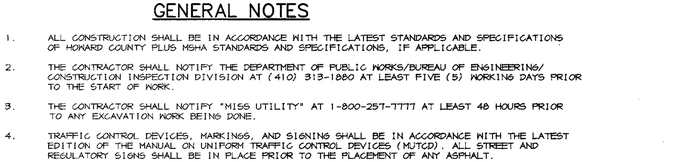
# SITE DEVELOPMENT PLAN OF
# MEADOWRIDGE BUSINESS PARK
# PARCEL G-2
## 1st ELECTION DISTRICT
## HOWARD COUNTY, MARYLAND

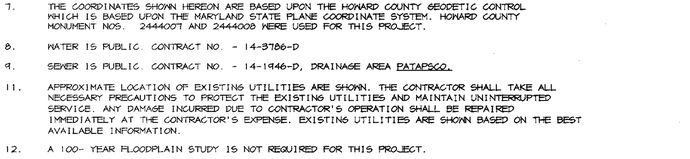
| SHEET INDEX | |
|---|---|
| 1 | TITLE SHEET |
| 2 | SITE DEVELOPMENT PLAN |
| 3 | GEOMETRY PLAN |
| 4 | GRADING, SEDIMENT CONTROL PLAN, DRAINAGE AREA MAP |
| 5 | STORM DRAIN PROFILES |
| 6 | PROFILES & STRUCTURE SCHEDULE |
| 7 | STORM DRAIN PROFILES |
| 8 | ROOF DRAIN PROFILES |
| 9 | DETAILS & NOTES |
| 10 | DETAILS & NOTES |
| 11 | SWM PROFILES & DETAILS |
| 12 | WATER QUALITY NOTES & DETAILS |
| 13 | LANDSCAPE PLAN |
| 14 | LANDSCAPE SCHEDULES AND DETAILS |
| 15 | NORTH AND SOUTH WALL PLANS |
| 16 | NORTH WALL PROFILE AND SECTION |
| 17 | SOUTH WALL PROFILE FROM STA. 0+00 TO STA. 0+94 |
| 18 | SOUTH WALL PROFILE FROM STA. 0+94 TO STA. 2+60 |
| 19 | SOUTH WALL PROFILE FROM STA. 2+60 TO STA. 3+68 |
| 20 | SOUTH WALL PROFILE FROM STA. 3+68 TO STA. 6+19 |
| 21 | SOUTH WALL SECTION A-A AND SECTION B-B |
| 22 | SOUTH WALL SECTION C-C AND SECTION D-D |
| 23 | NORTHERN TIERED WALL PLAN, PROFILE AND SECTION DRAWINGS |
| 24 | STORMWATER MANAGEMENT DETAILS & NOTES |
| 25 | DETAIL SHEET |

## GENERAL NOTES

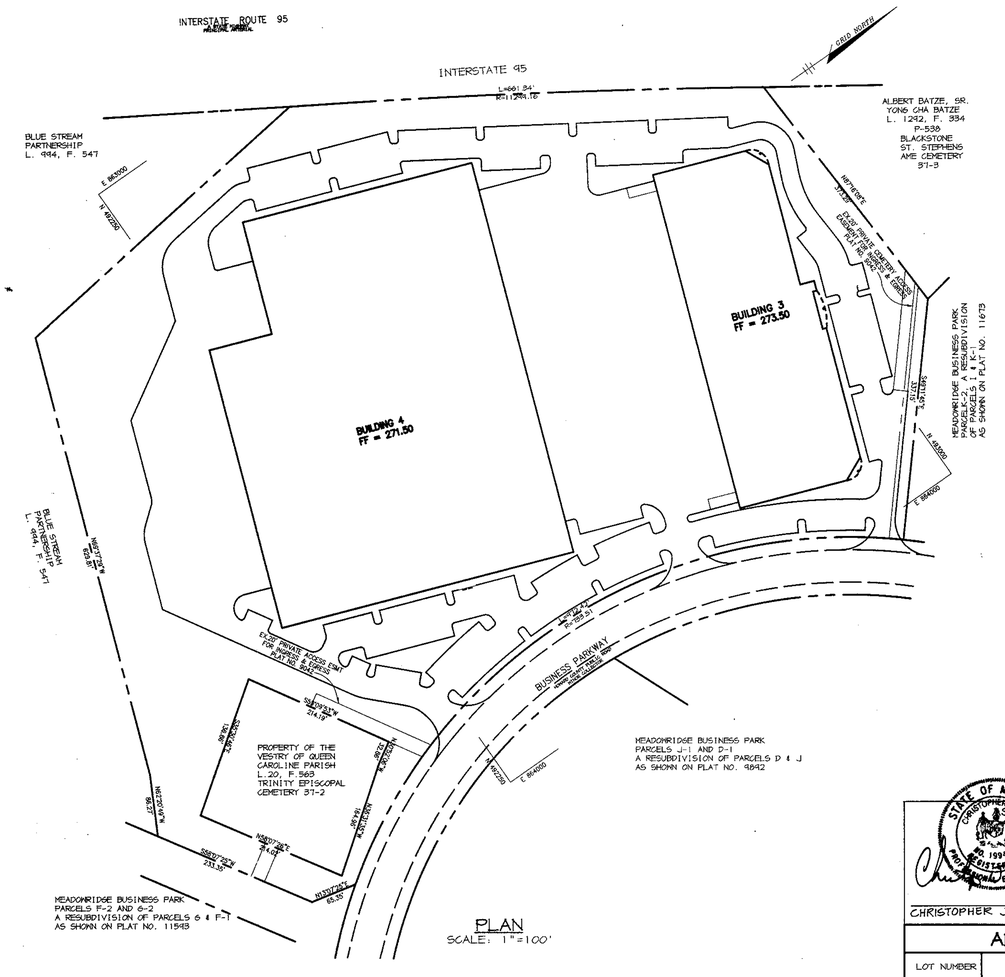
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY MINES AERIAL MAPPING CO. DATED (JULY. 1998).
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 2444007 AND 2444008 WERE USED FOR THIS PROJECT.
8. WATER IS PUBLIC. CONTRACT NO. - 14-3786-D
9. SEWER IS PUBLIC. CONTRACT NO. - 14-1946-D, DRAINAGE AREA PATAPSCO.
11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
12. A 100- YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
13. NO WETLANDS EXIST ON THIS SITE.
14. A TRAFFIC STUDY FOR APFO REQUIREMENTS WAS PREPARED BY THE TRAFFIC GROUP, INC. DATED JUNE, 1999.
15. A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
16. A GEOTECHNICAL STUDY FOR THIS PROJECT IS NOT REQUIRED.
17. STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED FOR THE DEVELOPMENT BY REGIONAL RETENTION FACILITY PER - F-89-163 & ON-SITE DETENTION FACILITY WITH BAYSAVERS FOR WATER QUALITY.
18. SUBJECT PROPERTY ZONED M-1 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
19. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
20. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S; F-89-163, WP-91-82, WP-94-78 F-91-144, F-95-10 & SDP-96-83.
21. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
22. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
23. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
24. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
25. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
26. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
27. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
29. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
30. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
31. AS THIS PROJECT WAS SUBJECT TO FINAL PLANS AND MASS GRADING PLANS PRIOR TO THE FOREST CONSERVATION ACT 16.1202(b)(1)(iii), THERE ARE NO FOREST CONSERVATION REQUIREMENTS FOR THIS DEVELOPMENT.



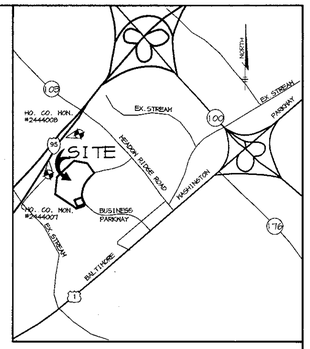

BUILDING #3 ELEVATION




BUILDING #4 ELEVATION




PLAN
SCALE: 1"=100'




VICINITY MAP
SCALE: 1"=2000'

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## AS-BUILT CONTROL BENCHMARKS

✓ HO. CO. SURVEY CONTROL
STATION: 2444007
N 493,871 E 863,851
ELEV. 252.125

✓ HO. CO. SURVEY CONTROL
STATION: 2444008
N 493,163 E 863,337
ELEV. 245.810

## SITE TABULATION

| | |
|---|---|
| TOTAL AREA | 19.580 AC. (852,923 SF) |
| TOTAL DISTURBED AREA | 18.70 AC. |
| CURRENT ZONING | M-1 |
| PROPOSED USE | WAREHOUSE BUILDINGS (SINGLE STORY, NO MEZZANINES) |
| BUILDING # 3 COVERAGE | 82,400 SQ. FT. |
| BUILDING # 4 COVERAGE | 220,800 SQ. FT. |
| REQUIRED PARKING | |
| BUILDING # 3 COVERAGE | 20% OFFICE @ 3.3 SP/1000 = 55 SP.<br>80% WAREHOUSE @ 0.5 SP/1000 = 33 SP. |
| BUILDING # 4 COVERAGE | 220,800 SQ. FT. @ 0.5 SP/1000 = 111 SP. |
| | TOTAL REQUIRED 199 SP. |
| PROPOSED PARKING | 341 SPACES (INCLUDES 12 HC SPACES) |

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/18/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

STATE OF MARYLAND — CHRISTOPHER J. REID — NO. 19949 — REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE

CHRISTOPHER J. REID #19949 — 2.13.01 DATE

## ADDRESS CHART

| LOT NUMBER | STREET ADDRESS |
|---|---|
| BUILDING 3 | 6670 BUSINESS PARKWAY |
| BUILDING 4 | 6680 BUSINESS PARKWAY |

| SUBDIVISION NAME: | | | SECT./AREA: | PARCEL: |
|---|---|---|---|---|
| MEADONRIDGE BUSINESS PARK | | | - | 362 |
| PLAT #: | BLOCK #: | ZONE: | TAX MAP NO. | ELECT. DIST | CENSUS TRACT: |
| 12534 | 22 | M-1 | 37 | 1st | 6012 |
| WATER CODE: | | | SEWER CODE: | |
| B01 | | | 2153000 | |

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP1.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 1 OF 25 |

AS-BUILT 02/12/01 SDP-99-168

M:\97320\PARCEL_G\SDP1.DWG Thu Oct 07 09:30:13 1999 RIEMER MUEGGE & ASSOCIATES, INC.

## LEGEND

| | |
|---|---|
| CONCRETE | |
| P-1 PAVING | |
| P-3 PAVING | |
| STD-REV | STANDARD CURB - REVERSE CURB |
| SITE LIGHT (SINGLE) - SEE NOTE 1 | |
| STREET LIGHT (SINGLE) - SEE NOTE 2 | |

NOTES:

1. SITE LIGHTS TO BE 400 WATT METAL HALIDE VERTICAL LAMPS ON SHOEBOXES ON 2'-6" BASE WITH 30' ROUND TAPERED POLE FINISHED IN DARK BRONZE.
2. STREET LIGHTS TO BE 250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING 12' ARM, ARM RADIAL TO FILLET.
3. ALL EXTERIOR LIGHTING SHALL CONFORM TO ZONING REGULATIONS SECTION 134.
4. ALL CURB RADII ARE 5' UNLESS OTHERWISE LABELED.
5. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE LABELED.
6. * LIMITS OF STD/REV CURB AND GUTTER.
7. SEE SHEET 3 FOR ALL SITE AND BUILDING DIMENSIONS.
8. ON JULY 29, 1999, THE PLANNING BOARD APPROVED THE PROPOSED DESIGN FOR THIS SITE ADJOINING THE BLACKSTONE CEMETERY AND THE TRINITY EPISCOPAL CEMETERY IN ACCORDANCE WITH SECTION 16.1304 (E).
9. SEE RETAINING WALL ELEVATIONS, SECTIONS & DETAILS ON SHEETS 15-23.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 16597, Expiration Date: 8/15/15

RICHARDSON ENGINEERING, LLC
FOR REV. #4 ONLY
6/9/15 REV #5 ONLY
GUARD SHACK

3/17/15

AS-BUILT CERTIFICATE

CHRISTOPHER J. REID # 19949 — DATE: 2.13.01

| DATE | NO. | REVISION |
|---|---|---|
| 3/17/15 | 4 | ADDITIONAL CHAIN LINK FENCE & GATES |
| 4.10.00 | 3 | DELETED OUTSIDE METER VAULT, ADDED INSIDE METER - BLDG 4. |

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

| DATE | NO. | REVISION |
|---|---|---|
| 4.10.00 | 2 | REVISE RETAINING WALL |
| 11.08.99 | 1 | REV. SANITARY SEWER TO BLDG. 4 AND FIRE LINE LOCATION |

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

# SITE DEVELOPMENT PLAN

| SWMF#1 SUMMARY CHART DA: 10.2 AC. | | | |
|---|---|---|---|
| STORM | 2 YR. | 10 YR. | 100 YR. |
| ALLOWABLE RELEASE RATE (CFS) | 1.12 | 9.53 | - |
| INFLOW (CFS) | 29.58 | 51.50 | 76.92 |
| DISCHARGE (CFS) | 0.91 | 8.15 | 76.92 |
| ELEVATION (FEET) | 234.79 | 237.00 | 238.97 |
| STORAGE (ACRE-FEET) | 1.28 | 1.87 | 1.99 |

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

ARTHUR E. MUEGGE #8707

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO: 97320/PARCEL_G SDP2.DWG
DATE: OCTOBER 11, 1999
SCALE: 1" = 50'
DRAWING NO. 2 OF 25

AS-BUILT 02/12/01

SDP-99-168

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NOTES:

1. SEE RETAINING WALL DETAILS ON SHEETS 15-23. .

INTERSTATE ROUTE 95

GRID NORTH

BUILDING 4
FF = 271.50

BUILDING 3
FF = 273.50

BUSINESS PARKWAY
HOWARD COUNTY PUBLIC ROAD
MINOR COLLECTOR

FOR UNDERGROUND SWM DIMENSIONS SEE SHEET 12

BLUE STREAM PARTNERSHIP L. 994, F. 547

PREFAB LOADING RAMP SEE ARCH DWGS

DUMPSTER & COMPACTOR FOR ENCLOSURE SEE ARCH DWGS

LOADING RAMP SEE ARCH DWGS

FOR STAIR DETAILS SEE ARCH DWGS

OVERHEAD DOORS (TYP)

LOADING AREA

6' CONC. SIDEWALK

5' CONC. RAMP W/ 6' LEVEL LANDING

TRANSFORMER

WATER VAULT

ALBERT BATZE, SR.
YONG CHA BATZE
L. 1292, F. 334
9-538
BLACKSTONE
ST. STEPHENS
AME CEMETERY
37-3

CL FENCE & CEMETERY BOUNDARY

20' PRIVATE CEMETERY ACCESS EASEMENT FOR INGRESS AND EGRESS Liber 9892 Folio 0702

EX. 20' PRIVATE CEMETERY ACCESS EASEMENT FOR INGRESS AND EGRESS PLAT NO. 9042

EX. 20' PRIVATE ACCESS EASEMENT FOR INGRESS AND EGRESS PLAT NO. 9042

PROPERTY OF THE VESTRY OF QUEEN CAROLINE PARISH L.20, F.563 TRINITY EPISCOPAL CEMETERY 37-2

MEADOWRIDGE BUSINESS PARK PARCELS J-1 AND D-1 A RESUBDIVISION OF PARCELS D & J AS SHOWN ON PLAT NO. 9892

MEADOWRIDGE BUSINESS PARK PARCELS G & F-1 A RESUBDIVISION OF PARCELS I & K-1 AS SHOWN ON PLAT NO. 11673

MEADOWRIDGE BUSINESS PARK PARCELS F-2 AND G-2 A RESUBDIVISION OF PARCELS G & F-1 AS SHOWN ON PLAT NO. 11673

EX. INLET I-56 TO BE CONVERTED TO MANHOLE M-8 RIM ELEV. 261.7 & 10" STORM DRAIN STUB TO BE REMOVED

EX. ELEC. MH TO BE ADJUSTED

STREET LIGHT TO BE REMOVED

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/16/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: GEOMETRY PLAN

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE No. 8707 — PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP3.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | 1" = 50' |
| DRAWING NO. | 3 OF 25 |

SDP-99-168

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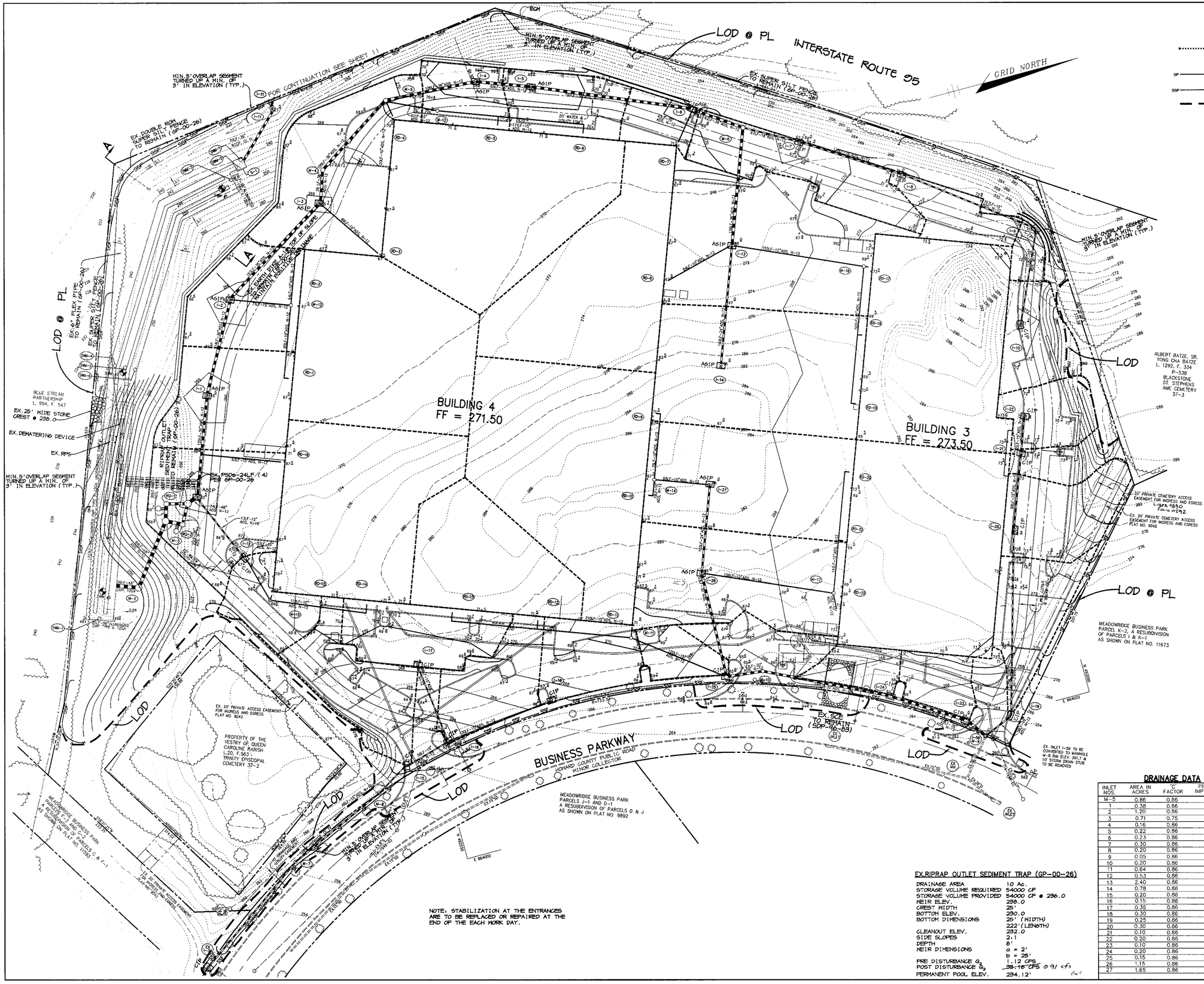


## LEGEND

- DRAINAGE AREA DIVIDE
- EX. EARTH DIKE A-1 UNDER GP-00-26
- SF — SF — SF SILT FENCE
- SSF — SSF — SSF SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- IP INLET PROTECTION
- EGM EROSION CONTROL MAT

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 10.11.99

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER — DATE 10.11.99

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/18/99

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/20/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/15/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE GRADING, SEDIMENT CONTROL PLAN & DRAINAGE AREA MAP

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.997.8900 fax 410.997.9282

DATE
STATE OF MARYLAND — ARTHUR E. MUEGGE, JR. — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP4.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | 1" = 50' |
| DRAWING NO. | 4 OF 25 |

SDP-99-168

## DRAINAGE DATA

| INLET NOS. | AREA IN ACRES | 'C' FACTOR | PERCENT IMPERVIOUS |
|---|---|---|---|
| M-5 | 0.86 | 0.86 | 100 |
| 1 | 0.38 | 0.86 | 100 |
| 2 | 1.20 | 0.86 | 100 |
| 3 | 0.71 | 0.75 | 80 |
| 4 | 0.16 | 0.86 | 100 |
| 5 | 0.22 | 0.86 | 100 |
| 6 | 0.23 | 0.86 | 100 |
| 7 | 0.30 | 0.86 | 100 |
| 8 | 0.20 | 0.86 | 100 |
| 9 | 0.05 | 0.86 | 100 |
| 10 | 0.20 | 0.86 | 50 |
| 11 | 0.64 | 0.86 | 0 |
| 12 | 0.53 | 0.86 | 100 |
| 13 | 2.40 | 0.86 | 100 |
| 14 | 0.78 | 0.86 | 100 |
| 15 | 0.20 | 0.86 | 100 |
| 16 | 0.15 | 0.86 | 100 |
| 17 | 0.35 | 0.86 | 100 |
| 18 | 0.30 | 0.86 | 100 |
| 19 | 0.25 | 0.86 | 100 |
| 20 | 0.30 | 0.86 | 100 |
| 21 | 0.10 | 0.86 | 100 |
| 22 | 0.20 | 0.86 | 100 |
| 23 | 0.10 | 0.86 | 100 |
| 24 | 0.20 | 0.86 | 100 |
| 25 | 0.15 | 0.86 | 100 |
| 26 | 1.15 | 0.86 | 100 |
| 27 | 1.65 | 0.86 | 100 |

## EX.RIPRAP OUTLET SEDIMENT TRAP (GP-00-26)

| | |
|---|---|
| DRAINAGE AREA | 10 Ac. |
| STORAGE VOLUME REQUIRED | 54000 CF |
| STORAGE VOLUME PROVIDED | 54000 CF @ 236.0 |
| WEIR ELEV. | 236.0 |
| CREST WIDTH | 25' |
| BOTTOM ELEV. | 230.0 |
| BOTTOM DIMENSIONS | 25' (WIDTH) 222'(LENGTH) |
| CLEANOUT ELEV. | 232.0 |
| SIDE SLOPES | 2:1 |
| DEPTH | 8' |
| WEIR DIMENSIONS | a = 2' b = 25' |
| PRE DISTURBANCE $Q_2$ | 1.12 CFS |
| POST DISTURBANCE $Q_2$ | 38.18 CFS 0.91 cfs |
| PERMANENT POOL ELEV. | 234.12' |

