Site Development Plan

THE MALL IN COLUMBIA

GENERAL NOTES

1. Lot 47 is zoned Newtown (NT) and is designated as Downtown Mixed Use Area per the Downtown Columbia Plan.
2. All construction shall be in accordance with the latest standards and specification of Howard County plus MSHA standards and specification. If applicable.
3. The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410)313-1880 at least five (5) working days prior to the start of work.
4. The contractor shall notify 'Miss Utility' at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
5. 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.
6. All plan dimensions are to the face of curb unless otherwise noted.
7. The existing topography is taken from a field run survey, with 1' intervals prepared by Century Engineering on 4/12
8. Coordinates and bearings shown hereon are referred to the Maryland Coordinate System (NAD27) as projected from the following "Whitman, Requardt & Assoc." traverse stations:

TR 906 N504280.1630	E838550.3680	ELEV. 381.500
TR907 N504400.6701	E838647.7701	ELEV. 394.150

9. Public Water and Sewer is utilized for this site.
10. Stormwater management quantity is provided on-site by micro bioretention facilities and cisterns. Stormwater management facilities are privately maintained by the owner.
11. No wetlands, floodplains, streams, forests, erodible soils, steep slopes of 25% or greater, or environmental buffers exist within the limits of disturbance or lot #47
12. The existing utilities were located from available records and field survey prepared by Al Date 3/12, the contractor must dig test pits, by hand, at utility crossings and connection points at least 5 days prior to starting work to verify exact location.
13. A traffic study was prepared by Wells & Associates datedMay, 2012.
14. Handicap parking details shall be in accordance with the Maryland Building Code for the Handicapped, Section 5.01-7.05.
15. Any damage to County owned right-of-way to be corrected at the contractor's expense.
16. All sidewalks shall be cross sloped at ¼ inch per foot.
17. Trench bedding for storm drainage structures shall be in accordance with Howard County Standard G2.01.
18. Department of Planning and Zoning reference file numbers:
SDP 80-01, F97-14, F-97-153, F-97-155, F-97-159, S-96-09, SDP-97-107, SDP-97-158, SDP-98-44, WP-98-81, SDP 98-124, SDP 99-116, SDP-00-57, WP-03-094, F04-45, FDP 47-A-VII, SDP 05-027, SDP 70-47 ,FDP-DC-THE MALL-1, PB-345, ECP-13-011.
19. All inlets shall be constructed in accordance with Howard County standards or MSHA Standards as specified on the structure schedule.
20. All materials and construction is to be in accordance with the Howard County Design Manual Volume IV.
21. The building setback restrictions from the property lines and right-of-way lines of any public road shall be in accordance with FDP-DC-THE MALL-1.
22. All on-site driveways and parking areas to be privately maintained.
23. All curb radii are five foot unless other-wise labeled.
24. All equipment and tools shall be placed as not to interfere with vehicular or pedestrian movement unless specified.
25. The contractor shall be responsible for any damage to existing property which may occur as a result of his negligence in the execution of the work.
26. All proposed handicap ramps shall be in accordance with the current A.D.A. Standards.
27. Light trespass onto a property in the NT Zoning District and used for residential purposes shall be limited to 0.1 feet candles.
28. This plan is exempt from Forest Conservation in accordance with Section 16-1202 (b)(1)(iv) of the Howard County Code for a Planned Unit Development which has preliminary development plan approval and is 50% or more developed.
29. This plan has been prepared based on the approved Mall Neighborhood Design Guidelines, Implementation Plan and Final Development Plan, FDP-DC-The Mall-1 and PB-345.
30. Future storefront design will comply with the mall neighborhood criteria for storefront and signage.
31. See sheet 5 for CEPPA Note Summaries.
32. Existing utilities are private. No approval required from BGE.
33. A Design Advisory Panel Meeting for this SDP was held on August 8, 2012. a Pre-submission Community Meeting for this SDP was held on July 24, 2012.
34. The property owner will participate in the Downtown Columbia partnership established under CEPPA 6 and will provide the annual per square foot charge in the amount of $0.25 per square foot of gross leasable area for all retail uses to the Downtown Columbia Partnership.
35. Newly proposed buildings will have an automatic sprinkler system
36. An additional level of the existing parking garage shown within the limits of this SDP may be constructed at a later date at the discretion of the Owner.
37. The applicant shall provide an annual payment to the DCCHF in the amount of 5 cents per square foot of Gross Leasabe Area for office and retail uses.
38. Water contract #167, Sewer contract #169
39. The limit of disturbance for Revision #1 is 435 s.f.

SITE ANALYSIS

1. Zoning: Newtown (NT) and is designated as Downtown Mixed Use Area per the Downtown Columbia Plan
2. Plat Reference: 16237-16239, F-04-045 Dated 10-7-03
3. Limit of Disturbance: 5.67 acres
4. Existing Use: 25,500 s.f. retail , parking
5. Proposed Use: Retail, restaurant, parking
6. Area Tabulation
   - A. Total Mall Area: 62.339 Ac. (2,715,468.8 s.f.)
     - 1. Lot 47: 38.04 Ac. (1,657,022.4 s.f.)
   - B. Area of Plan Submission: 5.67 Acres. (246,985 s.f.)
   - C. Building Area Proposed: 75,000 s.f. (23,000 s.f. rest. And 52,000 s.f. of retail (37,200 net new building area) (FDP net new limit: 45,000 s.f. maximum)
   - D Limit of Disturbance: 5.67 Ac.
   - E. Impervious Area: 5 Ac.(217,800 s.f.)
   - F. Secondary Amenity Space: 0.67 Ac.(29,185 s.f.) (See sheet 29 for details)
   - G. Existing Building Coverage Area: 10% (25,500 246,925)
   - H. Proposed Building Coverage Area: 15.1% (37,200 246,985)
   - I. Maximum Building Height: 7 stories

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

7a. Table I
The Mall in Columbia - Proposed Conditions (Inside Ring Road)
Shared Parking Analysis - Downtown Columbia Methodology
Land Use Summary

