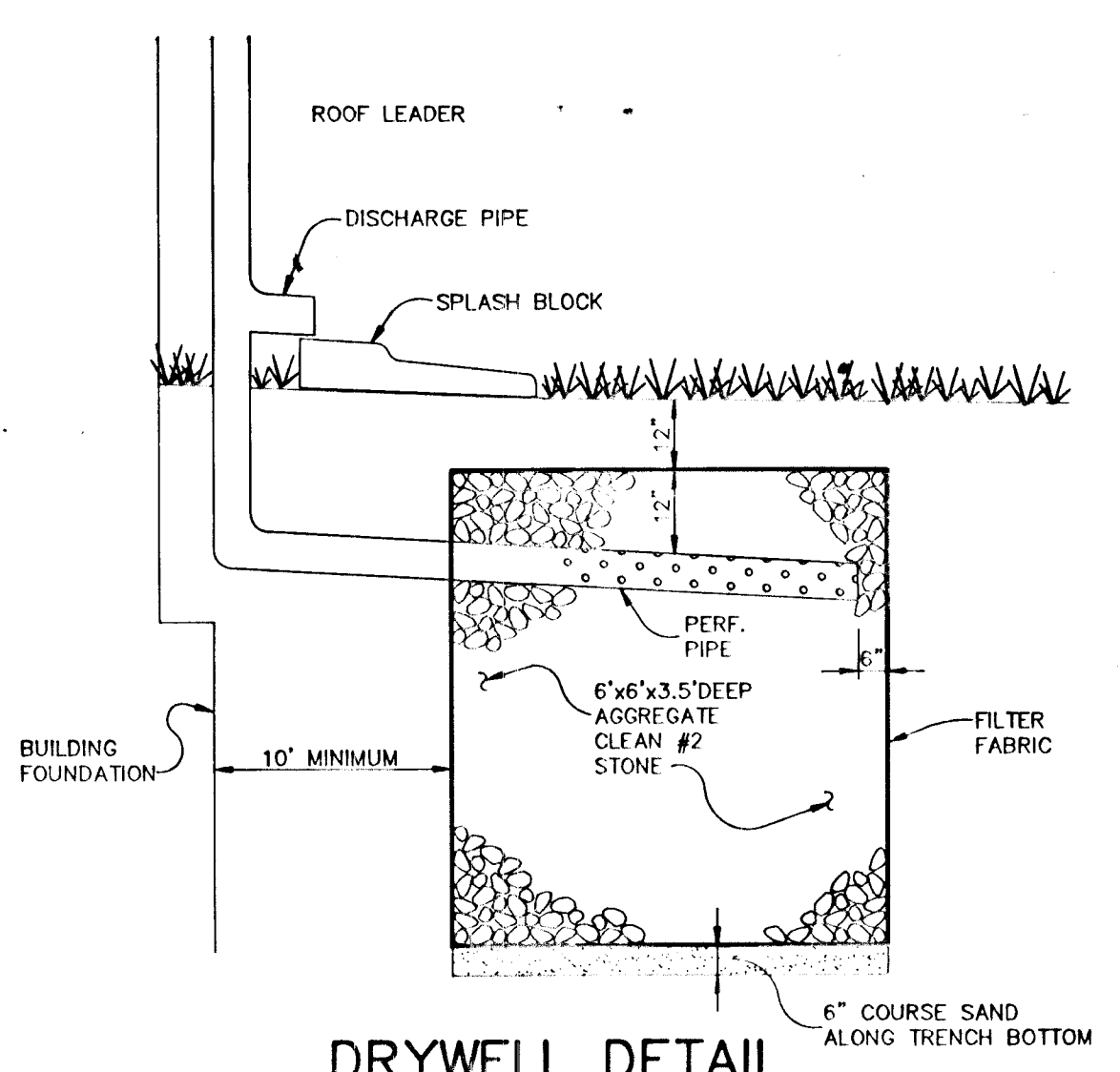
NOTE: REFER TO SHEET 9, DETAIL SHEET, FOR PLANTING DETAILS, PLANT LIST AND LANDSCAPE SCHEDULES.



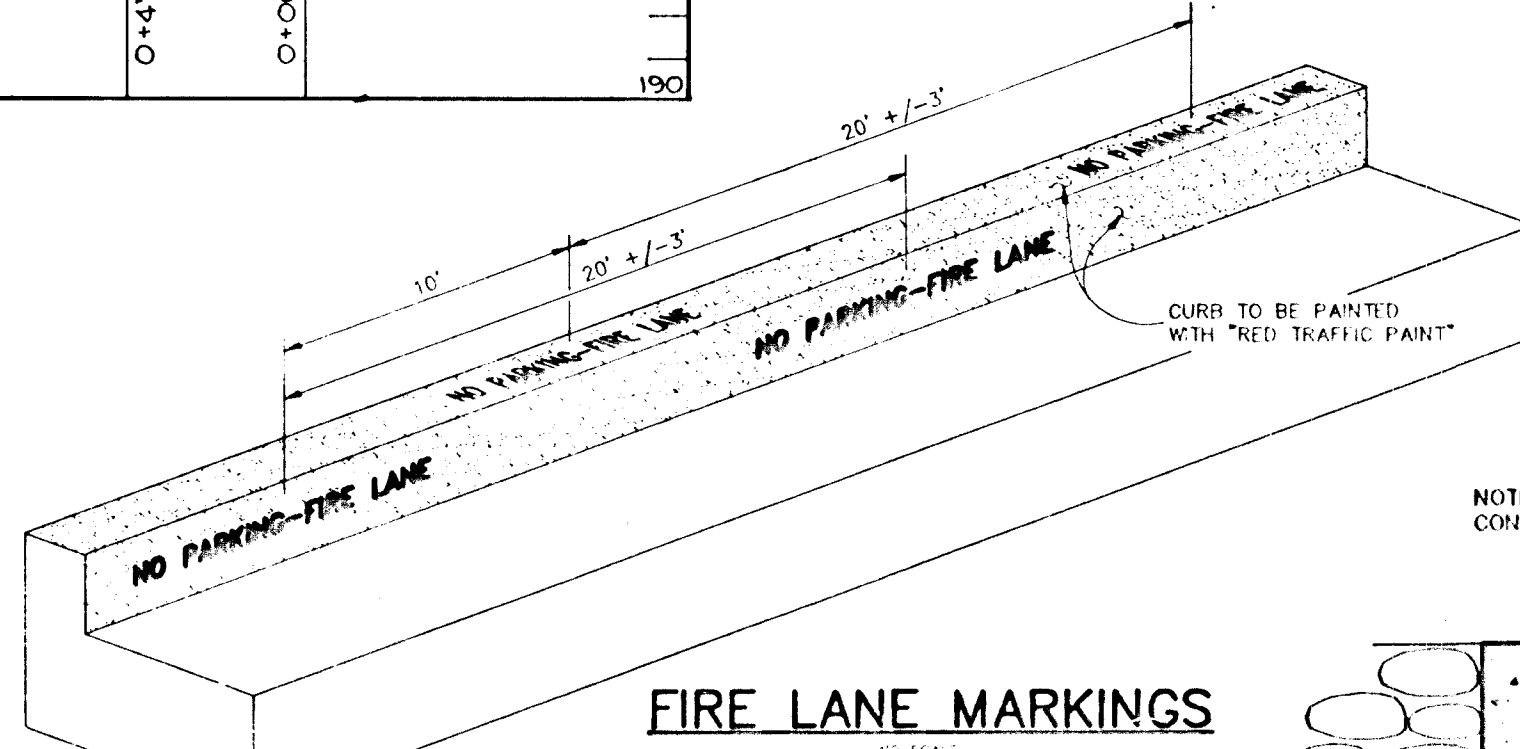
1718



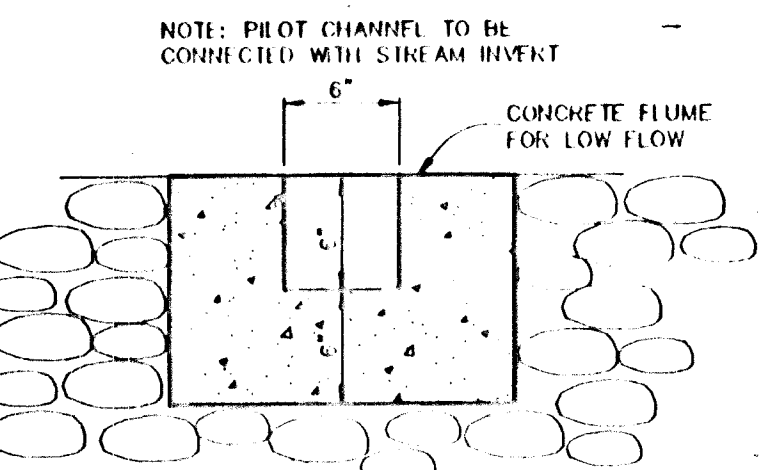
PROFILE
SCALE: HOR. 1"=50'
VERT. 1"=5'



DRYWELL DETAIL
WATER QUALITY MANAGEMENT WILL BE PROVIDED FOR THE BUILDINGS BY DRYWELLS FOR LOTS 1-12, 4R 63, 71-92. TO BE CONSTRUCTED UNDER THE SITE DEVELOPMENT PLAN AND BE PRIVATELY MAINTAINED.

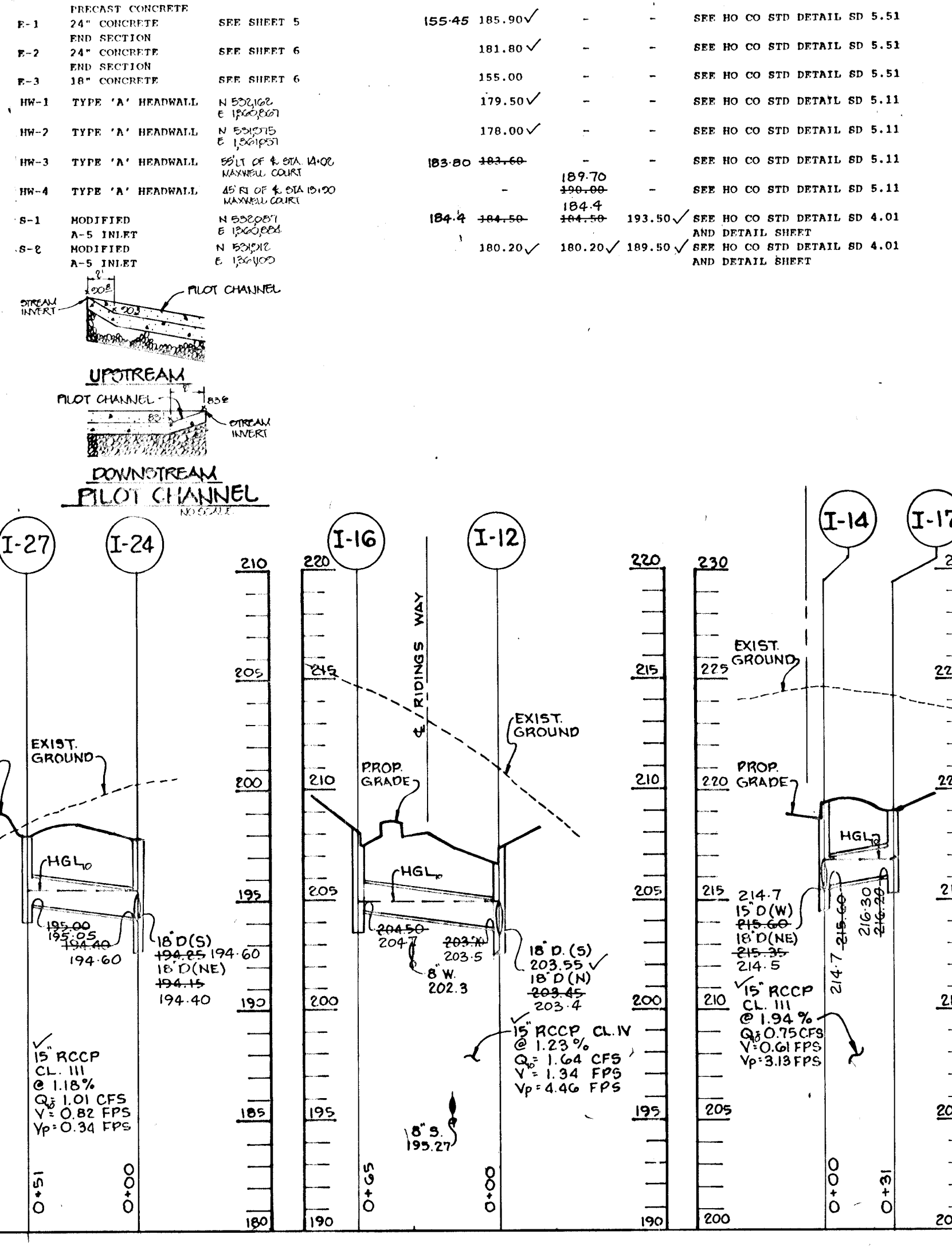
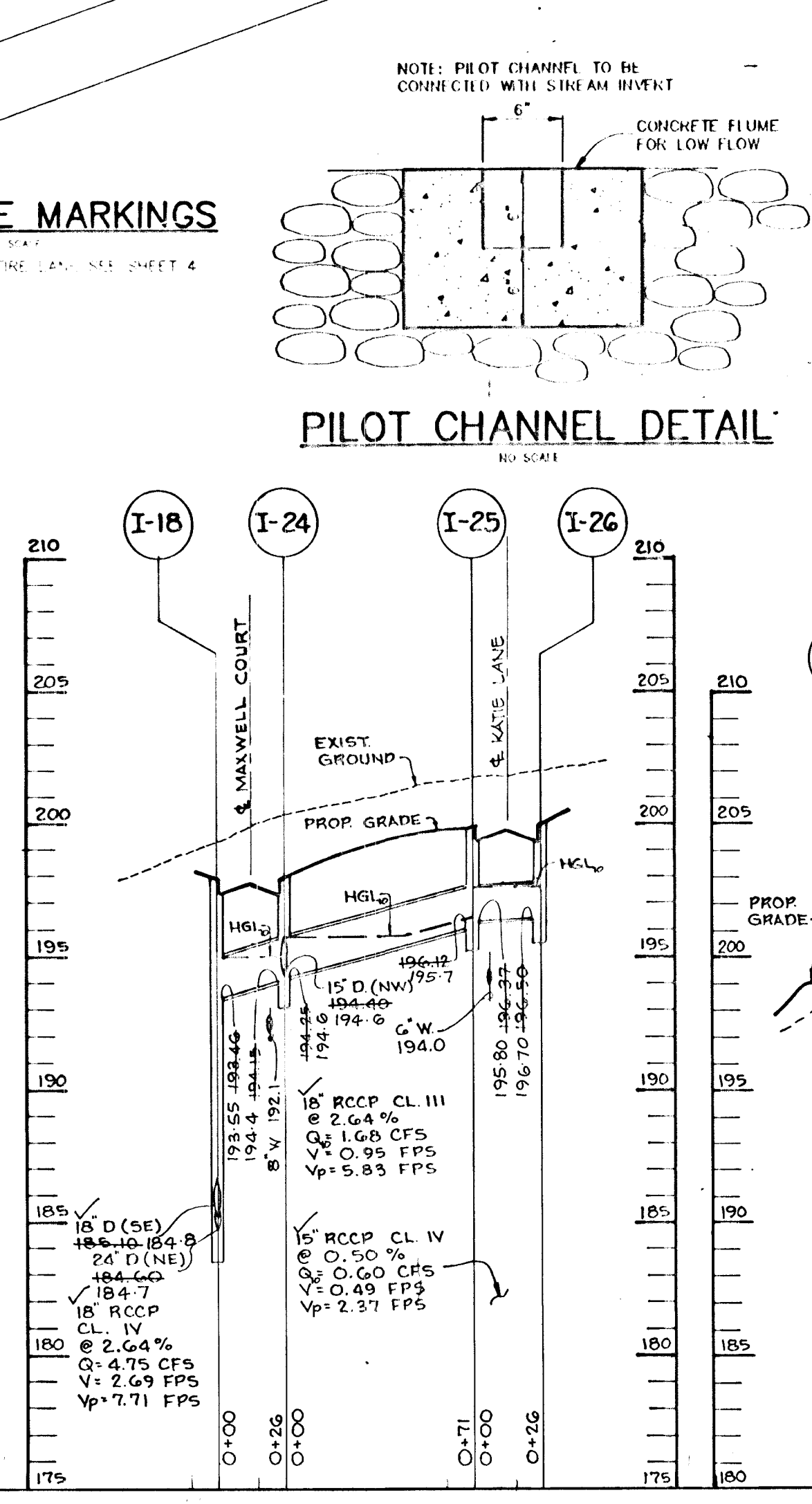
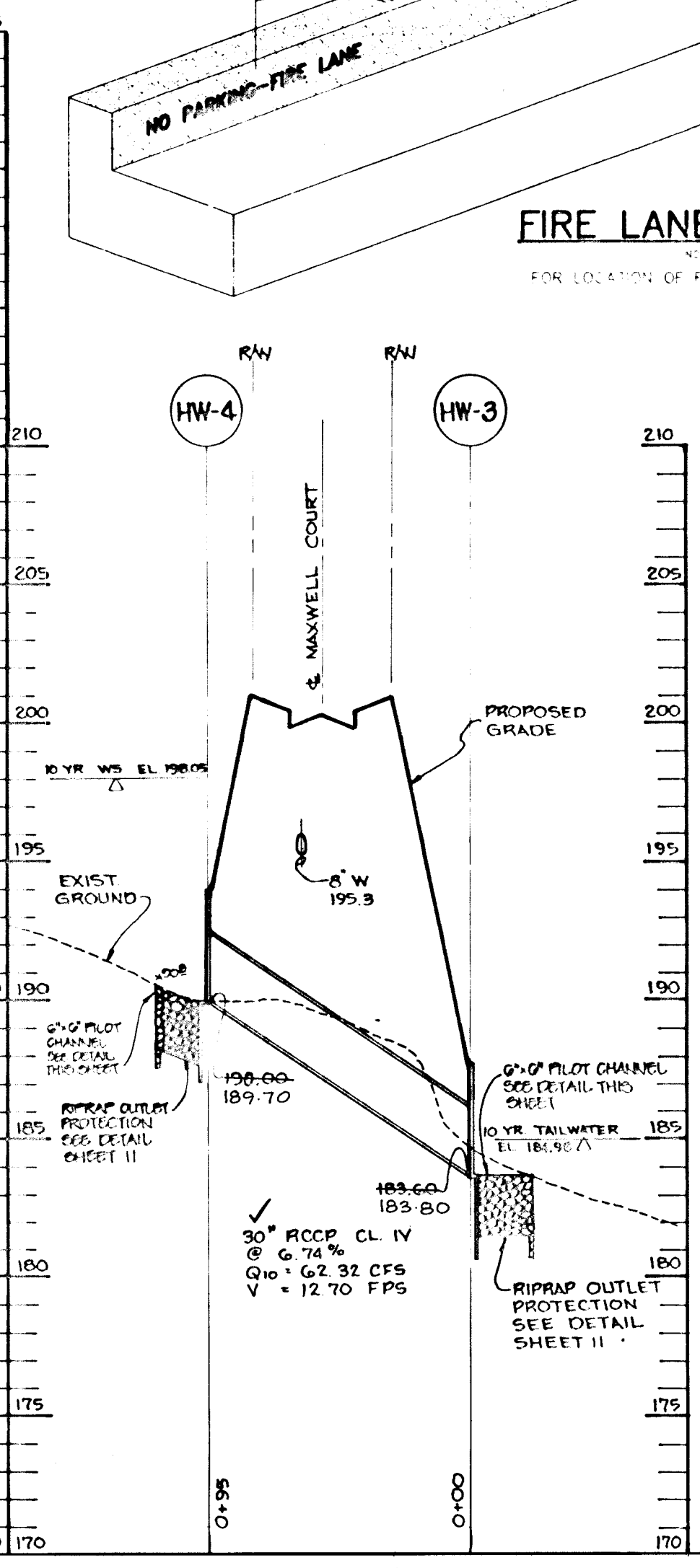
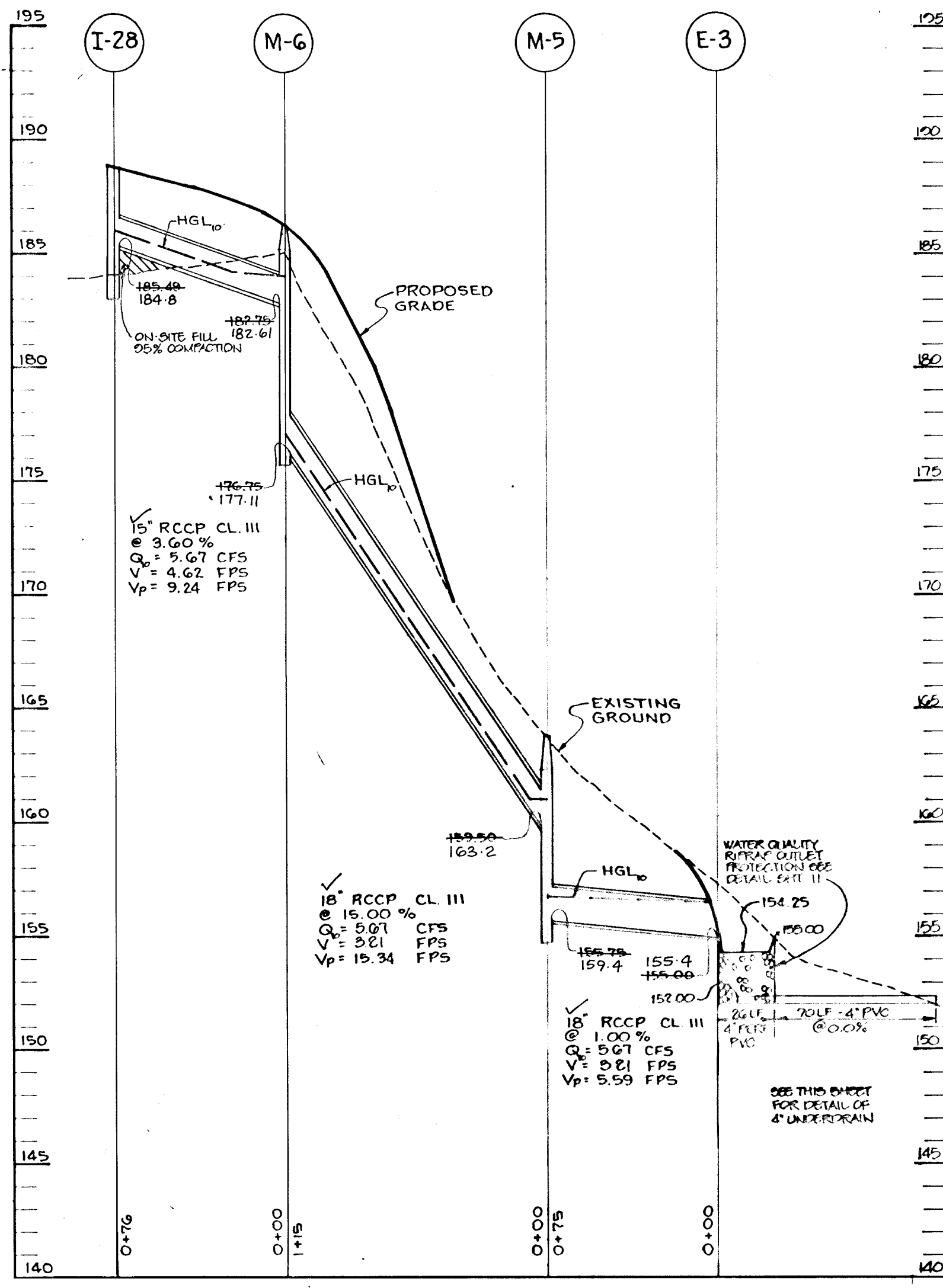


FIRE LANE MARKINGS
FOR LOCATION OF FIRE LANE SEE SHEET 4

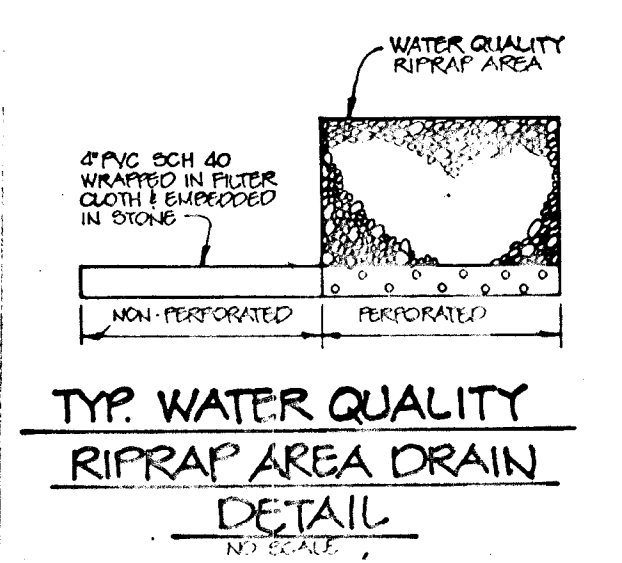


PILOT CHANNEL DETAIL
NO SCALE

| NO | TYPE | LOCATION | INV. IN | INV. OUT | REMARKS |
|------|------------|--------------------------|---------|-------------|-------------------------------|
| 1-1 | A-5 INLET | 13' LT OF E. STA 12427.5 | 200.55 | 200.45(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-2 | A-5 INLET | 31' LT OF E. STA 10495.5 | 202.50 | 202.40(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-3 | A-5 INLET | 31' LT OF E. STA 9417.8 | 202.00 | 201.90(15") | SEE HO CO STD DETAIL SD 4.01 |
| 1-4 | A-5 INLET | MAXWELL COURT | 206.30 | 206.20(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-5 | A-5 INLET | 13' LT OF E. STA 6474.9 | 206.40 | 206.30(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-6 | A-5 INLET | MAXWELL COURT | 207.10 | 207.00(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-7 | A-5 INLET | SEE SHEET 5 | 211.12 | 211.02 | SEE HO CO STD DETAIL SD 4.39 |
| 1-8 | A-5 INLET | SEE SHEET 5 | 212.76 | 212.66(18") | SEE HO CO STD DETAIL SD 4.39 |
| 1-9 | A-5 INLET | 31' LT OF E. STA 9171.30 | 223.7 | 223.6(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-10 | A-5 INLET | 13' RT OF E. STA 9171.30 | 223.6 | 223.5(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-11 | A-5 INLET | 13' RT OF E. STA 10471.6 | 204.4 | 204.3(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-12 | A-5 INLET | 13' RT OF E. STA 9104.9 | 205.75 | 205.65(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-13 | A-5 INLET | SEE SHEET 5 | 215.50 | 215.40 | SEE HO CO STD DETAIL SD 4.39 |
| 1-14 | A-5 INLET | 31' RT OF E. STA 15497.8 | 203.5 | 203.4(15") | SEE HO CO STD DETAIL SD 4.01 |
| 1-15 | A-5 INLET | 31' RT OF E. STA 14499.5 | 207.5 | 207.4(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-16 | A-5 INLET | 31' RT OF E. STA 13492.6 | 214.7 | 214.6(15") | SEE HO CO STD DETAIL SD 4.01 |
| 1-17 | A-5 INLET | RIDINGS WAY | 218.4 | 218.3(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-18 | A-5 INLET | 31' LT OF E. STA 13443.4 | 204.7 | 204.6(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-19 | A-5 INLET | 31' LT OF E. STA 15480.3 | 204.50 | 204.40(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-20 | A-5 INLET | 62' RT OF E. STA 13491 | 216.17 | 216.07(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-21 | A-5 INLET | RIDINGS WAY | 194.7 | 194.6(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-22 | A-5 INLET | 13' LT OF E. STA 15480 | 193.55 | 193.45(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-23 | A-5 INLET | MAXWELL COURT | 187.46 | 187.36(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-24 | A-10 INLET | 13' RT OF E. STA 18159.4 | 187.38 | 187.28(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-25 | A-10 INLET | MAXWELL COURT | 187.89 | 187.79(18") | SEE HO CO STD DETAIL SD 4.02 |
| 1-26 | A-5 INLET | 13' RT OF E. STA 3491.0 | 187.89 | 187.79(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-27 | A-5 INLET | KATIE LANE | 187.89 | 187.79(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-28 | A-5 INLET | 35' RT OF E. STA 19453 | 188.26 | 188.16(18") | SEE HO CO STD DETAIL SD 4.39 |
| 1-29 | A-5 INLET | MAXWELL COURT | 188.0 | 187.9(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-30 | A-5 INLET | 13' RT OF E. STA 2047.1 | 188.0 | 187.9(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-31 | A-5 INLET | 13' LT OF E. STA 2047.1 | 188.0 | 187.9(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-32 | A-5 INLET | MAXWELL COURT | 194.6 | 194.5(15") | SEE HO CO STD DETAIL SD 4.01 |
| 1-33 | A-10 INLET | 13' RT OF E. STA 15440 | 194.6 | 194.5(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-34 | A-5 INLET | KATIE LANE | 194.6 | 194.5(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-35 | A-5 INLET | 13' RT OF E. STA 0443.5 | 195.8 | 195.7(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-36 | A-5 INLET | 13' LT OF E. STA 0443.0 | 195.8 | 195.7(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-37 | A-5 INLET | KATIE LANE | 195.8 | 195.7(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-38 | A-5 INLET | 35' RT OF E. STA 14492 | 195.8 | 195.7(18") | SEE HO CO STD DETAIL SD 4.39 |
| 1-39 | A-5 INLET | MAXWELL COURT | 194.8 | 194.7(18") | SEE HO CO STD DETAIL SD 4.01 |
| 1-40 | A-5 INLET | SEE SHEET 6 | 206.06 | 205.96(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-41 | A-5 INLET | MAXWELL COURT | 222.45 | 222.35(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-42 | A-5 INLET | RIDINGS WAY | 185.82 | 185.72(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-43 | A-5 INLET | MAXWELL COURT | 185.6 | 185.5(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-44 | A-5 INLET | 35' LT OF E. STA 17477.7 | 185.2 | 185.1(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-45 | A-5 INLET | SEE SHEET 6 | 182.61 | 182.51(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-46 | A-5 INLET | SEE SHEET 5 | 155.45 | 155.35(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-47 | A-5 INLET | 24' CONCRETE END SECTION | 181.80 | 181.70(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-48 | A-5 INLET | 24' CONCRETE END SECTION | 155.00 | 154.90(18") | SEE HO CO STD DETAIL SD 05.12 |
| 1-49 | A-5 INLET | 18" CONCRETE | 179.50 | 179.40(18") | SEE HO CO STD DETAIL SD 05.11 |
| 1-50 | A-5 INLET | TYPE 'A' HEADWALL | 178.00 | 177.90(18") | SEE HO CO STD DETAIL SD 05.11 |
| 1-51 | A-5 INLET | TYPE 'A' HEADWALL | 183.80 | 183.70(18") | SEE HO CO STD DETAIL SD 05.11 |
| 1-52 | A-5 INLET | TYPE 'A' HEADWALL | 183.80 | 183.70(18") | SEE HO CO STD DETAIL SD 05.11 |
| 1-53 | A-5 INLET | TYPE 'A' HEADWALL | 184.4 | 184.3(18") | SEE HO CO STD DETAIL SD 05.11 |
| 1-54 | A-5 INLET | MODIFIED | 180.20 | 180.10(18") | SEE HO CO STD DETAIL SD 05.11 |
| 1-55 | A-5 INLET | MODIFIED | 180.20 | 180.10(18") | SEE HO CO STD DETAIL SD 05.11 |



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



TYP. WATER QUALITY RIPRAP AREA DRAIN DETAIL
NO SCALE

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

DATE: 11-15-99

DATE: 1/4/95

DATE: 1/3/95

DATE: 12-21-94

DATE: 1/3/95

DATE NO. REVISION

OWNER / DEVELOPER

HAMMOND'S OVERLOOK PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT: HAMMOND'S OVERLOOK, LOTS 1-118
A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE

AREA: TAX MAP NO. 47 ZONED R-SA-8
PARCEL 'A'
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES

RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
410-997-8900 FAX: 410-997-9282

DESIGNED BY: C.J.R.

DRAWN BY: DAM

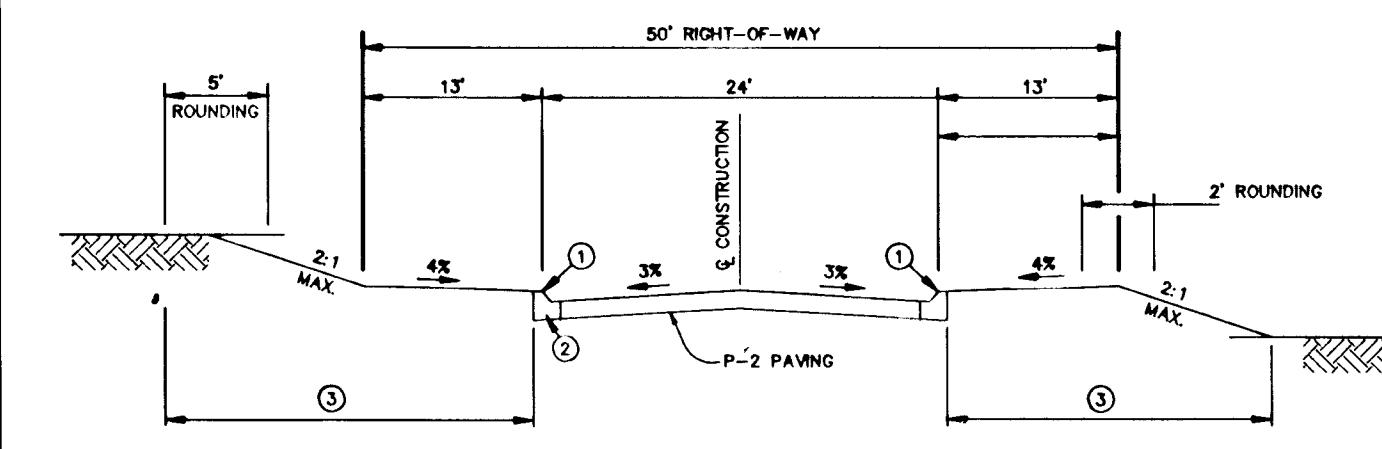
PROJECT NO: 88815

DATE: NOVEMBER 28, 1994

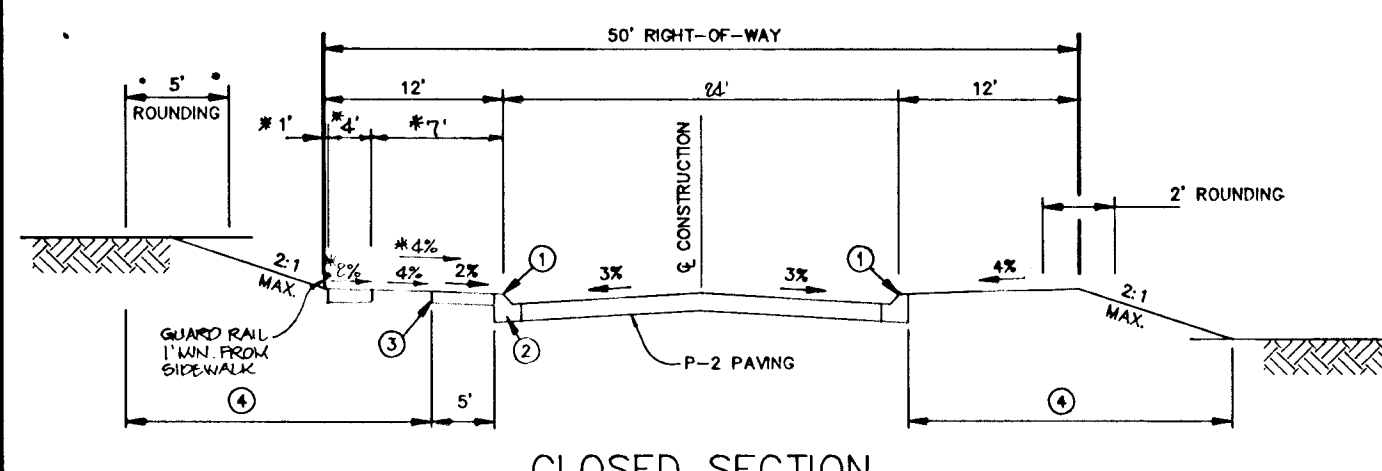
SCALE: AS SHOWN

DRAWING NO. 6 OF 85

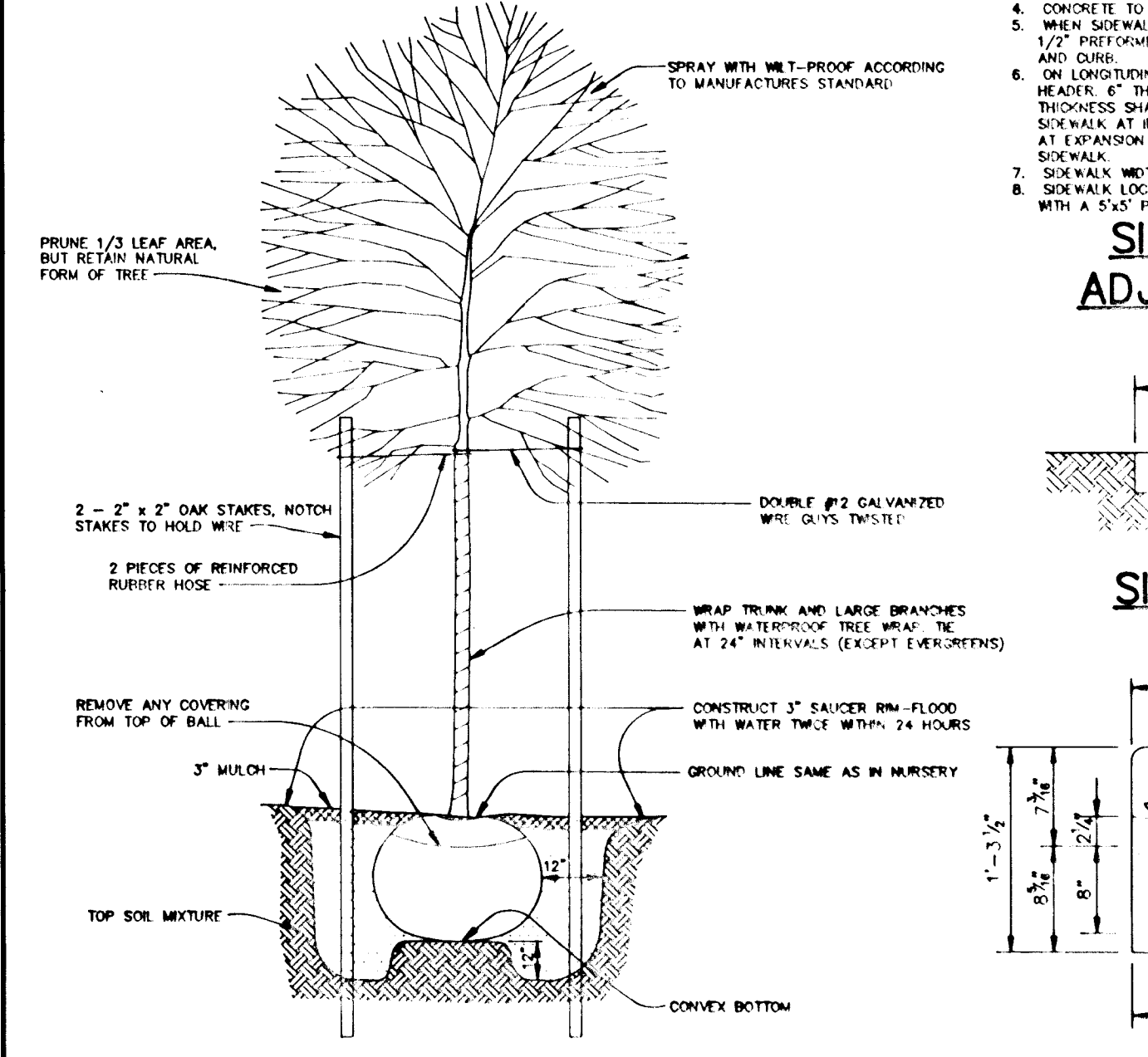
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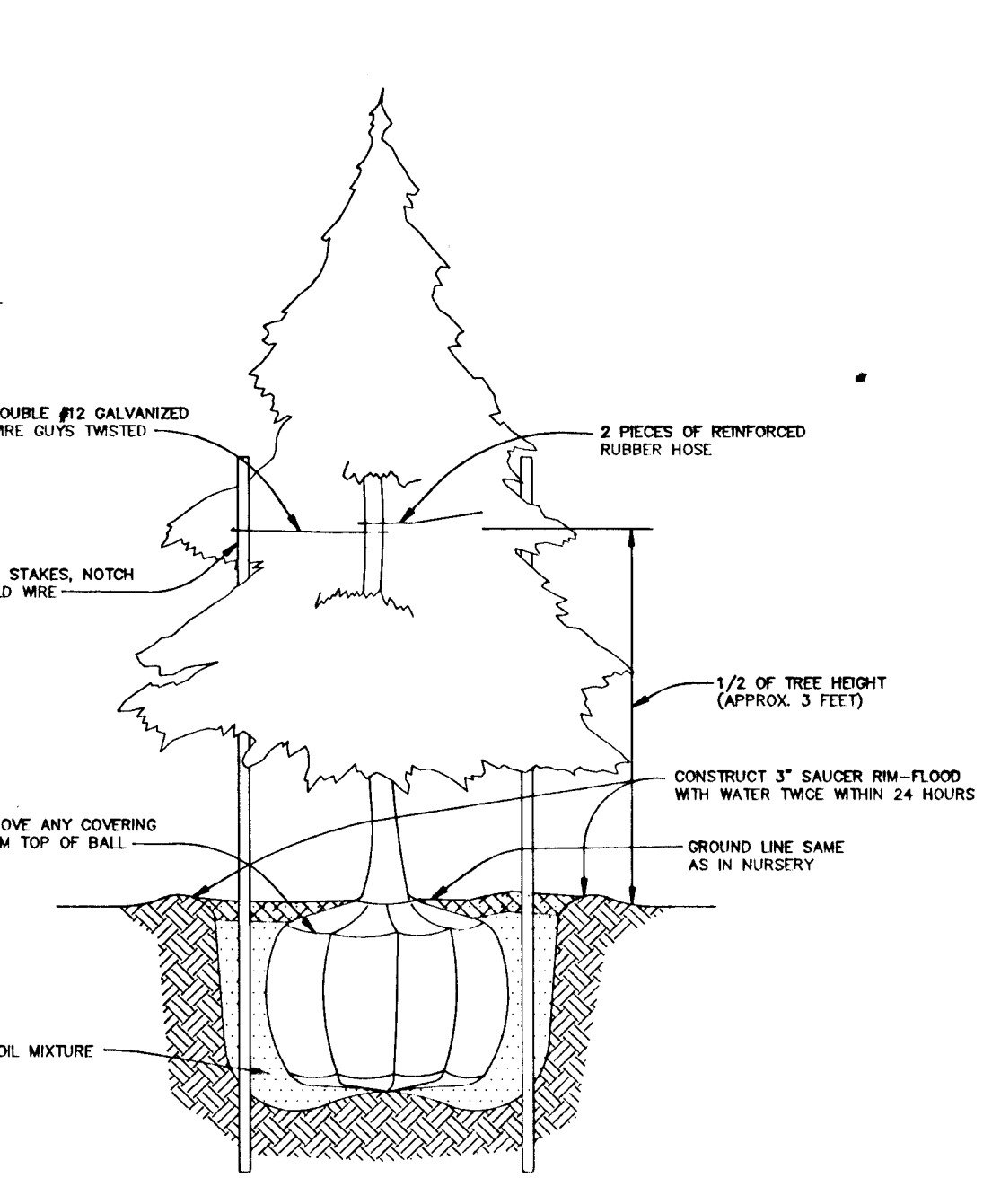
TYPICAL SECTION CUL-DE-SAC STREET
NO SCALE
MAXWELL COURT
FROM CL STA 19+01.89 TO CL STA 23+85.46



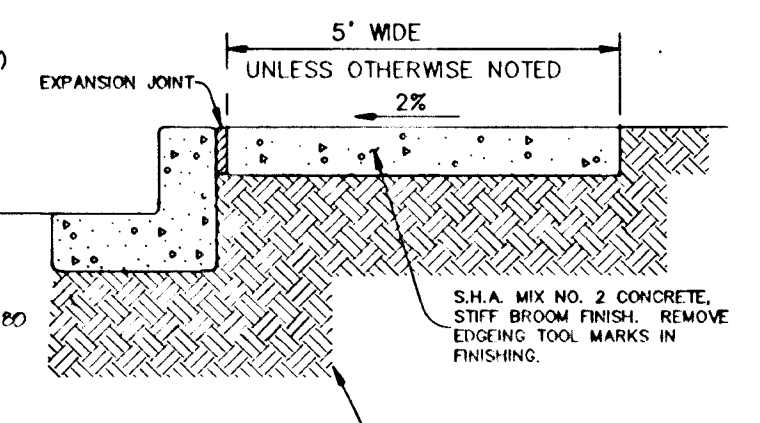
TYPICAL SECTION LOCAL ROAD
NO SCALE
MAXWELL COURT
FROM CL STA 4+00.00 TO CL STA 6+00.00 & FROM CL STA 16+53.59 TO CL STA 17+00.00
FROM CL STA 5+47.03 TO CL STA 16+53.59
KATIE LANE
FROM CL STA 0+00.00 TO CL STA 4+30.68
MAXWELL COURT
FROM CL STA 6+00.00 TO CL STA 11+01.50



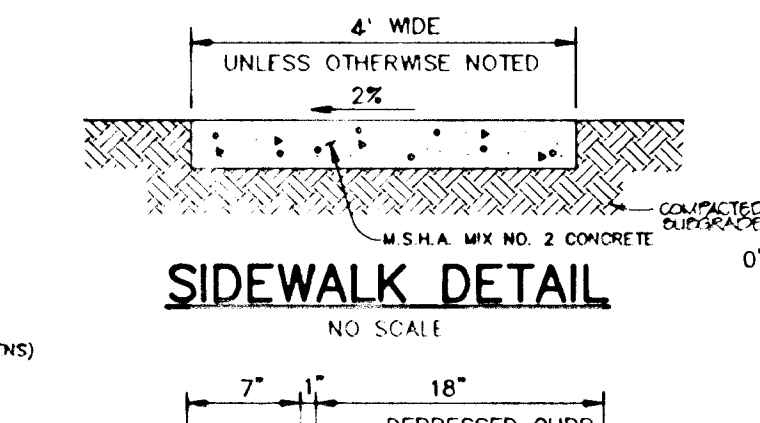
TREE PLANTING DETAIL *
NO SCALE



EVERGREEN PLANTING DETAIL *
NO SCALE

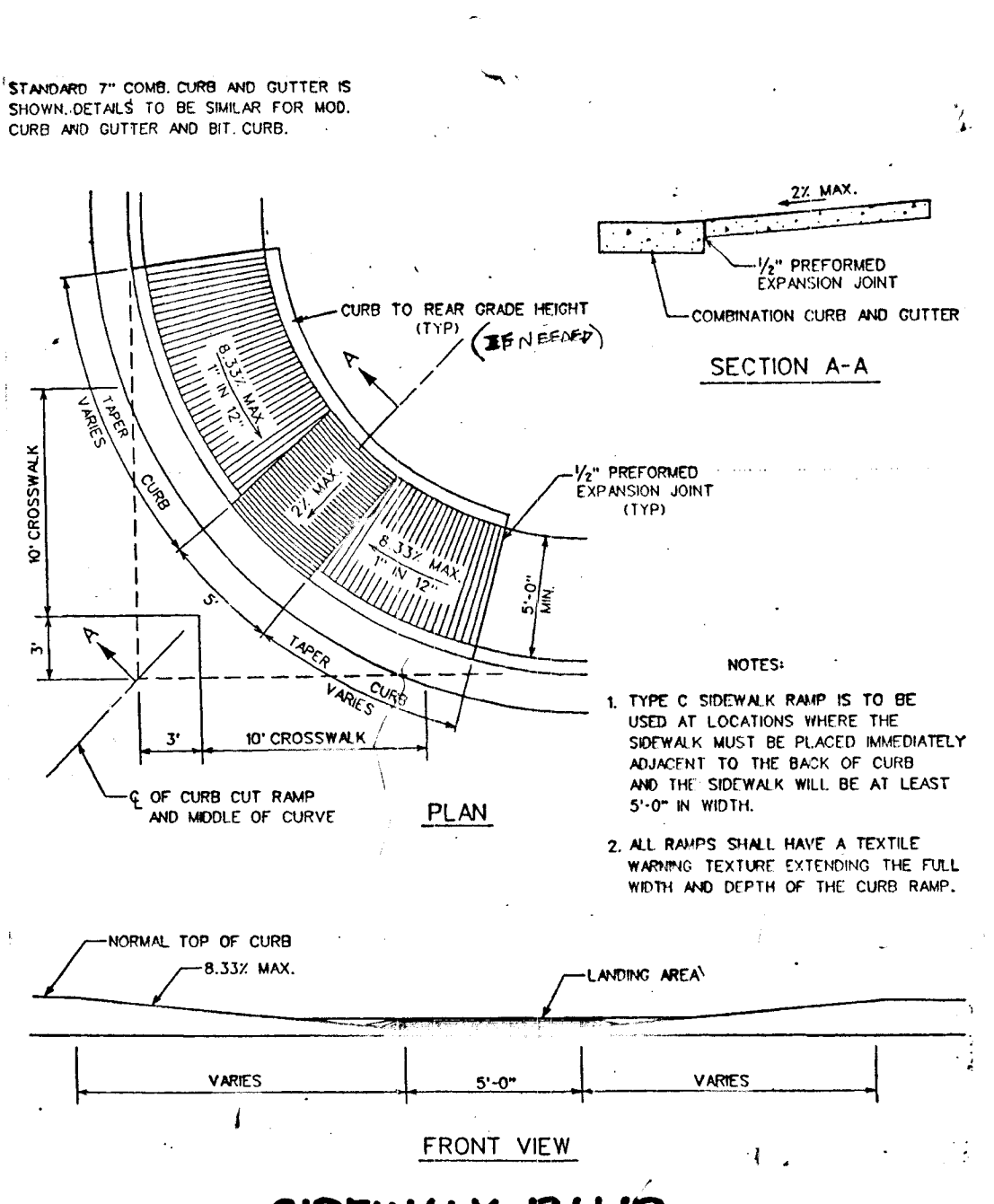


SIDEWALK DETAIL ADJACENT TO CURB
NO SCALE

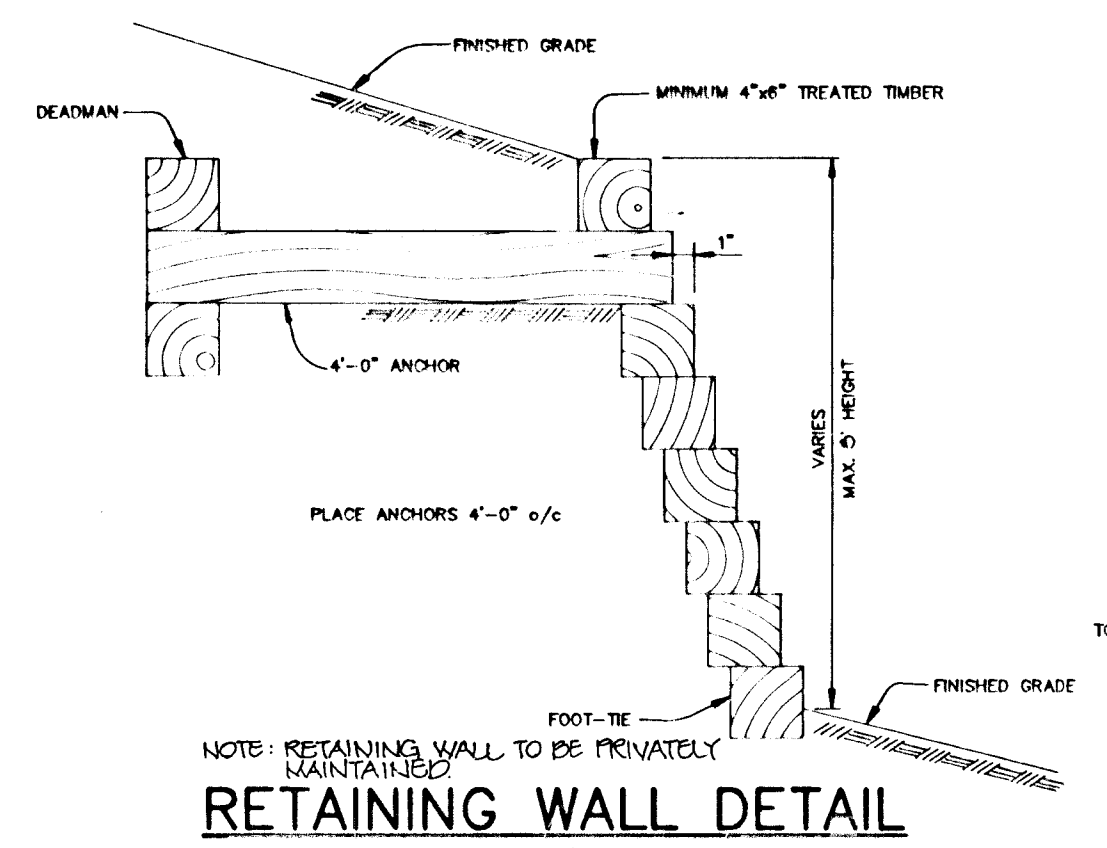


SIDEWALK DETAIL
NO SCALE

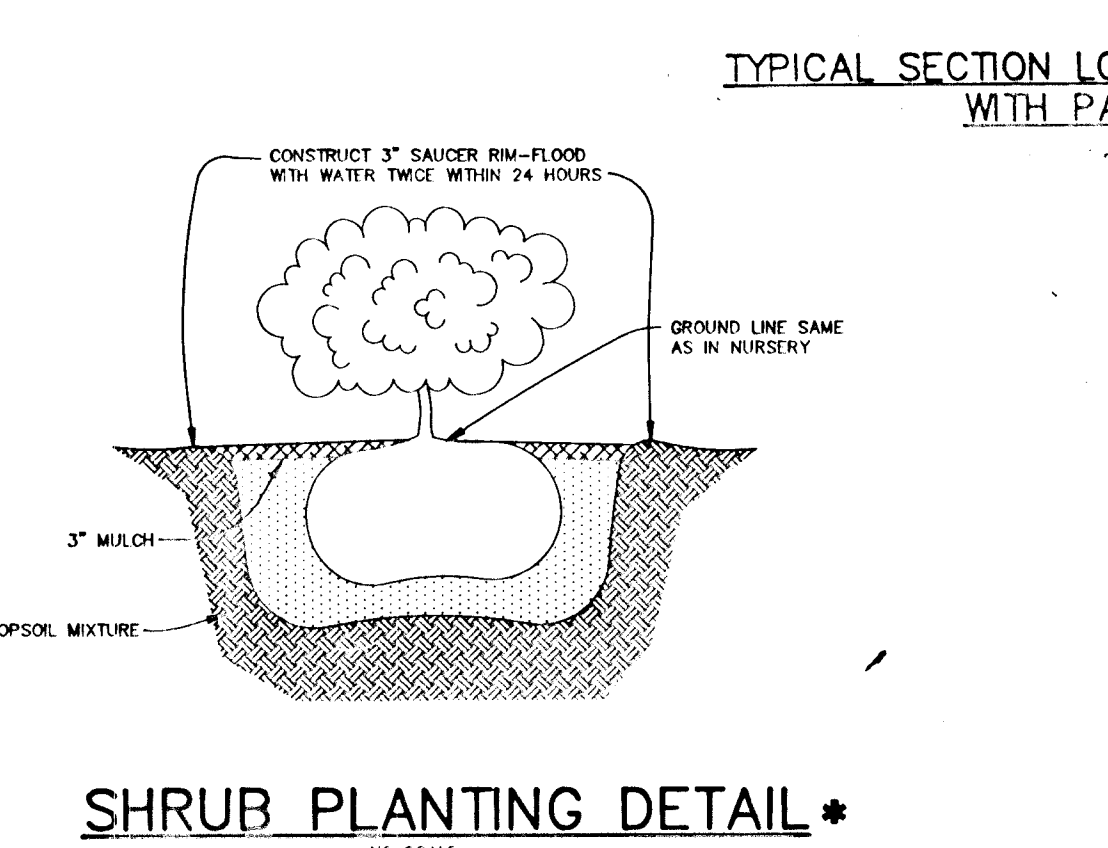
REVERSE 7" COMBINATION CURB AND GUTTER
NO SCALE



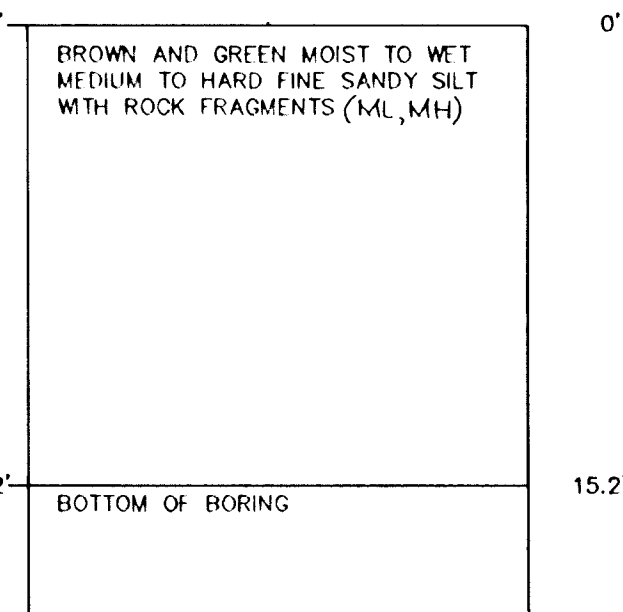
SIDEWALK RAMP RAMP C
NO SCALE



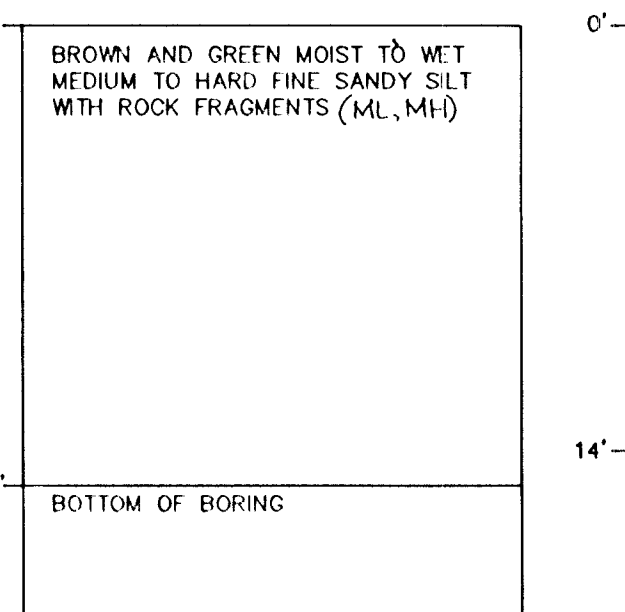
RETAINING WALL DETAIL
NO SCALE



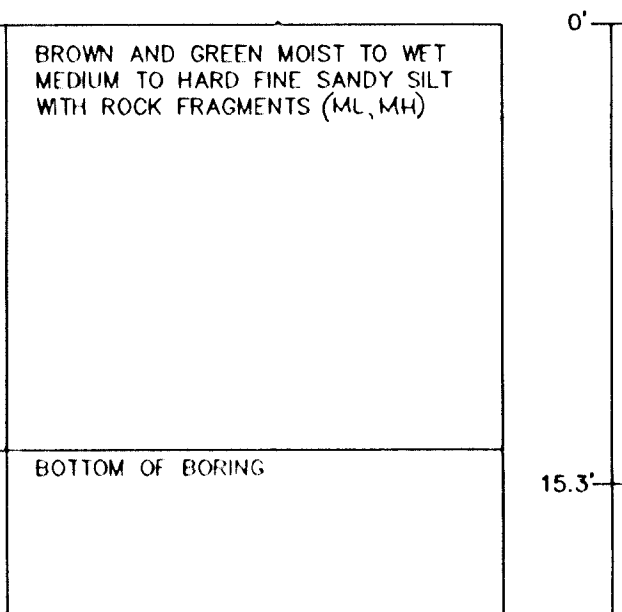
SHRUB PLANTING DETAIL *
NO SCALE



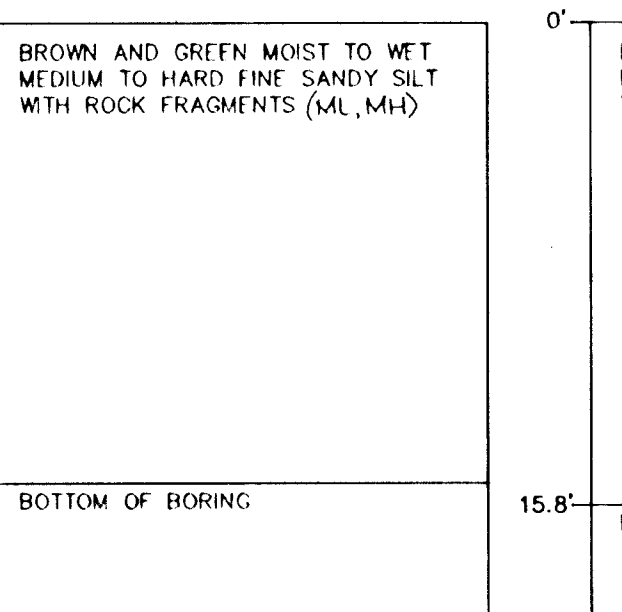
BORING B-1 (CWN#1)
NO SCALE



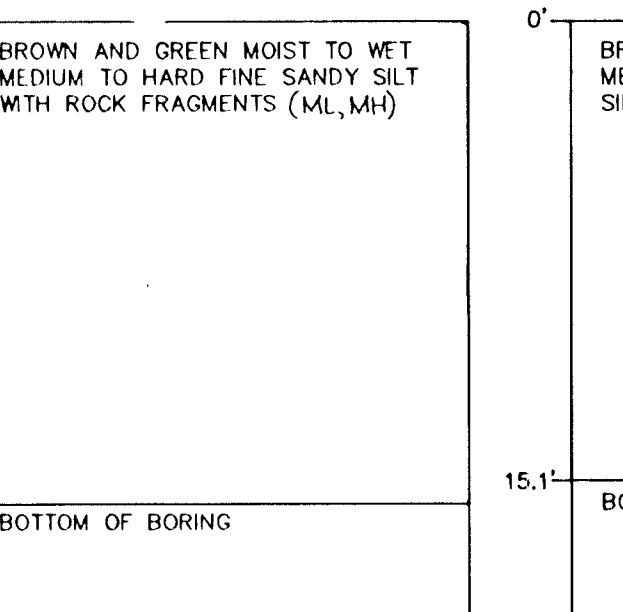
BORING B-2 (CWN#1)
NO SCALE



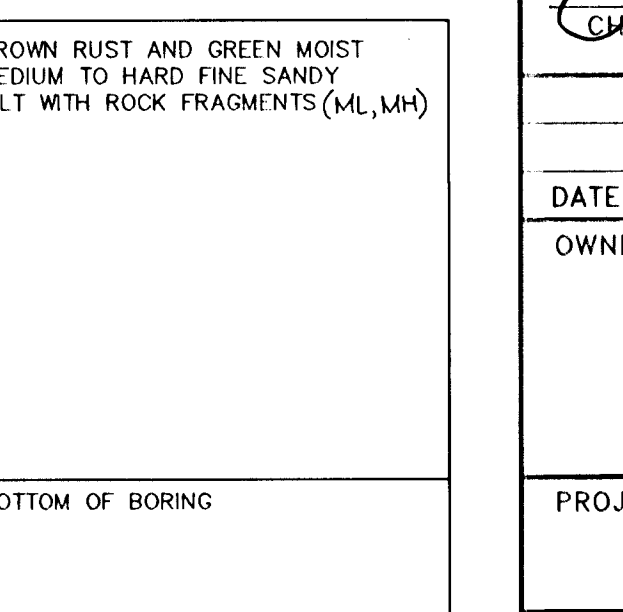
BORING B-3 (CWN#1)
NO SCALE



BORING B-4 (CWN#2)
NO SCALE



BORING B-5 (CWN#2)
NO SCALE



BORING B-6 (CWN#2)
NO SCALE

PLANT LIST *

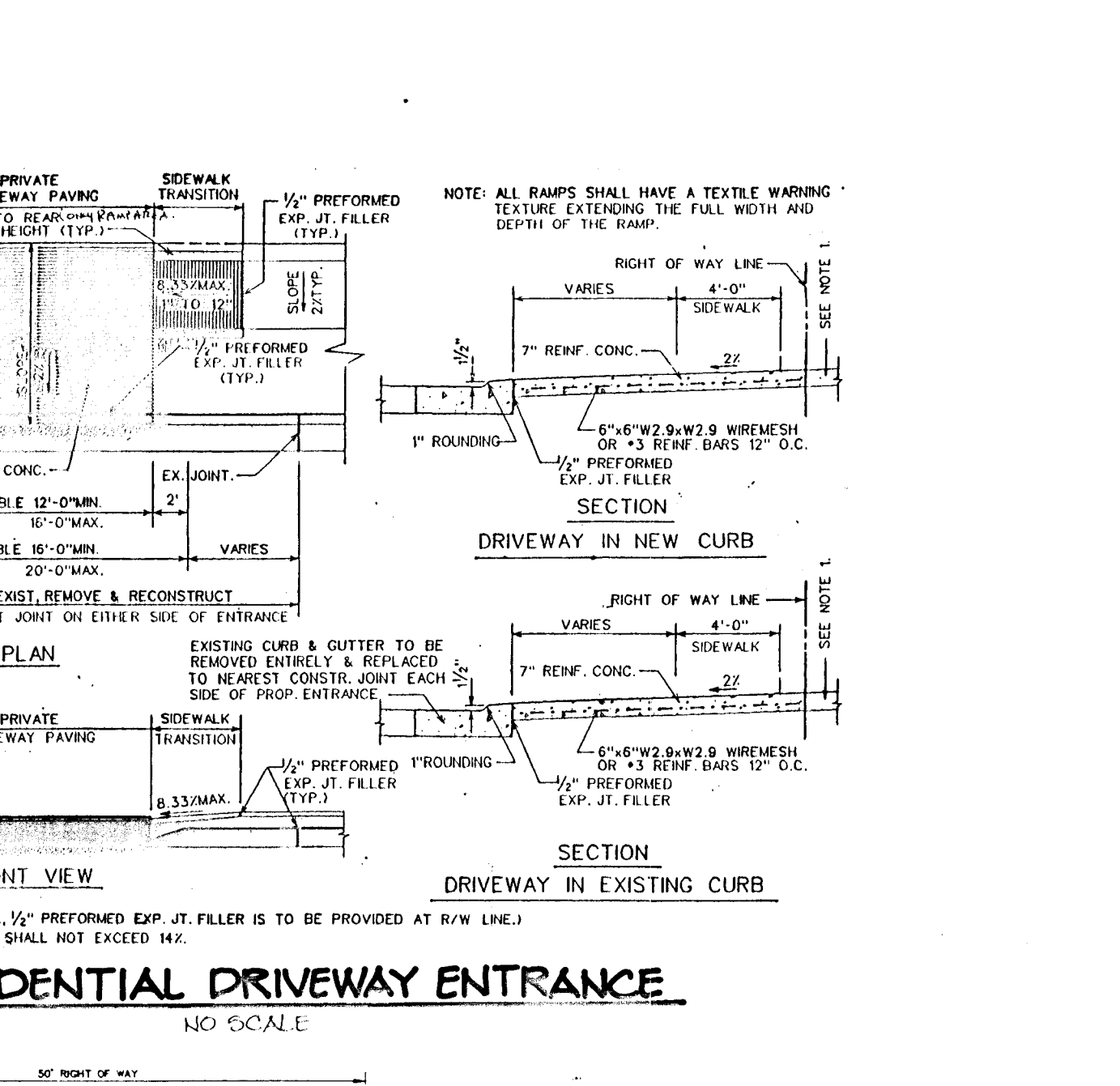
| QTY | NAME | SIZE | REMARKS |
|-----|----------------------|----------------|-----------|
| 4 | CORNUS ROSEA | 1 1/2"-2" CAL. | B & B |
| 12 | EUONYMUS ALATUS | 6"-8" HT. | B & B |
| 2 | FRAXINUS AMERICANA | 2 1/2"-3" CAL. | Pull Head |
| 10 | ILLEX OPACA | 6"-8" HT. | B & B |
| 45 | PINUS STROBUS | 7"-8" HT. | B & B |
| 30 | PINUS STROBUS | 8"-10" HT. | B & B |
| 43 | PINUS STROBUS | 10"-12" HT. | B & B |
| 16 | VIBURNUM PRUNIFOLIUM | 3'-4" HT. | B & B |
| 5 | SEMOYA BRADATA | 2 1/2"-3" CAL. | Pull Head |

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING *

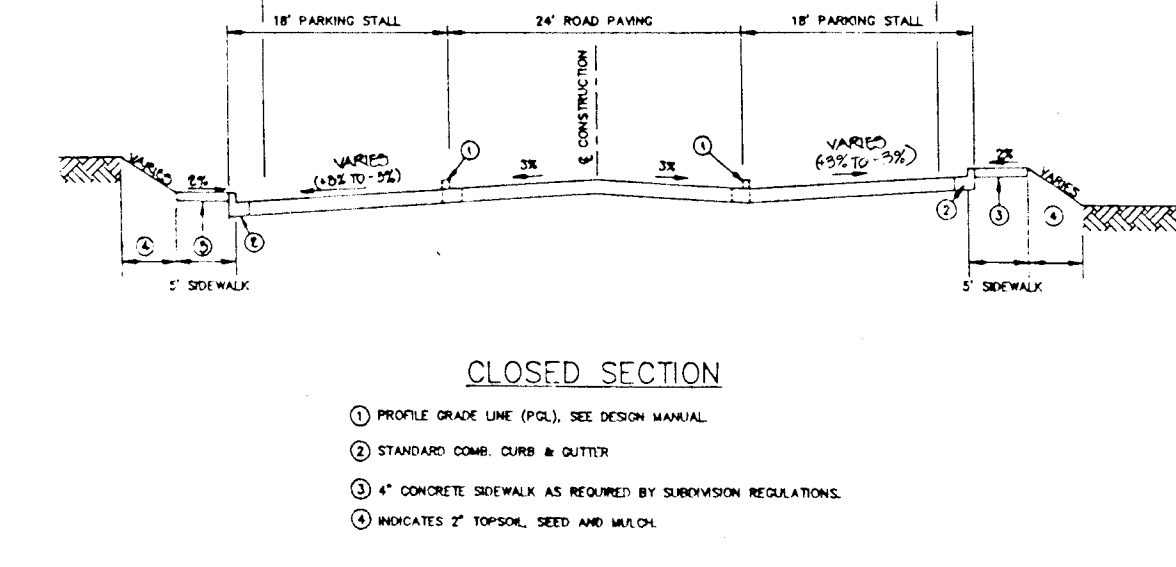
| CATEGORY | ADAPTED TO PERIMETER | ADAPTED TO PERIMETER |
|--------------------------------|----------------------|----------------------|
| Perimeter Edge | 5 | 5 |
| Linear Feet of Perimeter | 70 | 70 |
| Credit for Existing Vegetation | NO | NO |
| Number of Trees Required | 4 | 4 |
| Number of Trees Provided | 4 | 4 |

PLANT SUBSTITUTION CREDITS

| PERIMETER | #1 | #2 |
|--------------------------------|----------|----------|
| Linear Feet of Perimeters | 605 | 560 |
| Credit for Existing Vegetation | YES (+1) | YES (+1) |
| Number of Trees Required | 4 | 4 |
| Number of Trees Provided | 4 | 4 |



RESIDENTIAL DRIVEWAY ENTRANCE
NO SCALE



TYPICAL SECTION LOCAL & CUL DE SAC ROAD WITH PARKING STALLS
NO SCALE

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DEVELOPER: *Arthur E. Muegge* DATE: 11-23-94

BY THE ENGINEER: I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

ENGINEER: *Arthur E. Muegge* DATE: 11-23-94

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.