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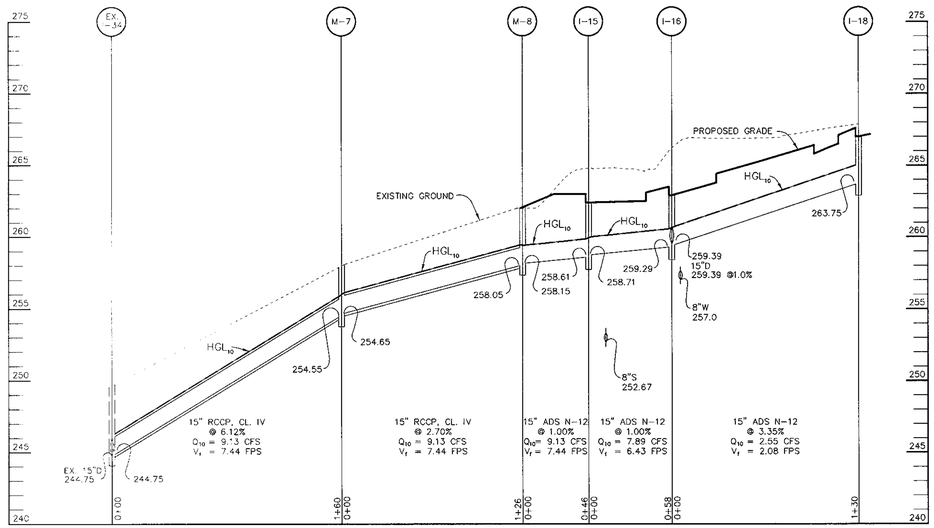
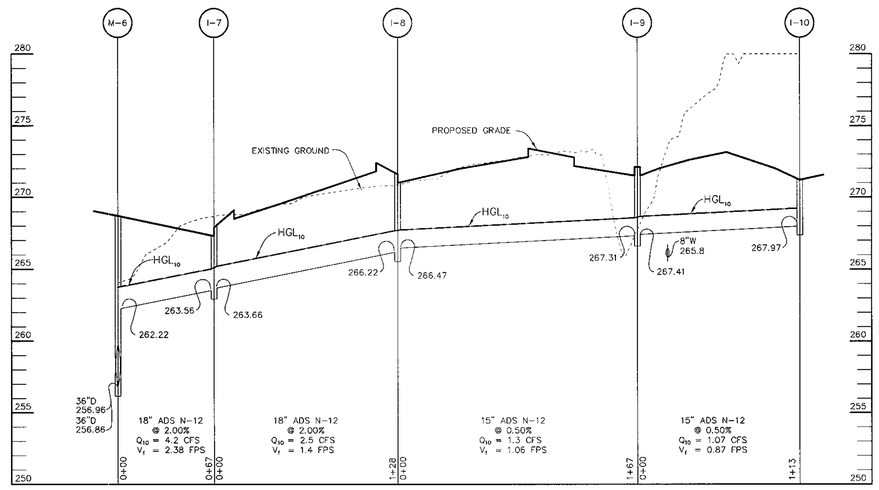


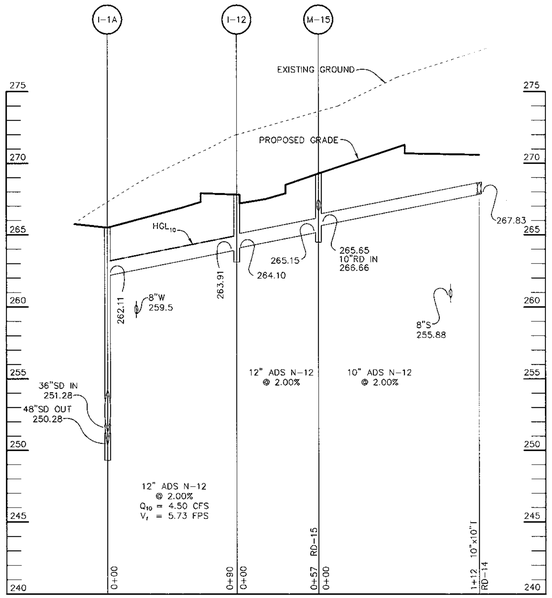

## STORM DRAIN PROFILE

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



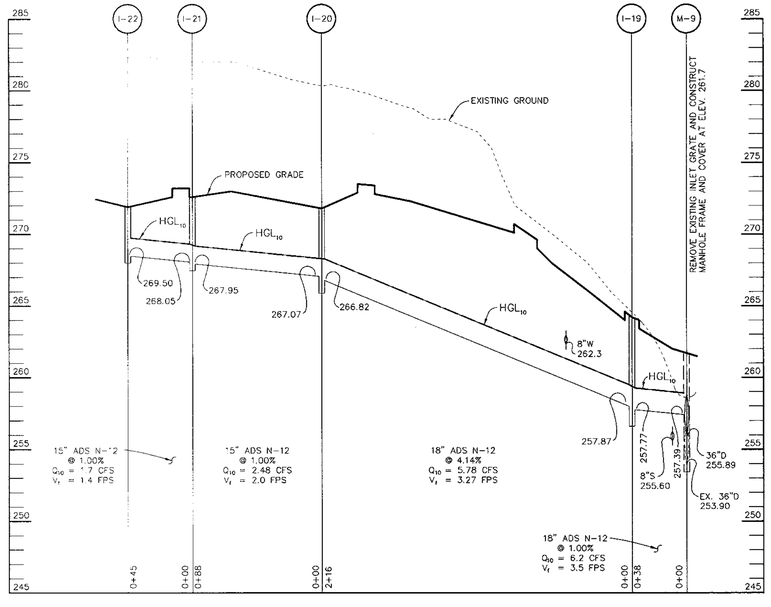

## STORM DRAIN PROFILE

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



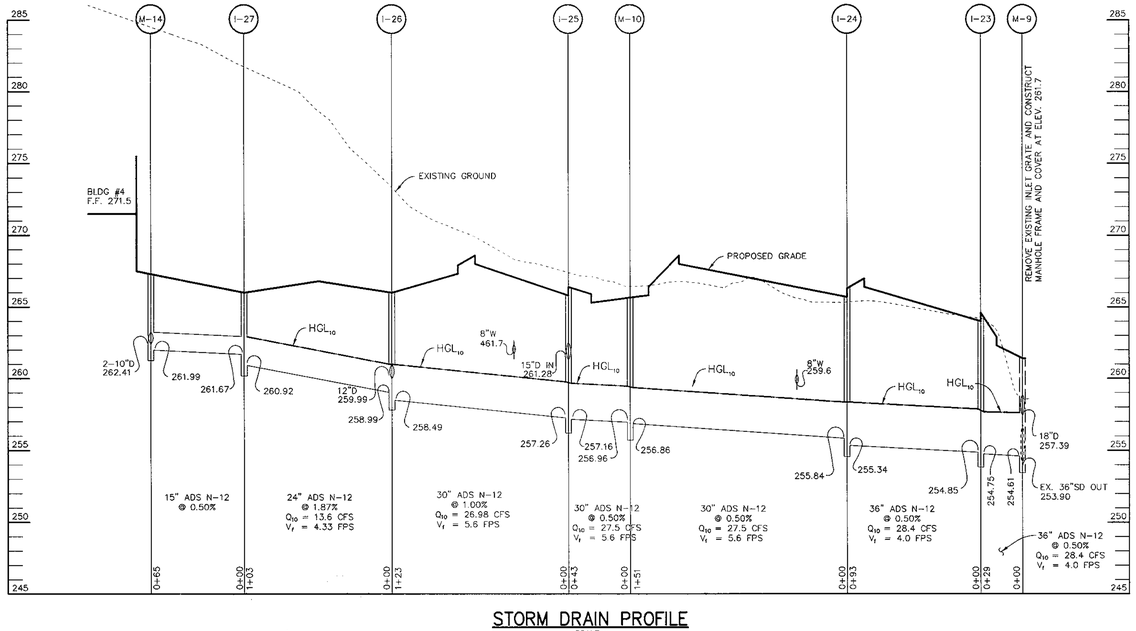

## STORM DRAIN PROFILE

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




## STORM DRAIN PROFILE

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




## STORM DRAIN PROFILE

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/15/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP5.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 5 OF 25 |

SDP-99-168

M:\97320\PARCEL_G\SDP5.DWG Thu Oct 07 10:17:36 1999 RIEMER MUEGGE & ASSOCIATES, INC.

# STRUCTURE SCHEDULE

| STRUCTURE | TYPE | LOCATION | | INV. IN | INV. OUT | TOP | DIMENSIONS SEE NOTE 5 | REMARKS |
|---|---|---|---|---|---|---|---|---|
| I-1 | S | N 492,098 | E 863,401 | 259.70 (15")<br>251.98 (36") | 251.88 (36") | 265.5 GRATE | 5'L x 5'W | HOCO STD. DETAIL SD 4.22 |
| I-2 | S | N 492,153 | E 863,300 | 257.31 (15")<br>252.65 (36") | 252.55 (36") | 265.5 GRATE | 5'L x 5'W | HOCO STD. DETAIL SD 4.22 |
| I-3 | S | N 492,282 | E 863,218 | 262.59 (10")<br>253.51 (36") | 253.41 (36") | 265.7 GRATE | 5'L x 5'W | HOCO STD. DETAIL SD 4.22 |
| I-4 | S | N 492,494 | E 863,129 | 255.07 (36") | 254.97 (36") | 268.8 GRATE | 5'L x 2'7"W | HOCO STD. DETAIL SD 4.22 |
| I-5 | S | N 492,555 | E 863,152 | 255.49 (36") | 255.39 (36") | 268.8 GRATE | 5'L x 2'7"W | HOCO STD. DETAIL SD 4.22 |
| I-6 | S COMB | N 492,731.79 | E 863,223.85 | 265.87 (10")<br>256.55 (36") | 256.45 (36") | 269.9 TC | 5'L x5'W | HOCO STD. DETAIL SD 4.32 |
| I-7 | S COMB | N 492,841.48 | E 863,294.02 | 263.66 (18") | 263.56 (18") | 267.9 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-8 | S COMB | N 492,947.26 | E 863,361.70 | 266.47 (15") | 266.22 (18") | 271.6 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-9 | A-5 | N 493,079.49 | E 863,465.31 | 267.41 (15") | 267.31 (15") | 272.0 TC | 5'L x 2'6"W | HOCO STD. DETAIL SD 4.01 |
| I-10 | S COMB | N 493,032.27 | E 863,567.63 | – | 267.97 (15") | 271.8 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-11 | D | N 492,258 | E 863,098 | 220.00 (30") | 217.27 (30") | 227.5 | 5'L x 5'W | HOCO STD. DETAIL SD 4.11 |
| I-12 | A-5 | N 492,090.03 | E 863,595.71 | 264.10 (12") | 263.91 (12") | 267.7 TC | 5'L x 2'6"W | HOCO STD. DETAIL SD 4.01 |
| I-13 | DOUBLE S | N 492,733 | E 863,391 | 262.39 (10")<br>259.65 (12")<br>258.65 (24") | 257.65 (36") | 266.0 GRATE | 5'6 1/2"L x 2'7 1/2"W | HOCO STD. DETAIL SD 4.23 |
| I-14 | DOUBLE S | N 492,685 | E 863,523 | – | 261.87 (24") | 266.0 GRATE | 5'6 1/2"L x 2'7 1/2"W | HOCO STD. DETAIL SD 4.23 |
| I-15 | S COMB | N 492,208.63 | E 863,876.89 | 258.71 (15") | 258.61 (15") | 263.0 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-16 | S COMB | N 492,264.39 | E 863,863.71 | 259.39 (15")<br>259.39 (15") | 259.29 (15") | 263.5 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-17 | S COMB | N 492,252.56 | E 863,768.75 | – | 263.42 (15") | 268.4 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-18 | S COMB | N 492,392.39 | E 863,848.94 | – | 263.75 (15") | 267.6 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-19 | A-5 | N 492,903.18 | E 864,001.77 | 257.87 (18") | 257.77 (18") | 264.2 TC | 5'L x 3'6"W | HOCO STD. DETAIL SD 4.01 |
| I-20 | S COMB | N 492,963.44 | E 863,794.20 | 267.07 (15") | 266.82 (18") | 272.4 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-21 | S COMB | N 492,994.32 | E 863,711.04 | 268.05 (15") | 267.95 (15") | 273.2 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-22 | S COMB | N 493,009.58 | E 863,670.00 | – | 269.50 (15") | 272.5 TC | 3'5"L x 2'7"W | HOCO STD. DETAIL SD 4.32 |
| I-23 | A-5 | N 492,854.21 | E 863,993.47 | 254.85 (36") | 254.75 (36") | 264.6 TC | 5'L x 4'W | HOCO STD. DETAIL SD 4.01 |
| I-24 | A-5 | N 492,776.07 | E 863,943.15 | 255.84 (30") | 255.34 (36") | 266.3 TC | 5'L x 4'W | HOCO STD. DETAIL SD 4.01 |
| I-25 | A-5 | N 492,596.68 | E 863,871.61 | 261.28 (15")<br>257.26 (30") | 257.16 (30") | 266.4 TC | 5'L x 4'W | HOCO STD. DETAIL SD 4.01 |
| I-26 | DOUBLE S | N 492,600 | E 863,750 | 259.99 (12")<br>258.99 (24") | 258.49 (30") | 266.0 GRATE | 5'6 1/2"L x 2'7 1/2"W | HOCO STD. DETAIL SD 4.23 |
| I-27 | DOUBLE S | N 492,636 | E 863,653 | 261.67 (15") | 260.92 (24") | 266.0 GRATE | 5'6 1/2"L x 2'7 1/2"W | HOCO STD. DETAIL SD 4.23 |
| I-1A | S | N 492,056 | E 863,512 | 262.11 (12")<br>251.28 (36") | 250.28 (48") | 265.5 GRATE | 6'L x 5'W | HOCO STD. DETAIL SD 4.22 |
| M-1 | SHALLOW MANHOLE | N 492,351 | E 862,921 | 216.27 (30") | 216.17 (30") | 222.5 | 4'0" x 4'0" | MSHA STD. DETAIL MD 383.00 |
| M-2 | 8' MH | N 491,963 | E 863,596 | 244.10(48") | 233.90 (48") | 250.0 | 8'0"DIAMETER | MSHA STD. DETAIL MD-384.09 |
| M-3 | 8' MH | N 492,013 | E 863,529 | 249.24 (48")<br>249.24 (48") | 249.14 (48") | 266.5 | 6'0"DIAMETER BRICK | MSHA STD. DETAIL MD-384.09<br>SEE SHEET 25 FOR SPLITTER WALL |
| M-4 | 5' MH | N 492,296 | E 863,182 | 253.80 (36") | 253.70 (36") | 266.7 | 5'0"DIAMETER | HOCO STD. DETAIL G 5.13 |
| M-5 | 5' MH | N 492,388 | E 863,123 | 265.32 (15")<br>254.44 (36") | 254.34 (36") | 269.5 | 5'0"DIAMETER | HOCO STD. DETAIL G 5.13 |
| M-6 | 5' MH | N 492,781 | E 863,262 | 262.22 (18")<br>256.96 (36") | 256.86 (36") | 268.9 | 5'0"DIAMETER | HOCO STD. DETAIL G 5.13 |
| M-7 | 4' MH | N 492,056 | E 863,951 | 254.65 (15") | 254.55 (15") | 258.0 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-8 | 4' MH | N 492,171 | E 863,900 | 258.15 (15") | 258.05 (15") | 261.8 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-9 | 5' MH | N 492,870 | E 864,018 | 257.39 (18")<br>254.61 (36") | 253.90 (36") | 261.7 | 5'0"DIAMETER | HOCO STD. DETAIL G 5.13 |
| M-10 | 5' MH | N 492,639 | E 863,879 | 256.96 (30") | 256.86 (30") | 265.5 | 5'0"DIAMETER | HOCO STD. DETAIL G 5.13 |
| M-11 | 4' MH | N 492,501 | E 863,801 | 267.11 (10")<br>265.27 (15") | 265.12 (15") | 270.5 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-12 | 4' MH | N 492,219 | E 863,324 | 262.29 (10")<br>262.29 (10") | 261.74 (15") | 267.3 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-13 | 4' MH | N 492,443 | E 863,150 | 266.26 (15") | 265.63 (15") | 270.7 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-14 | 4' MH | N 492,575 | E 863,631 | 262.41 (10")<br>262.41 (10") | 261.99 (15") | 267.3 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-15 | 4' MH | N 492,107 | E 863,650 | 266.66 (10")<br>265.65 (10") | 265.15 (12") | 269.3 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-16 | 4' MH | N 492,875 | E 863,454 | 265.83 (10")<br>262.85 (12") | 262.75 (12") | 269.3 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-17 | 4' MH | N 492,742 | E 863,812 | 265.18 (10")<br>263.21 (12") | 263.11 (12") | 269.3 | 4'0"DIAMETER | HOCO STD. DETAIL G 5.12 |
| M-3A | 8' MH | N 492,043 | E 863,516 | ~~250.21~~ 249.85 (48") | 249.~~96~~ .81 (36")<br>249.96 (36") | 265.~~8~~ .45 | 8'0"DIAMETER | MSHA STD. DETAIL MD-384.09 |
| S-1 | - | N 492,204 | E 863,150 | 230.00 (96") | 228.50 (30") | 241.0 | – | SEE SHEET 24 |
| | | | | | | | | |
| WQ-1 | 5K | N 492,019 | E 863,512 | ✓249.84 (36") | ✓249.34 (48") | 265.75 ~~266.3~~ | 72" DIA. x 72" DIA. | BAYSAVER SYSTEM SEE SHEET 12 |
| WQ-2 | 5K | N 492,031 | E 863,538 | ✓249.84 (36") | ✓249.34 (48") | 266.~~6~~ .24 | 72" DIA. x 72" DIA. | BAYSAVER SYSTEM SEE SHEET 12 |
| | | | | | | | | |
| E-1 | 30" END SECTION | N 492,286 | E 862, 854 | 215.70 (30") | – | – | 30" DIAMETER | MSHA STD. DETAIL MD 368.01 |
| SMH 8 | 4' MH | N 492,753 | E 863,256 | 260.53 (8") | 260.43 (8") | 269.5 | 4'0" DIAMETER | HOCO STD DETAIL G 5.12 |
| SMH 9 | 4' MH | N 492,467 | E 863,153 | 263.67 (8") | 263.57 (8") | 270.4 | 4'0" DIAMETER | HOCO STD DETAIL G 5.12 |
| SMH 1 | 4' MH | N 492,877 | E 864,024 | 255.50 (8") | 249.70 (8") | 261.7 | 4'0" DIAMETER | HOCO STD. DETAIL G 5.12 |
| SMH 2 | 4' MH | N 492,883 | E 863,984 | 256.00 (8") | 255.90 (8") | 264.3 | 4'0" DIAMETER | HOCO STD. DETAIL G 5.12 |
| SMH 3 | 4' MH | N 492,818 | E 863,939 | 256.89 (8") | 256.79 (8") | 266.5 | 4'0" DIAMETER | HOCO STD. DETAIL G 5.12 |
| SMH 4 | 4' MH | N 492,223 | E 863,884 | 252.20 (8") | 252.10 (8") | 262.2 | 4'0" DIAMETER | HOCO STD. DETAIL G 5.12 |
| SMH 5 | 4' MH | N 492,213 | E 863,842 | 254.32 (8")<br>254.32 (8") | 254.22 (8") | 263.6 | 4'0" DIAMETER | HOCO STD. DETAIL G 5.12 |
| SMH 6 | 4' MH | N 492,545 | E 863,817 | 257.35 (8") | 257.25 (8") | 269.4 | 4'0" DIAMETER | HOCO STD DETAIL G 5.12 |
| SMH 7 | 4' MH | N 492,647 | E 863,541 | 258.92 (8")<br>258.99 (8") | 258.82 (8") | 266.8 | 4'0" DIAMETER | HOCO STD DETAIL G 5.12 |
| SWM 1 | 3' MH | SEE SHEET 11 | | 229.43 | 228.10 | 241.~~8~~ .52 | 3'0" DIAMETER | SEE SHEET 24 |
| SWM 2 | 3' MH | SEE SHEET 11 | | – | – | 243.53 ~~244.3~~ | 3'0" DIAMETER | SEE SHEET 24 |
| SWM 3 | 3' MH | SEE SHEET 11 | | 229.73 | 229.71 | 245.83 ~~246.5~~ | 3'0" DIAMETER | SEE SHEET 24 |
| SWM 4 | 3' MH | SEE SHEET 11 | | 229.45 | 229.38 | 242.16 ~~240.7~~ | 3'0" DIAMETER | SEE SHEET 24 |
| SWM 5 | 3' MH | SEE SHEET 11 | | 230.00 | 229.92 | 247.47 ~~241.8~~ | 3'0" DIAMETER | SEE SHEET 24 |
| SWM 6 | 3' MH | SEE SHEET 11 | | 229.89 | 229.85 | 252.29 ~~245.5~~ | 3'0" DIAMETER | SEE SHEET 24 |
| SWM 7 | 3' MH | SEE SHEET 11 | | – | – | 248.8 | 3'0" DIAMETER | SEE SHEET 24 |

NOTES:
1. LOCATION OF S INLETS, WQ FACILITIES AND MANHOLES IS AT CENTER OF TOP COVER.
2. FOR 'A' AND 'S' COMB INLETS LOCATION IS GIVEN AT CENTER OF THROAT OPENING AT FACE OF CURB.
3. FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE.
4. TOP ELEVATION IS TOP OF CURB/GRATE/RIM.
5. DIMENSIONS ARE GIVEN AS INSIDE DIMENSIONS.