Land Use	Existing Conditions Amount (1)	Units	Reductions Amount (2)	Units	Additions Amount (3)	Units	Proposed Conditions Amount	Units
Office	129,079	S.F.	0	S.F.	0	S.F.	129,079	S.F.
Retail	1,292,191	S.F.	37,802	S.F.	52,000	S.F.	1,306,389	S.F.
Restaurant	32,753	S.F.	0	S.F.	23,000	S.F.	55,753	S.F.
Theater (S.F.)	72,731	S.F.	0	S.F.	0	S.F.	72,731	S.F.
Total Mall	1,401,675	S.F.	37,802	S.F.	75,000	S.F.	1,439,873	S.F.
Theater (Seats)	2,900	Seats	0	Seats	0	Seats	2,900	Seats

Notes: (1) Information provided by General Growth Properties and reflects conditions as of July 31, 2012.
(2) Totals from Sheet 3 of the SDP, prepared by Century Engineering.

Should the need arise, an additional parking deck of 288 parking spaces may be added to the existing Nordstrom parking garage.

b. Table I
Shared Parking Analysis Summary

	Weekday	Weekend	
Parking Required (1)	6,040	6,412	
Max. Parking Required	6,412	6,412	spaces
Parking Provided (2)	7,009		spaces
Parking Demolition (3)	-69		spaces
Parking Additions	0		spaces
Total Parking Provided	6,940		spaces
Difference (req. vs. provi.)	528		spaces
Percent Difference	8%		

Notes: (1) Based on Howard County Shared Parking Methodology, Section 133 .
(2) Information from Century Engineering Survey dated February 2012.
(3) Reflects parking displacement. (63 sp. From Lot VII-1, & 5p. From Nordstrom Deck)

8. Lot Tabulation :

Lot	Owner	Area	Plat Reference
47	General Growth Properties	62.339 Ac.	F-04-045

9. BICYCLE PARKING SUMMARY
   - A. Existing Bike Racks: 1 (12 bikes)
   - B. Proposed Bike Racks: 2 (24 bikes)

Posting of landscape surety is required in accordance with the Downtown Guidelines for all areas outside of the bio-retention facilities in the amount of $5,010.00 for 1 shade tree ($300.00 each), 6 ornamental trees ($150.00 each), and 127 shrubs ($30.00 each). Financial surety for the required landscaping must be posted as part of the developer's agreement. All planting shall be completed as shown on the landscape plan prior to release of any landscape surety.

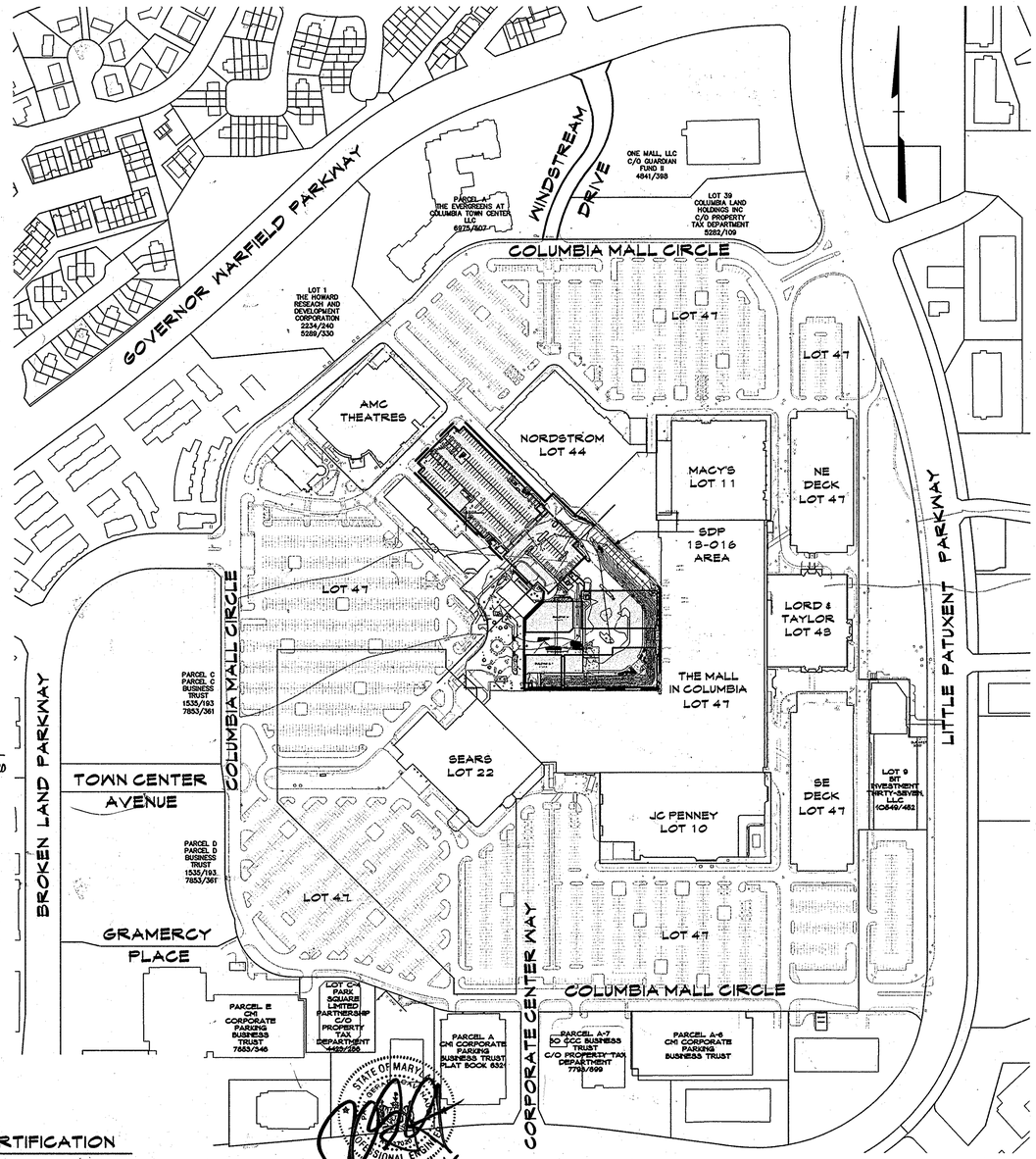
APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 12-13-12