Patricia Engler DATE: 12/15/94
U.S. SOIL CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Ziehm DATE: 12/15/94
HOWARD SOIL CONSERVATION DISTRICT

Christopher J. Reid DATE: 11-15-99
CHRISTOPHER J. REID #19949

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Summari DATE: 11/19/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William Damm DATE: 11/3/95
CHIEF, LAND DEVELOPMENT DIVISION

Howard Shickler DATE: 12-21-98
CHIEF, BUREAU OF HIGHWAYS

Paul W. Spon DATE: 11/3/95
CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT: HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE

AREA: TAX MAP NO. 47 ZONED R-SA-8
PARCEL "A"
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

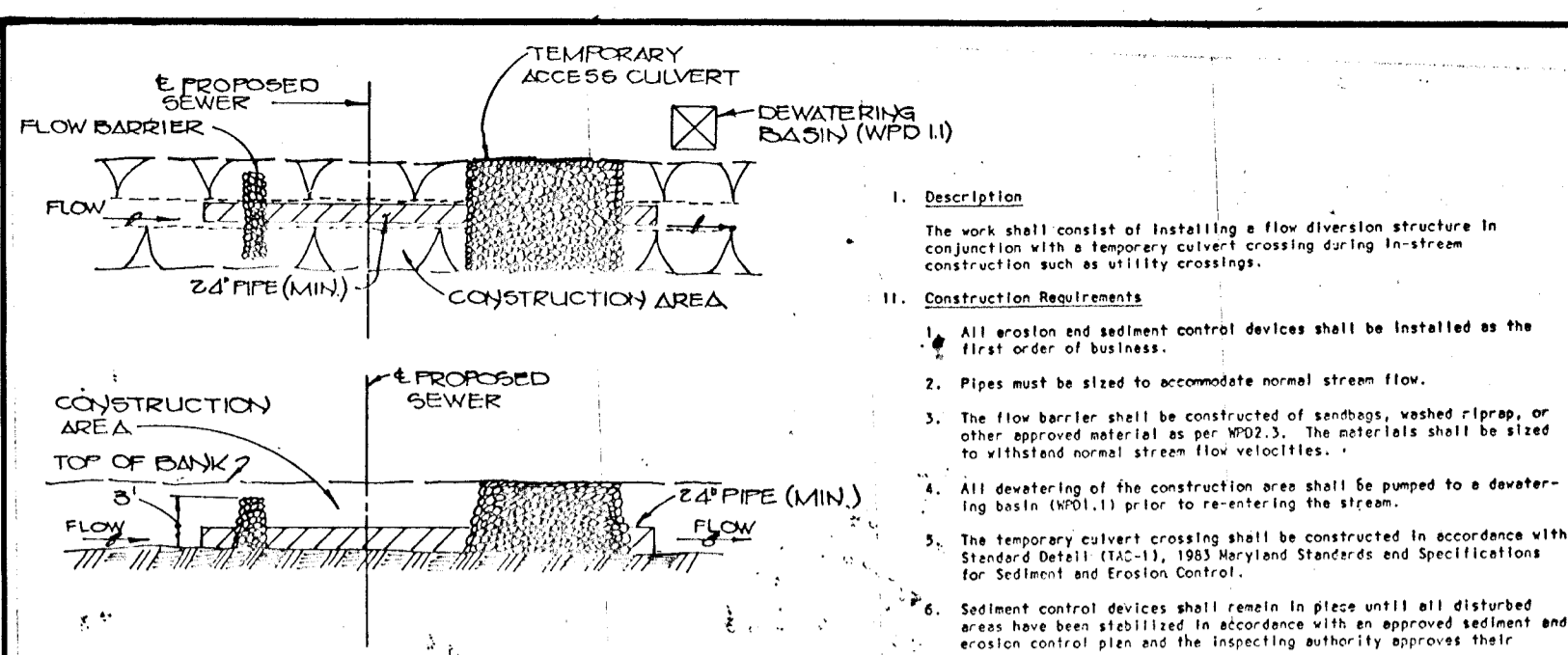
TITLE: DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES, INC.
Planners Engineers Surveyors
8818 Centre Park Drive - Suite 200 - Columbia, Maryland 21045
410-997-8900 FAX: 410-997-9282

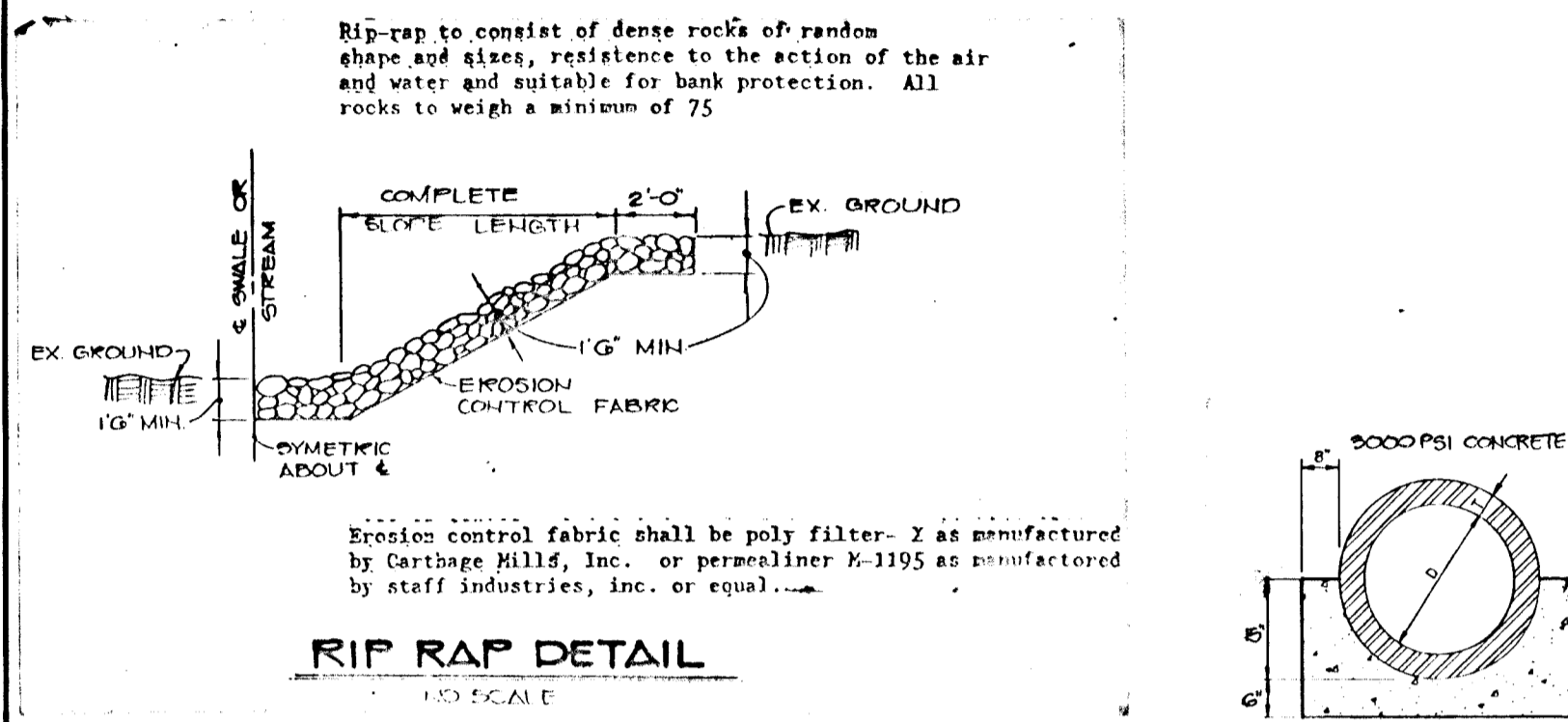
DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO.: 88815
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 9 OF 99

AS-BUILT F-95-24
11/05/99

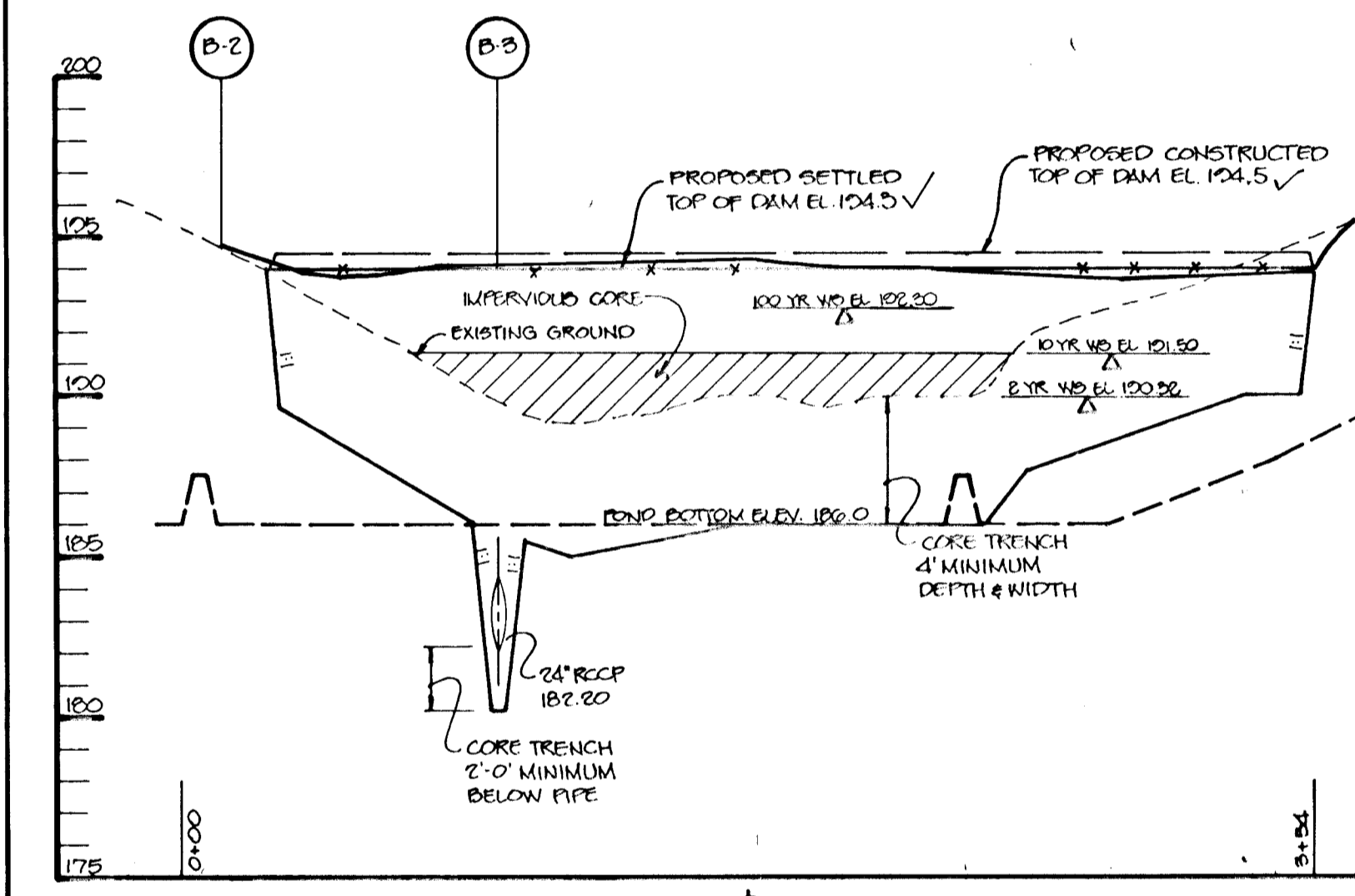
1718



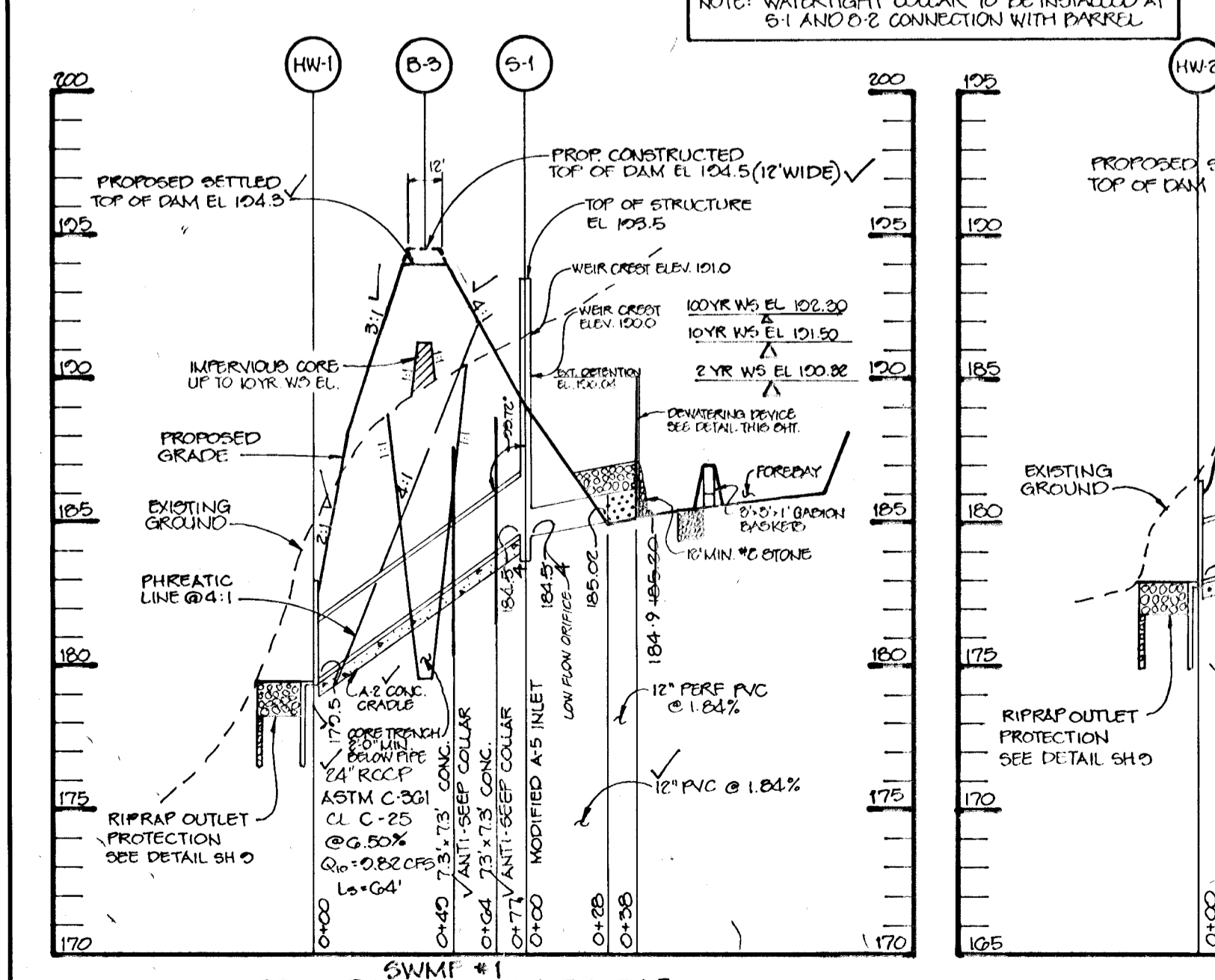
TEMPORARY STREAM CROSSING (FOR WATER & SEWER CONSTRUCTION)
NO SCALE



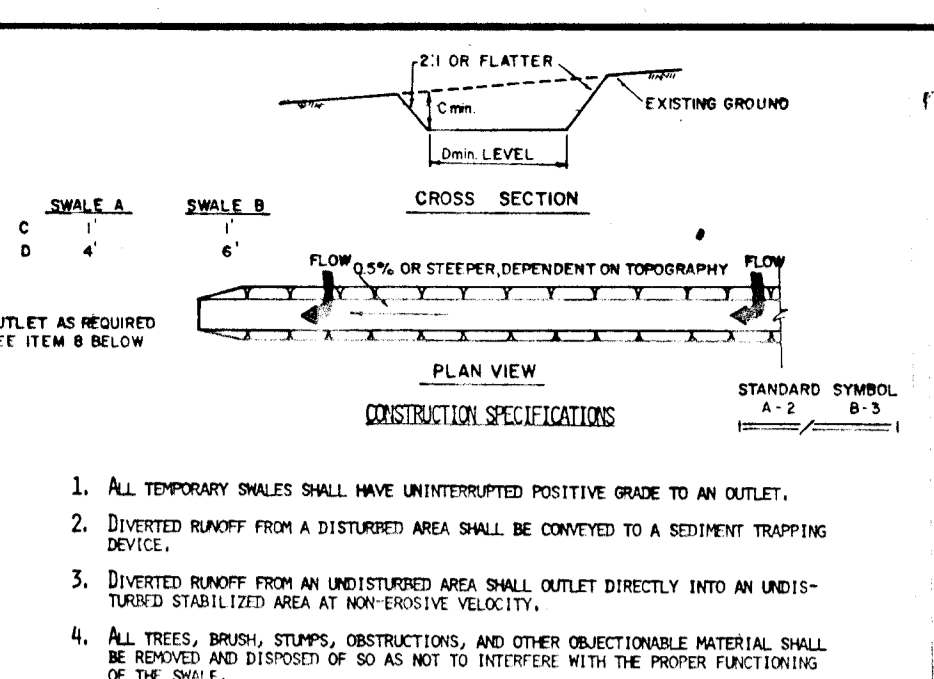
RIP RAP DETAIL
NO SCALE



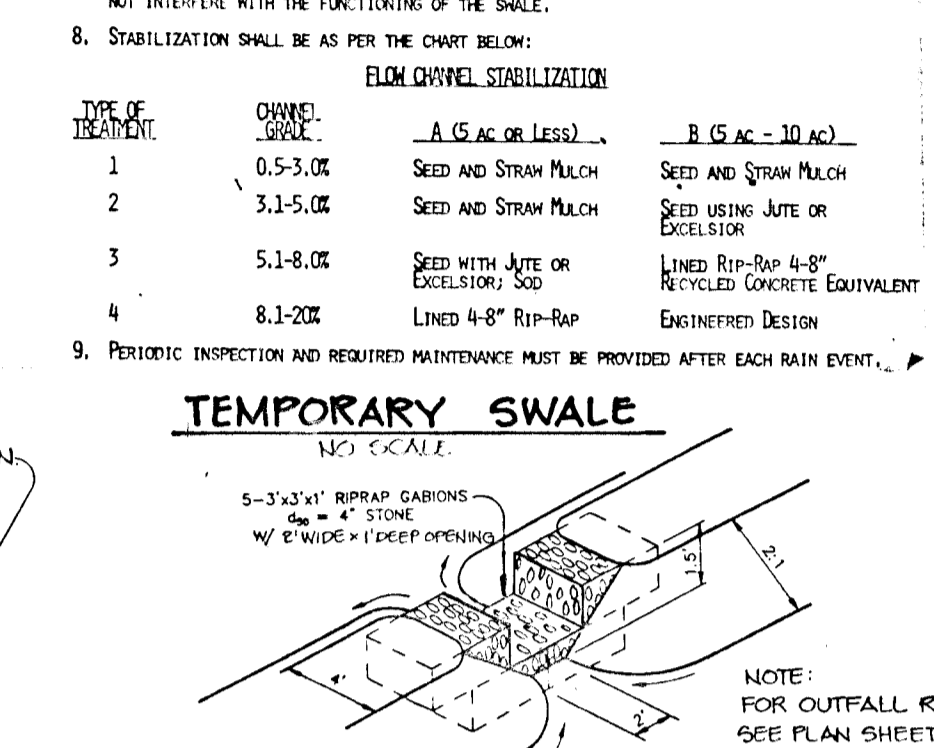
PROFILE ALONG CENTERLINE OF EMBANKMENT-SWMF #1
SCALE: HOR. 1"=50' VERT. 1"=5'



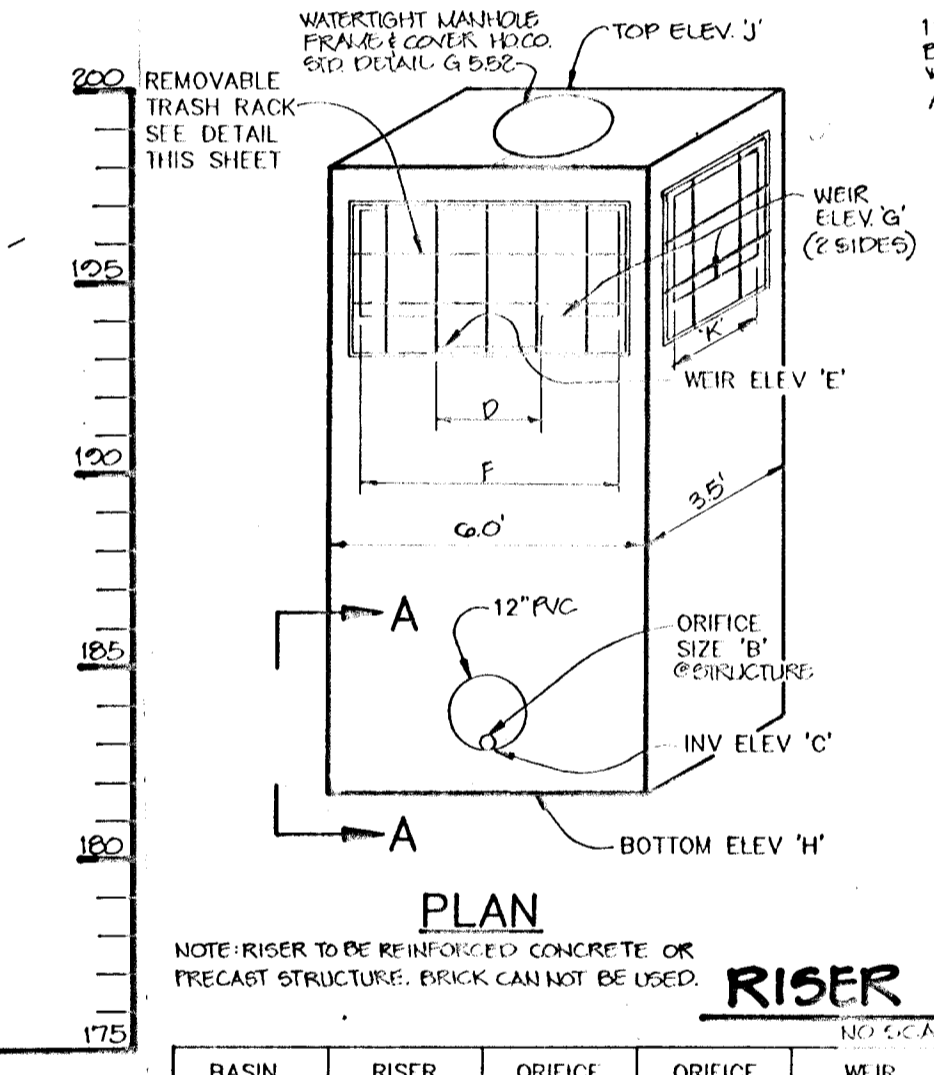
PRINCIPAL SPILLWAY PROFILE
SCALE: HOR. 1"=50' VERT. 1"=5'



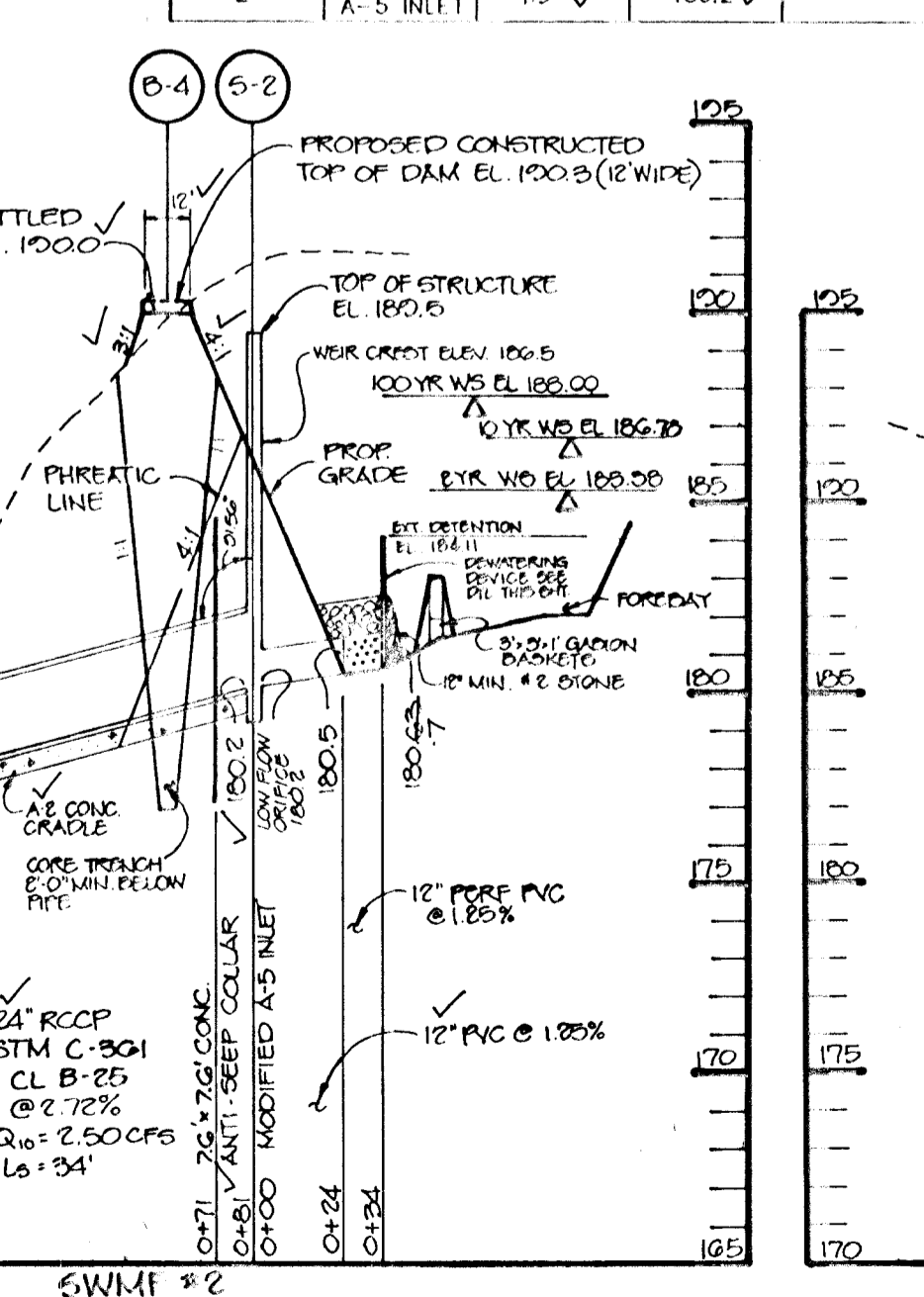
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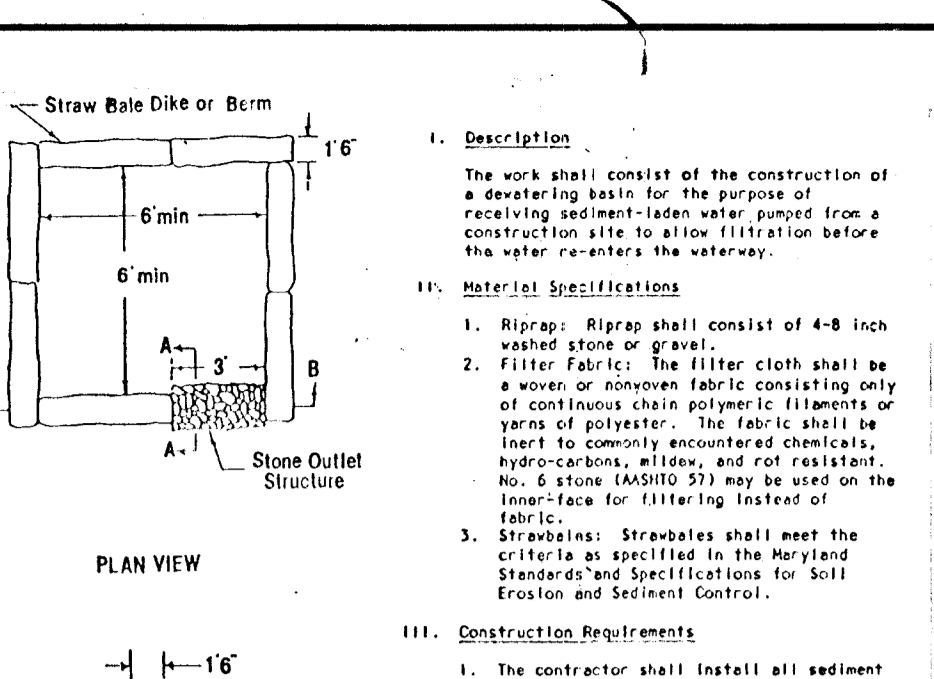
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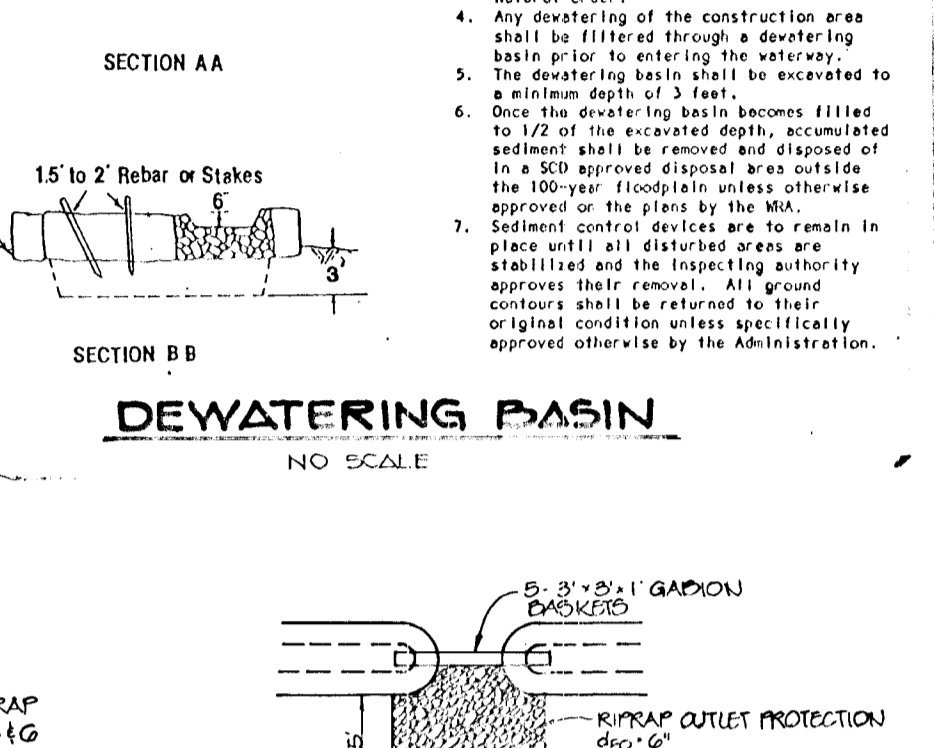
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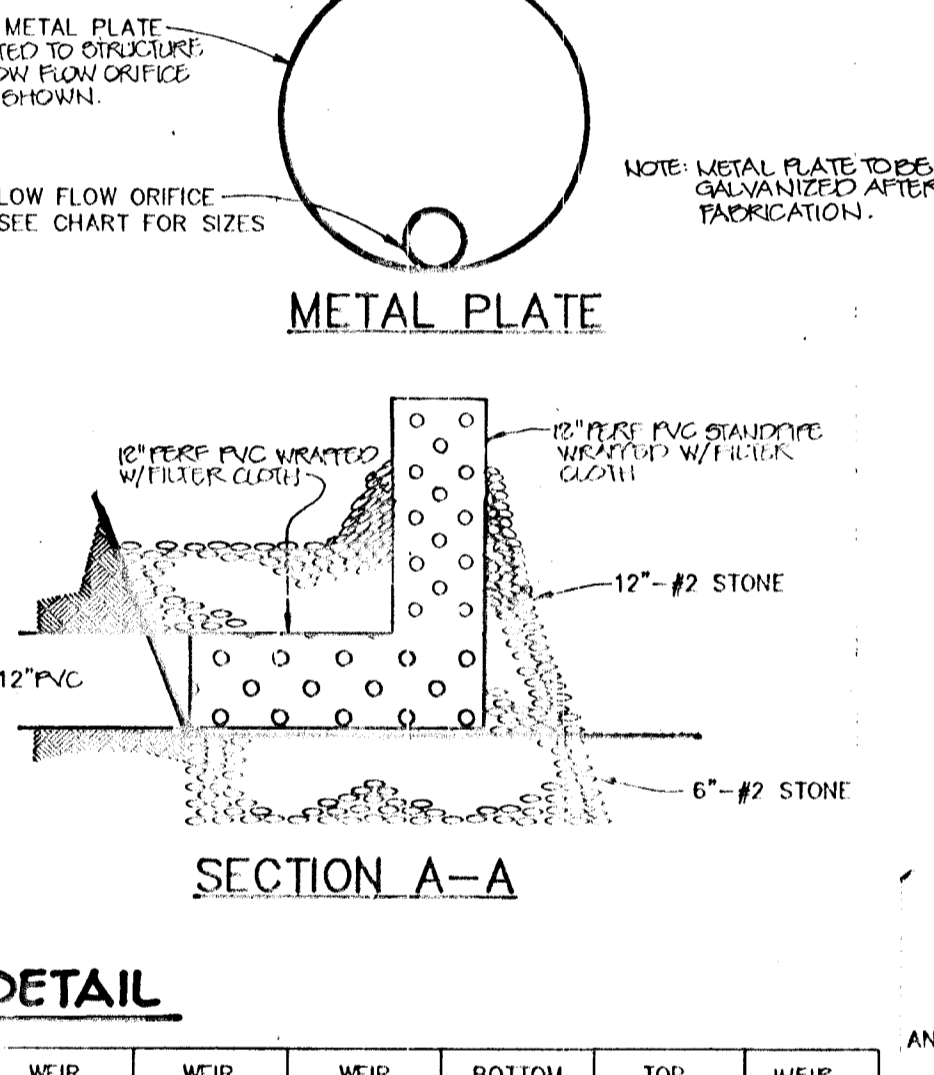
PRINCIPAL SPILLWAY PROFILE
SCALE: HOR. 1"=50' VERT. 1"=5'



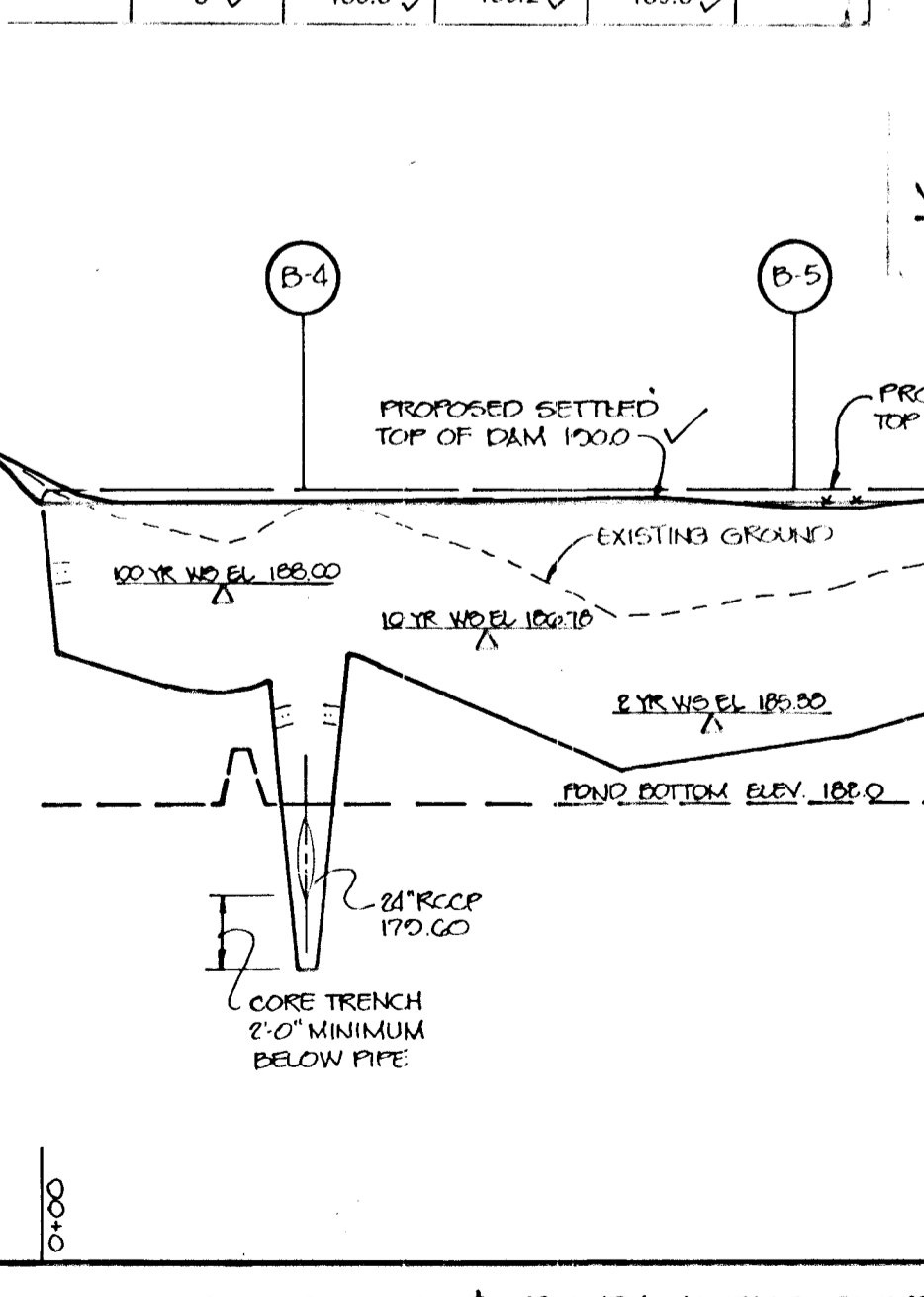
CONCRETE ANTI-SEEP COLLAR
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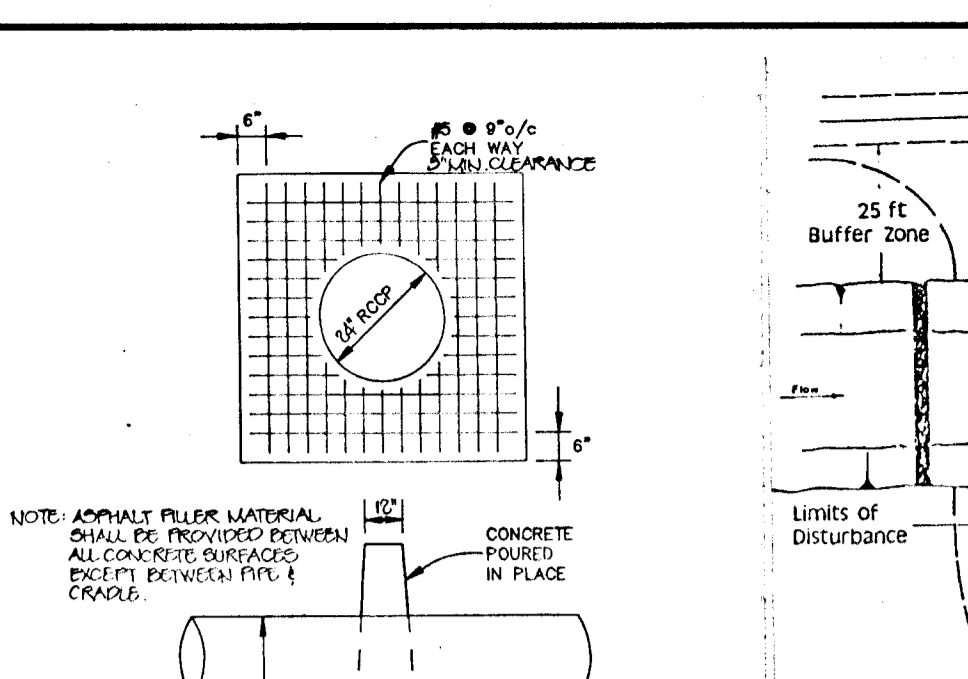
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NO SCALE



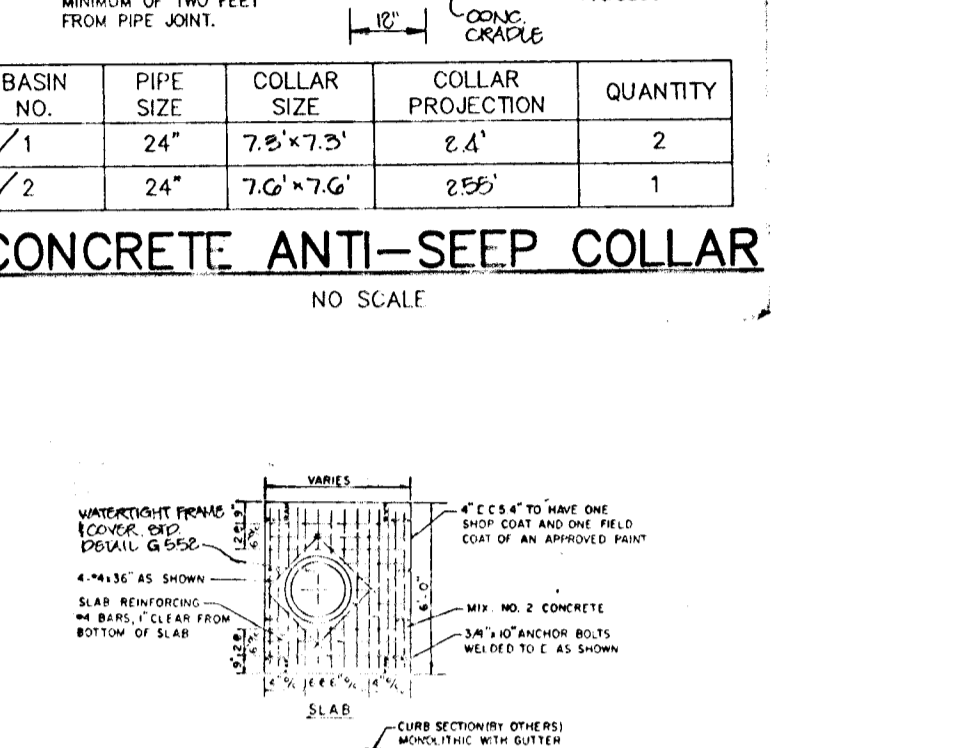
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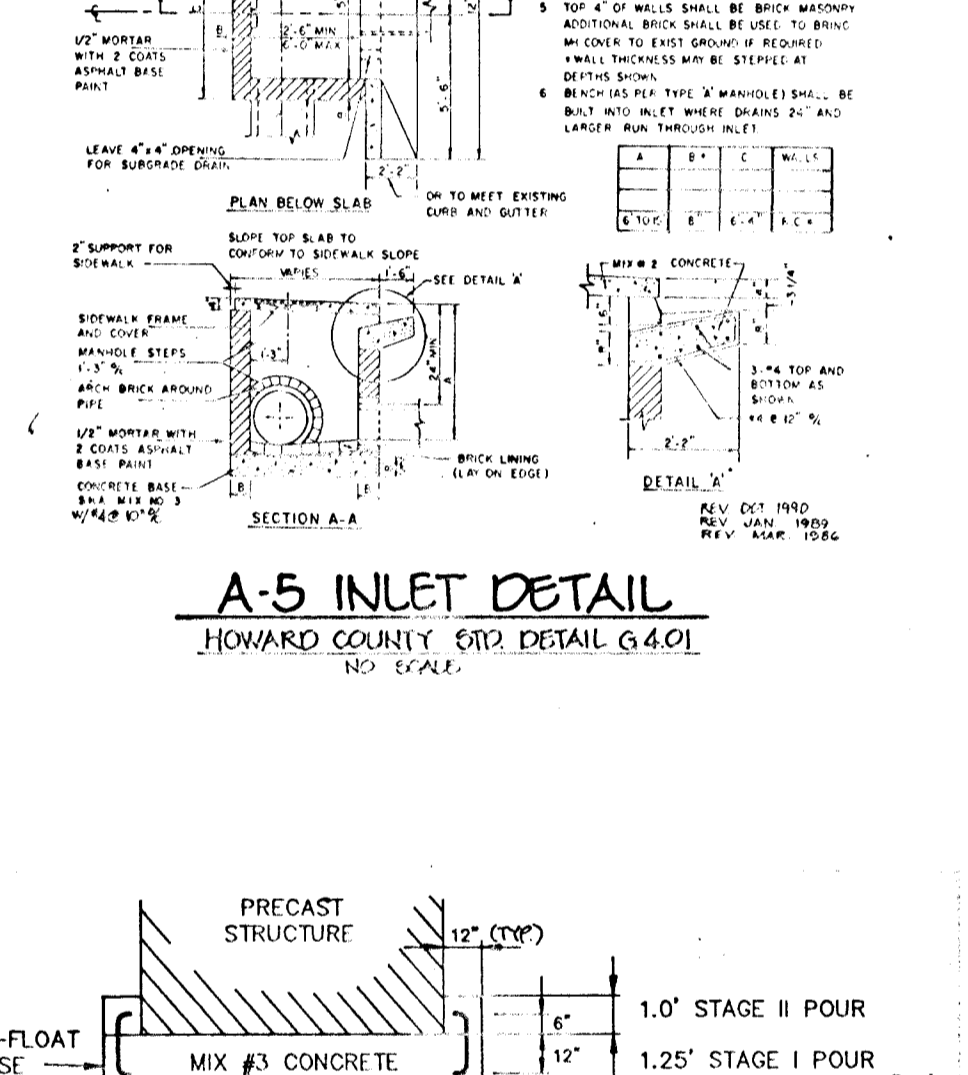
PROFILE ALONG CENTERLINE OF EMBANKMENT-SWMF #2
SCALE: HOR. 1"=50' VERT. 1"=5'



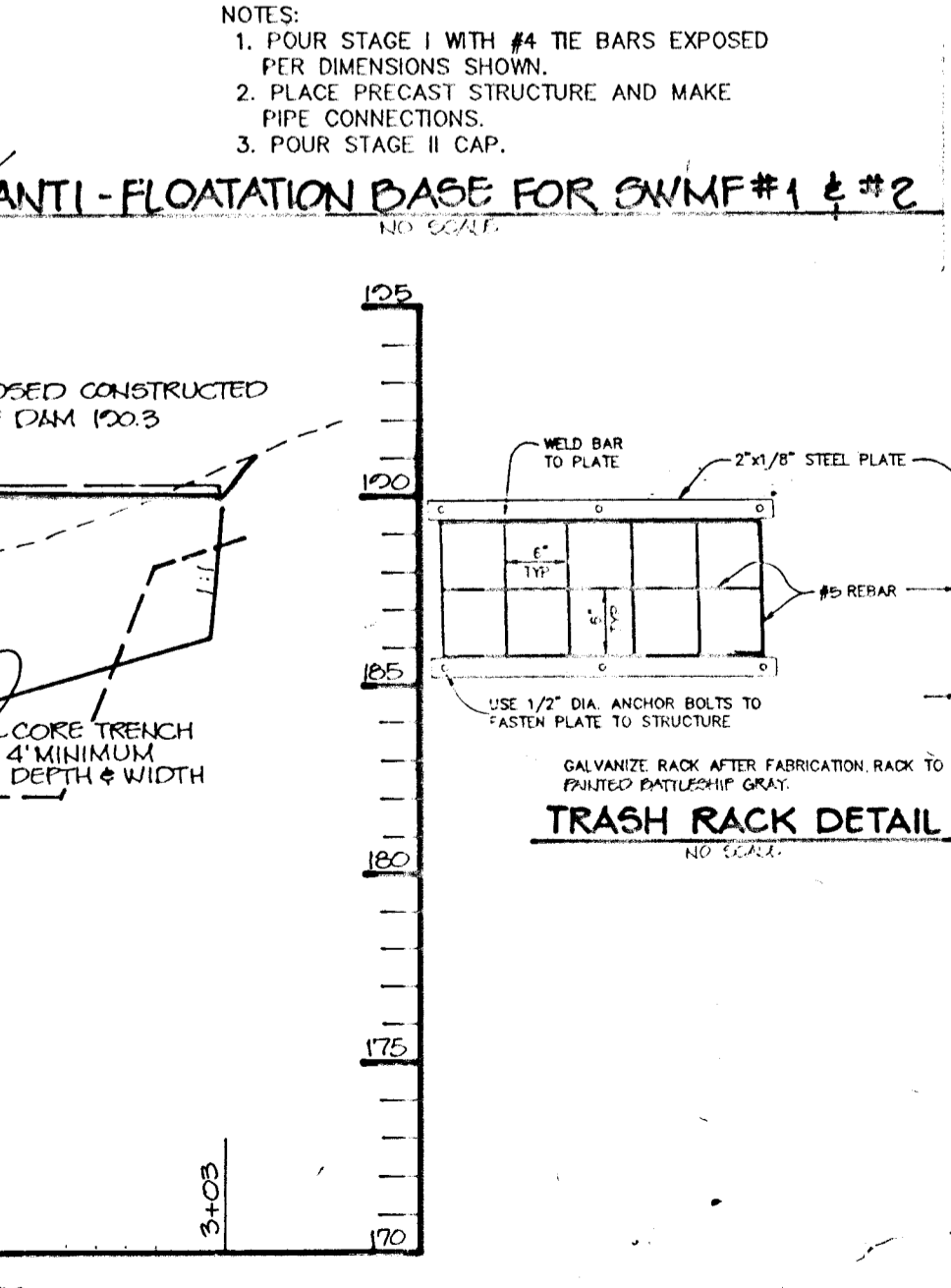
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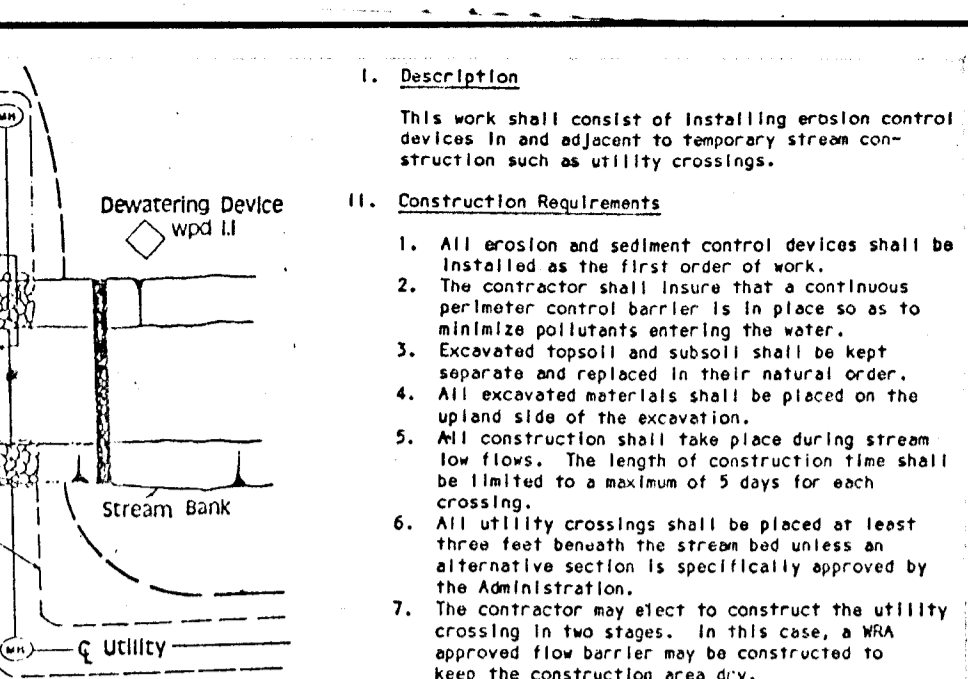
TEMPORARY ACCESS CULVERT
NO SCALE



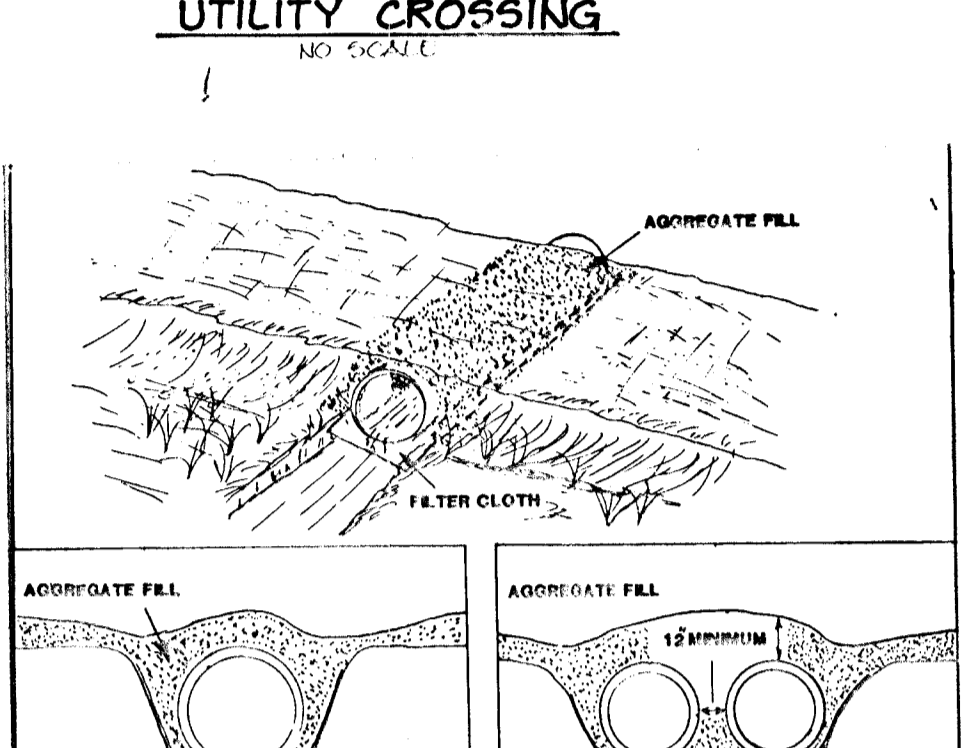
A-5 INLET DETAIL
HOWARD COUNTY 012 DETAIL G.401
NO SCALE



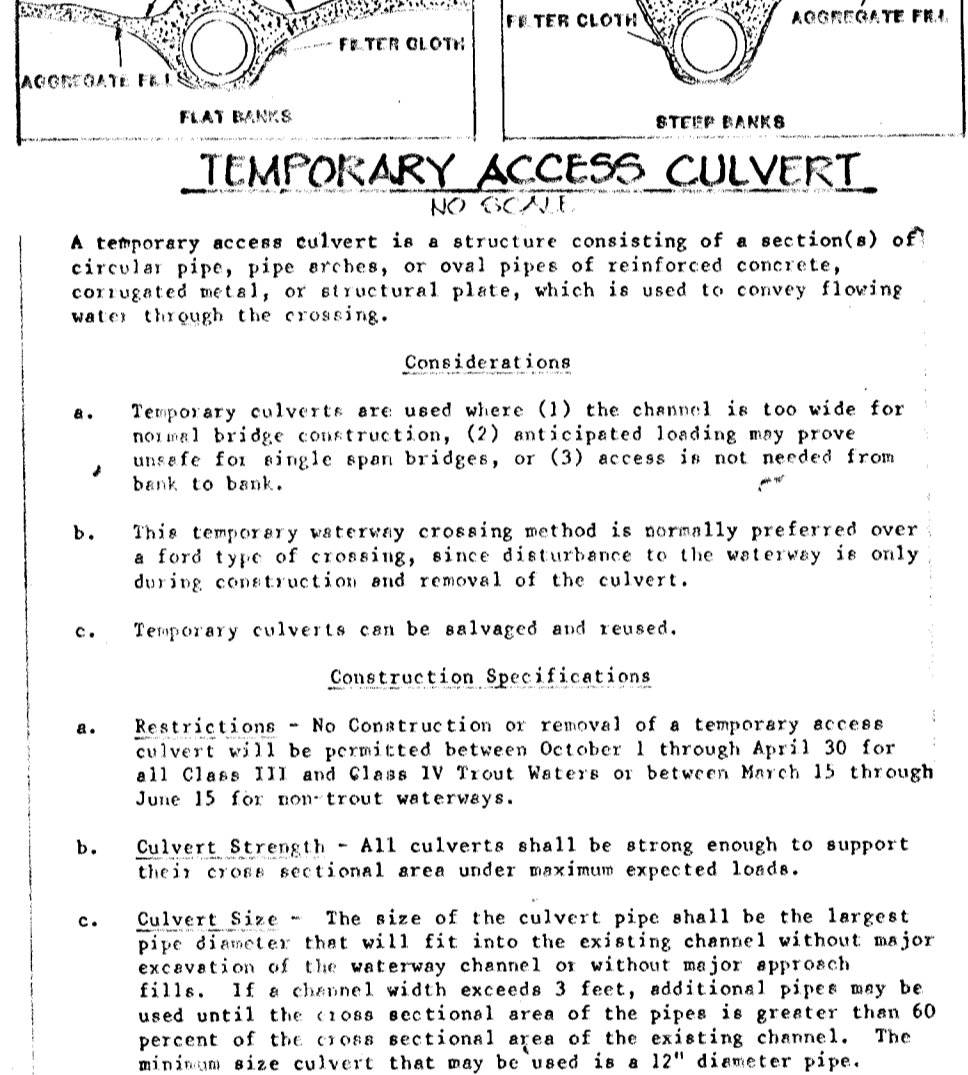
ANTI-FLOATATION BASE FOR SWMF #1 & #2
NO SCALE



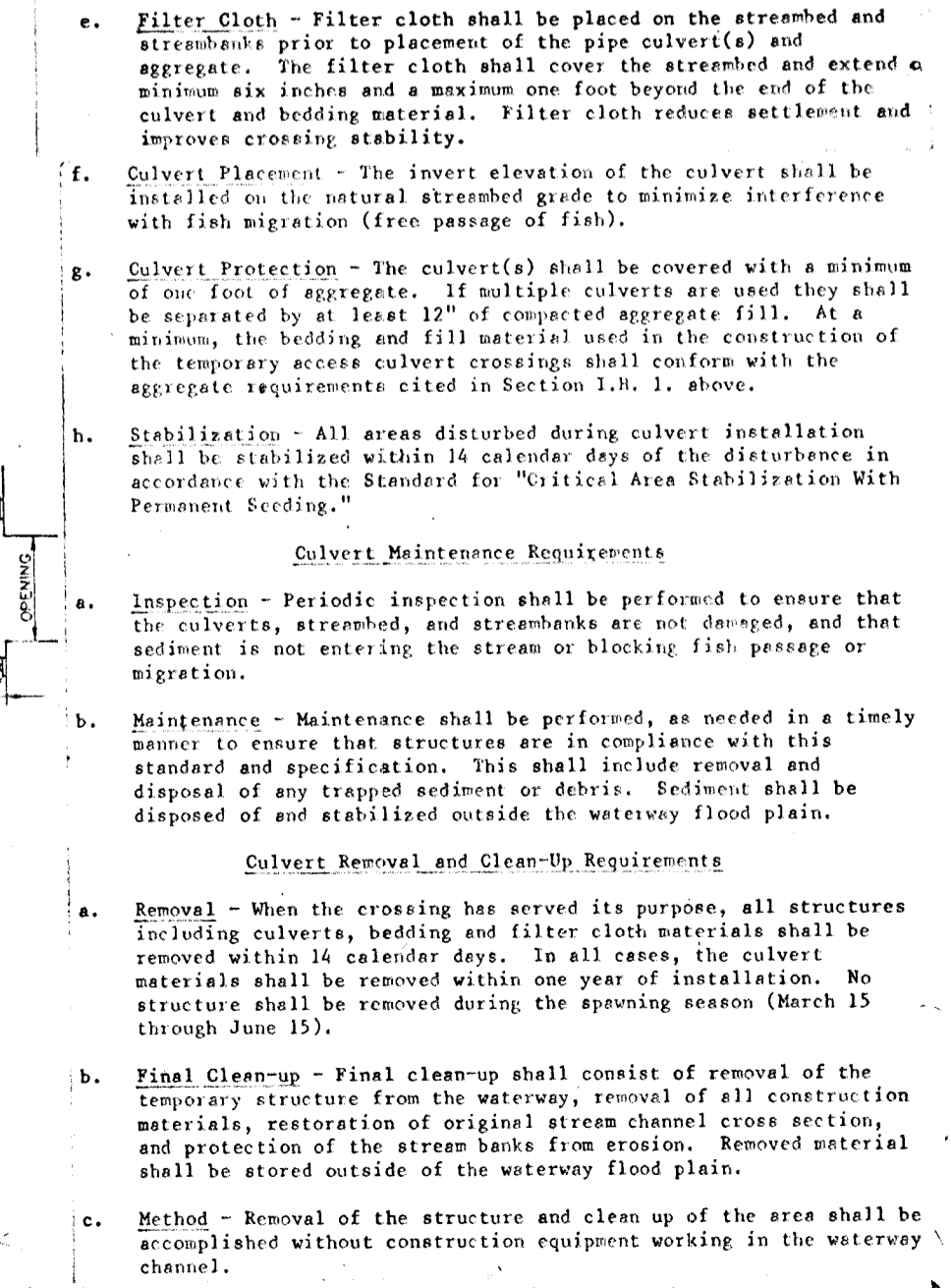
TRASH RACK DETAIL
NO SCALE



FILTER CLOTH
NO SCALE



TEMPORARY ACCESS CULVERT
NO SCALE



TRASH RACK DETAIL
NO SCALE

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORITY PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *Arthur E. Wuegge* 11-23-94
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 DISTRICT THAT I WILL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER: *Arthur E. Wuegge* 11-23-94
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.

REVIEWER: *Patricia Engle* 12-15-94
DATE

U.S. SOIL CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

REVIEWER: *Robert Zehner* 12-15-94
DATE

HOWARD SOIL CONSERVATION DISTRICT

REVIEWER: *Christopher J. Reid* 11-15-99
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

REVIEWER: *Jim Skumoni* 1/4/95
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

REVIEWER: *Bob Parnas* 1/3/95
DATE

CHIEF, LAND DEVELOPMENT DIVISION

REVIEWER: *Howard Shil* 12-21-99
DATE

CHIEF, BUREAU OF HIGHWAYS

REVIEWER: *Paul Egan* 1/3/95
DATE

CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION

OWNER / DEVELOPER

HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT **HAMMOND'S OVERLOOK**
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" ROLLING BROOKE

AREA TAX MAP NO. 47 70ND R-SA-B
PARCEL "A"

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **PROFILES AND DETAIL SHEET**

RIEMER MUEGGE & ASSOCIATES, INC.
Planners • Engineers • Surveyors
8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
410-997-8900 FAX: 410-997-9282

DESIGNED BY: C.J.R.

DRAWN BY: DAM

PROJECT NO: 88815

DATE: NOVEMBER 20, 1994

SCALE: AS SHOWN

DRAWING NO. 10 OF 25

AS-BUILT 11/05/1997 **F-95-24**

1718

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 sq.ft.) of unrotted small grain straw immediately after seeding.

