SHEET INDEX DESCRIPTION TITLE SHEET SITE DEVELOPMENT PLAN GRADING AND SEDIMENT CONTROL SEDIMENT CONTROL DETAILS PROFILES AND DETAILS SHEET PROFILES LANDSCAPE PLAN LANDSCAPE SCHEDULES AND DETAILS RETAINING WALL CONSTRUCTION DETAILS RETAINING WALL CONSTRUCTION DETAILS

GENERAL NOTES

AND SPECIFICATIONS, IF APPLICABLE

313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

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.

. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED NOVEMBER 1999, AND FROM MASS GRADES SDP-03-121.

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. 30FB AND 30FC WERE USED FOR THIS PROJECT.

3. WATER IS PUBLIC UNDER A PUBLIC CONTRACT TO BE BONDED BY THE DEVELOPER. CONTRACT NO. 24—4128—D.

. SEWER IS PUBLIC. SEWER DRAINAGE AREA: 108 P.S. CONTRACT NO. 24-4128-D

D. THE STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED FOR THE DEVELOPMENT BY A REGIONAL RETENTION FACILITY PER F-87-82. THE FACILITY IS LOCATED NORTH OF EXECUTIVE DRIVE AND COLUMBIA 100 PARKWAY INTERSECTION.

1. 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 MMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

2. A 100- YEAR FLOODPLAIN STUDY FOR THIS PROJECT IS NOT REQUIRED.

3. NO WETLANDS ARE FOUND ON THIS PROJECT.

4. A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP DATED AUGUST 2003.

5. THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED OCTOBER 1998.

6. SUBJECT PROPERTY ZONED POR PER 10-18-93 COMPREHENSIVE ZONING PLAN.

7. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929

18. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. F-87-13, F-87-82, F-96-51, F-97-48, F-97-147, F-99-59, F-03-139, SDP-03-121, F-04-063.

9. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

20. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

ALL STORM DRAIN SHALL BE HDPE PIPE MEETING AASHTO M-252 TYPE S, M-294 TYPE S, AND ASTM D2321. 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.

22. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE

23. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.

24. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

25. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS

26. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

7. PER SUBDIVISION REGULATION SECTION 16.1202.(b).(1).(iii) THIS PROJECT WAS SUBJECT TO FINAL PLANS AND MASS GRADING PLANS (GP-86-57) PRIOR TO THE FOREST CONSERVATION ACT, AND IS NOT SUBJECT TO THE FOREST CONSERVATION ACT.

28. ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF HOWARD COUNTY ZONING REGULATIONS SECTION 134.

29. THE CANTILEVERED UPPER STORY BUILDING OVERHANG FEATURE IS PERMITTED UP TO THREE FEET WITHIN ANY REQUIRED SETBACK AREA. IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS SECTION 128.A.1.a.

30. COVENANTS, CONDITIONS AND RESTRICTIONS FOR THE COLUMBIA 100 OFFICE RESEARCH PARK ARE RECORDED IN L.1771 F.434 OF THE LAND RECORDS OF HOWARD COUNTY. THE COVENANTS ALLOW WORK UP TO 10' ONTO ADJACENT PARCELS FOR GRADING.

1. A WAIVER TO SECTION 5.4 DEISN MANUAL VOLUME II TO ALLOW A RETAINING WALL TO BE LOCATED WITHIN 10' OF A PUBLIC SEWER EASEMENT WAS APPROVED BY BUREAU OF ENGINEERING IN LETTER DATED OCTOBER 2, 2003.

SITE ANALYSIS DATA CHART AREA OF PARCEL J-2

2.75 ACRES LIMIT OF DISTURBED AREA PRESENT ZONING POR PROPOSED USE OFFICE BANK, RESTAURANT PROPOSED FLOOR AREAS FIRST FLOOR 3013 SF * 7.047.5F RESTAURANT 2nd & 3rd FLOOR 16,009 SF OFFICE 4th FLOOR 7,270 SF OFFICE 39,200 OF = GENERAL 19999 OF + WEDICAL 19,289 OF TOTAL OFFICE BANK RESTAURANT

GENERAL OFFICE @ 3.3 SP./1,000 SF X 19999 SF = GG.O NEDICAL OFFICE @ 50 SF/1000 SF X 19,289 SF = 96.45 TOTAL REQUIRED SPACES = 227 SPACES

REQUIRED PARKING

Bank @ 5.0 Sp/1000 Sf × 3013 Sf = 15.1 restaurant @ 14.5p/1000 Sf × 7047 Sf = 40.35**

NOTE: THE HEIGHT OF THIS BUILDING IS

MAXIMUM HEIGHT TO 51-0"

BASED ON THE HIGHEST POINT ON

THE FLAT KOOF THIS POINT IS 51'-0"

THE SETBACK TO THE BUILDING IS 32' THEREBY SETTING THE ALLOWABLE

ABOVE THE AVERAGE ADJOINING GRADE.

226 SPACES (INCL. 7 HANDICAP SP.) 46 SMALL CAR PARKING SPACES ARE PROPOSED (16'x 8.5') AS ALLOWED BY ZONING REGULATION SECT. 133 C(2)

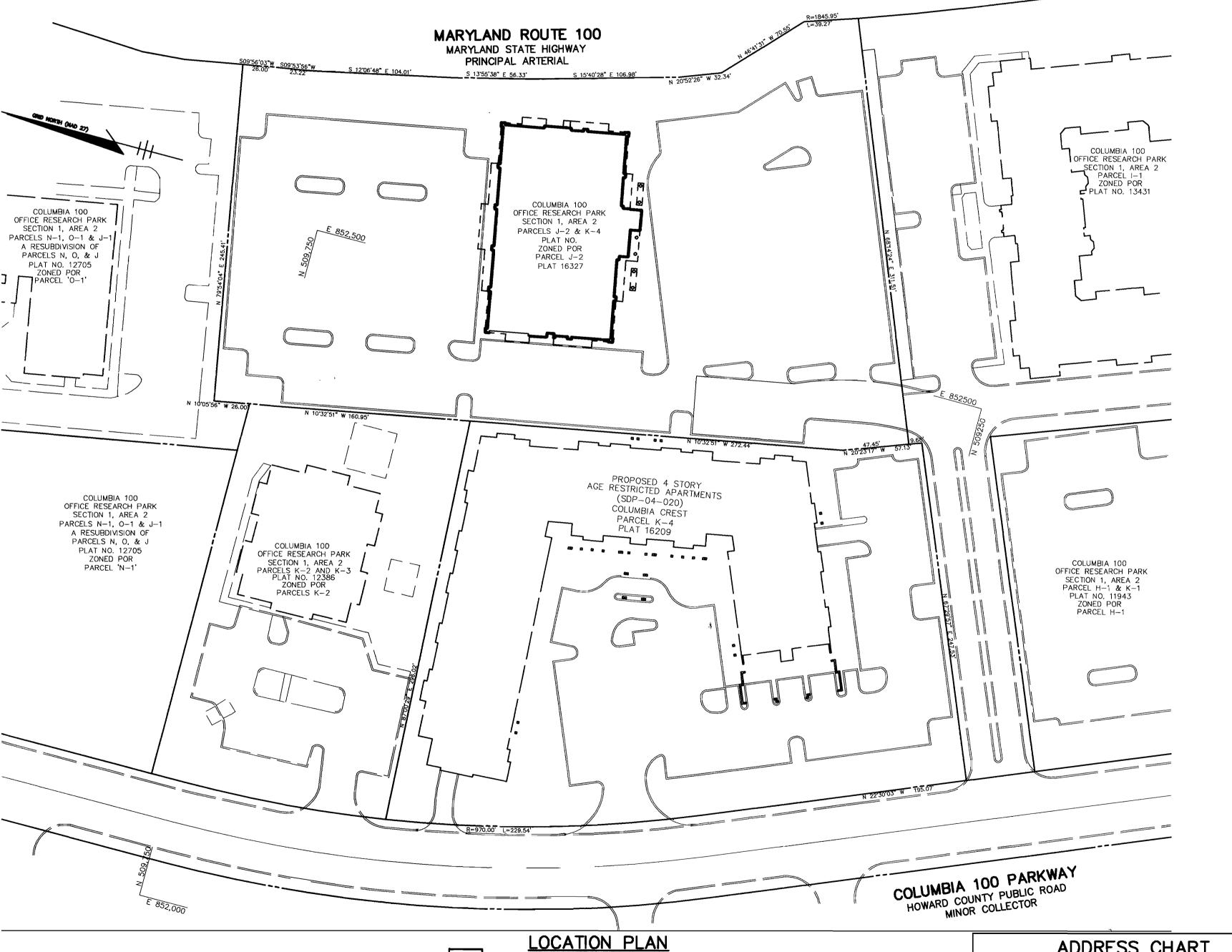
14,229 SF (11.3% OF SITE) BUILDING COVERAGE

* EXCLUDES AREA DEVOTED TO DRIVE THRU LANES

** USING HOWARD COUNTY ZONING REGULATIONS SECTION 133.E.1.a, THE INTENDED USERS CAN EMPLOY A SHARED PARKING ADJUSTMENT. THE MAXIMUM NUMBER OF SPACES OCCURS ON WEEKDAYS BETWEEN GAIL-OFIL THE REGULATIONS ALLOW THE FOLLOWING ADJUSTMENT FACTORS, 50% RESTAURANT, 100% OFFICE.