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 NUMBER: 50441 EXPIRATION DATE: 8-28-13

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. 27020 EXPIRATION DATE JANUARY 25, 2016
10/14/13



PLAN

SCALE: 1" = 200'

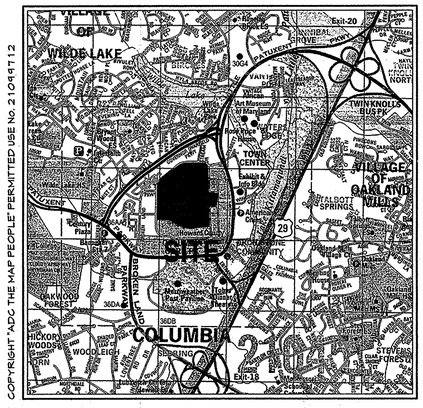
DURPOSE STATEMENT
REDLINE REVISION #1: REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT EXISTING RAMP.

PROPOSED BUILDING COVERAGE	
BUILDING 'A' (ONE STORY)	+/- 12,000 SF.
BUILDING 'B' (ONE STORY)	+/- 24,000 SF.
BUILDING 'C.1' (ONE STORY)	+/- 10,000 SF.
BUILDING 'C.2' (ONE STORY)	+/- 27,000 SF.
INTERIOR MALL RENOVATIONS	+/- 2,000 SF.
TOTAL PROPOSED COVERAGE	75,000 SF.

This site complies with the Howard County Green Buildings law set forth under Title 3, Subtitle 10 of the Howard County Code and Section 3.1005(A) of the Code. Registration with the Green Building Council and the applicable LEED registration fee was paid on 8-2-12. The LEED New Construction checklist was prepared, signed and dated by the project LEED accredited professional and was received by DPZ on October 26, 2012. The proposed building is tentatively certified by LEED with a certified rating.

SECONDARY AMENITY SPACE CHART	
1. REQUIRED SECONDARY AMENITY SPACE PER FDP-DC-THE MALL-01	0.28 Ac. 12,350 S.F. (5% OF 5.67)
2. PROVIDED SECONDARY AMENITY SPACE	0.67 Ac. (29,185 S.F.)
3. EXCESS SECONDARY AMENITY SPACE	0.39 Ac. 16,988 S.F.

DEVELOPMENT SQUARE FOOTAGE	
DEVELOPMENT AREA PROPOSED UNDER FDP-DC-THE MALL-1	75,000 GROSS S.F. (23,000 S.F. RESTAURANT 52,000 S.F. RETAIL) 37,200 NET NEW S.F.
WARFIELD (SDP-13-007)	461,141 SF
MULTI-USE PATHWAY (SDP-13-020)	0.00
DOWNTOWN COLUMBIA FOREST ENHANCEMENT PLAN (SDP13-026)	0.00



COPYRIGHT "ADC THE MAP PEOPLE" PERMITTED USE NO. 21094712

VICINITY MAP

Scale: 1"=2000'
ADC Grid: 4935

NORTH NAD 83

BENCHMARKS

1. COORDINATES, BEARINGS AND DISTANCES SHOWN HEREON ARE REFERRED TO THE HOWARD COUNTY COORDINATE SYSTEM (NAD 83/91)

36AA	N 562804.8520	E 1344906.2540	ELEV. 359.88
36DA	N 560849.3440	E 1350037.5100	ELEV. 364.31
36DB	N 559440.8180	E 1350445.6840	ELEV. 345.36
3064	N 567815.2060	E 1353271.2850	ELEV. 360.98

SHEET INDEX

DRAWING NO.	DESCRIPTION	DRAWING NO.	DESCRIPTION
1	COVER SHEET	28	STRUCTURAL WALL DETAILS
2	EXISTING CONDTIONS PLAN/SOILS MAP	29	DIRECTIONAL SIGNAGE DETAILS
3	EXISTING CONDTIONS/SOILS MAP	30	DIRECTIONAL SIGNAGE DETAILS
4	DEMOLITION PLAN	31	LANDSCAPE ARCHITECTURE: MATERIALS PLAN
5	SITE DEVELOPMENT PLAN - PHASE I - LEVEL 1	32	LANDSCAPE ARCHITECTURE: LAYOUT PLAN
6	SITE DEVELOPMENT PLAN - PHASE I - LEVEL 2	33	LANDSCAPE ARCHITECTURE: LAYOUT PLAN
7	SITE DEVELOPMENT PLAN - PHASE I - INSERTS	34	LANDSCAPE ARCHITECTURE: LAYOUT PLAN
8	SITE DEVELOPMENT PLAN - PHASE II	35	LANDSCAPE ARCHITECTURE: HARDSAPE DETAILS
9	SITE DEVELOPMENT PLAN - PHASE II	36	LANDSCAPE ARCHITECTURE: HARDSCAPE DETAILS
10	GRADING & UTILITY PLAN - PHASE I - LEVEL 1	37	LANDSCAPE ARCHITECTURE: HARDSCAPE DETAILS
11	GRADING & UTILITY PLAN - PHASE I - LEVEL 2	38	LANDSCAPE ARCHITECTURE: HARDSCAPE DETAILS
12	GRADING & UTILITY PLAN - PHASE II	39	LANDSCAPE ARCHITECTURE: PLANTING PLAN
13	STORM DRAIN DRAINAGE AREA MAP	40	LANDSCAPE ARCHITECTURE: PLANTING DETAILS
14	UTILITY PROFILES - PHASE I	41	LIGHTING: EXTERIOR BUILDING & SITE LIGHTING PLAN
15	UTILITY PROFILES - PHASE II	42	LIGHTING: EXTERIOR LIGHTING PHOTOMETRIC PLAN
16	EROSION & SEDIMENT CONTROL PLAN - PHASE I	43	LIGHTING: LIGHTING FIXTURE SCHEDULE
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18	EROSION & SEDIMENT CONTROL DETAILS	45	LIGHTING: EXTERIOR LIGHTING FIXTURE CUTSHEETS
19	EROSION & SEDIMENT CONTROL SPECIFICATIONS	46	LIGHTING: EXTERIOR LIGHTING FIXTURE CUTSHEETS
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21	SITE DETAILS	48	ARCHITECTURAL: BUILDING A ELEVATIONS
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23	STORMWATER MANAGEMENT NOTES AND DETAILS	50	ARCHITECTURAL: BUILDING B ELEVATIONS
24	PROPERTY INFORMATION	51	ARCHITECTURAL: BUILDING C ELEVATIONS
25	EXTERIOR RETAINING WALL	52	ARCHITECTURAL: BUILDING C ELEVATIONS
26	EXTERIOR RETAINING WALL DETAILS	53	ARCHITECTURAL: DAP PRESENTATION ELEVATIONS
27	FIRE ACCESS AND LOADING AREA PAVING PLAN	54	ARCHITECTURAL: DAP PRESENTATION ELEVATIONS
		55	ARCHITECTURAL: GARAGE TOKEN