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using such anchoring tool as 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureiform fertilizer (9 lbs. per 1000 sq.ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the period March 1 thru April 30 and from August 15 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 2) Use sod.
- 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using such anchoring tool as 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseeding.

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Dept. of Inspections and Permits prior to the start of any construction (S.D. 105.5).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISED THERE TO.

3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around the perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1001 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL for permanent seedings (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis:

| | |
|------------------------------------|--------------|
| Total Area of Site | 40,800 acres |
| Area Disturbed | 16,540 acres |
| Area to be roofed or paved | 10,571 acres |
| Area to be vegetatively stabilized | 13,729 acres |
| Total Cut | cu. yds. |
| Total Fill | cu. yds. |

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

10. Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.

11. Sediment will be removed from traps when its depth reaches clean out elevation shown on the plans.

12. Cut and fill quantities provided under site analysis do not represent bid quantities. These quantities do not distinguish between topsoil, structural fill or embankment material, nor do they reflect consideration of undercutting or removal of unsuitable material. The contractor shall familiarize himself with site conditions which may affect the work.

13. On all sites with disturbed areas in excess of 5 ac, approval of the inspection agency shall be required upon completion of installation of perimeter erosion and sediment control, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

14. Trenches for the construction of utilities is limited to three pipe lengths or that which can be back-filled and stabilized within one working day, whichever is shorter.

MD-378 STANDARDS AND SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of all trees, vegetation, rocks and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry streamwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable material. Fill material for the center of the embankment and cut of trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick lifts before compaction which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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 traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibrator roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter.

The back fill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

STRUCTURE BACKFILL
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for 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 AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound with polymeric coating. Coupling bands shall have a minimum coating thickness of 0.01 inch (1 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nevon, Plast-Cote, Glas-Klad, and Baco-Gu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. 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. 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.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled on adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket, and a 12" wide huggie type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using one of the following: a 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock seams.

4. 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.

5. Backfilling shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high strength concrete placed under the pipe and up the sides of the pipe to a depth of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all areas under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.
4. Backfilling shall conform to Structure Backfill.
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
2. Joints and connections to anti-seep collars shall be completely 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. Backfilling shall conform to Structure "Backfill."
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

ROCK RIPRAP

All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments of individual rock shall be rounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

The rock shall have the following properties:

1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
2. Absorption not more than three percent.
3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. 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GENERAL NOTES

SPECIFICATIONS: HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS & DETAILS FOR CONSTRUCTION AS REVISED 1990.

ALL REFERENCES TO THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1982) SHALL MEAN THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED OCTOBER, 1993.

ALL REFERENCES TO A PARTICULAR SECTION OF THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1982) SHALL MEAN THAT SECTION OF THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1993) WHICH HAS THE SAME OR NEARLY THE SAME SECTION TITLE. SEE THE FOLLOWING EXAMPLES:

| | |
|----------------------------------|--|
| (1982) | (1993) |
| 203 - STRUCTURE EXCAVATION | SHALL MEAN 404 - STRUCTURE EXCAVATION |
| 607 - METAL STRUCTURES | SHALL MEAN 408 - METAL STRUCTURES |
| 608 - CEMENT CONCRETE STRUCTURES | SHALL MEAN 414 - PORTLAND CEMENT CONCRETE STRUCTURES |
| 619 - METAL RAILING | SHALL MEAN 422 - METAL RAILING |

ALL REFERENCES TO "HOWARD COUNTY", "THE COUNTY", "STATE OF MARYLAND", "STATE ROADS COMMISSION", "STATE", "S.H.A." AND "S.R.C." SHALL MEAN THE OWNER.

ALL REFERENCES TO THE "ENGINEER" SHALL MEAN THE OWNER.

AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1992 FOR DESIGN INCLUDING ALL INTERIM SPECIFICATIONS THROUGH 1993.

CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD: $F_c = 1200$ PSI EXCEPT THAT IN BRIDGE DECK SLABS SUPPORTED BY STRINGERS IT SHALL BE 1350 PSI.

REINFORCING STEEL DESIGN: $F_s = 24000$ PSI.

STRUCTURAL STEEL DESIGN: ELASTIC DESIGN METHOD

LOADING: HS - 25, WITH PROVISIONS FOR FUTURE 2" WEARING SURFACE.

CONCRETE: ALL CONCRETE FOR ABUTMENT BACKWALLS, SIDEWALKS AND PARAPETS AT ABUTMENTS AND THE ENTIRE SUPERSTRUCTURE SHALL BE MIX NO. 6 (4500 PSI). ALL OTHER STRUCTURE CONCRETE SHALL BE MIX NO. 3 (3500 PSI).

CHAMFER: ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS EXCEPT ON UNEXPOSED FOOTINGS AND WHERE INDICATED BY THE FOLLOWING NOTATION ON THE PLANS "DO NOT CHAMFER".

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

ONLY GRADE 60 CAN BE USED ON THIS PROJECT.

REINFORCING STEEL IN THE FOLLOWING AREAS SHALL BE EPOXY COATED:

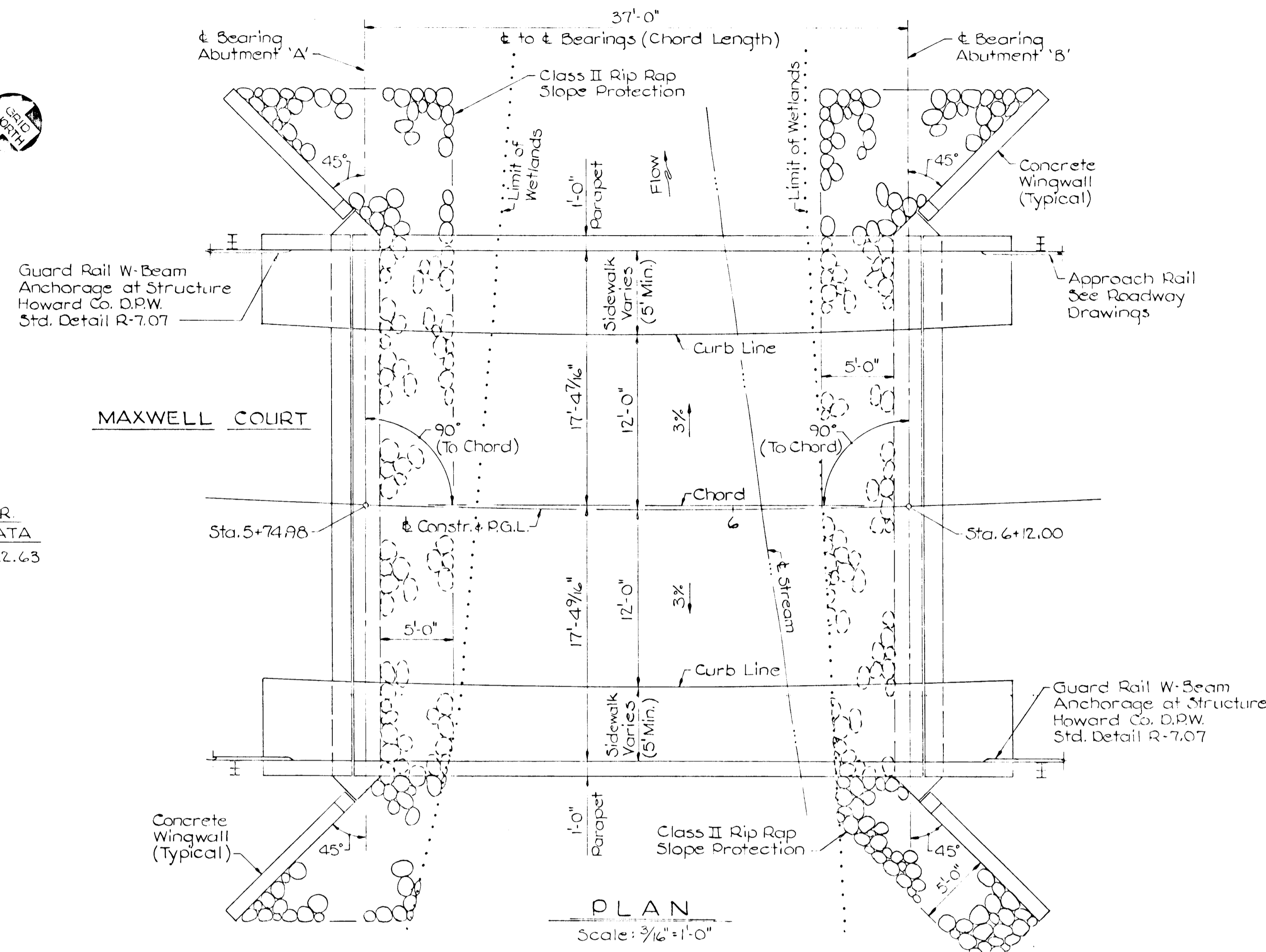
- ENTIRE SUPERSTRUCTURE
- SIDEWALKS AND PARAPETS ON ABUTMENTS
- ABUTMENT BACKWALLS
- ABUTMENT BRIDGE SEAT AREAS

KEYS: ALL KEYS ARE NOMINAL SIZE.

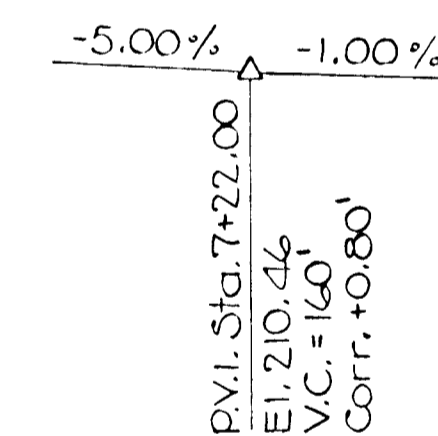
STRUCTURAL STEEL: STRUCTURAL STEEL SHALL CONFORM TO ASTM A 709 GRADE 50 INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHIPPY V-NOTCH TESTING OF AASHTO M 270 FOR PRIMARY LOAD CARRYING MEMBERS.

STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 413 OF THE SPECIFICATIONS - CLEANING AND PAINTING STRUCTURAL STEEL.

LINSEED OIL: BRIDGE DECK SHALL RECEIVE LINSEED OIL PROTECTIVE COATING.

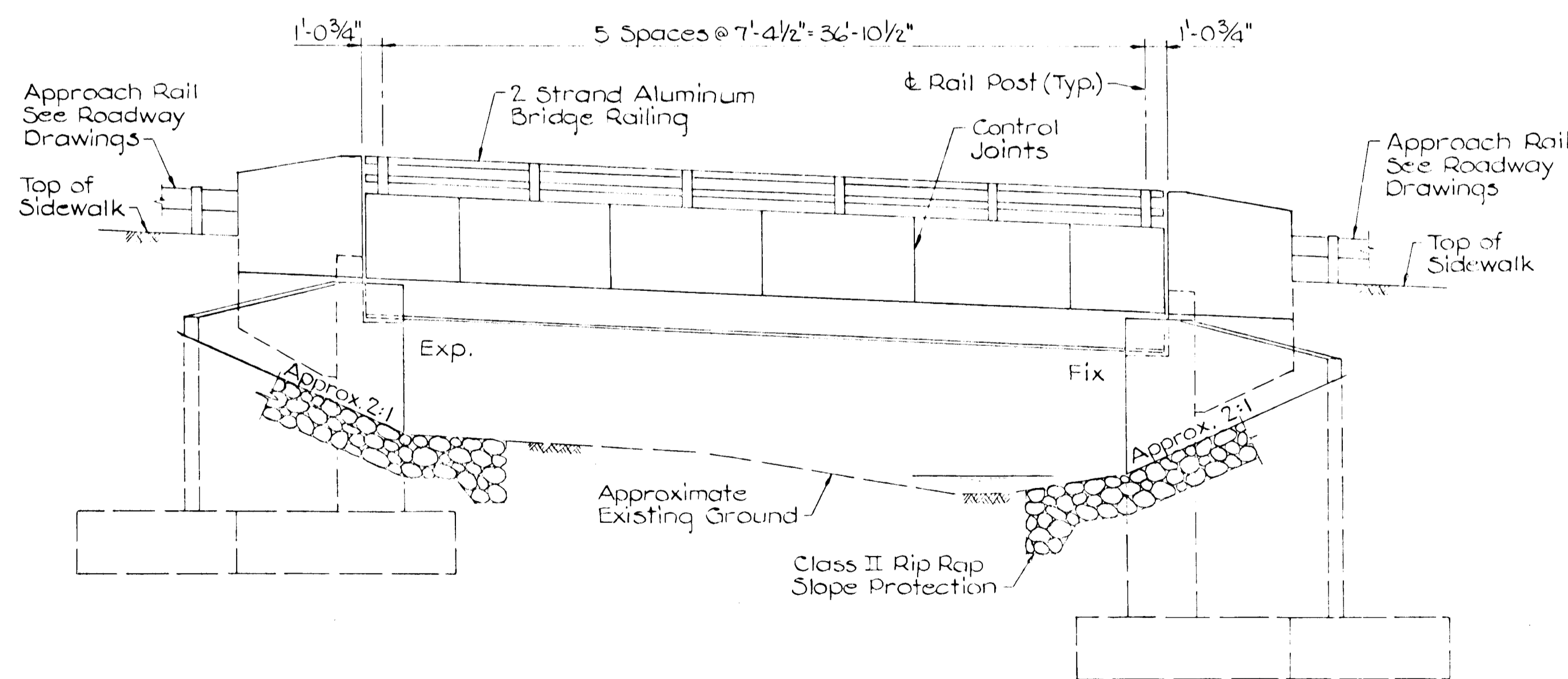


CONSTR. CURVE DATA
 RC: Sta. 4+22.63
 L = 527.24
 R = 450.00

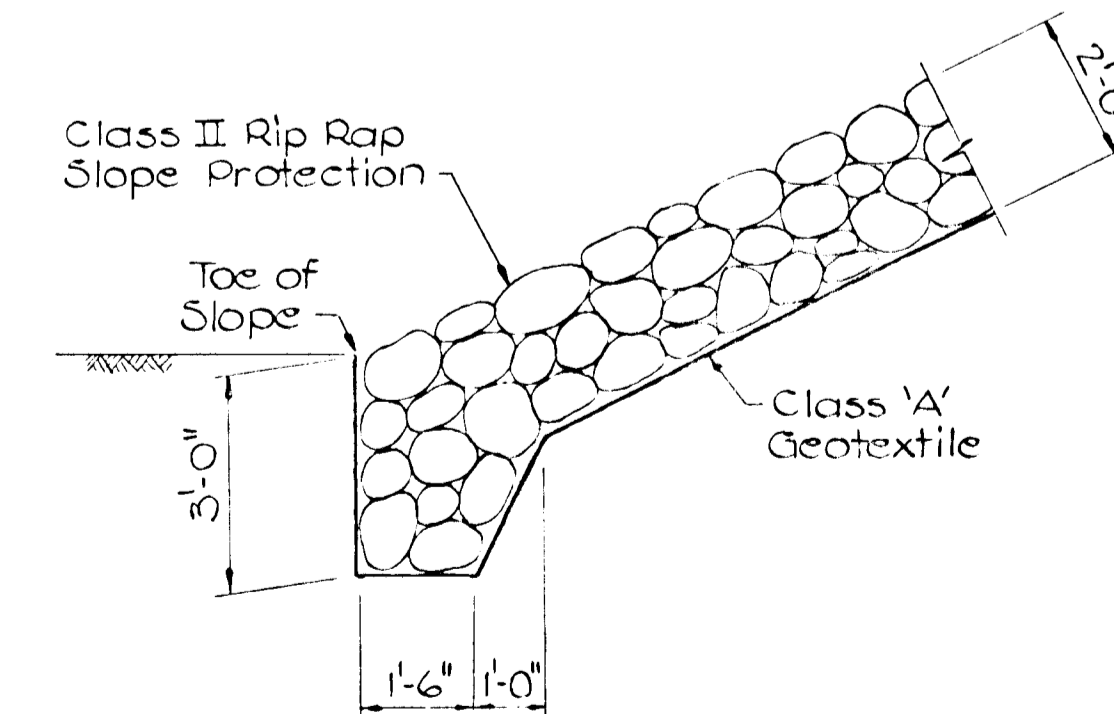


Note:
 For Bridge Construction
 P.G.L. is Located at \pm of
 24' Wide Roadway.

CONSTR. & P.G.L. VERTICAL CURVE DATA



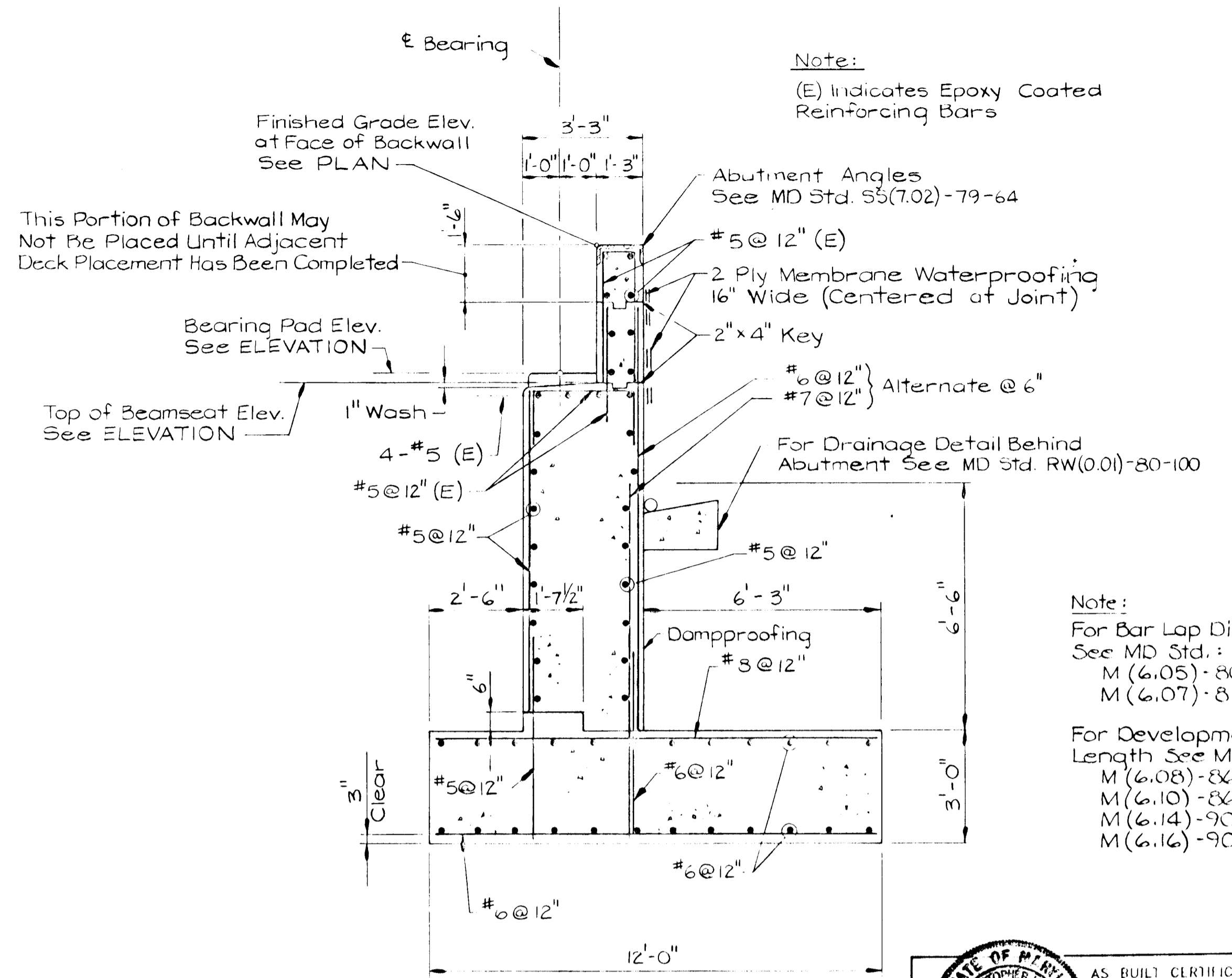
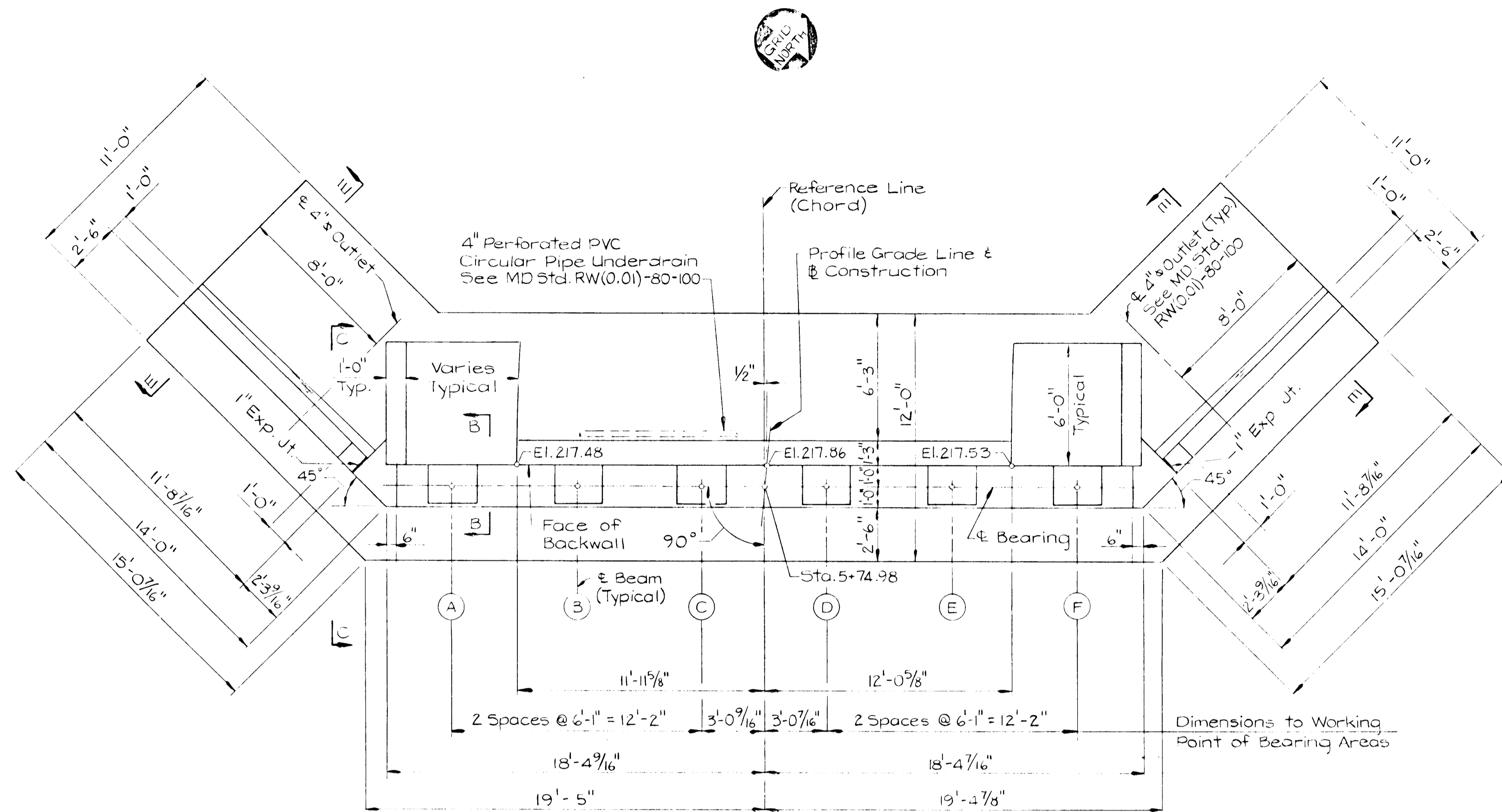
ELEVATION
 Scale: 3/16" = 1'-0"



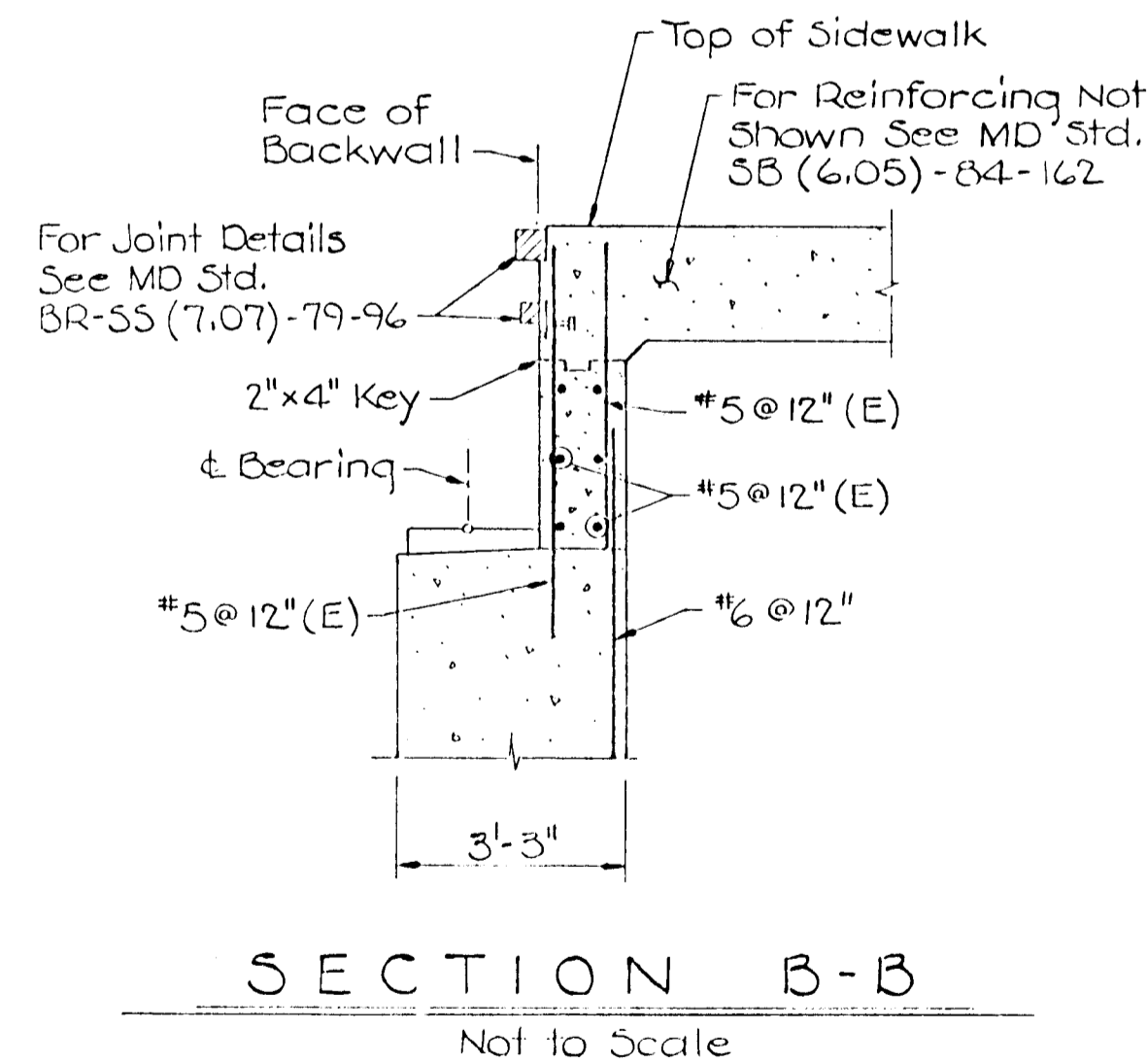
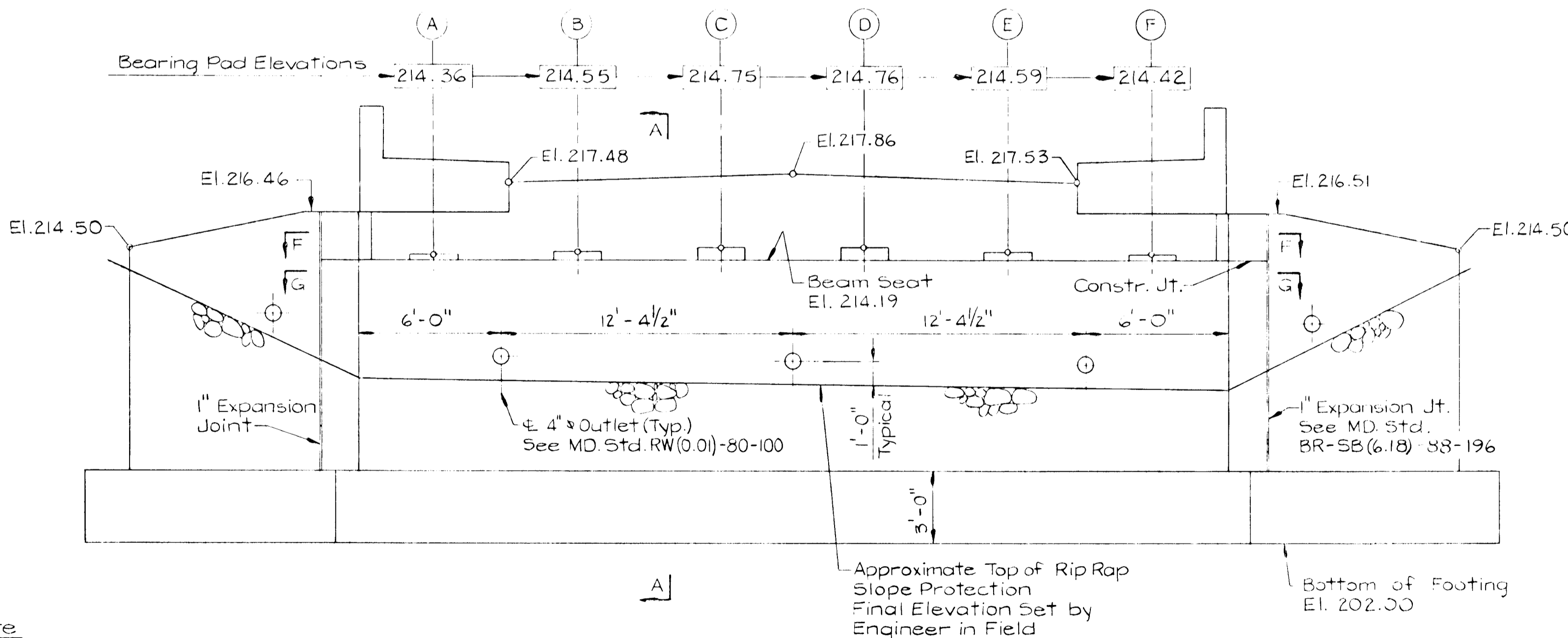
SLOPE PROTECTION DETAIL
 Not to Scale

| | |
|--|---|
| | |
| CHRISTOPHER J. REID #19949 DATE: 11-15-99 | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. GINA SWANNAMY, CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE: 11/4/95 | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. ALAN DAUMER, CHIEF, DIVISION OF PUBLIC WORKS DATE: 11/3/95 | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF HIGHWAYS. SHAWN SHILTON, CHIEF, BUREAU OF HIGHWAYS DATE: 12-21-98 | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. RONALD W. JEFFERSON, CHIEF, BUREAU OF PUBLIC WORKS DATE: 11/3/95 | |
| DATE NO. _____ REVISION _____ | |
| OWNER / DEVELOPER HAMMOND'S OVERLOOK LIMITED PARTNERSHIP 110 WEST ROAD, SUITE 203 TOWSON, MARYLAND 21204 410-321-1000 | |
| PROJECT: HAMMOND'S OVERLOOK LOTS 1-118 A RESUBDIVISION OF PARCEL "A" ROLLING BROOKE AREA: TAX MAP NO. 47, ZONING SA-B PARCEL "A" 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | |
| TITLE: MAXWELL COURT AT STA. 6+0 GENERAL PLAN AND ELEVATION | |
| NORTHEAST ENGINEERING, INC. 1055 TAYLOR AVENUE, SUITE 104 BALTIMORE, MARYLAND 21286 | |
| | DESIGNED BY: J.R.D. DRAWN BY: R.W.S. PROJECT NO.: _____ DATE: NOVEMBER 20, 1998 SCALE: AS SHOWN DRAWING NO. 12 OF 35 |

1718



Note:
For Bar Lap Dimensions See MD Std.:
M(6.05)-80-122
M(6.07)-81-127
For Development Length See MD Std.:
M(6.08)-86-178
M(6.10)-86-180
M(6.14)-90-214
M(6.16)-90-216



Notes:
For Sections C-C, D-D, E-E, F-F & G-G See Sheet No. 15



AS BUILT CERTIFICATE
Christopher J. Reid
CHRISTOPHER J. REID #19949
DATE 11-15-99

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Gina Summari
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
DATE 1/4/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Alvin Davern
CHIEF, LAND DEVELOPMENT DIVISION
DATE 1/3/95

Howard Shidler
CHIEF, BUREAU OF HIGHWAYS
DATE 11-24-94

Donald Seppan
CHIEF, BUREAU OF ENGINEERING
DATE 1/3/95

DATE NO. REVISION

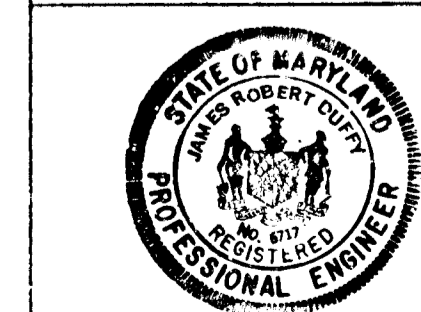
OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118

AREA
A RESUBDIVISION OF PARCEL "A" BOLLING BROOK
110 WEST ROAD, SUITE 203
PARCEL "A"
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
MAXWELL COURT AT STA. G+0
ABUTMENT 'A'

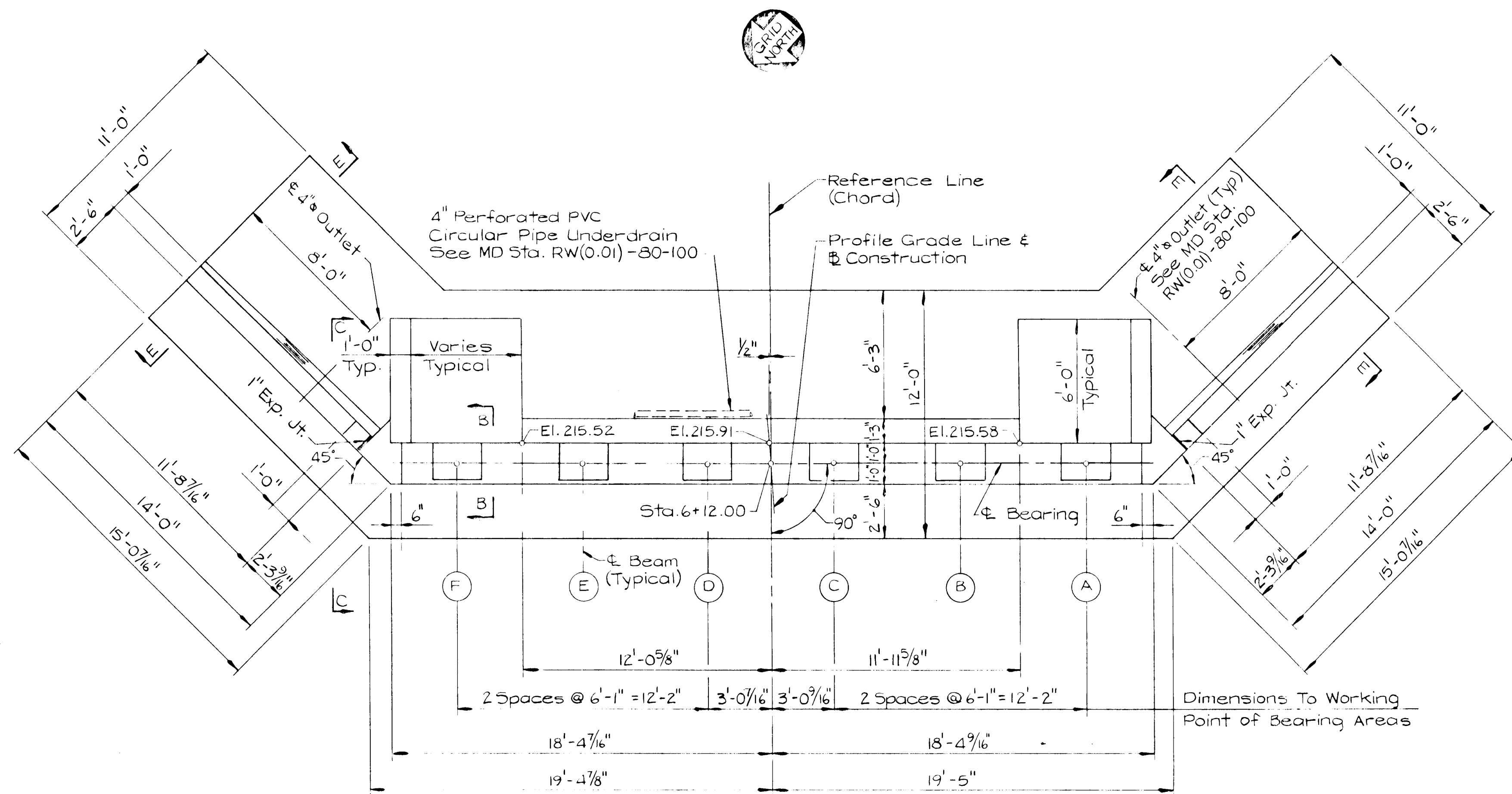
NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286



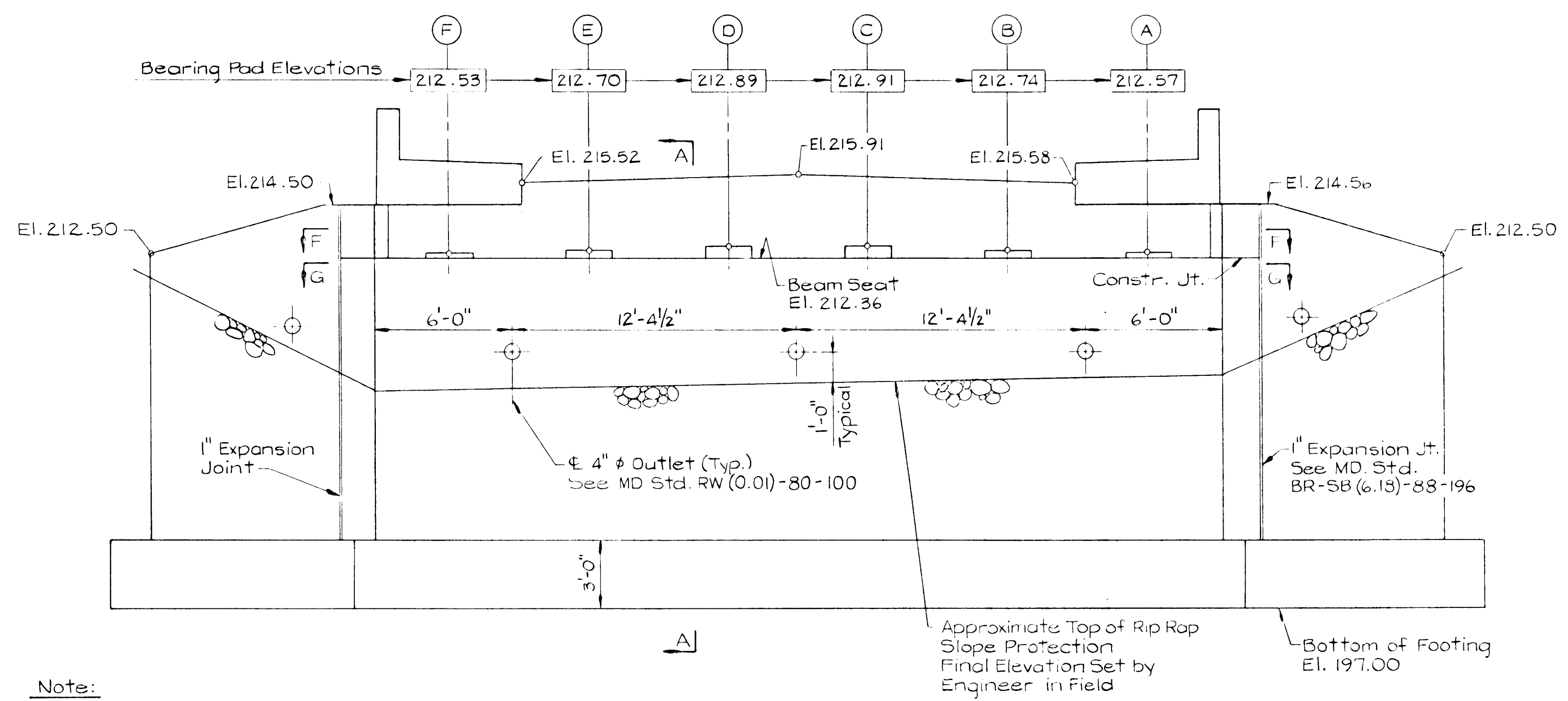
James R. Duff
JAMES R. DUFF P.E.
DATE 11-23-94
SCALE: AS SHOWN
DRAWING NO. 13 OF 35

AS-BUILT 11/05/99 F-95-24

81718

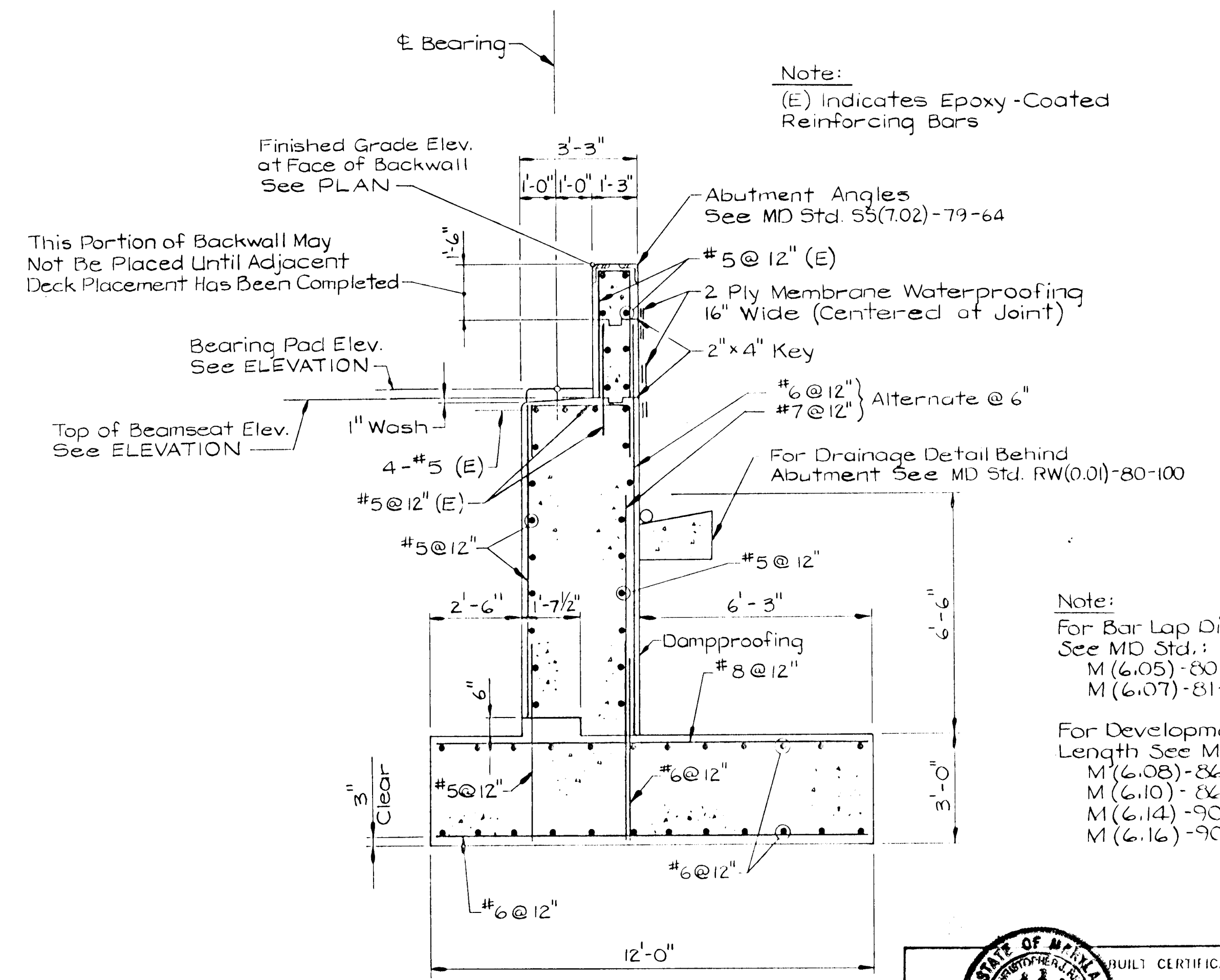


PLAN
Scale: 1/4" = 1'-0"



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

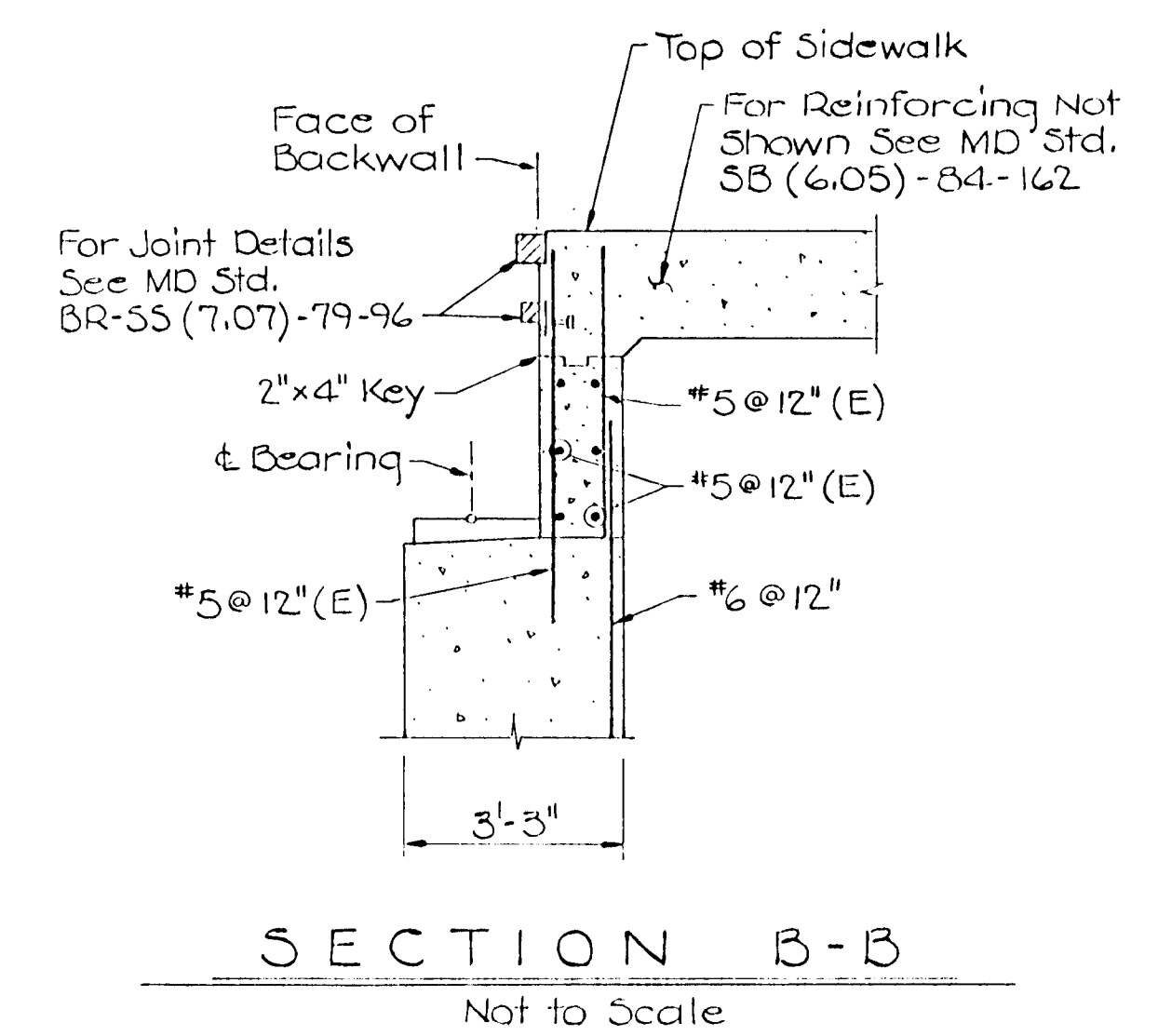
Note:
Maximum Design Foundation Pressure
5000 Pounds Per Square Foot



SECTION A-A
Scale: 3/8" = 1'-0"

Note:
(E) Indicates Epoxy-Coated Reinforcing Bars

Note:
For Bar Lap Dimensions See MD Std.:
M(6.05)-80-122
M(6.07)-81-127
For Development Length See MD Std.:
M(6.08)-86-178
M(6.10)-86-180
M(6.14)-90-214
M(6.16)-90-216



Note:
For Sections C-C, D-D, E-E, F-F & G-G See Sheet No. 15

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
BUILT CERTIFICATE

Christopher J. Reid
CHRISTOPHER J. REID # 19949
11-15-99
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Gina Summery
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
1/4/95
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Michael D. ...
CHIEF, LAND DEVELOPMENT DIVISION
1/3/95
DATE

Howard ...
CHIEF, BUREAU OF HIGHWAYS
12-21-99
DATE

Richard ...
CHIEF, BUREAU OF ENGINEERING
1/3/95
DATE

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

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" HOLLING BROOKE

AREA TAX MAP NO. 47 ZONED R SA-B
PARCEL "A"
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
MAXWELL COURT AT STA. 6+0
ABUTMENT 'B'

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

5-94-15, P-94-14

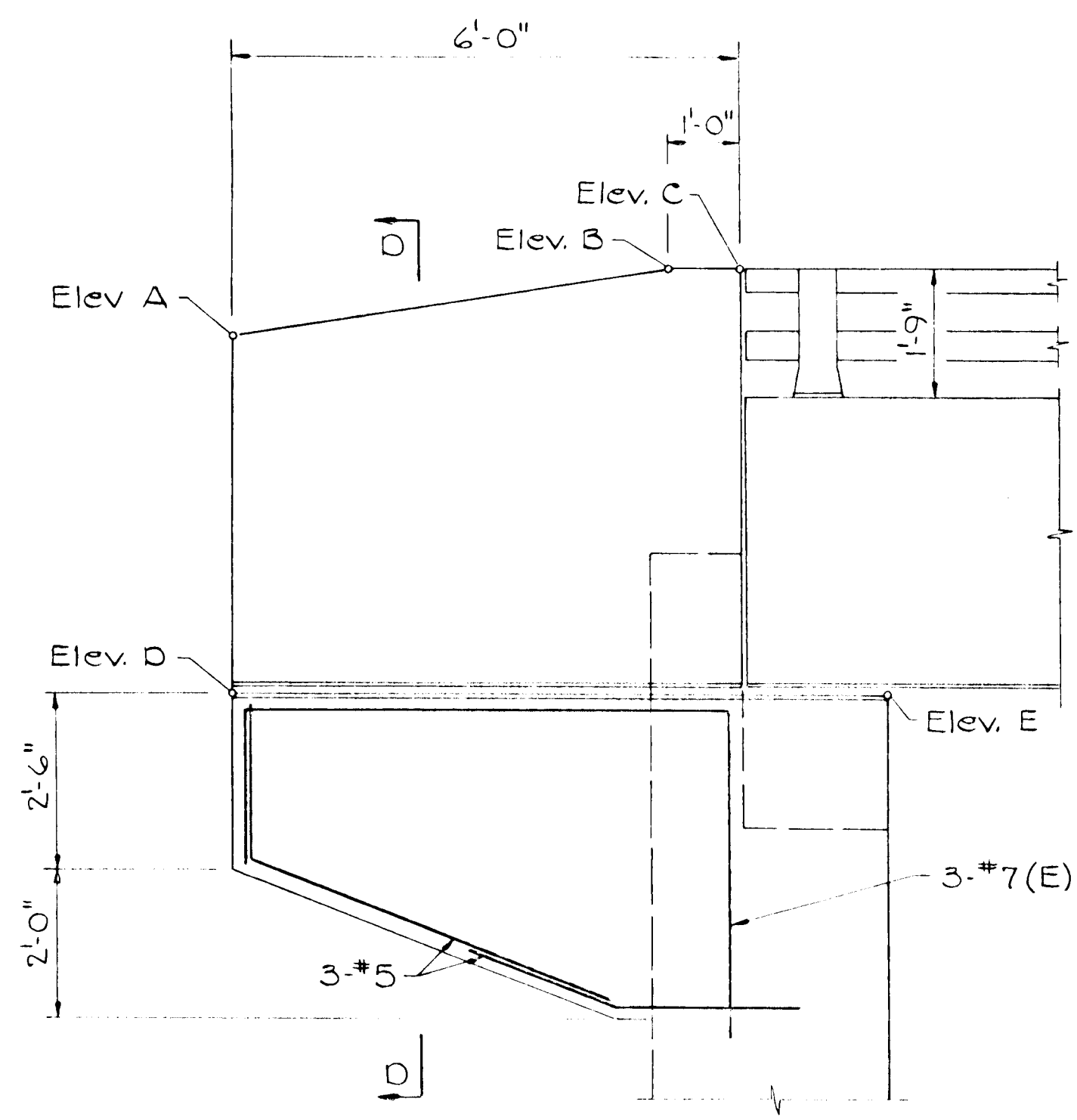
DESIGNED BY: J.R.D.
DRAWN BY: E.L.R.
PROJECT NO.:
DATE: NOVEMBER 22, 1994
SCALE: AS SHOWN
DRAWING NO. 14 OF 35

James R. Duffy 11-23-94
JAMES R. DUFFY DATE

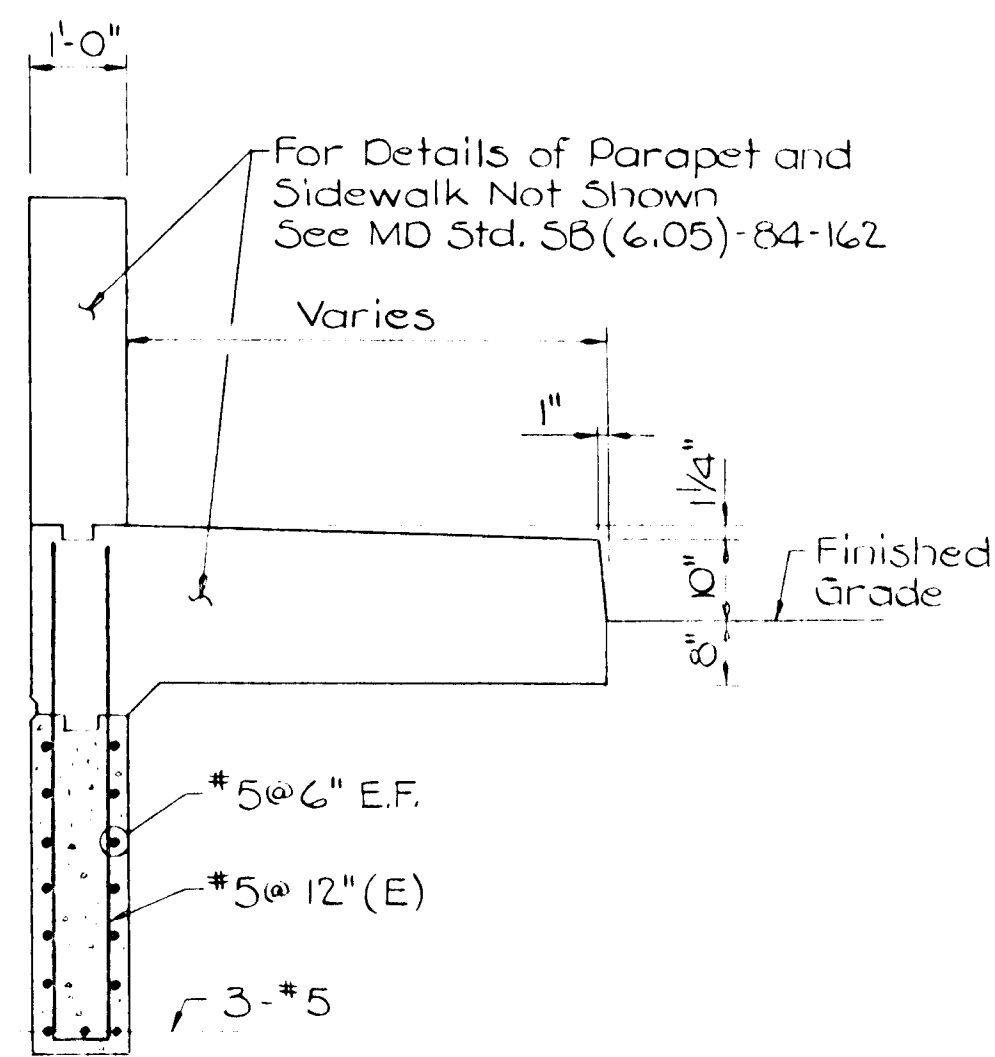
AS-BUILT 11/05/99 F-08-24

1718

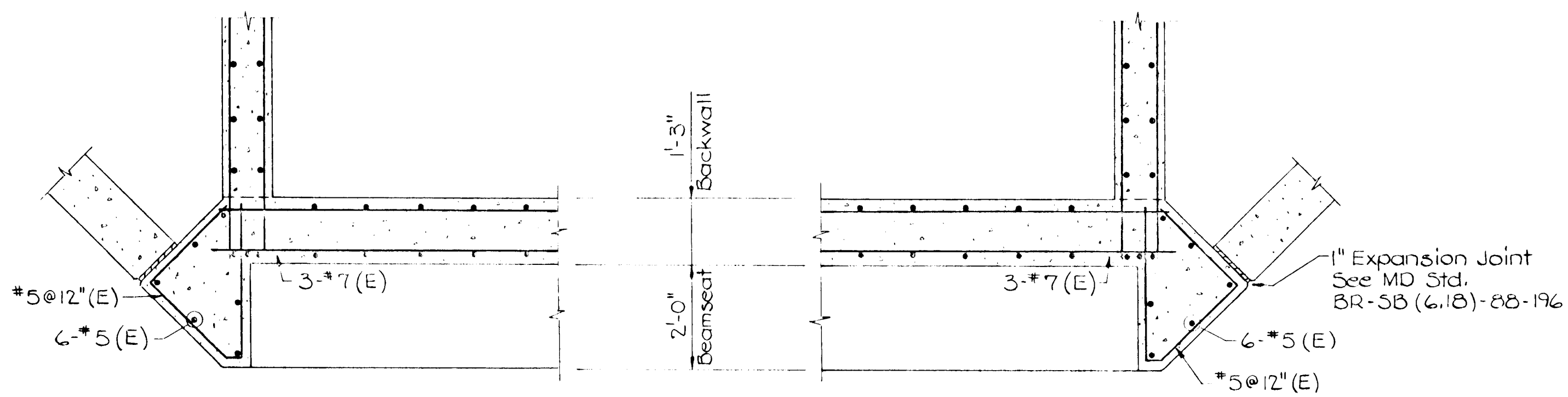
| END POST ELEVATIONS | | | | | | |
|---------------------|----------|--------|--------|--------|--------|--------|
| ABUT. | END POST | A | B | C | D | E |
| A | South | 220.60 | 222.47 | 222.42 | 216.75 | 216.36 |
| | North | 220.67 | 222.52 | 222.47 | 216.82 | 216.41 |
| B | South | 218.11 | 220.47 | 220.52 | 214.76 | 214.66 |
| | North | 218.05 | 220.41 | 220.46 | 214.70 | 214.60 |



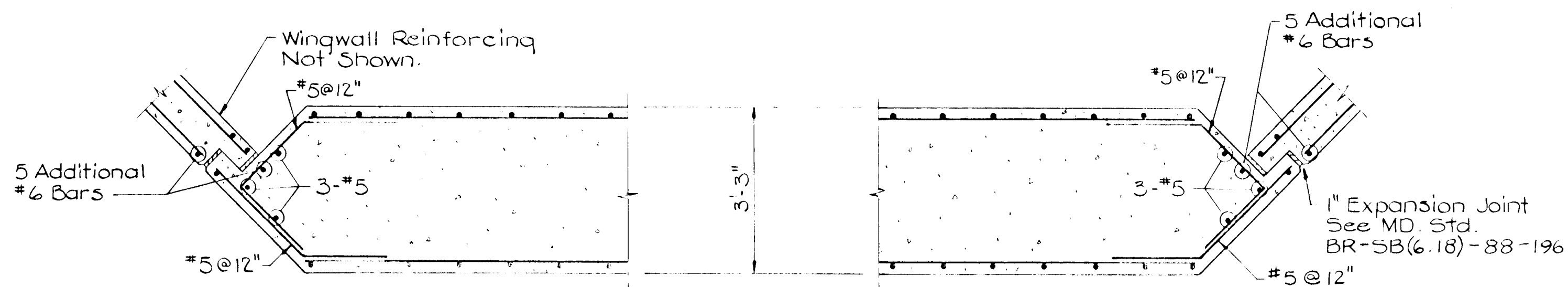
SECTION C-C
Scale: 1/2" = 1'-0"



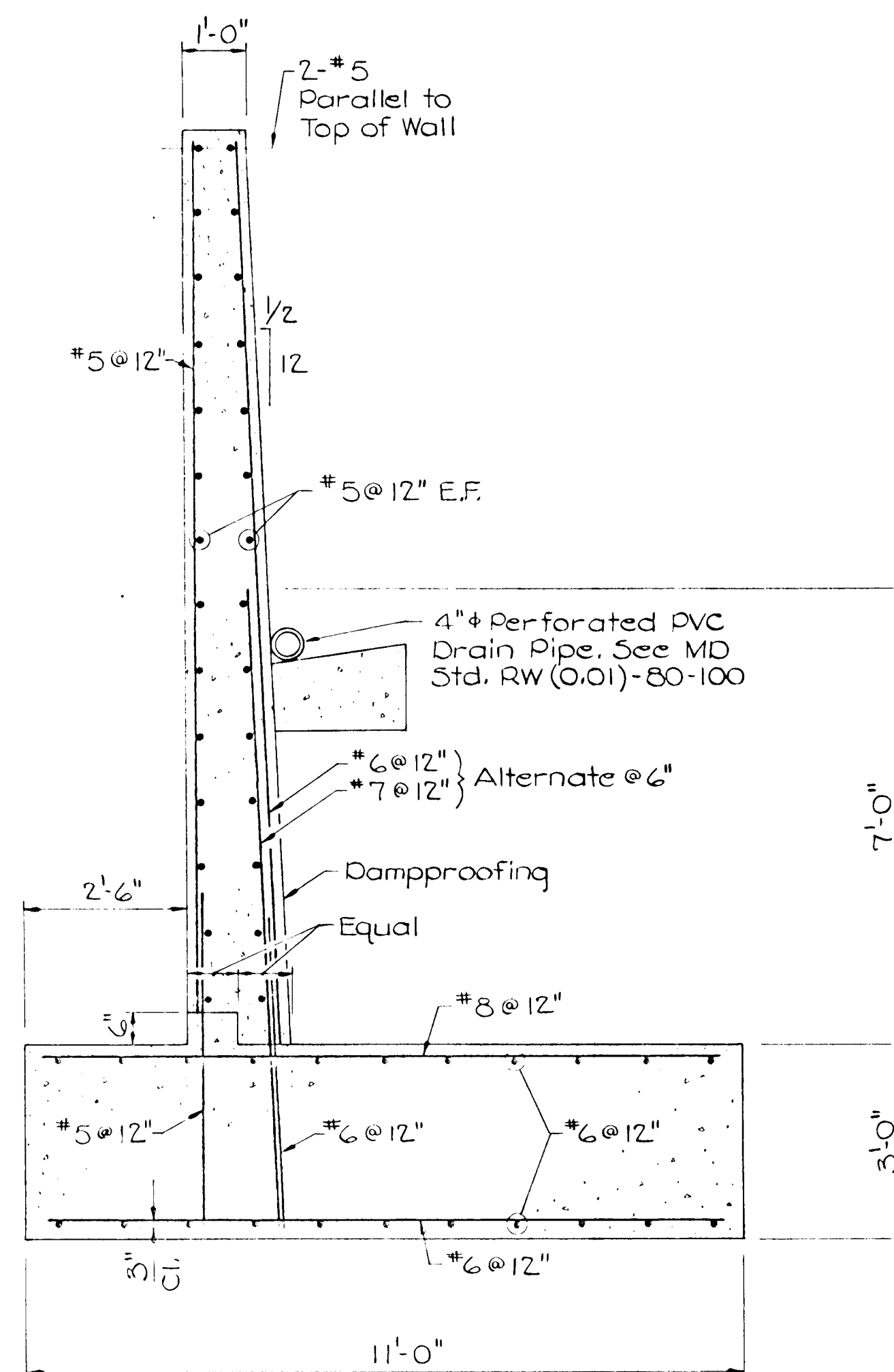
SECTION D-D
Scale: 1/2" = 1'-0"



SECTION F-F
Scale: 1/2" = 1'-0"



SECTION G-G
Scale: 1/2" = 1'-0"



SECTION E-E
Scale: 1/2" = 1'-0"

AS BUILT CERTIFICATE

CHRISTOPHER J. REID #19949 DATE 11-15-99

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. GINA SWIMMARIJE CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE 1/4/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. [Signature] CHIEF, LAND DEVELOPMENT DIVISION DATE 1/3/95

[Signature] CHIEF, BUREAU OF HIGHWAYS DATE 12-24-98

[Signature] CHIEF, BUREAU OF ENGINEERING DATE 1/3/95

DATE NO. REVISION

OWNER / DEVELOPER: HAMMOND'S OVERLOOK LIMITED PARTNERSHIP, 110 WEST ROAD, SUITE 203, TOWSON, MARYLAND 21204, 410-321-1000

PROJECT: HAMMOND'S OVERLOOK, LOTS 1-118, A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA: TAX MAP NO. 47, ZONING: R-1A-B, PARCEL "A", GUNNELL DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: MAXWELL COURT AT STA. 6+0 ABUTMENT DETAILS