SITE DEVELOPMENT PLAN COLUMBIA 100 OFFICE RESEARCH PARK ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS OF HOWARD COUNTY PLUS MSHA STANDARDS

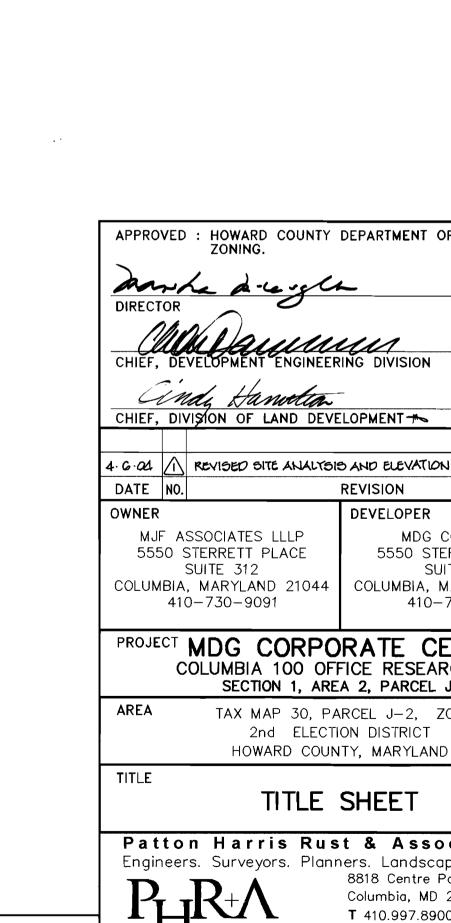
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND



32' TO BLDG. CORNER

27.7' TO OVERHANG

SOUTH BUILDING ELEVATION



ADDRESS CHART

30

SEWER CODE

BLOCK # ZONING TAX MAP NO.

18 POR

STREET ADDRESS

8850 COLUMBIA 100 PARKWAY

S/1 A/2

J-2

6023.02

ELECT. DIST. CENSUS TRAC

5750639

PARCEL NUMBER

COLUMBIA 100 OFFICE REŞEARCH PARK

G02

SUBDIVISION NAME

16327

ATER CODE

VICINITY MAP OPYRIGHT ADC THE MAP PEOPLE

BENCH MARK

HOWARD COUNTY CONTROL STATION 30FB N 570,134.286 (NAD83) N 509,385 (NAD27) E 1,365,194.137 (NAD 83) E 852,776 (NAD 27) ELEV. 500.63

HOWARD COUNTY CONTROL STATION 30FC

N 572,916.535 (NAD 83) N 512,168 (NAD 27) E 1,364,670.171 (NAD 83) E 852,252 (NAD 27)

HOWARD COUNTY DEPARTMENT OF PLANNING AND ENGINEERING DIVISION CHIEF, DIVISION OF LAND DEVELOPMENT 🛰 DATE

MDG COMPANIES 5550 STERRETT PLACE 5550 STERRETT PLACE SUITE 312 COLUMBIA, MARYLAND 21044 COLUMBIA, MARYLAND 21044 410-730-9091 MDG CORPORATE CENTRE

REVISION

DEVELOPER

COLUMBIA 100 OFFICE RESEARCH PARK SECTION 1, AREA 2, PARCEL J-2

TAX MAP 30, PARCEL J-2, ZONED POR 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE SHEET

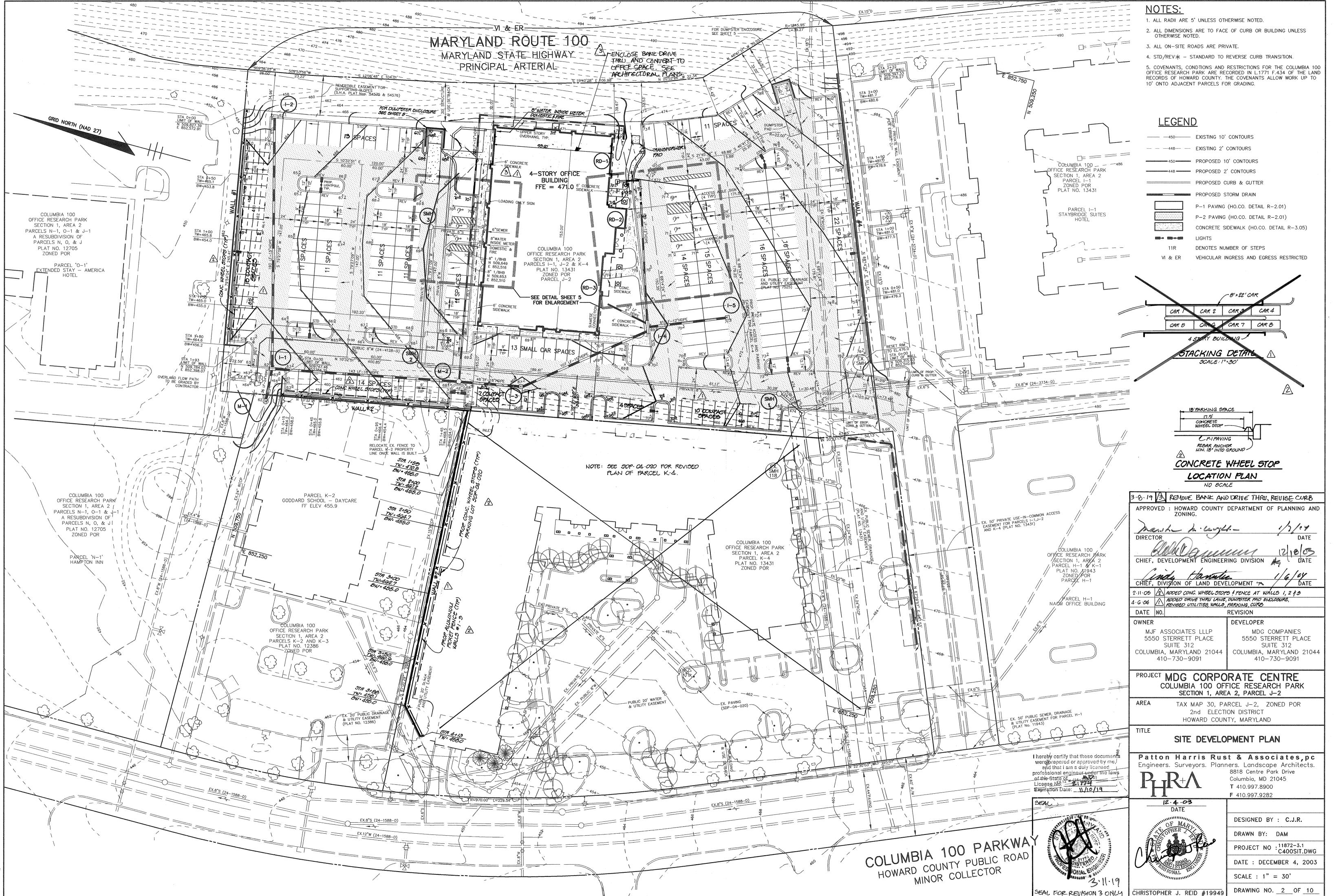
Patton Harris Rust & Associates,pc Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045



CHRISTOPHER J. REID #19949

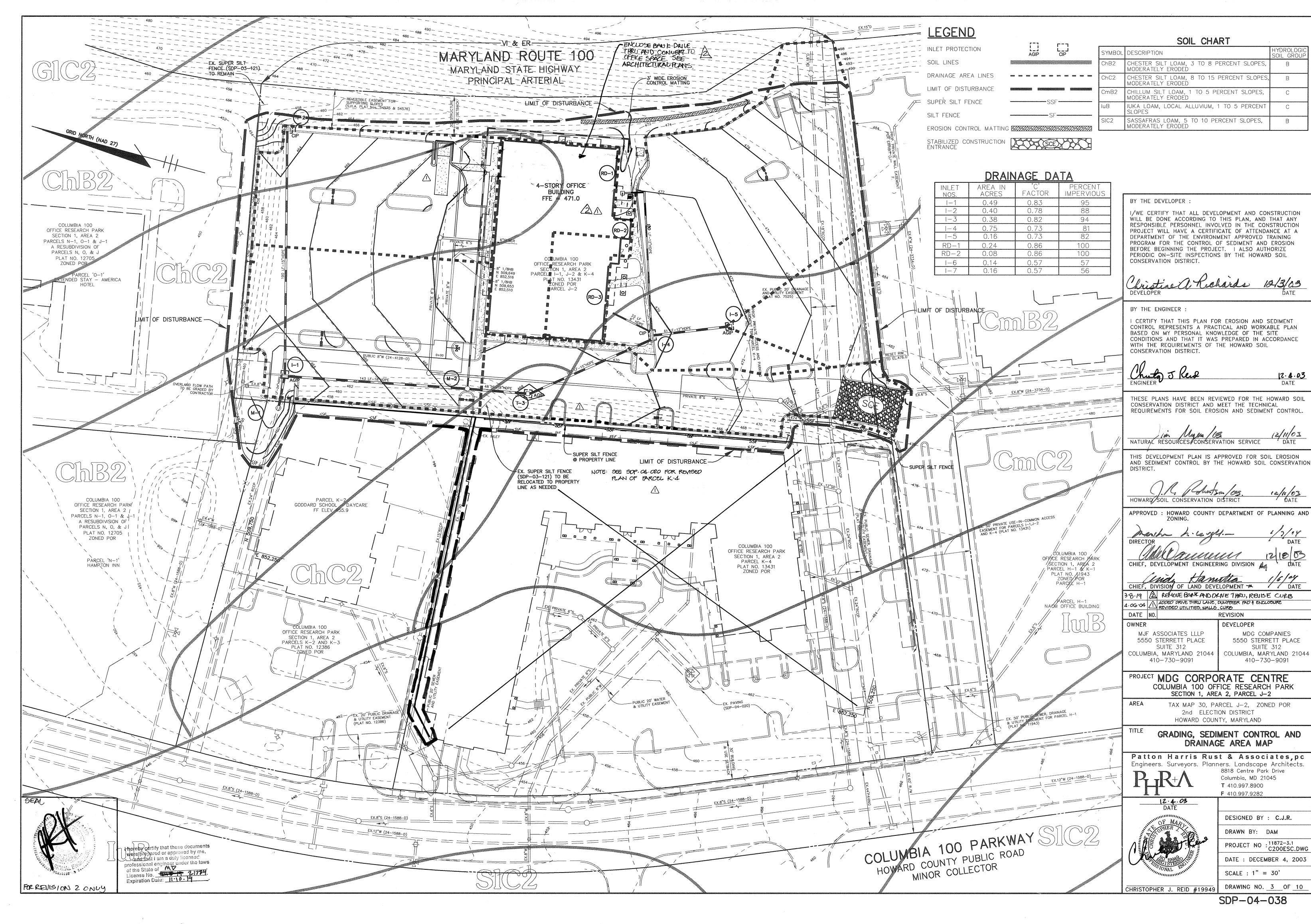
DESIGNED BY : C.J.R. DRAWN BY: DAM PROJECT NO :11872-3.1 C100COV DATE: DECEMBER 4, 2003 SCALE : AS SHOWN DRAWING NO. 1 OF 10

SDP-04-038



SDP-04-038

P:\project\11872\3-1\Engr\Plans\C400SIT.dwg, Layout1, 12/03/2003 03:17:19 PM, HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1



Columbia, MD 21045 DESIGNED BY : C.J.R. DRAWN BY: DAM PROJECT NO : 11872-3.1 C200ESC.DWG DATE: DECEMBER 4, 2003 SCALE : 1" = 30'DRAWING NO. 3 OF 10

SUITE 312

12.4.03

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
- 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS
- 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. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED
- 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 AREA DISTURBED AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED

OF GRASSES.