ADDRESS CHART	
LOT/PARCEL NO.	STREET ADDRESS
47	10300 LITTLE PATUXENT PARKWAY

DATA SOURCES:

Boundary information shown hereon is from Plat 14169, prepared by DMW, Inc., dated November 2003.

Topography shown hereon is from a field-run survey by Century Engineering, Inc., dated February 2012.

Additional information shown is from a ALTA/ACSM Land Title Survey of Columbia Town Center, dated September 27, 2007 and Howard County GIS files.

PERMIT INFORMATION CHART					
Subdivision Name COLUMBIA TOWN CENTER			Section/Area 2/1		Lot/Parcel No. 47
Plat No. or L/F 18607	Grid No. 19,20 & 1,2	Zoning N.T.	Tax Map No. 30, 36	Elect. Distr. 5TH	Census Tract 6054.02

200 100 0 200 400
SCALE: 1" = 200'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/18/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

PROFESSIONAL ENGINEER NO. 10551 JOHN W. RANOCCHIA, SR. STATE OF MARYLAND

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE
DOC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT EX. RAMP.	

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

COVER SHEET
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 1 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: As Shown

SDP-13-016

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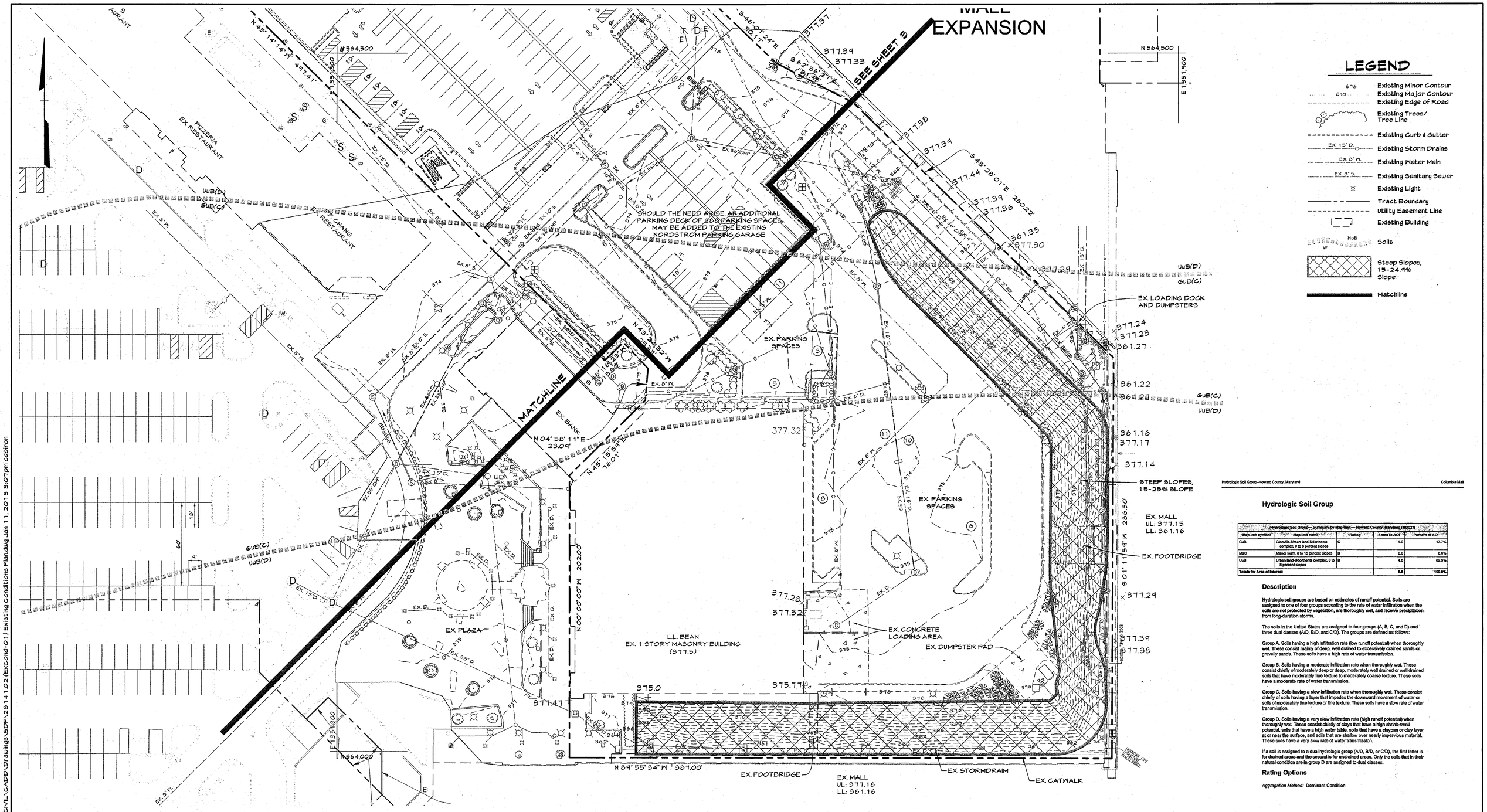