NORTHEAST ENGINEERING, INC., 1055 TAYLOR AVENUE, SUITE 104, BALTIMORE, MARYLAND 21286

DESIGNED BY: J.R.D. DRAWN BY: R.W.S. PROJECT NO.: DATE: NOVEMBER 20, 1994 SCALE: AS SHOWN DRAWING NO. 15 OF 35

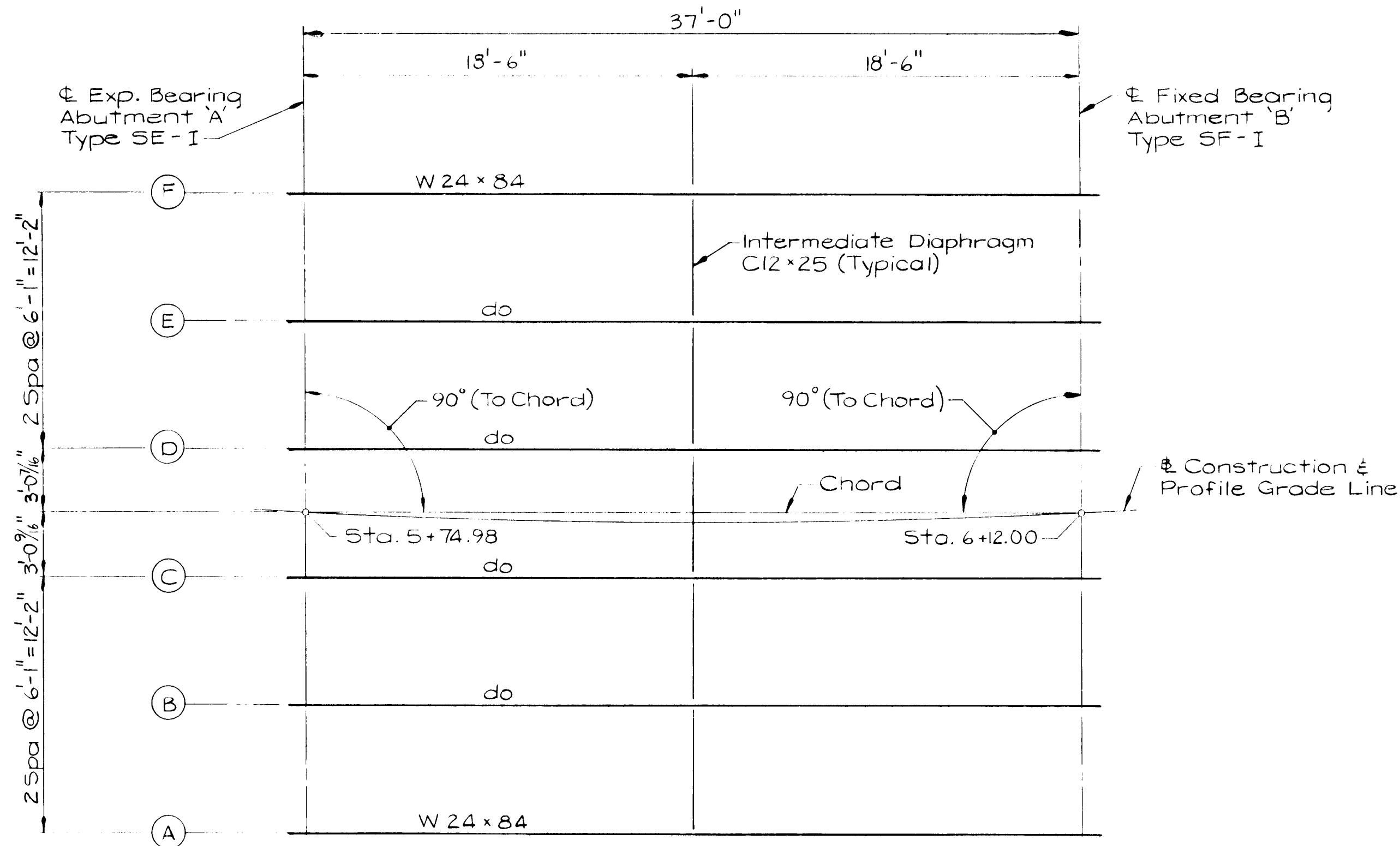
AS-BUILT 11/05/99 F-95-24

1718

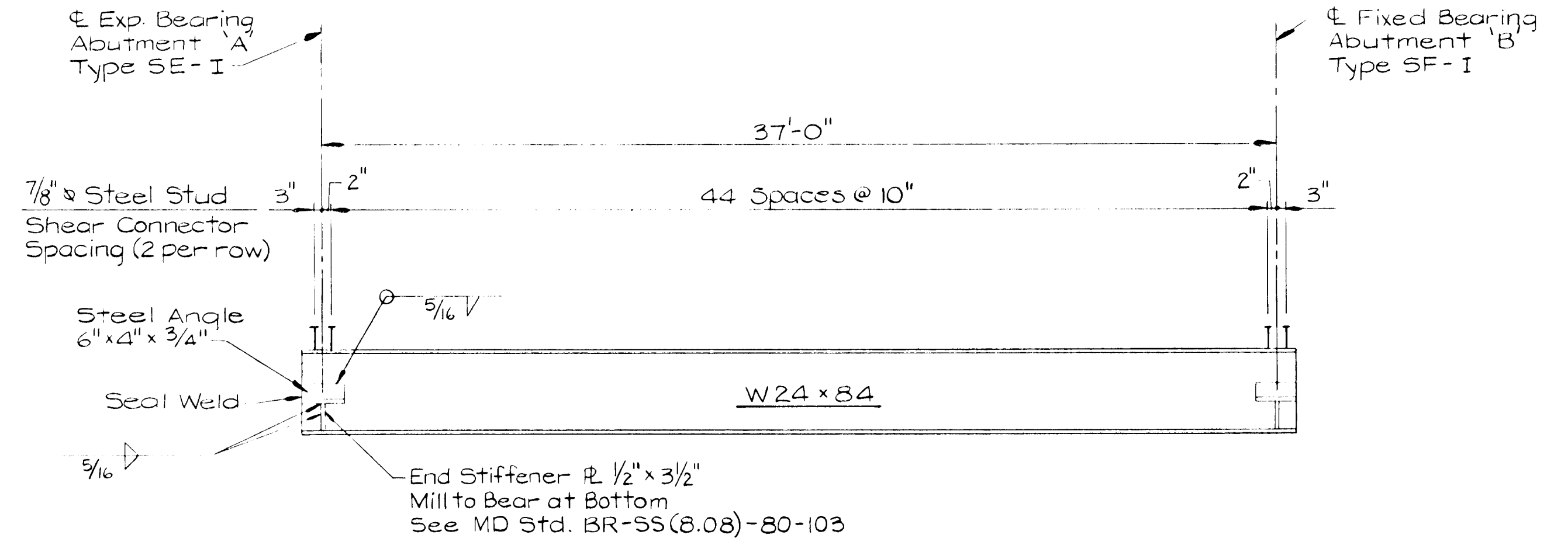


Notes:

Steel Stud Shear Connectors are to be Field Installed. The estimated number of Shear Connectors for this bridge is 564. (2 studs per row)



FRAMING PLAN
Not To Scale



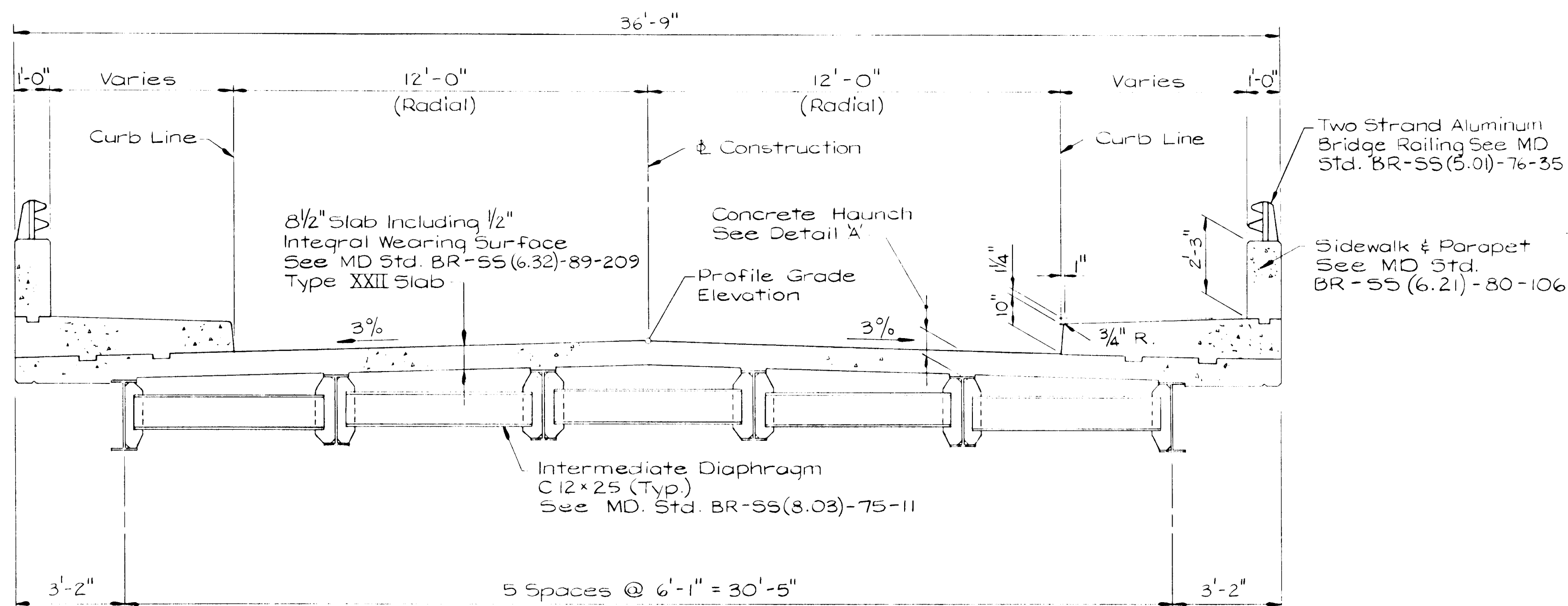
ELEVATION - STRINGER
Not To Scale

DEAD LOAD DEFLECTIONS

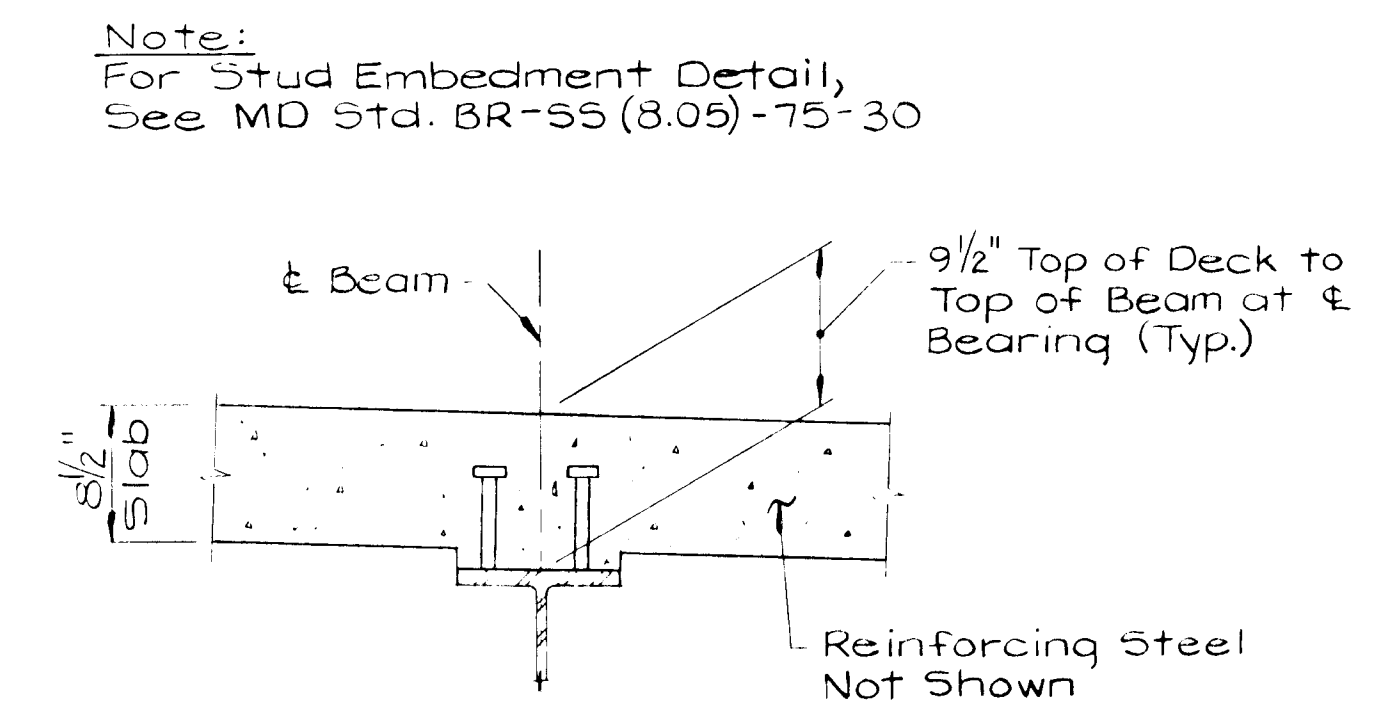
| STRINGER | a | b | c |
|----------|-------|-------|------|
| A thru F | 1/16" | 7/16" | 1/8" |

a = Deflection at Φ due to weight of Structural Steel.
 b = Deflection at Φ due to weight of Reinforced Concrete Slab.
 c = Deflection at Φ due to weight of Parapet, Sidewalk and Future Wearing Surface.

No dead load camber is required. If beams are not rolled exactly true they shall be fabricated & erected with their concave sides down with a camber tolerance of three quarter (3/4") inch over.



TYPICAL SECTION
Scale: 3/8" = 1'-0"



DETAIL 'A'
Not to Scale

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER J. REID #19949
DATE: 11-15-99

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Jina Trimmings, CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 DATE: 1/4/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Howard Stoltz, CHIEF, BUREAU OF HIGHWAYS
 DATE: 12-27-94

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Paul S. Spon, CHIEF, BUREAU OF PLANNING
 DATE: 1/3/95

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

OWNER / DEVELOPER
 HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
 110 WEST ROAD, SUITE 203
 TOWSON, MARYLAND 21204
 410-321-1000

PROJECT: HAMMOND'S OVERLOOK LOTS 1-11B
 A RESUBDIVISION OF PARCEL "A" HOLLING BROOKE

AREA: TAX MAP NO. 47 ZONED R-SA-B
 PARCEL "A"
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

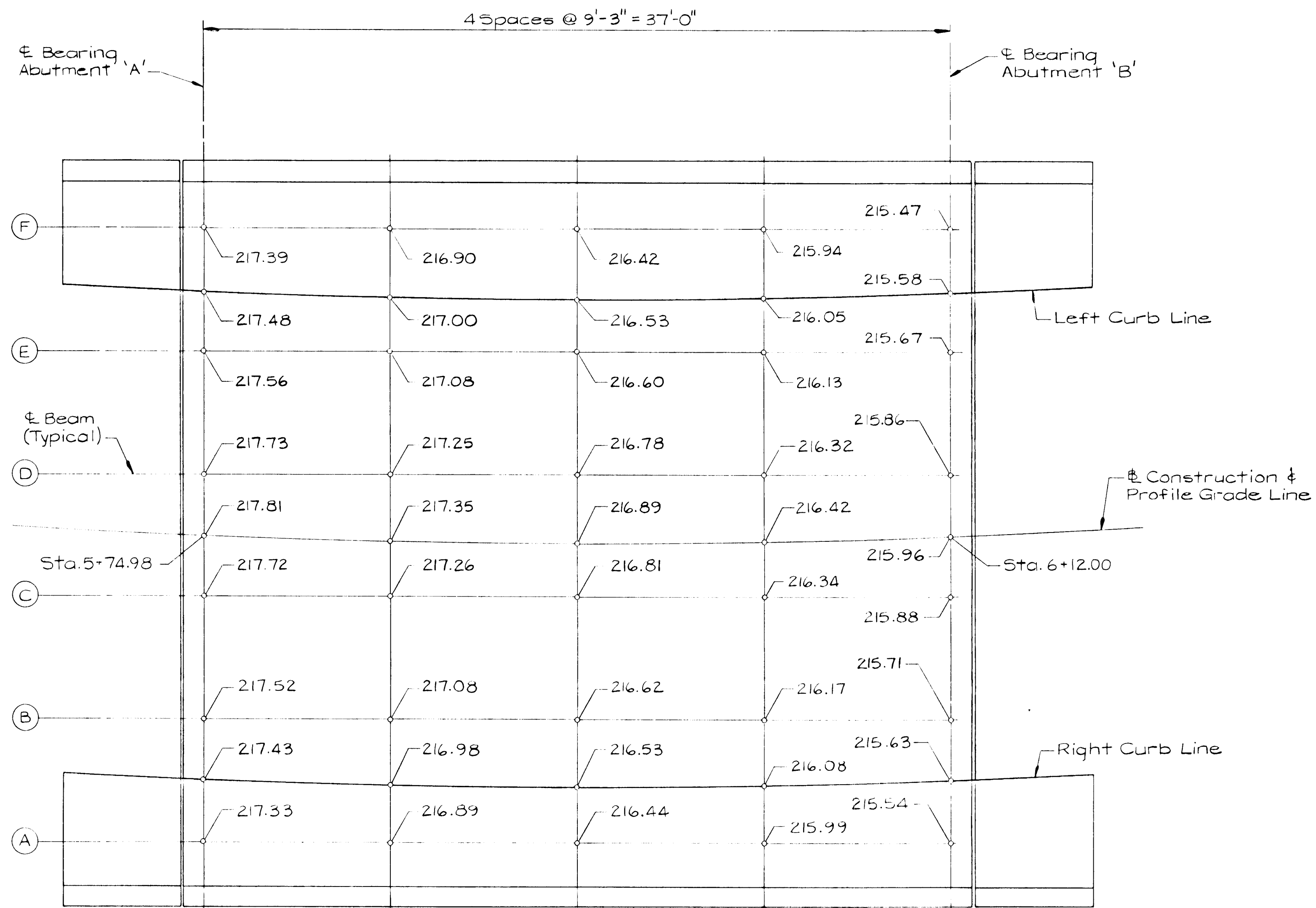
TITLE: MAXWELL COURT AT STA. 6+0 SUPERSTRUCTURE

NORTHEAST ENGINEERING, INC.
 1055 TAYLOR AVENUE, SUITE 104
 BALTIMORE, MARYLAND 21286

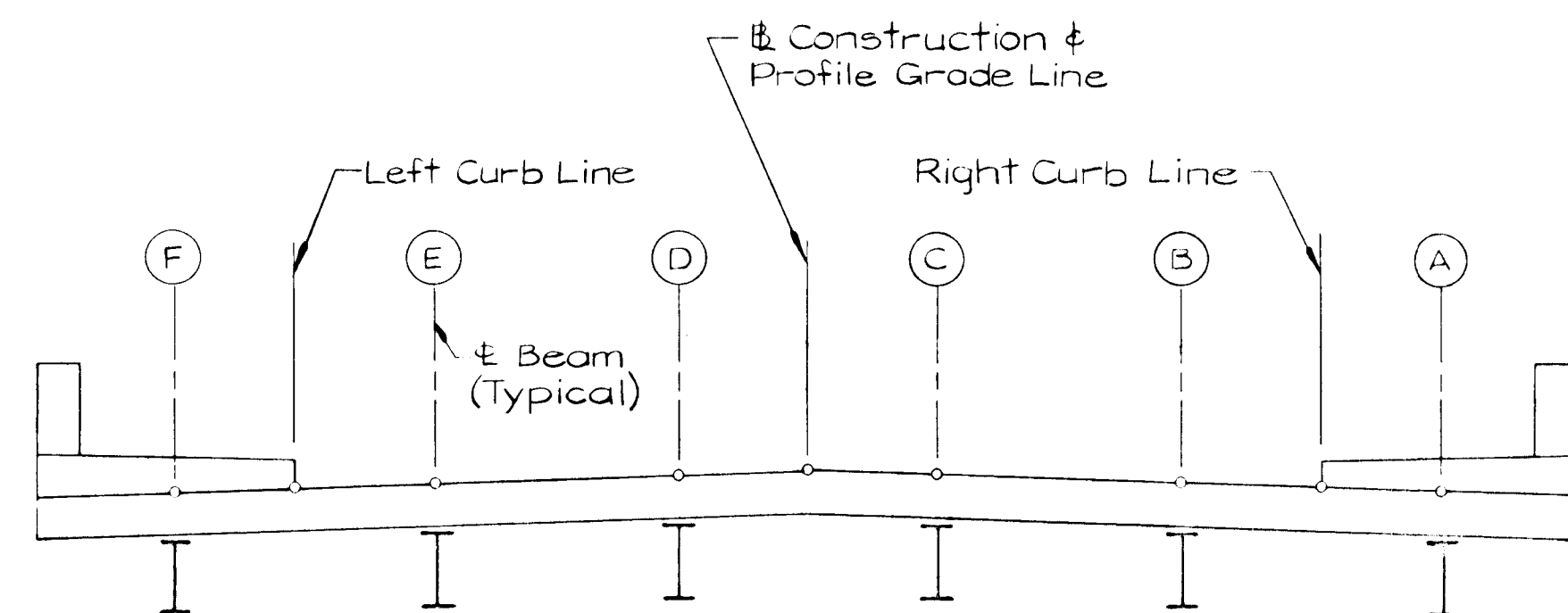
DESIGNED BY: J.R.D.
 DRAWN BY: E.L.R.
 PROJECT NO.:
 DATE: NOVEMBER 20, 1994
 SCALE: AS SHOWN
 DRAWING NO. 16 OF 35

DATE: 11-23-99
 JAMES R. DUFFY, P.E.
 DATE: 11-23-99

1718



FINISHED GRADE ELEVATIONS
Not to Scale



TYPICAL SECTION
Not to Scale

| | | |
|--|----------------|---|
| | | GUILTY CERTIFICATE CHRISTOPHER J. REID #19949 DATE 11.15.99 |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Jona Summanja CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE 1/4/95 | | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. [Signature] CHIEF, LAND DEVELOPMENT DIVISION DATE 1/2/95 | | |
| [Signature] CHIEF, BUREAU OF HIGHWAYS DATE 12-21-94 | | |
| [Signature] CHIEF, BUREAU OF ENGINEERING DATE 1/3/95 | | |
| DATE | NO. | REVISION |
| OWNER / DEVELOPER | | |
| HAMMOND'S OVERLOOK LIMITED PARTNERSHIP 110 WEST ROAD, SUITE 203 TOWSON, MARYLAND 21204 410-321-1000 | | |
| PROJECT | | |
| HAMMOND'S OVERLOOK LOTS 1-118 A RESUBDIVISION OF PARCEL 'A' BOLLING BROOKE | | |
| AREA | TAX MAP NO. 41 | ZONED R-5A-B |
| 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | |
| TITLE | | |
| MAXWELL COURT AT STA. 6+0 DECK ELEVATIONS | | |
| NORTHEAST ENGINEERING, INC. 1055 TAYLOR AVENUE, SUITE 104 BALTIMORE, MARYLAND 21286 | | |
| | | S-82-15, P-94-14 DESIGNED BY: J.R.D. DRAWN BY: E.L.R. PROJECT NO.: DATE: NOVEMBER 22, 1994 SCALE: AS SHOWN DRAWING NO. 17 OF 35 |

1718

Project Name Hammonds Overlook Boring # B-11
Location Maxwell Court, Howard County, Maryland Job # 94079A

SAMPLER
Datum Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman W. Stephens
Surf. Elev. 208.0 Hammer Drop 30 Inches Rock Core Dia. Inspector
Date Started 4-25-94 Pipe Size 2.0 Inches OD Boring Method HSA Date Completed 4-25-94

| ELEV. | SOIL DESCRIPTION Color, Moisture, Density, Size, Preparation | STRA. DEPTH | DEPTH SCALE | CON | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|---|-------------|-------------|-----|-----------------|-----|------|-------------------------------------|
| | SURFACE | 0.0 | | | | | | 5" Topsoil |
| | Brown and green moist to wet very loose to very dense fine silty sand with some gravel and rock fragments (Decomposed Rock) | | | | 2-1-4 | 1 | 12" | |
| | | 5 | | | | | | |
| | | | | | 20-19-16 | 2 | 16" | |
| | | 10 | | | | | | |
| | | | | | 19-33-50 | 3 | 16" | Water Encountered at 10.0' on Flots |
| | | 15 | | | | | | |
| | | | | | 51/6" | 4 | 6" | Hard Augering from 10.0 to 17.0' |
| | | 17.0 | | | | | | |
| | | | | | | | | Caved at 12.0' |
| | | 20 | | | | | | |

SAMPLER TYPE: RIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: D-DISINTEGRATED, I-INTACT, T-PRESSED SHIELD TUBE, A-CONTINUOUS FLIGHT AUGER, IC-ROCK CORE
GROUND WATER DEPTH: AT COMPLETION 0.0 FT, AFTER
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Project Name Hammonds Overlook Boring # B-12
Location Maxwell Court, Howard County, Maryland Job # 94079A

SAMPLER
Datum Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman W. Stephens
Surf. Elev. 207.0 Hammer Drop 30 Inches Rock Core Dia. Inspector
Date Started 4-25-94 Pipe Size 2.0 Inches OD Boring Method HSA Date Completed 4-25-94

| ELEV. | SOIL DESCRIPTION Color, Moisture, Density, Size, Preparation | STRA. DEPTH | DEPTH SCALE | CON | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|--|-------------|-------------|-----|-----------------|-----|------|--|
| | SURFACE | 0.0 | | | | | | 5" Topsoil |
| | Brown and green moist to wet very loose to very dense fine silty sand and gravel with rock fragments | | | | 1-1-4 | 1 | 8" | |
| | | 5 | | | | | | |
| | | | | | 16-8-8 | 2 | 14" | Water Encountered at 5.0' on Flots |
| | | 10 | | | | | | |
| | | | | | 31-51/3" | 3 | 9" | Bottom of Footing Abutment 'B' Elevation 197.00 |
| | | 12.0 | | | | | | Bottom of Boring at 12.0' Auger Refusal at 12.0' |
| | | 15 | | | | | | |
| | | 20 | | | | | | |

SAMPLER TYPE: RIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: D-DISINTEGRATED, I-INTACT, T-PRESSED SHIELD TUBE, A-CONTINUOUS FLIGHT AUGER, IC-ROCK CORE
GROUND WATER DEPTH: AT COMPLETION 6.0 FT, AFTER
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Project Name Hammonds Overlook Bridge Boring # B-13
Location Maxwell Court, Howard County, Maryland Job # 94079A

SAMPLER
Datum Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman W. Stephens
Surf. Elev. 209.0 Hammer Drop 30 Inches Rock Core Dia. Inspector
Date Started 4-26-94 Pipe Size 2.0 Inches OD Boring Method HSA Date Completed 4-26-94

| ELEV. | SOIL DESCRIPTION Color, Moisture, Density, Size, Preparation | STRA. DEPTH | DEPTH SCALE | CON | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|---|-------------|-------------|-----|-----------------|-----|------|---|
| | SURFACE | 0.0 | | | | | | 3" Topsoil |
| | Brown moist soft clayey silt | | | | 1-1-1 | 1 | 14" | |
| | | 4.0 | | | | | | Water Encountered at 5.0' on Flots |
| | | | | | 6-13-50/5" | 2 | 18" | Decomposed Rock |
| | | 6.5 | | | | | | |
| | | | | | | | | 40% Flot |
| | | 10 | | | | | | |
| | | | | | | | | Bottom of Footing Abutment 'A' Elevation 202.00 |
| | | 11.5 | | | | | | |
| | | | | | | | | 60% Flot |
| | | 15 | | | | | | |
| | | 16.5 | | | | | | |
| | | 20 | | | | | | |

SAMPLER TYPE: RIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: D-DISINTEGRATED, I-INTACT, T-PRESSED SHIELD TUBE, A-CONTINUOUS FLIGHT AUGER, IC-ROCK CORE
GROUND WATER DEPTH: AT COMPLETION FT, AFTER
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

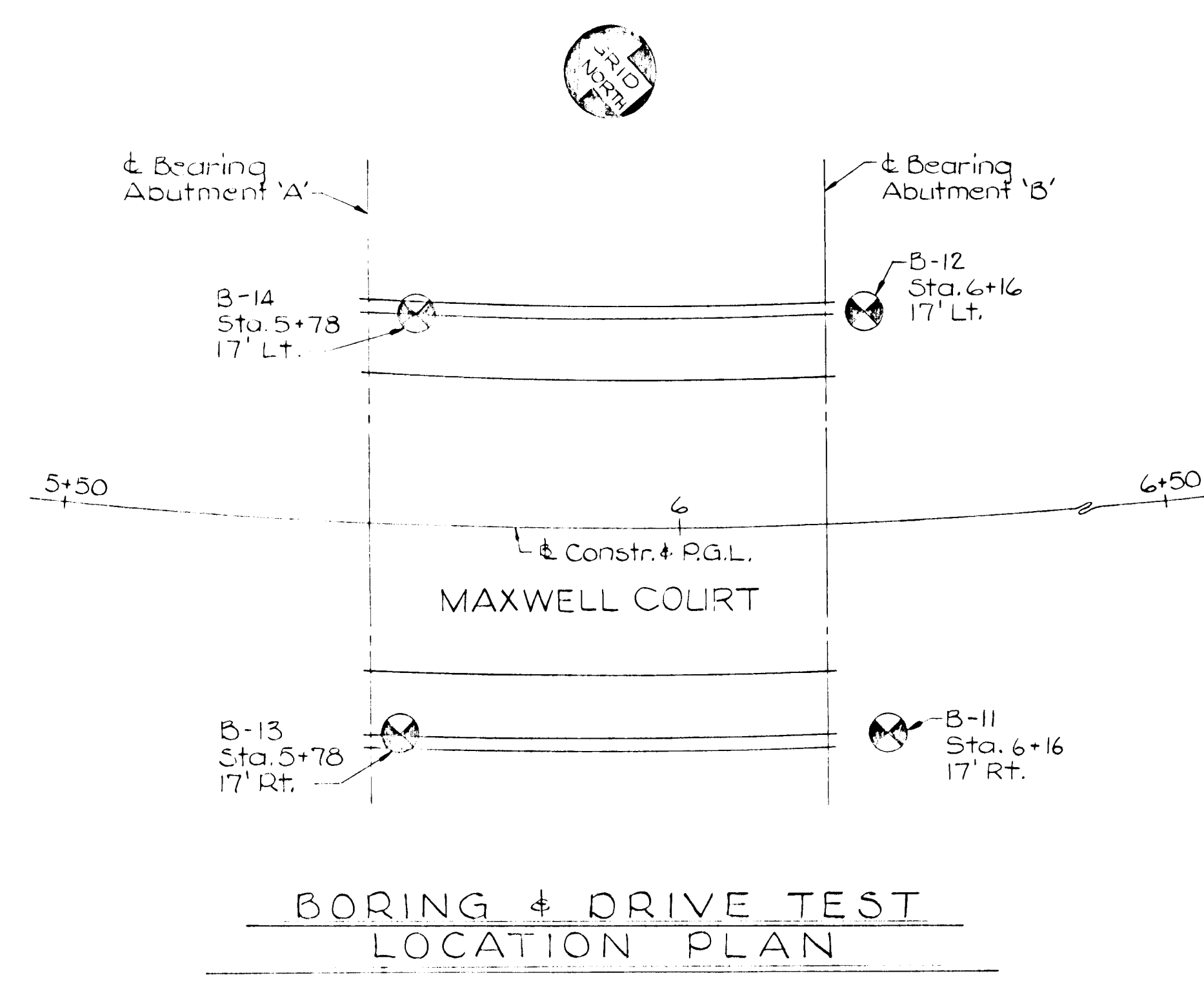
Project Name Hammonds Overlook Bridge Boring # B-14
Location Maxwell Court, Howard County, Maryland Job # 94079A

SAMPLER
Datum Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman W. Stephens
Surf. Elev. 208.5 Hammer Drop 30 Inches Rock Core Dia. Inspector
Date Started 4-26-94 Pipe Size 2.0 Inches OD Boring Method HSA Date Completed 4-26-94

| ELEV. | SOIL DESCRIPTION Color, Moisture, Density, Size, Preparation | STRA. DEPTH | DEPTH SCALE | CON | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|---|-------------|-------------|-----|-----------------|-----|------|---|
| | SURFACE | 0.0 | | | | | | 3" Topsoil |
| | Mottled brown and gray moist loose silt and fine sand | | | | 1-1-5 | 1 | 12" | |
| | | 3.5 | | | | | | |
| | | | | | 5-10-50/5" | 2 | 15" | Water Encountered at 5.0' on Flots |
| | | 5 | | | | | | |
| | | | | | | | | |
| | | | | | | | | Bottom of Footing Abutment 'A' Elevation 202.00 |
| | | 9.0 | | | | | | |
| | | | | | | | | Bottom of Boring at 9.0' Auger Refusal at 9.0' |
| | | 10 | | | | | | |
| | | 15 | | | | | | |
| | | 20 | | | | | | |

SAMPLER TYPE: RIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLER CONDITIONS: D-DISINTEGRATED, I-INTACT, T-PRESSED SHIELD TUBE, A-CONTINUOUS FLIGHT AUGER, IC-ROCK CORE
GROUND WATER DEPTH: AT COMPLETION 3.0 FT, AFTER
BORING METHOD: HSA-HOLLOW STEM AUGERS, CFA-CONT. FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS



BORING & DRIVE TEST LOCATION PLAN

Not to Scale

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Surinjanji 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
John Dameron 1/2/95
CHIEF, LAND DEVELOPMENT DIVISION
Howard Shindler 12-27-94
CHIEF, BUREAU OF HIGHWAYS
Charles E. Ryan 1/3/95
CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION
OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21284
410-321-1000
PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL 'A' HOLLING BROOKE
AREA TAX MAP NO. 47 ZONED R-SA-B
PARCEL 'A'
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE
MAXWELL COURT AT STA. 6+0
BORINGS AND DRIVE TESTS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

DESIGNED BY: _____
DRAWN BY: E.L.R.
PROJECT NO: _____
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 18 OF 35

AS BUILT CERTIFICATE
Christopher J. Reid
CHRISTOPHER J. REID #19949
DATE 11-15-99
DATE 11-23-94
JAMES R. DUFFY, P.E.

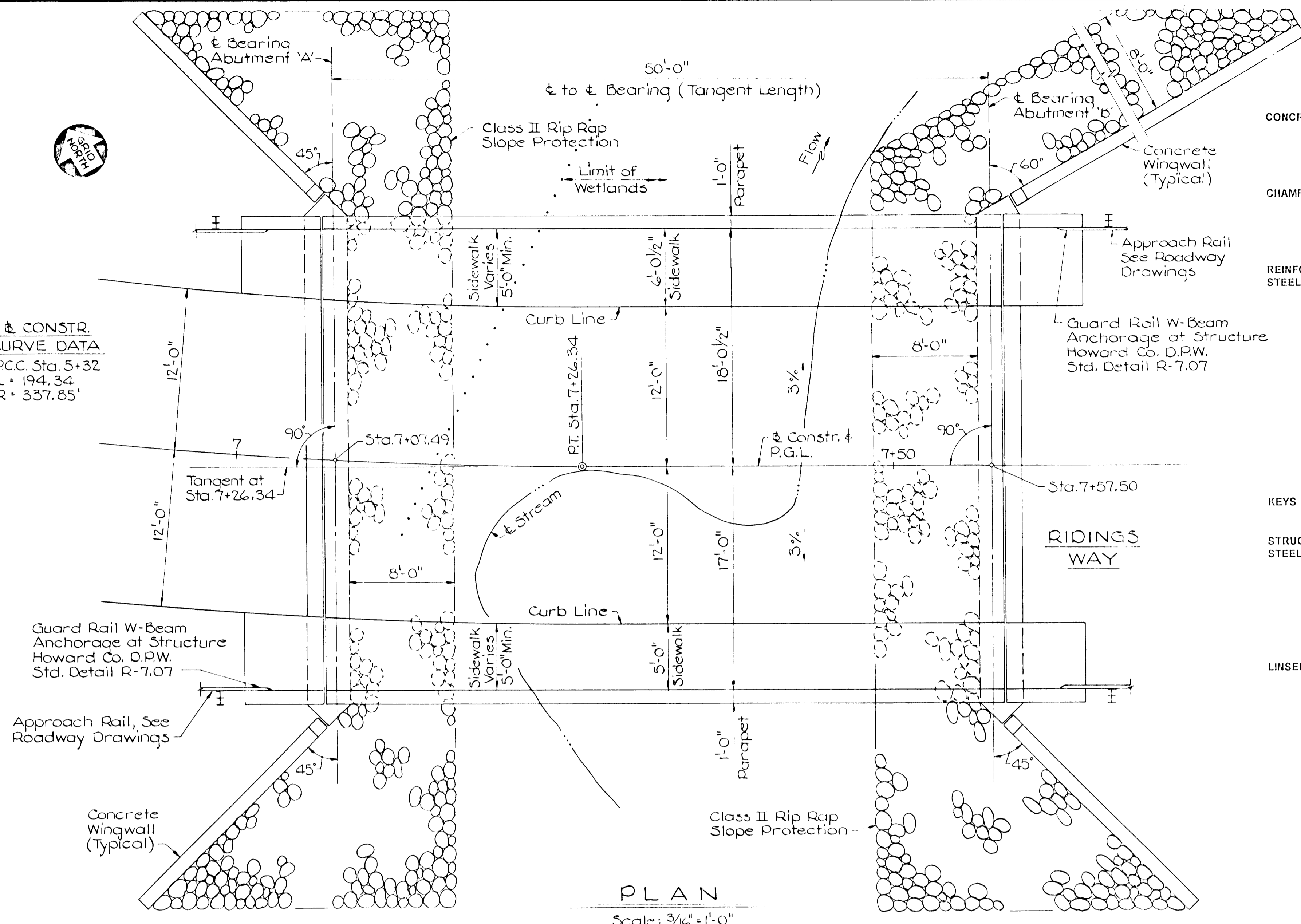
1718

GENERAL NOTES

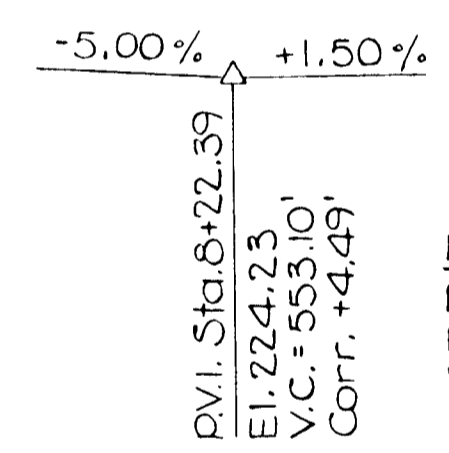
- CONCRETE :** ALL CONCRETE FOR ABUTMENT BACKWALLS, SIDEWALKS AND PARAPETS AT ABUTMENTS AND THE ENTIRE SUPERSTRUCTURE SHALL BE MIX NO. 6 (4500 PSI). ALL OTHER STRUCTURE CONCRETE SHALL BE MIX NO. 3 (3500 PSI).
- CHAMFER :** ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS EXCEPT ON UNEXPOSED FOOTINGS AND WHERE INDICATED BY THE FOLLOWING NOTATION ON THE PLANS "DO NOT CHAMFER".
- REINFORCING STEEL :** REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.
- ONLY GRADE 60 CAN BE USED ON THIS PROJECT**
- REINFORCING STEEL IN THE FOLLOWING AREAS SHALL BE EPOXY COATED :
- ENTIRE SUPERSTRUCTURE
 - SIDEWALKS AND PARAPETS ON ABUTMENTS
 - ABUTMENT BACKWALLS
 - ABUTMENT BRIDGE SEAT AREAS
- KEYS :** ALL KEYS ARE NOMINAL SIZE.
- STRUCTURAL STEEL :** STRUCTURAL STEEL SHALL CONFORM TO ASTM A 709 GRADE 50 INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V - NOTCH TESTING OF AASHTO M 270 FOR PRIMARY LOAD CARRYING MEMBERS.
- STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 413 OF THE SPECIFICATIONS - CLEANING AND PAINTING STRUCTURAL STEEL.
- LINSEED OIL :** BRIDGE DECK SHALL RECEIVE LINSEED OIL PROTECTIVE COATING.

- SPECIFICATIONS:** HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS & DETAILS FOR CONSTRUCTION AS REVISED 1990.
- ALL REFERENCES TO THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1982) SHALL MEAN THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED OCTOBER, 1993.
- ALL REFERENCES TO A PARTICULAR SECTION OF THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1982) SHALL MEAN THAT SECTION OF THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1993) WHICH HAS THE SAME OR NEARLY THE SAME SECTION TITLE. SEE THE FOLLOWING EXAMPLES :
- | (1982) | (1993) |
|----------------------------------|--|
| 203 - STRUCTURE EXCAVATION | SHALL MEAN 404 - STRUCTURE EXCAVATION |
| 607 - METAL STRUCTURES | SHALL MEAN 408 - METAL STRUCTURES |
| 600 - CEMENT CONCRETE STRUCTURES | SHALL MEAN 414 - PORTLAND CEMENT CONCRETE STRUCTURES |
| 619 - METAL RAILING | SHALL MEAN 422 - METAL RAILING |
- ALL REFERENCES TO "HOWARD COUNTY", "THE COUNTY", "STATE OF MARYLAND", "STATE ROADS COMMISSION", "STATE", "S.H.A." AND "S.R.C." SHALL MEAN THE OWNER.
- ALL REFERENCES TO THE "ENGINEER" SHALL MEAN THE OWNER.
- AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1992 FOR DESIGN INCLUDING ALL INTERIM SPECIFICATIONS THROUGH 1993.
- CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD; $F_c = 1200$ PSI EXCEPT THAT IN BRIDGE DECK SLABS SUPPORTED BY STRINGERS IT SHALL BE 1350 PSI.
- REINFORCING STEEL DESIGN: $F_y = 24000$ PSI.
- STRUCTURAL STEEL DESIGN: ELASTIC DESIGN METHOD
- LOADING: HS - 20, WITH PROVISIONS FOR FUTURE 2" WEARING SURFACE.

CONSTR. CURVE DATA
 P.C.C. Sta. 5+32
 L = 194.34
 R = 337.85'

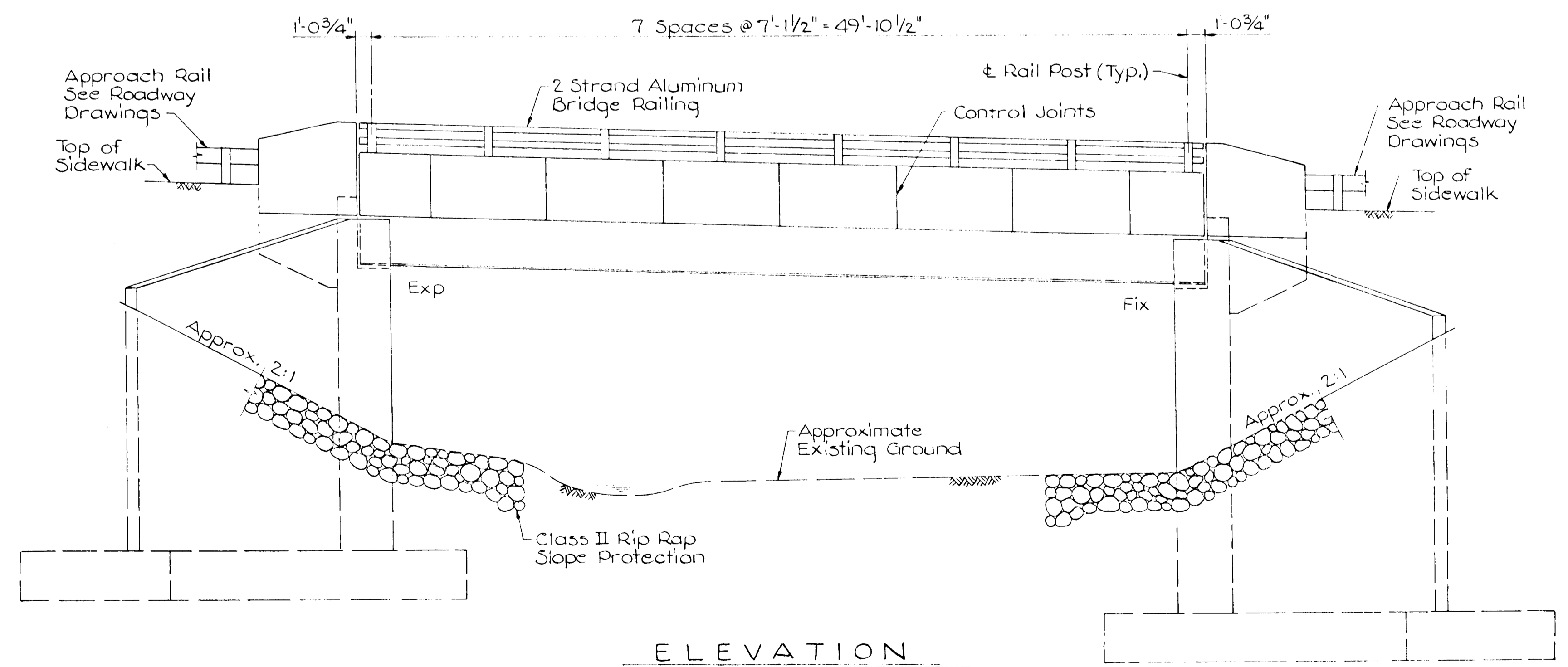


PLAN
 Scale: 3/16" = 1'-0"

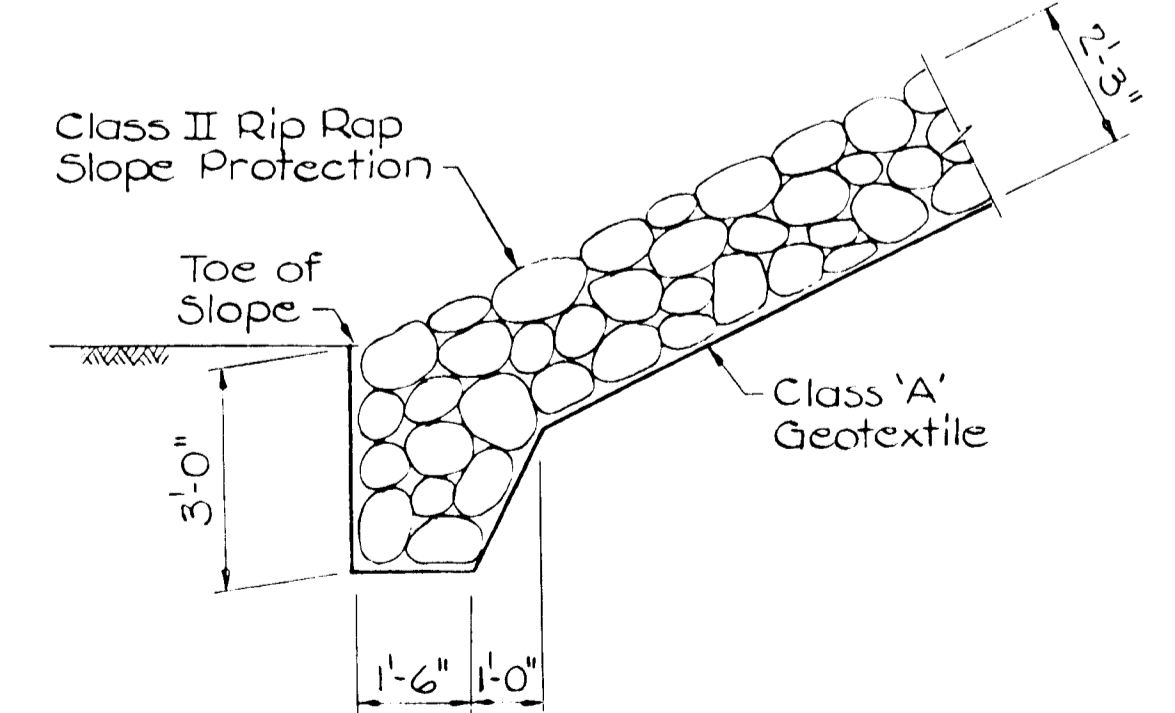


CONSTR. & P.G.L. VERTICAL CURVE DATA

Note:
 For Bridge Construction P.G.L. is Located at \pm of 24' Wide Roadway.



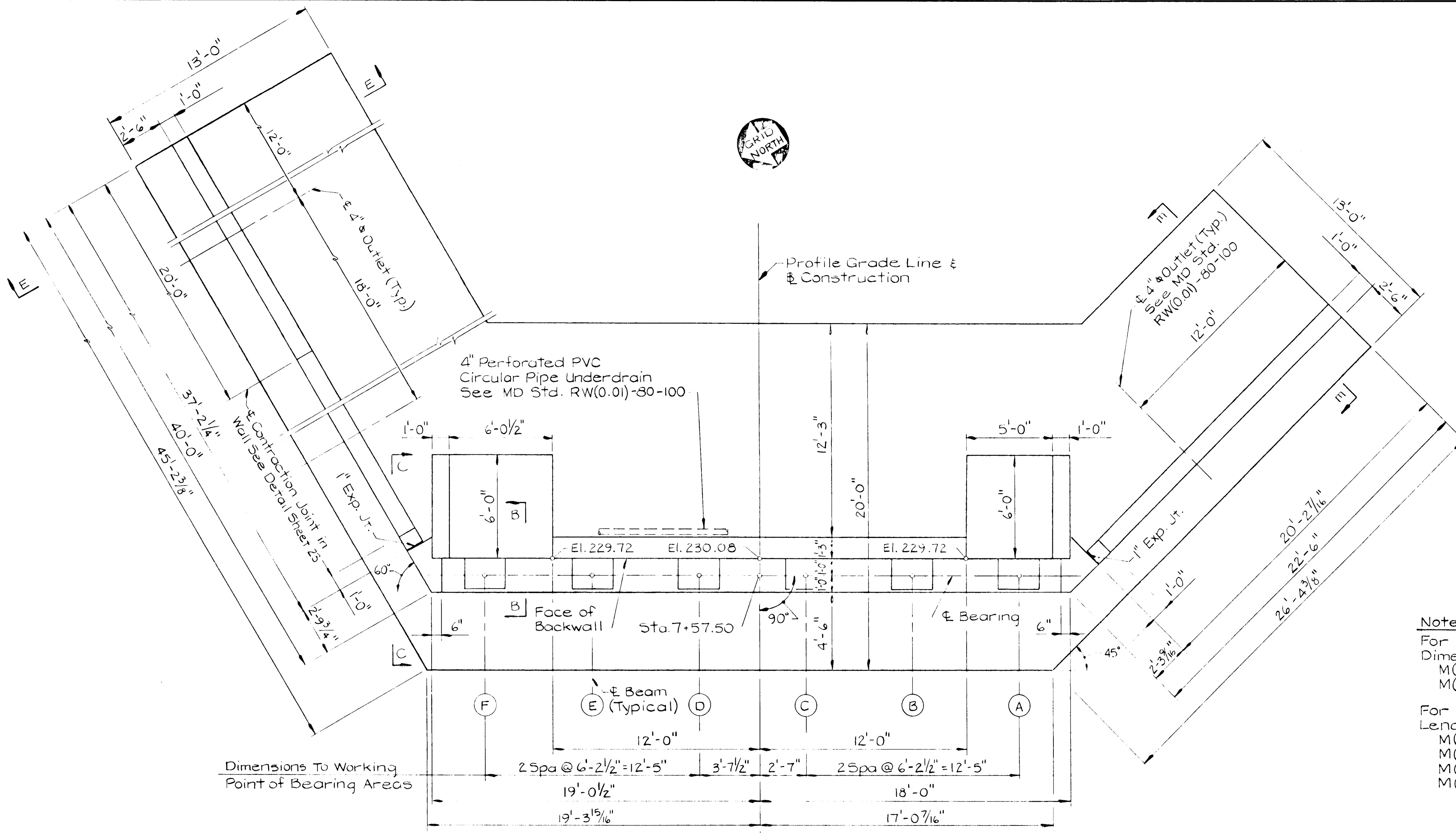
ELEVATION
 Scale: 3/16" = 1'-0"



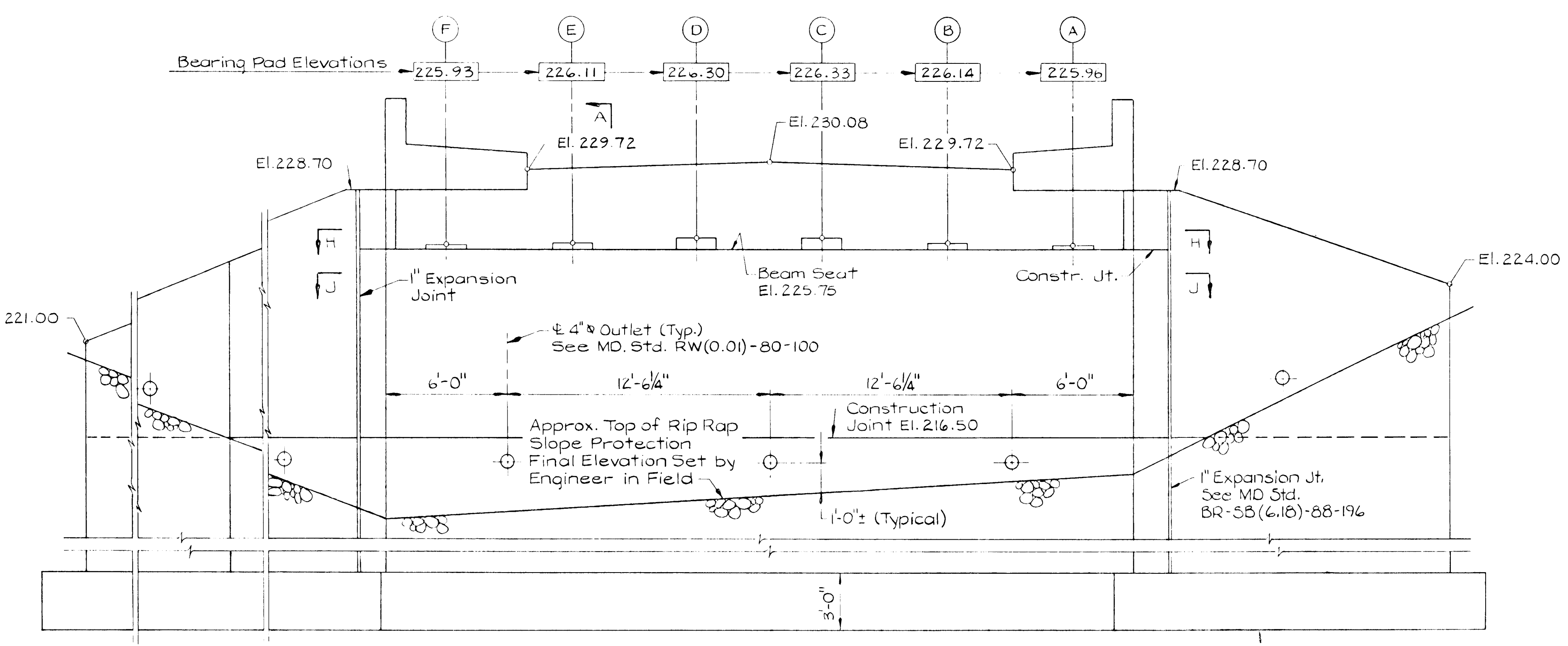
SLOPE PROTECTION DETAIL
 Not to Scale

| | | | |
|--|----------|-------------------------|--|
| STATE OF MARYLAND DEPARTMENT OF PUBLIC WORKS | | AS BUILT CERTIFICATE | |
| <i>Christopher J. Reid</i> CHRISTOPHER J. REID # 19949 | | 11-15-99 DATE | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | | 1/4/95 DATE | |
| <i>Aina Jummamy</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH | | 1/2/95 DATE | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | | 12-21-94 DATE | |
| <i>Robert Damann</i> CHIEF, LAND DEVELOPMENT DIVISION | | 1/3/95 DATE | |
| <i>Howard Shick</i> CHIEF, BUREAU OF HIGHWAYS | | 1/3/95 DATE | |
| <i>Phillip Egan</i> CHIEF, BUREAU OF TRUCKING | | 1/3/95 DATE | |
| DATE NO. | REVISION | | |
| OWNER / DEVELOPER | | | |
| HAMMOND'S OVERLOOK LIMITED PARTNERSHIP 110 WEST ROAD, SUITE 203 TOWSON, MARYLAND 21204 410-321-1000 | | | |
| PROJECT | | | |
| HAMMOND'S OVERLOOK LOTS 1-118 A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE | | | |
| ARLA TAX MAP NO. 47 ZONED R SA B | | | |
| PARCEL "A" 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | | |
| TITLE | | | |
| RIDINGS WAY AT STA. 7+30 GENERAL PLAN AND ELEVATION | | | |
| NORTHEAST ENGINEERING, INC. 1055 TAYLOR AVENUE, SUITE 104 BALTIMORE, MARYLAND 21206 | | | |
| STATE OF MARYLAND DEPARTMENT OF PUBLIC WORKS | | 5-94-13, P-94-14 | |
| <i>James R. Duffy</i> JAMES R. DUFFY # 11-23-94 | | DESIGNED BY: J.R.D. | |
| 11-23-94 DATE | | DRAWN BY: R.W.S. | |
| 11-23-94 DATE | | PROJECT NO.: | |
| 11-23-94 DATE | | DATE: NOVEMBER 20, 1994 | |
| 11-23-94 DATE | | SCALE: AS SHOWN | |
| 11-23-94 DATE | | DRAWING NO. 19 OF 35 | |

8111

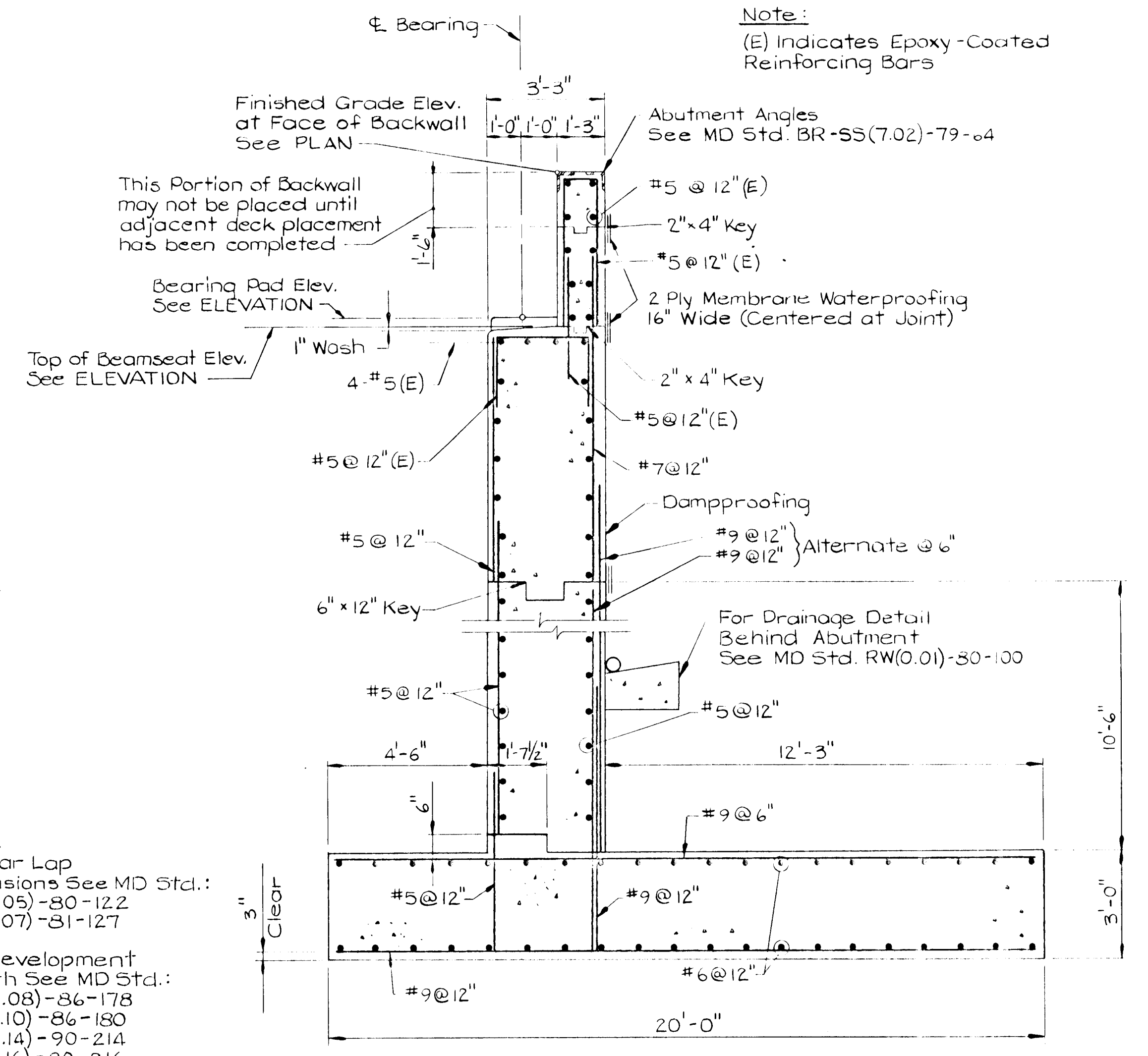


PLAN
Scale: 1/4" = 1'-0"

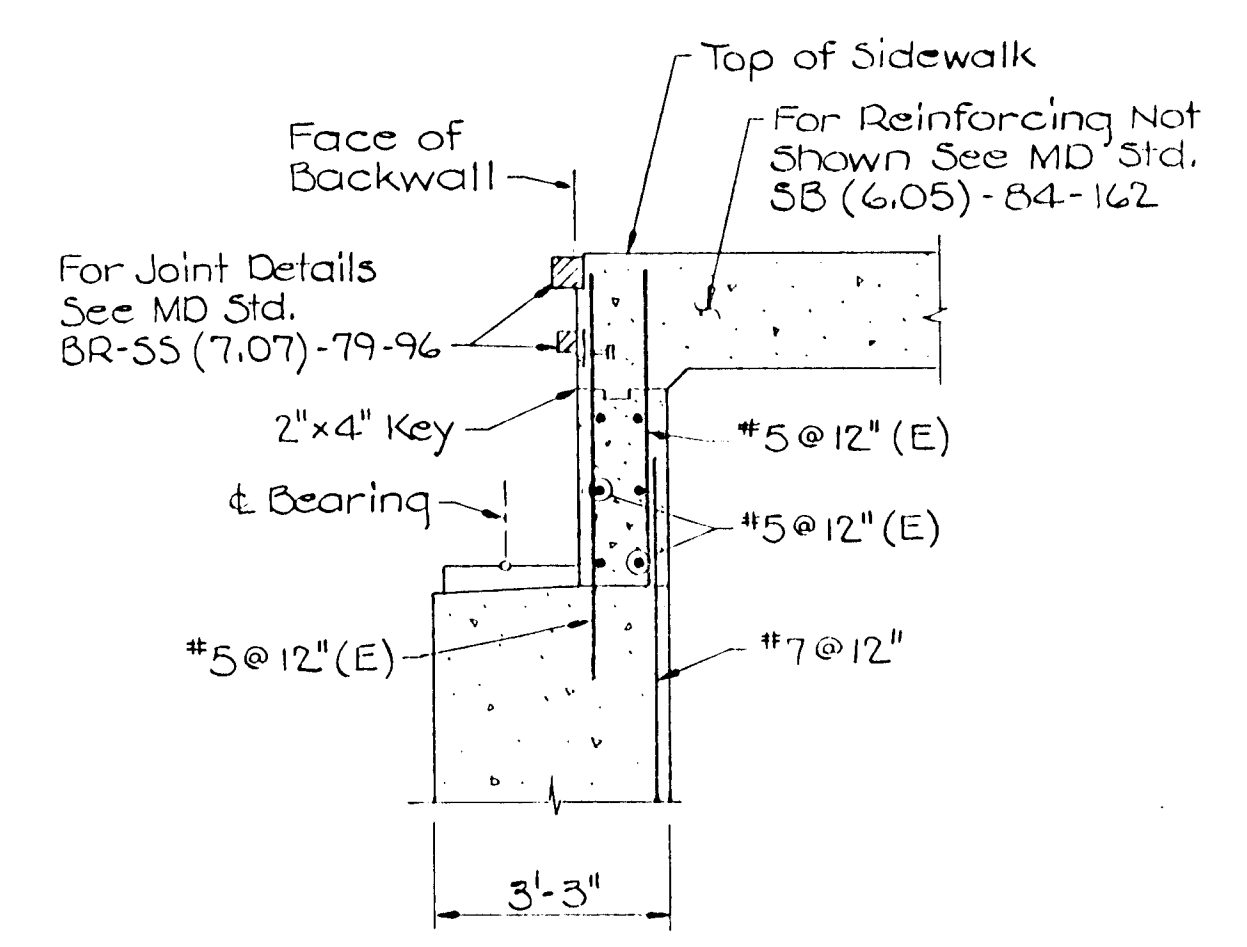


ELEVATION
Scale: 1/4" = 1'-0"

Note:
Maximum Design Foundation Pressure
5000 Pounds Per Square Foot



SECTION A-A
Scale: 3/8" = 1'-0"



SECTION B-B
Not to Scale

Note:
For Bar Lap Dimensions See MD Std.:
M(6.05)-80-122
M(6.07)-81-127
For Development Length See MD Std.:
M(6.08)-86-178
M(6.10)-86-180
M(6.14)-90-214
M(6.16)-90-216

Note:
(E) Indicates Epoxy-Coated Reinforcing Bars

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Summari 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
John Damm 1/3/95
CHIEF, LAND DEVELOPMENT DIVISION DATE

Howard Schick 12-21-94
CHIEF, BUREAU OF HIGHWAYS DATE

Paul D. Saper 1/3/95
CHIEF, BUREAU OF ENGINEERING DATE

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

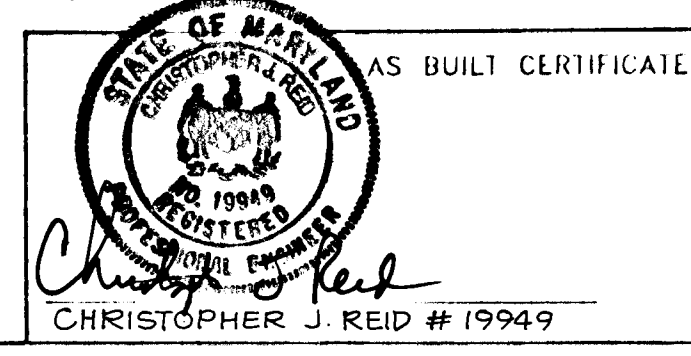
OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA
TAX MAP NO. 47 ZONED R-5A-B
PARCEL "A"
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
RIDINGS WAY AT STA. 7+30
ABUTMENT 'B'

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

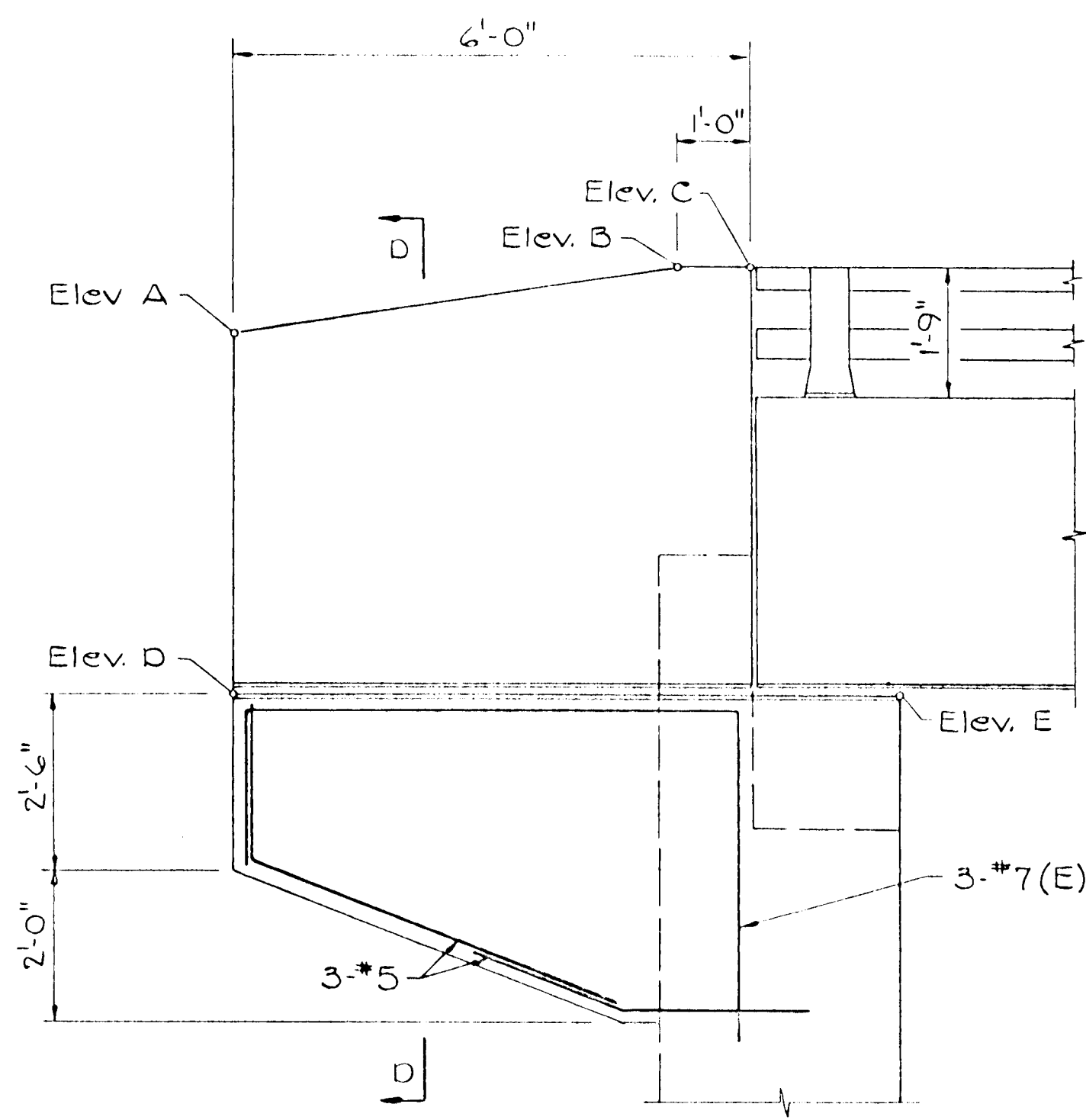


11.15.99 DATE
11.23.94 DATE

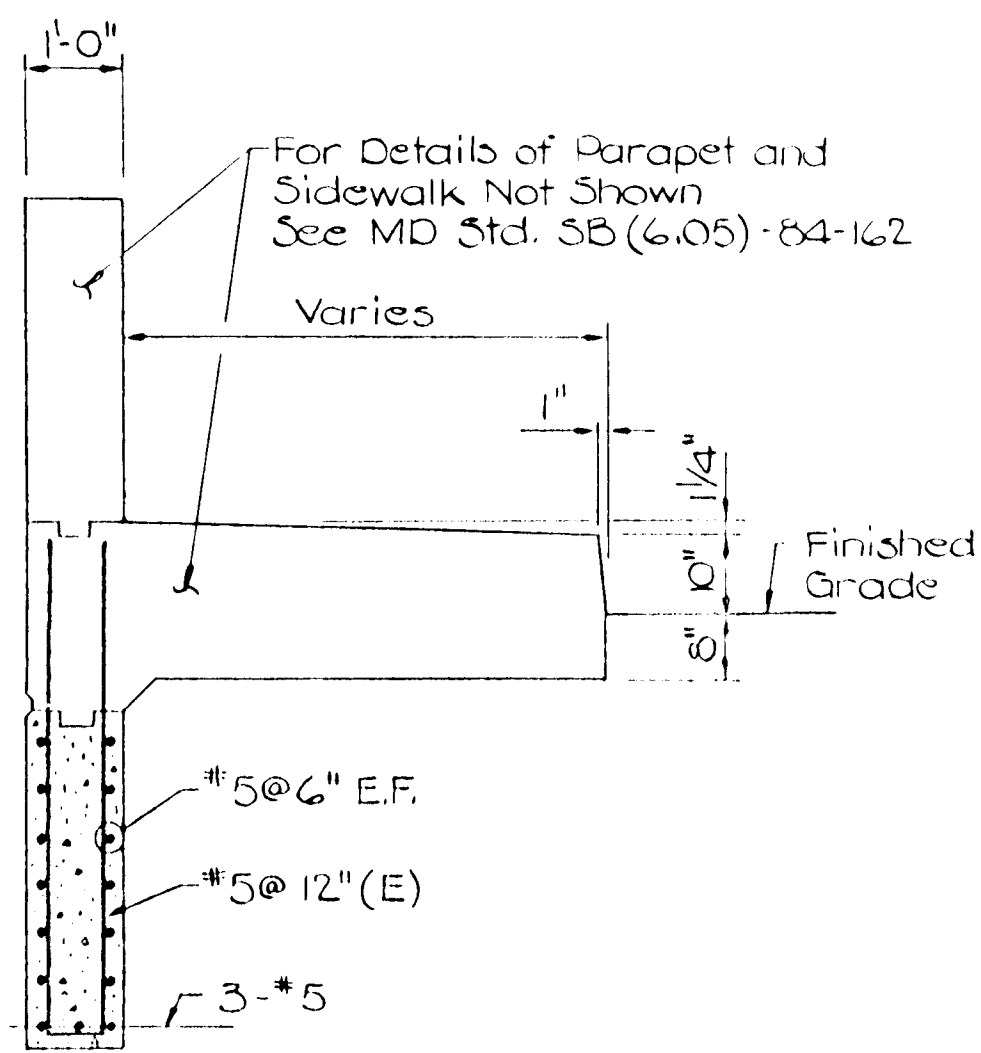
5, 94 15, P 94 14
DESIGNED BY: J. R. D.
DRAWN BY: E. L. R.
PROJECT NO.:
DATE: NOVEMBER 23, 1994
SCALE: AS SHOWN
DRAWING NO. 21 OF 35

1718

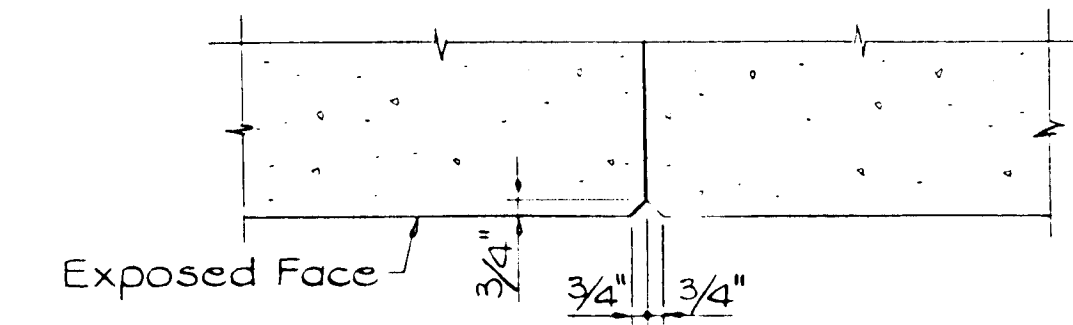
| END POST ELEVATIONS | | | | | | |
|---------------------|----------|--------|--------|--------|--------|--------|
| ABUT. | END POST | A | B | C | D | E |
| A | South | 234.17 | 236.14 | 236.10 | 230.32 | 230.08 |
| | North | 234.23 | 236.17 | 236.14 | 230.38 | 230.11 |
| B | South | 232.20 | 234.63 | 234.66 | 228.55 | 228.75 |
| | North | 232.20 | 234.63 | 234.66 | 228.55 | 228.75 |



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



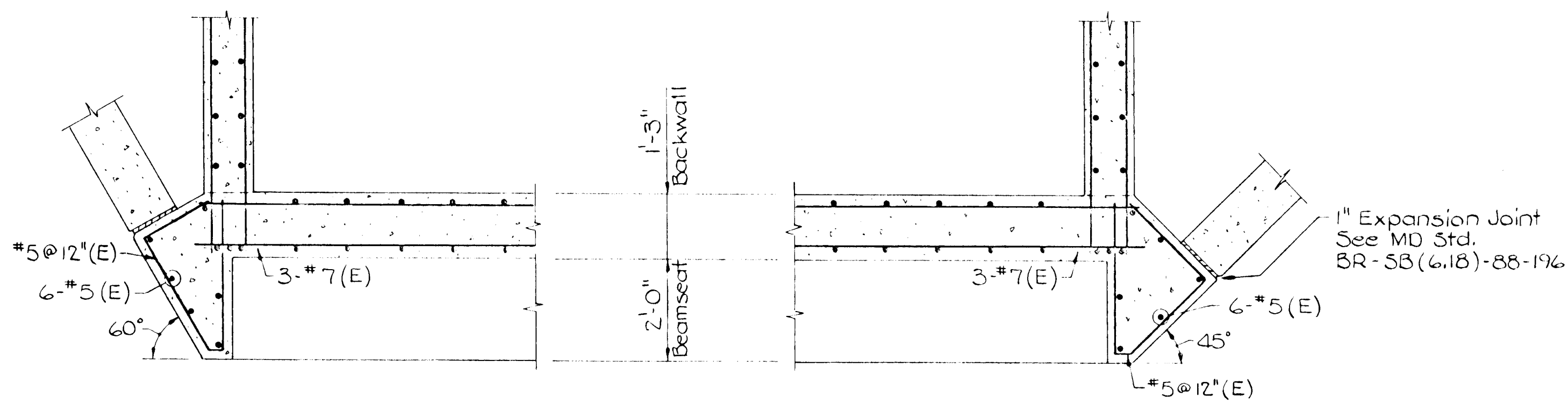
SECTION D-D
Scale: 1/2" = 1'-0"



Note:
Reinforcing Steel Shall Not Pass Through
Contraction Joint. Maintain 2" Cover.