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

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

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

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

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

## BORING SWM-1
NO SCALE

## BORING SWM-2
NO SCALE

## BORING SWM-3
NO SCALE

## ⚠ WATER PROFILE (FIRE LINE)
SCALE: HOR. - 1"=50' VERT. - 1"=5'

AS-BUILT CERTIFICATE

CHRISTOPHER J. REID #19949 — DATE 2.13.01

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

| | |
|---|---|
| DIRECTOR | DATE 10/19/99 |
| CHIEF, DEVELOPMENT ENGINEERING DIVISION | DATE 10/15/99 |
| CHIEF, DIVISION OF LAND DEVELOPMENT | DATE 10/18/99 |

| DATE | NO. | REVISION |
|---|---|---|
| 11.08.99 | ⚠ | MODIFIED SEWER AND WATER PROFILES |

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
**PROFILES AND STRUCTURE SCHEDULE**


RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282


ARTHUR E. MUEGGE #8707

DESIGNED BY : CJR
DRAWN BY: DAM
PROJECT NO : 97320/PARCEL_G SDP6.DWG
DATE : OCTOBER 11, 1999
SCALE : AS SHOWN
DRAWING NO. 6 OF 25

AS-BUILT 02/12/01 SDP-99-168

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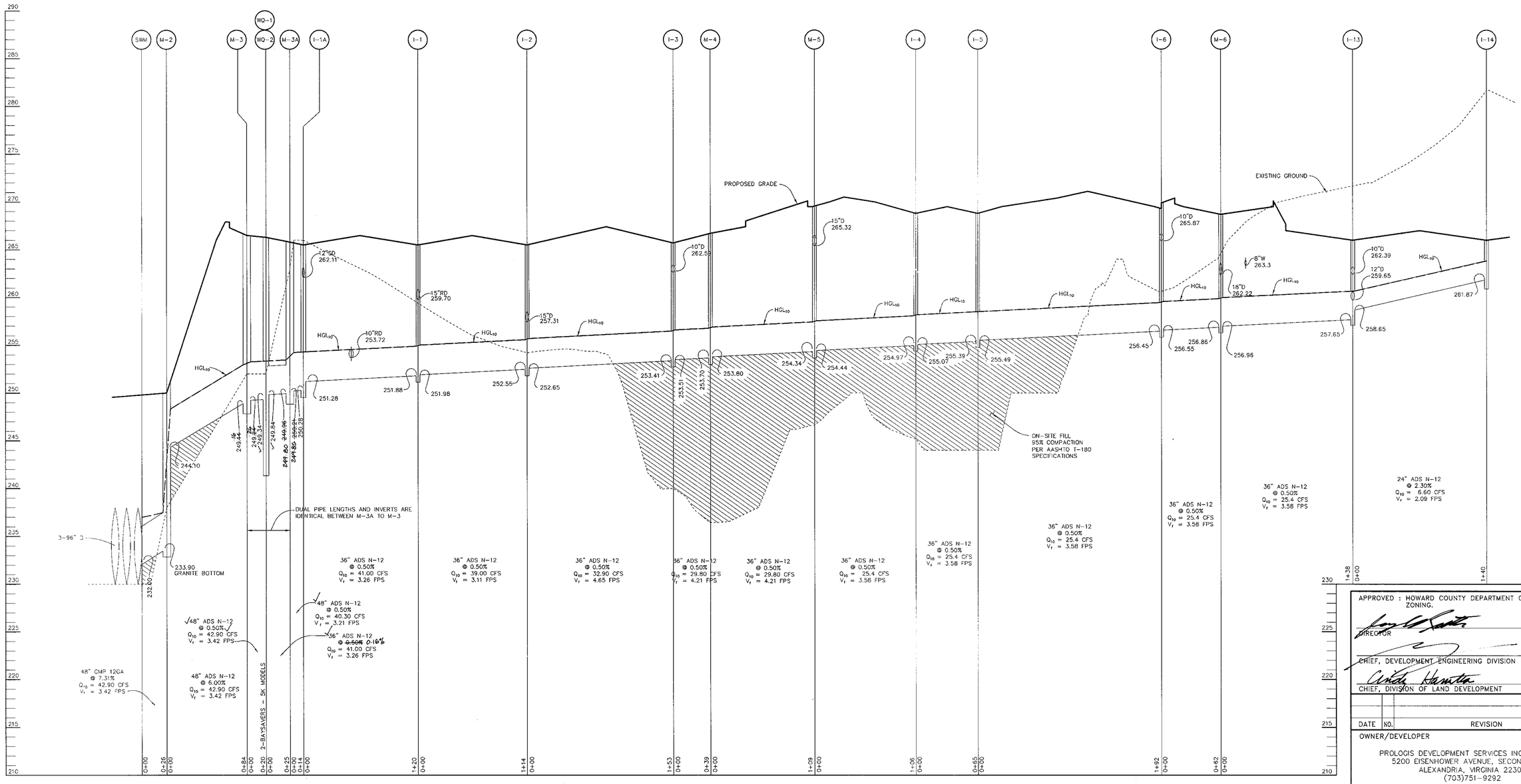
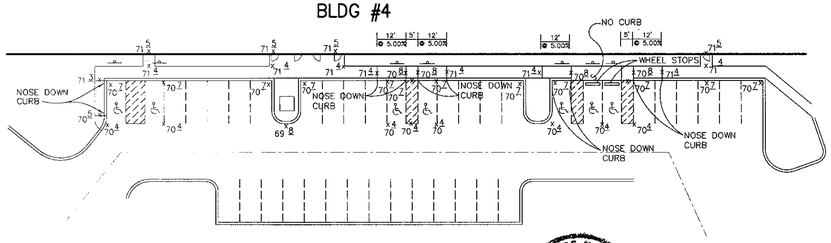
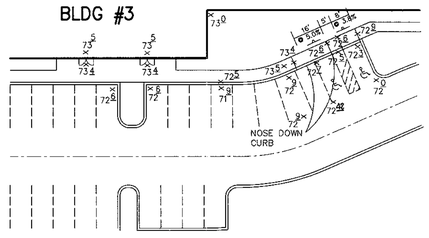



## STORM DRAIN PROFILE

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




PLAN #1
SCALE :
HOR.-1"=30'




PLAN #2
SCALE :
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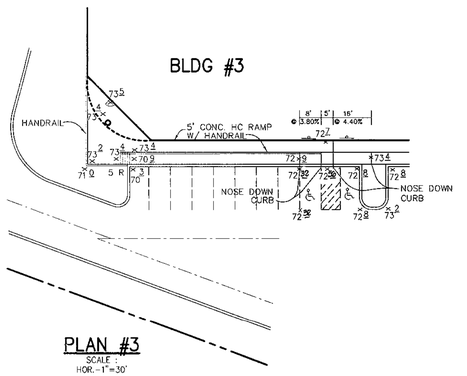


PLAN #3
SCALE :
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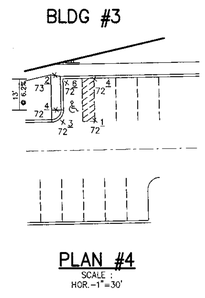


PLAN #4
SCALE :
HOR.-1"=30'

"AS BUILT CERTIFICATE

CHRISTOPHER J. REID #19949 — DATE 2-13-01

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/12/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/07/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE
STATE OF MARYLAND — ARTHUR E. MUEGGE No. 8707 REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP7.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 7 OF 25 |

AS-BUILT 02|12|01 SDP-99-168

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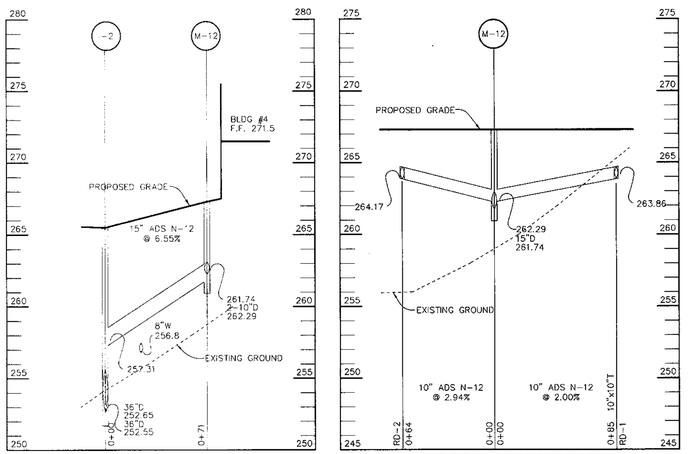


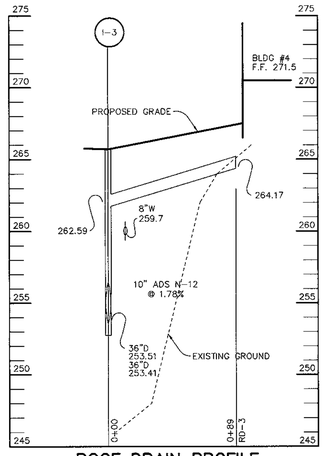

## ROOF DRAIN PROFILE

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



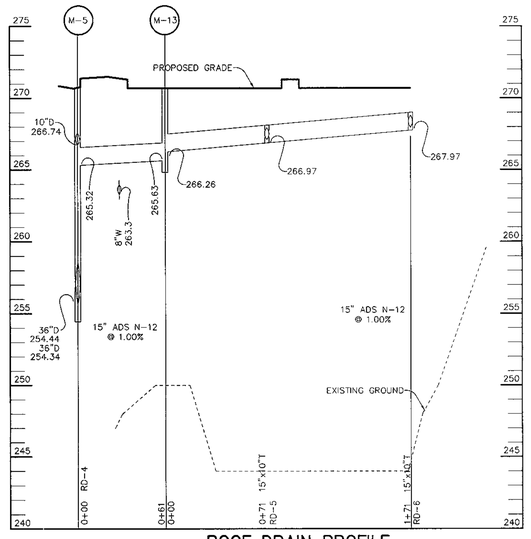

## ROOF DRAIN PROFILE

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



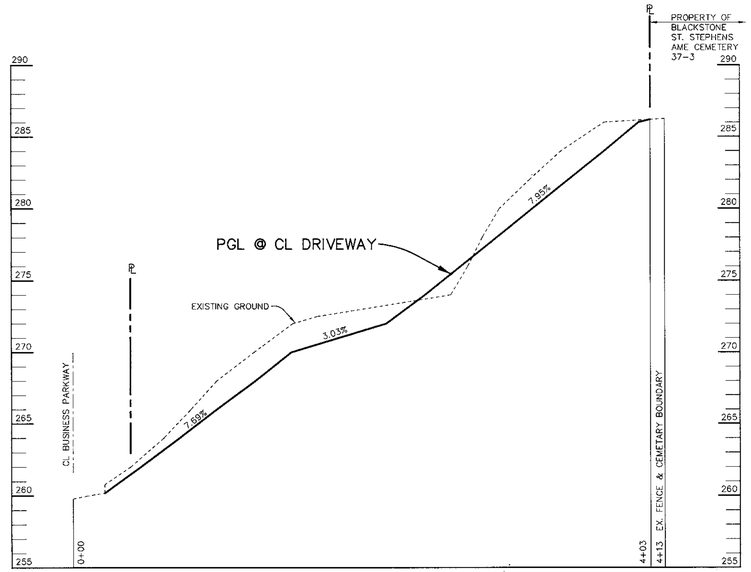

## ROOF DRAIN PROFILE

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




## ROOF DRAIN PROFILE

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




## CEMETERY DRIVEWAY PROFILE

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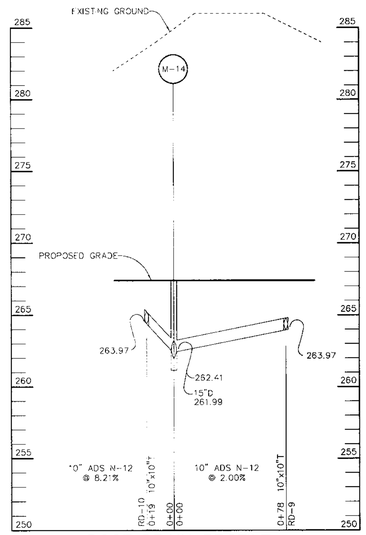


## ROOF DRAIN PROFILE

SCALE :
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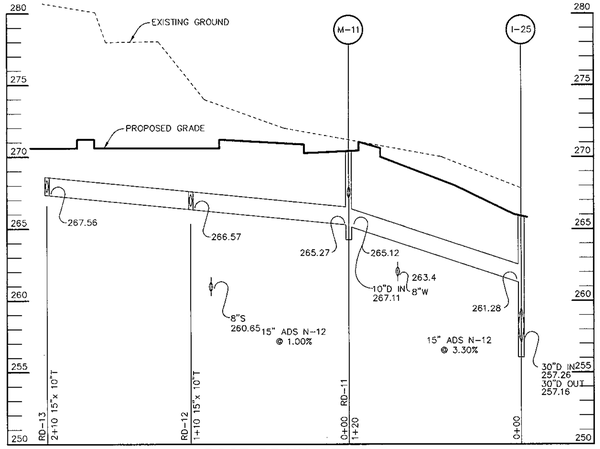


## ROOF DRAIN PROFILE

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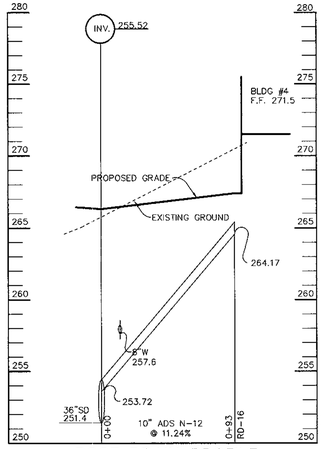
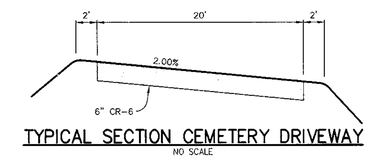
VERT.-1"=5'



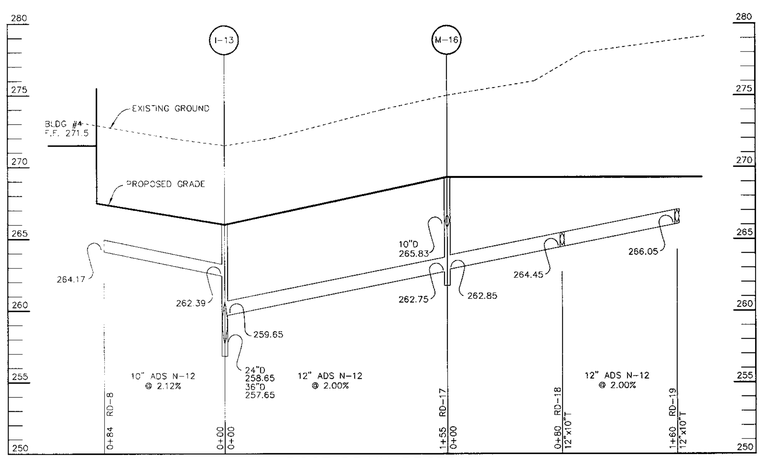

## ROOF DRAIN PROFILE

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




## TYPICAL SECTION CEMETERY DRIVEWAY

NO SCALE




## ROOF DRAIN PROFILE

SCALE :
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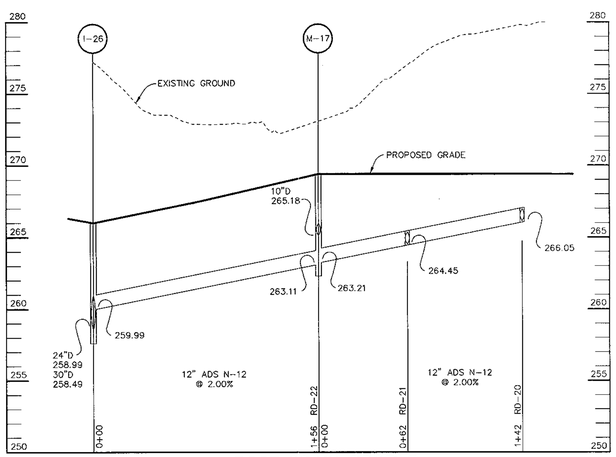
VERT.-1"=5'




## ROOF DRAIN PROFILE

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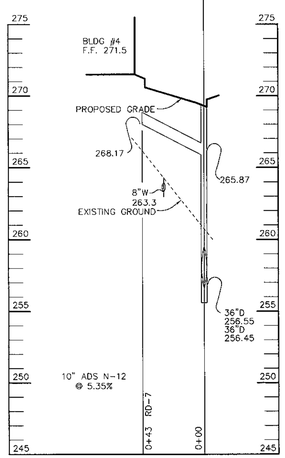


## ROOF DRAIN PROFILE

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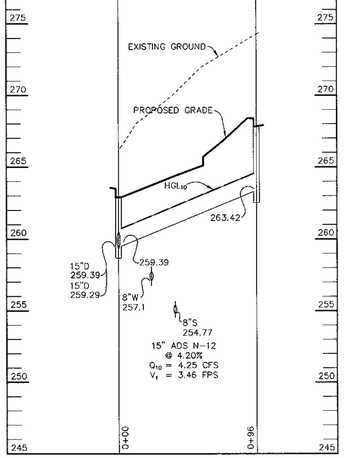



## STORM DRAIN PROFILE

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
ROOF DRAIN PROFILES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE
STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

DESIGNED BY : CJR
DRAWN BY: DAM
PROJECT NO : 97320/PARCEL_G SDP12.DWG
DATE : OCTOBER 11, 1999
SCALE : AS SHOWN
DRAWING NO. 8 OF 25

SDP-99-168

M:\97320\PARCEL_G\SDP12.DWG Thu Oct 07 10:54:44 1999 RIEMER MUEGGE & ASSOCIATES, INC.

## TEMPORARY SEEDING NOTES

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

Seedbed 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 lbs. per 1000 sq.ft.).

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 rye (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 mulch anchoring tool or 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.

Seedbed 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 ureaform 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 1 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. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 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 mulch anchoring tool or 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 reseedings.

## STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL 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 7, 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED 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 | 19.56 ACRES |
| AREA DISTURBED | 18.70 ACRES |
| AREA TO BE ROOFED OR PAVED | 14.70 ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | 4.00 ACRES |
| TOTAL CUT | 40,000 CU. YARDS |
| TOTAL FILL | 40,000 CU. YARDS |

OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT

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. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, 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.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN CUT ELEVATION SHOWN ON THE PLANS.
14. 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.

### 21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

**Definition**

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

**Purpose**

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

**Conditions Where Practice Applies**

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note- Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

III. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

1. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of application of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

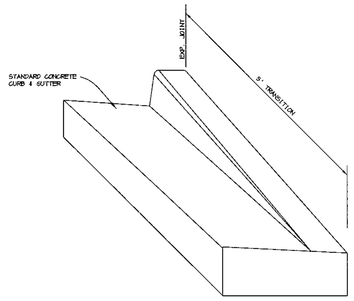
References. Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

## SEQUENCE OF CONSTRUCTION

1. OBTAIN NEW GRADING PERMIT.
2. REPAIR AS NECESSARY CONTROLS UNDER GP-00-26.
3. INSTALL SUPER SILT FENCE AND SILT FENCE. (2 DAYS)
4. ROUGH GRADE SITE AND COMMENCE BUILDING CONSTRUCTION.
5. AS SUBGRADES ARE ESTABLISHED, INSTALL STORMS I-19 TO I-22, I-19 TO I-27 AND EX. I-34 TO I-17 & I8. INSTALL WATER AND SEWER UTILITIES. (2 WEEKS)
6. INSTALL CURB AND GUTTER THEN PAVE. (1 MONTH)
7. APPLY TOPSOIL AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (3 DAYS)
8. INSTALL LIGHTS, LANDSCAPING, SIGNAGE AND SIDEWALKS. (2 WEEKS)
9. UPON PERMISSION OF DILP SEDIMENT CONTROL INSPECTOR, CLEAN STORM DRAIN INLETS AND FLUSH OUT PIPES. REMOVE EX. R.O.S.T. (GP-00-26) AND CONSTRUCT UNDERGROUND SWM AND REMAINING STORM DRAINS. (2 WEEKS)
10. UPON PERMISSION OF DILP SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES, STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)

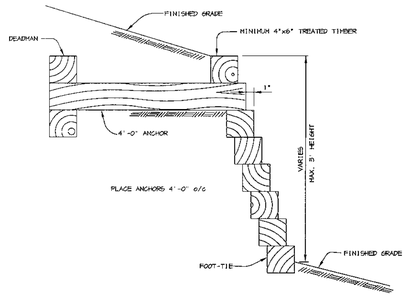
## STRUCTURE CS-1 NOTES

1. ALL CONSTRUCTION SHALL MEET THE HOWARD CO. STANDARDS AND SPECIFICATIONS.
2. CONCRETE STRENGTH TO BE 4,000 psi MIN. AT 28 DAYS.
3. REINFORCEMENT SHALL BE CLEAN AND FREE OF RUST AND MEET ASTM-615 GRADE 60.
4. ALL REINFORCEMENT SHALL HAVE 2" MINIMUM COVER EXCEPT BASE WHICH SHALL BE 3".
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
6. THE STRUCTURE FOUNDATION SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
7. THIS STRUCTURE SHALL BE CAST-IN-PLACE. CONTRACTOR TO PROVIDE WATERTIGHT CONNECTION TO ALUMINIZED 96" STEEL PIPE.
8. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT TWO COATS OF BATTLESHIP GRAY.
9. ALL ALUMINIZED PIPE IN CONTACT WITH CONCRETE SHALL BE COATED WITH BITUMINOUS COATING.



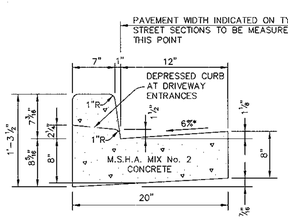

## NOSE DOWN CURB DETAIL

NO SCALE




## RETAINING WALL DETAIL

NO SCALE

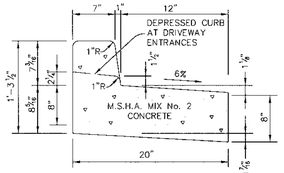



HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

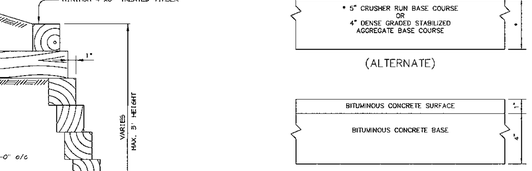
## STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE




## REVERSE 7" COMBINATION CURB AND GUTTER

NO SCALE



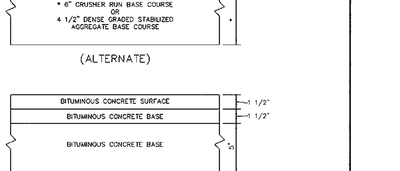

(ALTERNATE)




HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTUCTION (DRAWING R-2.01)

## P-1 PAVING

NO SCALE



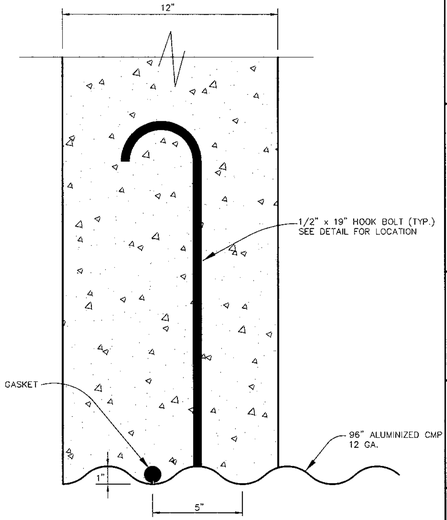

(ALTERNATE)




HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTUCTION (DRAWING R-2.01)

## P-3 PAVING

NO SCALE




NOTE: INSTALL RUBBER GASKET PRIOR TO POURING CONCRETE.

## WATERTIGHT CONNECTION FOR CS-1

SCALE: 1" = 4'

### OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER MANAGEMENT FACILITY

1. Underground structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the underground structures inspected yearly or as required by Howard County, utilizing the underground units Inspection/ Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed 5" then cleaning of the structures is required.
2. Underground facility structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
3. Maintenance of underground structures should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons, and other materials in the unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the underground facility will be repaired as needed.
5. Owner shall retain and make underground facility inspection/Monitoring Forms available to Howard County officials upon their request.