Hydrologic Soil Group

Hydrologic Soil Group—Howard County, Maryland — Columbia Mall

Hydrologic Soil Group—Summary by Map Unit — Howard County, Maryland (MD027)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GuB	Glenville-Urban land-Udorthents complex, 0 to 8 percent slopes	C	1.0	17.7%
MaC	Manor loam, 8 to 15 percent slopes	B	0.0	0.0%
UuB	Urban land-Udorthents complex, 0 to 8 percent slopes	D	4.6	82.3%
Totals for Area of Interest			5.6	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

30 15 0 30 60

SCALE: 1" = 30'

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 NUMBER: 10981 EXPIRATION DATE: 6-28-13

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — MICHAEL J. PANOCCHIA — No. 10981 — PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EXISTING CONDITIONS PLAN & SOILS MAP
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 2 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

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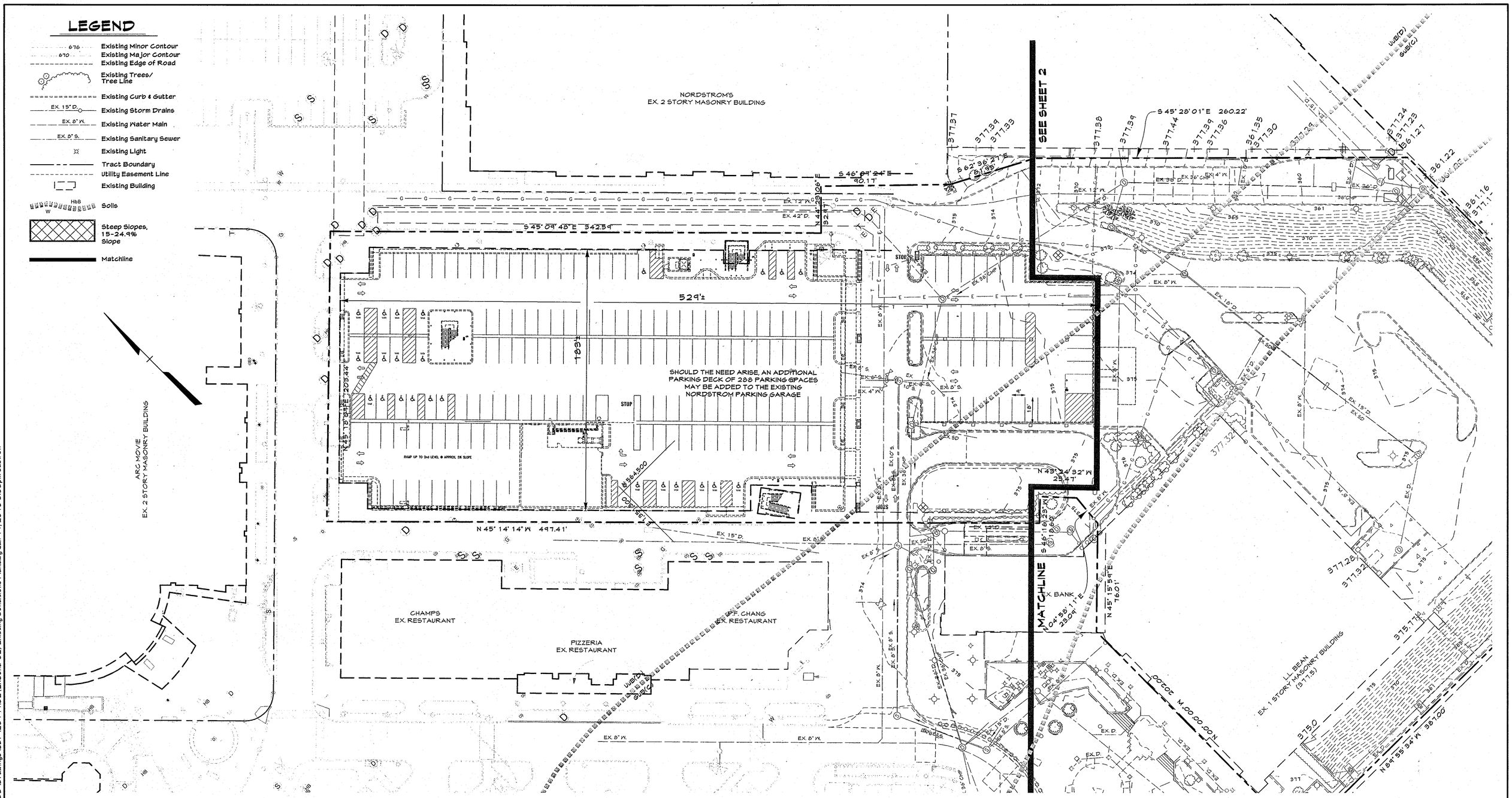
LEGEND

- 676 — Existing Minor Contour
- 670 — Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- EX. 15" D. — Existing Storm Drains
- EX. 8" W. — Existing Water Main
- EX. 8" S. — Existing Sanitary Sewer
- Existing Light
- Tract Boundary
- Utility Easement Line
- Existing Building
- HbB W — Soils
- Steep Slopes, 15-24.9% Slope
- Matchline



Hydrologic Soil Group—Howard County, Maryland — Columbia Mall

Hydrologic Soil Group

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Rating Options

Aggregation Method: Dominant Condition

30 15 0 30 60

SCALE: 1" = 30'

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 NUMBER: 10951 EXPIRATION DATE: 8 28 13

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/3/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — MICHAEL P. HORNBERGER — No. 10951 — PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