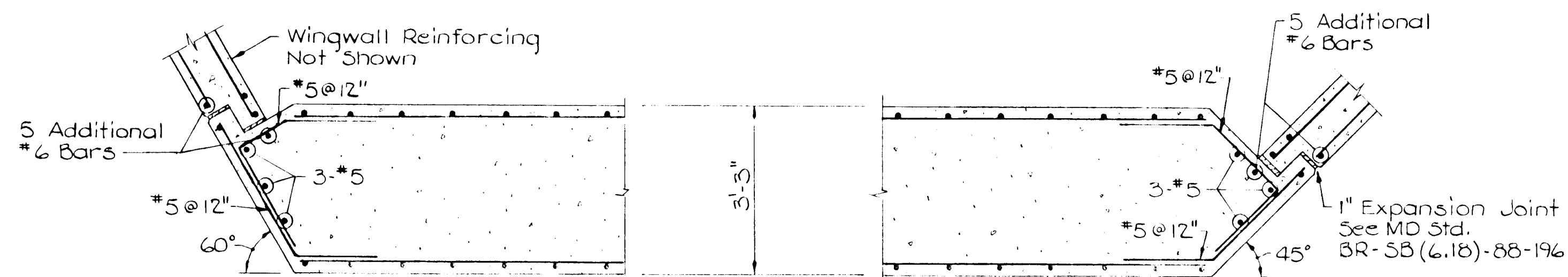
CONTRACTION JOINT DETAIL

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



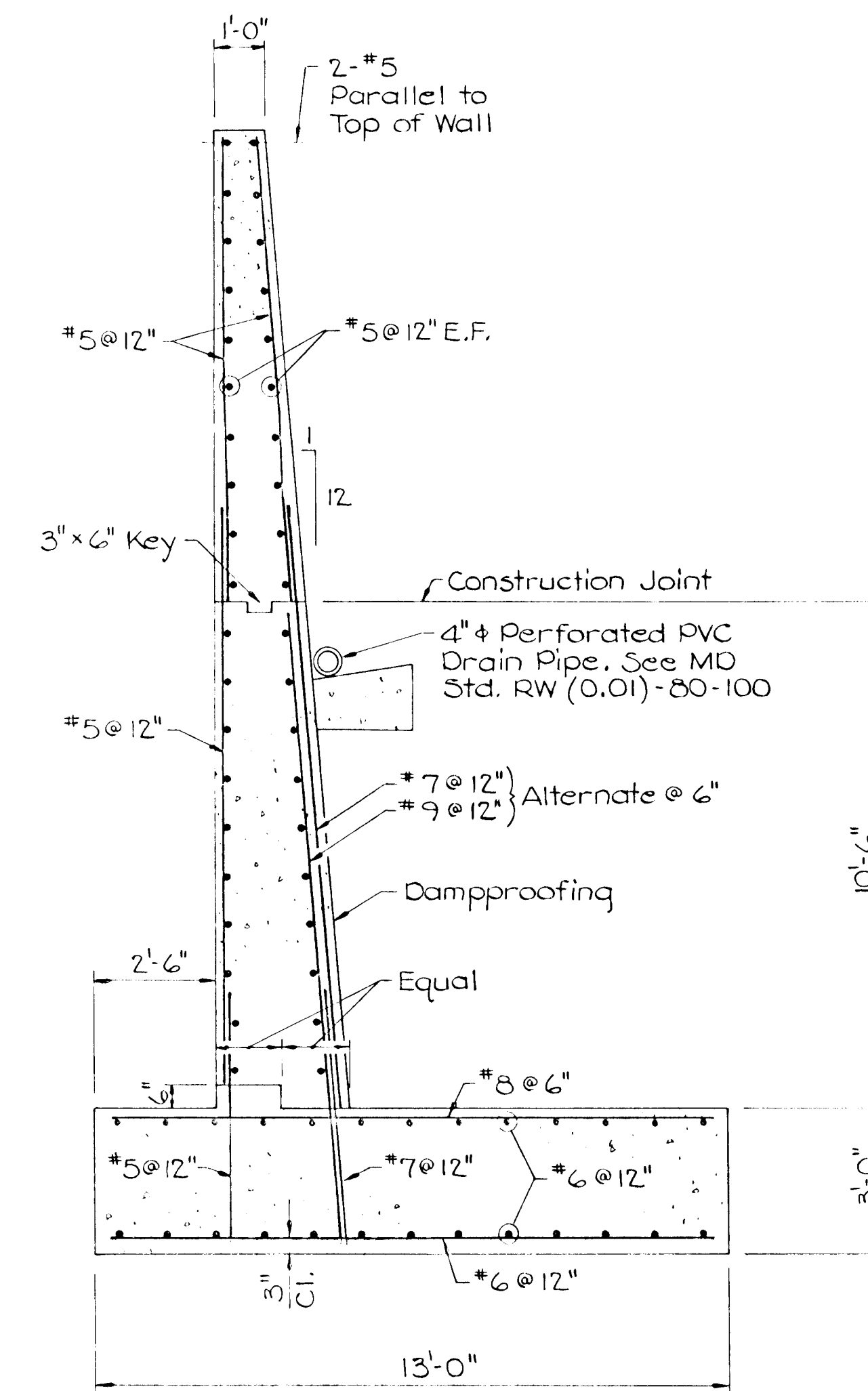
SECTION H-H (Shown)
SECTION F-F (Similar)

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



SECTION J-J (Shown)
SECTION G-G (Similar)

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



SECTION E-E

Scale: 3/8" = 1'-0"

AS BUILT CERTIFICATE

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
DISTRICT ENGINEER

Christopher J. Reid 11-15-99
CHRISTOPHER J. REID # 19949 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Tommany 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William J. Danner 1/3/95
CHIEF, LAND DEVELOPMENT DIVISION DATE

Edwards Shickler 12-27-94
CHIEF, BUREAU OF HIGHWAYS DATE

Paul D. Ryan 1/3/95
CHIEF, BUREAU OF RETENING DATE

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

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21284
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA
TAX MAP NO. 47 ZONED R-5A-B
PARCEL "A"

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
RIDINGS WAY AT STA. 7+30
ABUTMENT DETAILS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

5-94-15, 1-94-14

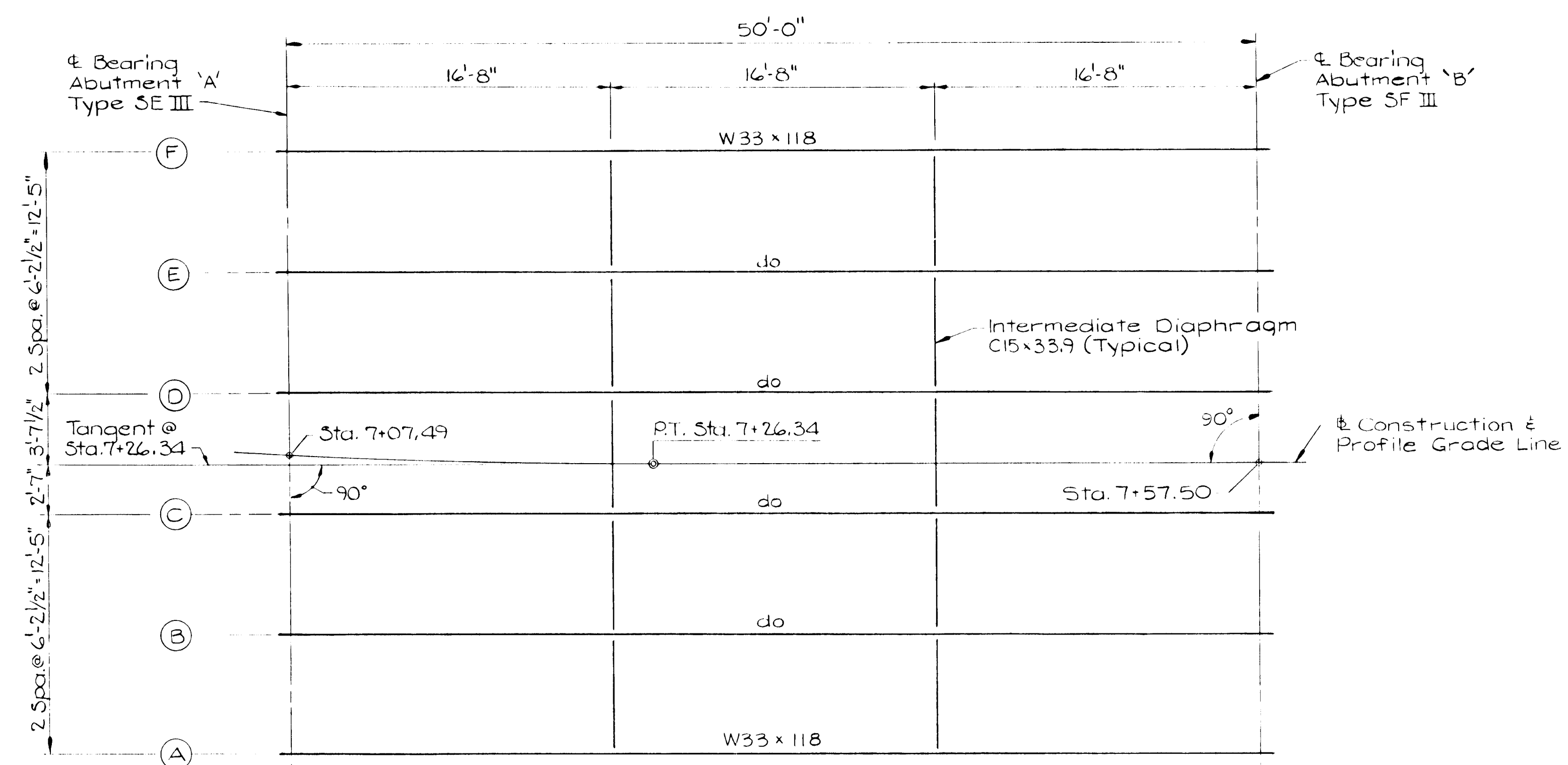
DESIGNED BY: J.R.D.
DRAWN BY: R.W.S.
PROJECT NO.:
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 22 OF 35

James R. Duff 11-23-94
JAMES R. DUFF # 11-23-94 DATE

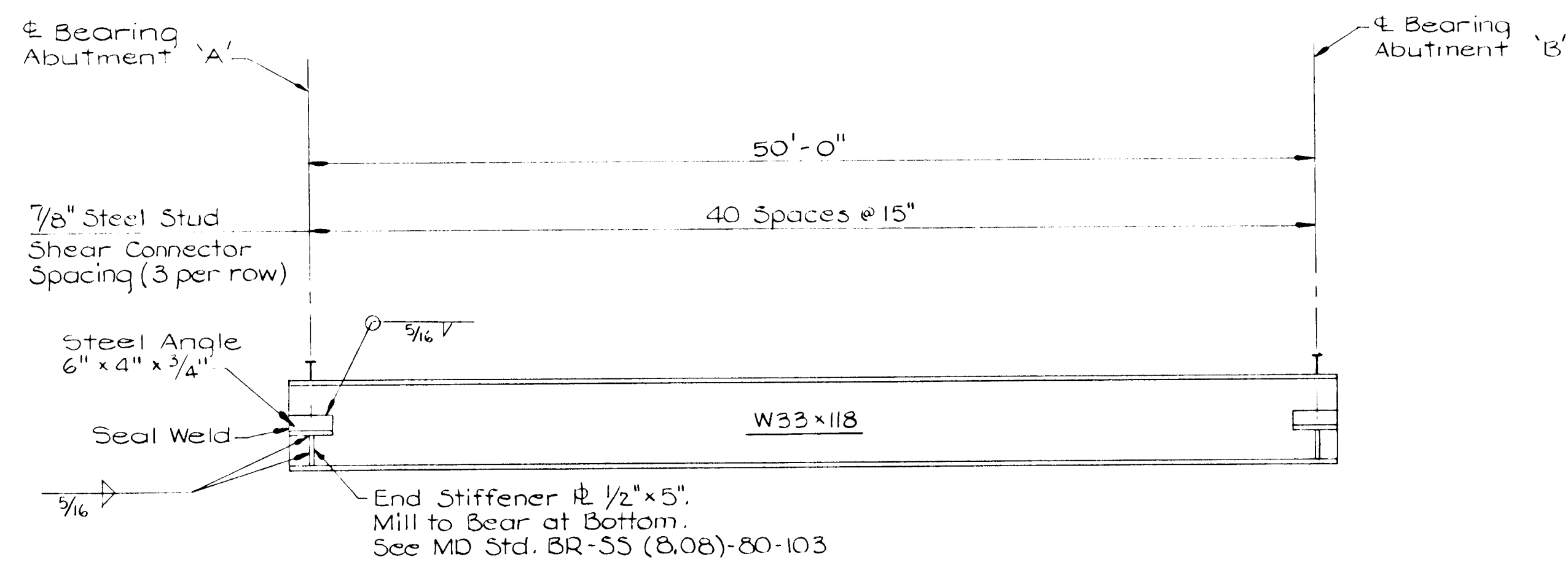
1718

Notes:

Steel Stud Shear Connectors are to be Field Installed. The estimated number of Shear Connectors is 738. (3 per row)



FRAMING PLAN
Not To Scale

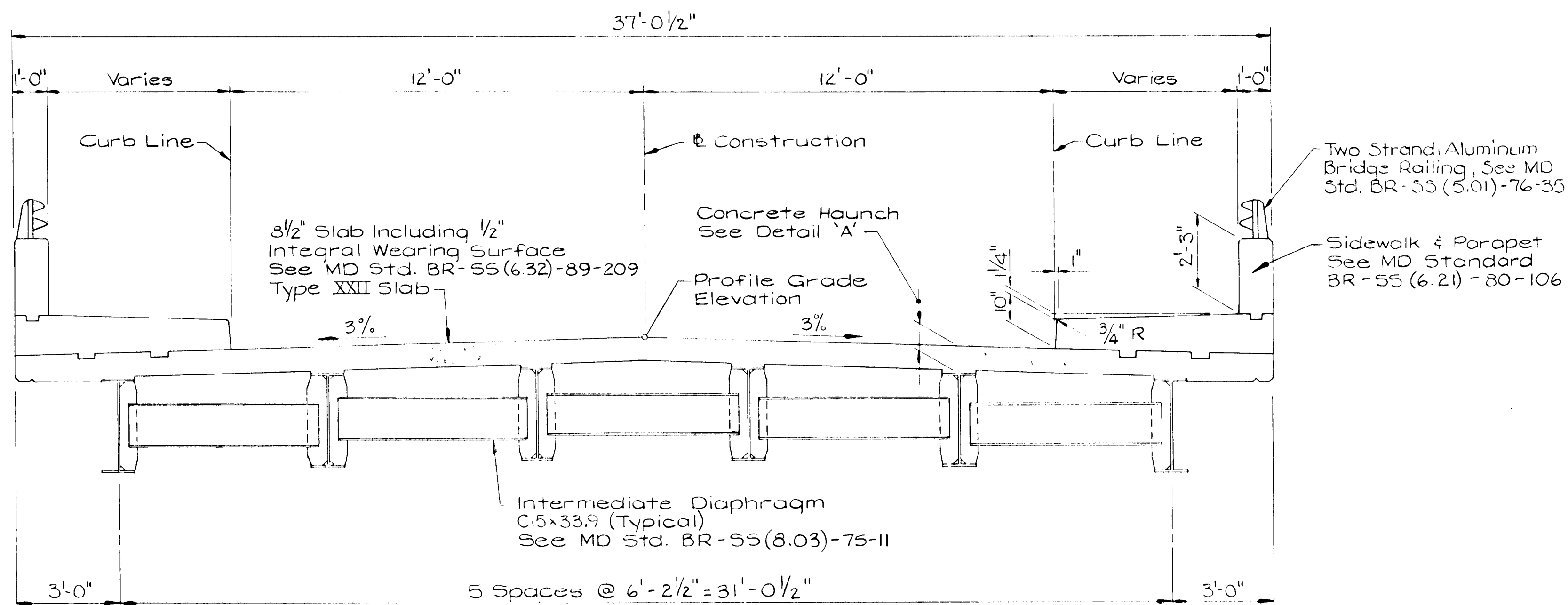


ELEVATION - STRINGER
Not To Scale

| DEAD LOAD DEFLECTIONS | | | |
|-----------------------|------|------|------|
| STRINGER | a | b | c |
| A thru F | 1/8" | 5/8" | 1/4" |

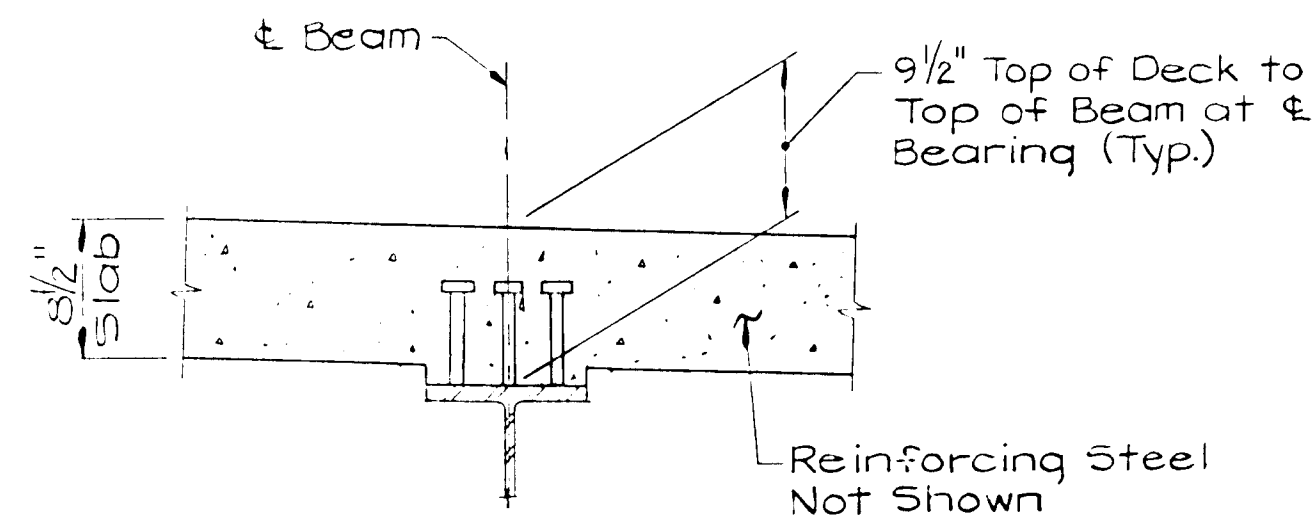
a = Deflection at ϵ due to weight of Structural Steel.
 b = Deflection at ϵ due to weight of Reinforced Concrete Slab.
 c = Deflection at ϵ due to weight of Parapet, Sidewalk and Future Wearing Surface.

No dead load camber is required. If beams are not rolled exactly true they shall be fabricated & erected with their concave sides down with a camber tolerance of three quarter (3/4) inch over.



TYPICAL SECTION
Scale: 3/8" = 1'-0"

Note:
For Stud Embedment Detail,
See MD Std. BR-55 (8.05)-75-30



DETAIL 'A'
Not to Scale

STATE OF MARYLAND
 CHRISTOPHER REID
 REGISTERED PROFESSIONAL ENGINEER
 11-15-99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Gina Jaramany
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 1/4/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signature]
 CHIEF, LAND DEVELOPMENT DIVISION
 1/3/95 DATE

[Signature]
 CHIEF, BUREAU OF HIGHWAYS
 10-29-94 DATE

[Signature]
 CHIEF, BUREAU OF ENGINEERING
 1/3/95 DATE

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

OWNER / DEVELOPER
 HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
 110 WEST ROAD, SUITE 203
 TOWSON, MARYLAND 21204
 410-321-1000

PROJECT
 HAMMOND'S OVERLOOK
 LOTS 1-118
 A RESUBDIVISION OF PARCEL "A" HOLLING BROOKE

AREA
 TAX MAP NO. 47 ZONED R-SA-B
 PARCEL "A"
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

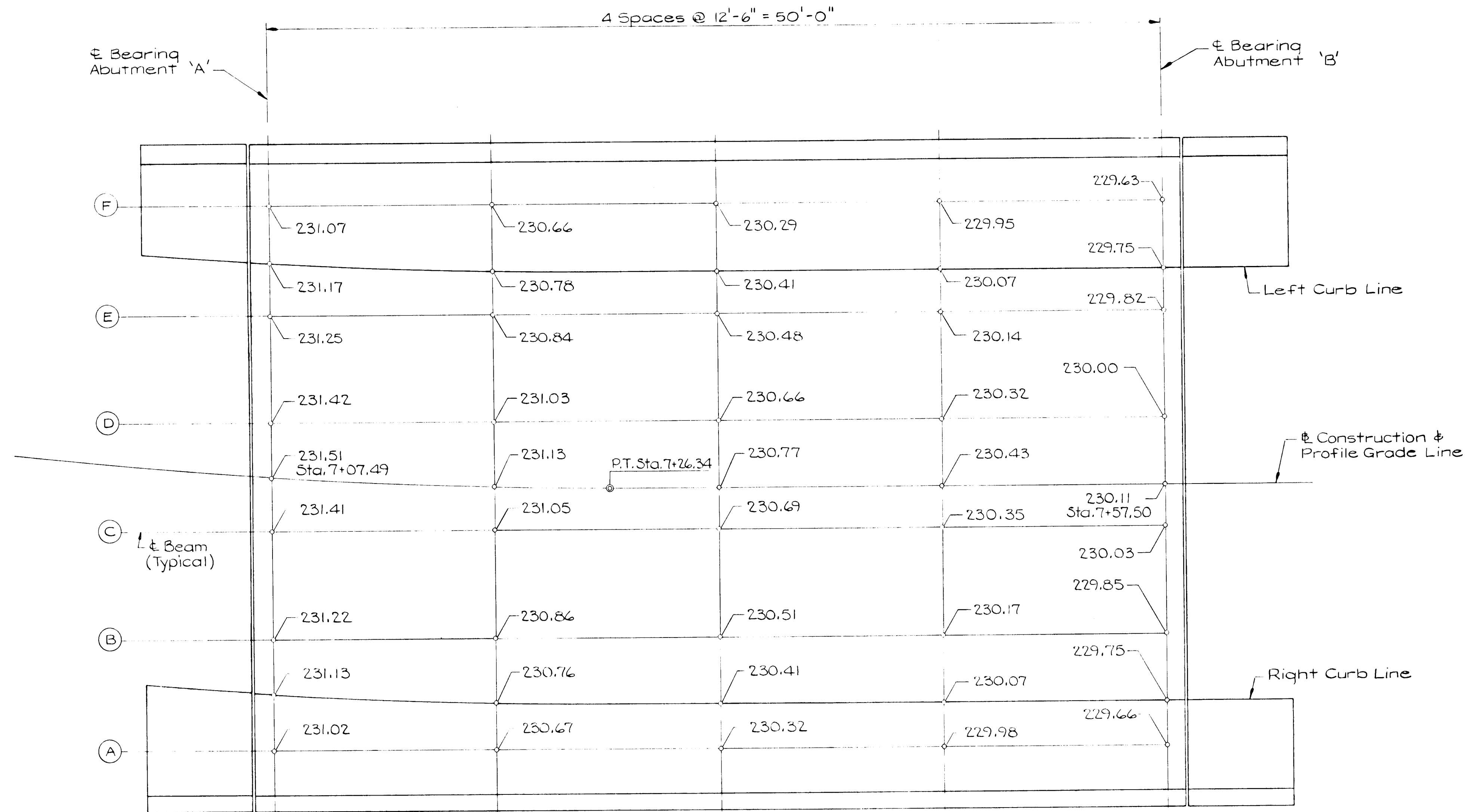
TITLE
 RIDINGS WAY AT STA. 7+30 ±
 SUPERSTRUCTURE

NORTHEAST ENGINEERING, INC.
 1055 TAYLOR AVENUE, SUITE 104
 BALTIMORE, MARYLAND 21286

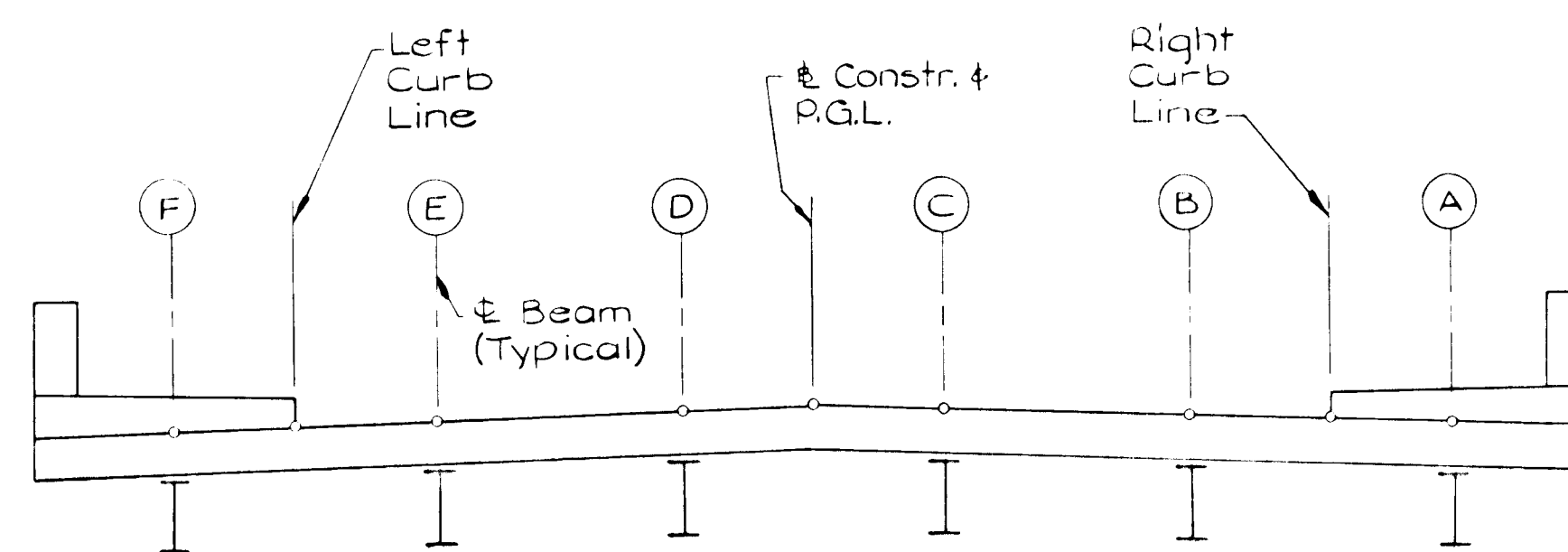
5-94-15, P-94-14
 DESIGNED BY: J.R.D.
 DRAWN BY: E.L.R.
 PROJECT NO.:
 DATE: NOVEMBER 28, 1994
 SCALE: AS SHOWN
 DRAWING NO. 23 OF 35

JAMES R. DUFFY
 REGISTERED PROFESSIONAL ENGINEER
 11-23-94 DATE

1718



FINISHED GRADE ELEVATIONS
Not To Scale



TYPICAL SECTION
Not To Scale

| | | |
|---|-----|--|
| | | AS BUILT CERTIFICATE |
| CHRISTOPHER J. REID #19949 <i>Christopher Reid</i> | | 11-15-99 DATE |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | | |
| GINA SWINNEY CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH | | 1/4/95 DATE |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | | |
| [Signature] CHIEF, LAND DEVELOPMENT DIVISION | | 1/3/95 DATE |
| [Signature] CHIEF, BUREAU OF HIGHWAYS | | 12-28-94 DATE |
| [Signature] CHIEF, BUREAU OF ENGINEERING | | 1/3/95 DATE |
| DATE | NO. | REVISION |
| OWNER / DEVELOPER | | |
| HAMMOND'S OVERLOOK LIMITED PARTNERSHIP 110 WEST ROAD, SUITE 203 TOWSON, MARYLAND 21204 410-321-1000 | | |
| PROJECT: HAMMOND'S OVERLOOK LOTS 1-118 | | |
| A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE AREA TAX MAP NO. 47 ZONED R-SA-B PARCEL "A" 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | |
| TITLE: RIDINGS WAY AT STA. 7+30 ± DECK ELEVATIONS | | |
| NORTHEAST ENGINEERING, INC. 1055 TAYLOR AVENUE, SUITE 104 BALTIMORE, MARYLAND 21286 | | |
| | | S-94-15, P-94-14 DESIGNED BY: J.R.D. DRAWN BY: E.L.R. PROJECT NO: DATE: NOVEMBER 20, 1999 SCALE: AS SHOWN DRAWING NO. 24 OF 35 |

1718

Project Name Hammonds Overlook Bridge Boring # B-7
Location Riding Way, Howard County, Maryland Job # 94079A

Date Started 4-27-94 Date Completed 4-27-94

| ELEV. | SOIL DESCRIPTION | STRA. DEPTH | DEPTH SCALE | CON. | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|---|-------------|-------------|------|-----------------|-----|------|------------------------------------|
| 0.0 | SURFACE | | | | | | | |
| | Brown wet very loose to medium dense fine silty sand trace to a little fine rock fragments and quartz, gravel | | | D | 1-1-3 | 1 | 10" | 4" Topsoil |
| 5 | | | | D | 16-14-9 | 2 | 12" | Water Encountered at 5.0' on Flots |
| 10 | Bottom of Footing Abutment 'B' Elevation 203.00 | | | D | 4-6-10 | 3 | 5" | |
| 12.0 | Green wet hard sandy silt with rock fragments (Decomposed Flock) | | | D | 8-33-6 | 4 | 10" | |
| 20.4 | Bottom of Boring at 20.4' | | | I | 51/5" | 5 | 5" | |

SAMPLER TYPE: WHEN SPLIT SPOON UNLESS OTHERWISE NOTED, T-PRESSED SHELBY TUBE, A-CONTINUOUS FLIGHT AUGER, C-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION 1.0 FT, AFTER
BORING METHOD: HISA-HOLLOW STEM AUGERS, CFA-COHT FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Project Name Hammonds Overlook Bridge Boring # B-8A
Location Riding Way, Howard County, Maryland Job # 94079A

Date Started 4-28-94 Date Completed 4-28-94

| ELEV. | SOIL DESCRIPTION | STRA. DEPTH | DEPTH SCALE | CON. | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|--|-------------|-------------|------|-----------------|-----|------|------------------------------------|
| 0.0 | SURFACE | | | | | | | |
| | Brown and green moist to wet soft to hard fine sandy silt, with rock fragments | | | I | 1-1-4 | 1 | 14" | 5" Topsoil |
| 5 | | | | I | 8-5-4 | 2 | 16" | Water Encountered at 5.0' on Flots |
| 10 | Bottom of Footing Abutment 'B' Elevation 203.00 | | | D | 10-13-16 | 3 | 16" | |
| 15 | | | | D | 16-15-19 | 4 | 16" | |
| 20 | | | | D | 35-28-40 | 5 | 16" | |
| 21.5 | Bottom of Boring at 21.5' | | | D | | | | |

SAMPLER TYPE: WHEN SPLIT SPOON UNLESS OTHERWISE NOTED, T-PRESSED SHELBY TUBE, A-CONTINUOUS FLIGHT AUGER, IC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION
BORING METHOD: HISA-HOLLOW STEM AUGERS, CFA-COHT FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Project Name Hammonds Overlook Bridge Boring # B-9
Location Riding Way, Howard County, Maryland Job # 94079A

Date Started 4-26-94 Date Completed 4-26-94

| ELEV. | SOIL DESCRIPTION | STRA. DEPTH | DEPTH SCALE | CON. | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|--|-------------|-------------|------|-----------------|-----|------|--|
| 0.0 | SURFACE | | | | | | | |
| | Dry ashes - rubble debris Heterogenous material | | | D | 1-1-1 | 1 | 1" | Trash Pile |
| 3.5 | | | | D | | | | |
| 5 | Bottom of Footing Abutment 'A' Elevation 207.00 | | | I | 6-6-6 | 2 | 18" | Water Encountered at 5.0' on Flots |
| 10 | | | | I | 16-17-26 | 3 | 18" | Decomposed Flock (Tri cone roller bit below 10.0') |
| 11.5 | Dark green silt some fine sand rock structure evident fractures/ cemented joints | | | I | | | | |
| 15 | | | | I | 50/5" | 4 | 5" | |
| 20 | | | | I | | | | |
| 21.5 | Bottom of Boring at 21.5' | | | I | 50/2" | 5 | 2" | Caved at 3.0' |

SAMPLER TYPE: WHEN SPLIT SPOON UNLESS OTHERWISE NOTED, T-PRESSED SHELBY TUBE, A-CONTINUOUS FLIGHT AUGER, IC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT, AFTER
BORING METHOD: HISA-HOLLOW STEM AUGERS, CFA-COHT FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

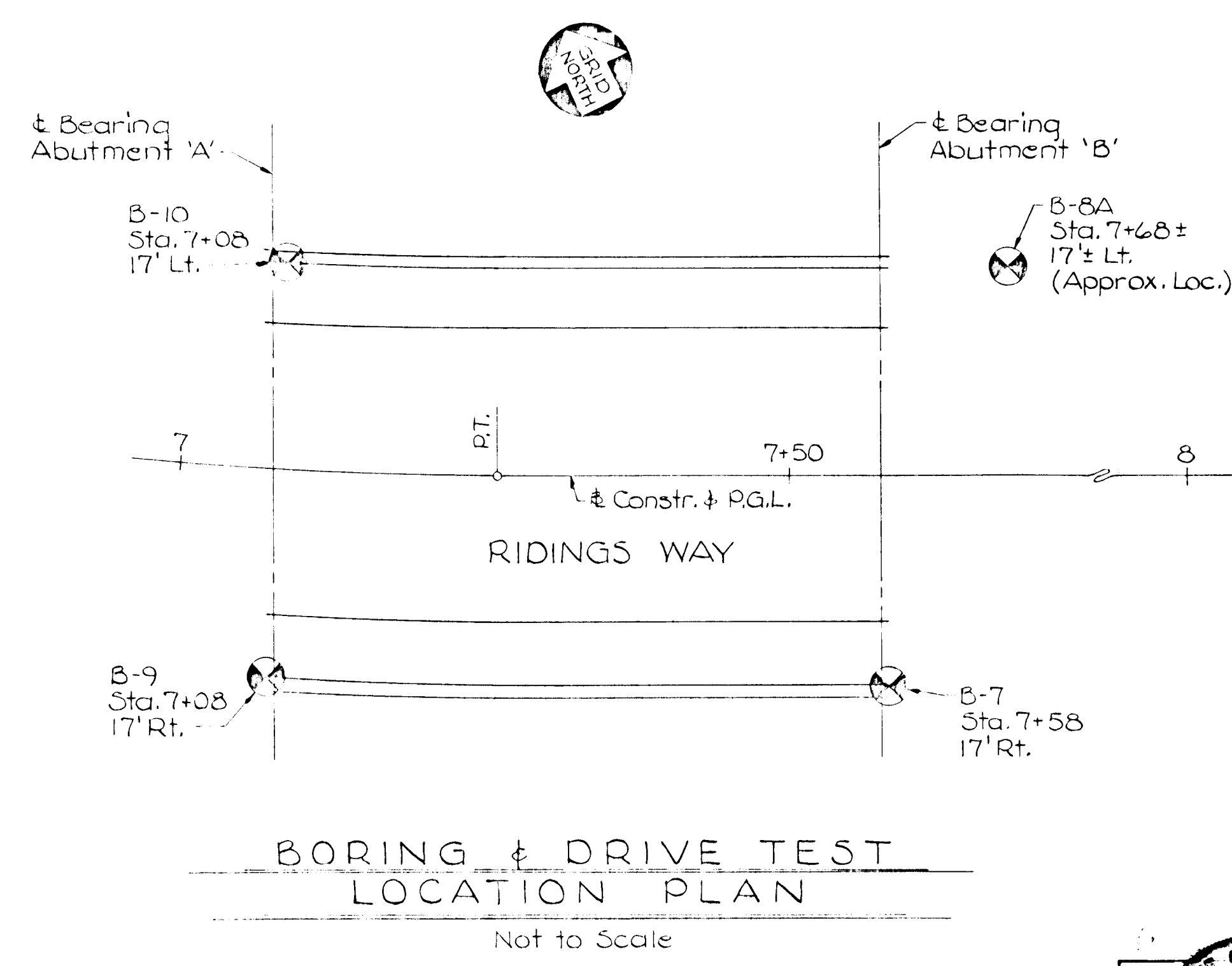
Project Name Hammonds Overlook Boring # B-10
Location Riding Way, Howard County, Maryland Job # 94079A

Date Started 4-25-94 Date Completed 4-25-94

| ELEV. | SOIL DESCRIPTION | STRA. DEPTH | DEPTH SCALE | CON. | SAMPLE BLOWS 6" | NO. | REC. | BORING & SAMPLING NOTES |
|-------|--|-------------|-------------|------|-----------------|-----|------|-------------------------------------|
| 0.0 | SURFACE | | | | | | | |
| | Brown to green moist to wet soft to hard fine sandy silt with rock fragments | | | I | 2-1-2 | 1 | 14" | 6" Topsoil |
| 5 | | | | I | 8-14-16 | 2 | 16" | |
| 10 | Bottom of Footing Abutment 'A' Elevation 207.00 | | | D | 51/6" | 3 | 6" | Water Encountered at 10.0' of Flots |
| 11.5 | Bottom of Boring at 11.5' Auger refusal at 11.5' | | | D | 51/1" | 4 | 1" | |
| 15 | | | | | | | | |
| 20 | | | | | | | | |

SAMPLER TYPE: WHEN SPLIT SPOON UNLESS OTHERWISE NOTED, T-PRESSED SHELBY TUBE, A-CONTINUOUS FLIGHT AUGER, C-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED, I-INTACT, U-UNDISTURBED, L-LOST
GROUND WATER DEPTH: AT COMPLETION 3.0 FT, AFTER
BORING METHOD: HISA-HOLLOW STEM AUGERS, CFA-COHT FLIGHT AUGERS, DC-DRIVING CASING, MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Jovanovski 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William D. ... 1/3/95
CHIEF, LAND DEVELOPMENT DIVISION DATE

Hammonds, Shick ... 10-24-94
CHIEF, BUREAU OF HIGHWAYS DATE

Charles ... 1/3/95
CHIEF, BUREAU OF ENGINEERING DATE

DATE NO. REVISION

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA
TAX MAP NO. 47 ZONED R-5A-B
PARCEL "A"
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

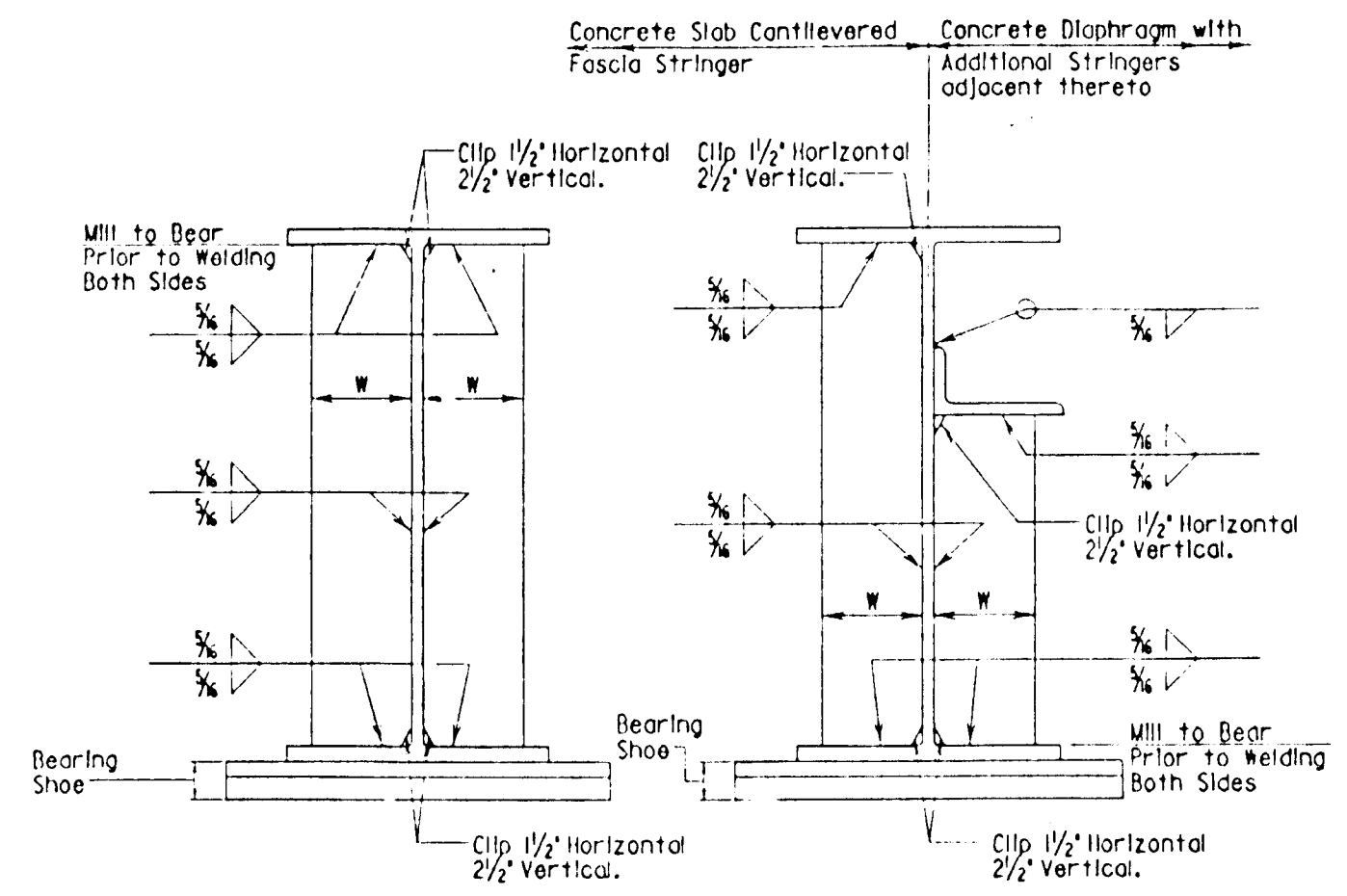
TITLE
RIDINGS WAY AT STA. 7+30 ±
BORINGS AND DRIVE TESTS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

DESIGNED BY: J.R.D.
DRAWN BY: R.W.S.
PROJECT NO.:
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 25 OF 35

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER J. REID #19949
11-15-99 DATE
JAMES R. DUFF #1123-94 DATE

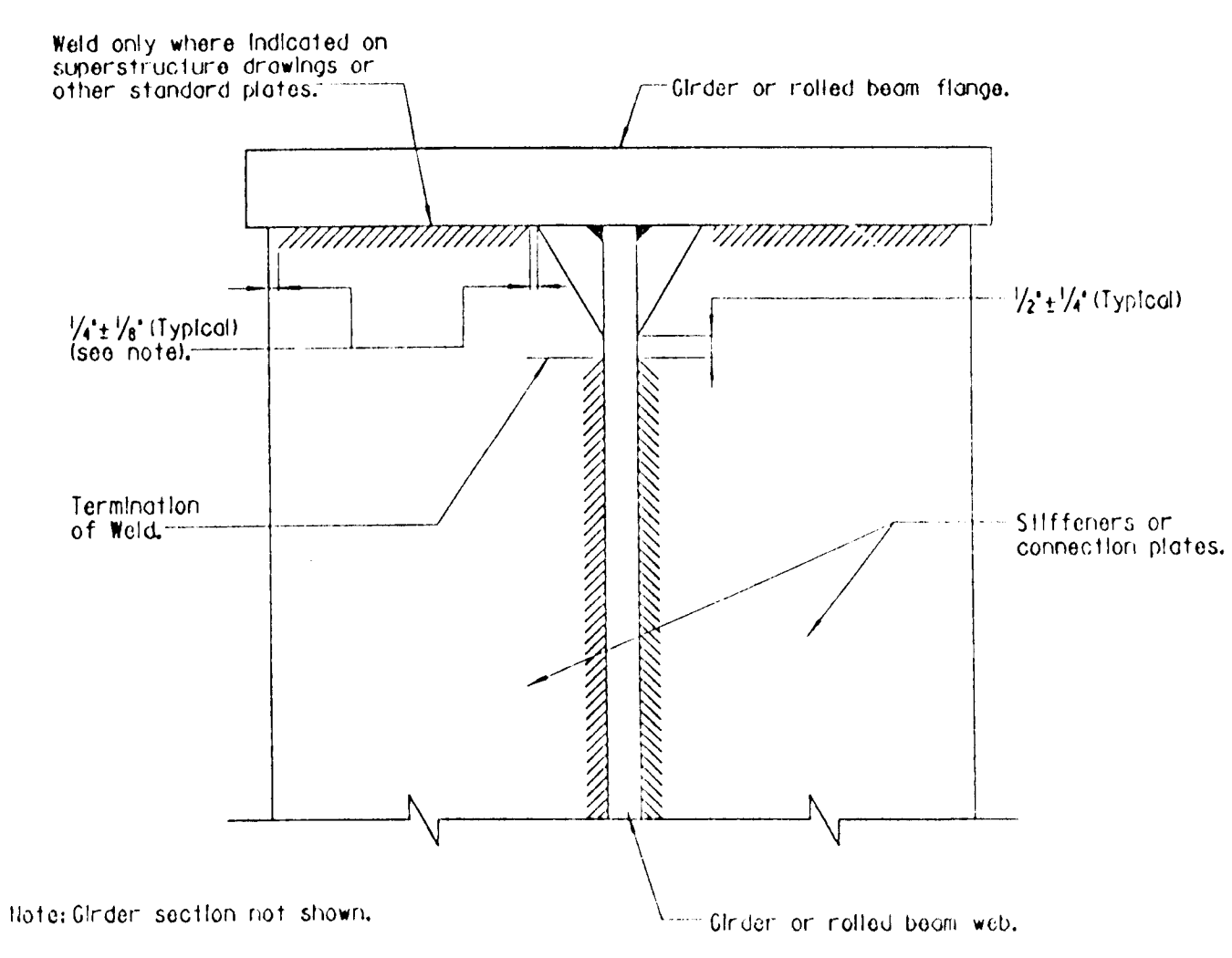
1718



AT PIERS (WHERE STRINGER IS CONTINUOUS OVER SUPPORT) Scale: None

AT PIERS (WHERE STRINGER IS NOT CONTINUOUS OVER SUPPORT) AND AT ABUTMENTS Scale: None

| Location | No. Stiffener | Stiffener Thickness |
|----------|---------------|---------------------|
| Abutment | | |
| Pier | | |
| Pier | | |
| Abutment | | |

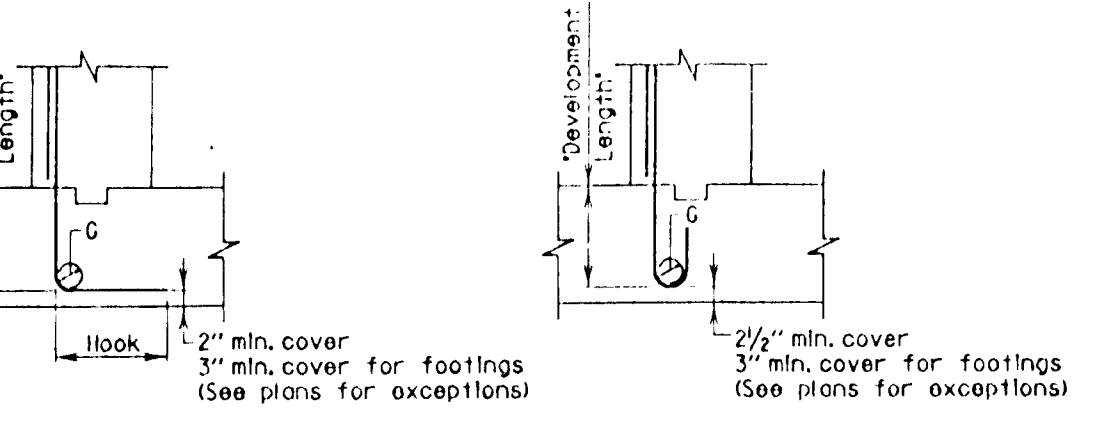


SECTION Scale: 3/4"=1'-0"

Notes:
1. For all stiffeners (intermediate or bearing) top and bottom, including connection plate for channel diaphragms for all girders and rolled beams.
2. Welding to flange as per this detail will only be required where piers or other standard sheets indicate stiffener is extended and welded to flange.

| APPROVAL | DATE | STANDARD NO. | BR. | SH. | OF. |
|--|----------|--------------|-----|-----|-----|
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STANDARD NO. BR-5518(01)-80-103 | | | | | |

Standard detailing indicates notes: For Office Use Only.
Stiffener width to thickness ratio 10 or less.
Width of stiffener to nearest 1/8" shall be less than distance from face of web to edge of flange.



STANDARD 90° HOOK

STANDARD 180° HOOK

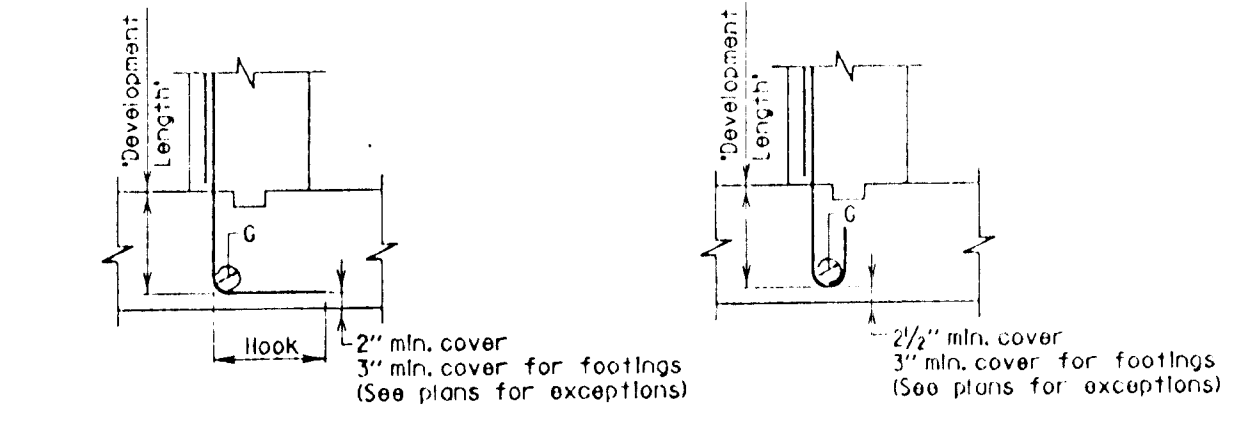
| BAR SIZE | LOCATION CATEGORY | | |
|----------|-------------------|-----|-----|
| | D | E | F |
| #4 | 8" | 11" | 9" |
| #5 | 9" | 12" | 11" |
| #6 | 11" | 14" | 12" |
| #7 | 13" | 16" | 14" |
| #8 | 15" | 19" | 16" |
| #9 | 17" | 22" | 19" |
| #10 | 19" | 25" | 22" |
| #11 | 21" | 28" | 25" |

| BAR SIZE | RECOMMENDED END HOOKS ALL GRADES | | |
|----------|----------------------------------|------------------|-----------------|
| | Finished Bend diameter G, in. | 180 Degree Hooks | 90 Degree Hooks |
| #4 | 3" | 6" | 8" |
| #5 | 3 1/2" | 7" | 10" |
| #6 | 4 1/2" | 8" | 11" |
| #7 | 5 1/2" | 10" | 12" |
| #8 | 6" | 11" | 14" |
| #9 | 7 1/2" | 13" | 15" |
| #10 | 10 1/2" | 15" | 18" |
| #11 | 11" | 17" | 21" |

* LOCATION CATEGORY:
D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2 1/2" in. and for 90° hook, cover on bar extension beyond hook not less than 2" in.
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Notes:
1. When development length is not specified on the plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, f_s 24,000 p.s.i."
4. If depth of member does not allow bar development length indicated in Categories A, B, and C Std. No. M16.14-90-214; then hook shall be added to all bars not conforming, as per D, E & F.

| APPROVAL | DATE | STANDARD NO. | BR. | SH. | OF. |
|--|----------|--------------|-----|-----|-----|
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STANDARD NO. M16.08(1)-86-178 | | | | | |



STANDARD 90° HOOK

STANDARD 180° HOOK

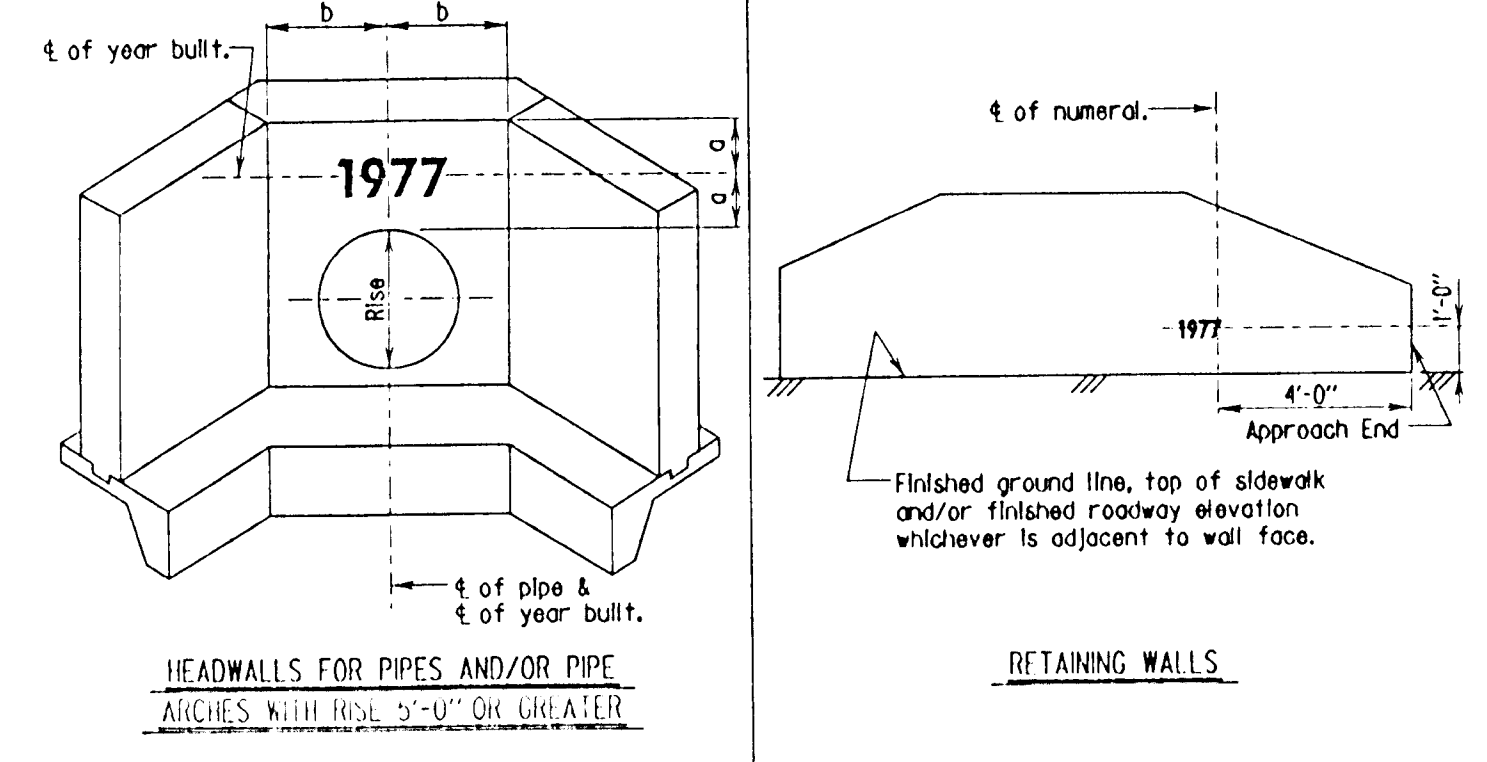
| BAR SIZE | LOCATION CATEGORY | | |
|----------|-------------------|-----|-----|
| | D | E | F |
| #4 | 7" | 9" | 8" |
| #5 | 8" | 10" | 9" |
| #6 | 10" | 12" | 11" |
| #7 | 11" | 14" | 12" |
| #8 | 13" | 16" | 14" |
| #9 | 15" | 19" | 16" |
| #10 | 17" | 22" | 19" |
| #11 | 19" | 25" | 22" |

| BAR SIZE | RECOMMENDED END HOOKS ALL GRADES | | |
|----------|----------------------------------|------------------|-----------------|
| | Finished Bend diameter G, in. | 180 Degree Hooks | 90 Degree Hooks |
| #4 | 3" | 6" | 8" |
| #5 | 3 1/2" | 7" | 10" |
| #6 | 4 1/2" | 8" | 11" |
| #7 | 5 1/2" | 10" | 12" |
| #8 | 6" | 11" | 14" |
| #9 | 7 1/2" | 13" | 15" |
| #10 | 10 1/2" | 15" | 18" |
| #11 | 11" | 17" | 21" |

* LOCATION CATEGORY:
D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2 1/2" in. and for 90° hook, cover on bar extension beyond hook not less than 2" in.
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

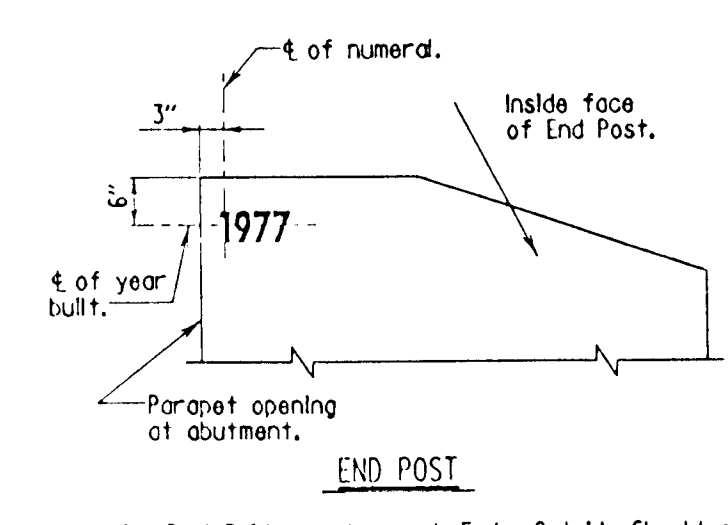
Notes:
1. When development length is not specified on the plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, f_s 24,000 p.s.i."
4. If depth of member does not allow bar development length indicated in Categories A, B, and C Std. No. M16.16-90-216; then hook shall be added to all bars not conforming, as per D, E & F.

| APPROVAL | DATE | STANDARD NO. | BR. | SH. | OF. |
|--|----------|--------------|-----|-----|-----|
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STANDARD NO. M16.10(1)-86-180 | | | | | |

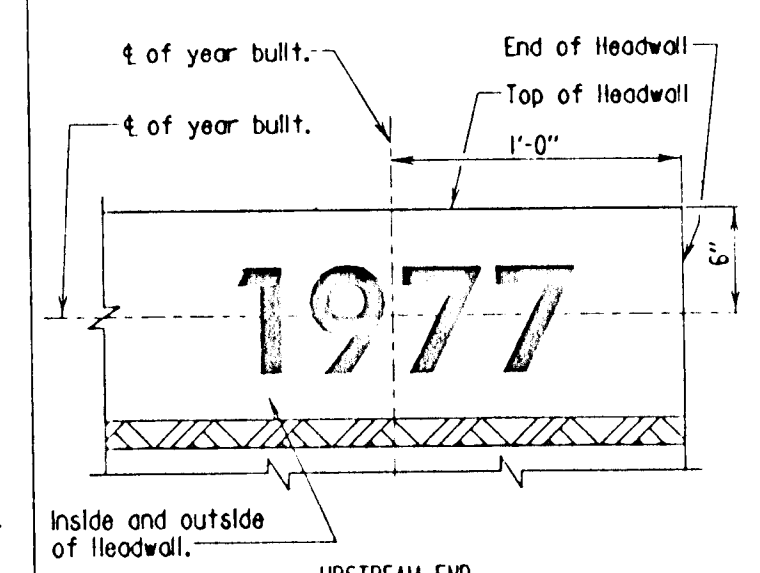


HEADWALLS FOR PIPES AND/OR PIPE ARCHES WITH 5'-0" OR GREATER

RETAINING WALLS



END POST



UPSTREAM END

Locations: Dual Bridges - Approach End - Outside Shoulder Single Bridge - North or East corner. Where no end post exists place year built marking on face of wing wall at end described above as near to roadway as practical.