## CORRUGATED METAL PIPE BACKFILL AND BEDDING SPECIFICATIONS

1.0 BACKFILL

1.1 BACKFILL MATERIAL SHALL BE A WELL GRADED GRANULAR MATERIAL AND SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARD SPECIFICATIONS FOR FILL UNDER ROADS.

1.2 HIGHLY PLASTIC SILTS, HIGHLY PLASTIC CLAYS, ORGANIC SILTS, ORGANIC CLAYS, AND PEATS SHALL NOT BE USED AS BACKFILL MATERIALS.

1.3 BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6" TO 8" LOOSE LAYERS TO 1 FOOT ABOVE THE TOP OF THE PIPE. EACH LAYER IS TO BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY. ALL COMPACTION SHALL BE AASHTO T-99-C.

2.0 BEDDING

2.1 THE PIPE SHALL BE PLACED TO UNIFORM GRADE AND LINE TO ENSURE GOOD VERTICAL ALIGNMENT AND TO AVOID EXCESSIVE STRESSES AT PIPE JOINTS. THE BEDDING SHALL BE FREE OF ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS, AND OTHER FOREIGN MATERIAL. THE BEDDING FOUNDATION MUST BE A STABLE, WELL GRADED GRANULAR MATERIAL. ANY SUBGRADE THAT HAS INADEQUATE BEARING CAPABILITY MUST BE REMOVED AND REPLACED WITH A COMPACTED SELECT FILL APPROVED BY THE ENGINEER.

2.2 BEDDING MATERIALS SHALL BE NO. 57 STONE PER MSHA SPECIFICATIONS OR AN APPROVED EQUAL. SEE BEDDING DETAIL SHEET 10.

2.3 THE SELECT FILL SHALL BE AASHTO A-2-4. SEE DETAIL SHEET 10.

3.0 MATERIALS

3.1 PIPE - ALUMINIZED STEEL PIPE, TYPE II, 12 GA. THIS PIPE AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO 3.1 SPECIFICATIONS M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.

3.2 WATERTIGHT CONNECTIONS WILL BE HUGGARBAND-12" WIDE MINIMUM WITH SINGLE BAR AND STRAP CONNECTORS AND O-RING GASKETS.

## 30.0 – DUST CONTROL

**DEFINITION**

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

**PURPOSE**

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

**CONDITIONS WHERE PRACTICE APPLIES**

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

**SPECIFICATIONS**

TEMPORARY METHODS

1. MULCHES – SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER – SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE – TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION – THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS – SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIALS CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE – APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

1. PERMANENT VEGETATION – SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING – COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE II - 30 - 1 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 10-11-99

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER — DATE 10-11-99

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/99

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/5/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/19/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: DETAILS & NOTES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8618 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

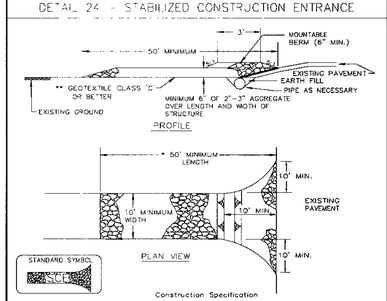
DATE
STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP8.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 9 OF 25 |

SDP-99-168

M:\97320\PARCEL_G\SDP8.DWG Thu Oct 07 10:35:47 1999 RIEMER MUEGGE & ASSOCIATES, INC

## DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

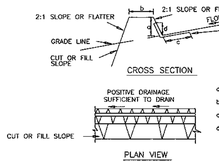



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 17 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL 1 - EARTH DIKE




| | DIKE A | DIKE B |
|---|---|---|
| a-DIKE HEIGHT | 18" | 30" |
| b-DIKE WIDTH | 24" | 36" |
| c-FLOW WIDTH | 4' | 5' |
| d-FLOW DEPTH | 12" | 24" |

STANDARD SYMBOL A-2 B-3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

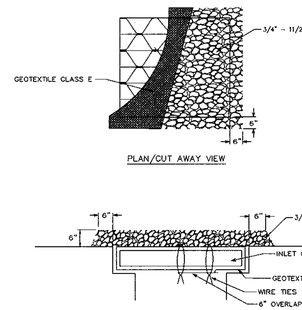
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE A - 1 - 6 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL 23B - AT GRADE INLET PROTECTION



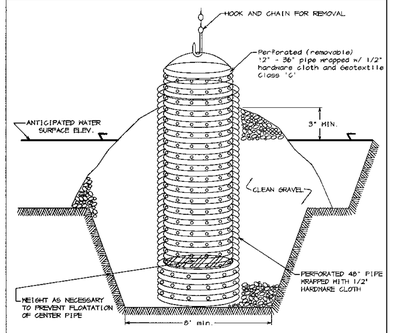

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 16 - 5A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

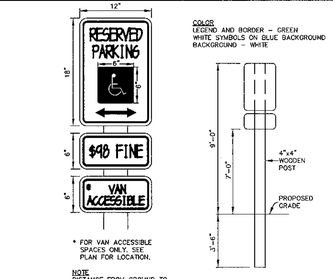
## DETAIL 20A - REMOVABLE PUMPING STATION




Construction Specifications

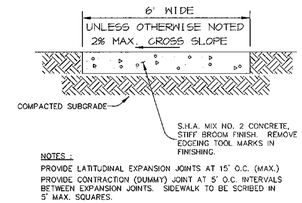
1. The outer pipe should be 45° dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when donating a basin.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE D - 12 - 4 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|




## HANDICAP SIGN DETAIL

NO SCALE




NOTES:

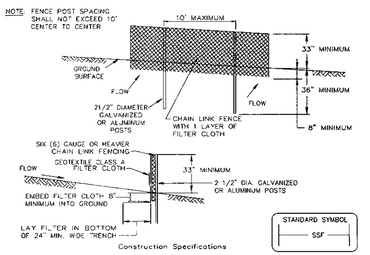
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)

PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5' MAX. SQUARES.

## SIDEWALK DETAIL

NO SCALE

## DETAIL 33 - SUPER SILT FENCE

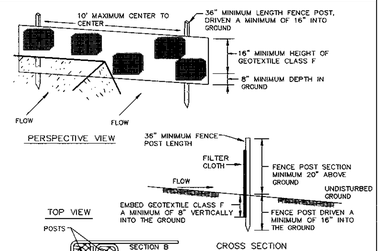



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6 foot fence shall be used, substituting 42" fabric and 6 foot length posts.
2. The posts do not need to be set in concrete.
3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier.
4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
5. Filter cloth shall be embedded a minimum of 8" into the ground.
6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
7. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE H - 26 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL 22 - SILT FENCE




Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

| | | |
|---|---|---|
| Tensile Strength | 50 lbs/in (min.) | Test: MSMT 509 |
| Tensile Modulus | 20 lbs/in (min.) | Test: MSMT 509 |
| Flow Rate | 0.3 gal ft ²/ minute (max.) | Test: MSMT 322 |
| Filtering Efficiency | 75% (min.) | Test: MSMT 322 |

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 15 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
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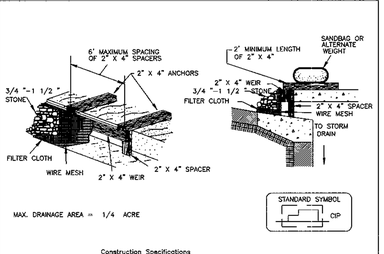
## DETAIL 23C - CURB INLET PROTECTION



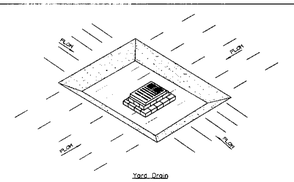

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 16 - 5B | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## STORM INLET SEDIMENT TRAP ST-III



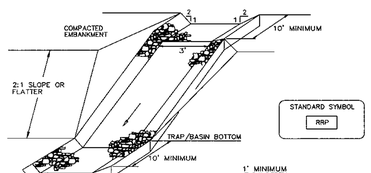

Construction Specifications For ST-III

1. Sediment shall be removed and the restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The volume of sediment storage shall be 3600 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the construction drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.

MAXIMUM DRAINAGE AREA 3 ACRES

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|

## DETAIL 5 - RIP-RAP INFLOW PROTECTION

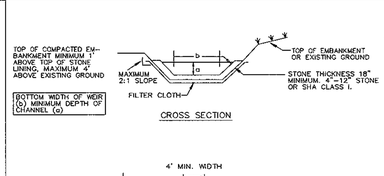



Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".
2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
6. Rip-rap should blend into existing ground.
7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

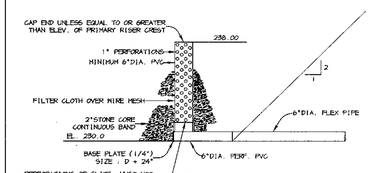
| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE B - 6 - 2 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

## DETAIL 10 - RIP-RAP OUTLET SEDIMENT TRAP - ST III




NOTE: MAXIMUM DRAINAGE AREA= 10 ac.

| U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE C - 9 - 13 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|---|---|---|

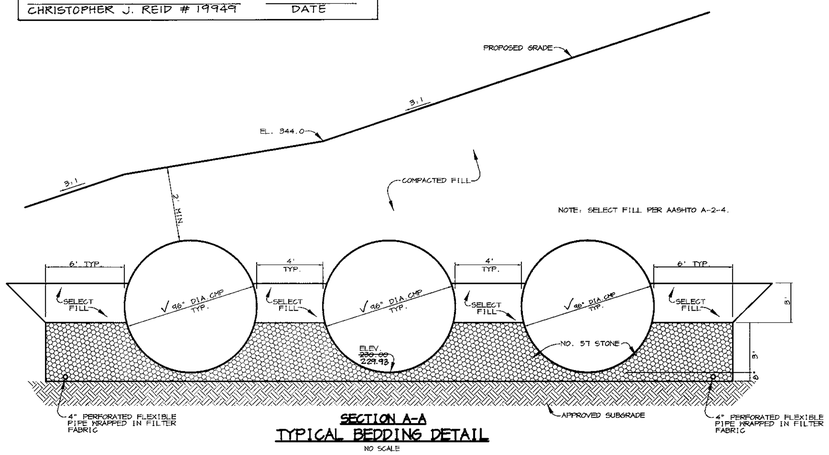



## SEDIMENT BASIN DEWATERING DEVICE I WITH 6" PERFORATED RISER

NO SCALE

AS-BUILT CERTIFICATE

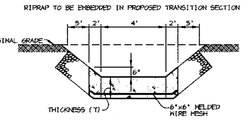
CHRISTOPHER J. REID # 19949 — 2.13.01 DATE



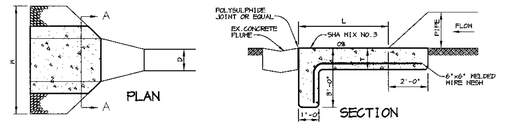

SECTION A-A
TYPICAL BEDDING DETAIL

NO SCALE

RIPRAP TO BE EMBEDDED IN PROPOSED TRANSITION SECTION




SECTION A-A




NOTE: $a_{10}$ , V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

| STRUCTURE | MEDIAN STONE DIA. | LENGTH (L) | WIDTH (W) | THICKNESS (T) | $a_{10}$ | V | DEPTH |
|---|---|---|---|---|---|---|---|
| E-1 | 9.5" | 25' | 18' | 18" | 32.71 | 6.66 | 1.54 |
| | | | | | | | |

## CONCRETE FLUME AND RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

### CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — DATE 10.11.99

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER — DATE 10.11.99

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/18/99

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/18/99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/15/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: DETAILS & NOTES


RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282


DATE

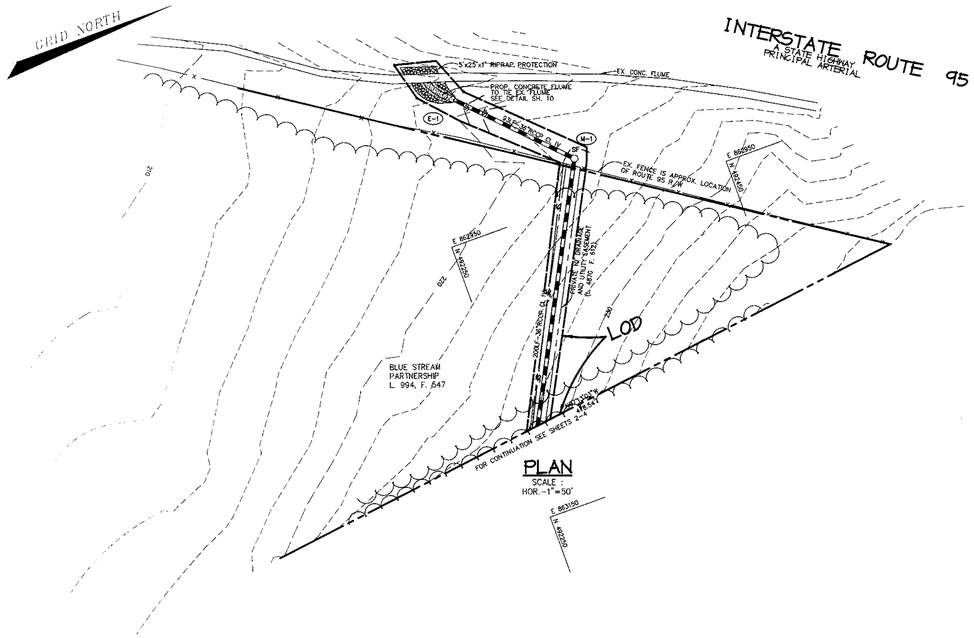
STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

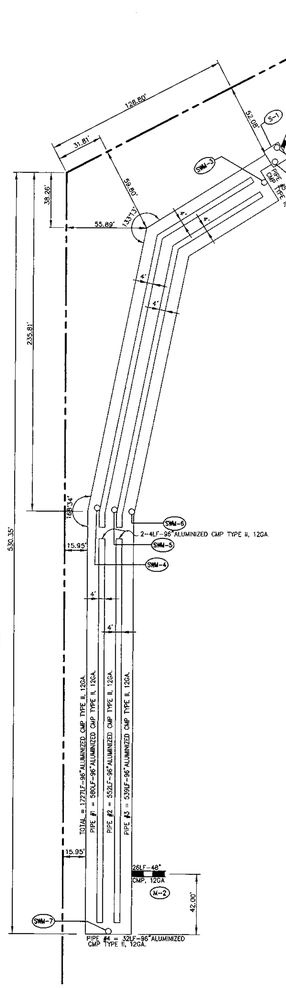
ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP99.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | 1" = 50' |
| DRAWING NO. | 10 OF 25 |

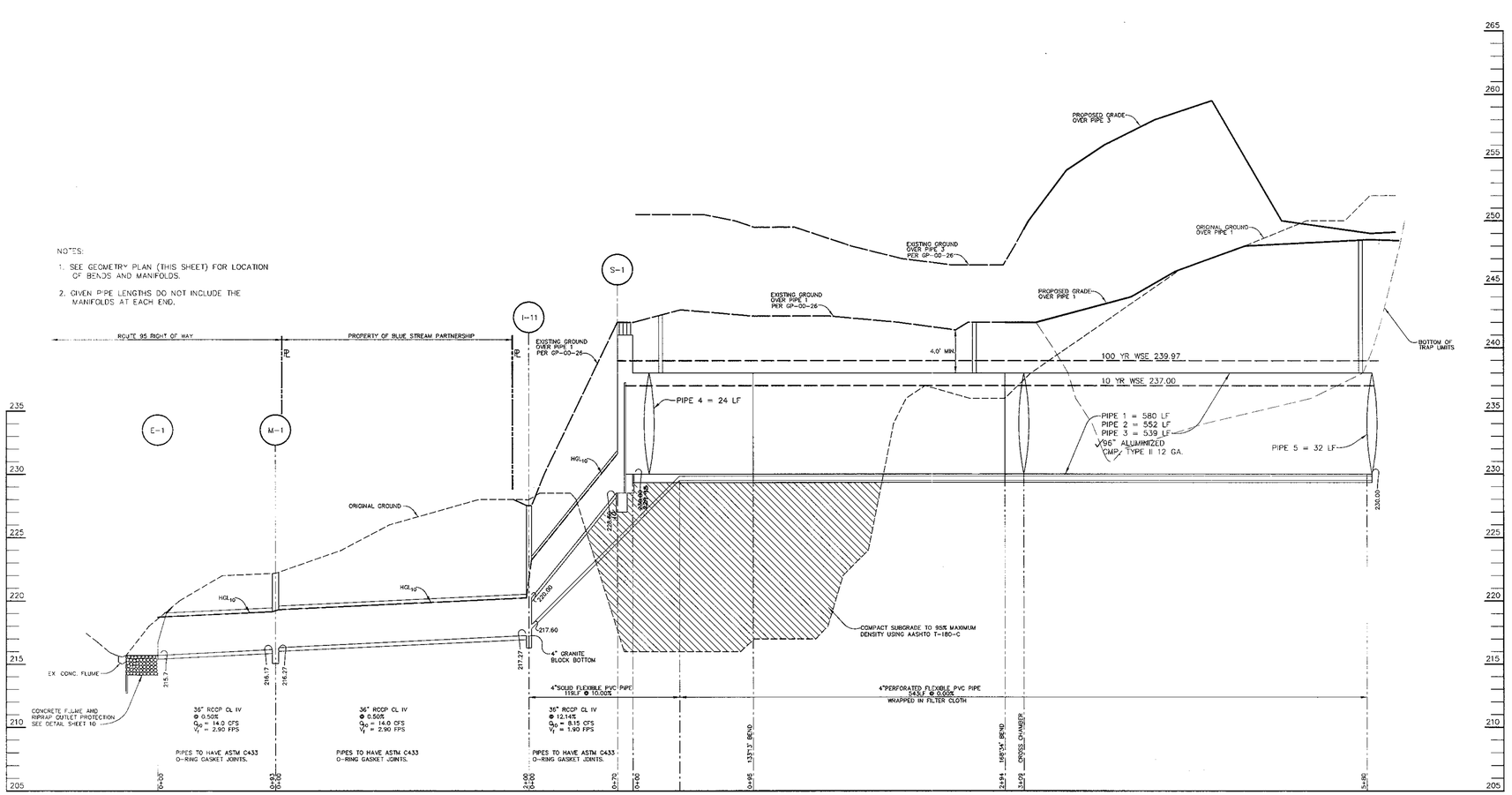
AS-BUILT 02/12/01 SDP-99-168

M:\97320\PARCEL_G\dwg9.dwg 1:1 Oct 08 09:27:39 1999 RIEMER MUEGGE & ASSOCIATES, INC.




SWMF#1 GEOMETRY PLAN
SCALE : 1" = 50'




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

AS-BUILT CERTIFICATE

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

CHRISTOPHER J. REID # 19949 — 2.13.01 DATE

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER — 10.11.99 DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER — 10-11-99 DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE — 10/12/99 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 10/19/99 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 10/19/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/15/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/18/99 DATE R

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT DETAILS & NOTES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8618 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

STATE OF MARYLAND — ARTHUR E. MUEGGE III — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP10.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | 1" = 50' |
| DRAWING NO. | 11 OF 25 |

AS-BUILT 02/12/01 SDP-99-168

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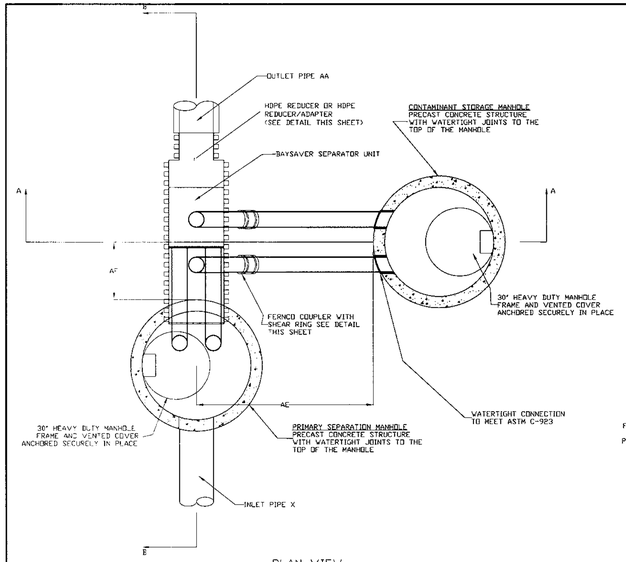
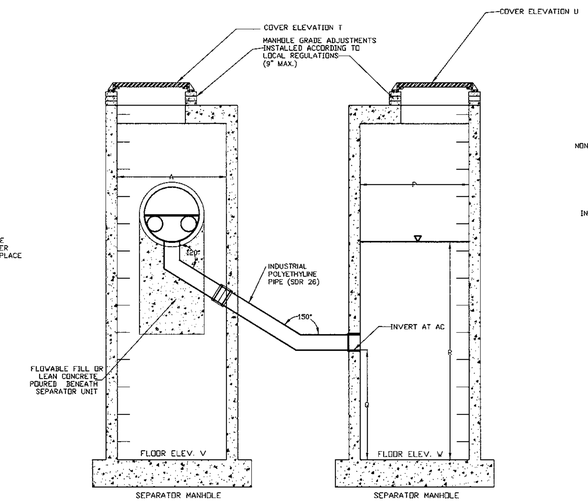
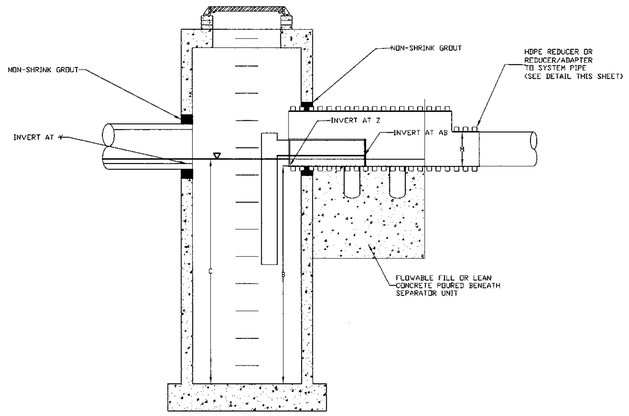


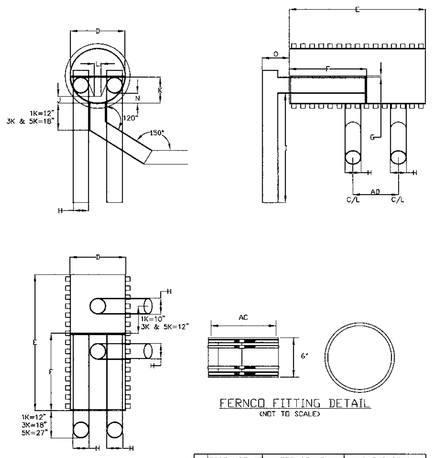

PLAN VIEW




SECTION AA




SECTION BB

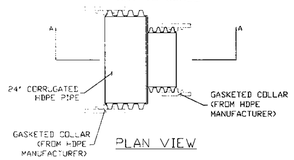



FERNCO FITTING DETAIL
(NOT TO SCALE)

| | DISTANCE AC | FERNCO NO. | SHEAR RING |
|---|---|---|---|
| 1K | 7.10" | 1055-66 | SR-27 |
| 3K | 10.50" | 1056-1010 | SR-39 |
| 5K | 12.73" | 1004-1010 | SR-44 |

## HDPE-HDPE REDUCER DETAIL

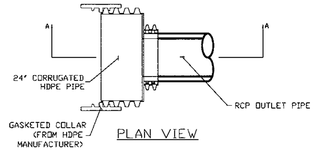
FOR USE WITH HDPE OUTLET PIPES
NOT TO SCALE



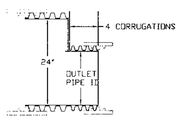

PLAN VIEW

## REDUCER/ADAPTER DETAIL

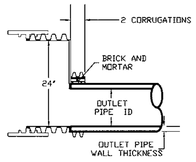
FOR USE WITH OUTLET PIPES OTHER THAN HDPE
NOT TO SCALE




PLAN VIEW




SECTION AA




SECTION AA

| SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS | | | | | | |
|---|---|---|---|---|---|---|
| Stage (X = Approval Required) | Developer's/Engineer Approval | | Inspector | | Geotechnical Engineer | |
| | Initials | Date | Initials | Date | Initials | Date |
| 1. Pre-Construction Meeting. | X | | X | | X | |
| 2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction) | | | | | X | |
| b. Installation of precast base, lower tank and lower piping. | X | | X | | | |
| c. Backfill and min. 95% compaction around lower tank and lower piping. | | | | | X | |
| d. Installation of precast middle section(s) with separator unit and remaining piping. | X | | X | | | |
| e. Installation of precast top slab. | X | | X | | | |
| f. Installation of adjustment rings and frame and cover. | X | | X | | | |
| g. Installation of flowable fill or concrete backfill. | | | | | X | |
| 3. Backfilling operation and compaction. | | | | | X | |
| 4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators. | | | X | | | |
| 5. Final inspection. | | | X | | | |

GENERAL CONSTRUCTION NOTES

1. ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.
2. ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.
3. KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

NOTE:

BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES. UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAVER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

BAYSAVER MAINTENANCE

BAYSAVER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAVER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

A. CONTAMINANT STORAGE MANHOLE

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

B. PRIMARY SEPARATION MANHOLE

1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.
2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.
3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAVER INSTALLATION INSTRUCTIONS

1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAVER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.
2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 9 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
5. INSTALL BAYSAVER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.
6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

OPERATION AND MAINTENANCE SCHEDULE FOR BAYSAVER UNITS

1. Baysaver structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Baysaver unit inspected yearly or as required by Howard County, utilizing the Baysaver units Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 6 of Technical Manual) then cleaning of the unit is required.
2. Baysaver structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
3. Maintenance of Baysaver units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons, and other materials in the unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Baysaver will be repaired as needed.
5. Owner shall retain and make Baysaver units Inspection/Monitoring Forms available to Howard County officials upon their request.