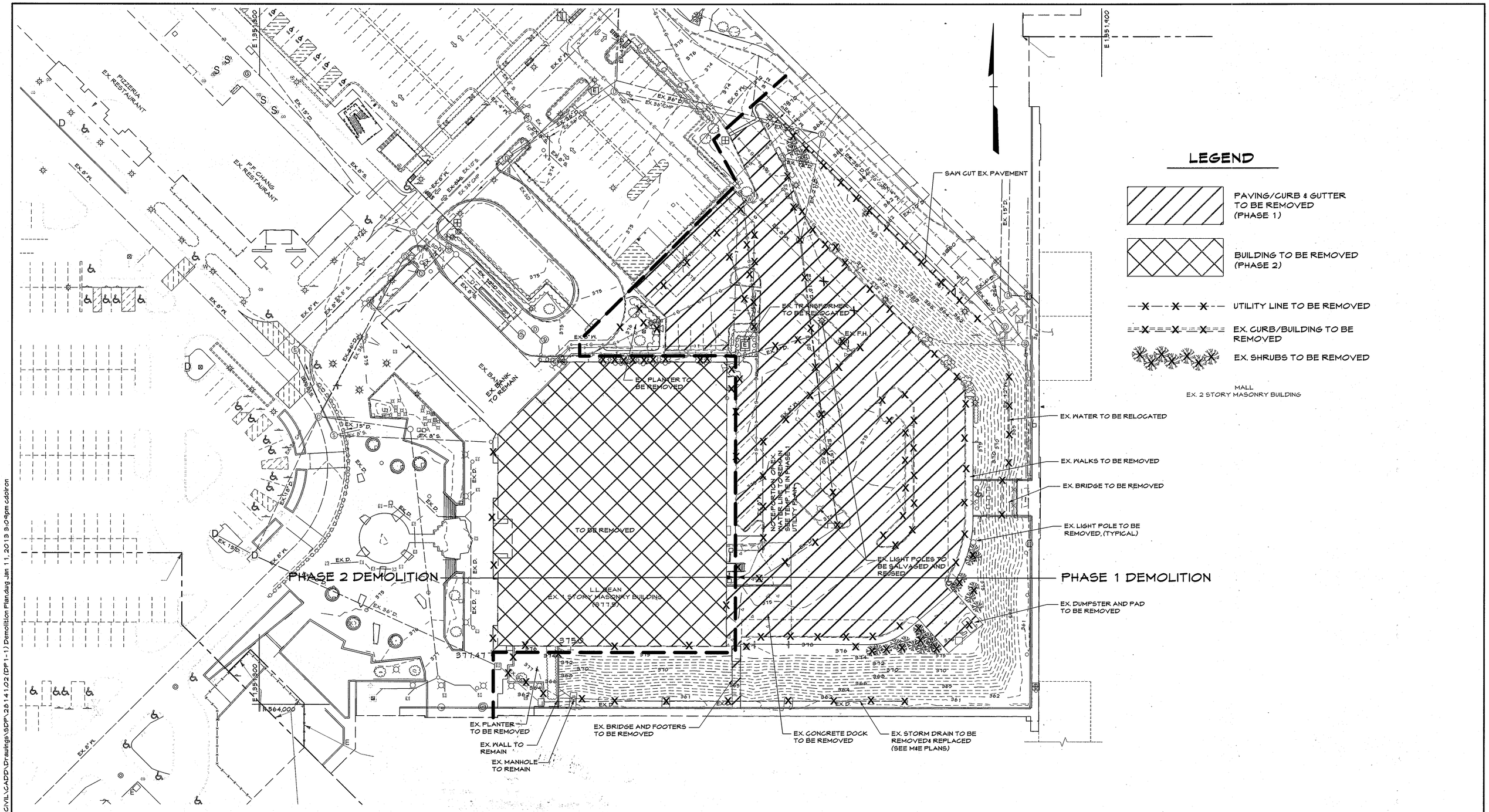
EXISTING CONDITIONS PLAN & SOILS MAP
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 3 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02 (ExCond-02) Existing Conditions Plan.dwg Jan 11, 2013 3:08pm cdolron



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 NUMBER: 10991 EXPIRATION DATE: 8.28.13

30 15 0 30 60

SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13

Chief, Division of Land Development — Date 4-09-13

Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN W. RAROCCHIA, SR. — No. 10991 — REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