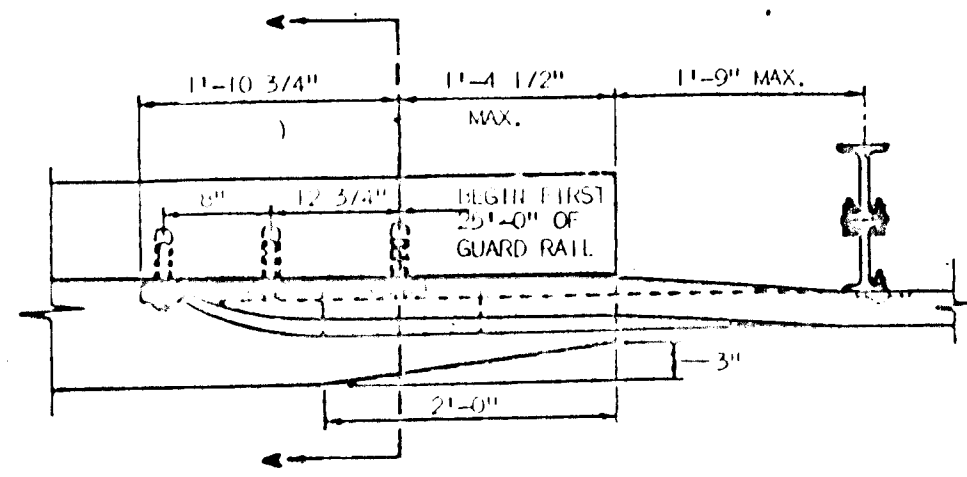
BRIDGES

BOX CULVERTS

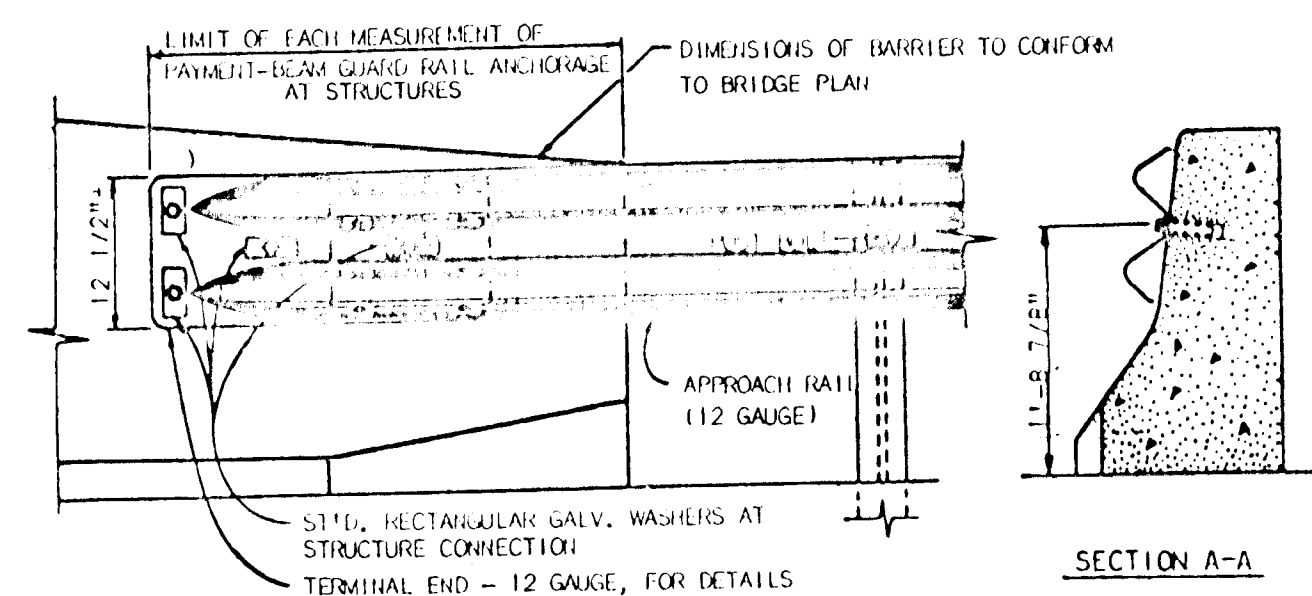
| APPROVAL | DATE | STANDARD NO. | BR. | SH. | OF. |
|--|----------|--------------|-----|-----|-----|
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT | 11-22-86 | 6-8-90 | | | |
| STANDARD NO. M10.02(1)-78-74 | | | | | |

Note: For details of Standard Numbers see Standards Numbers M4000 thru M4004. For existing structures, where a year built is shown on the structure and structure is to be rehabilitated, the marking should read 1942-77 (old year - first - new year). For existing structures with no year built contact Division of Bridge Development for old year.

LOCATION OF YEAR BUILT MARKING



ROAD CONTRACTOR SHALL FURNISH AND INSTALL 4 7/8" Ø CONCRETE EXPANSION ANCHORS OR APPROVED EQUIVALENT, IN 1 1/8" Ø DRILLED HOLES WITH 4 7/8" Ø HEAVY HEX HEAD BOLTS, 1 1/2" LONG, GALVANIZED UNC CLASS 2A & 2B, AND 4 RECTANGULAR GALV. WASHERS AS SHOWN ON STANDARD R-7.02 MODIFIED TO FIT 7/8" Ø BOLT.



SECTION A-A

GENERAL NOTES:
FIRST 25'-0" OF GUARD RAIL AFFIXED TO BRIDGE ON THE APPROACH END. PLACE FIRST POST MAXIMUM 11'-0" FROM BRIDGE AND NEXT SEVEN POSTS SPACED 31'-1 1/2" C/C. PLACE AN ADDITIONAL OFFSET BRACKET AT THE FOURTH AND FIFTH POSTS FROM THE BRIDGE TO AVOID CONFLICT WITH INLETS.
WHEN AFFIXING GUARD RAIL TO BRIDGE ON THE TRAILING END, USE NORMAL POST SPACING WITH AN ADDITIONAL OFFSET BRACKET PLACED AT THE SECOND POST TO AVOID CONFLICT WITH INLETS. COST OF ADDITIONAL POSTS AND OFFSET BRACKETS TO BE INCLUDED IN BID PRICE PER LINEAR FOOT OF GUARD RAIL.
IN GENERAL, TWO OFFSET BRACKETS SHALL BE USED WHEREVER NECESSARY TO AVOID CONFLICT WITH DRAINAGE INLETS.

| | | |
|--|---|---|
| HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS | GUARD RAIL W BEAM ANCHORAGE AT STRUCTURES | UNDRAWN BY: J.L.R. CHECKED BY: J.L.R. NO SCALE R-7.07 |
| APPROVED: [Signature] DATE: 11-15-99 | CHIEF, BUREAU OF ENGR. | |

STATE OF MARYLAND PROFESSIONAL ENGINEER'S BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. *Gina Strumpani* CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH. DATE: 1/4/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. *Richard J. Sepon* CHIEF, BUREAU OF ENGINEERING. DATE: 1/3/95

DATE NO. REVISION

OWNER / DEVELOPER: HAMMOND'S OVERLOOK LIMITED PARTNERSHIP, 110 WEST ROAD, SUITE 203, TOWSON, MARYLAND 21204, 410-321-1000

PROJECT: HAMMOND'S OVERLOOK LOTS 1-11B, A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA: TAX MAP NO. 47, ZONE R-5A-B, PARCEL "A"

6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: STANDARD DETAILS

NORTHEAST ENGINEERING, INC., 1055 TAYLOR AVENUE, SUITE 104, BALTIMORE, MARYLAND 21206

DESIGNED BY: JAMES R. DUFFY, PROFESSIONAL ENGINEER. PROJECT NO.: DATE: NOVEMBER 20, 1998. SCALE: AS SHOWN. DRAWING NO. 26 OF 35.

1718

| BAR SIZE | * LOCATION CATEGORY | | |
|----------|---------------------|--------|-------|
| | A | B | C |
| #4 | 2'-5" | 1'-9" | 1'-5" |
| #5 | 3'-0" | 2'-2" | 1'-9" |
| #6 | 3'-7" | 2'-7" | 2'-1" |
| #7 | 4'-4" | 3'-1" | 2'-6" |
| #8 | 5'-8" | 4'-1" | 3'-3" |
| #9 | 7'-2" | 5'-1" | 4'-1" |
| #10 | 9'-1" | 6'-6" | 5'-2" |
| #11 | 11'-1" | 7'-11" | 6'-4" |

*** LOCATION CATEGORY**

- A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B - All bars not in Category A spaced less than 6 inches apart.
- C - All bars not in Category A spaced 6 inches or more apart.

| BAR SIZE | * LOCATION CATEGORY | | | 3 Times Bar Diameter | 6 Times Bar Diameter | c/g Spacing |
|----------|---------------------|---------|--------|----------------------|----------------------|-------------|
| | A | B | C | | | |
| #4 | 2'-11" | 2'-7" | 2'-1" | 1 1/2" | 3" | 3 1/2" |
| #5 | 3'-8" | 3'-3" | 2'-7" | 1 3/4" | 3 3/4" | 4 3/4" |
| #6 | 4'-5" | 3'-10" | 3'-1" | 2 1/4" | 4 1/2" | 5 1/4" |
| #7 | 5'-3" | 4'-7" | 3'-8" | 2 5/8" | 5 1/4" | 6 1/8" |
| #8 | 6'-10" | 6'-1" | 4'-10" | 3" | 6" | 7" |
| #9 | 8'-8" | 7'-8" | 6'-1" | 3 3/4" | 6 3/4" | 7 1/4" |
| #10 | 11'-0" | 9'-8" | 7'-9" | 3 3/4" | 7 3/4" | 8 1/4" |
| #11 | 13'-6" | 11'-11" | 9'-6" | 4 1/4" | 8 1/2" | 9 1/4" |

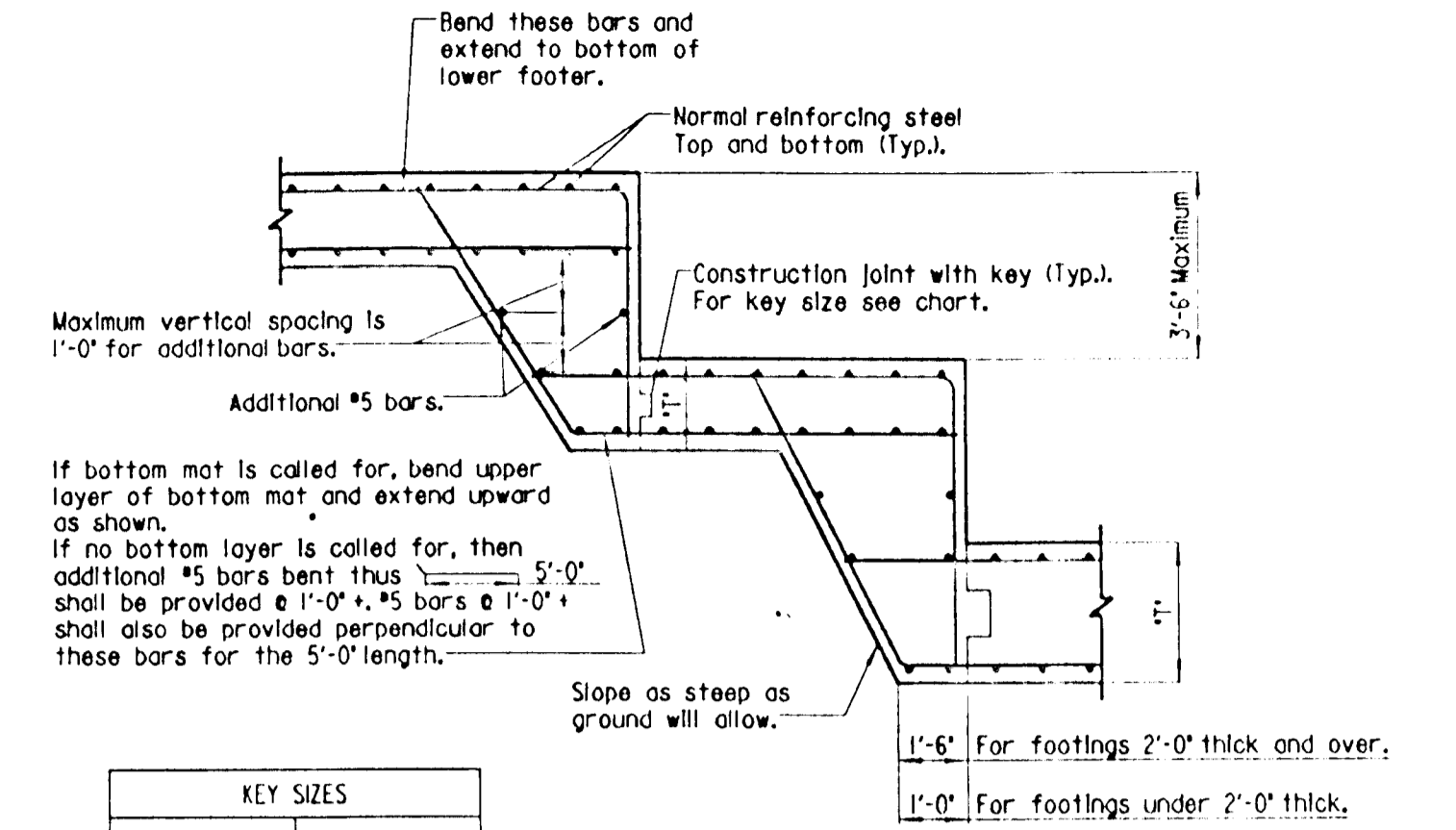
*** LOCATION CATEGORY**

- A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B - All bars not in Category A spaced less than 6 inches apart.
- C - All bars not in Category A spaced 6 inches or more apart.

| BAR SIZE | * LOCATION CATEGORY | | |
|----------|---------------------|----------------|--------|
| | A | B | C |
| #4 | 2'-9" | 2'-0" | 1'-7" |
| #5 | 3'-6" | 2'-6" | 2'-0" |
| #6 | 4'-2" | 3'-0" | 2'-5" |
| #7 | 4'-11" | | 2'-10" |
| #8 | 6'-6" | Does Not Exist | 3'-9" |
| #9 | 8'-2" | | 4'-8" |
| #10 | 10'-5" | | 6'-0" |
| #11 | 12'-9" | | 7'-4" |

*** LOCATION CATEGORY**

- A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B - All bars not in Category A spaced less than 6 inches apart.
- C - All bars not in Category A spaced 6 inches or more apart.



| KEY SIZES | |
|-----------------|----------|
| T | Key |
| 1'-0" to 1'-5" | 2' x 4' |
| 1'-6" to 1'-11" | 3' x 6' |
| 2'-0" to 2'-5" | 4' x 8' |
| 2'-6" to 3'-0" | 5' x 10' |

TYPICAL SECTION
Scale: 3/4" = 1'-0"

- Note:
- When bar lap is not specified on the plans, the above dimensions shall be used.
 - These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

| | | |
|-------------|--------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING |
| CHECKED BY | DATE | STANDARD NO. M16.051-B0-122 |
| DATE | 6-8-90 | SHEET 1 OF 3 |

- Note:
- When bar lap is not specified on the plans, the above dimensions shall be used.
 - These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

| | | |
|-------------|---------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1 |
| CHECKED BY | DATE | STANDARD NO. M16.051-B0-122 |
| DATE | 6-23-93 | SHEET 2 OF 3 |

- Note:
- When bar lap is not specified on the plans, the above dimensions shall be used.
 - These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

| | | |
|-------------|---------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.2 |
| CHECKED BY | DATE | STANDARD NO. M16.051-B0-122 |
| DATE | 6-23-93 | SHEET 3 OF 3 |

| BAR SIZE | * LOCATION CATEGORY | | |
|----------|---------------------|-------|--------|
| | A | B | C |
| #4 | 2'-5" | 1'-9" | 1'-5" |
| #5 | 3'-0" | 2'-2" | 1'-9" |
| #6 | 3'-7" | 2'-7" | 2'-1" |
| #7 | 4'-4" | 3'-6" | 2'-10" |
| #8 | 6'-5" | 4'-7" | 3'-8" |
| #9 | 8'-1" | 5'-9" | 4'-8" |
| #10 | 10'-3" | 7'-4" | 5'-11" |
| #11 | 12'-7" | 9'-0" | 7'-3" |

*** LOCATION CATEGORY**

- A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B - All bars not in Category A spaced less than 6 inches apart.
- C - All bars not in Category A spaced 6 inches or more apart.

- Note:
- When bar lap is not specified on the plans, the above dimensions shall be used.
 - These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

| | | |
|-------------|--------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING |
| CHECKED BY | DATE | STANDARD NO. M16.071-B1-127 |
| DATE | 6-8-90 | SHEET 1 OF 3 |

| BAR SIZE | * LOCATION CATEGORY | | | 3 Times Bar Diameter | 6 Times Bar Diameter | c/g Spacing |
|----------|---------------------|--------|---------|----------------------|----------------------|-------------|
| | A | B | C | | | |
| #4 | 2'-11" | 2'-7" | 2'-1" | 1 1/2" | 3" | 3 1/2" |
| #5 | 3'-8" | 3'-3" | 2'-7" | 1 3/4" | 3 3/4" | 4 3/4" |
| #6 | 4'-5" | 3'-10" | 3'-1" | 2 1/4" | 4 1/2" | 5 1/4" |
| #7 | 5'-11" | 5'-3" | 4'-2" | 2 5/8" | 5 1/4" | 6 1/8" |
| #8 | 7'-9" | 6'-10" | 5'-6" | 3" | 6" | 7" |
| #9 | 9'-10" | 8'-8" | 6'-11" | 3 3/4" | 6 3/4" | 7 1/4" |
| #10 | 12'-5" | 11'-0" | 8'-10" | 3 3/4" | 7 3/4" | 8 1/4" |
| #11 | 15'-3" | 13'-6" | 10'-10" | 4 1/4" | 8 1/2" | 9 1/4" |

*** LOCATION CATEGORY**

- A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B - All bars not in Category A spaced less than 6 inches apart.
- C - All bars not in Category A spaced 6 inches or more apart.

- Note:
- When bar lap is not specified on the plans, the above dimensions shall be used.
 - These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

| | | |
|-------------|---------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1 |
| CHECKED BY | DATE | STANDARD NO. M16.071-B1-127 |
| DATE | 6-23-93 | SHEET 2 OF 3 |

- Note:
- When bar lap is not specified on the plans, the above dimensions shall be used.
 - These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

| | | |
|-------------|---------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.2 |
| CHECKED BY | DATE | STANDARD NO. M16.071-B1-127 |
| DATE | 6-23-93 | SHEET 3 OF 3 |

| | | |
|-------------|---------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | STEPPED FOOTING DETAIL |
| CHECKED BY | DATE | STANDARD NO. M16.091-B3-155 |
| DATE | 6-23-93 | SHEET 1 OF 1 |

AS BUILT CERTIFICATE

Christopher J. Reid 11.15.99
CHRISTOPHER J. REID #19949 DATE

Gina Jovanovic 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

Howard S. Shaffer 12.22.94
CHIEF, BUREAU OF HIGHWAYS DATE

Richard J. Ryan 1/3/95
CHIEF, BUREAU OF MAINTENANCE DATE

| DATE NO. | REVISION |
|--|----------|
| | |
| OWNER / DEVELOPER | |
| HAMMOND'S OVERLOOK LIMITED PARTNERSHIP 110 WEST ROAD, SUITE 203 TOWSON, MARYLAND 21204 410-321-1000 | |
| PROJECT HAMMOND'S OVERLOOK LOTS 1-118 A RESUBDIVISION OF PARCEL "A" BOLLING BROOK | |
| AREA TAX MAP NO. 47 ZONED R-5A-B PARCEL "A" 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND | |
| TITLE STANDARD DETAILS | |

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

5-94-15, P-94-14

DESIGNED BY: _____

DRAWN BY: _____

PROJECT NO: _____

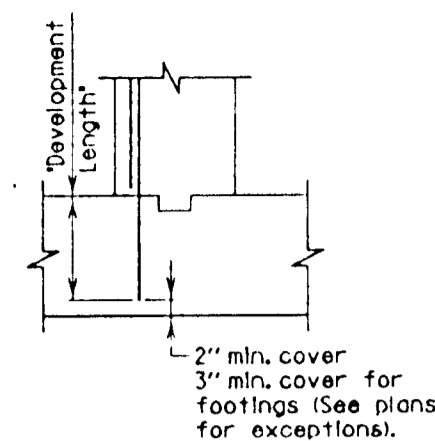
DATE: NOVEMBER 20, 1994

SCALE: AS SHOWN

DRAWING NO. 27 OF 35

James R. Duffy 11-23-94
JAMES R. DUFFY DATE

1718



STANDARD STRAIGHT BAR

| BAR SIZE | LOCATION CATEGORY | | |
|----------|-------------------|-------|-------|
| | A | B | C |
| #4 | 1'-5" | 1'-0" | 1'-0" |
| #5 | 1'-9" | 1'-3" | 1'-0" |
| #6 | 2'-2" | 1'-6" | 1'-3" |
| #7 | 2'-11" | 2'-1" | 1'-8" |
| #8 | 3'-9" | 2'-9" | 2'-2" |
| #9 | 4'-9" | 3'-5" | 2'-9" |
| #10 | 6'-1" | 4'-4" | 3'-6" |
| #11 | 7'-5" | 5'-4" | 4'-3" |

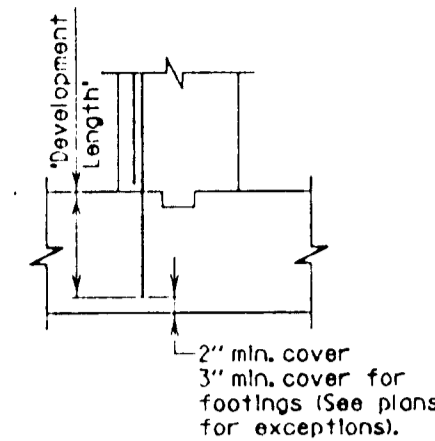
LOCATION CATEGORY:

- A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B- All bars not in Category A spaced less than 6' apart.
- C- All bars not in Category A spaced 6' inches or more apart.

- Note:
- When development length is not specified on the plans, the above dimensions shall be used.
 - These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 - These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs: 24,000 p.s.i."
 - If depth of member does not allow bar development length indicated in Categories A, B, and C then hook shall be added to all bars not conforming, as per D, E, and F per Std. No. M6.081-86-178.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT
DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO. 3 (3500 P.S.I.) CONCRETE
NON-EPOXY COATED REINFORCING

STANDARD NO. M6.141-90-214 SHEET 1 OF 3



STANDARD STRAIGHT BAR

| BAR SIZE | LOCATION CATEGORY | | | 3 Times Bar Diameter | 6 Times Bar Diameter | c/c Spacing |
|----------|-------------------|--------|--------|----------------------|----------------------|-------------|
| | A | B | C | | | |
| #4 | 1'-9" | 1'-6" | 1'-3" | 1 1/2" | 3" | 3 1/2" |
| #5 | 2'-2" | 1'-11" | 1'-6" | 1 3/4" | 3 1/2" | 4 1/2" |
| #6 | 2'-7" | 2'-3" | 1'-10" | 2" | 4 1/4" | 5 1/4" |
| #7 | 3'-6" | 3'-1" | 2'-6" | 2 1/4" | 5 1/4" | 6 1/4" |
| #8 | 4'-7" | 4'-1" | 3'-3" | 3" | 6" | 7" |
| #9 | 5'-9" | 5'-1" | 4'-1" | 3 3/4" | 6 3/4" | 7 3/4" |
| #10 | 7'-4" | 6'-6" | 5'-2" | 4 1/4" | 7 1/2" | 8 1/2" |
| #11 | 9'-0" | 7'-11" | 6'-4" | 4 3/4" | 8 1/2" | 9 3/4" |

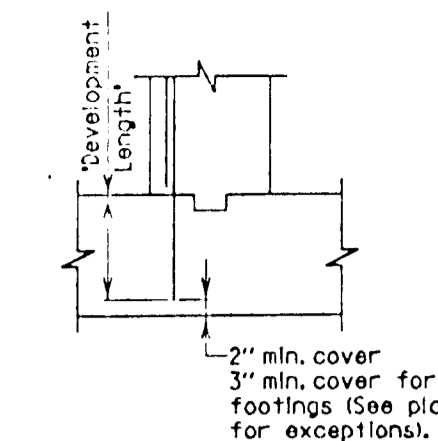
LOCATION CATEGORY:

- A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B- All bars not in Category A spaced less than 6' apart.
- C- All bars not in Category A spaced 6' inches or more apart.

- Note:
- When development length is not specified on the plans, the above dimensions shall be used.
 - These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs: 24,000 p.s.i."

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT
DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO. 3 (3500 P.S.I.) CONCRETE
EPOXY COATED REINFORCING CASE NO.1

STANDARD NO. M6.141-90-214 SHEET 2 OF 3



STANDARD STRAIGHT BAR

| BAR SIZE | LOCATION CATEGORY | | |
|----------|-------------------|----------------|--------|
| | A | B | C |
| #4 | 1'-8" | 1'-2" | 1'-0" |
| #5 | 2'-1" | 1'-6" | 1'-2" |
| #6 | 2'-4" | 1'-9" | 1'-5" |
| #7 | 3'-4" | 1'-9" | 1'-11" |
| #8 | 4'-4" | Does Not Exist | 2'-6" |
| #9 | 5'-6" | Does Not Exist | 3'-2" |
| #10 | 6'-11" | Does Not Exist | 4'-0" |
| #11 | 8'-6" | Does Not Exist | 4'-11" |

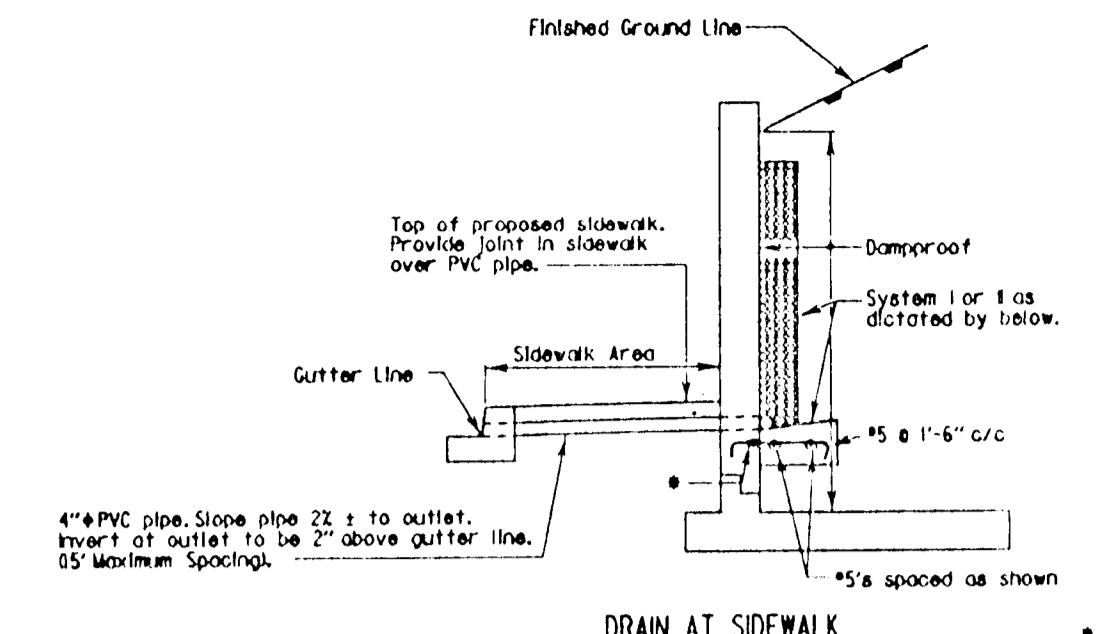
LOCATION CATEGORY:

- A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B- All bars not in Category A spaced less than 6' apart.
- C- All bars not in Category A spaced 6' inches or more apart.

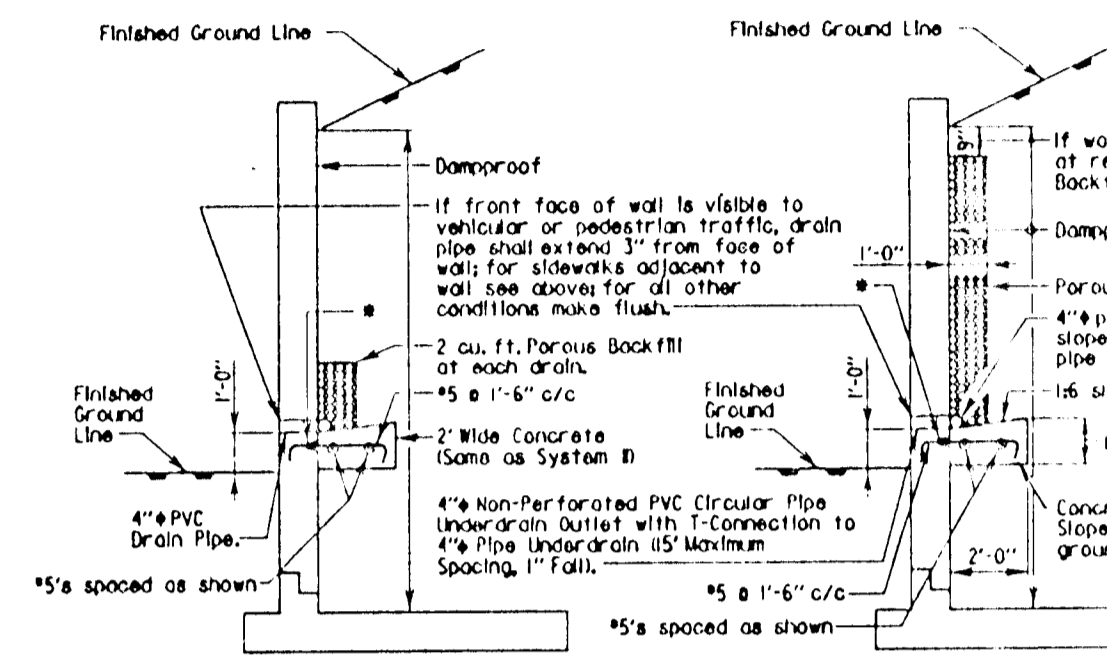
- Note:
- When development length is not specified on the plans, the above dimensions shall be used.
 - These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 - These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs: 24,000 p.s.i."

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT
DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO. 3 (3500 P.S.I.) CONCRETE
EPOXY COATED REINFORCING CASE NO.2

STANDARD NO. M6.141-90-214 SHEET 3 OF 3

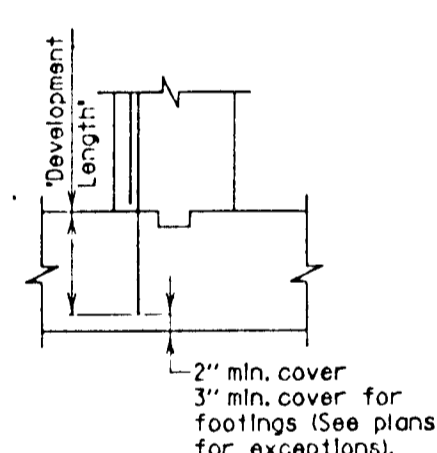


DRAIN AT SIDEWALK



DRAIN AT SIDEWALK

Other related standards: REBAR-BR220-93-785, REBAR-FL-600-93-786



STANDARD STRAIGHT BAR

| BAR SIZE | LOCATION CATEGORY | | |
|----------|-------------------|--------|-------|
| | A | B | C |
| #4 | 1'-5" | 1'-0" | 1'-0" |
| #5 | 1'-9" | 1'-3" | 1'-0" |
| #6 | 2'-2" | 1'-6" | 1'-3" |
| #7 | 2'-11" | 2'-1" | 1'-8" |
| #8 | 3'-4" | 2'-5" | 2'-1" |
| #9 | 4'-3" | 3'-0" | 2'-5" |
| #10 | 5'-4" | 3'-10" | 3'-1" |
| #11 | 6'-7" | 4'-8" | 3'-9" |

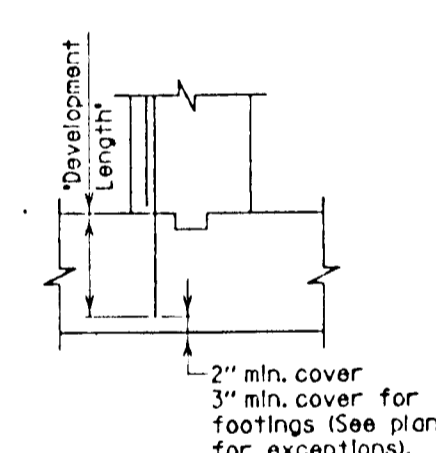
LOCATION CATEGORY:

- A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B- All bars not in Category A spaced less than 6' apart.
- C- All bars not in Category A spaced 6' inches or more apart.

- Note:
- When development length is not specified on the plans, the above dimensions shall be used.
 - These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 - These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs: 24,000 p.s.i."
 - If depth of member does not allow bar development length indicated in Categories A, B, and C then hook shall be added to all bars not conforming, as per D, E, and F per Std. No. M6.101-86-180.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT
DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO. 6 (4500 P.S.I.) CONCRETE
NON-EPOXY COATED REINFORCING

STANDARD NO. M6.161-90-216 SHEET 1 OF 3



STANDARD STRAIGHT BAR

| BAR SIZE | LOCATION CATEGORY | | | 3 Times Bar Diameter | 6 Times Bar Diameter | c/c Spacing |
|----------|-------------------|--------|--------|----------------------|----------------------|-------------|
| | A | B | C | | | |
| #4 | 1'-9" | 1'-6" | 1'-3" | 1 1/2" | 3" | 3 1/2" |
| #5 | 2'-2" | 1'-11" | 1'-6" | 1 3/4" | 3 1/2" | 4 1/2" |
| #6 | 2'-7" | 2'-3" | 1'-10" | 2" | 4 1/4" | 5 1/4" |
| #7 | 3'-1" | 2'-9" | 2'-2" | 2 1/4" | 5 1/4" | 6 1/4" |
| #8 | 4'-1" | 3'-7" | 2'-10" | 3" | 6" | 7" |
| #9 | 5'-1" | 4'-6" | 3'-7" | 3 3/4" | 6 3/4" | 7 3/4" |
| #10 | 6'-6" | 5'-9" | 4'-7" | 4 1/4" | 7 1/2" | 8 1/2" |
| #11 | 7'-11" | 7'-0" | 5'-7" | 4 3/4" | 8 1/2" | 9 3/4" |

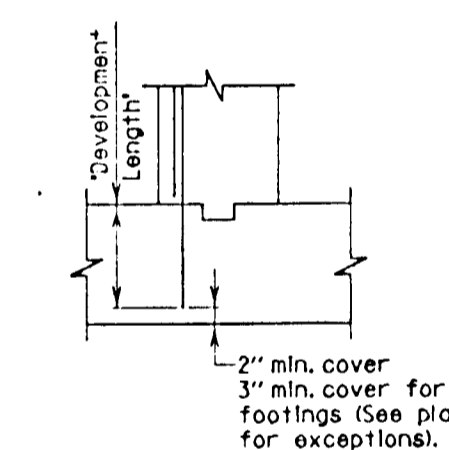
LOCATION CATEGORY:

- A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B- All bars not in Category A spaced less than 6' apart.
- C- All bars not in Category A spaced 6' inches or more apart.

- Note:
- When development length is not specified on the plans, the above dimensions shall be used.
 - These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 - These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs: 24,000 p.s.i."

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT
DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO. 6 (4500 P.S.I.) CONCRETE
EPOXY COATED REINFORCING CASE NO.1

STANDARD NO. M6.161-90-216 SHEET 2 OF 3



STANDARD STRAIGHT BAR

| BAR SIZE | LOCATION CATEGORY | | |
|----------|-------------------|----------------|-------|
| | A | B | C |
| #4 | 1'-8" | 1'-2" | 1'-0" |
| #5 | 2'-1" | 1'-6" | 1'-2" |
| #6 | 2'-4" | 1'-9" | 1'-5" |
| #7 | 2'-11" | 1'-9" | 1'-8" |
| #8 | 3'-10" | Does Not Exist | 2'-3" |
| #9 | 4'-10" | Does Not Exist | 2'-9" |
| #10 | 6'-2" | Does Not Exist | 3'-6" |
| #11 | 7'-6" | Does Not Exist | 4'-4" |

LOCATION CATEGORY:

- A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
- B- All bars not in Category A spaced less than 6' apart.
- C- All bars not in Category A spaced 6' inches or more apart.

- Note:
- When development length is not specified on the plans, the above dimensions shall be used.
 - These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 - These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs: 24,000 p.s.i."

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT
DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO. 6 (4500 P.S.I.) CONCRETE
EPOXY COATED REINFORCING CASE NO.2

STANDARD NO. M6.161-90-216 SHEET 3 OF 3

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Gina Jaramanji
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
1/4/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Charles D. ...
CHIEF, BUREAU OF HIGHWAYS
1/3/95 DATE

Howard ...
CHIEF, BUREAU OF ENGINEERING
1/3/95 DATE

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

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" BOLLING BROOK

AREA
TAX MAP NO. 47 ZONED R-5 SA-B
PARCEL "A"
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STANDARD DETAILS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

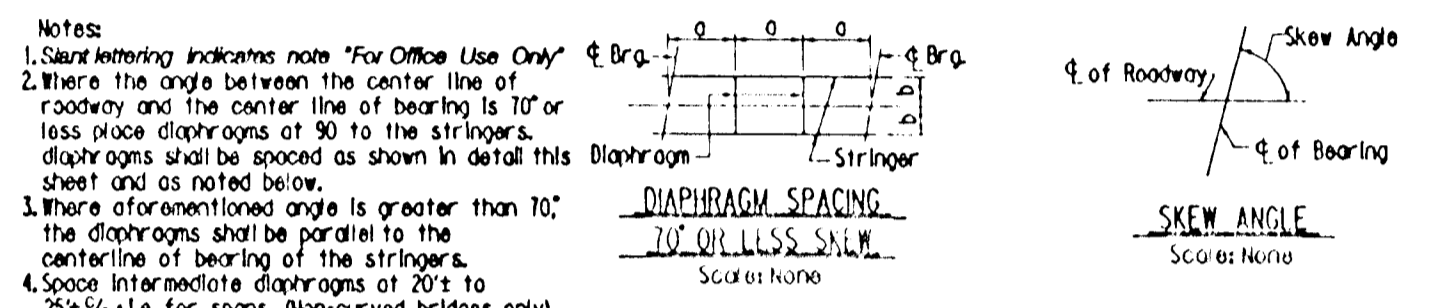
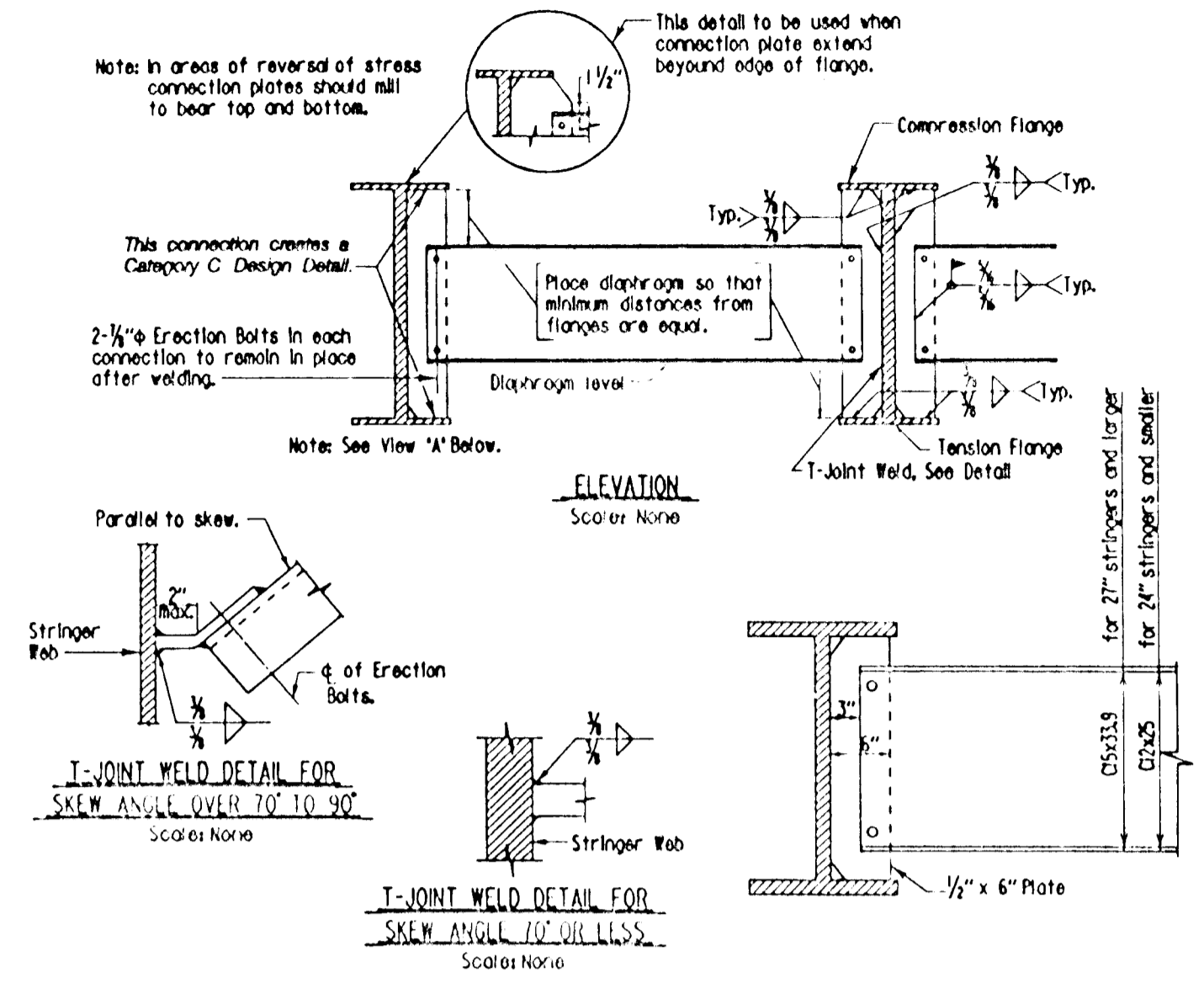
DESIGNED BY: _____
DRAWN BY: _____
PROJECT NO: _____
DATE: NOVEMBER 20, 1994

SCALE: AS SHOWN
DRAWING NO. 28 OF 35

AS-BUILT 11/05/99 F-25-24

1718

STATE OF MARYLAND
PROFESSIONAL ENGINEER
CHRISTOPHER J. REID #19949
11-15-99 DATE
JAMES R. DUFFY P.E. 11-23-94 DATE

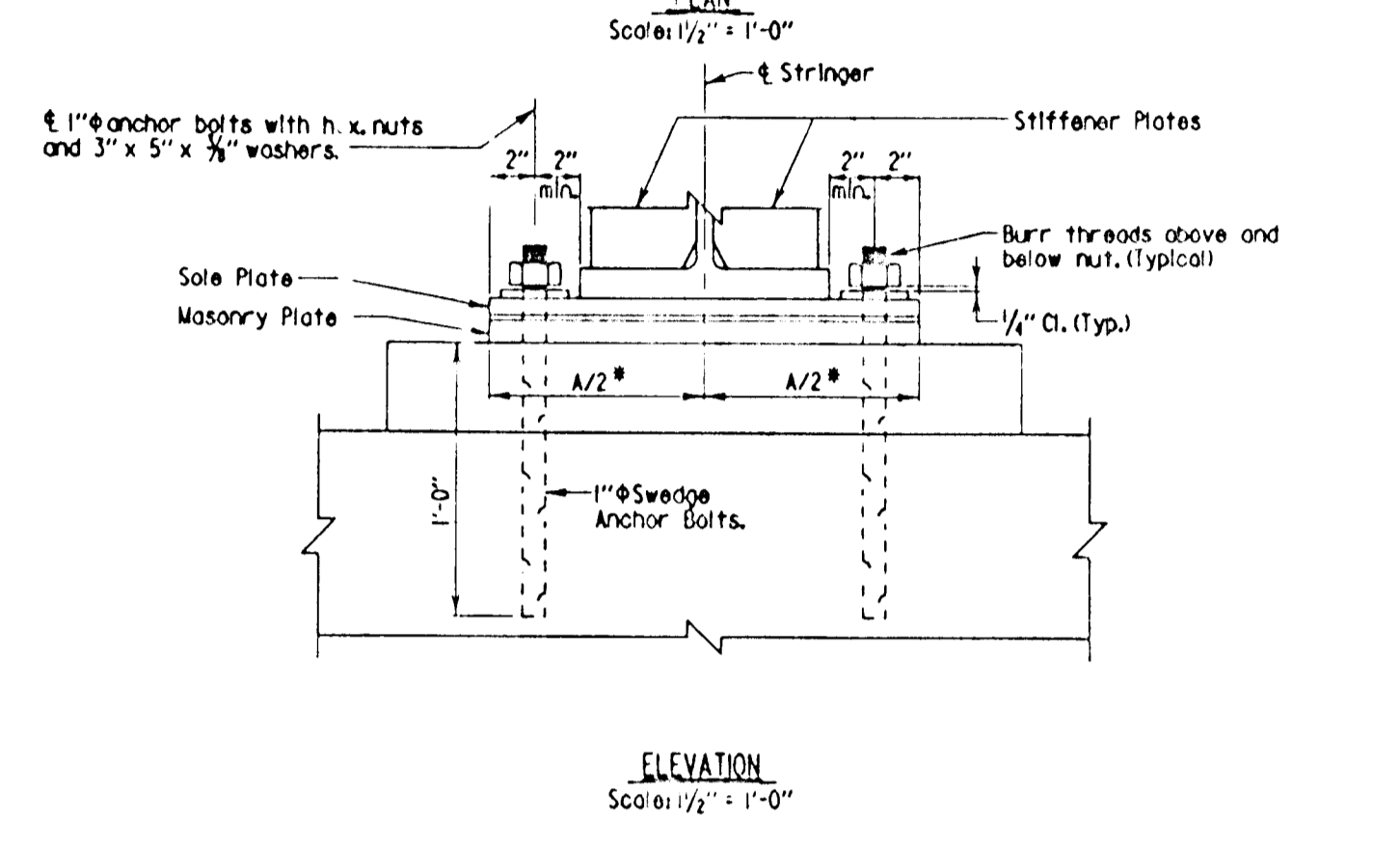
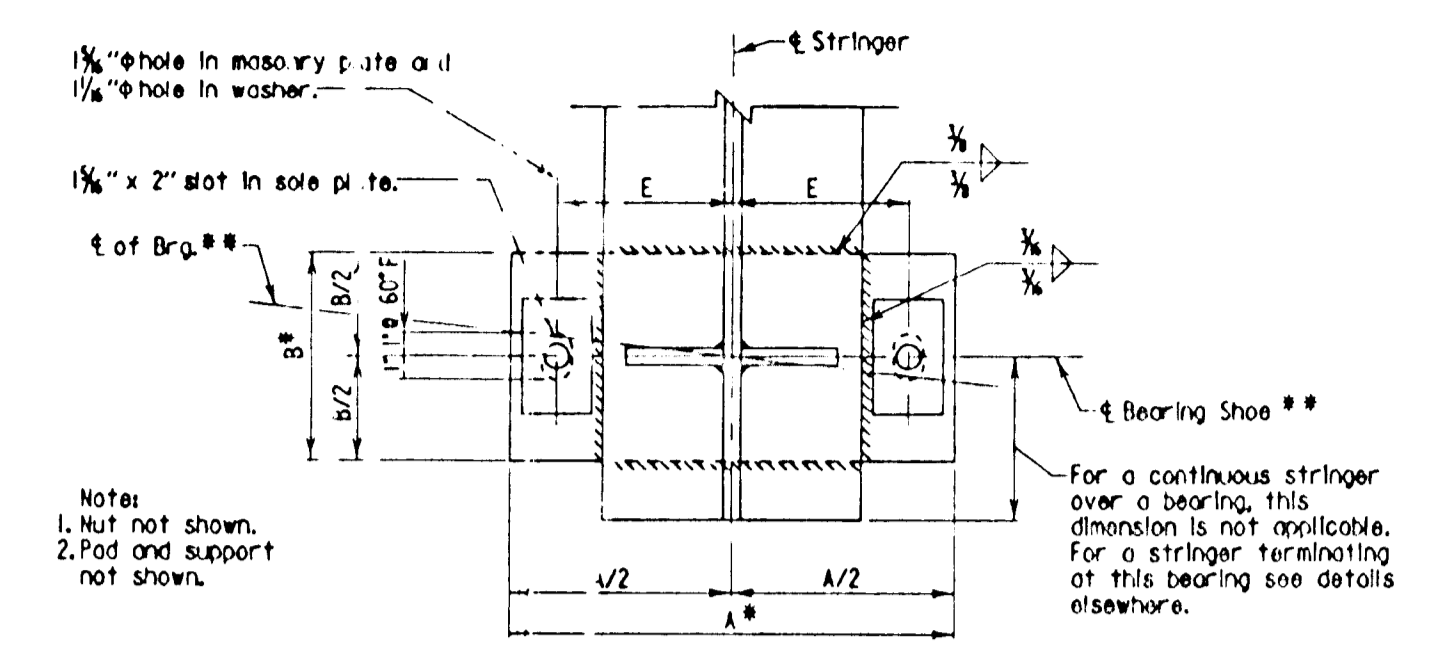


| REVISION | DATE | BY | DESCRIPTION |
|----------|---------|----|--|
| 1 | 6/25/75 | JL | ISSUED FOR CONSTRUCTION |
| 2 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 3 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 4 | 6/8/90 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

ROLLED STEEL BEAMS
INTERMEDIATE DIAPHRAGM DETAILS
WELDED CONNECTIONS

STANDARD NO. BR-5518.03-15-II SHEET 1 OF 2

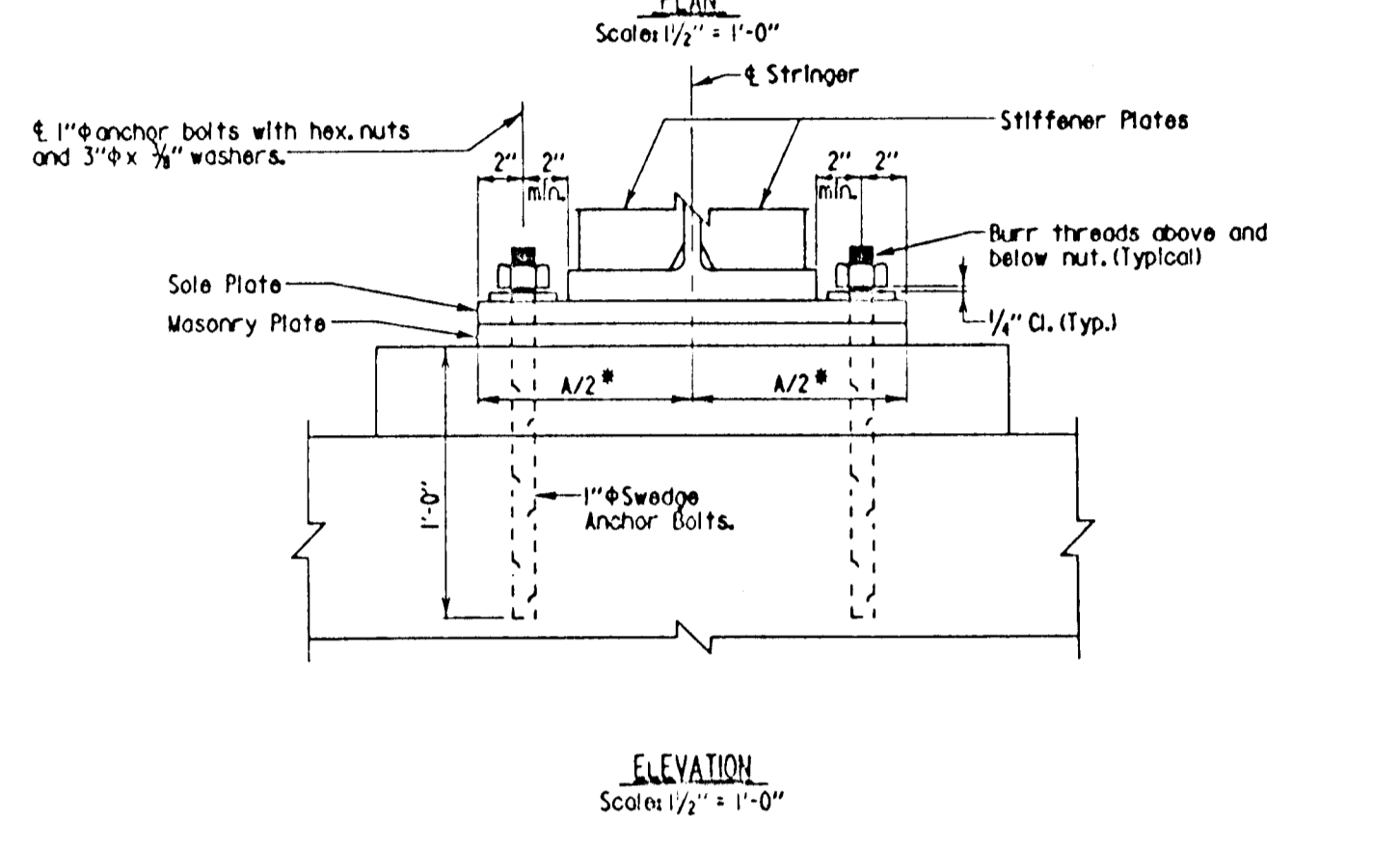
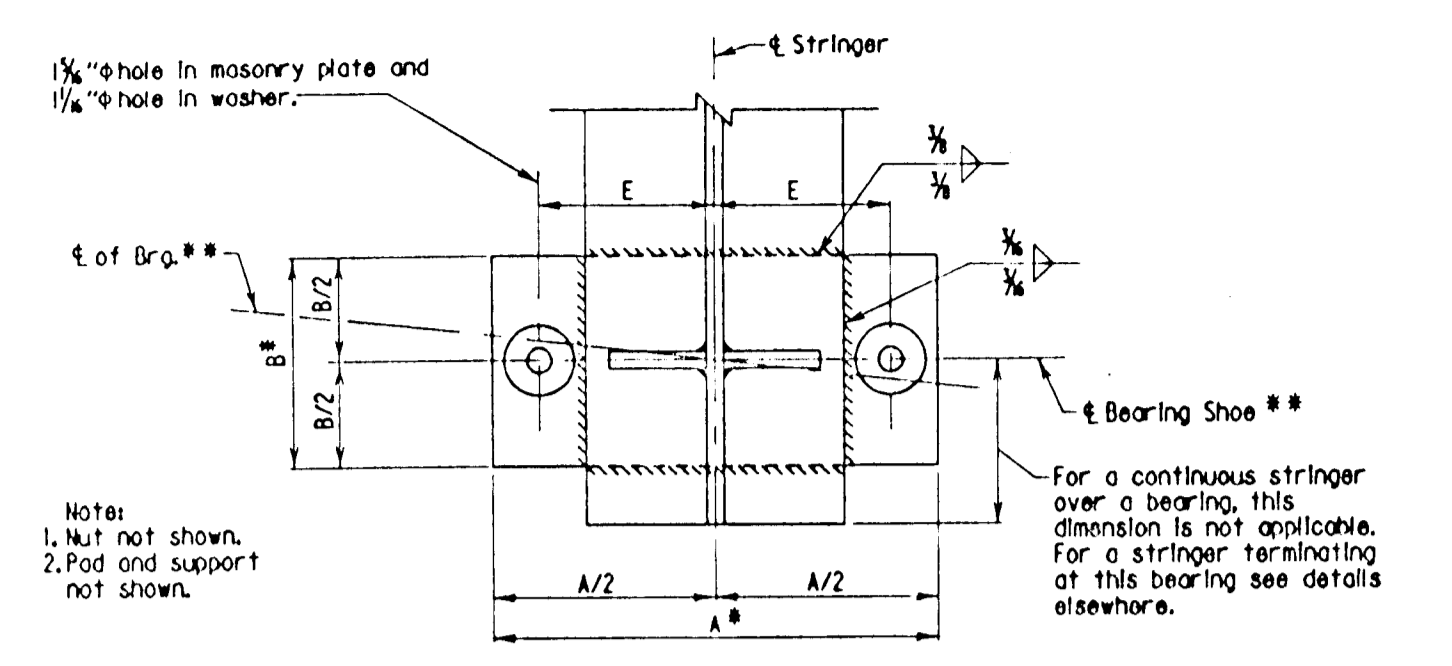


| REVISION | DATE | BY | DESCRIPTION |
|----------|---------|----|--|
| 1 | 6/25/75 | JL | ISSUED FOR CONSTRUCTION |
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| 4 | 6/8/90 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

EXPANSION BEARING
SHORT LENGTH SPANS

STANDARD NO. BR-5519.03-11-128 SHEET 1 OF 2

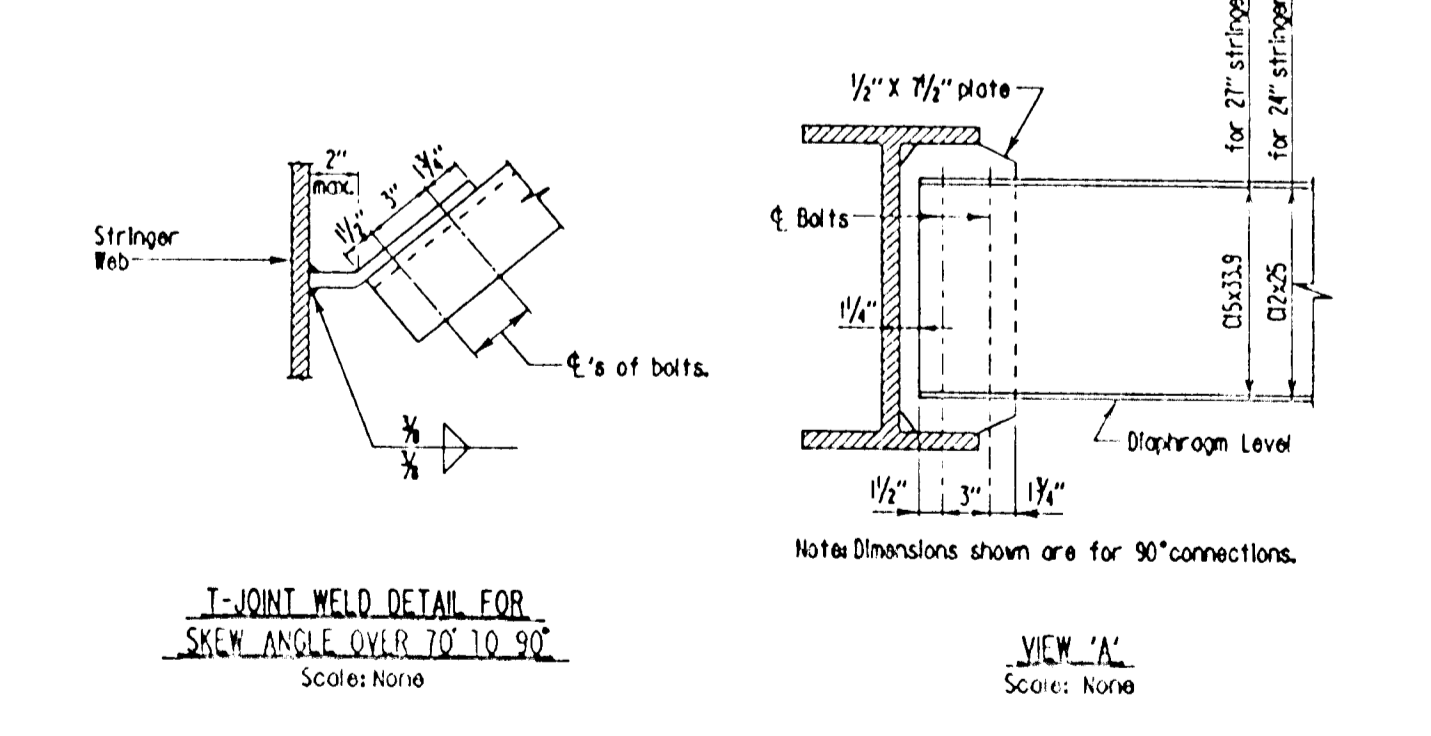
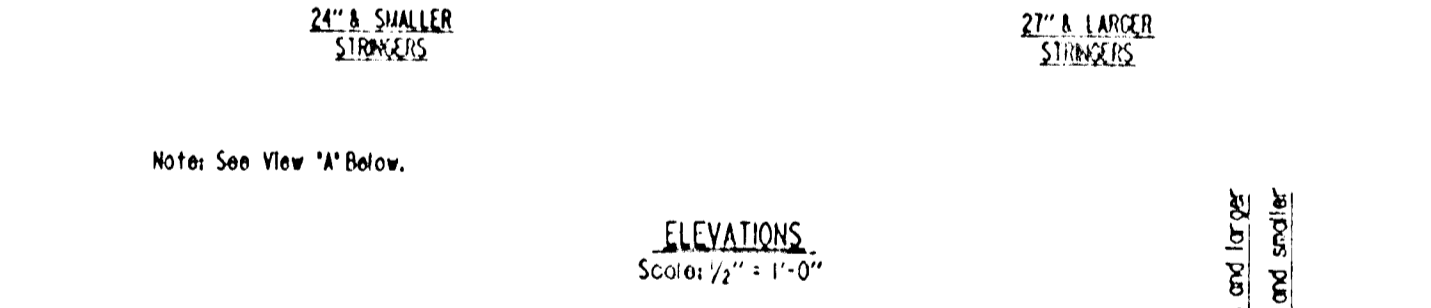
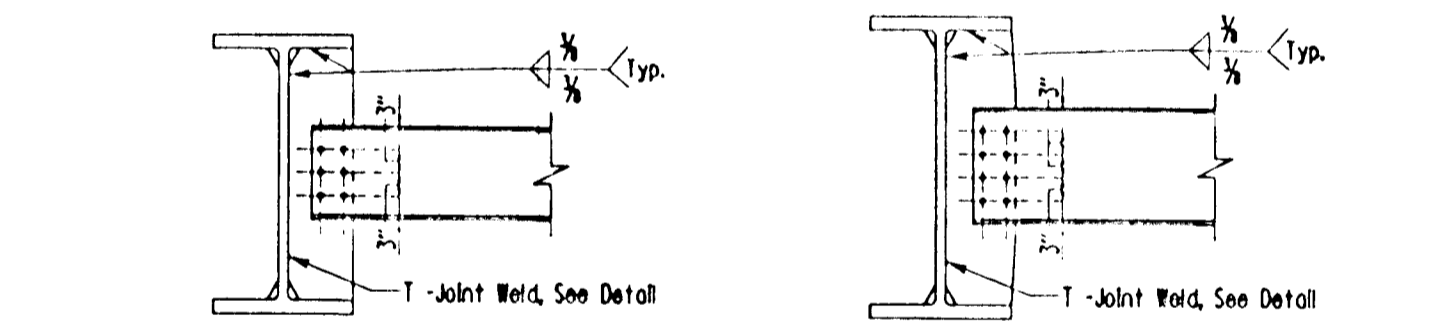


| REVISION | DATE | BY | DESCRIPTION |
|----------|---------|----|--|
| 1 | 6/25/75 | JL | ISSUED FOR CONSTRUCTION |
| 2 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 3 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 4 | 6/8/90 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

FIXED BEARING
SHORT LENGTH SPANS

STANDARD NO. BR-5519.04-11-129 SHEET 1 OF 2

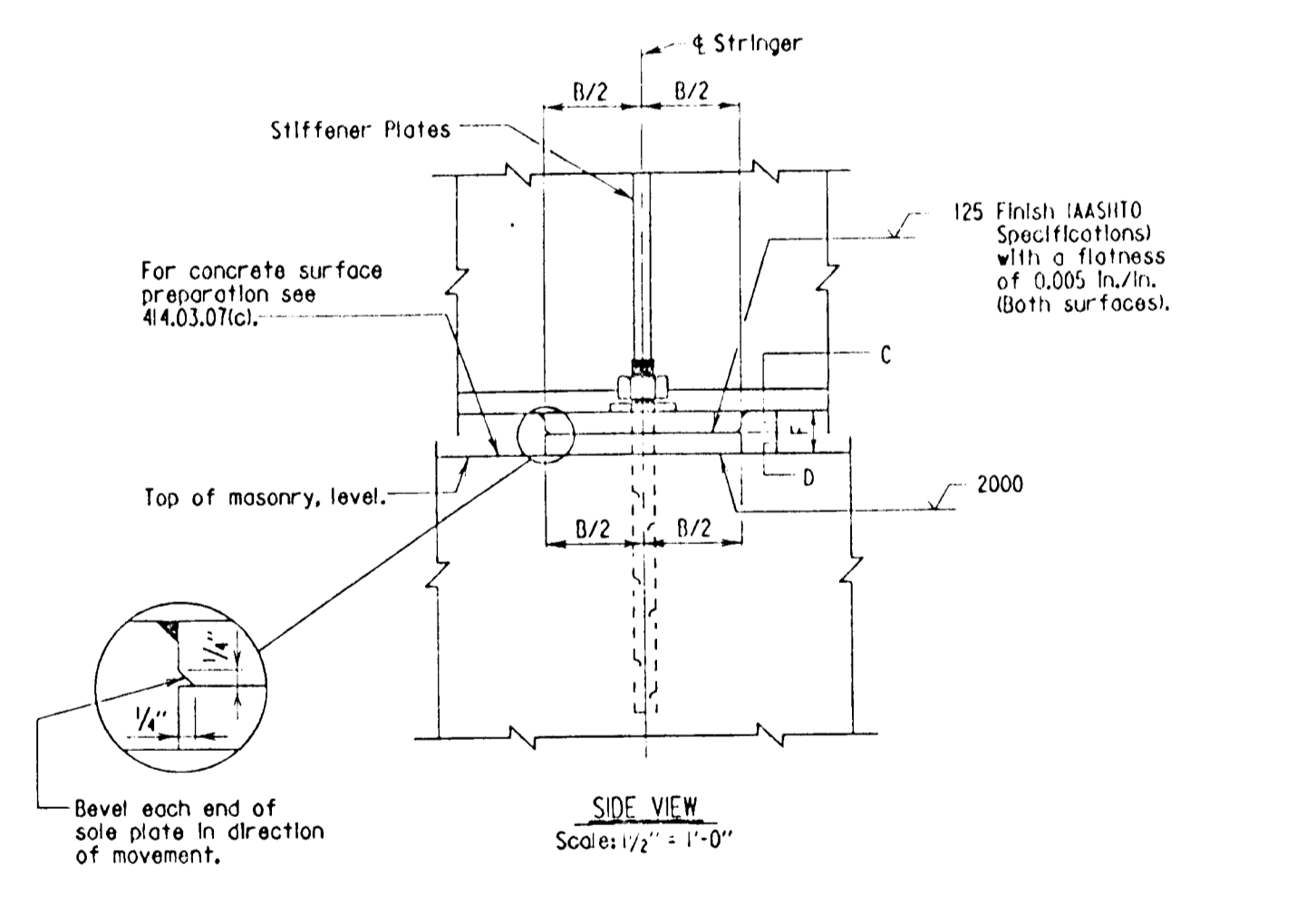


| REVISION | DATE | BY | DESCRIPTION |
|----------|---------|----|--|
| 1 | 6/25/75 | JL | ISSUED FOR CONSTRUCTION |
| 2 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 3 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 4 | 6/8/90 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