2.88 ACRES 2.75 ACRES 2.31 ACRES 0.44 ACRES 180 CU. YARDS 2300 CU. YARDS

TOTAL FILL 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 OUT 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.

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

SOIL AMENDMENTS: APPLY 600 LBS, PER ACRE 10-10-10 FERTILIZER (14

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 1994 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 PREWOUSLY

 $\underline{\text{SOIL}}$ 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 IBS. 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

- 1) 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- 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.

MAINTENANCE : INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS.

BY THE DEVELOPER

/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. / ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

BY THE ENGINEER :

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.

12.4.03

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

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND

DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISIØN OF LAND DEVELOPMENT 🥕

DATE NO. REVISION DEVELOPER

OWNER MJF ASSOCIATES LLLP 5550 STERRETT PLACE SUITE 312 COLUMBIA, MARYLAND 21044

410-730-9091

410-730-9091 PROJECT MDG CORPORATE CENTRE

COLUMBIA 100 OFFICE RESEARCH PARK SECTION 1, AREA 2, PARCEL J-2

TAX MAP 30, PARCEL J-2, ZONED POR 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates.pc Engineers, Surveyors, Planners, Landscape Architects, 3818 Centre Park Drive Columbia, MD 21045 T 410.997.8900

2.4.03

DESIGNED BY : C.J.R.

SCALE: AS SHOWN

F 410.997.9282

DRAWN BY: DAM PROJECT NO : 11872-3.1 C200DET.DWG

MDG COMPANIES

5550 STERRETT PLACE

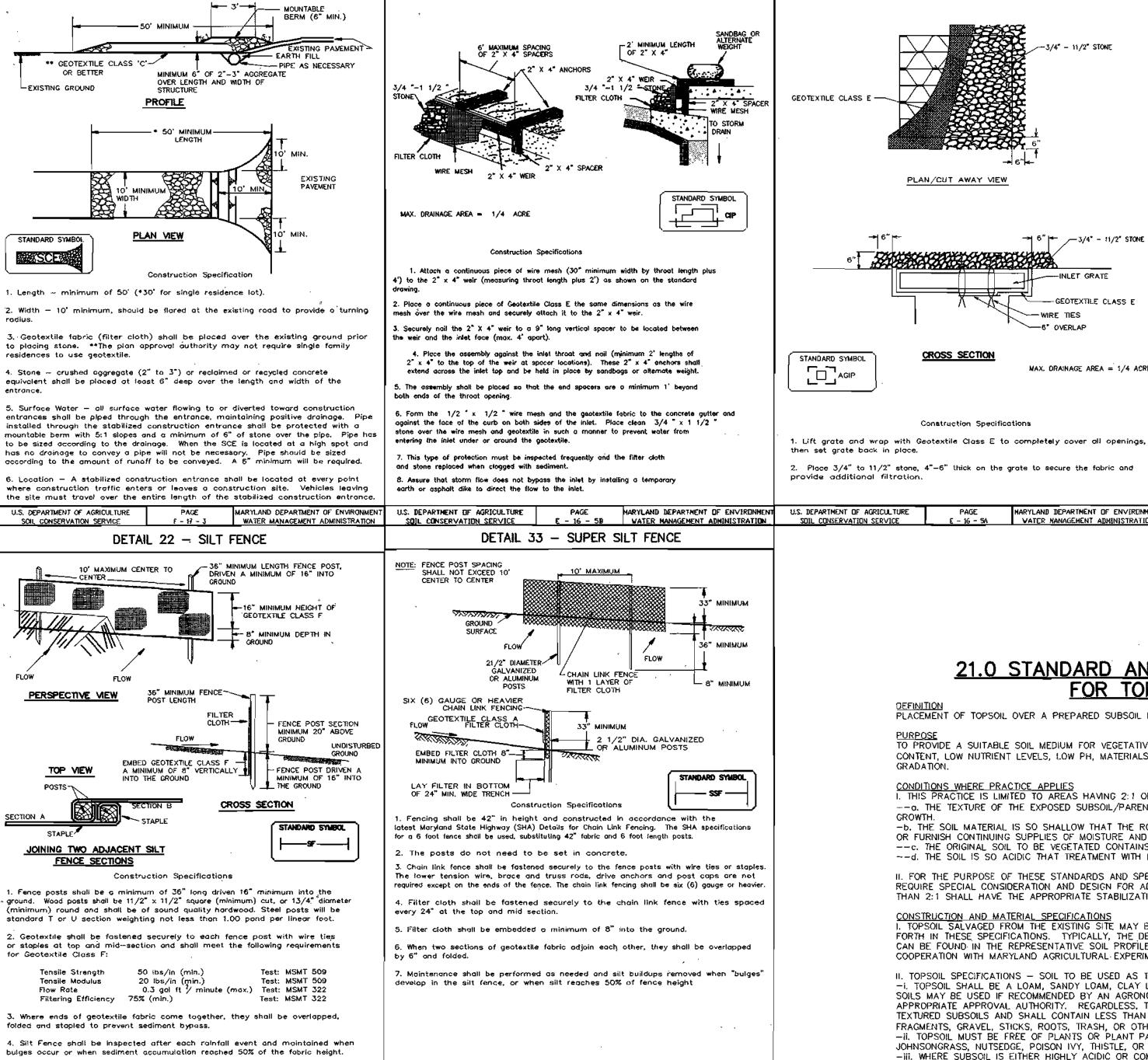
SUITE 312

COLUMBIA, MARYLAND 21044

DATE: DECEMBER 4, 2003

DRAWING NO. 4 OF 10

SDP-04-038



DETAIL 23C - CURB INLET PROTECTION

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

DETAIL 23B - AT GRADE INLET PROTECTION

PLAN/CUT AWAY MEW

Construction Specifications

-3/4" - 11/2" STONE

-3/4" - 11/2" STONE

-GEOTEXTILE CLASS E

MAX. DRAINAGE AREA = 1/4 ACRE

MARYLAND DEPARTMENT OF ENVIRONMEN

VATER MANAGEMENT ABMINISTRATION

INLET GRATE

-WIRE TIES

-6" OVERLAP

-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

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 1-1/2" 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. III. 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.

-i. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME --a. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS

--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

NOTE: TOPSOIL SUBSTITUTES TO AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL

-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

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.

AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING: 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 DISSIPATION OF PHYTO-TOXIC MATERIALS. STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS. V. TOPSOIL APPLICATION MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION. FORMATION OF DEPRESSIONS OR WATER POCKETS. GRADING AND SEEDBED PREPARATION. ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

-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 RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE -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 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: -i. 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 --a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE

--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.

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.) Tensile Modulus 20 lbs/in (min.) 0.3 gol ft // minute (mox.) Test: MSMT 322 75% (min.) Filtering Efficiency 3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass. MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONME WATER MANAGEMENT ADMINISTRATION DETAIL 30 - ERUSION CONTROL MATTING 30.0 - DUST CONTROL DEPINITION CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

CROSS-SECTION

4. Sift Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

-EXISTING GROUND

STANDARD SYMBOL

継続SCE 郷

SOIL CONSERVATION SERVICE

PERSPECTIVE VIEW

FENCE SECTIONS

FLOW

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. VEGATATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER. 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLOOS 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 SIMILIAR 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 MATERIAL CAN BE USED TO CONTROL ARE CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING 6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST, MAY NEED RETREATMENT.

SOIL CONSERVATION SERVICE

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

3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

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

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

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

TYPICAL STAPLES NO. 11 GAUGE WIRE

4' OVERLAP OF MATTING STRIPS WHERE TWO BR MORE STRIP WIDTHS ARE REQUIRED. ATTACH STAPLES ON 18' CENTERS

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

SEQUENCE OF CONSTRUCTION

STORM DRAIN IS IN BEGIN WALL CONSTRUCTION.

4. BEGIN ROUGH GRADING AND BUILDING CONSTRUCTION.

INLET PROTECTION AND WATER AND SEWER. (3 WEEKS)

6. INSTALL CURB AND GUTTER AND PAVE. (2 WEEKS)

9. COMPLETE BUILDING CONSTRUCTION. (6 MONTHS)

PERMANENT SEEDING NOTES. (2 DAYS)

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE AND

3. INSTALL STORM DRAINS FROM M-3 TO I-7 (COLUMBIA CREST). ONCE

5. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM INLETS,

7. PERFORM FINE GRADING, LANDSCAPING AND SIDEWALKS. (1 WEEK)

8. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH

10. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE

ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED

AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)

1. OBTAIN GRADING PERMIT.

SILT FENCE. (2 DAYS)

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

CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTATION STATION.