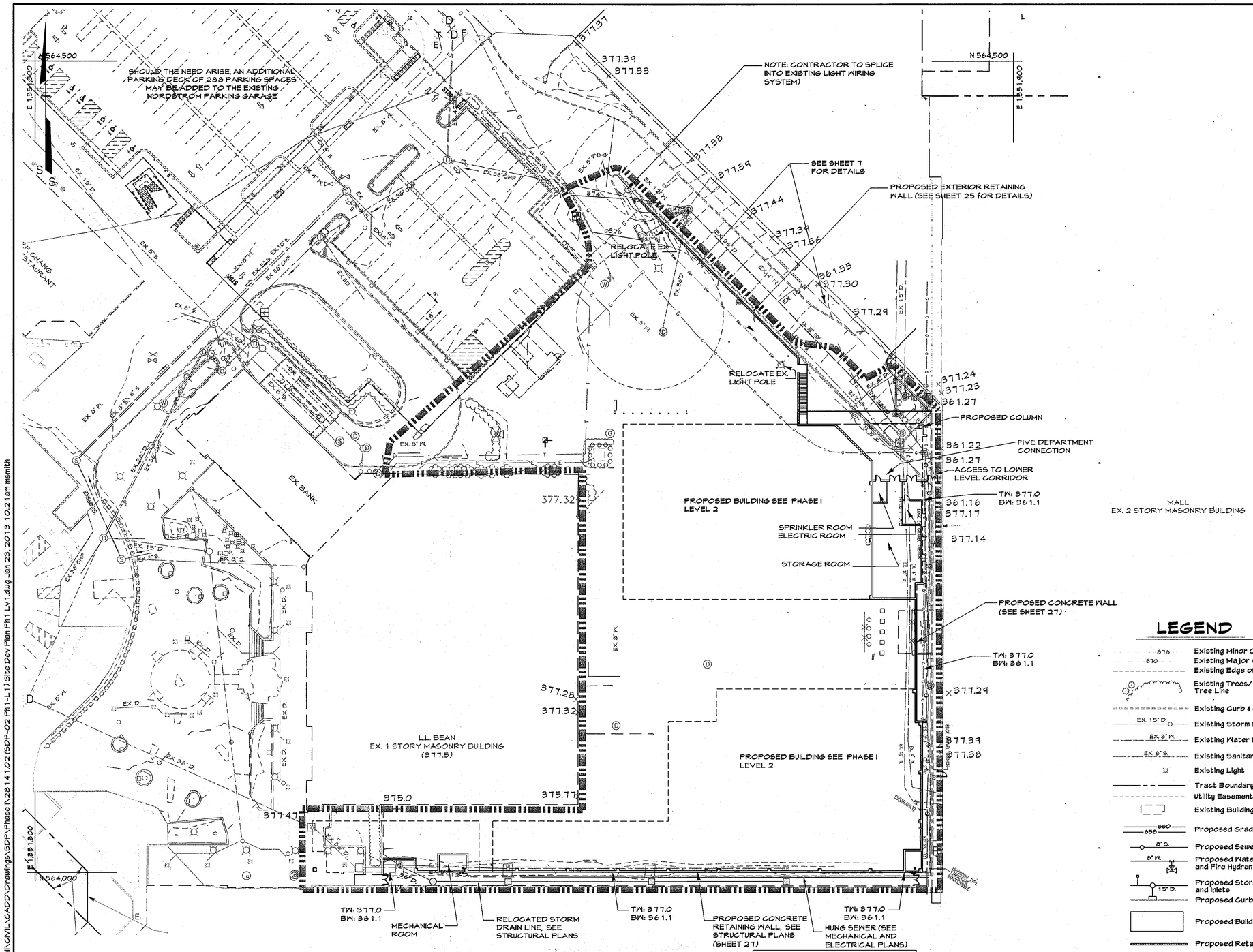
DEMOLITION PLAN
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 4 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02 (DP1-1) Demolition Plan.dwg Jan 11, 2013 3:09pm cdolron



LEGEND

- 676 — Existing Minor Contour
- 670 — Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- EX. 15" D. — Existing Storm Drains
- EX. 8" W. — Existing Water Main
- EX. 8" S. — Existing Sanitary Sewer
- Existing Light
- Tract Boundary
- Utility Easement Line
- Existing Building
- 660 / 658 — Proposed Grades
- 8" S. — Proposed Sewer
- 8" W. — Proposed Water and Fire Hydrant
- 15" D. — Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Building
- Proposed Retaining Wall
- Limit of Disturbance
- GAS — Existing Gas
- GAS — Proposed Gas
- Elec — Proposed Electric

PHASING NOTE:
PHASE 1 CONTSRUCT LOWER LEVEL RETAINING WALL AND RELOCATE EXISTING UTILITIES. BACKFILL SLOPE

30 15 0 30 60
SCALE: 1" = 30'

Attachment A
Brief Summary of Downtown CEPPA Status for Requirements Relevant to The Mall in Columbia
For SDP-13-016

DOWNTOWN CEPPA STATUS FOR REQUIREMENTS RELEVANT TO SDP-13-016

No.	Brief Summary Description*	Summary of Deliverable*	Status
	ITEMS TO BE COMPLETED PRIOR TO SUBMISSION OF FIRST FDP		
1	Environmental assessment of three sub-watersheds of Symphony Stream, Wilde Lake and Lake Kittamaqundi located upstream from the Merriweather and Crescent Environmental Enhancements Study area.	The Merriweather and Crescent Environmental Study and the Best Management Practices for Symphony Stream and Lake Kittamaqundi Watersheds Studies	Completed – Submitted September 2008
2	The Land Framework component of the Downtown Columbia Sustainability Program and a detailed outline for the Community Framework component of the Sustainability Program (Community Framework Outline).	Approved as Chapter 8 of the Downtown-Wide Design Guidelines (Council Resolution 138-2010)	Completed – Council Resolution No. 138-2010 passed on March 7, 2010.
3	Route 29 – Interchange Study for a third interchange located between Route 175 and Broken Land Parkway and options for a connection (potential bicycle, transit and multimodal improvements over Route 29 (Oakland Mills Bridge Connection)	• 3rd Interchange Study • Transit Center and Circulator Shuttle Study	• July 21, 2010 – Transportation study Team introduced to County • August 17, 2011 – Scope of Study and Methodology submitted to County for Interchange Study and the Transit Center and Circulation Study • December 2011 – Draft Transit Center and Circulator Shuttle Study submitted to County • January 2012 – Draft Interchange Feasibility Study submitted to County •June 2012-Final County comments have been sent to Howard Hughes Corporation November 2012 – Awaiting final, minor comments
4	GGP will prepare Downtown-Wide Design Guidelines including Sustainability Provisions	Downtown-wide Design Guidelines	Completed – March 7, 2010 (Council Resolution No. 138-2010)
	ITEMS TO BE COMPLETED PRIOR TO APPROVAL OF FIRST FDP		
5	Study for North-South Collector Road to connect Broken Land Parkway/Route 29 to Little Patuxent Parkway, and new Downtown Transit Center and Downtown Circulator Shuttle	North-South Collector Road Feasibility Study	Completed – Study submitted to County December 2011 for review •June 2012-Final County comments have been sent to Howard Hughes Corporation November 2012 – Study of North-South Collector-Complete, Study of transit Center & Connector Shuttle-partially complete-awaiting final, minor comments
6	Jointly Determine functions, organizational structure, implementation phasing, potential funding sources and projected funding needs of the Downtown Columbia Partnership, and for the Petitioner to provide the initial funding for the Downtown Partnership	• Council passing legislation regarding Downtown Partnership • Petitioner provided initial funding for Downtown Partnership released in a manner described in the legislation	Complete
	ITEMS TO BE COMPLETED PRIOR TO APPROVAL OF FIRST SDP		
7	GGP will submit a phasing schedule for implementation of the restoration work on GGP's property and a SDP for the 1st phase of the environmental restoration work described in CEPPA 15.	• Phasing schedule •Site Development Plan (SDP) for restoration work	Phasing schedule has been submitted. SDP submitted 12/3/12. Under Review.
8	GGP in collaboration with the County, will establish the Downtown Arts and Culture Commission, an independent nonprofit organization, to promote and support Merriweather Post Pavilion's revitalization	• Establish the Downtown Arts and Culture Commission	Howard Hughes Corp. has established the Downtown Arts & Culture Commission. Articles of Incorporation & Bylaws have been agreed upon & the DACC will be incorporated as a private, non-profit organization in the State of Maryland by 12/31/12.
	ITEMS TO BE COMPLETED PRIOR TO ISSUANCE OF FIRST BUILDING PERMIT		
9	Renovation of the Banneker Fire Station	GGP and the County shall cooperate to identify a site for the development of a temporary fire station while the Banneker Fire Station is being renovated.	Pending
10	GGP shall contribute $1.5 million in initial funding for the Downtown Columbia Community Housing Fund.	Funding	Pending
	PRIOR TO ISSUANCE OF BUILDING PERMIT FOR THE 500,000TH SF OF DEVELOPMENT		
12	GGP (at its expense) will complete the Downtown pedestrian & bicycle pathway system	Submit SDP	SDP-13-020 ("Downtown Multi-Use Pathway") has been submitted and is currently under review
13	GGP will enter into land records a declaration of covenants that shall prohibit the demolition of the former Rouse Company Headquarters & prohibit any exterior alterations, except as permitted by the Downtown-wide Design Gdlns.	Recorded legal documents	Pending