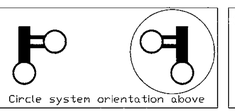
## BAYSAVER SYSTEM DIMENSIONS

| | DESCRIPTION | 1K SYSTEM | 3K SYSTEM | 5K SYSTEM |
|---|---|---|---|---|
| | SEPARATOR MANHOLE DIMENSIONS | | | |
| A | PRIMARY MANHOLE DIAMETER | 48" | 60" | 96" |
| B | MANHOLE DEPTH BELOW OUTLET | 8' - 0" | 8' - 0" | 8' - 0" |
| C | MINIMUM FLUID DEPTH | 8' - 3" | 8' - 4 1/2" | 8' - 6" |
| | STANDARD SEPARATOR UNIT DIMENSIONS | | | |
| D | SEPARATOR UNIT ID | 24" | 36" | 48" |
| E | SEPARATOR UNIT LENGTH | 69" | 80.0" | 78" |
| F | BYPASS PLATE LENGTH | 34" | 45" | 45" |
| G | WEIR/BYPASS PLATE THICKNESS | 3/4" | 3/4" | 3/4" |
| H | ELBOW AND CONNECTING PIPE OD | 7.125" | 10.75" | 12.75" |
| I | ELBOW LENGTH | 48" | 48" | 48" |
| J | WEIR HEIGHT ABOVE INVERT | 3" | 4" | 6" |
| K | BYPASS PLATE HEIGHT ABOVE INVERT | 12" | 18" | 24" |
| L | WIDTH OF WEIR AT BASE | 3" | 4 1/2" | 6" |
| M | OUTLET PIPE DIAMETER | M | M | M |
| N | ELBOW INVERT HEIGHT ABOVE UNIT INVERT | 4 1/2" | 7 1/2" | 11" |
| O | ELBOW PIPE OVERHANG | 12" | 18" | 24" |
| | STORAGE MANHOLE DIMENSIONS | | | |
| P | STORAGE MANHOLE DIAMETER | 48" | 60" | 96" |
| Q | MANHOLE DEPTH BELOW INLET/OUTLET | 48" | 48" | 48" |
| R | FLUID DEPTH | 8' - 0" | 8' - 0" | 8' - 0" |
| S | TOTAL STORAGE VOLUME | 200 CF | 300 CF | 450 CF |
| | SYSTEM DIMENSIONS AND ELEVATIONS | | | |
| T | SEPARATOR MANHOLE COVER ELEVATION | T | T | T |
| U | STORAGE MANHOLE COVER ELEVATION | U | U | U |
| V | SEPARATOR MANHOLE FLOOR ELEVATION | V | V | V |
| W | STORAGE MANHOLE FLOOR ELEVATION | W | W | W |
| X | INLET PIPE ID AND MATERIAL | X1<br>X2 | X1<br>X2 | X1<br>X2 |
| Y | INLET PIPE INVERT | Y1<br>Y2 | Y1<br>Y2 | Y1<br>Y2 |
| Z | SEPARATOR UNIT INVERT | Z | Z | Z |
| AA | OUTLET PIPE ID AND MATERIAL | AA | AA | AA |
| AB | ELBOW INVERT ELEVATION | AB | AB | AB |
| AC | CONNECTING PIPE INVERT ELEVATION | AC | AC | AC |
| AD | CONNECTION PIPE SPACING | 20" | 24" | 24" |
| AE | STORAGE MANHOLE SIDE OFFSET | 72 ± 6" | 72 ± 6" | 72 ± 6" |
| AF | STORAGE MANHOLE DOWNSTREAM OFFSET | 23" | 31" | 25" |

| Baysaver Separator Unit | Baysaver Manhole Sizes (prim. x stor.) | Maximum Treatment (cfs)*1 | Maximum Treatment (gpm)*1 | Impervious Area (acres) |
|---|---|---|---|---|
| 1K Baysaver Separator | 48x48<br>48x50<br>48x72<br>60x50 | 2.4<br>2.4<br>2.4<br>2.4 | 1076<br>1076<br>1076<br>1076 | 1.2<br>1.4<br>1.5<br>1.5 |
| 3K Baysaver Separator | 60x50<br>60x72<br>60x84<br>72x72 | 7.2<br>7.2<br>7.2<br>7.2 | 3231<br>3231<br>3231<br>3231 | 3.8<br>4.1<br>4.6<br>4.4 |
| 5K Baysaver Separator | 72x72<br>72x84<br>72x96<br>96x96 | 11.1<br>11.1<br>11.1<br>11.1 | 4981<br>4981<br>4981<br>4981 | 5.5<br>6.5<br>7.5<br>8.0 WQ-1,2 |

Project: MEADOWRIDGE BUS. Designer: RIEMER MUEGGE
Address: BUSINESS PKWY. Contact: CHRIS REID
ELKRIDGE, MD. Phone: 410-997-8900
21227 Fax: 410-997-9282
Delivery Date:
Owner: PROLOGIS Contractor:
Contact: WAYNE KLOTZ Address:
Address: ALEXANDRIA, VA
22034 Contact:
Phone:
Fax:

Separator Unit Model:
1K ☐
3K ☐
5K ■

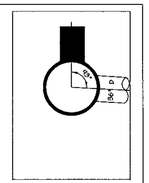


Circle system orientation above

Manhole Specifications:
Primary Manhole Diameter: 72 inches
Storage Manhole Diameter: 72 inches

Floor Elevations:
Primary Manhole 241.34 ✓
Storage Manhole 241.34 ✓

Primary Manhole Inverts:
Separator Unit 251.28 ✓
Inlet Pipe(s) 249.84 ✓




Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 266.6
Storage Manhole 266.9

WQ-2/WQ-2A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

Project: MEADOWRIDGE BUS. Designer: RIEMER MUEGGE
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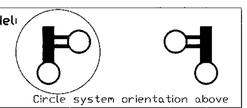
Delivery Date:
Owner: PROLOGIS Contractor:
Contact: WAYNE KLOTZ Address:
Address: ALEXANDRIA, VA
22034 Contact:
Phone:
Fax:

Separator Unit Model:
1K ☐
3K ☐
5K ■



Circle system orientation above

Manhole Specifications:
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Storage Manhole Diameter: 72 inches

Floor Elevations:
Primary Manhole 241.34 ✓
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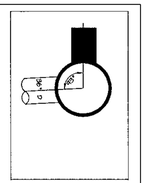
Primary Manhole Inverts:
Separator Unit 251.28 ✓
Inlet Pipe(s) 249.84 ✓




Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 266.3
Storage Manhole 266.5

WQ-1/WQ-1A

STATE OF MARYLAND — CHRISTOPHER J. REID — No. 19949 — REGISTERED PROFESSIONAL ENGINEER

AS-BUILT CERTIFICATE

CHRISTOPHER J. REID # 19949 — 2.13.01 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 10/19/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/15/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/18/99 DATE

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: WATER QUALITY NOTES AND DETAILS


RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8816 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282


DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — No. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | CJR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP11.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 12 OF 25 |

AS-BUILT 02/12/01

SDP-99-168


W:\97320\PARCEL G\SDP11.DWG Thu Oct 07 10:50:45 1999 RIEMER MUEGGE & ASSOCIATES, INC.

XX / XX — PERIMETER LANDSCAPE REQUIREMENT

XX / XX (box) — PARKING LOT LANDSCAPE REQUIREMENT

| PLANTING LEGEND | |
|---|---|
| PROP. SHADE TREE | |
| PROP. ORNAMENTAL TREE | |
| PROP. EVERGREEN TREE | |
| PROP. EVERGREEN SHRUB | |
| PROP. DECIDUOUS SHRUB | |
| EXISTING SHADE TREE | |

NOTE:
FOR LANDSCAPE DETAILS, PLANT LIST, AND HOWARD COUNTY SCHEDULES, SEE SHEET 14 OF 25.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 16597, Expiration Date: 8/15/15
RICHARDSON ENGINEERING, LLC
FOR REV. 4 ONLY
3/17/15

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 10/19/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/15/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/18/99 DATE

| DATE | NO. | REVISION |
|---|---|---|
| 6/9/15 | 5 | GUARD SHACK |
| 3/17/15 | 4 | ADDITIONAL CHAINLINK FENCE AND GATES |

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

# LANDSCAPE PLAN

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

10.11.99
DATE

STATE OF MARYLAND — BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS — 830 — DAVID DOWS

DAVID T. DOWS #830

DESIGNED BY : DTD
DRAWN BY: A.J.L.
PROJECT NO : 97320/PARCEL_G LSCP.DWG
DATE : OCTOBER 11, 1999
SCALE : 1" = 50'
DRAWING NO. 13 OF 25

SDP-99-168

M:\97320\PARCEL_G\Lscp.dwg Fri Oct 08 11:52:04 1999 Riemer Muegge & Associates Inc.

| SCHEDULE A – PERIMETER LANDSCAPE EDGE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | ADJACENT TO PARCELS IN THE SAME DEVELOPMENT | | | | | | | ADJACENT TO ROADWAYS | | |
| PERIMETER | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 1 | 4 | 10 |
| LANDSCAPE TYPE | A | A | A | C | C | A | B | E | E | B |
| LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER | ± 340' | ± 375' | ± 160' | ± 320' | ± 415' | ± 300' | ± 235' | ± 600' | ± 660' | ± 310' |
| CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | YES ± 200' | YES ± 235' | NO | NO | YES ± 110' |
| CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| NUMBER OF PLANTS REQUIRED<br>SHADE TREES<br>EVERGREEN TREES<br>SHRUBS | * N/A | @1/60' = 6<br>–<br>– | @1/60' = 3<br>–<br>– | @1/40' = 8<br>@1/20' = 16<br>– | @1/40' = 10<br>@1/20' = 21<br>– | @1/60' = 2<br>–<br>– | @1/50' = 5<br>@1/40' = 6<br>– | @1/40' = 15<br>–<br>@1/4' = 150 | @1/40' = 17<br>–<br>@1/4' = 165 | @1/50' = 4<br>@1/40' = 5<br>– |
| NUMBER OF PLANTS PROVIDED<br>SHADE TREES<br>EVERGREEN TREES<br>SMALL FLOWERING TREES<br>SHRUBS | –<br>–<br>–<br>– | –<br>12<br>–<br>– | 3<br>–<br>–<br>– | 8<br>16<br>–<br>– | 7<br>28<br>–<br>– | –<br>4<br>–<br>– | * N/A | 15<br>–<br>–<br>155 | 17<br>18<br>–<br>– | 7<br>–<br>–<br>– |

## * SCHEDULE 'A' NOTES:

PERIMETER 2

NO LANDSCAPE REQUIREMENTS ARE GENERATED ALONG PERIMETER 2 DUE TO INTERNAL PROPERTY LINES BETWEEN PARCELS OF THE MEADOWRIDGE BUSINESS PARK

PERIMETER 9

ACCORDING TO PAGE 24 OF THE Ho. Co. LANDSCAPE MANUAL, UPTO 100% OF THE PLANTING REQUIREMENT MAY BE MET BY PRESERVING EXISTING VEGETATION

## SCHEDULE 'A' – SUBSTITUTION NOTES:

PERIMETER 3:
(12) EVERGREEN TREES WERE SUBSTITUTED FOR (6) SHADE TREES

PERIMETER 4:
(19) EVERGREEN TREES WERE SUBSTITUTED FOR (165) SHRUBS

PERIMETER 7:
(7) EVERGREEN TREES WERE SUBSTITUTED FOR (3) SHADE TREES

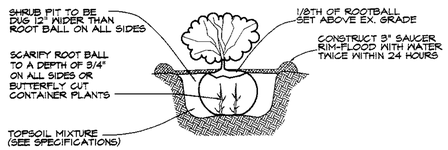
PERIMETER 8:
(4) EVERGREEN TREES WERE SUBSTITUTED FOR (2) SHADE TREES

PERIMETER 10:
(3) SHADE TREES WERE SUBSTITUTED FOR (5) EVERGREEN TREES

| SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING | |
|---|---|
| PARKING LOT | 1 |
| NUMBER OF PARKING SPACES | 340 |
| NUMBER OF SHADE TREES REQUIRED (1/20 SPACES) | 17 |
| NUMBER OF TREES PROVIDED<br>SHADE TREES<br>OTHER TREES (2:1 SUBSTITUTION)<br>SHRUBS (10:1 SUBSTITUTION) | <br>8<br>17<br>18 |
| NUMBER OF ISLANDS REQUIRED | 17 |
| NUMBER OF ISLANDS PROVIDED | 29 |

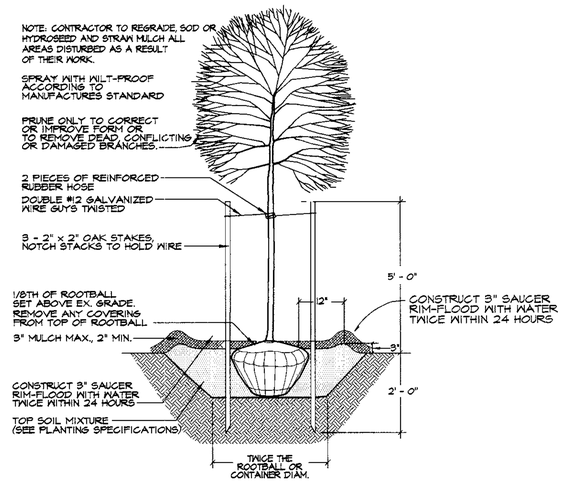
* 200 SF PLANTING AREA / ISLAND

| PLANT LIST | | | | | |
|---|---|---|---|---|---|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | SPACING |
| AR | 33 | ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE | 2½"- 3" CAL. | B&B | PLANT AS SHOWN |
| QP | 16 | QUERCUS PALUSTRIS PIN OAK | 2½"- 3" CAL. | B&B | PLANT AS SHOWN |
| ZS | 15 | ZELKOVA SERRATA 'GREEN VASE' GREEN VASE ZELKOVA | 2½"- 3" CAL. | B&B | PLANT AS SHOWN |
| PA | 11 | PICEA ABIES NORWAY SPRUCE | 6' - 8' HT. | B&B | PLANT 12'-15' O.C. |
| PO | 17 | PICEA OMORIKA SERBIAN SPRUCE | 6' - 8' HT. | B&B | PLANT 12'-15' O.C. |
| PS | 71 | PINUS STROBUS EASTERN WHITE PINE | 6' - 8' HT. | B&B | PLANT AS SHOWN |
| IG | 155 | ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY | 2½'- 3' HT. | CONT. | PLANT 3' O.C. |
| VR | 18 | VIBURNUM RHYTIDOPHYLLUM LEATHERLEAF VIBURNUM | 2½- 3' HT. | CONT. | PLANT 5'-6' O.C. |

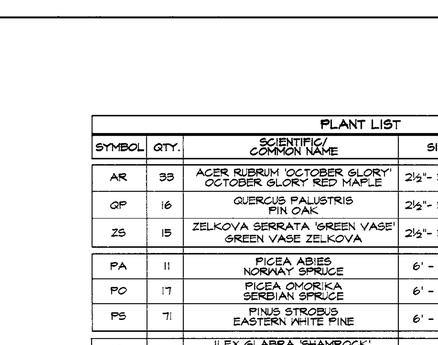



NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE




B&B
TREE PLANTING DETAIL
NOT TO SCALE




EVERGREEN PLANTING DETAIL
NOT TO SCALE

NOTES:

1) "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE."
2) "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF $ 40,250.00"
3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME _____ 10.11.99 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR _____ 10/19/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION _____ 10/15/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT _____ 10/18/99 DATE R

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE SCHEDULES AND DETAILS

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

10.11.99
DATE

DAVID T. DOWS #830

| | |
|---|---|
| DESIGNED BY : | DTD |
| DRAWN BY: | AJL |
| PROJECT NO : | 97320/PARCEL_G LSCP2.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | 1" = 50' |
| DRAWING NO. | 14 OF 25 |

SDP-99-168

N:\97320\PARCEL_G\lscp2.dwg Fri Oct 08 11:56:32 1999 Riemer Muegge & Associates Inc.

NOTE: SEE FOLLOWING SHEETS FOR ENLARGED DETAILS OF SOUTH WALL

**SOUTH RETAINING WALL STATION PLAN**
SCALE: 1"=30'

7/28/99

**MEADOWRIDGE**
**SEGMENTAL RETAINING WALL SPECIFICATIONS**
**NORTH AND SOUTH WALLS**
**REVISION #3**

PART 1 GENERAL

1.1 Work includes furnishing and installing Modular block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

1.2 REFERENCE STANDARDS

A. ASTM C90-75 (1981 rev) - Hollow Load Bearing Masonry Units
B. ASTM C140-75 (1981 rev) - Sampling and Testing Concrete Masonry Units
C. ASTM C145-75 (1981 rev) - Solid Load Bearing Concrete Masonry Units

1.3 DELIVERY, STORAGE AND HANDLING

A. Contractor should check the materials upon delivery to assure that proper material has been received.
B. Contractor should prevent excessive mud, wet cement, epoxy, and like materials which may affix themselves, from coming in contact with the materials.
C. Contractor should protect the materials from damage. Damaged material should not be incorporated into the reinforced retaining walls.

PART 2 RETAINING WALL

2.1 MATERIALS

A. Concrete Units

1. Masonry units should be Versa-Lok Retaining Wall Brute Units as indicated on the drawings.
2. Concrete wall units should have a minimum 28-day compressive strength of 3000 psi in accordance with ASTM C-90. The concrete should have adequate freeze/thaw protection with a maximum moisture absorption of 6 to 8 percent.
3. Exterior dimensions may vary.
4. Units should have angled sides and capable of attaining concave and convex alignment curves.
5. Units should be interlocked with non-corrosive nylon/fiberglass pins.
6. Units should be interlocked as to provide a setback of 0- to 3-inch per each course of wall height.

B. Connecting pins

Two Versa-Tuff nylon/fiberglass pins are used per unit to provide set back and alignment.

C. Base Material

Material for the south wall footing should consist of 4,000 psi strength air entrained concrete constructed to either 36" by 18" or 36" by 12" footings as shown on drawings. The north wall base material shall consist of graded aggregate meeting SHA-GAB.

D. Reinforced Backfill

On-site or borrow soils having a friction angle of at least 32° when compacted will be considered suitable for backfill, provided it is approved by a State of Maryland Registered Professional Engineer. Suitable on-site or off-site borrow materials must also meet AASHTO A-2-4 or more granular. The material should be non-plastic.

1

2.2 RETAINING WALL INSTALLATION

A. Excavation

1. The owner's contractor should excavate to the lines and grades shown on the construction drawings. Under no circumstances should the excavation lines and grades be exceeded. The contractor should protect the excavation from sloughing by placing a membrane over the face of the excavation. In addition, benching of the slope may be required if the slope exceeds 5H:1V.

B. Foundation Soil Preparation

1. Foundation soil should be excavated as required for footing dimensions shown on the construction drawings, or as directed by the Engineer.
2. Most of the foundation soil below the south wall should be over-excavated a minimum of 5 feet as shown on plans and backfilled with compacted lime stabilized clay (5% lime by dry unit wt.) The overexcavations should extend to the lengths shown on the wall plan. The over-excavation will be directed by GTA.
3. Foundation soil should be examined by the Engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength. Soils not meeting required strength should be removed and replaced with acceptable material.
4. Over-excavated areas should be filled with compacted backfill material, meeting AASHTO A-2-4 or cement/lime modified soil as approved by GTA.
5. The required bearing capacity for natural and controlled, compacted fill soils varied between 2000 and 5500 psf to be verified by GTA.

C. Base Footing

1. The leveling pad concrete footing for the south wall should be placed as shown on the construction drawings with a minimum thickness of 18" and 12" inches. The north wall leveling pad shall be a minimum 6 inches thick by 30 inches wide and compacted to 92 percent of the ASTM D-1557.
2. Leveling pad footing materials should be installed upon undisturbed in situ soils or controlled, compacted backfill.
3. Footing should be prepared to insure complete contact of retaining wall unit with base. Gaps should not be allowed.