IIII. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

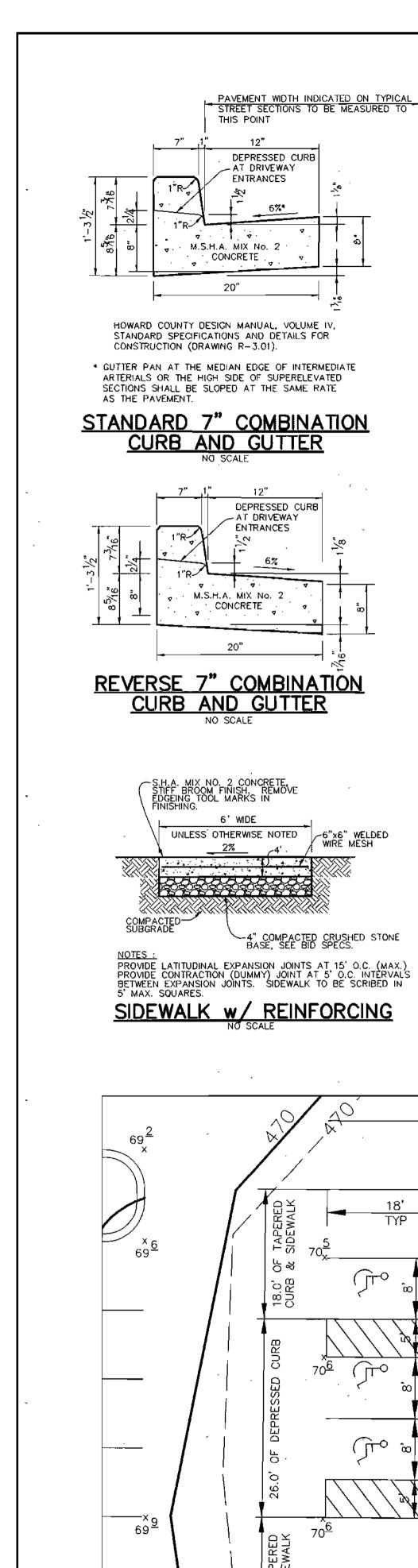
SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY MAY BE USED IN LIEU OF NATURAL -- II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE

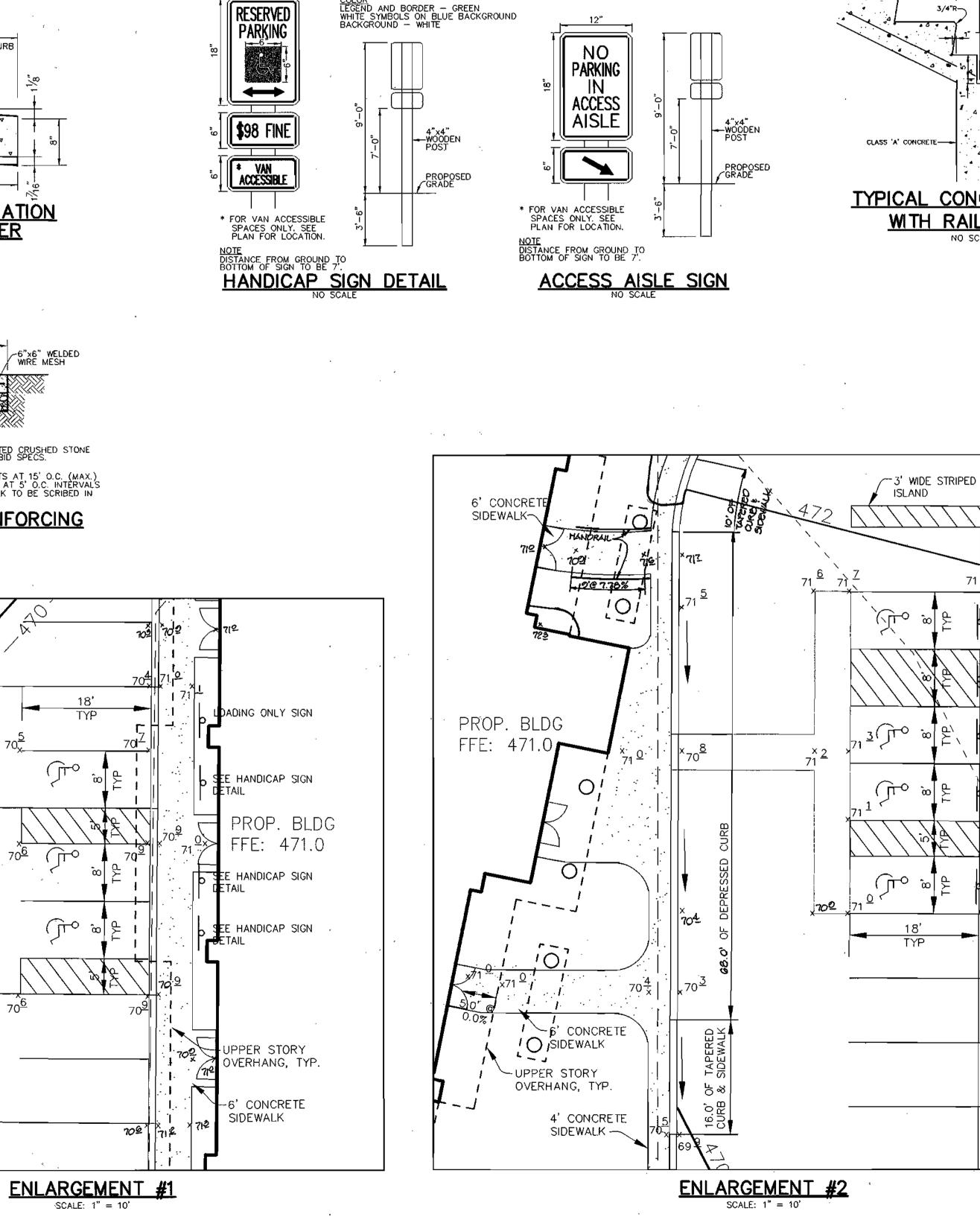
PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE

REPLACEMENTS AND RESEEDINGS.

PER 1000 SQ.FT.) FOR ANCHORING.

CHRISTOPHER J. REID #19949





BITUMINOUS CONCRETE SURFACE

BITUMINOUS CONCRETE BASE

* 8" CRUSHER RUN BASE COURSE (2 COURSES) 🕽 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE

(ALTERNATE)

BITUMINOUS CONCRETE SURFACE

BITUMINOUS CONCRETE BASE

HOWARD COUNTY DESIGN MANUAL VOLUME IV-

STANDARD SPECIFICATIONS AND DETAILS FOR

P-2 PAVING

NO SCALE

CONSTRUCTION (DRAWING R-2.01)

-2 1/2"

BITUMINOUS CONCRETE SURFACE

BITUMINOUS CONCRETE BASE

* 5" CRUSHER RUN BASE COURSE

4" DENSE GRADED STABILIZED AGGREGATE BASE COURSE

(ALTERNATE)

BITUMINOUS CONCRETE SURFACE

BITUMINOUS CONCRETE BASE

HOWARD COUNTY DESIGN MANUAL VOLUME #V-

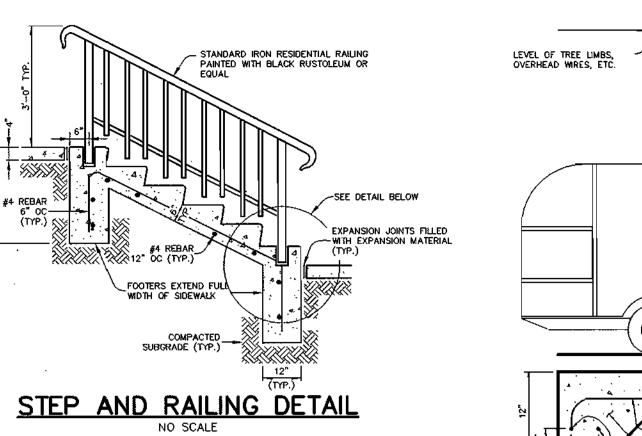
STANDARD SPECIFICATIONS AND DETAILS FOR

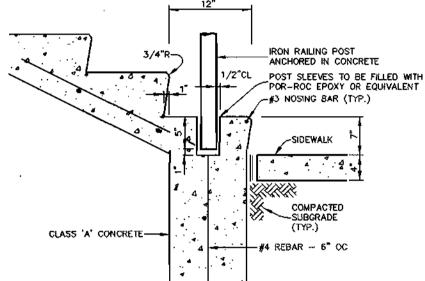
P-1 PAVING

NO SCALE

CONSTRUCTION (DRAWING R-2.01)

706





TYPICAL CONCRETE STEP WITH RAIL DETAIL

SEE HANDICAP SIGN

, SEE ACCESS AISLE SIGN DETAIL THIS SHEET

SEE HANDIOAP SIGN

DETAIL THIS SHEET

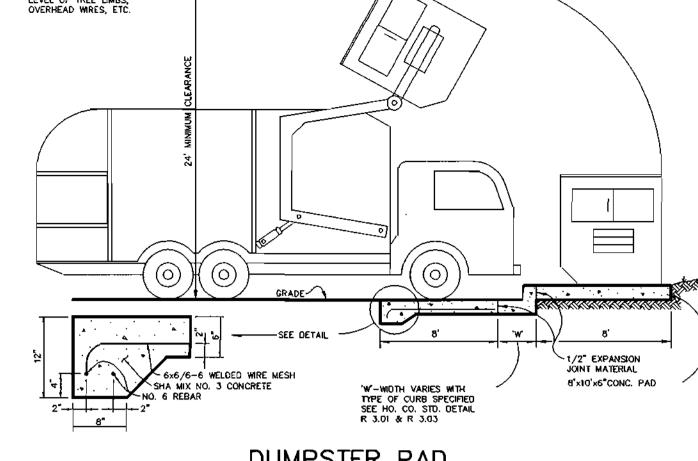
SEE HANDICAP\SIGN

DETAIL THIS SHEET

SEE HANDICAP SIGN

DETAIL THIS SHEET

DETAIL THIS SHEET

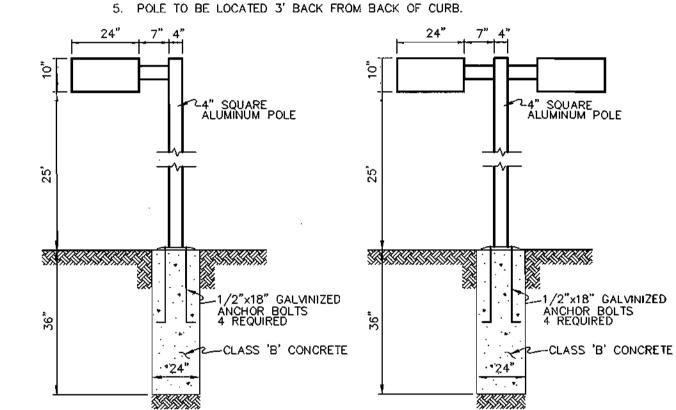


DUMPSTER PAD NO SCALE

2. LOCATIONS OF LIGHT FIXTURES ARE ON THE PLAN AND ARE SHOWN THUS:

LIGHTS TO BE MODULE II TYPE AS MANUFACTURED BY MOLDCAST OR APPROVED EQUAL.