ROLLED STEEL BEAMS
INTERMEDIATE DIAPHRAGM DETAILS
BOLTED CONNECTIONS

STANDARD NO. BR-5518.03-15-II SHEET 2 OF 2



| DATA SCHEDULE | | | | | | |
|---------------|------------|---------|-----------|------------|-------|------|
| Type | Sole Plate | Masonry | Stiffener | Plate Loc. | Loops | Dead |
| SE - I | 17 | 9 | 1 | 17 | 9 | 16 |
| SE - II | 19 | 9 | 1 | 19 | 9 | 23 |
| SE - III | 21 | 9 | 1 | 21 | 9 | 34 |

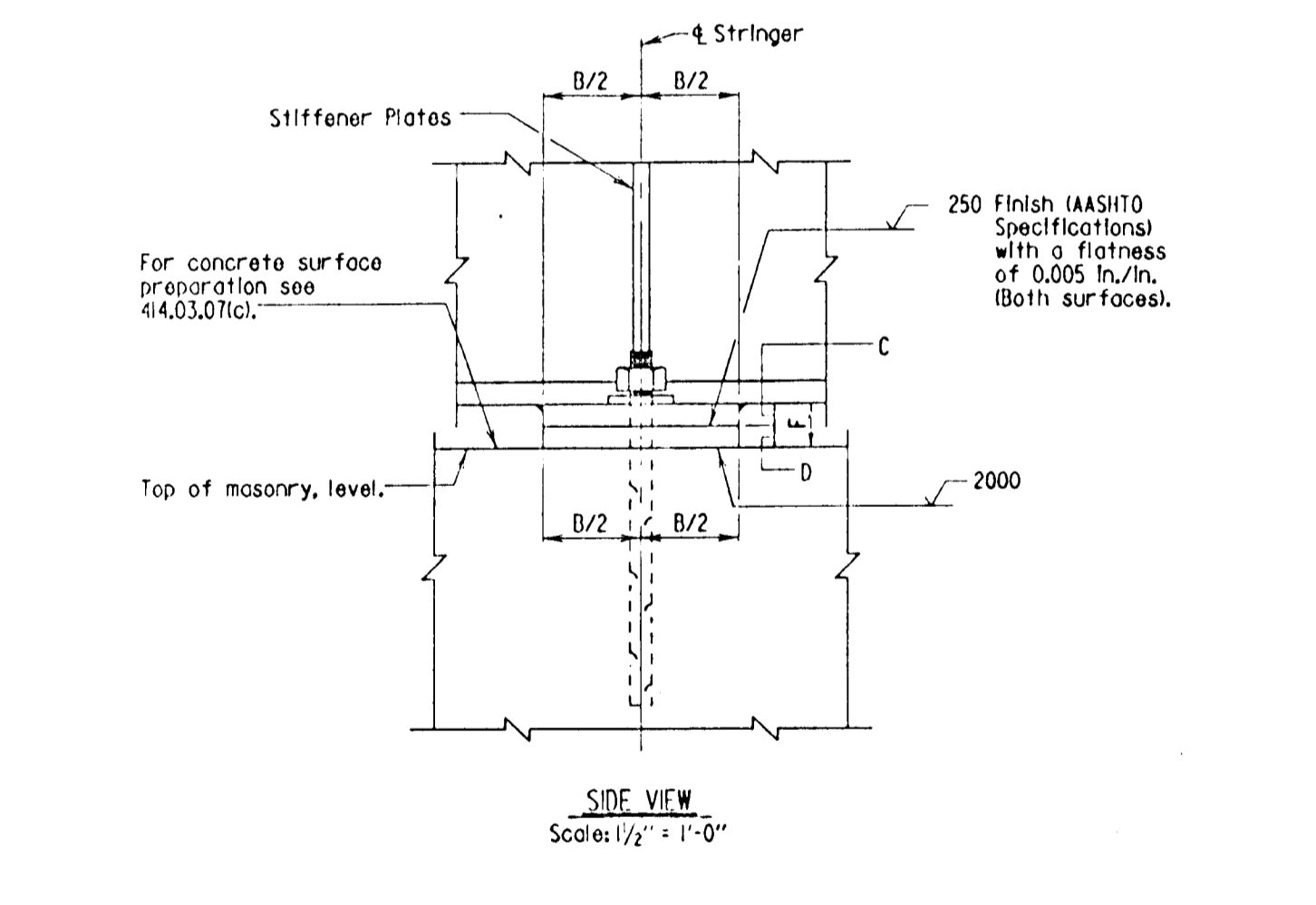
Note: All dimensions are in inches.

| REVISION | DATE | BY | DESCRIPTION |
|----------|---------|----|--|
| 1 | 6/25/75 | JL | ISSUED FOR CONSTRUCTION |
| 2 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 3 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 4 | 6/8/90 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

EXPANSION BEARING
SHORT LENGTH SPANS

STANDARD NO. BR-5519.03-11-128 SHEET 2 OF 2



| DATA SCHEDULE | | | | | | |
|---------------|------------|---------|-----------|------------|-------|------|
| Type | Sole Plate | Masonry | Stiffener | Plate Loc. | Loops | Dead |
| SF - I | 17 | 9 | 1 | 17 | 9 | 16 |
| SF - II | 19 | 9 | 1 | 19 | 9 | 23 |
| SF - III | 21 | 9 | 1 | 21 | 9 | 34 |

Note: All dimensions are in inches.

| REVISION | DATE | BY | DESCRIPTION |
|----------|---------|----|--|
| 1 | 6/25/75 | JL | ISSUED FOR CONSTRUCTION |
| 2 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 3 | 12/1/87 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |
| 4 | 6/8/90 | JL | REVISED TO ACCOMMODATE 20% TO 25% BEARINGS |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

FIXED BEARING
SHORT LENGTH SPANS

STANDARD NO. BR-5519.04-11-129 SHEET 2 OF 2

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Surmanjic 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Chad Damm 1/2/95
CHIEF, LAND DEVELOPMENT DIVISION

Howard Shilfer 12-24-94
CHIEF, BUREAU OF HIGHWAYS

Paul W. Jenson 1/3/95
CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21284
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA
TAX MAP NO. 47
CORNER SA-B
PARCEL "A"
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

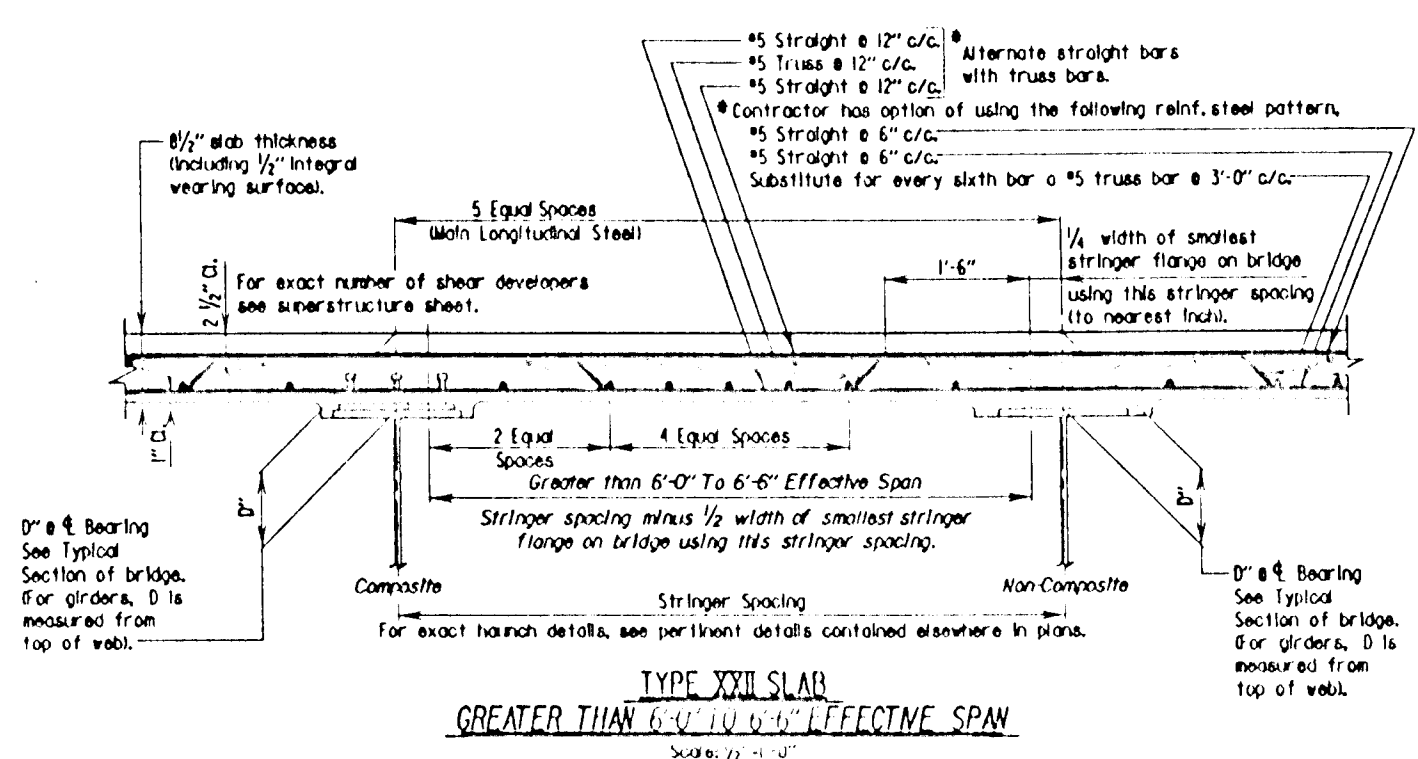
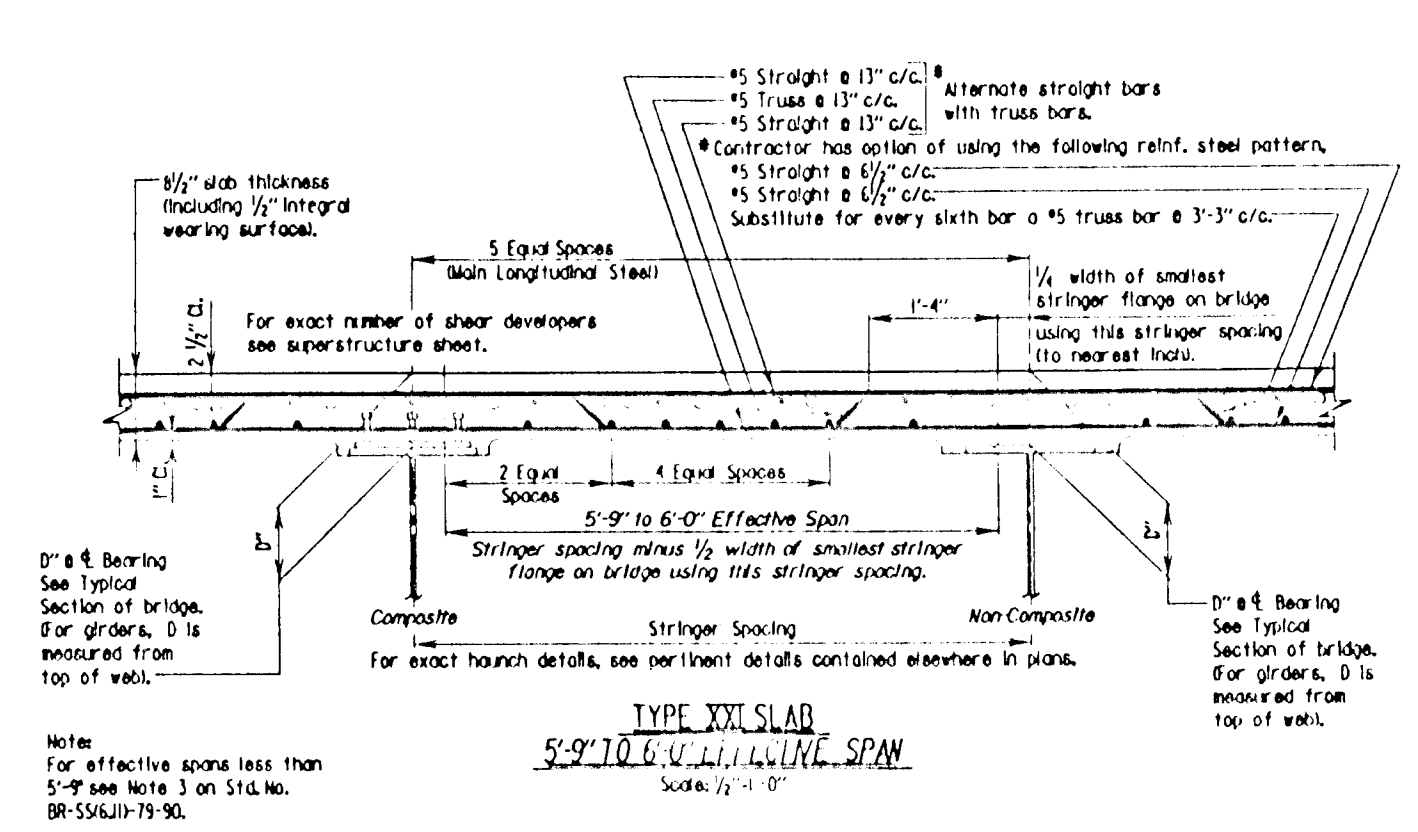
TITLE
STANDARD DETAILS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

DESIGNED BY: _____
DRAWN BY: _____
PROJECT NO: _____
DATE: NOVEMBER 24, 1994
SCALE: AS SHOWN
DRAWING NO. 29 OF 35

AS-BUILT 11/05/99 F-05-24

1718

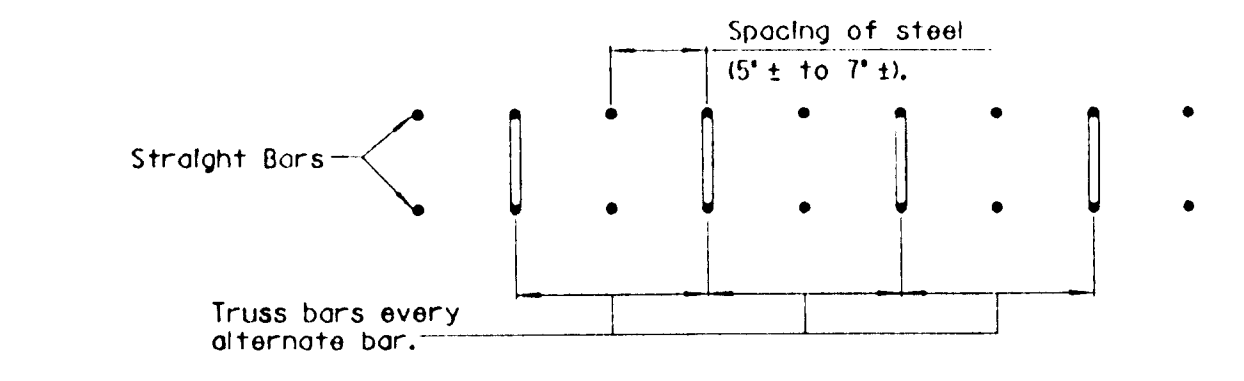
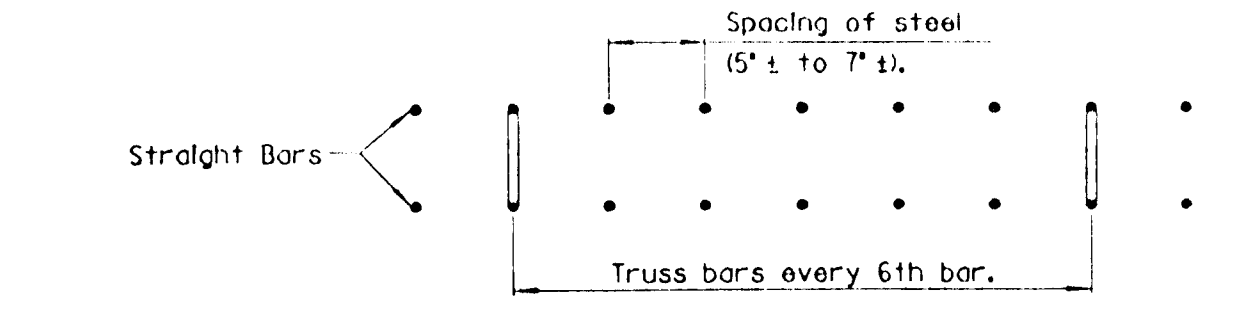


Notes:
1. All steel sizes and spacing based on ASTM Designation A-65, Grade 60 (Fy=74,000 p.s.i.).
2. Transverse bars to be placed normal to direction of stringers. For curved girder see BR-556(11)-79-90.
3. All longitudinal bars are to be #5's placed as shown, except if Note 4 requires and indicates larger bars.
4. On continuous bridges, over spans, additional longitudinal steel is to be added to the top of the slab between normal bars and is indicated thus: ϕ .
See Detail No. BR-556(11)-79-90 for the lengths and size of these additional bars.

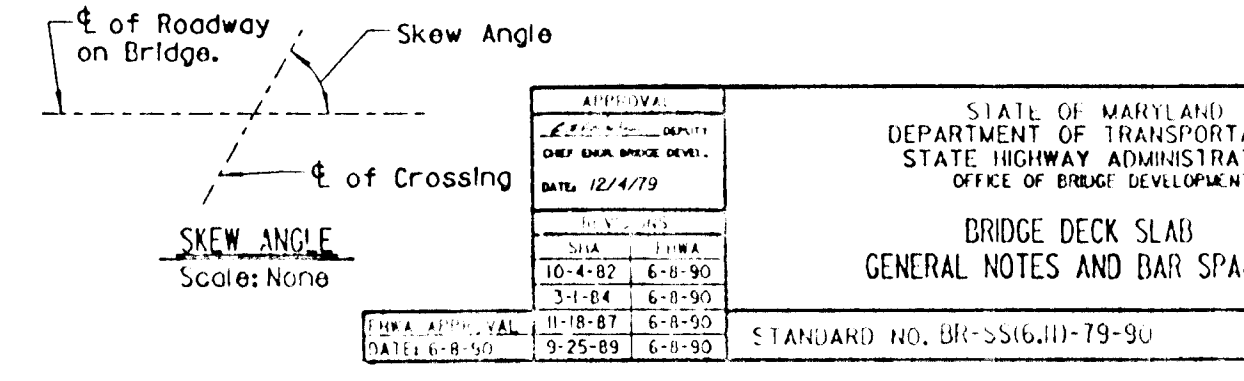
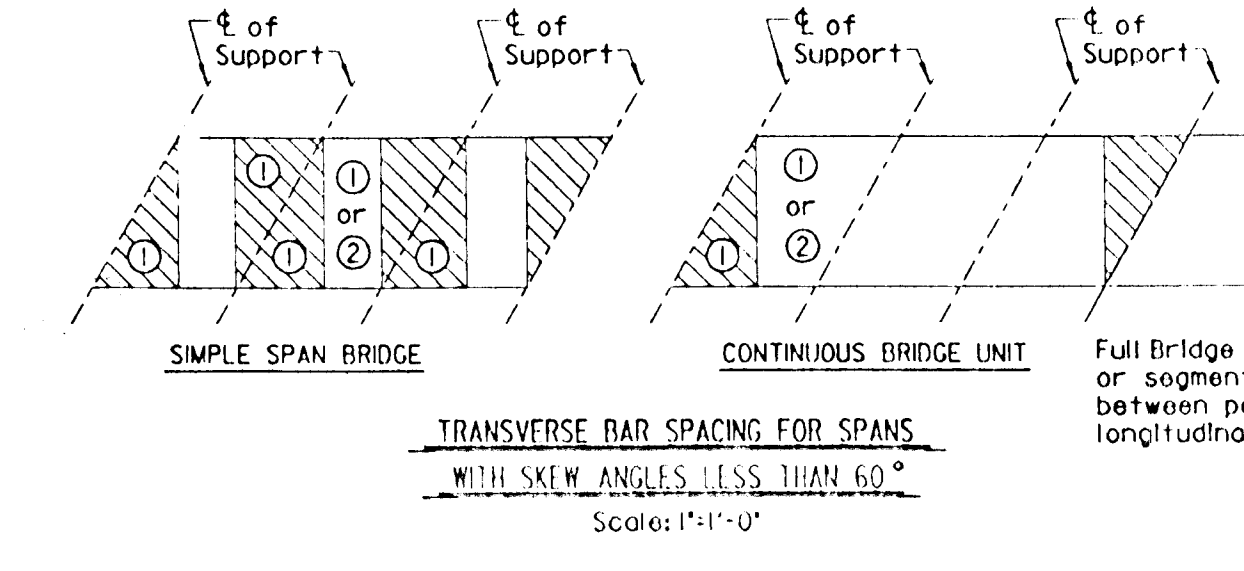
| | |
|----------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 12/27/83 | TYPE XXI AND XXII BRIDGE DECK SLABS HS25 LOADING |
| DATE: 12-27-83 | STANDARD NO. BR-556(11)-79-90 SHEET 1 OF 1 |

NOTES

- Design:**
1. Latest A.A.SHTO Standard Specifications for Highway Bridges.
 2. $f_c = 4500$ p.s.i., $f_c = 0.3 f_c = 1350$ p.s.i., $f_s = 24,000$ p.s.i.
 3. Design includes provision for 2" future wearing surface.
- General:**
1. Transverse bars shall be placed normal to stringers, except in case of curved stringers. When stringers are curved transverse bars shall be placed radially.
 2. When skew angles are greater than 60° then Contractor may use either Reinforcing Steel Pattern No. 1 or No. 2 throughout bridge.
 3. When the effective span is less than 5'-9", all bars shall be straight top and bottom. No truss bars are to be used.



1. The Contractor has the option of using Reinforcing steel Pattern No. 1 or No. 2 in the unhatched portions of the decks shown below.
2. The Contractor shall use only Reinforcing Steel Pattern No. 1 in the hatched portions of the decks shown below.

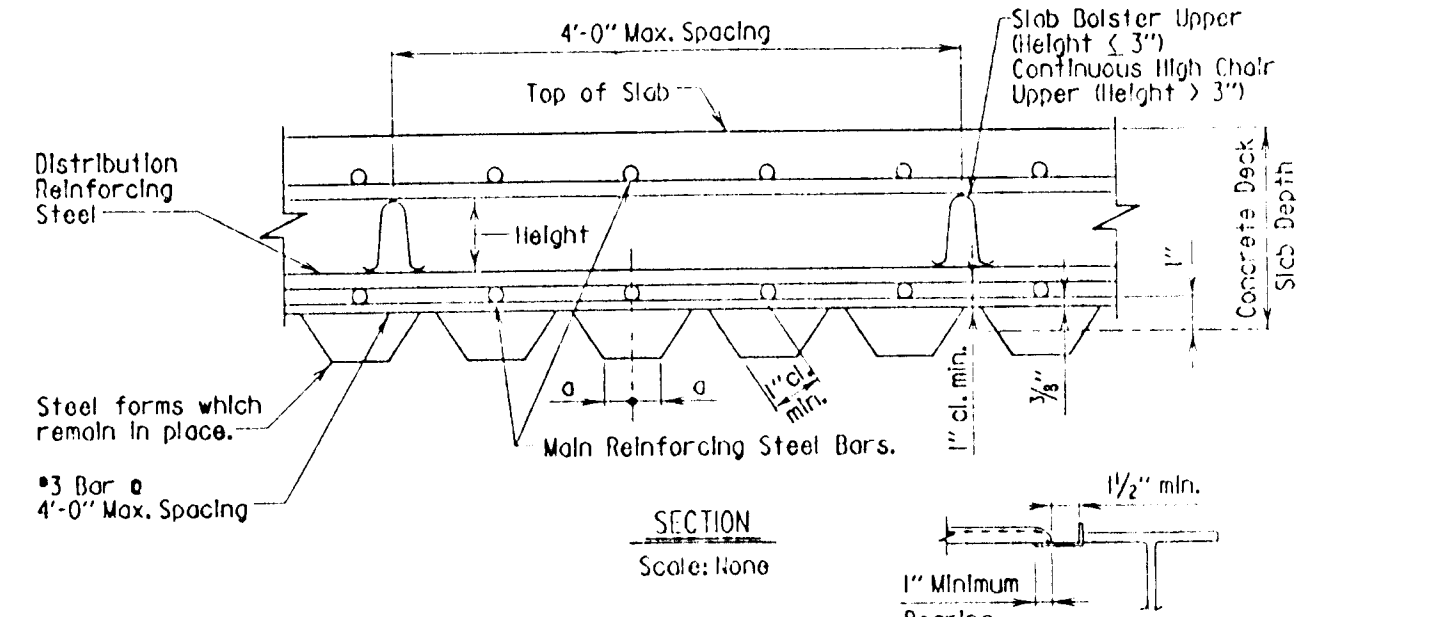


BRIDGE DECK SLAB
GENERAL NOTES AND BAR SPACING

| | |
|---------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 12/4/79 | BRIDGE DECK SLAB GENERAL NOTES AND BAR SPACING |
| DATE: 12-4-79 | STANDARD NO. BR-556(11)-79-90 SHEET 1 OF 2 |

Notes:

1. The Contractor has the option of substituting the Anco Frame Scaffolding System for steel forms which remain in place with the following exceptions:
a) Bridges over existing highways.
b) Bridges over high speed or electrified railroads.
2. Anco Frames may never be used on any fracture critical member.
3. The Contractor has the option of substituting the Anco Frame Scaffolding System for conventional overhang brackets on fascia stringers with the following exceptions:
a) Bridges over new or existing highways.
b) Bridges over navigable waterways with underclearance less than 30 feet.
4. In any instance where studs are allowed they shall remain in place.



Notes:

1. Permanent steel deck forms and supports shall conform to 90910. Design Span shall be the clear distance between beam and/or girder flanges less two (2) inches.
2. No welding of these forms to parts carrying tension will be permitted. These forms shall be vertically adjusted to attain line and grade as required.
3. Any permanently exposed form metal where the galvanized coating has been damaged shall be thoroughly cleaned, wire brushed and painted with two coats of zinc-oxide dust primer, Federal Specification TT-P-641c, Type II, no color added, to the satisfaction of the engineer. Minor heat discoloration in areas of welds need not be touched up.
4. Contractor has option of using this detail or that shown on 2 of 2, except for bridge decks with curved stringers or bridge with a flared rebar pattern. For bridge with curved stringers or bridge with a flared rebar pattern, the detail shown on sheet 2 of 2 can be used.
5. Where shear connectors are utilized, normal manufacturers detailing may be utilized at stringer flange.
6. Supports for rebar shall be provided by Contractor.

WHERE FORM IS BELOW BOTTOM OF FLANGE AND THERE ARE NO SHEAR CONNECTORS

WHERE FORM IS ABOVE BOTTOM OF FLANGE AND THERE ARE NO SHEAR CONNECTORS

Support Angle
Intermittent Angle

1" Minimum Bearing

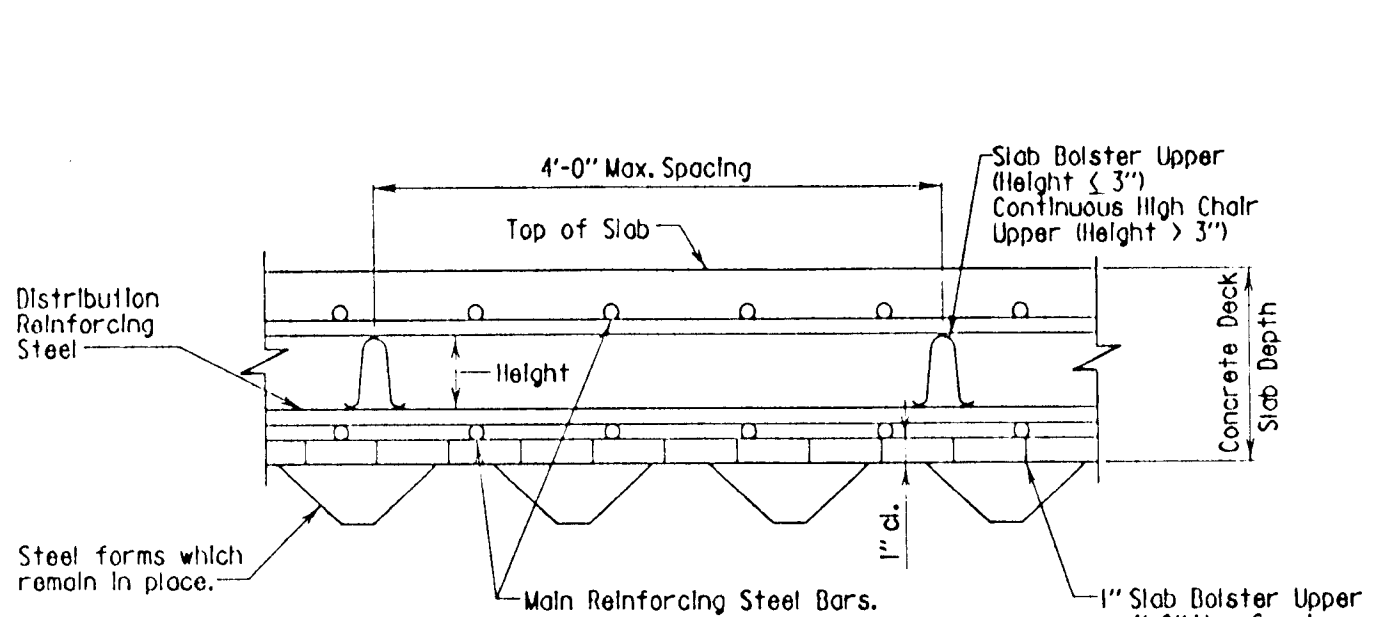
1/2" min.

1" Minimum Bearing

Coupling

Note: Alternate attachments will be considered, that provide the 1/2" concrete encasement of top flange.

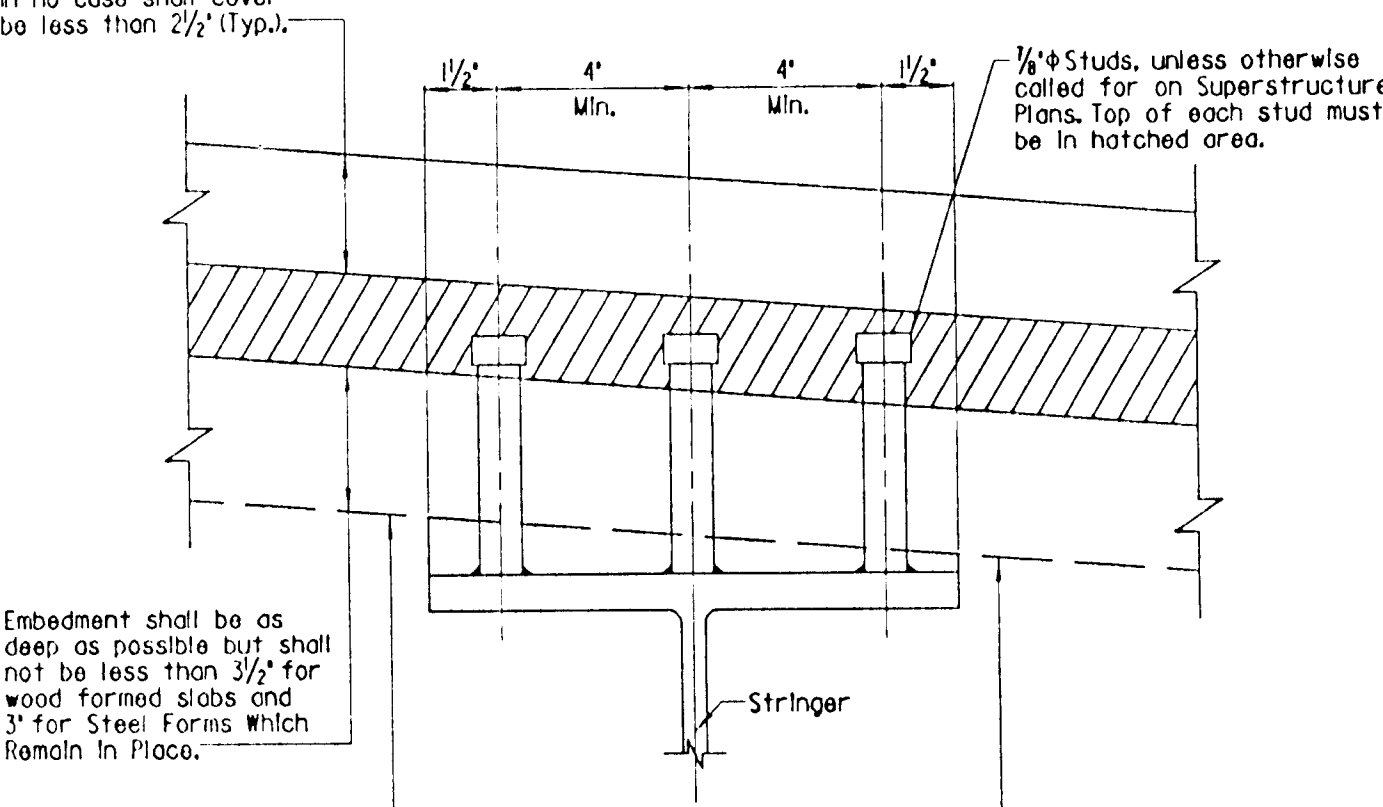
| | |
|--------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 9/8/76 | STEEL FORMS WHICH REMAIN IN PLACE FOR CONCRETE SLABS ON STEEL STRINGERS RE-BARS ALIGNED WITH TROUGH |
| DATE: 9-8-76 | STANDARD NO. BR-556(11)-79-90 SHEET 1 OF 2 |



Notes:

1. For notes see sheet 1 of 2.
2. This detail is acceptable only on structures where the general notes under "Loading" states "and 15 pounds per square foot for use of bridge deck forms."
3. Supports for rebar shall be provided by Contractor.

| | |
|---------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 1/29/80 | STEEL FORMS WHICH REMAIN IN PLACE FOR CONCRETE SLABS ON STEEL STRINGERS RE-BARS INDEPENDENT WITH TROUGH |
| DATE: 1-29-80 | STANDARD NO. BR-556(11)-79-90 SHEET 2 OF 2 |



Embedment shall be as deep as possible but shall not be less than 3/2" for wood formed slabs and 3" for Steel Forms which remain in place.

Bottom of slab for wood formed slabs or top of Steel Forms which remain in place.

1/2" Studs, unless otherwise called for on Superstructure Plans. Top of each stud must be in hatched area.

In no case shall cover be less than 2 1/2" (typ.).

4" Min.

4" Min.

1/2" Studs

Stringer

ELEVATION
Scale: None

STEEL STUD SHEAR DEVELOPER EMBEDMENT DETAIL

| | |
|--------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 9/8/76 | STEEL STUD SHEAR DEVELOPER EMBEDMENT DETAIL |
| DATE: 9-8-76 | STANDARD NO. BR-556(11)-79-90 SHEET 1 OF 1 |



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

APPROVED: Jima Swaminamy, CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH, DATE: 1/4/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: [Signature], CHIEF, LAND DEVELOPMENT DIVISION, DATE: 1/3/95

APPROVED: [Signature], CHIEF, BUREAU OF HIGHWAYS, DATE: 12-21-94

APPROVED: [Signature], CHIEF, BUREAU OF ELECTRICITY, DATE: 1/3/95

OWNER / DEVELOPER

HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT: HAMMOND'S OVERLOOK LOTS 1-11B
A RESUBDIVISION OF PARCEL "A" HOLLING BROOKE

AREA: TAX MAP NO. 47 ZONED R-5A-B
PARCEL "A"

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

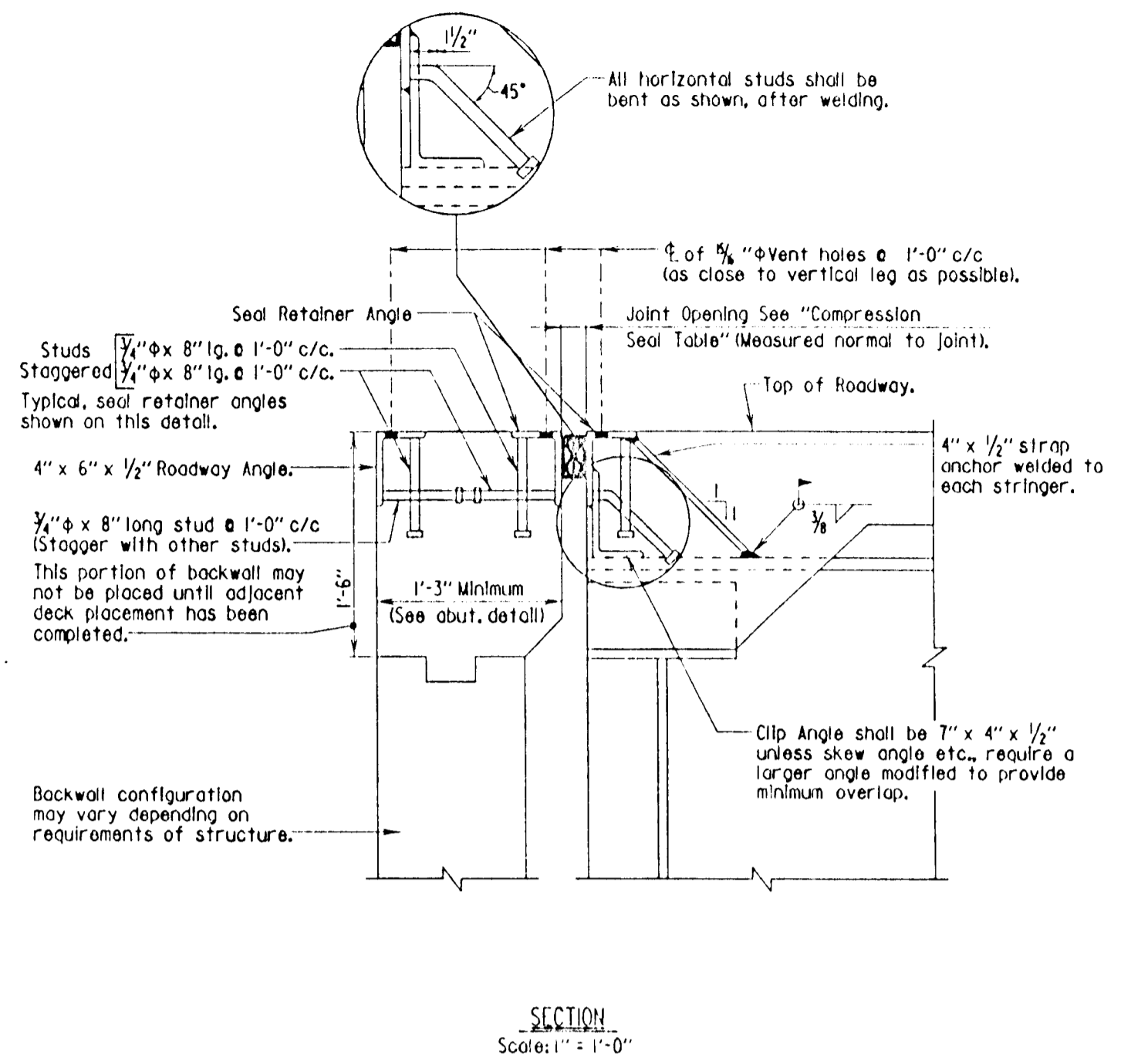
TITLE: STANDARD DETAILS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286



DESIGNED BY: [Signature]
DRAWN BY: [Signature]
PROJECT NO: [Signature]
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 30 OF 35

1718



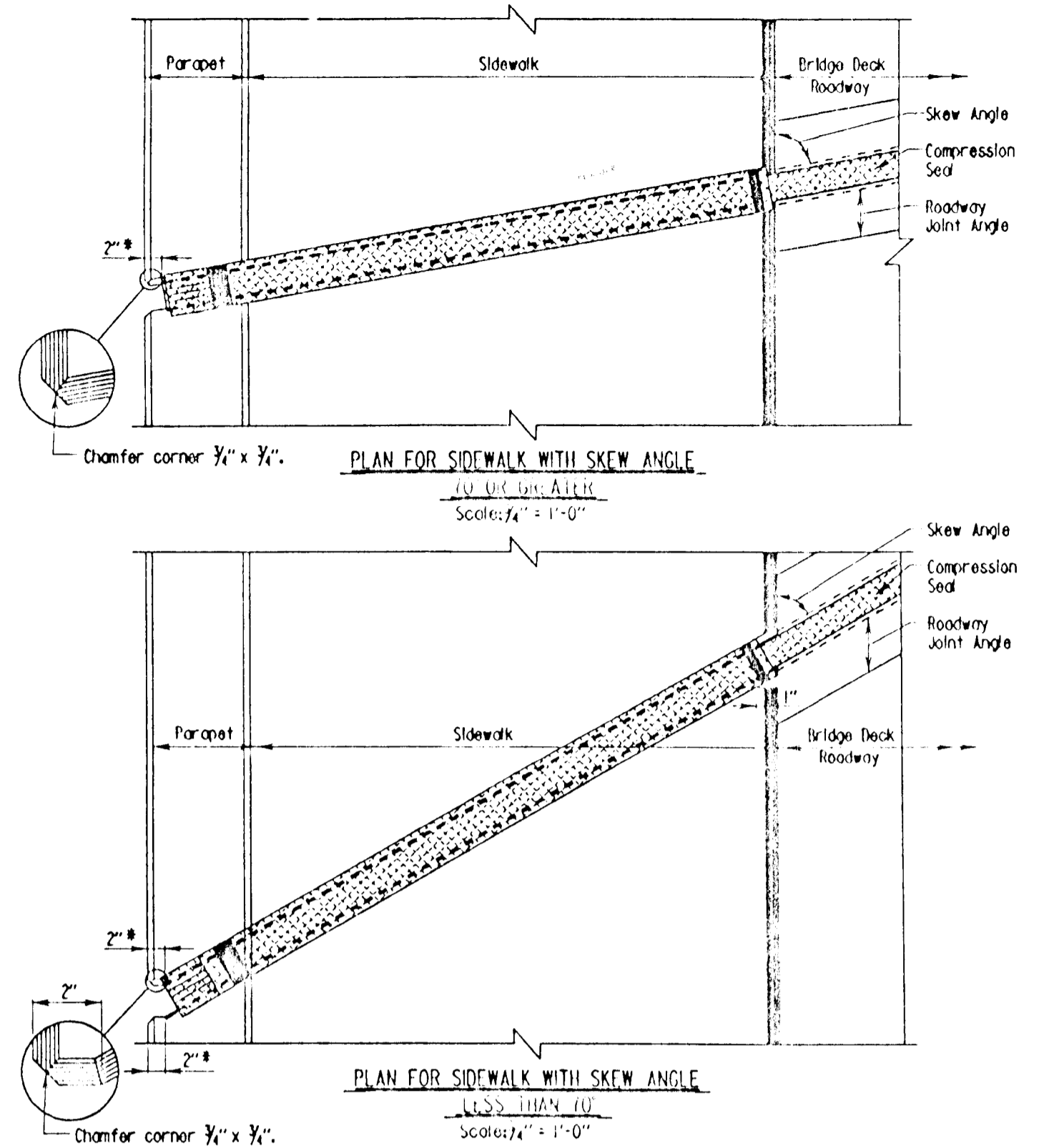
- Notes:
1. New bridge details shown.
 2. When used for deck rehabilitation see Standard No. BR-SS18.061-78-72 showing special attachment of new clip angle.
 3. Compression seal to be placed after joint angles are set, and deck and entire backwall are in place.
 4. See Standard No. BR-SS17.011-77-63 for additional details.
 5. Slip and erect seal retaining angles as a unit.

| REVISION | DATE | BY | CHKD | APP'D | DESCRIPTION |
|----------|----------|----|------|-------|-------------|
| 1 | 10/12/79 | | | | |
| 2 | 11/29/83 | | | | |
| 3 | 12/29/83 | | | | |
| 4 | 6/8/90 | | | | |
| 5 | 6/16/92 | | | | |
| 6 | 2/28/93 | | | | |

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

COMPRESSION SEAL ROADWAY JOINTS AT ADJUSTMENTS

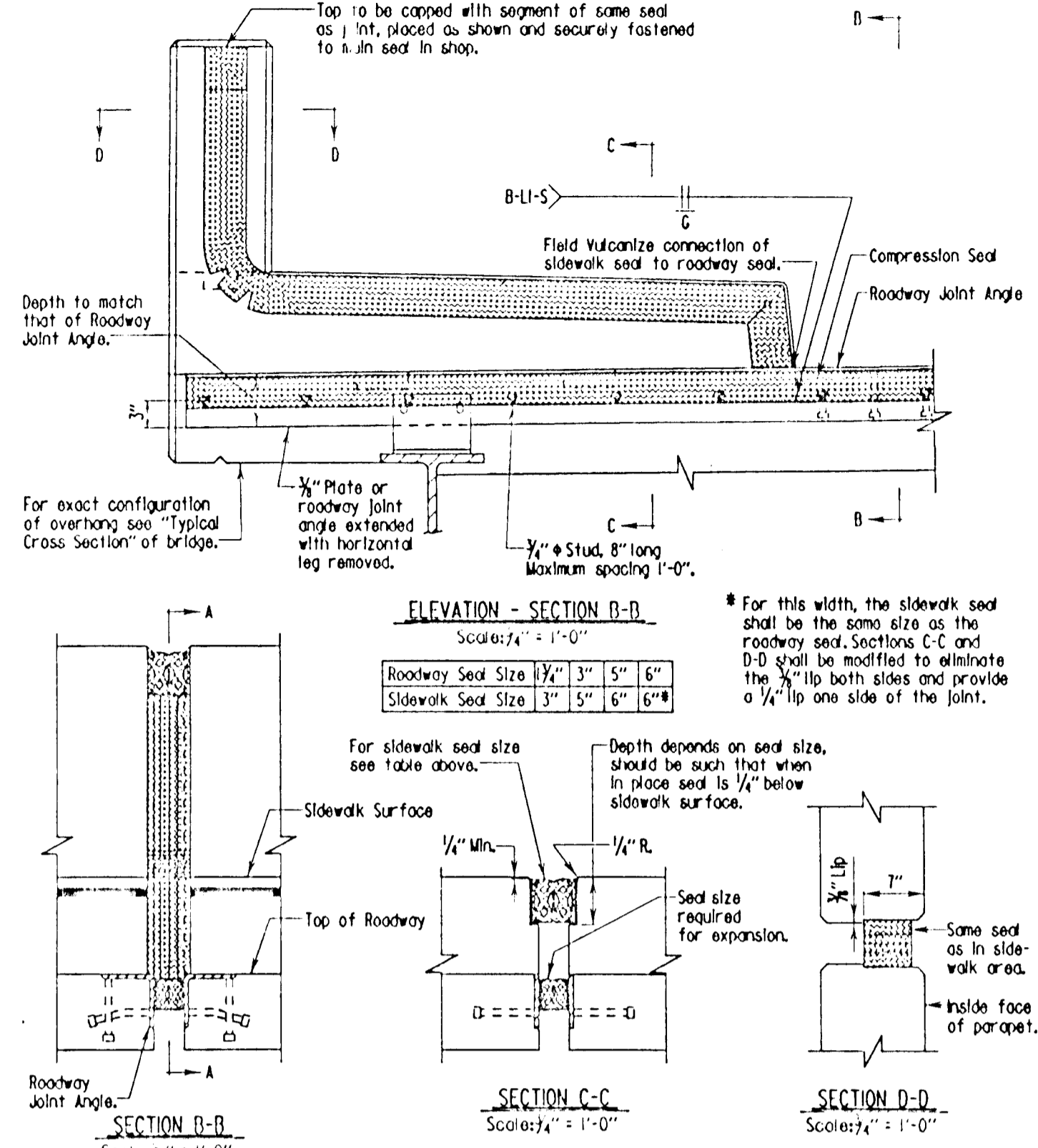
STANDARD NO. BR-SS17.021-79-64 SHEET 1 OF 2



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

FULL HEIGHT COMPRESSION SEAL ROADWAY JOINT AT SIDEWALKS

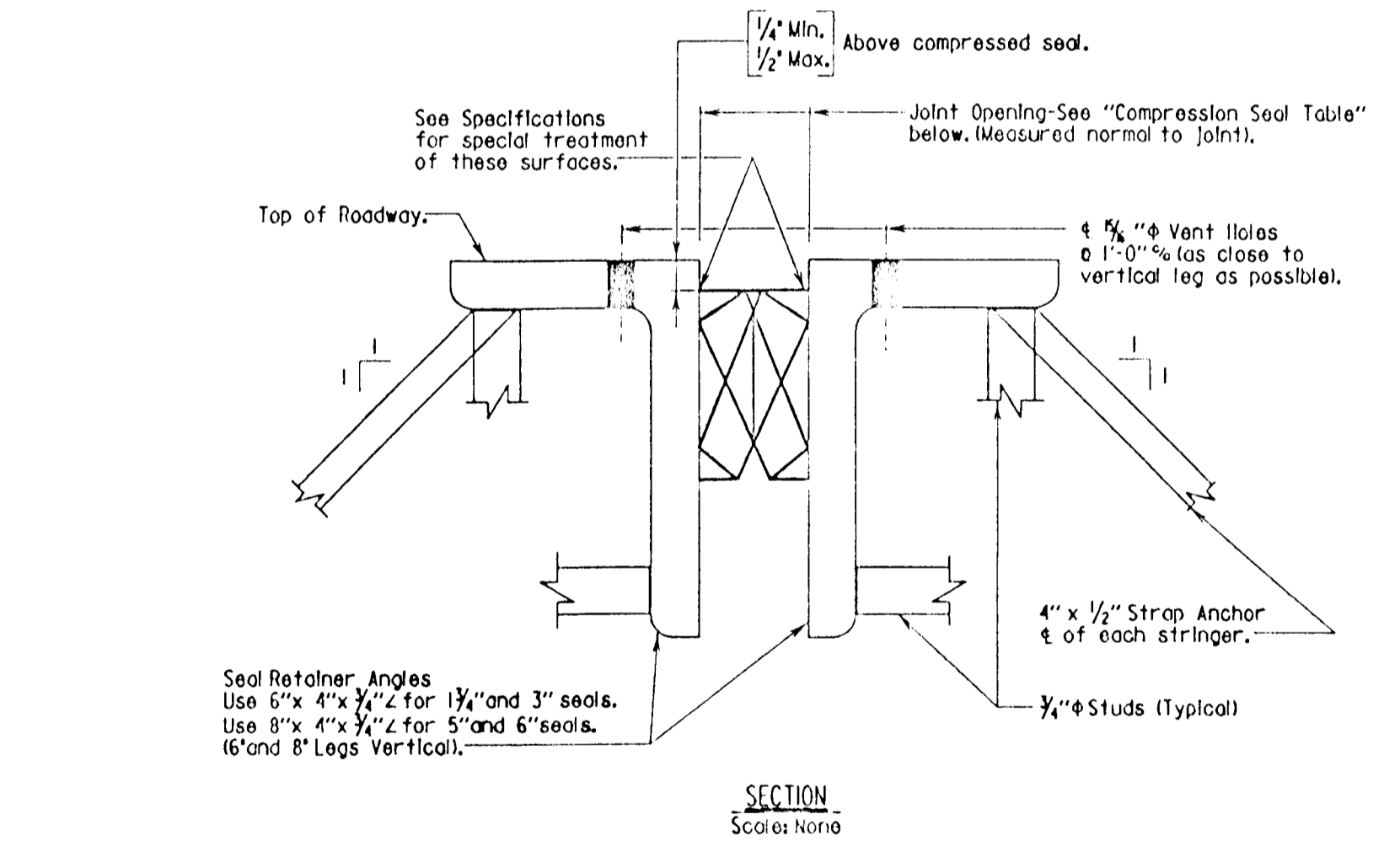
STANDARD NO. BR-SS17.071-79-56 SHEET 1 OF 2



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

FULL HEIGHT COMPRESSION SEAL ROADWAY JOINT AT SIDEWALKS

STANDARD NO. BR-SS17.071-79-56 SHEET 2 OF 2



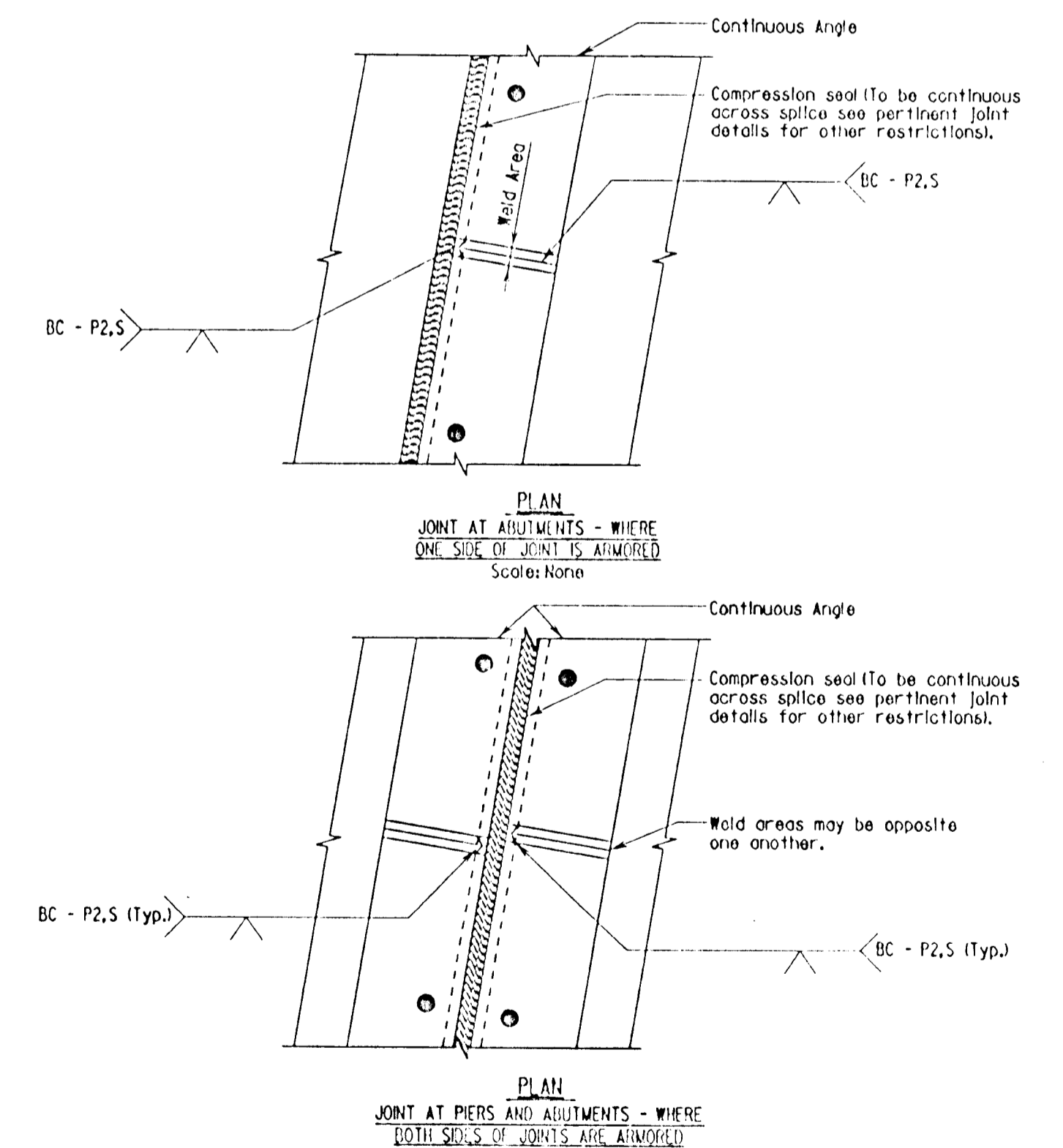
| Location | Uncompressed Seal Width | Joint Opening @ | | | | | | Movement Rating |
|---------------|-------------------------|-----------------|--------|--------|--------|--------|--------|-----------------|
| | | 40°F | 50°F | 60°F | 70°F | 80°F | 90°F | |
| Abuts. 'B' | 1 1/2" | | | 1 1/4" | | | | 0.66" |
| | 3" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1.25" |
| | 5" | | | 3" | | | | 2.50" |
| Maxwell Court | 6" | | | 3 1/2" | | | | 2.85" |
| | | 3" | 2" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1.25" |
| Ridings Way | 3" | 2" | 2" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1.25" |

- Notes:
1. The 1 1/2" and 3" seals to be one piece for full length of seal (no joints).
 2. The 5" and 6" seals may have one shop splice per joint, if the length of joint exceeds 50'. Splice shall be at least 15' from outer line.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

COMPRESSION SEAL JOINT AND RETAINING ANGLE DETAIL

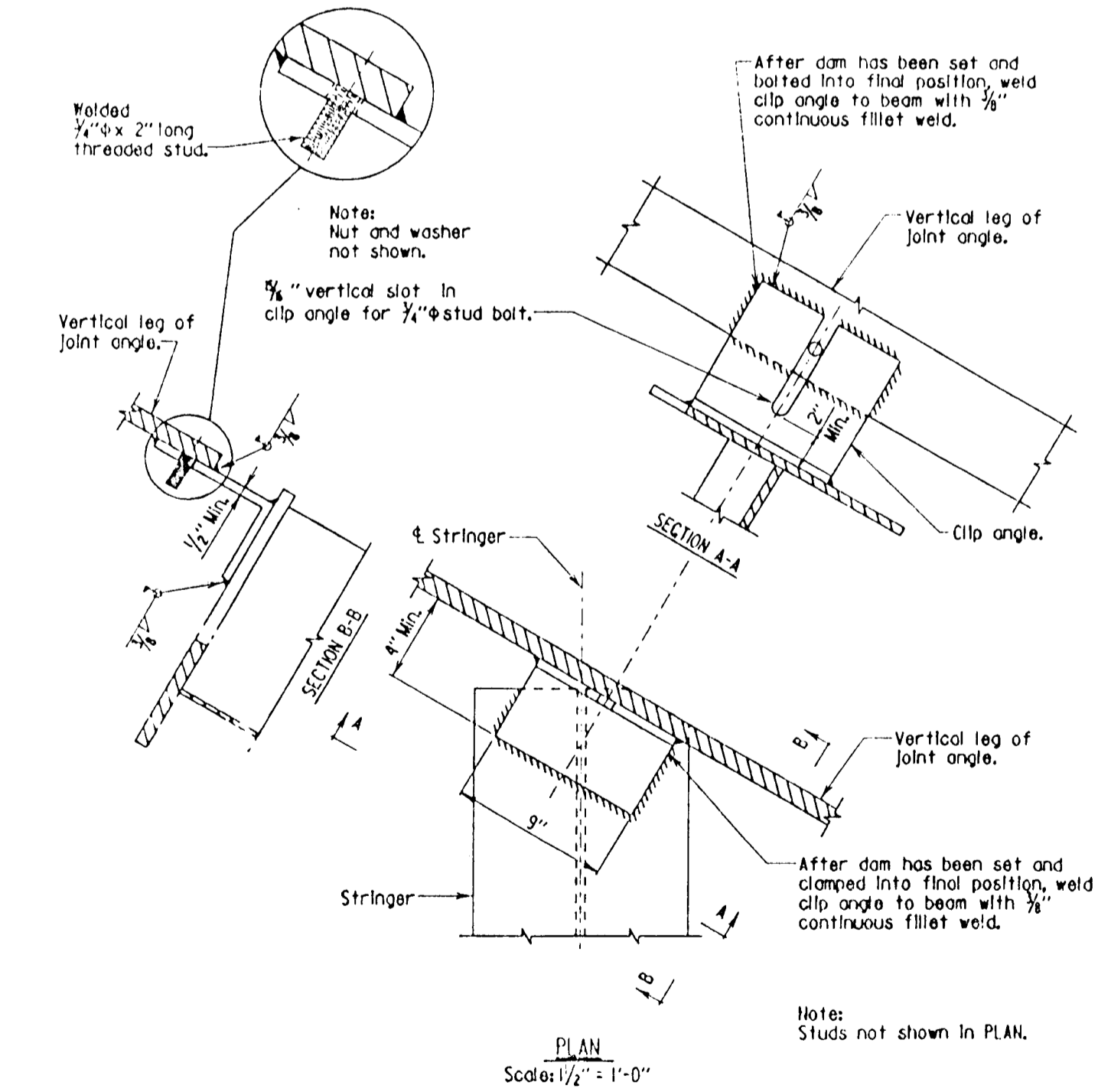
STANDARD NO. BR-SS17.021-77-63 SHEET 1 OF 2



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

ROADWAY JOINT ANGLE SHOP SPICES FOR NON-SEQUENTIAL CONSTRUCTION

STANDARD NO. BR-SS17.051-81-58 SHEET 1 OF 2



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF BRIDGE DEVELOPMENT

CLIP ANGLE DETAIL

STANDARD NO. BR-SS18.021-75-4 SHEET 1 OF 2

AS BUILT CERTIFICATE

Christopher J. Reid
11-15-99
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Gina Swann
1/4/95
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
1/3/95
DATE

DATE NO. REVISION

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK
LOTS 1-118
A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE

AREA
TAX MAP NO. 4, ZONED R-5A-B
PARCEL "A"
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

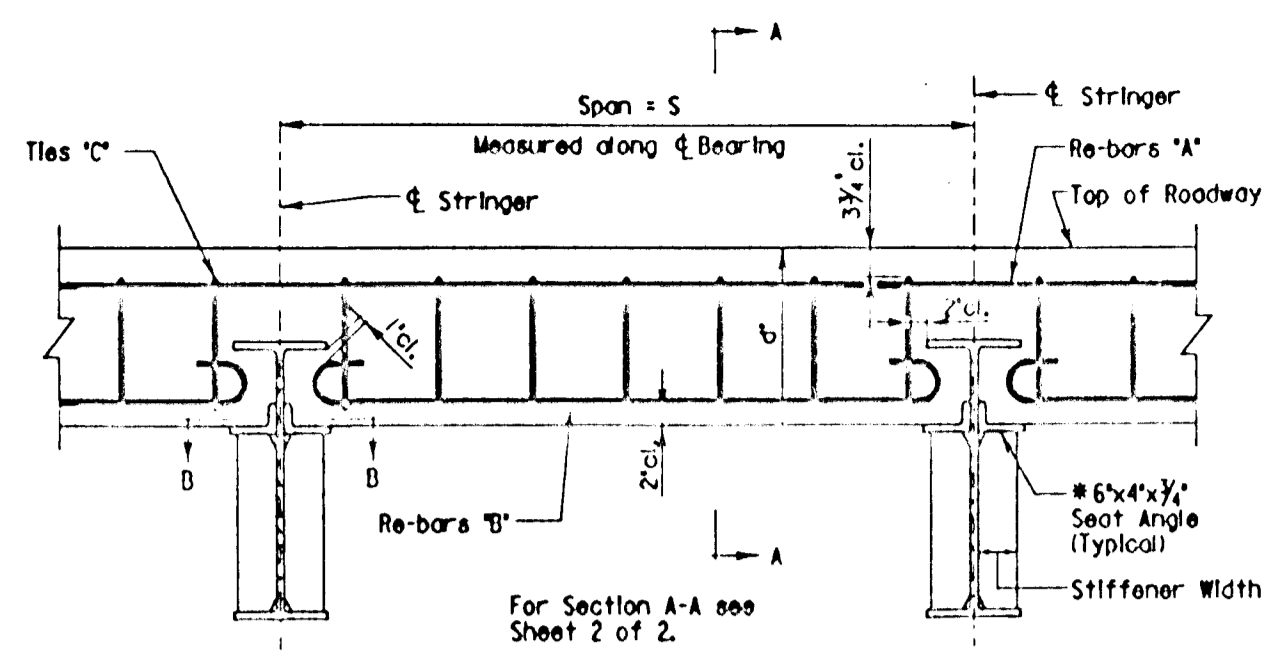
TITLE
STANDARD DETAILS

NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

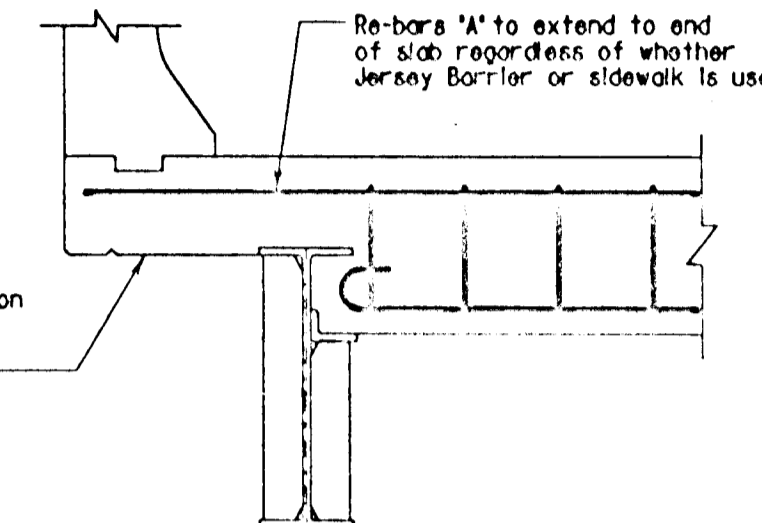
DESIGNED BY:
DRAWN BY:
PROJECT NO.:
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 31 OF 35

AS - BUILT 11/05/99 F-05-24

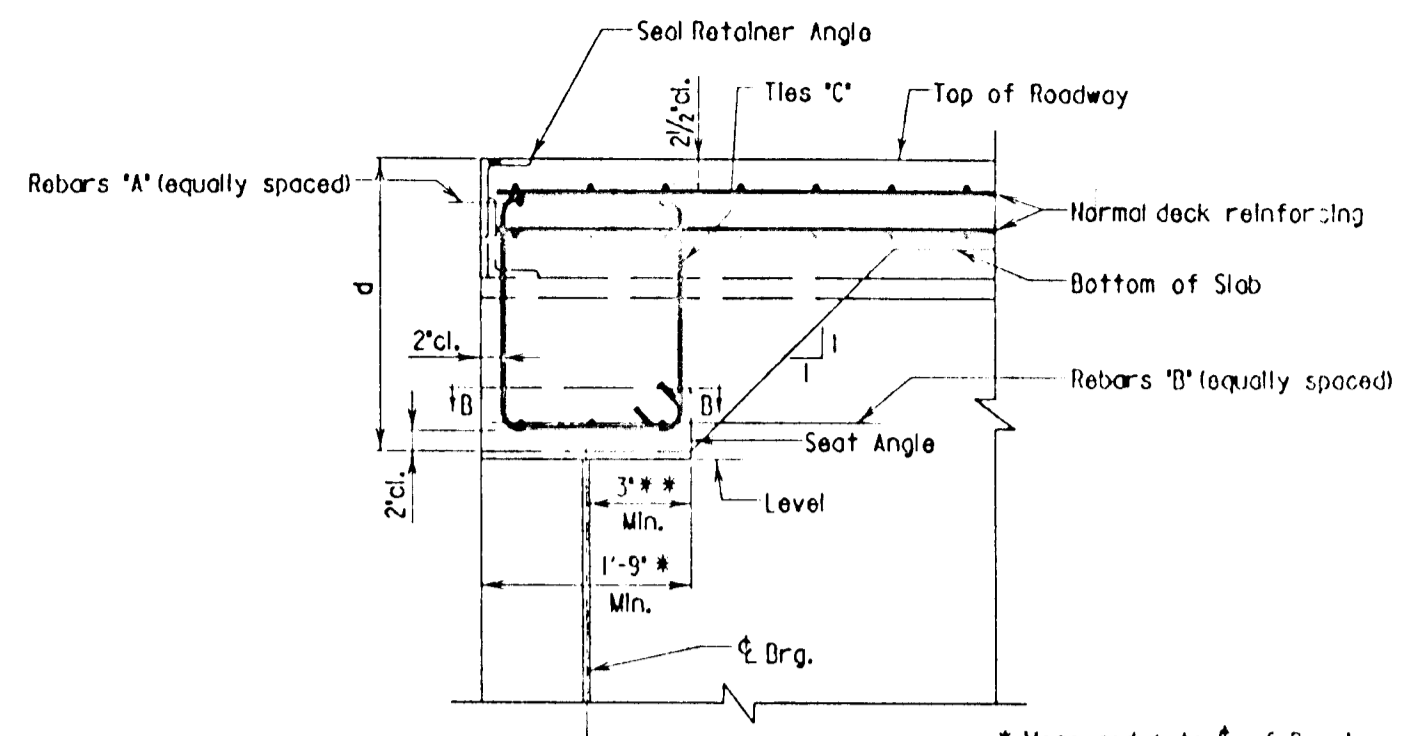
1718



ELEVATION AT INTERIOR BEAM
Scale: 1/2" = 1'-0"



ELEVATION AT EXTERIOR BEAM
Scale: 1/2" = 1'-0"

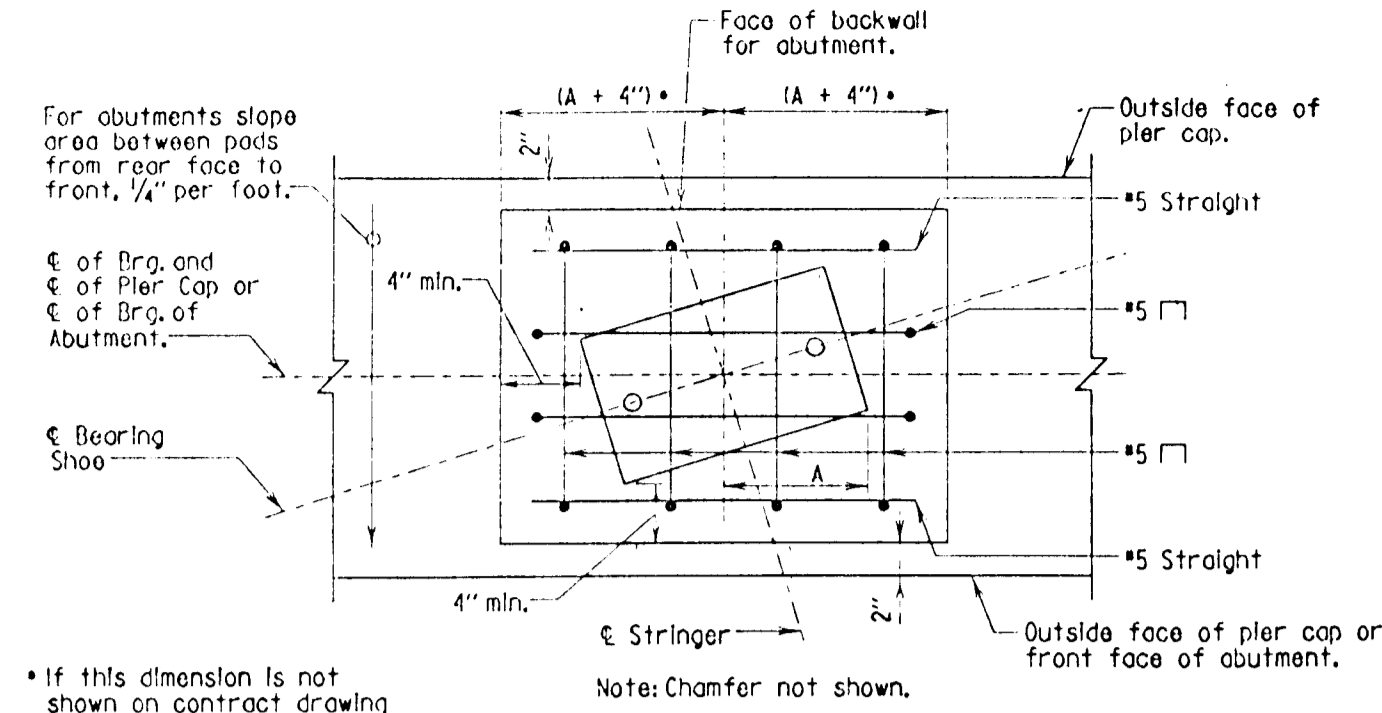


SECTION A-A
Scale: None

| Span = S | Depth of Diaphragm = d | Re-bars "A" | Re-bars "B" | Ties "C" |
|-----------------|------------------------|-------------|-------------|---------------------------|
| Up to 8' | 1'-11" | 3-#7's | 3-#7's | AS & B Maximum Spacing |
| over 8' to 11' | 1'-11" | 3-#8's | 3-#8's | |
| over 11' to 14' | 2'-0" | 3-#8's | 3-#8's | |
| over 14' to 16' | 2'-1" | 3-#9's | 3-#9's | |

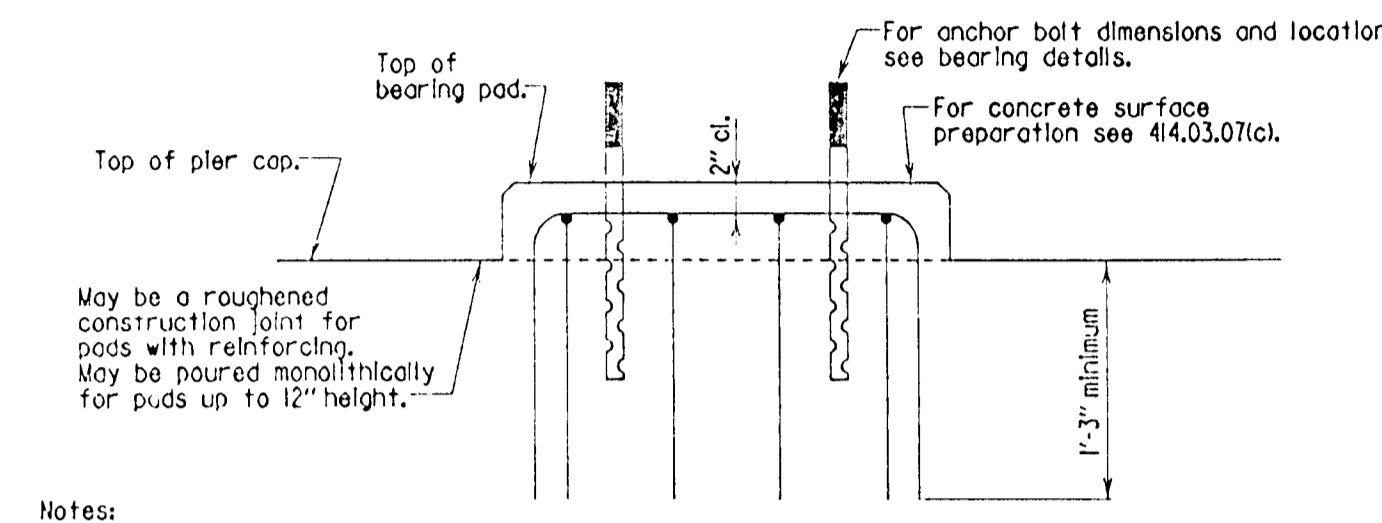
Note:
1. Studs and anchors for seal retainer angle, not shown.
2. All reinforcing steel sizes and spacings based on ASTM Designation A-615, Grade 60 (f_y = 24,000 p.s.i.).
3. For Section D-B, see Standard No. BR-SS1821-85-170.