D. Unit Installation

1. First course of concrete wall units should be placed on the footing. The units should be checked for level and alignment. The first course is the most important to insure accurate and acceptable results.
2. Insure that units are in full contact with base.
3. Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from base line.
4. Install Versa-Tuff connecting pins.
5. Lay up each course insuring that pins are inserted through two of the four front holes in the unit beneath and into the receiving slot in the course being installed. Two pins are required per unit. Pull each unit forward, away from the embankment, against pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.
6. At the end of each course where the wall changes elevation, units should be turned into the backfill. Units should be laid as to create the minimum radius possible. A minimum of 2 units should be installed into the grade. Only the front face of the units should be visible from the side of the wall.
7. Versa-Lok Brute Units should be used to make convex and concave curves in accordance with manufacturer's recommendations.
8. Cap units should be installed and bonded with construction adhesive or epoxy cement as required by manufacturer.
9. Contractor should provide positive drainage for the back of the retaining wall during construction.

2

**GEOGRID WALL REINFORCEMENT**

PART I GENERAL

1.1 Work includes furnishing and installing geogrid reinforcement, wall fill, and backfill to the lines and grades designated on the construction drawings. Also included is the furnishings and installing all appurtenant materials required for construction of the geogrid reinforced soil retaining wall as shown on the construction drawings.

1.2 REFERENCE STANDARDS

A. ASTM D638 - Test Method for Tensile Properties of Plastic
B. ASTM D 1248 - Specification of Polyethylene Plastics Molding and Extrusion Materials
C. ASTM D 4218 - Test Method for Carbon Black Content in Polyethylene Compounds by the Muffle Furnace Technique
D. ASTM D 1785 - Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 20, 40, 80 and 120

1.3 DELIVERY STORAGE AND HANDLING

A. GEOGRID

1. Contractor should check the geogrid upon delivery to assure that the proper material has been received.
2. Geogrids should be stored above -20 degrees F.
3. Contractor should prevent excessive mud, wet cement, epoxy and like materials which may affix themselves to the grid-work, from coming in contact with the geogrid.
4. Maximum geogrid spacing should be 2.67 feet.

PART 2 MATERIALS

2.1 DEFINITIONS

A. Geogrid is specifically fabricated for use as a soil reinforcement.
B. Concrete retaining wall units are as detailed on the drawings and are specified under PART 2-2.1-A Concrete Units.
C. Backfill is the non-plastic granular fill (AASHTO A-2-4) which is used as fill for the reinforced zone.
D. Foundation soil is the in situ soil or compacted fill at foundation level.

2.2 PRODUCTS

A. Geogrid should be TENSAR UX1500 or UX1600, as shown.

3

PART 3 EXECUTION

3.1 GEOGRID INSTALLATION FOR RETAINING WALLS

A. The geogrid soil reinforcement should be laid horizontally on compacted backfill, connected to the concrete wall units and embedded a minimum of 12 inches. Hook grid over pins, pull taut, and anchor before backfill is placed on the geogrid.
B. Slack in the geogrid at the wall unit connections should be removed in a manner, and to such a degree, as approved by the Engineer.
C. Geogrid should be laid at the proper elevation and orientation as shown on the construction drawings or as directed by the Engineer.
D. Correct orientation (roll direction) of the geogrid should be verified by the Contractor.
E. Geogrid should be secured in-place with staples, pins, sand bags, or backfill as required by fill properties, fill placement procedures, or weather conditions, or as directed by the Engineer.

4. FILL PLACEMENT

A. Wall fill material should be placed in 8-inch lifts and compacted to 92 percent of Modified Proctor (ASTM D-1557).
B. Backfill should be placed, spread, and compacted in such a manner that minimizes the development of wrinkles in and/or movement of the geogrid.
C. Only hand-operated compaction equipment should be allowed within 5 feet of wall face.
D. Backfill should be placed from the wall outward to insure that the geogrid remains taut.
E. Tracked construction equipment should not be operated behind or above the wall.
F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning should be avoided.

5. DRAINAGE FILL

A. A 6 inch drainage layer wrapped in filter fabric (M140N) should be constructed between the reinforced fill and the retained soil zones as shown on the drawings.
B. A 12- to 18-inch drainage layer of #57 stone wrapped in a filter fabric (M140N) shall be constructed as shown in the drawings.

**GENERAL NOTES**

PART I CONSTRUCTION CERTIFICATION

A. The required leveling pad subgrade bearing capacity should be certified by a Maryland Registered Professional Geotechnical Engineer prior to footing placement.
B. Construction of retaining wall should be performed under the observations of a Maryland Registered Professional Engineer. Upon completion of the work, the engineer should submit a signed and sealed report stating that the retaining wall was constructed in accordance with the plans, specifications, and accepted modifications (if applicable).

PART II DESIGN CRITERIA

A. The required allowable bearing capacity for natural soils and compacted fill varies between 2000 psf and 6000 psf to be verified by GTA.
B. Design Φ = 32° for the reinforced backfill
Design unit weight = 125 pcf.
C. Surcharge load = 250 psf
D. Retaining wall was not designed to resist hydrostatic pressure.

4

**NORTH RETAINING WALL STATION PLAN**
SCALE: 1"=30'

DRIVE ANCHOR SQUARE OR ROUND CONSTRUCTION ALTERNATE TO CONCRETE FOOTING SEE DETAIL STANDARD MD-690.21

ALL POSTS (TERMINAL AND LINE) TO BE SAME LENGTH (L).

VINYL CLAD STEEL IF SPECIFIED BY ENGINEER SHALL BE COLORED BLACK UNLESS OTHERWISE SPECIFIED.

TENSION WIRE CLIP AT 18"± C/C
12-1/2 GA. GALVANIZED STEEL WIRE
.110"Φ ALUMINUM WIRE ALLOY 5058-H38

| | | | | | |
|---|---|---|---|---|---|
| "H" HEIGHT OF FENCE | 5'-0" RURAL | 6'-0" | 7'-0" | | |
| "S" POST SPACING MAX. | 12'-0" | 10'-0" | 10'-0" | | |
| "L" LENGTH OF H BEAM | 7'-8" MIN. | 8'-0" MIN. | 9'-0 | | |
| H BEAM - STEEL | 1.075"x1.65"@2.70#/FT. | 2.25"x1.95"@4.10#/FT. | 2.25"x1.95"@4.10#/FT. | | |
| H BEAM - ALUMINUM | 1.075"x1.625"@0.91#/FT. | 2.25"x1.95"@1.25#/FT. | 2.25"x1.95"@1.25#/FT. | | |
| TERM. POST STEEL | 2.375"O.D.@3.65#/FT. | 2.875"O.D.@5.79#/FT. | 2.875"O.D.@5.79#/FT. | | |
| TERM. POST ALUMINUM | 2.375"O.D.@1.26#/FT. | 2.875"O.D.@2.00#/FT. | 2.875"O.D.@2.00#/FT. | 5'-0" RURAL & 6'-0" | |
| ALT TERM POST STEEL | 2.00"SQ.@3.85#/FT. | 2.50"SQ.@5.70#/FT. | 2.50"SQ.@5.70#/FT. | HOG RING - STEEL | 18"±C/C 12.5 GA. GALV. STEEL WIRE |
| ALT. TERM POST ALUMINUM | 2.50"SQ.@1.26#/FT. | 3.00"SQ.@2.00#/FT. | 3.00"SQ.@2.00#/FT. | HOG RING - ALUMINUM | 18"±C/C .110 O ALUM. WIRE ALLOY 5058-H38 |

REV. MAR. 1986
REV. JAN. 1989
REV. JAN. 1982

CHAIN LINK FENCE
NO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — 10/19/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/15/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/18/99 DATE

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND — MARK GRANDE — No. 15503 — REGISTERED PROFESSIONAL

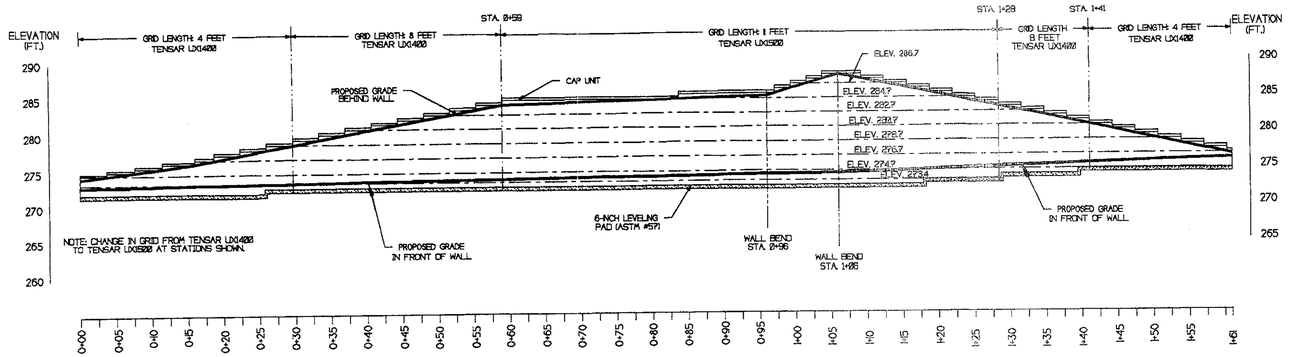
DESIGNED BY : JR/MG
DRAWN BY: JR
PROJECT NO : 99231.C
DATE : OCTOBER 11, 1999
SCALE : AS SHOWN
DRAWING NO. 15 OF 25

**GEO-TECHNOLOGY ASSOCIATES, INC.**
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
42 N. Main Street, Suite 200, Bel Air, Maryland 21014, (301) 879-9446 · (301) 836-9123, Fax: (301) 893-3437
9090 Junction Drive, Suite 9, Annapolis Junction, Maryland 20701, (301) 792-9446 · (301) 470-4470, Fax: (301) 792-7395

**MEADOW RIDGE**
**RETAINING WALL SPECIFICATIONS**
**NORTH AND SOUTH WALL PLANS**
**HOWARD COUNTY, MARYLAND**

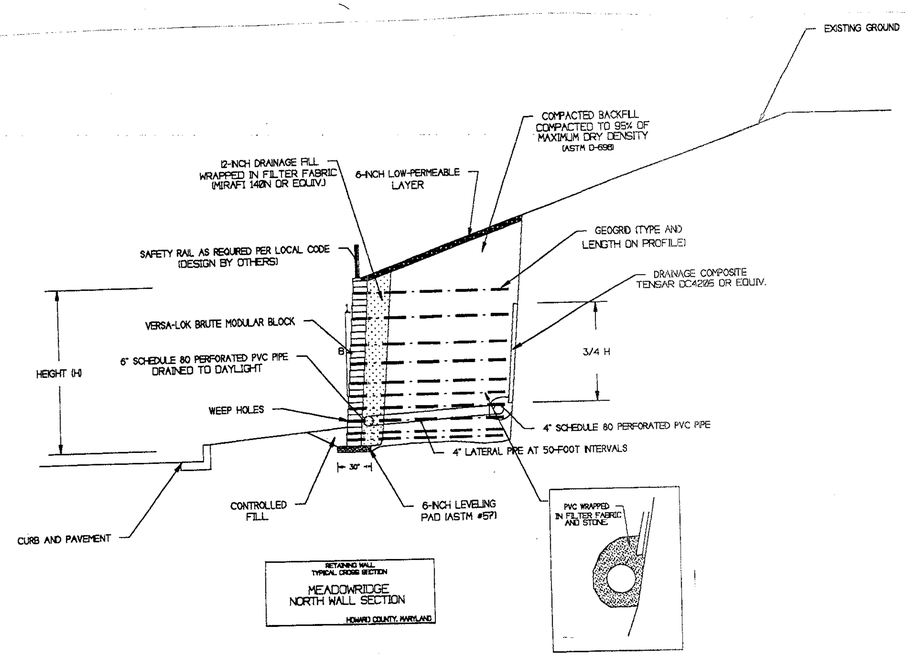
| DATE | REVISIONS | |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | MG |

SDP-99-168




NORTH RETAINING WALL PROFILE

SCALE: HORIZ. 1"=10'
VERT. 1"=10'




## NORTH WALL AND SOUTH ENTRANCE WALL

**(2) SOUTH ENTRANCE WALL CROSS SECTION MODIFICATIONS**

A. VERSA-LOK BRUTE MODULAR BLOCK SHALL BE VERSA-LOK MODULAR BLOCK.

B. THE COMPACTED BACKFILL, COMPACTED TO 95% OF MAXIMUM DRY DENSITY OF ASTM D-698 SHALL BE CONFORMED TO AASHTO A-2-4 MATERIAL.

C. THE 6-INCH LEVELLING PAD (ASTM #75) CAN BE MSHA 6AB MATERIAL.

**(2) NOTE**

PROPOSED CONSTRUCTION OF ALL RETAINING WALLS SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND — MARK GRANDO — No. 15501 — REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 00231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 16 OF 25 |

GTA
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
☐ 42 N. Main Street, Suite 200, Bel Air, Maryland 21014, (301) 879-9448 - (301) 836-9123, Fax: (301) 893-3437
☐ 606-D Bosley Avenue, Towson, Maryland 21204, (301) 821-8366, Fax: (301) 821-1748
☐ 9090 Junction Drive, Suite 9, Annapolis Junction, Maryland 20701, (301) 792-9449 - (301) 470-4470, Fax: (301) 792-7395

MEADOWRIDGE

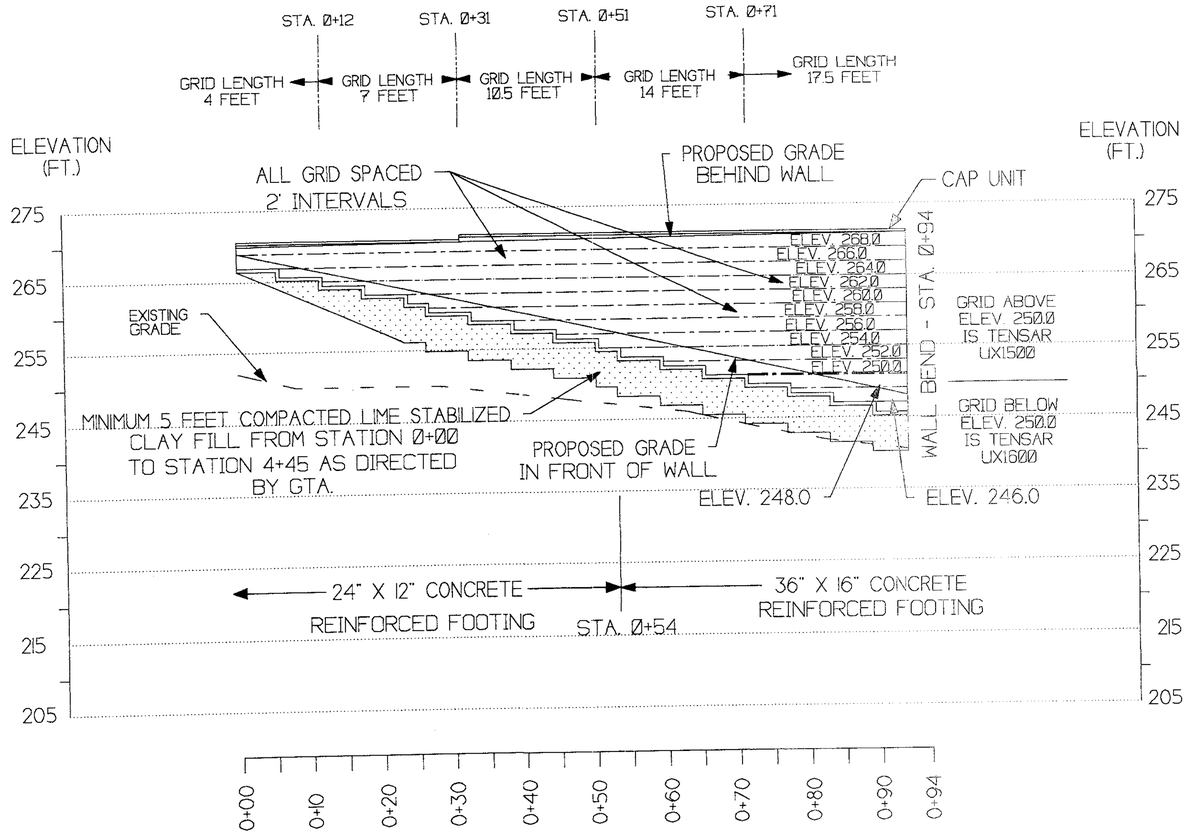
NORTH WALL PROFILE AND SECTION

HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | JOB NO: |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS (2) | SCALE: |
| 4/10/00 | MODIFIED WALL SECTION | DATE: |
| | | DRAWN BY: |
| | | DESIGN BY: |
| | | REVIEW BY: |
| | | SHEET: |

SDP-99-168

15209.17




# SOUTH RETAINING WALL PROFILE

STA. 0+00 TO STA. 0+94

SCALE: HORIZ. 1"=10'
VERT. 1"=10'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND — MARK GRANDE — No. 15603 — REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 99231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 17 OF 25 |

GTA

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MEADOWRIDGE

SOUTH WALL PROFILE
FROM STA. 0+00 TO 0+94

HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | JOB NO: |
| | | SCALE: |
| | | DATE: |
| | | DRAWN BY: |
| | | DESIGN BY: |
| | | REVIEW BY: |
| | | SHEET: |

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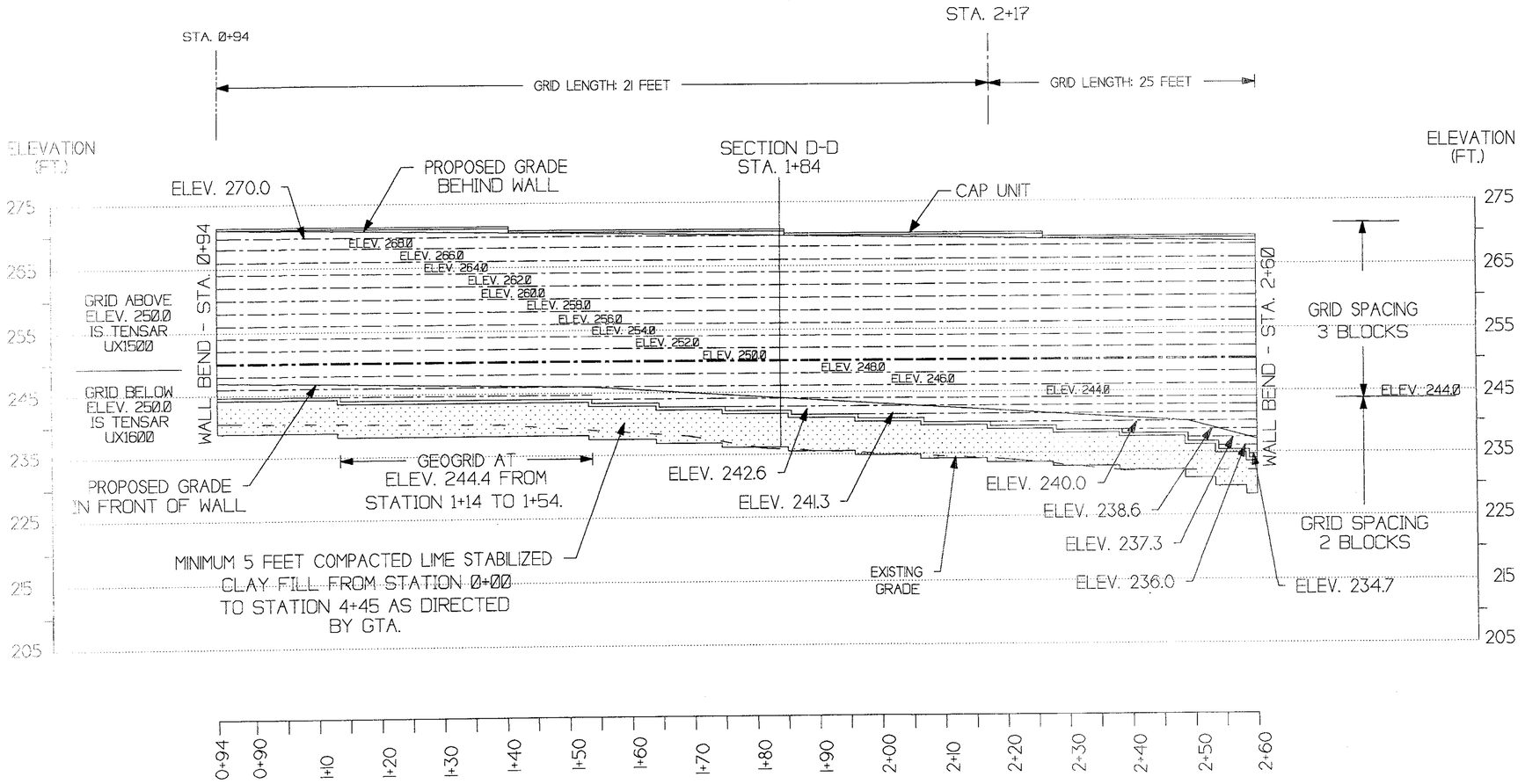


# SOUTH RETAINING WALL PROFILE

STA. 0+94 TO STA. 2+60

SCALE: HORIZ. 1"=10'
VERT. 1"=10'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND — MARK GRANDE — No. 15603 — REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 99231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 18 OF 25 |

GTA

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☐ 9090 Junction Drive, Suite 9, Annapolis Junction, Maryland 20701, (301) 792-9446 - (301) 470-4470, Fax: (301) 792-7395

MEADOWRIDGE

SOUTH WALL PROFILE
FROM STA. 0+94 TO STA. 2+60

HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | JOB NO: |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | SCALE: |
| | | DATE: |
| | | DRAWN BY: |
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| | | SHEET: |