4. POLE AND FIXTURE TO HAVE BLACK POLYESTER ENAMEL



DUAL LIGHT POLE DETAIL

LIGHT POLE DETAIL

Prefinished alum. coping... Close top of stl. tube w/ 1/4" stl. cap welded to top of tube Treated wd. blacking _ Mitered sti. corner—weld.
Attach tumbuckie
rod to miter Hinge-1 1/2" pair per side 4" x 4" stl. tube hinge post- paint 1 x 4 reveal —

Section Through Wall (Looking @ Gate)

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.

BY THE ENGINEER

DISTRICT.

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.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL

REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL. 2.4.03

NATURAL RESOURCES CONSERVATION SERVICE THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION

L'EL HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND

phohe delengel-CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE CHIEF, DIVISION OF LAND DEVELOPMENT THE

DATE NO. REVISION DEVELOPER

OWNER MJF ASSOCIATES LLLP 5550 STERRETT PLACE SUITE 312 COLUMBIA, MARYLAND 21044 COLUMBIA, MARYLAND 21044

410-730-9091

PROJECT MDG CORPORATE CENTRE COLUMBIA 100 OFFICE RESEARCH PARK SECTION 1, AREA 2, PARCEL J-2

TAX MAP 30, PARCEL J-2, ZONED POR 2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

TITLE

DETAIL SHEET

Patton Harris Rust & Associates,pc Engineers. Surveyors. Planners. Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900

F 410.997.9282 DESIGNED BY : C.J.R.