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | CONCRETE DIAPHRAGMS AT PIERS (WITH EXPANSION JOINTS) AND AT ALL ABUTMENTS |
| CHECKED BY | DATE | STANDARD NO. BR-SS16721-80-120 SHEET 2 OF 2 |



PLAN
Scale: 1" = 1'-0"

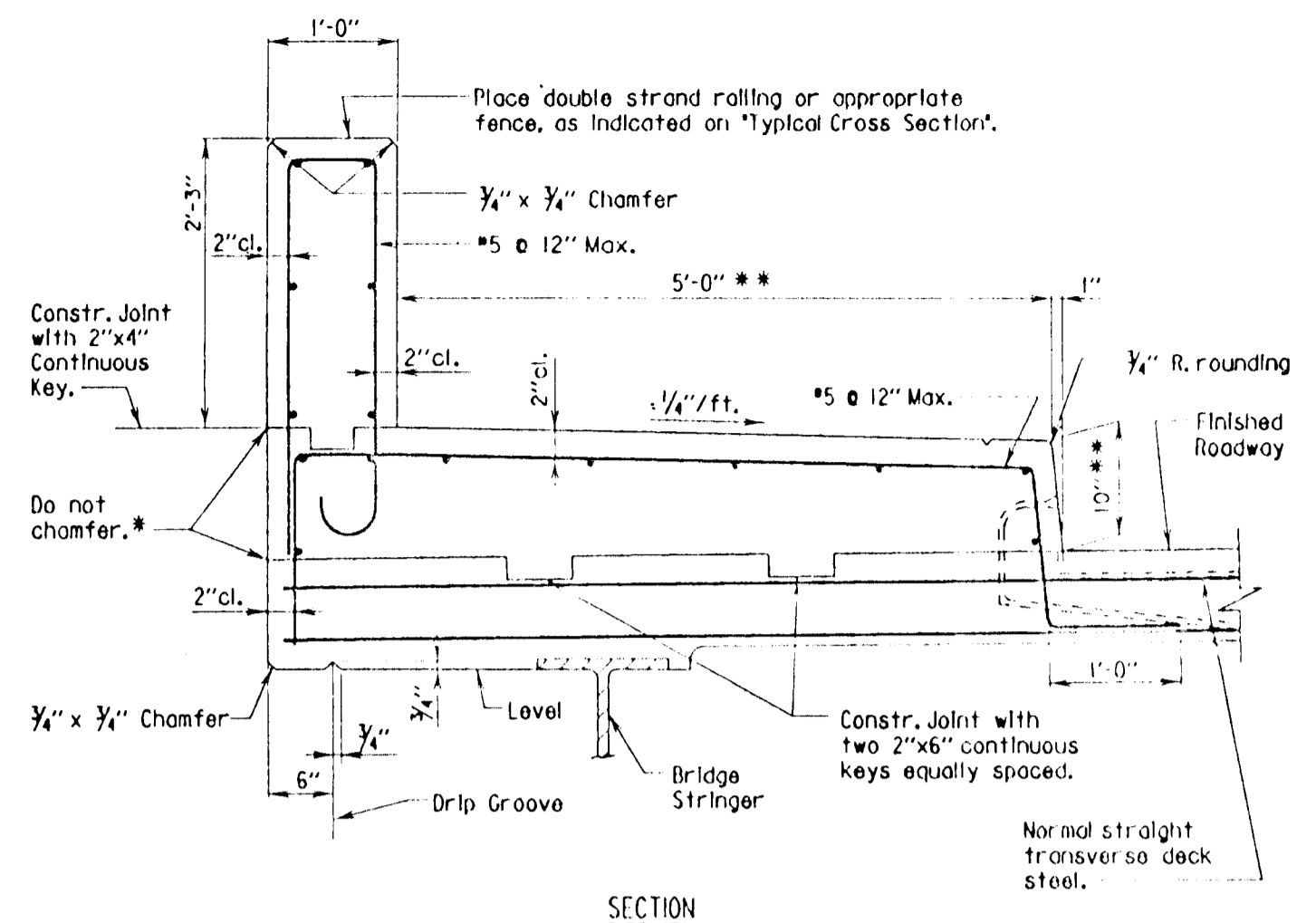
For abutments slope area between pads from rear face to front, 1/4" per foot.
If this dimension is not shown on contract drawing it shall be established for the largest value necessary on a support to the nearest higher inch, and the same dimension used for every pad on that support.



ELEVATION
Scale: 1" = 1'-0"

Notes:
1. If pad height is less than 4" (at ϵ of bearing), all dimensions, etc. shown on this sheet will prevail except no reinforcing steel will be required and pad must be poured monolithically with support.
2. Anchor bolts shall be set in round holes drilled or cored into the masonry.
3. The drilled or cored holes shall have a diameter of at least 1" larger than the diameter of the bolts.
4. Holes shall be filled with nonshrink grout. Nonshrink grout shall have a min. comp. strength of 5000 p.s.i. in 7 days when tested in accordance with ASTM 7106, except that the cure molds shall remain intact with a top firmly attached throughout the curing period. The nonshrink grout shall have a minimum expansion of 0.02% after 7 days when tested in accordance with ASTM 7106.
5. For size of pad see pertinent substructure sheets, if not available see note in plan above.
6. Space reinforcing steel to clear anchor bolts.

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | BEARING PAD WHERE ONLY A SINGLE SHEET IS REQUIRED ON A SUPPORT |
| CHECKED BY | DATE | STANDARD NO. BR-SS16021-80-121 SHEET 1 OF 1 |



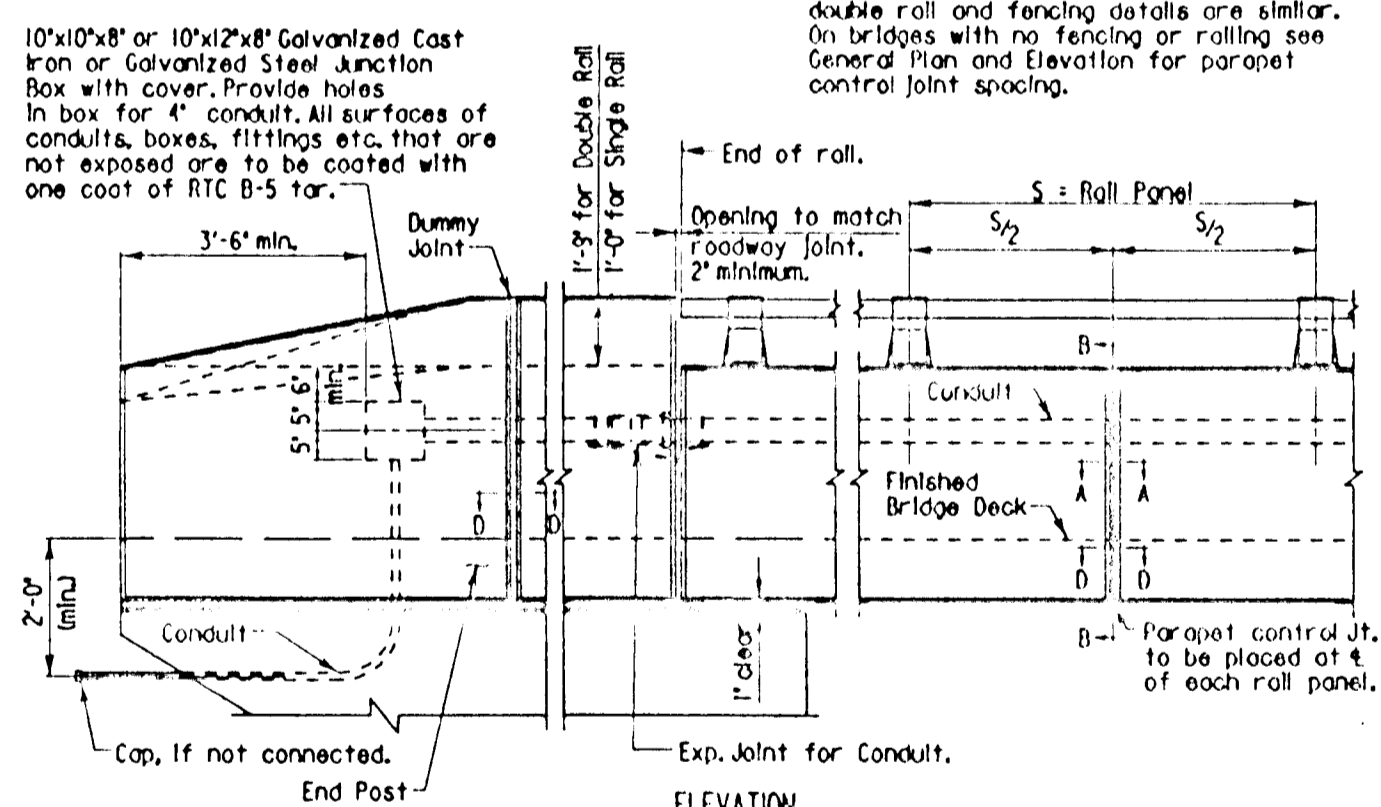
SECTION
Scale: 3/4" = 1'-0"

Note:
1. All longitudinal bars are #5 spaced as shown maximum spacing 1'-3".
2. All keys are nominal size.
In order to insure a smooth and acceptable surface, 4,03,04 (Constr. joints) shall be strictly adhered to.
Unless otherwise indicated on "Typical Cross Section".

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | SIDEWALK AND PARAPET FOR BRIDGES OVER WATER AND RAILROADS |
| CHECKED BY | DATE | STANDARD NO. BR-SS16111-80-106 SHEET 1 OF 1 |

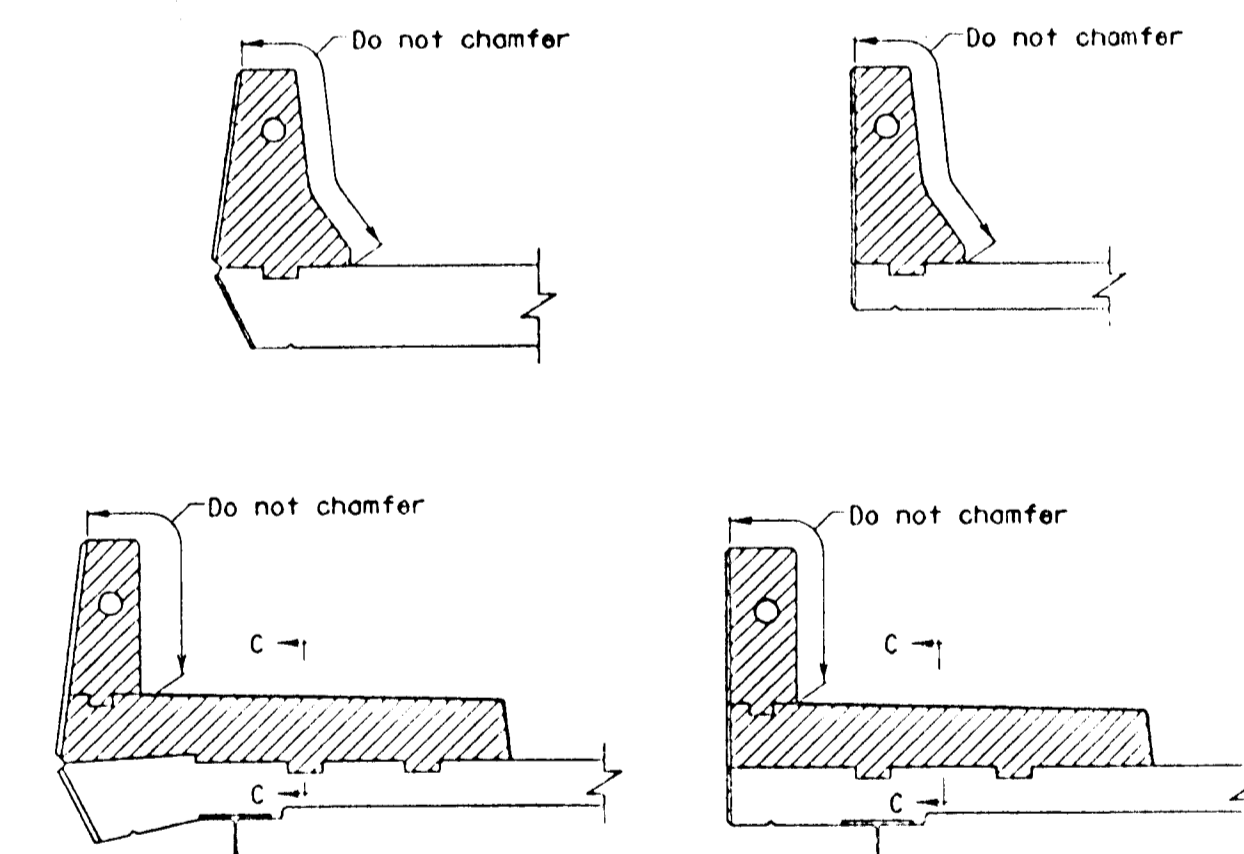
Note:
1. For Section B-B, see Standard No. BR-SS1821-85-170.

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | CONCRETE DIAPHRAGMS AT PIERS (WITH EXPANSION JOINTS) AND AT ALL ABUTMENTS |
| CHECKED BY | DATE | STANDARD NO. BR-SS16721-80-120 SHEET 2 OF 2 |

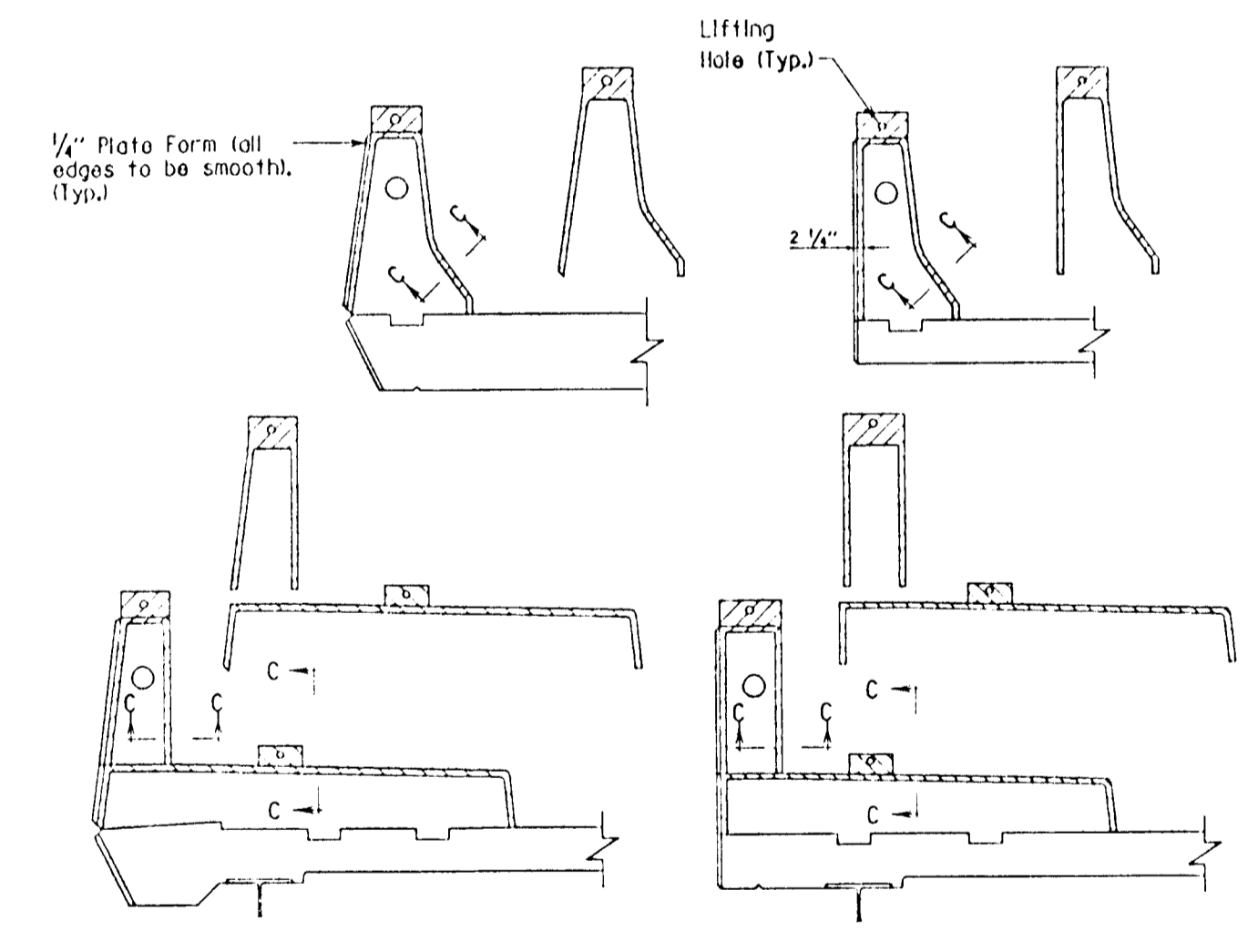


ELEVATION
Scale: 2" = 1'-0"

Note: Details shown are for single roll double roll and fencing details are similar. On bridges with no fencing or rolling see General Plan and Elevation for parapet control joint spacing.

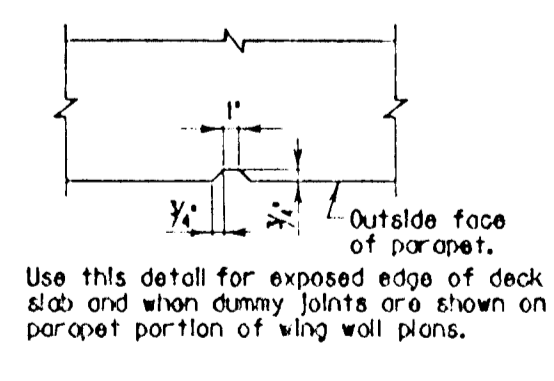


SECTION B-B
Scale: 1/8" = 1'-0"

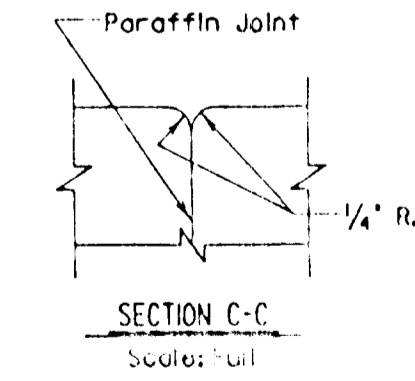


SECTION D-D
Scale: 3/8" = 1'-0"

Note:
The conduit and junction box are to be placed only when indicated in the Superstructure "Typical Section". If ϵ to ϵ of end junction boxes exceed 15', then additional junction boxes shall be placed in parapet, between control joints, so that the maximum distance between boxes is 15'. Junction boxes for light standards, may be utilized. All intermediate junction boxes to have 1/2" drain at low point of box. See Standard BR-SS16041-75-7 for details of drain.



SECTION A-A
Scale: None



SECTION C-C
Scale: None

Notes:
1. Place vertical paraffin joint, shown hatched, at center of every roll panel. Joints shall be formed by placing alternate sections.
2. The placement of adjacent sections shall have a 40 hour delay between placements.
3. Rolling and/or fencing not shown.

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | PARAPET CONTROL JOINTS AND CONDUIT PLACEMENT |
| CHECKED BY | DATE | STANDARD NO. BR-SS16091-78-70 SHEET 2 OF 2 |

Notes:
1. Place plate joint at center of every roll panel.
2. Parapet is placed continuously.
3. Plates to be grouted both sides plates must be putted the same day as concrete is poured.

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | PARAPET CONTROL JOINTS AND CONDUIT PLACEMENT |
| CHECKED BY | DATE | STANDARD NO. BR-SS16091-78-70 SHEET 1 OF 1 |

Note:
1. No reinforcing steel shall pass through joint.
2. Conduit may be either PVC or galvanized pipe.
3. Contractors has the option of using either paraffin joints or plate joints. Only one type of joint may be used per bridge.

| | | |
|-------------|------|---|
| APPROVAL | DATE | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DESIGNED BY | DATE | PARAPET CONTROL JOINTS AND CONDUIT PLACEMENT |
| CHECKED BY | DATE | STANDARD NO. BR-SS16091-78-70 SHEET 1 OF 1 |

AS BUILT CERTIFICATE

11-15-99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

1/4/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

1/3/95 DATE

12-21-98 DATE

1/3/95 DATE

DATE NO. REVISION

OWNER / DEVELOPER

HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21284
410-321-1000

PROJECT HAMMOND'S OVERLOOK LOTS 1-118
A RESUBDIVISION OF PARCEL "A" HOLLING BROOKE
AREA TAX MAP NO. 47 ZONING R-5A-B
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE STANDARD DETAILS

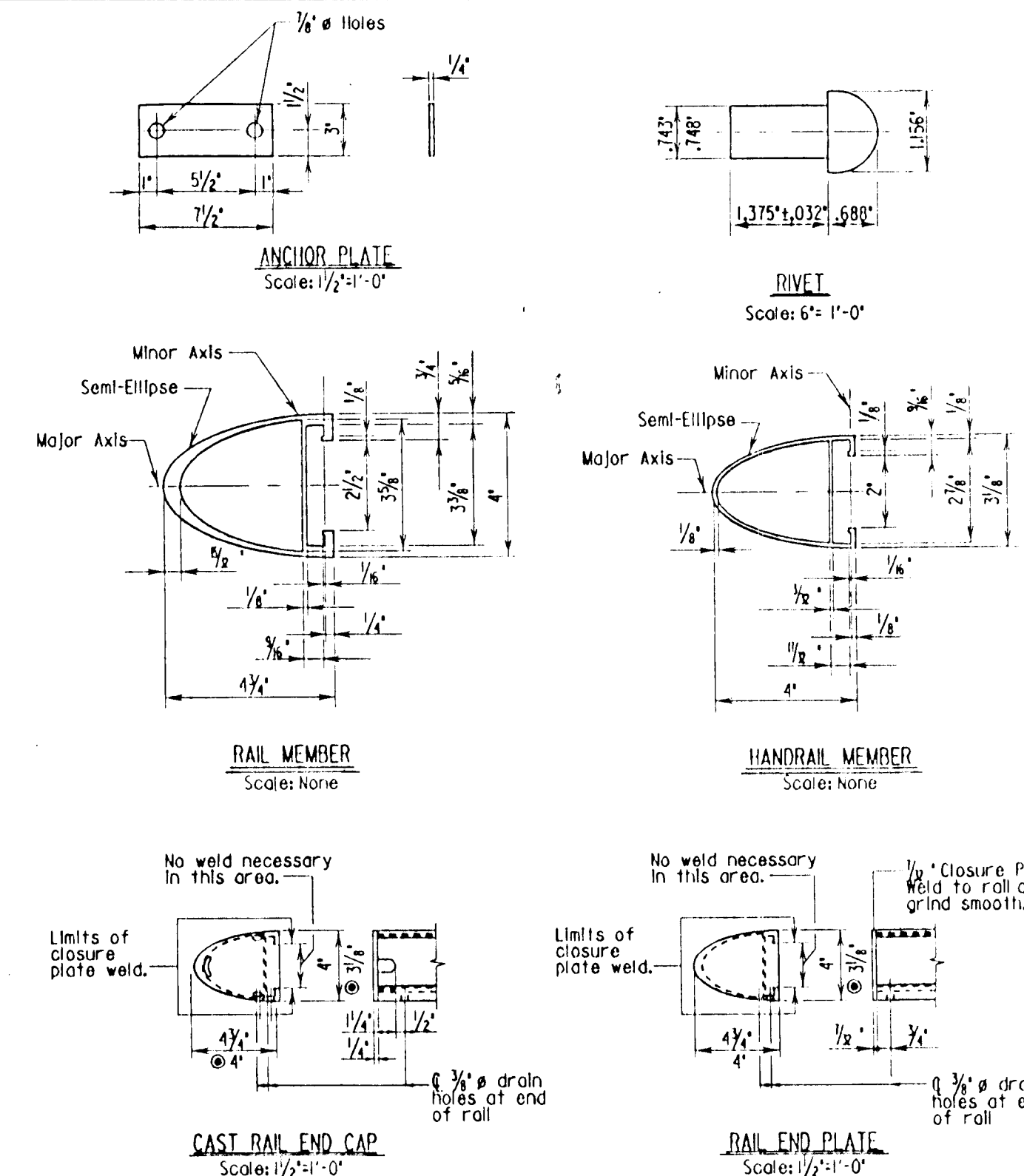
NORTHEAST ENGINEERING, INC.
1055 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

DESIGNED BY: _____
DRAWN BY: _____
PROJECT NO: _____
DATE: NOVEMBER 22, 1998
SCALE: AS SHOWN
DRAWING NO. 32 OF 35

1718

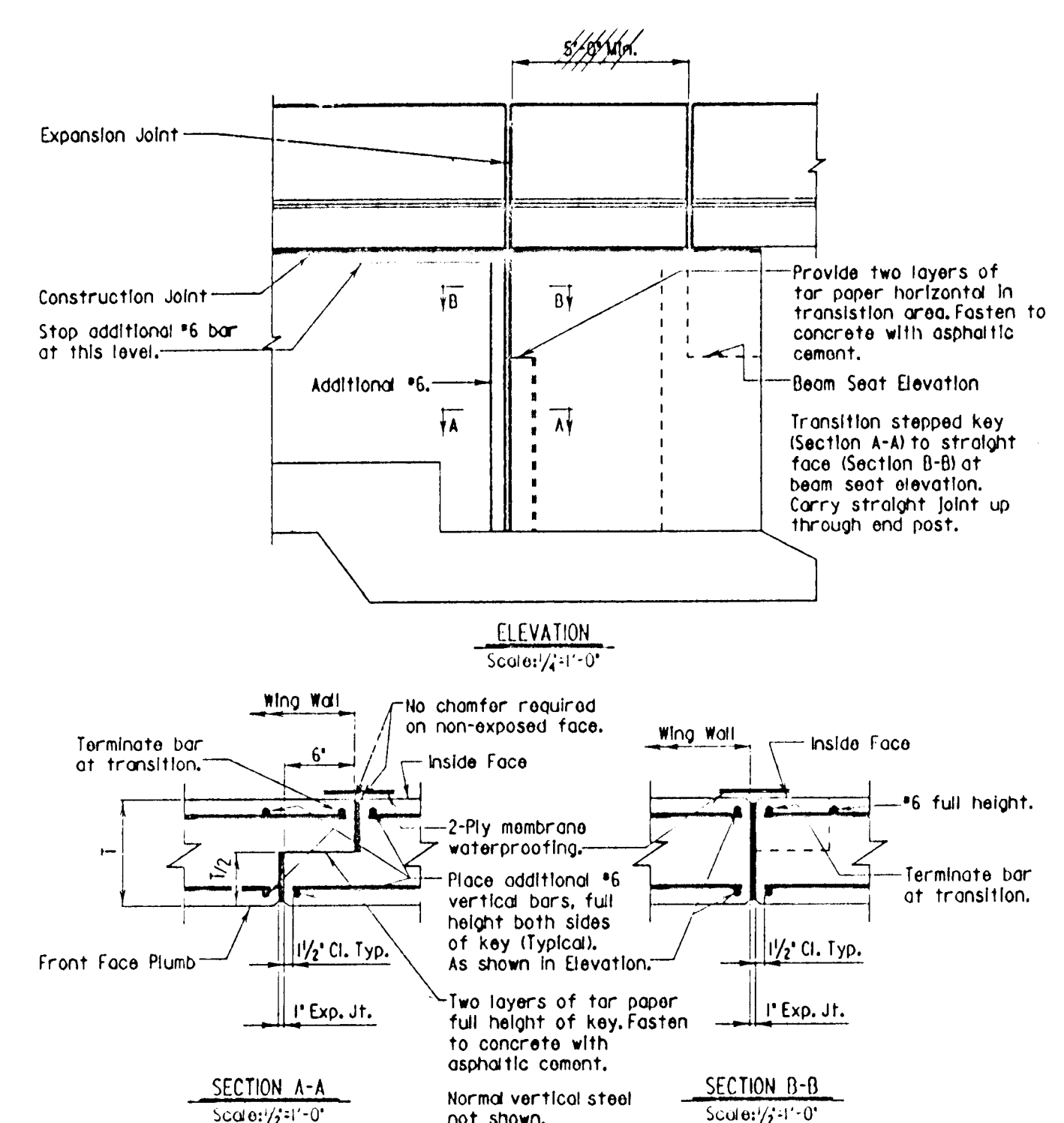
GENERAL NOTES

- All railings shall be fabricated and erected as indicated on the Plans.
- Posts shall be set perpendicular to top of parapet. For post spacing see Plans. (Maximum 8'-0" Spacing).
- Rolls shall be parallel to the grade of the roadway. Roll section shall be attached to as many posts as possible, but not less than three (except where indicated otherwise on Plans).
- The centerline of any splice and/or expansion joint shall be located at least 2'-0" away from centerline of a post except where indicated otherwise on Plans. Expansion and/or splice joints for each strand of two strand railing shall be placed in the same location and in the same panel.
- Material for rolls, posts (including bases), splices and clamp bars shall meet the requirements of ASTM D 221, Alloy 6061 T6. Rolls shall have a mill finish. Posts shall have a mill finish except that any sawed surfaces shall have a finish comparable to 250 Micronish. Rolls and splices may meet the requirements of ASTM D 221, Alloy 6351 T5 for chemical composition only.
- Material for roll end plates shall meet the requirements of ASTM B 209, Alloy 6061 T6. Material for cast roll end caps shall meet the requirements of ASTM B 108, Alloy 5052 H32 and STA for chemical composition only.
- Material for anchor studs shall meet the requirements of ASTM A 276, Type 304 Stainless Steel, annealed, hot finished, ultimate strength 70 000 psi, 20 percent minimum elongation. Threads may be rolled or cut.
- Material for heavy hex nuts shall meet the requirements of ASTM B 211, Alloy 6061 T6 or 6262 T9.
- Material for steel nuts shall meet the requirements of ASTM A 307.
- Material for aluminum washers shall be Alcad meeting the requirements of ASTM B 209, Alloy 6061 T6 or 7075 T6.
- Material for rivets shall meet the requirements of ASTM B 316, Alloy 6061 T6 and 6053 T6 for chemical composition only, and ML-R-150 in all other respects. The rivets shall be button head and cone point and shall be cold driven.
- Bolts may be used in lieu of rivets for connecting post to post base plate. Material for bolts shall be of stainless steel meeting the requirements of ASTM A 193 identification Symbol BB. Nuts shall meet the requirements of ASTM A 194, Type 8 or 8 NA. Material for washers shall meet the requirements of ASTM A 216, Type 304. Specified torque level for bolts connecting base plate to post shall be 150 to 175 ft-lb. Burr threads by centerpunching of top of nut. Punch marks shall be spaced at 120 degrees.
- Material for clamp bar top screws and cap screws shall be stainless steel meeting the requirements of ASTM A 193, identification Symbol BB.
- Material for anchor plates shall be steel meeting the requirements of ASTM A 36.
- Material for pins shall be Alloy 6061 T6 and pins shall be press fit.
- Bottom of post bases shall be thoroughly coated with a bituminous paint meeting the requirements of ML-P-6883.
- Weld metal for the welded base plate shall be 5356 A-1.

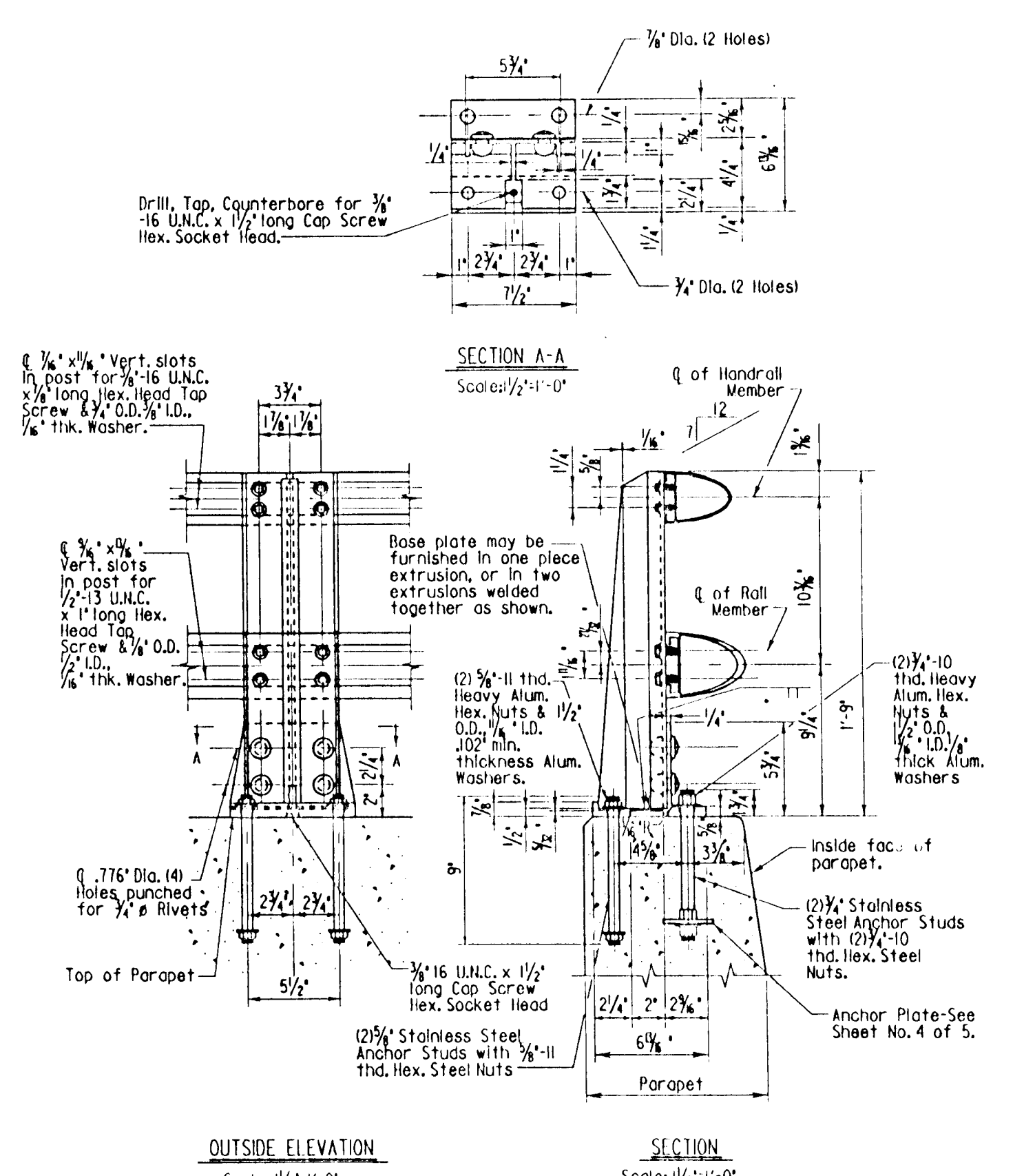


Note:
At Contractor's option, cast rail end caps may be substituted for roll end plates. Open ends of all handrails shall be closed. Dimensions indicated thus @ apply to handrail. Other dimensions apply to Roll.

| | |
|------------------------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 2/22/77 | GENERAL NOTES ALUMINUM BRIDGE RAILING |
| STANDARD NO. BR-SS15.0176-35 | SHEET 1 OF 5 |

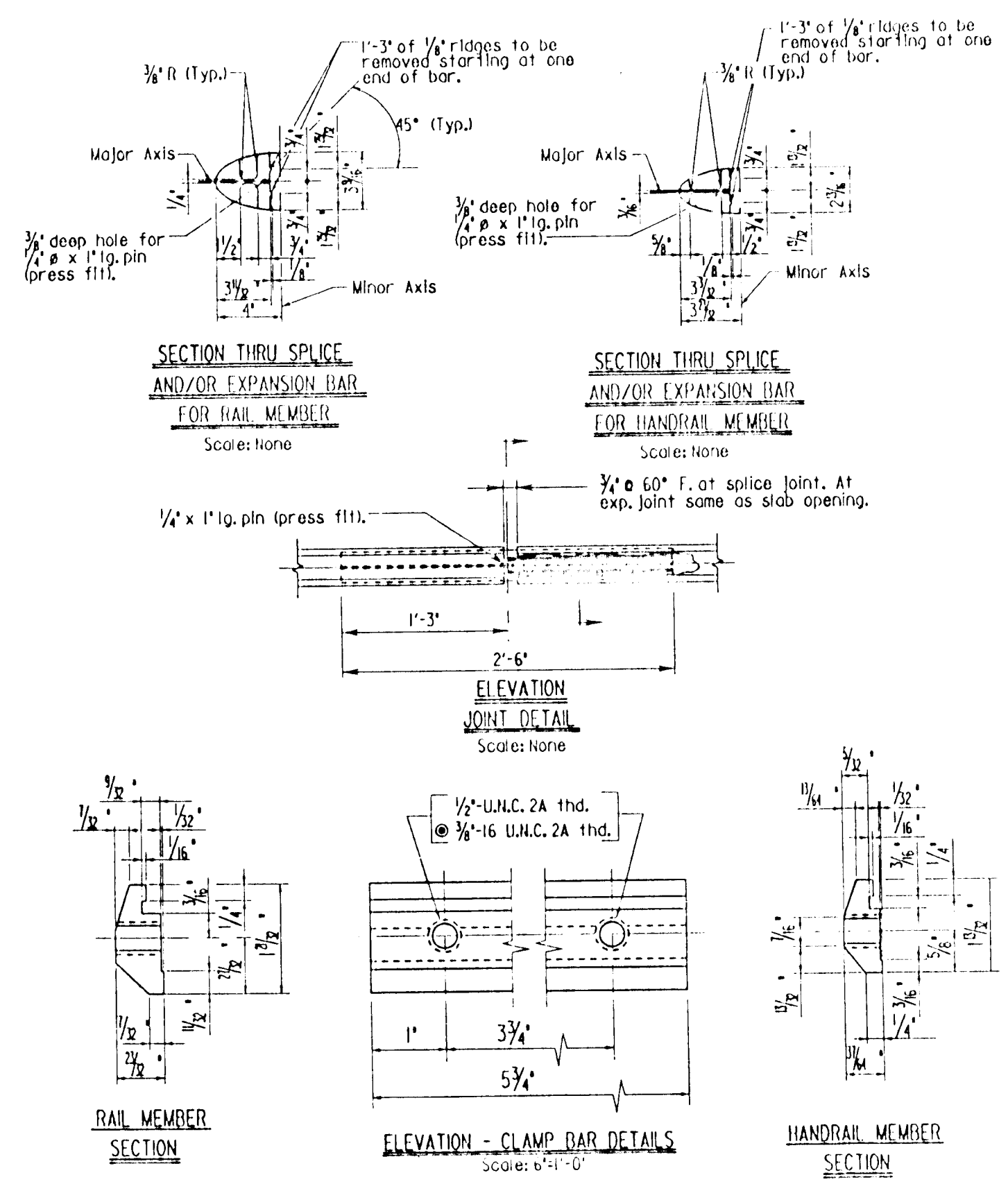


| | |
|-------------------------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 5/28/88 | STEPPED EXPANSION JOINT FOR WING WALLS AT ABUTMENTS |
| STANDARD NO. BR-SB62B1-88-196 | SHEET 1 OF 1 |

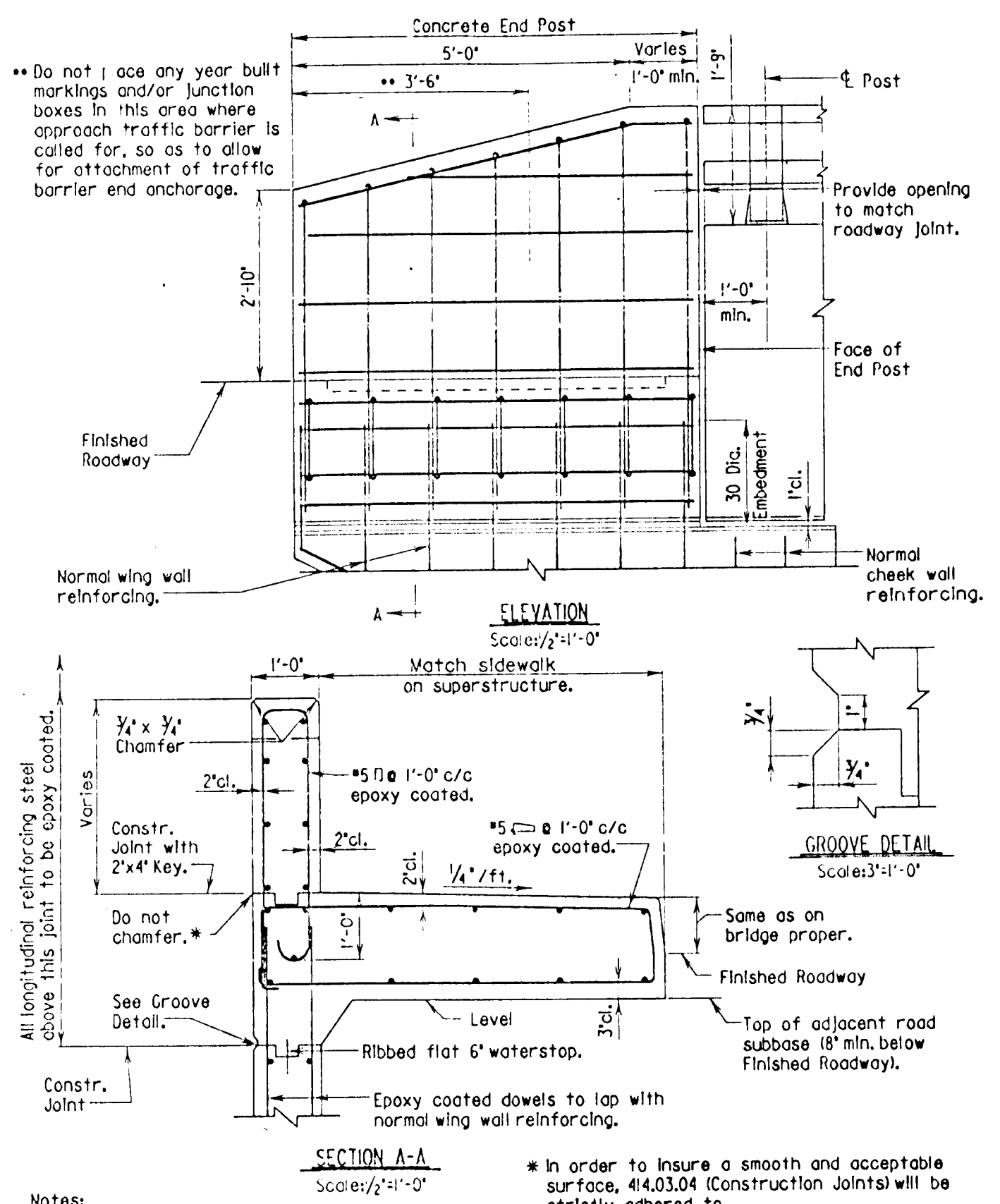


Note:
For all exposed and/or sawed edges - break all edges - (no radius involved).

| | |
|------------------------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 2/22/77 | TWO STRAND ALUMINUM BRIDGE RAILING |
| STANDARD NO. BR-SS15.0176-35 | SHEET 2 OF 5 |



| | |
|------------------------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 2/22/77 | MISCELLANEOUS DETAILS ALUMINUM BRIDGE RAILING |
| STANDARD NO. BR-SS15.0176-35 | SHEET 3 OF 5 |



Notes:
1. All longitudinal bars are #5 spaced as shown, maximum spacing 1'-3".
2. All keys are nominal size.
3. When striations are called for see Standard No. M6J186-181 for revisions to Section A-A.

| | |
|-------------------------------|---|
| APPROVAL | STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT |
| DATE: 11/13/84 | BRIDGE END POST (WITH SIDEWALK) FOR BRIDGE WITH RAILING |
| STANDARD NO. BR-SB62B1-84-162 | SHEET 1 OF 1 |

AS BUILT CERTIFICATE

11-15-99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Gina Summons, CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH, 1/4/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Chris Summons, CHIEF, BUREAU OF HIGHWAYS, 1/3/95 DATE
Paul D. Rapson, CHIEF, BUREAU OF ENGINEERING, 1/3/95 DATE

DATE NO. REVISION

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204
410-321-1000

PROJECT
HAMMOND'S OVERLOOK LOTS 1-11B
A RESUBDIVISION OF PARCEL "A" BOLLING BROOKE
AREA TAX MAP NO. 47 ZONE UH-SA-B
PARCEL "A"
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STANDARD DETAILS

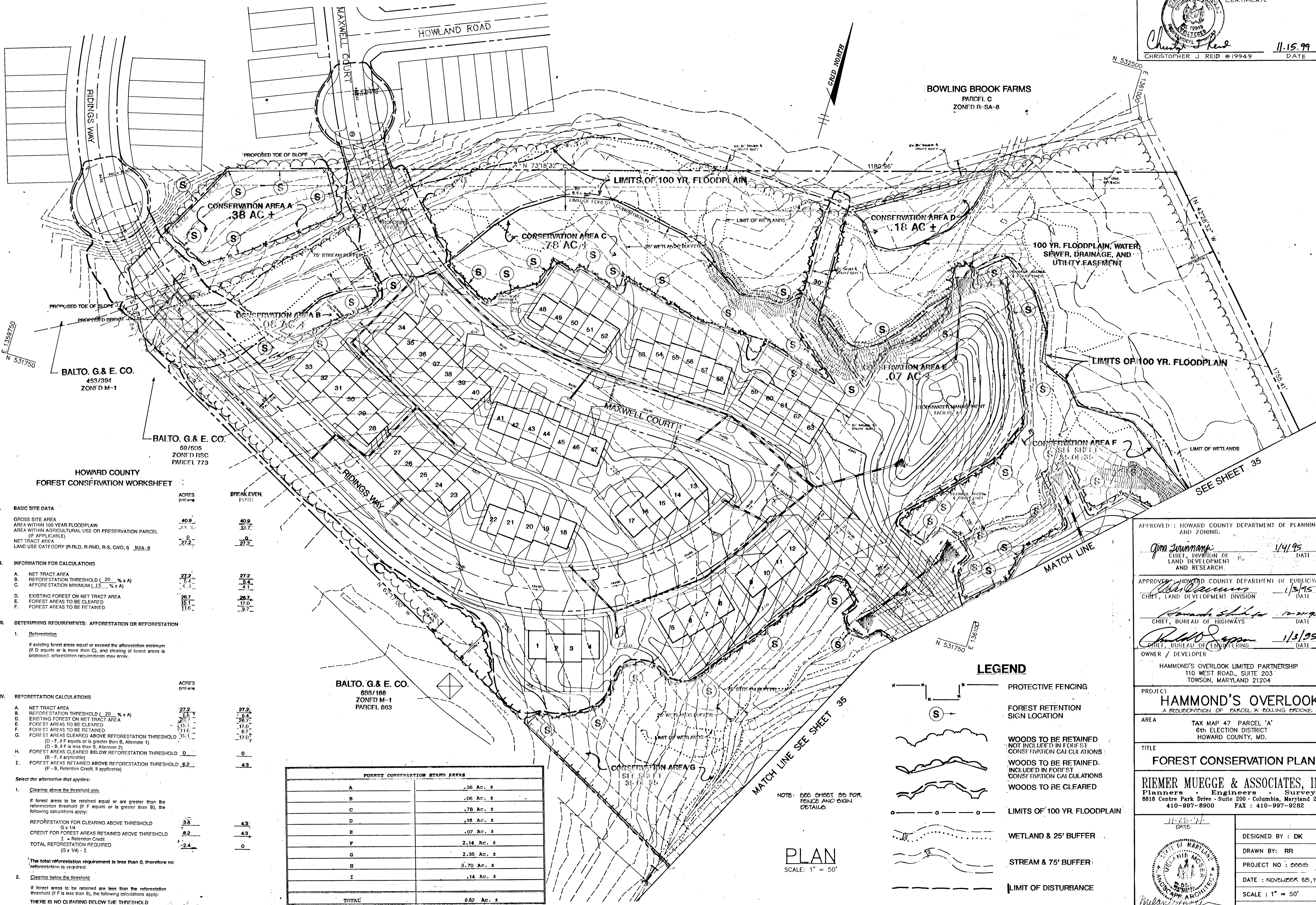
NORTHEAST ENGINEERING, INC.
1005 TAYLOR AVENUE, SUITE 104
BALTIMORE, MARYLAND 21286

DESIGNED BY: _____
DRAWN BY: _____
PROJECT NO: _____
DATE: NOVEMBER 20, 1994
SCALE: AS SHOWN
DRAWING NO. 33 OF 35

JAMES R. DUFFY 11-23-94
JAMES R. DUFFY, P.E. DATE

AS-BUILT 11/05/99 F-05-24

1718



I. BASIC SITE DATA

| | ACRES (P10 area) | BREAK EVEN (P10) |
|---|------------------|------------------|
| GROSS SITE AREA | 40.8 | 40.8 |
| AREA WITHIN 100 YEAR FLOODPLAIN | 13.7 | 13.7 |
| AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE) | 0 | 0 |
| NET TRACT AREA | 27.2 | 27.2 |
| LAND USE CATEGORY (R-RLD, R-RMD, R-S, CAVO, I) <u>RSA-B</u> | | |

II. INFORMATION FOR CALCULATIONS

| | | |
|--|------|------|
| A. NET TRACT AREA | 27.2 | 27.2 |
| B. REFORESTATION THRESHOLD (.20 % x A) | 5.4 | 5.4 |
| C. AFFORESTATION MINIMUM (.15 % x A) | 4.1 | 4.1 |
| D. EXISTING FOREST ON NET TRACT AREA | 26.7 | 26.7 |
| E. FOREST AREAS TO BE CLEARED | 16.1 | 17.0 |
| F. FOREST AREAS TO BE RETAINED | 11.6 | 9.7 |

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. Reforestation

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.

| | ACRES (P10 area) | BREAK EVEN (P10) |
|--|------------------|------------------|
| A. NET TRACT AREA | 27.2 | 27.2 |
| B. REFORESTATION THRESHOLD (.20 % x A) | 5.4 | 5.4 |
| D. EXISTING FOREST ON NET TRACT AREA | 26.7 | 26.7 |
| E. FOREST AREAS TO BE CLEARED | 16.1 | 17.0 |
| F. FOREST AREAS TO BE RETAINED | 11.6 | 9.7 |

IV. REFORESTATION CALCULATIONS

| | ACRES (P10 area) | BREAK EVEN (P10) |
|---|------------------|------------------|
| A. NET TRACT AREA | 27.2 | 27.2 |
| B. REFORESTATION THRESHOLD (.20 % x A) | 5.4 | 5.4 |
| D. EXISTING FOREST ON NET TRACT AREA | 26.7 | 26.7 |
| E. FOREST AREAS TO BE CLEARED | 16.1 | 17.0 |
| F. FOREST AREAS TO BE RETAINED | 11.6 | 9.7 |
| G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D - F, if F is less than B, Alternate 1) | 5.1 | 17.0 |
| H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (D - F, if F is less than B, Alternate 2) | 0 | 0 |
| I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F - B, Retention Credit, if applicable) | 6.2 | 4.3 |

Select the alternative that applies:

1. Clearing above the threshold only

If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

| | | |
|---|-----|-----|
| REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4) | 3.8 | 4.3 |
| CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD (I = Retention Credit) | 6.2 | 4.3 |
| TOTAL REFORESTATION REQUIRED (G x 1/4) - I | 2.4 | 0 |

The total reforestation requirement is less than 0, therefore no reforestation is required.

2. Clearing below the threshold

If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

THERE IS NO CLEARING BELOW THE THRESHOLD

NUMBERS REPRESENT WHAT IS SHOWN ON PLAN.

| FOREST RETENTION STAIN AREAS | |
|------------------------------|------------|
| A | .08 Ac. ± |
| B | .08 Ac. ± |
| C | .78 Ac. ± |
| D | .18 Ac. ± |
| E | .07 Ac. ± |
| F | 2.16 Ac. ± |
| G | 2.35 Ac. ± |
| H | 3.70 Ac. ± |
| I | .14 Ac. ± |
| TOTAL | 8.82 Ac. ± |

LEGEND

- PROTECTIVE FENCING
- FOREST RETENTION SIGN LOCATION
- WOODS TO BE RETAINED NOT INCLUDED IN FOREST CONSERVATION CALCULATIONS
- WOODS TO BE RETAINED, INCLUDED IN FOREST CONSERVATION CALCULATIONS
- WOODS TO BE CLEARED
- LIMITS OF 100 YR. FLOODPLAIN
- WETLAND & 25' BUFFER
- STREAM & 75' BUFFER
- LIMIT OF DISTURBANCE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Jim Summank 1/4/95
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLICWORKS.

William D. ... 1/3/95
 CHIEF, LAND DEVELOPMENT DIVISION. DATE

Howard ... 12/29/94
 CHIEF, BUREAU OF HIGHWAYS. DATE

Paul ... 1/3/95
 CHIEF, BUREAU OF ENGINEERING. DATE

OWNER / DEVELOPER
 HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
 110 WEST ROAD, SUITE 203
 TOWSON, MARYLAND 21204

PROJECT
HAMMOND'S OVERLOOK
 A RECONFIGURATION OF PARCEL 'A' BOWLING BROOK

AREA
 TAX MAP 47 PARCEL 'A'
 6th ELECTION DISTRICT
 HOWARD COUNTY, MD.

TITLE
FOREST CONSERVATION PLAN

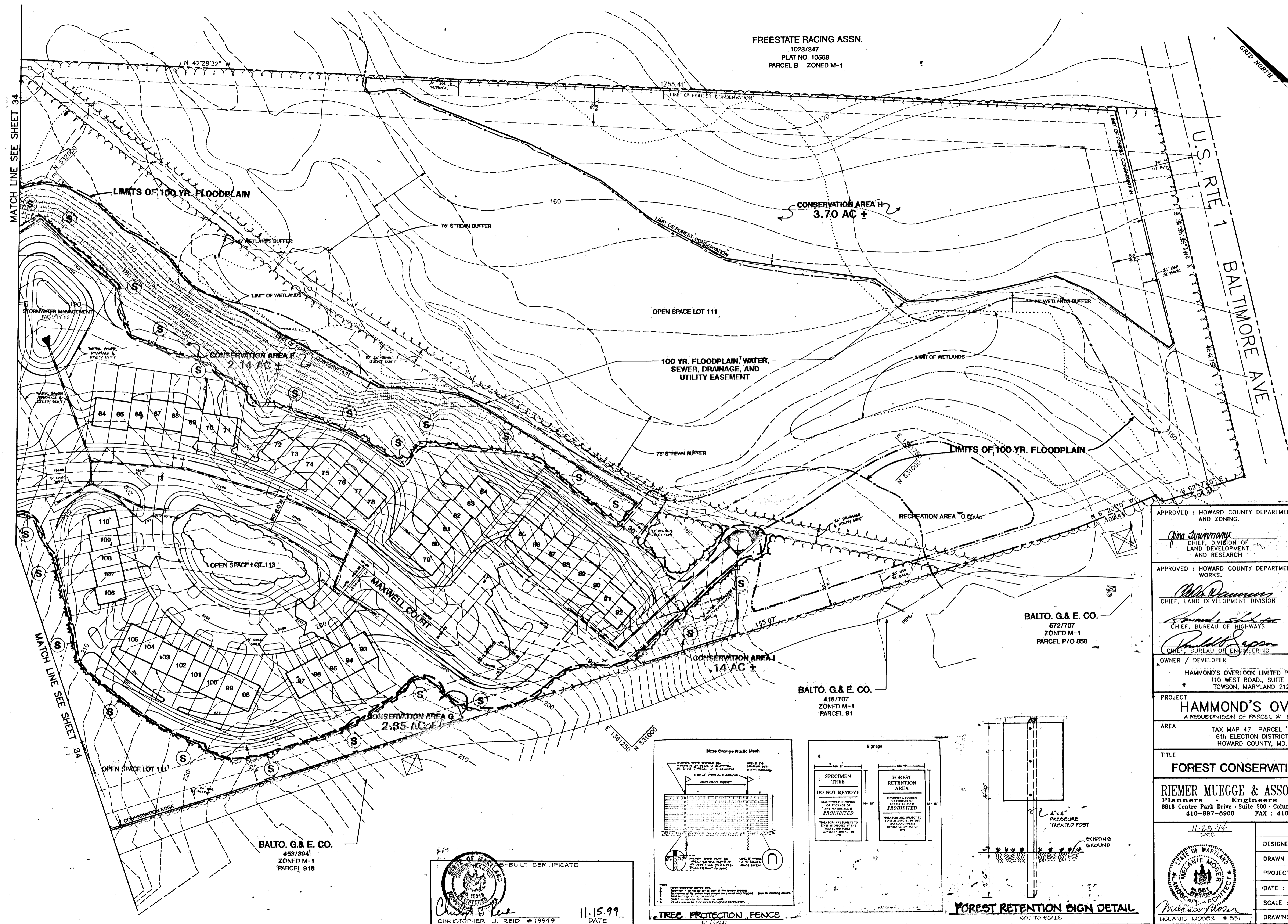
RIEMER MUEGGE & ASSOCIATES, INC.
 Planners • Engineers • Surveyors
 8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
 410-997-8900 FAX: 410-997-9282

DESIGNED BY: DK
 DRAWN BY: RR
 PROJECT NO: 00015
 DATE: NOVEMBER 20, 1994
 SCALE: 1" = 50'
 DRAWING NO. 34 OF 35

8171

1718

FREESTATE RACING ASSN.
1023/347
PLAT NO. 10568
PARCEL B ZONED M-1



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Gina Surranas 1/4/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

W.D. Danner 1/3/95
CHIEF, LAND DEVELOPMENT DIVISION

Howard Shuler 12-29-94
CHIEF, BUREAU OF HIGHWAYS

Paul D. Soper 1/3/95
CHIEF, BUREAU OF ENGINEERING

OWNER / DEVELOPER
HAMMOND'S OVERLOOK LIMITED PARTNERSHIP
110 WEST ROAD, SUITE 203
TOWSON, MARYLAND 21204

PROJECT
HAMMOND'S OVERLOOK
A RESUBDIVISION OF PARCEL 'A' BOWLING BROOKE

AREA
TAX MAP 47 PARCEL 'A'
6th ELECTION DISTRICT
HOWARD COUNTY, MD.

TITLE
FOREST CONSERVATION PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
Planners · Engineers · Surveyors
8818 Centre Park Drive · Suite 200 · Columbia, Maryland 21045
410-997-8900 FAX: 410-997-9282

11-28-94
DATE
DESIGNED BY: DK
DRAWN BY: RR
PROJECT NO: 00015
DATE: NOVEMBER 28, 1994
SCALE: 1" = 50'
DRAWING NO. 35 OF 35

BALTO. G. & E. CO.
453/394
ZONED M-1
PARCEL 910

AS-BUILT CERTIFICATE
Christopher J. Reid
CHRISTOPHER J. REID #19949
11.15.99
DATE