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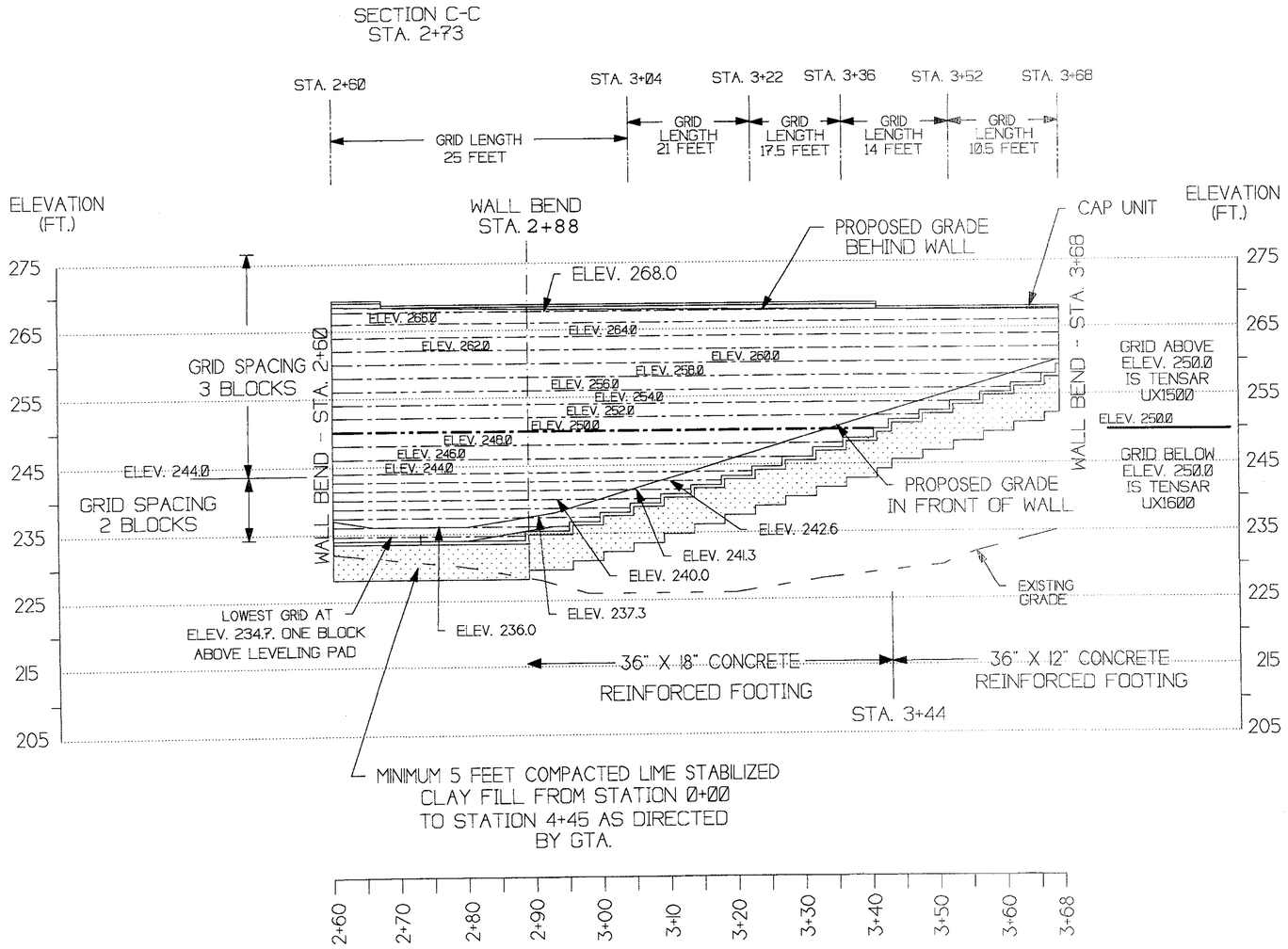


# SOUTH RETAINING WALL PROFILE

STA. 2+60 TO STA. 3+68

SCALE: HORIZ. 1"=10'
VERT. 1"=10'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND
MARK GRANDE
No. 15503
REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 99231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 19 OF 25 |

GTA
GEO-TECHNOLOGY ASSOCIATES, INC.
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MEADOWRIDGE

SOUTH WALL PROFILE
FROM STA. 2+60 TO 3+68

HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | JOB NO: |
| | | SCALE: |
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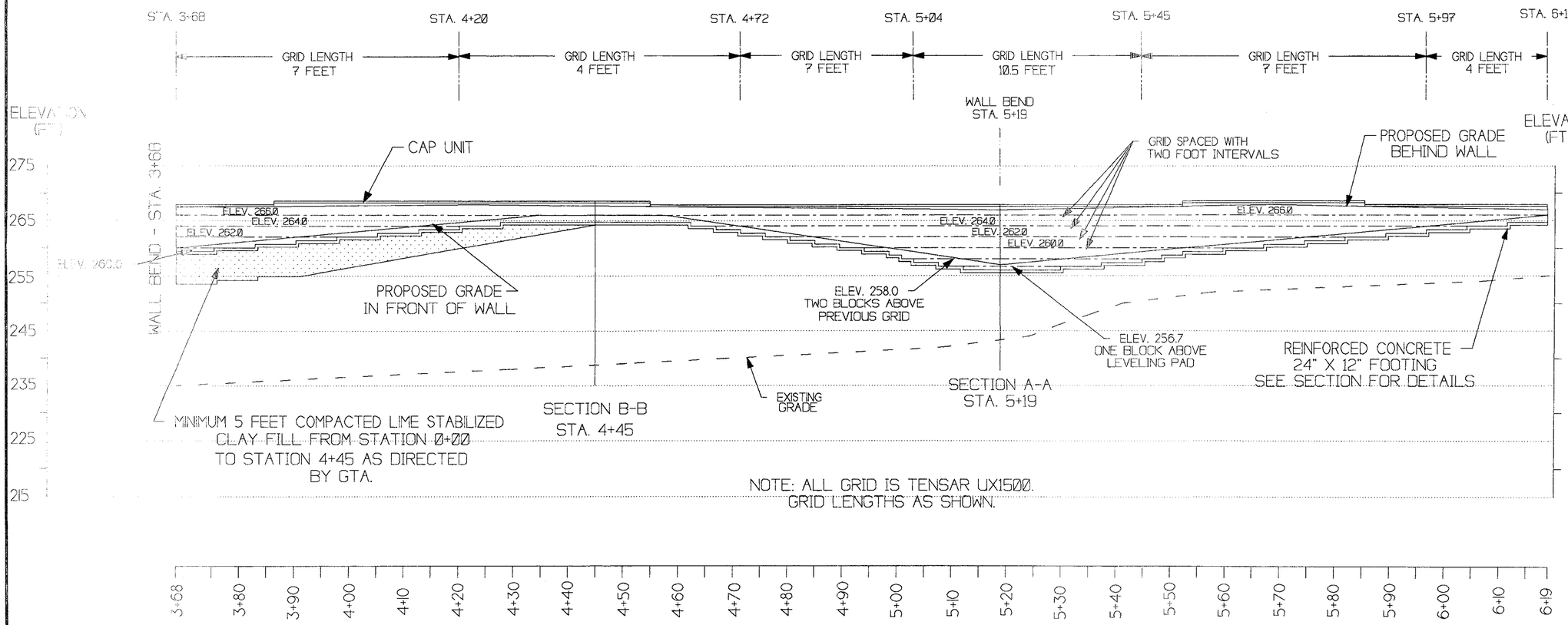


# SOUTH RETAINING WALL PROFILE

## STA. 3+68 TO STA. 6+19

SCALE: HORIZ. 1"=10'
VERT. 1"=10'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/18/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/15/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND — MARK GRANDE — NO. 19508 — REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 99231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 20 OF 25 |

GTA
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☐ 9090 Junction Drive, Suite 9, Annapolis Junction, Maryland 20701, (301) 792-9446 - (301) 470-4470, Fax: (301) 792-7395

MEADOWRIDGE

SOUTH WALL PROFILE
FROM STA. 3+68 TO STA. 6+19

HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | JOB NO: |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | SCALE: |
| | | DATE: |
| | | DRAWN BY: |
| | | DESIGN BY: |
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| | | SHEET: |

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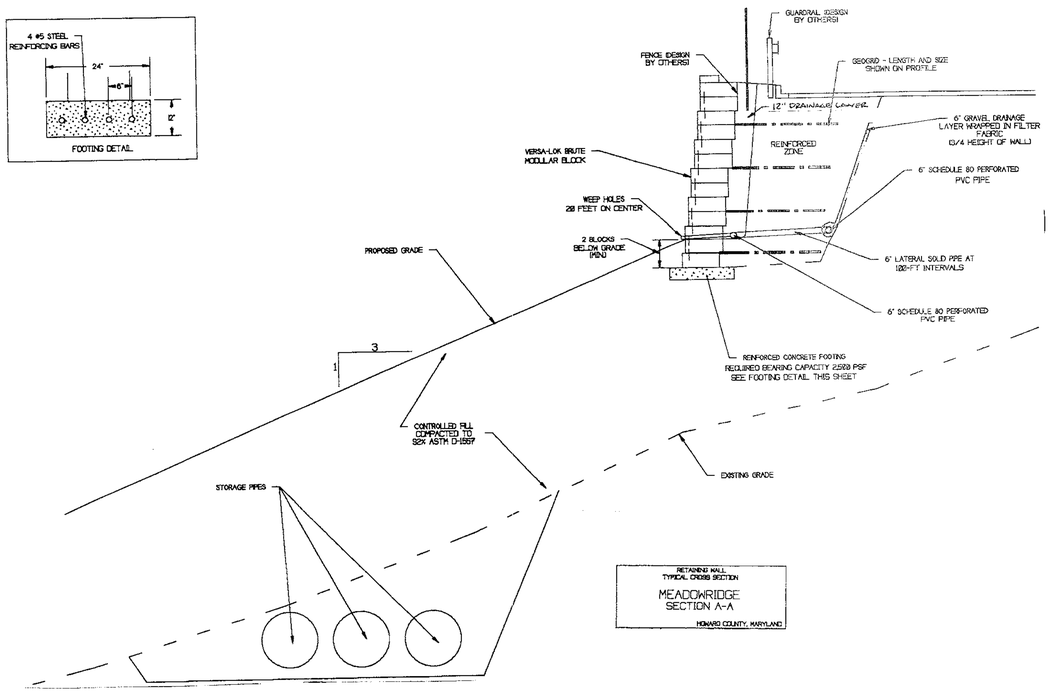


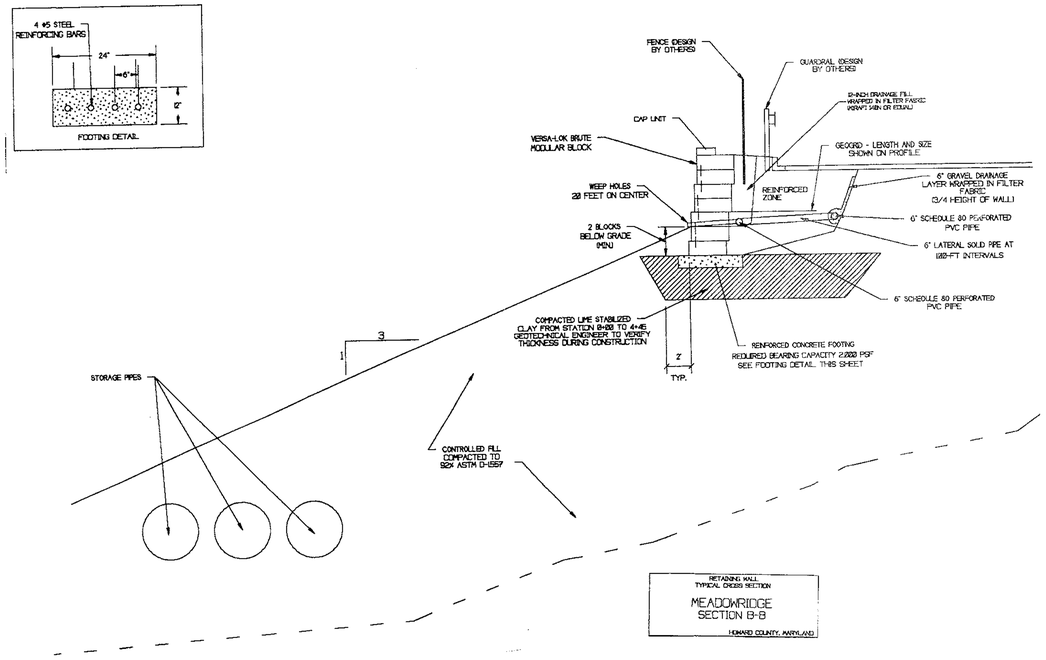


APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
DATE

STATE OF MARYLAND — MARK GRANDE — No. 15603 — REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 99231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 21 OF 25 |

GTA
GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
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☐ 9090 Junction Drive, Suite 9, Annapolis Junction, Maryland 20701, (301) 792-9446 - (301) 470-4470, Fax: (301) 792-7395

MEADOWRIDGE

SOUTH WALL SECTION A-A AND SECTION B-B

HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | JOB NO: |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | SCALE: |
| | | DATE: |
| | | DRAWN BY: |
| | | DESIGN BY: |
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| | | SHEET: |

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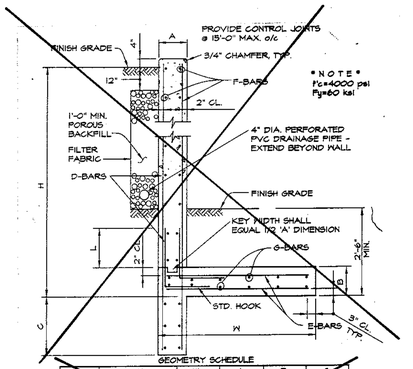



GEOMETRY SCHEDULE

| WALL | H | W | A | B | C |
|---|---|---|---|---|---|
| 1 | UP TO 6'-6" | 5'-0" | 1'-0" | 1'-0" | 1'-6" |
| 2 | 6'-7" TO 9'-6" | 8'-0" | 1'-0" | 1'-6" | 2'-6" |
| 3 | 9'-7" TO 12'-6" | 12'-0" | 1'-0" | 1'-6" | 3'-6" |
| 4 | 12'-7" TO 15'-6" | 15'-6" | 1'-0" | 2'-0" | 4'-6" |

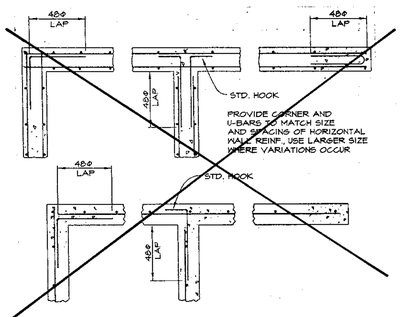
REINFORCING SCHEDULE

| WALL | D-BARS | E-BARS | F-BARS | G-BARS | L |
|---|---|---|---|---|---|
| 1 | #5@12" | #5@12" | #5@12" | #5@12" | 24" |
| 2 | #5@12" | #6@12" | #5@12" | #5@12" | 28" |
| 3 | #6@10" | #6@12" | #5@12" | #6@12" | 32" |
| 4 | #7@10" | #7@8" | #5@10" | #6@10" | 42" |

## TYPICAL CANTILEVERED RETAINING WALL

## DETAIL A/TYP.

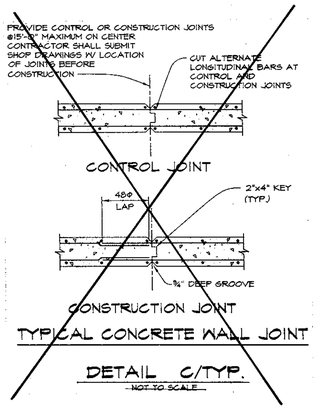
NOT TO SCALE




## TYPICAL CONCRETE WALL CORNER REINFORCING

## DETAIL B/TYP.

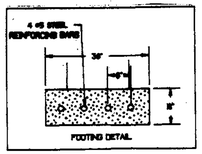
NOT TO SCALE



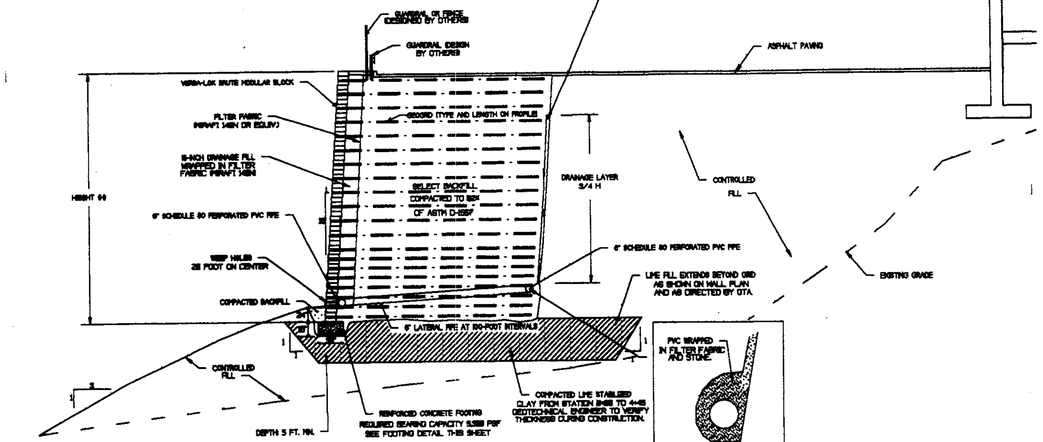

## TYPICAL CONCRETE WALL JOINT

## DETAIL C/TYP.

NOT TO SCALE




FOOTING DETAIL




RETAINING WALL TYPICAL CROSS SECTION

MEADOWRIDGE SECTION C-C

HOWARD COUNTY, MARYLAND

### STRUCTURAL NOTES

1. RETAINING WALLS

   A. FOOTINGS FOR ALL RETAINING WALLS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 4500 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOOTINGS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 4500 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

   B. RETAINING WALLS HAVE BEEN DESIGNED WITH BACKFILL MATERIAL HAVING THE FOLLOWING CHARACTERISTICS:

   SOIL WT. = 130 PCF
   Ka = .46
   COHESION = 0

   IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSURE THE BACK FILL MATERIAL MEETS THESE CHARACTERISTICS.

   C. RETAINING WALLS HAVE BEEN DESIGNED FOR THE FOLLOWING MINIMUM FACTORS OF SAFETY:

   SLIDING 1.5
   OVERTURNING 2.0

   D. CONSTRUCTION OF ALL RETAINING WALLS SHALL BE PERFORMED UNDER THE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.

   E. CONTROL JOINTS SHALL BE PLACED IN WALLS TO FORM PANELS WITH A LENGTH TO HEIGHT RATIO OF 2.5 OR LESS. THE MAXIMUM PANEL LENGTH SHALL NOT EXCEED 25'. ADDITIONAL JOINTS SHALL BE PLACED WHERE ABRUPT CHANGES IN WALL OCCUR.

2. CAST IN PLACE CONCRETE

   A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)", AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".

   B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:

      1. RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305)
      2. RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
      3. RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).

   C. ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.

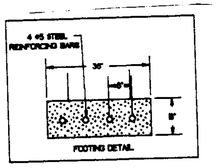
   D. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 4.5% ± 1.5% UNLESS OTHERWISE NOTED. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1", AND MAXIMUM SLUMP SHALL BE 4", 5" FOR SLABS ON GRADE. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 33.

   E. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A 615 GRADE 60. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A 185. LAP ALL REINFORCING BARS A MINIMUM OF 36 BAR DIAMETERS AND ALL W.W.F. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.

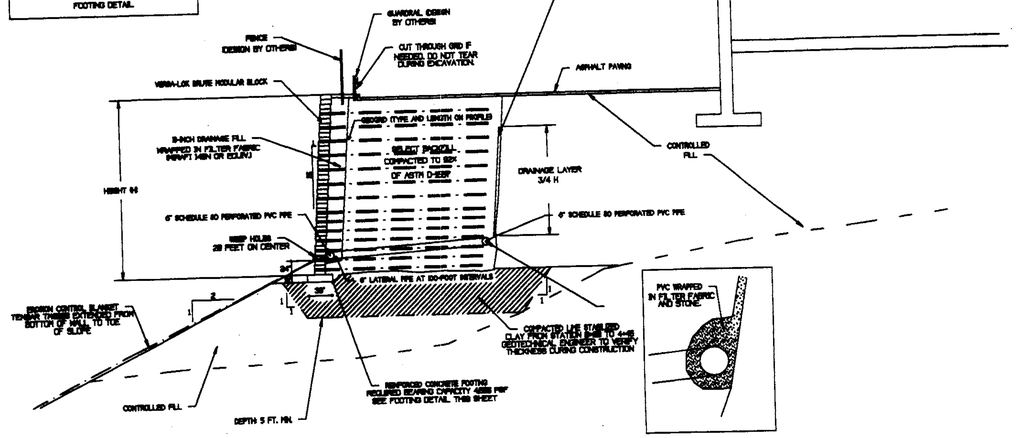
   F. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL".

   G. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY IN ACCORDANCE WITH ACI318. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.

   H. THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RESHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL SHORING AND RESHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.