MDG COMPANIES

5550 STERRETT PLACE

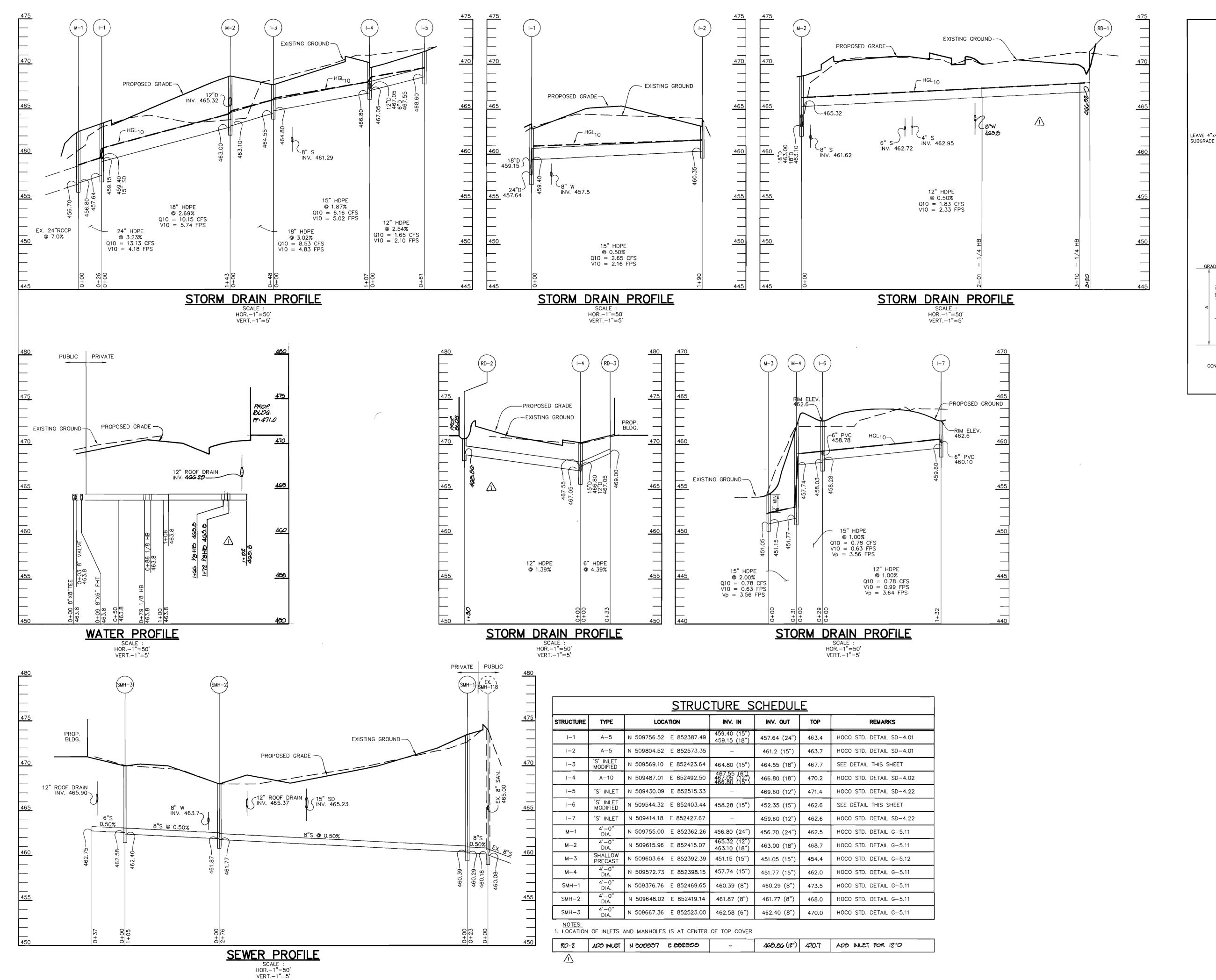
SUITE 312

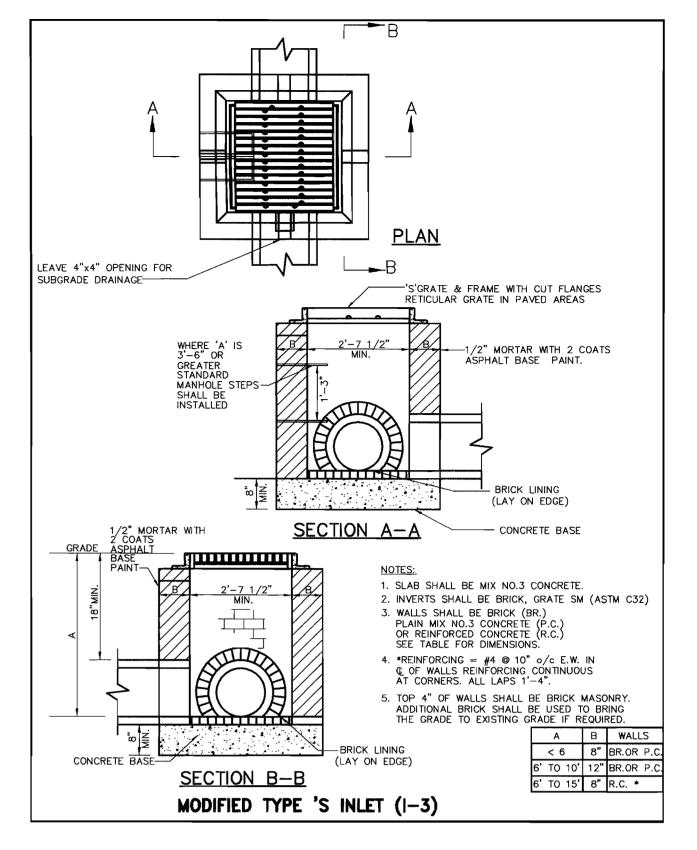
410-730-9091

DRAWN BY: DAM PROJECT NO :11872-3.1 C900DET.DWG DATE: DECEMBER 4, 2003

SCALE: AS SHOWN DRAWING NO. <u>5</u> OF <u>10</u> CHRISTOPHER J. REID #19949

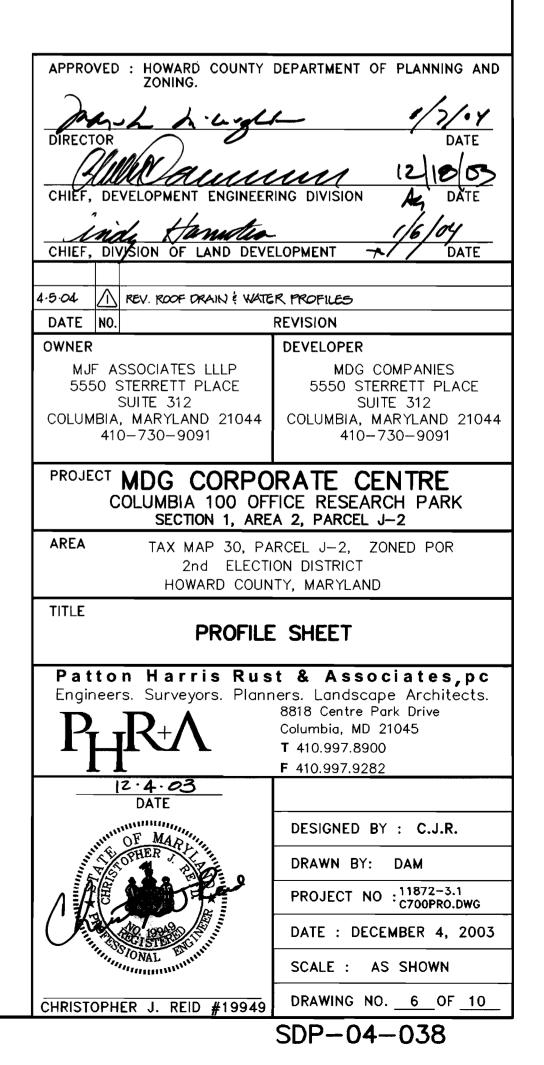
SDP-04-038

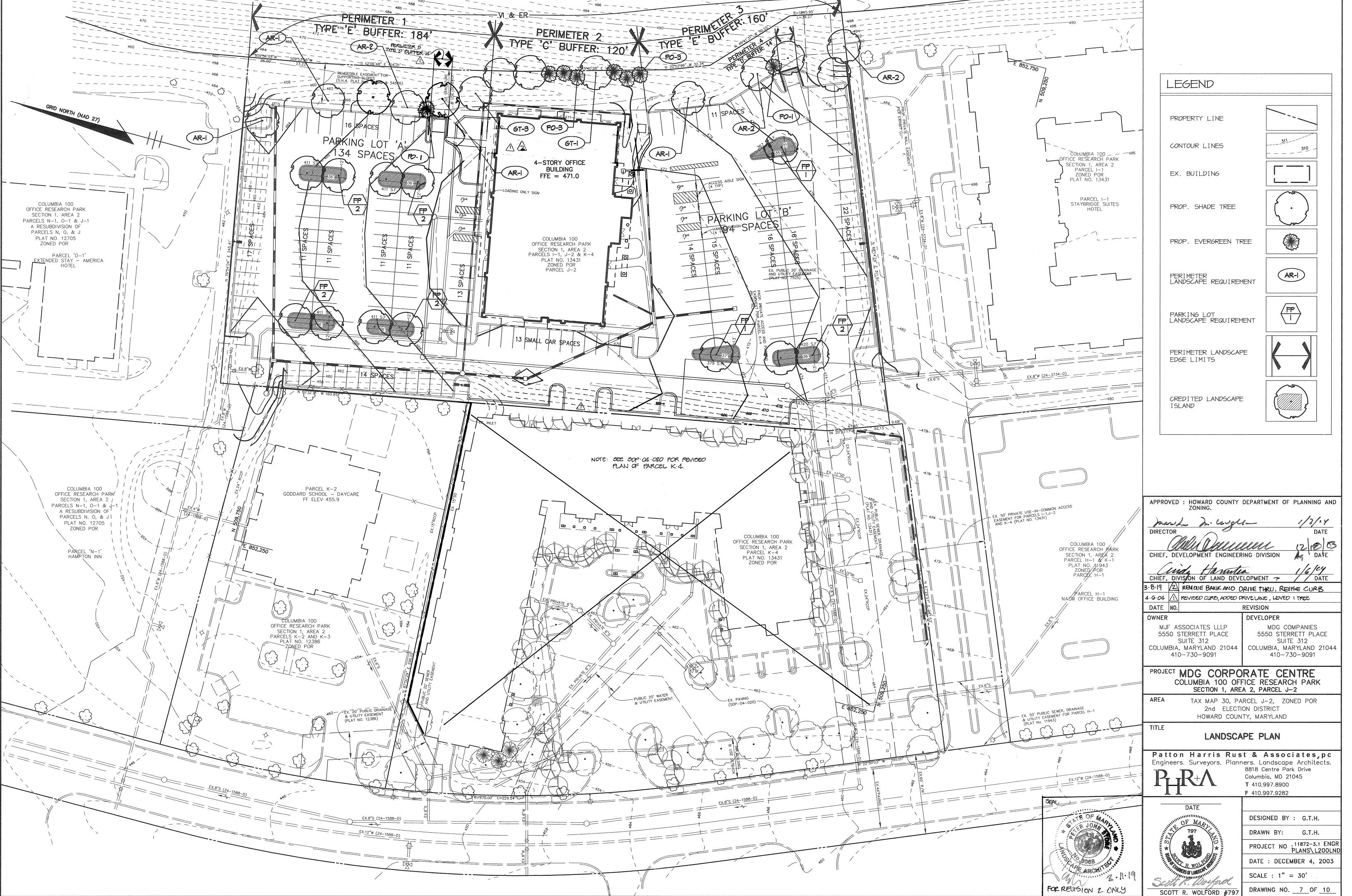




PIPE SCHEDULE

PIPE LENGTH	SIZE	TYPE
31	6"	HDPE
645	12"	HDPE
357	15"	HDPE
191	18"	HDPE
26	24"	HDPE





SDP-04-038

SCHEDULE A - PERIMETER LANDSCAPE EDGE					
	ADJACENT TO ROADWAYS				
PERIMETER	1	2	3	4	5 🛆
LANDSCAPE TYPE	E	C	E	D	D
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	±184'	±120'	±160'	±14'	± 14'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO -	NO -	NO -	NO -	10
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	NO -	NO -	NO -	NO -	NO -
LINEAR FEET REMAINING	±184'	±120'	±160'	±14'	± 14
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	5 - 46*	3 6 -	4 - 40*	1 1 -	1 1 -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES ORNAMENTAL TREES SHRUBS	5 - - 0*	36	4 - - 0*	1 1 -	1 1

SCHEDULE 'A' NOTES:

1. SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.

PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.

3. DIG PLANTING PIT 12" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 18".

5. ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.

NOT TO SCALE

FOR B&B SHRUBS

REMOVE ALL TWINE, ROPE, AND BURLAP FROM TOP OF ROOT BALL

DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING.

SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS

REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT. (PAGE 17 OF THE HO.CO. LANDSCAPE MANUAL)

* "...A CHANGE IN GRADE THAT CAUSES A PARKING LOT TO BE LOCATED LOWER THAN THE ADJACENT ROADWAY BY 3 FEET OR MORE MAY BE SUBSTITUTED FOR SHRUB PLANTING IN A TYPE E LANDSCAPE BUFFER." (PAGE 24 OF THE HO.CO. LANDSCAPE MANUAL)

SCHEDULE B - PARKING LOT INTERNAL LANDSCH	APING
PARKING LOTS	2
NUMBER OF PARKING SPACES	237
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	12
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	12
NUMBER OF ISLANDS REQUIRED (1/20 SPACES)	12
NUMBER OF ISLANDS PROVIDED (200 SQ.FT./ISLAND)	12

PARKING LOT AND PERIMETER PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
AR	10 🛆	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2.5"-3" cal.	B≰B	Plant as shown
FP	12	Fraxinus pennsylvanica 'Marshall's Seedless' Marshall's Seedless Green Ash	2.5"-3" cal.	B≰B	Plant as shown
6T	4	Gleditsia triacanthos Inermis 'Imperial' Imperial Thornless Honeylocust	2.5"-3" cal.	B≰B	Plant as shown
PO	∂ <u>∧</u>	Picea omorika Serbian Spruce	6'-8' ht.	B≰B	Plant as shown

2 TO 3 INCHES OF MULCH. DO NOT PLACE MULCH IN CONTACT WITH SHRUB TRUNK OR BRANCHES

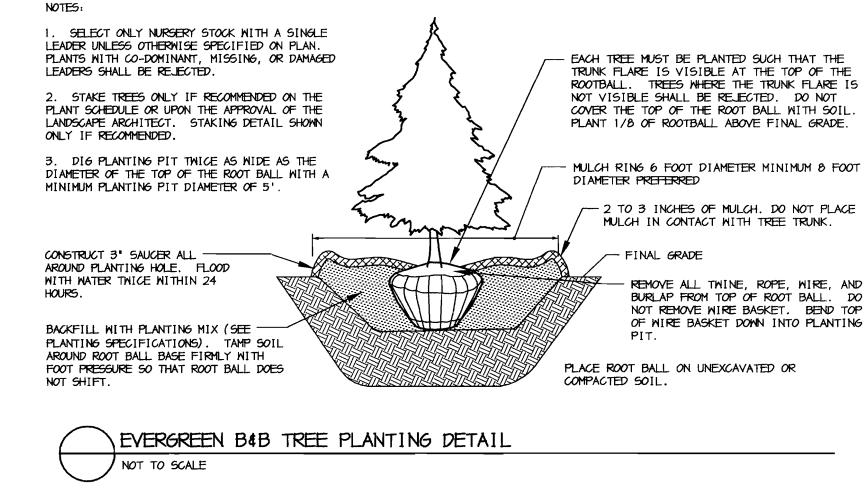
TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THE ROOT BALL DOES NOT SHIFT.

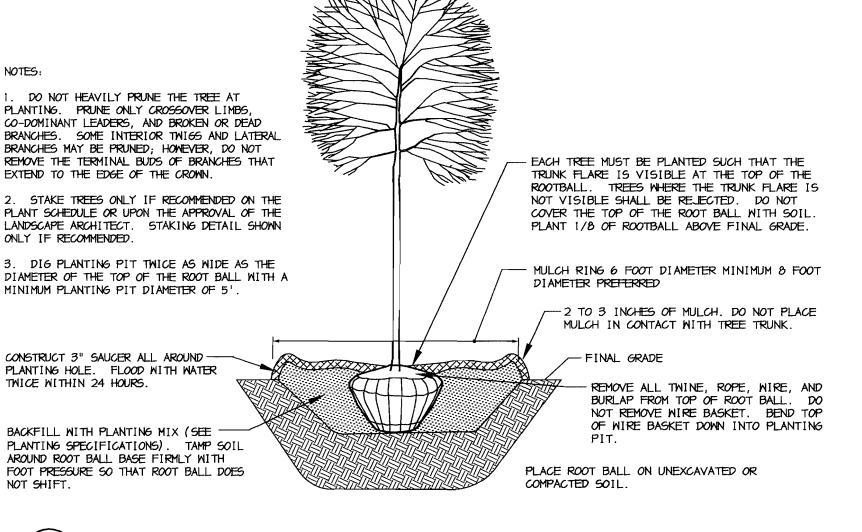
PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.