FOOTING DETAIL




RETAINING WALL TYPICAL CROSS SECTION

MEADOWRIDGE SECTION D-D

HOWARD COUNTY, MARYLAND

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/13/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703) 751-9292

PROJECT: MEADOWRIDGE BUSINESS PARK PARCEL C-2
2 WAREHOUSE BUILDINGS

AREA: TAX MAP NO. 37 ZONED M-1 PARCEL C-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10/12/99 DATE

STATE OF MARYLAND MARK GRANDE No. 19509 REGISTERED PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/BB |
| DRAWN BY: | JR |
| PROJECT NO : | 98021.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 22 OF 25 |

GTA

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

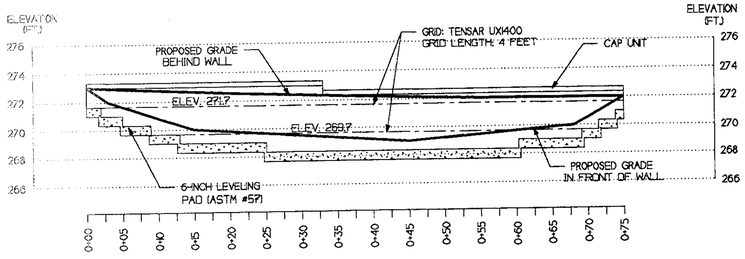
MEADOWRIDGE

SOUTH WALL SECTION C-C AND SECTION D-D

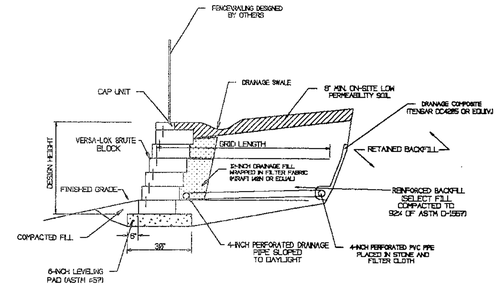
HOWARD COUNTY, MARYLAND

| DATE | REVISIONS | JOB NO: |
|---|---|---|
| 7/19/00 | REVISION TO GENERAL NOTES AND TYPICAL DETAILS | SCALE: |
| 4-7-00 | DELETE CONCRETE WALL DETAIL | DATE: |
| | | DRAWN BY: |
| | | DESIGN BY: |
| | | REVIEW BY: |
| | | SHEET: |

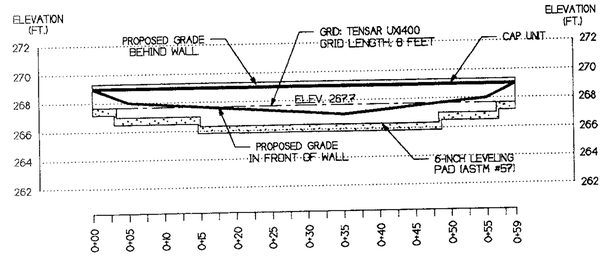
SDP-99-168



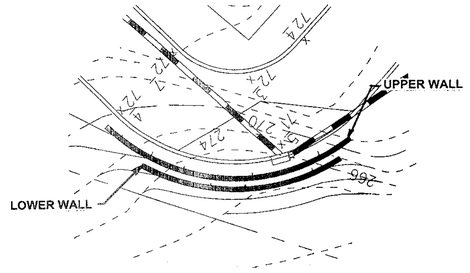

TIERED RETAINING WALL
UPPER WALL
SCALE: HORIZ. 1"=10'
VERT. 1"=5'

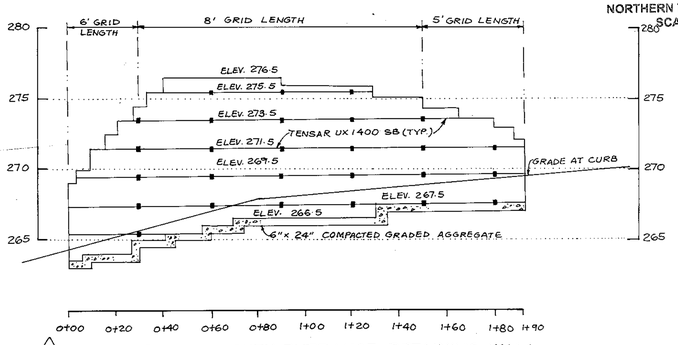



TYPICAL REINFORCED SECTION
VERSA-LOK BRUTE BLOCK
SCALE: AS SHOWN




TIERED RETAINING WALL
LOWER WALL
SCALE: HORIZ. 1"=10'
VERT. 1"=5'




2 MODIFICATION OF SOUTH ENTRANCE RETAINING WALL
SCALE: HOR. 1" = 30'
VERT. 1" = 5'

NORTHERN TIERED WALL PLAN
SCALE: 1" = 20'

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/13/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/18/99

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE

10-7-99
STATE OF MARYLAND
MARK GRANDO
No. 19509
REGISTERED
PROFESSIONAL ENGINEER

| | |
|---|---|
| DESIGNED BY : | JR/MG |
| DRAWN BY: | JR |
| PROJECT NO : | 99231.C |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 23 OF 25 |

GTA

**GEO-TECHNOLOGY ASSOCIATES, INC.**
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

☐ 42 N. Main Street, Suite 200, Bel Air, Maryland 21014, (301) 879-9446 • (301) 838-9123, Fax: (301) 893-3437
☐ 606-D Bosley Avenue, Towson, Maryland 21204, (301) 821-8385, Fax: (301) 821-1748
☐ 9090 Junction Drive, Suite 9, Annapolis Junction, Maryland 20701, (301) 792-9446 • (301) 470-4470, Fax: (301) 792-7395

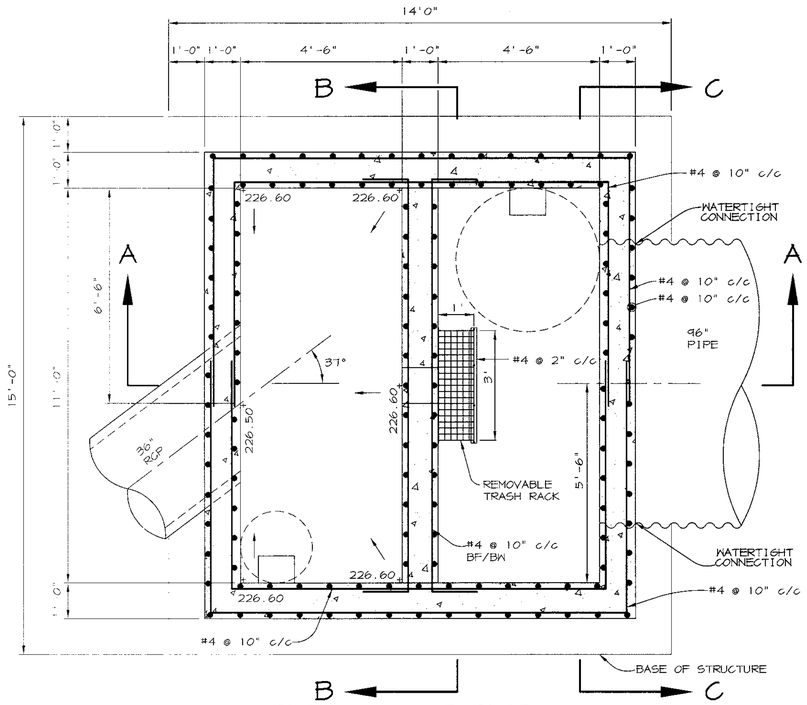
MEADOWRIDGE

NORTHERN TIERED WALL PLAN, PROFILE AND SECTION DRAWING

HOWARD COUNTY, MARYLAND

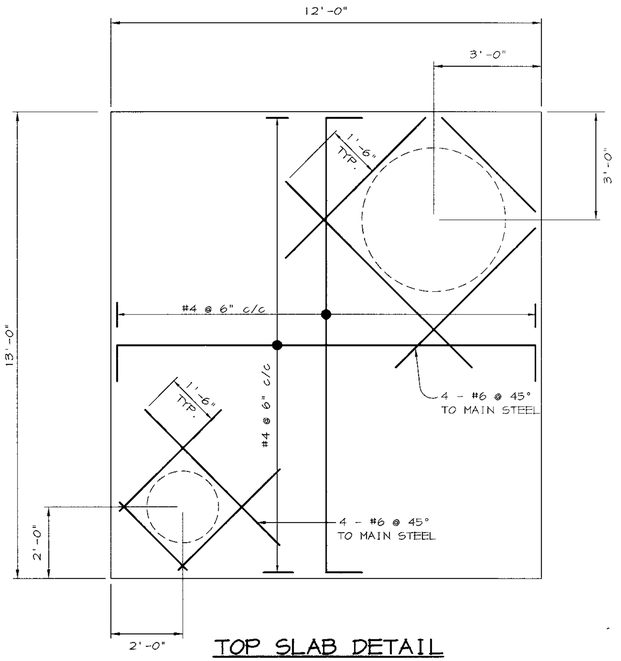
| DATE | REVISIONS | |
|---|---|---|
| 7/30/99 | REVISION TO NORTH, SOUTH, AND TIERED WALLS | JOB NO: |
| 4/10/00 | ADD RETAINING WALL ELEVATION | SCALE: |
| | | DATE: |
| | | DRAWN BY: |
| | | DESIGN BY: |
| | | REVIEW BY: |
| | | SHEET: |

SDP-99-168



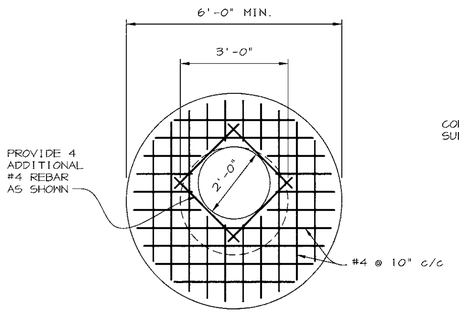

## PLAN w/o TOP SLAB

SCALE: 1" = 2'




## TOP SLAB DETAIL

SCALE: 1" = 2'




## MANHOLE CONCRETE CAP

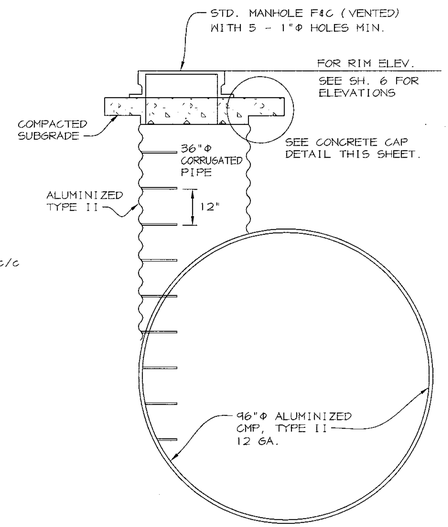
SCALE: 1 "= 2'

MANHOLE NOTES:

1. CONCRETE CAP TO BE MIX No.3
2. MANHOLE RISER TO BE SAME 6A. AS MAINLINE PIPE.
3. STEPS TO BE INSTALLED IN MANHOLE PER MANUFACTURER'S SPECIFICATIONS.
4. COMPACT TOP 1' OF SUBGRADE UNDER CONCRETE CAP 100% OF MAXIMUM DRY DENSITY (PER AASHTO T-99-C).
5. SEE GEOMETRY PLAN FOR MANHOLE LOCATIONS AND RIM ELEVATIONS SH. 6 & 11.

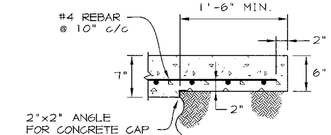
TRASH RACK NOTES:

1. STEEL TO CONFORM TO ASTM A-36. BARS TO BE SMOOTH.
2. #4 REBARS @ 2" o/c HORIZONTALLY AND 2" o/c VERTICALLY.
3. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
4. ALL BENDS TO BE 2" RADIUS.
5. WELD BARS TO 2" x 1/8" STEEL PLATE AND BOLT STEEL PLATE TO STRUCTURE WITH 1/2" ANCHOR BOLTS.
6. GALVANIZE TRASH RACK AFTER FABRICATION.



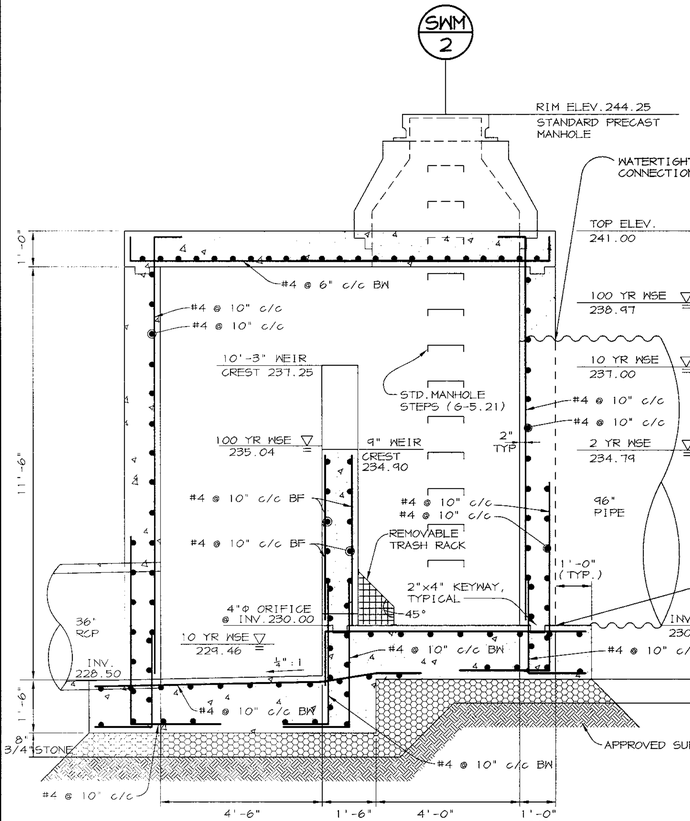

## TYPICAL MANHOLE DETAIL

SCALE: 1 = 2'



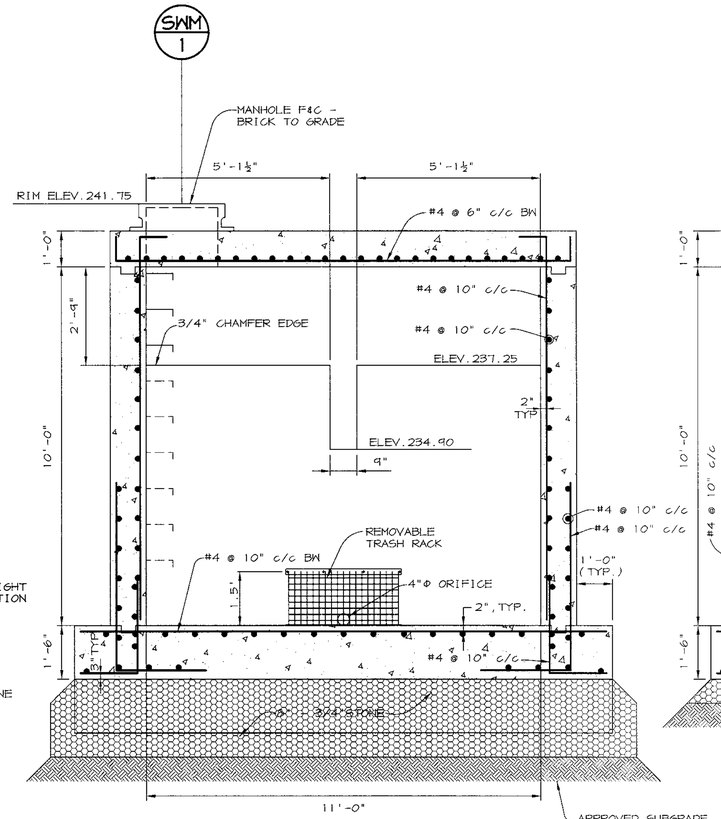

## CONCRETE CAP

SCALE: 1 = 2'



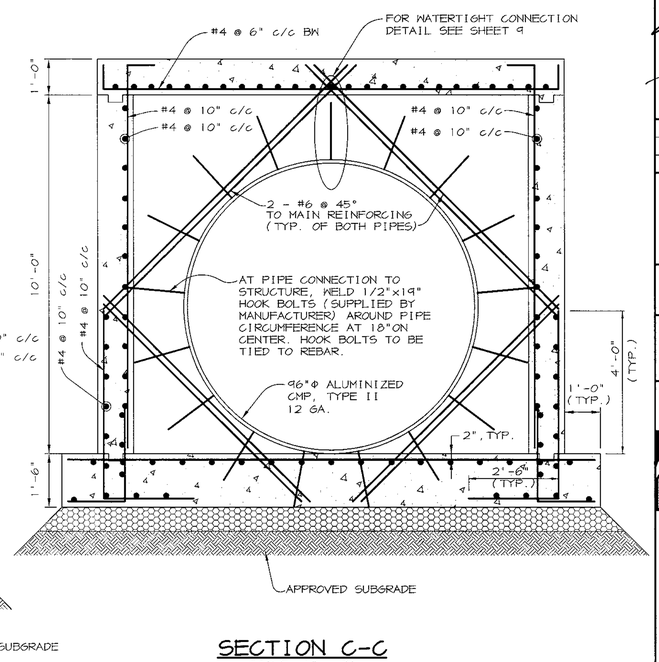

## SECTION A-A

SCALE: 1" = 2'




## SECTION B-B

SCALE: 1" = 2'




## SECTION C-C

SCALE: 1" = 2'

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/13/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/10/99 R.

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

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT DETAILS & NOTES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

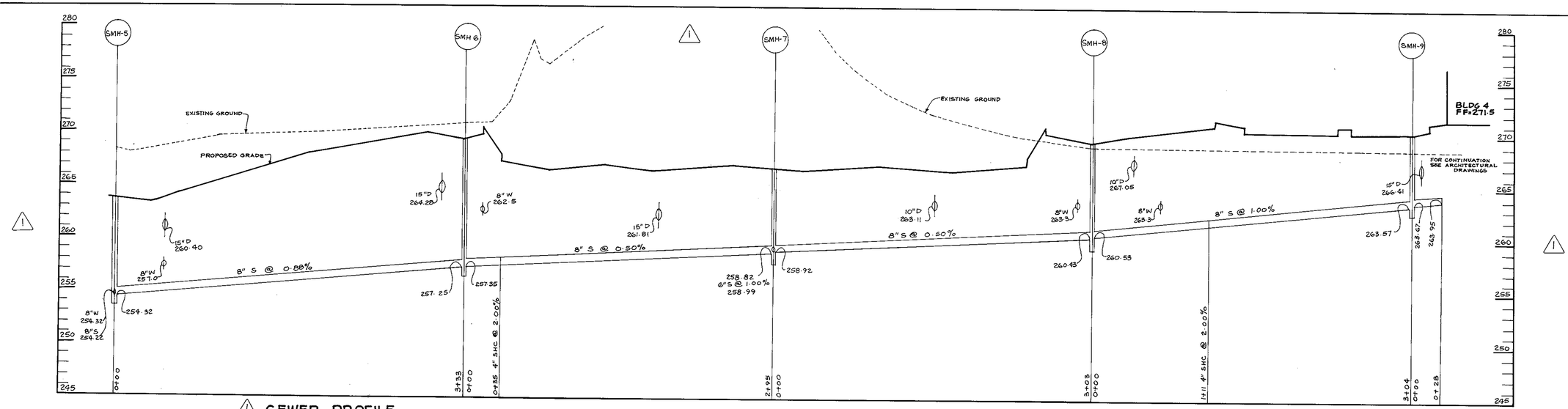
STATE OF MARYLAND — ARTHUR E. MUEGGE NO. 8707 REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : ACR | |
| DRAWN BY: GTH | |
| PROJECT NO : 97320/PARCEL_G SDP13.DN6 | |
| DATE : OCTOBER 11, 1999 | |
| SCALE : AS SHOWN | |
| DRAWING NO. 24 OF 25 | |

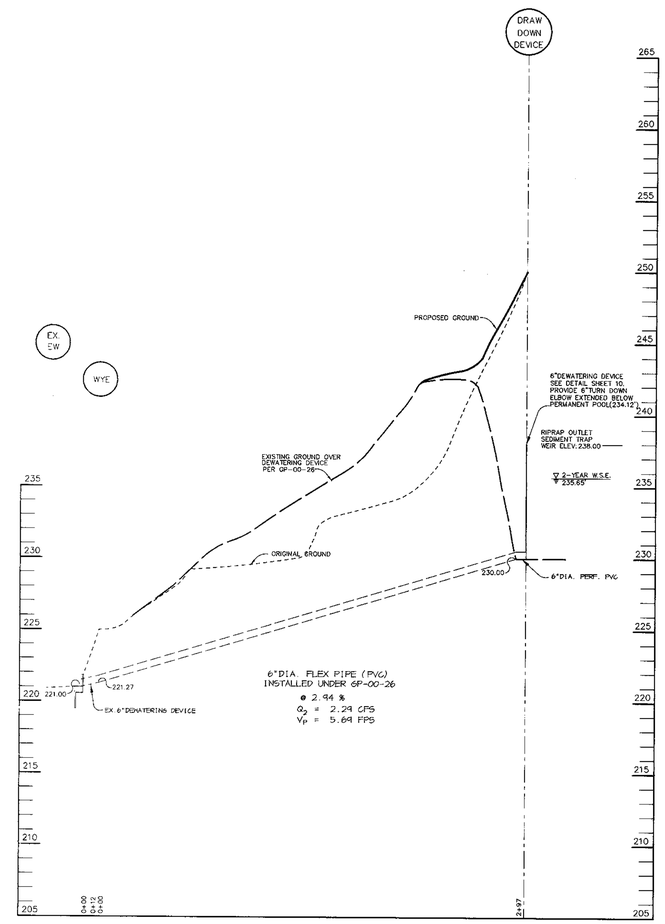
SDP-99-168

M:\97320\PARCEL_G\sdp13.dwg Thu Oct 07 10:55:45 1999 RIEMER MUEGGE & ASSOCIATES, INC



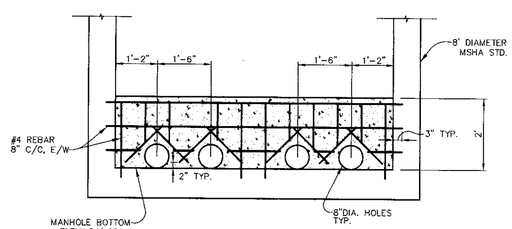

## SEWER PROFILE

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




## PROFILE THRU 6" FLEXIBLE PIPE

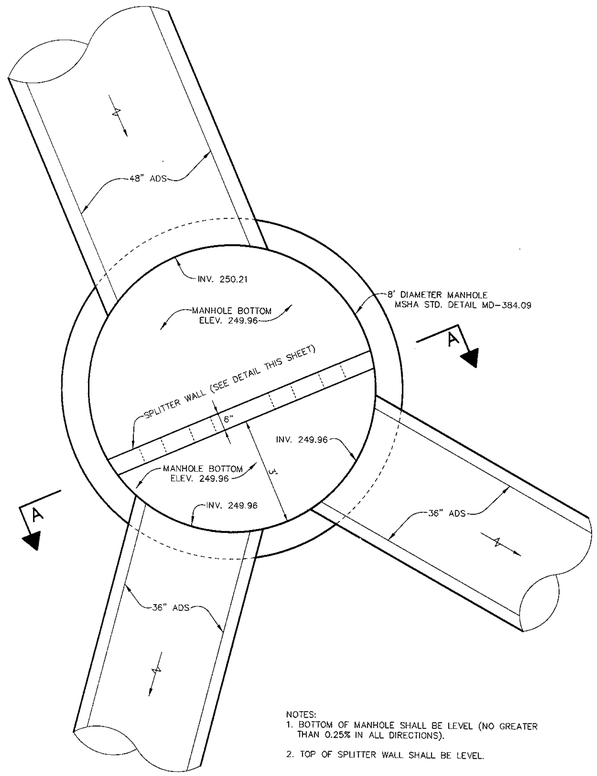
SCALE :
HOR.-1"=50'
VERT.-1"=5'




## SECTION A-A

SCALE: 1" = 2'

NOTES:
1. USE #4 DEFORMED BARS AT 8" CENTER TO CENTER EACH WAY.
2. REBAR SHALL BE EPOXY GROUTED A MINIMUM OF 3" INTO BOTTOM AND SIDES OF MANHOLE.
3. REBAR SHALL BE PLACED IN CENTER OF WALL.
4. USE MIX NO.3 CONCRETE.




NOTES:
1. BOTTOM OF MANHOLE SHALL BE LEVEL (NO GREATER THAN 0.25% IN ALL DIRECTIONS).
2. TOP OF SPLITTER WALL SHALL BE LEVEL.

## FLOW SPLITTER M-3A

SCALE: 1" = 2'

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 10/19/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/15/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/15/99

| DATE | NO. | REVISION |
|---|---|---|
| 11-08-99 | 1 | ADDED SEWER PROFILE |

OWNER/DEVELOPER

PROLOGIS DEVELOPMENT SERVICES INCORPORATED
5200 EISENHOWER AVENUE, SECOND FLOOR
ALEXANDRIA, VIRGINIA 22304
(703)751-9292

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL G-2
2 WAREHOUSE BUILDINGS

AREA
TAX MAP NO. 37 ZONED M-1 PARCEL G-2
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PROFILE & DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

| | |
|---|---|
| DESIGNED BY : | ACR |
| DRAWN BY: | DAM |
| PROJECT NO : | 97320/PARCEL_G SDP14.DWG |
| DATE : | OCTOBER 11, 1999 |
| SCALE : | AS SHOWN |
| DRAWING NO. | 25 OF 25 |

SDP-99-168

M:\97320\PARCEL_G\sdp14.dwg Fri Oct 08 15:16:31 1999 RIEMER MUEGGE & ASSOCIATES, INC.