-SCARIFY ROOT BALL TO A DEPTH OF 3/4" ON ALL SIDES OR BUTTERFLY CUT CONTAINER PLANTS.

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein.
 Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape
 Manual, the latter takes precedence.
- 2. All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- 3. Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- 4. Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- 5. Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- 6. Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- 7. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or XCupressacyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- 8. Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- 9. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- 10. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- 11. All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- 12. Positive drainage shall be maintained on planting beds (minimum 2 percent slope)
- 13. Bed preparation shall be as follows: Till into a minimum depth of 6" i yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.): top dress after planting with Iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yews): Top dress after planting with 1/4 to 1/2 cup lime each.
- 14. Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- 15. Weed & Insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- 16. Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid dessication.
- 17. Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- 18. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.





DECIDUOUS B&B TREE PLANTING DETAIL

NOT TO SCALE

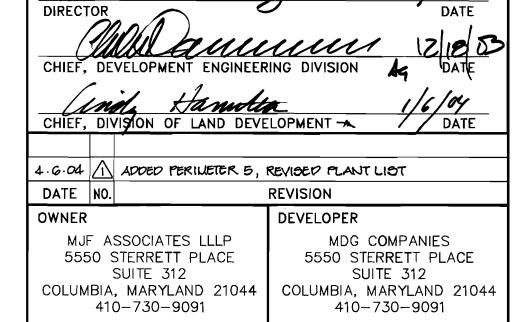
GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 2) FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$\\ \bar{1}\) \(\bar{1}\) \(
- 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.
- 5) ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 6) ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- 7) AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- 8) NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

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.

Aristine a. Richards 12/3/03
SIGNATURE DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND

PROJECT MDG CORPORATE CENTRE

COLUMBIA 100 OFFICE RESEARCH PARK

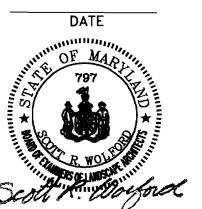
SECTION 1, AREA 2, PARCEL J-2

REA TAX MAP 30, PARCEL J-2, ZONED POR
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

LANDSCAPE SCHEDULES AND DETAILS

Patton Harris Rust & Associates, pc Engineers. Surveyors. Planners. Landscape Architects. 8818 Centre Park Drive

8818 Centre Park Driv Columbia, MD 21045 T 410.997.8900 F 410.997.9282



DESIGNED BY: G.T.H.

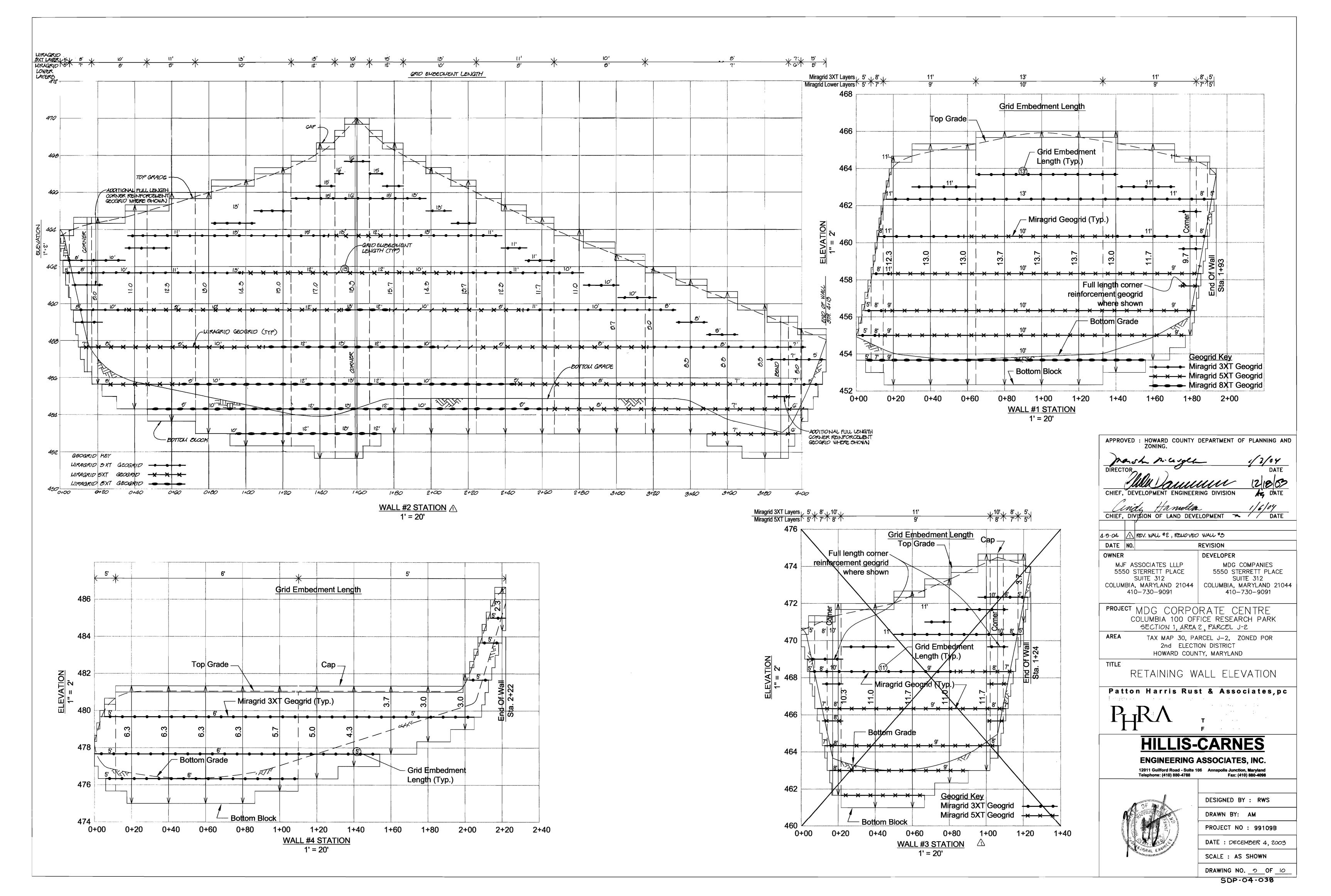
DRAWN BY: G.T.H.

PROJECT NO :11872-3.1 ENGR PLANS\L201LND

DATE : DECEMBER 4, 2003

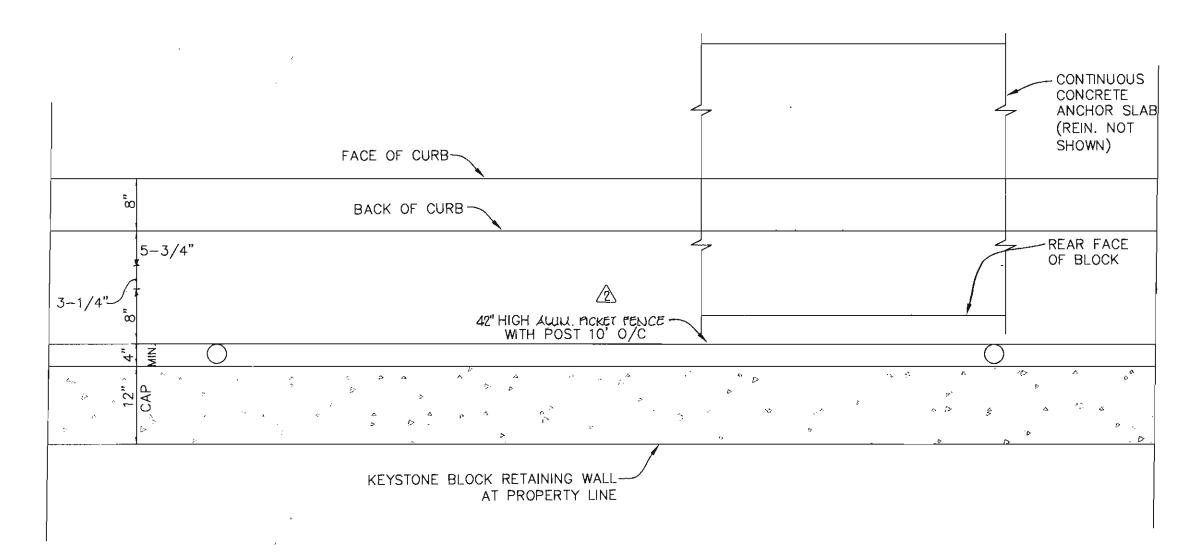
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SCOTT R. WOLFORD #797 DRAWING NO. 8 OF 10 SDP-04-038

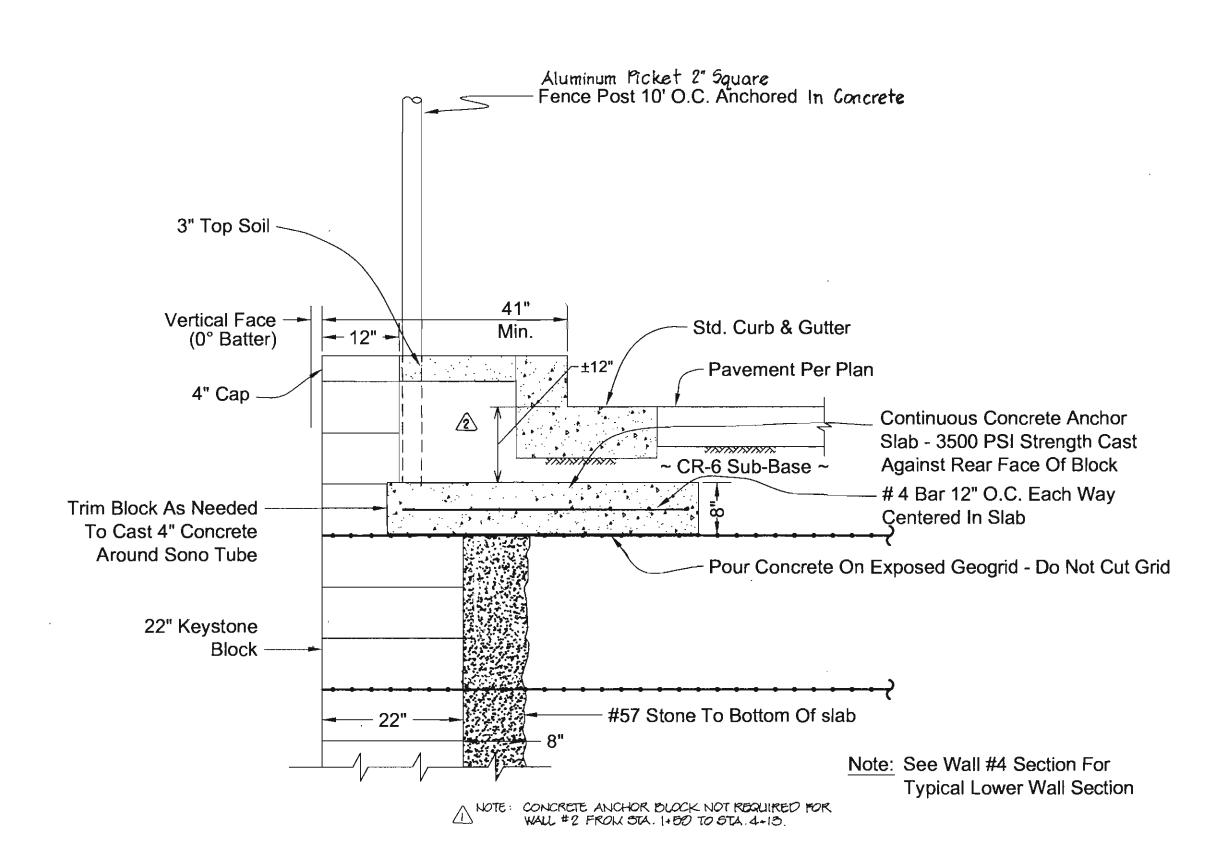


NOTES:

- 1.) No trees shall be planted within 10 feet of the top of the retaining wall.
- 2.) Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
- 3.) The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
- 4.) The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
- 5.) One soil boring is required every one hundred feet along the length of the wall. Copies of the boring reports shall be provided to the Howard County Inspector prior to the start of the construction.



WALL #1, #2 & #3 UPPER RETAINING WALL PLAN NTS



WALL #1, #2 & #3 **UPPER RETAINING WALL SECTION**

NTS

SPECIFICATIONS

KEYSTONE MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

- 1.01 Description A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on
- the plans. B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
- C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

1.02 Delivery, Storage and Handling

- A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
- B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

2.01 Modular Concrete Retaining Wall Units

- A. Modular concrete units shall conform to the following architectural requirements: face color - concrete gray - standard manufacturers' color may be specified by the Owner. face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner. bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments. exposed surfaces of units shall be free of chips, cracks
- or other imperfections when viewed from a distance of 10 feet under diffused lighting. B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications
- for Segmental Retaining Wall Units. C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references: compressive strength = 3000 psi minimum; absorption = 8 % maximum (6% in northern states) for standard weight aggregates; dimensional tolerances = $\pm 1/8$ " from nominal unit dimensions not including rough split face, ±1/16" unit height - top and bottom planes; unit size - 8" (H) x 18" (W) x 22" (D) minimum;

inter-unit shear strength - 1000 plf minimum at 2 psi

- normal pressure: geogrid/unit peak connection strength - 1000 plf minimum at 2 psi normal force. D. Modular concrete units shall conform to the following
- vertical setback = 1/8"± per course (near vertical) or 1"+ per course per the design; alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
- maximum horizontal gap between erected units shall be 1/2 inch.

2.02 Shear Connectors

constructability requirements:

- A. Shear connectors shall be 1/2 inch diameter thermoset isopthalic polyester resin-protruded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10
- degrees F to + 100 degrees F. B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.03 Base Leveling Pad Material

A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

2.04 Unit Drainage Fill

A. Unit drainage fill shall consist of #57crushed stone B. One cubic foot, minimum, of drainage fill shall be used for each square foot of wall face. Drainage fill shall be placed within cores of, between, and behind units to meet this requirement.

2.05 Reinforced Backfill

A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the

Sieve Size	Percent Passing 100-75		
2 inch			
3/4 inch	100-75		
No. 40	0-60		
No. 200	0-35		

Plasticity Index (PI) <15 and Liquid Limit <40 per ASTM

B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.

2.06 Geogrid Soil Reinforcement

A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.

2.07 Drainage Pipe

A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

PART 3 EXECUTION

3.01 Excavation

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill

3.02 Base Leveling Pad

- A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.
- B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

3.03 Modular Unit Installation

- A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in
- full contact with the base and properly seated. **B.** Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of comers and curves shall be in accordance with manufacturer's
- recommendations. **C.** Install shear/connecting devices per manufacturer's
- recommendations. D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure
- E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall

not exceed three courses. 3.04 Structural Geogrid Installation

- A. Geogrid shall be oriented with the highest strength axis
- perpendicular to the wall alignment. B. Geogrid reinforcement shall be placed at the strengths,
- lengths, and elevations shown on the construction design drawings or as directed by the Engineer. **C.** The geogrid shall be laid horizontally on compacted
- backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to

- backfill placement on the geogrid.
 - **D.** Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

3.05 Reinforced Backfill Placement

- A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of stack in the geogrid and installation
- damage. B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required
- density as required. C. Reinforced backfill shall be compacted to 95 % of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during
- layer and shall be + 3% to 3% of optimum. D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete

compaction shall be uniformly distributed throughout each

- E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
- F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
- G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter

3.06 Cap Installation

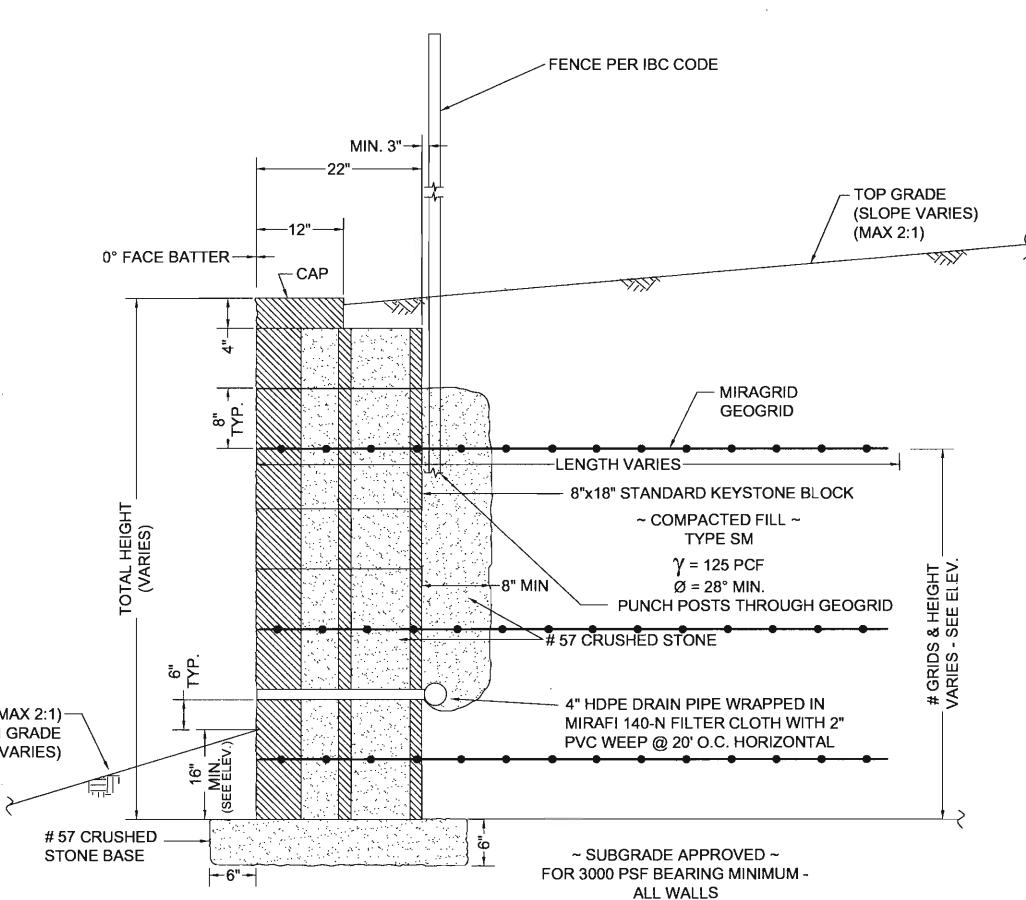
the wall construction site.

A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

3.07 Field Quality Control

- A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality
- assurance and testing services during construction. **B.** As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings
- and specifications.

410-730-9091



(MAX 2:1)-**BOTTOM GRADE** (SLOPE VARIES)

> **WALL #4 SECTION** NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND march p. ugla DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION 1/6/44 linds Hamuter CHIEF, DIVISION OF LAND DEVELOPMENT - DATE REMOVED GUARD RAIL FROM WALLS 1,2 \$3 4.6.04 ADDED NOTE DATE NO. **REVISION OWNER** DEVELOPER MDG COMPANIES MJF ASSOCIATES LLLP 5550 STERRETT PLACE 5550 STERRETT PLACE SUITE 312 SUITE 312

PROJECT MDG CORPORATE CENTRE COLUMBIA 100 OFFICE RESEARCH PARK SECTION 1, AREA 2, PARCEL J-2

COLUMBIA, MARYLAND 21044 | COLUMBIA, MARYLAND 21044

TAX MAP 30, PARCEL J-2, ZONED POR 2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

RETAINING WALL NOTES & DETAILS

Patton Harris Rust & Associates, pc



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DESIGNED BY: RWS

DRAWN BY: AM PROJECT NO: 99109B

DATE : DECEMBER 4, 2003

410-730-9091

SCALE : AS SHOWN

DRAWING NO. 10 OF 10 SDP-04-038