*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. 10550, Expiration Date 8 28 13.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/9/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/18/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

SITE DEVELOPMENT PLAN - PHASE 1 - LEVEL 1
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 5 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=30'

SDP-13-016

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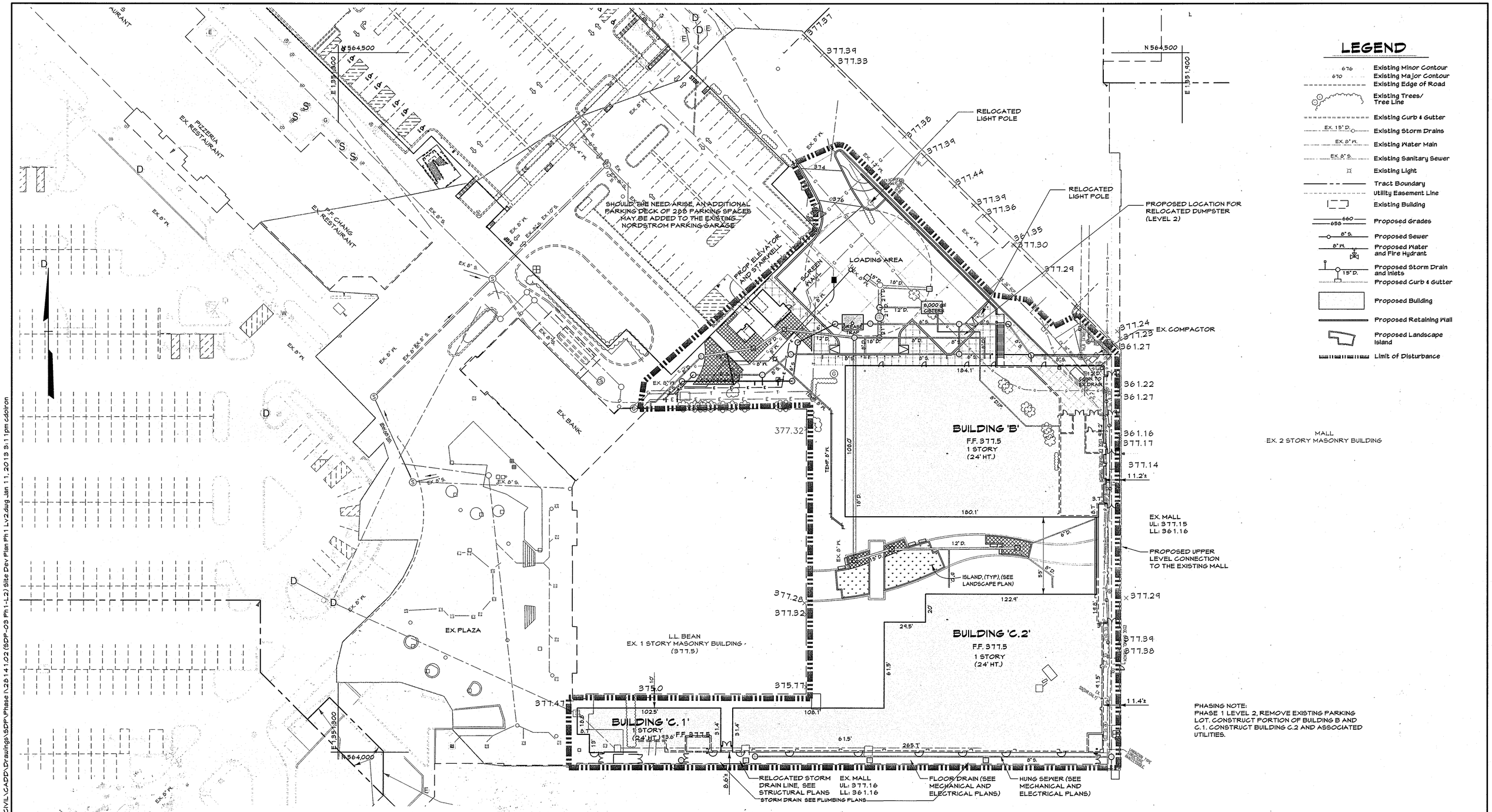

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 10551, Expiration Date 8 28 13"

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	1/31/13 Date
Chief, Division of Land Development	4-09-13 Date
Director	4/11/13 Date

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN W. RANOCCHIA — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

SITE DEVELOPMENT PLAN - PHASE 1 - LEVEL 2
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 6 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=30'

SDP-13-016

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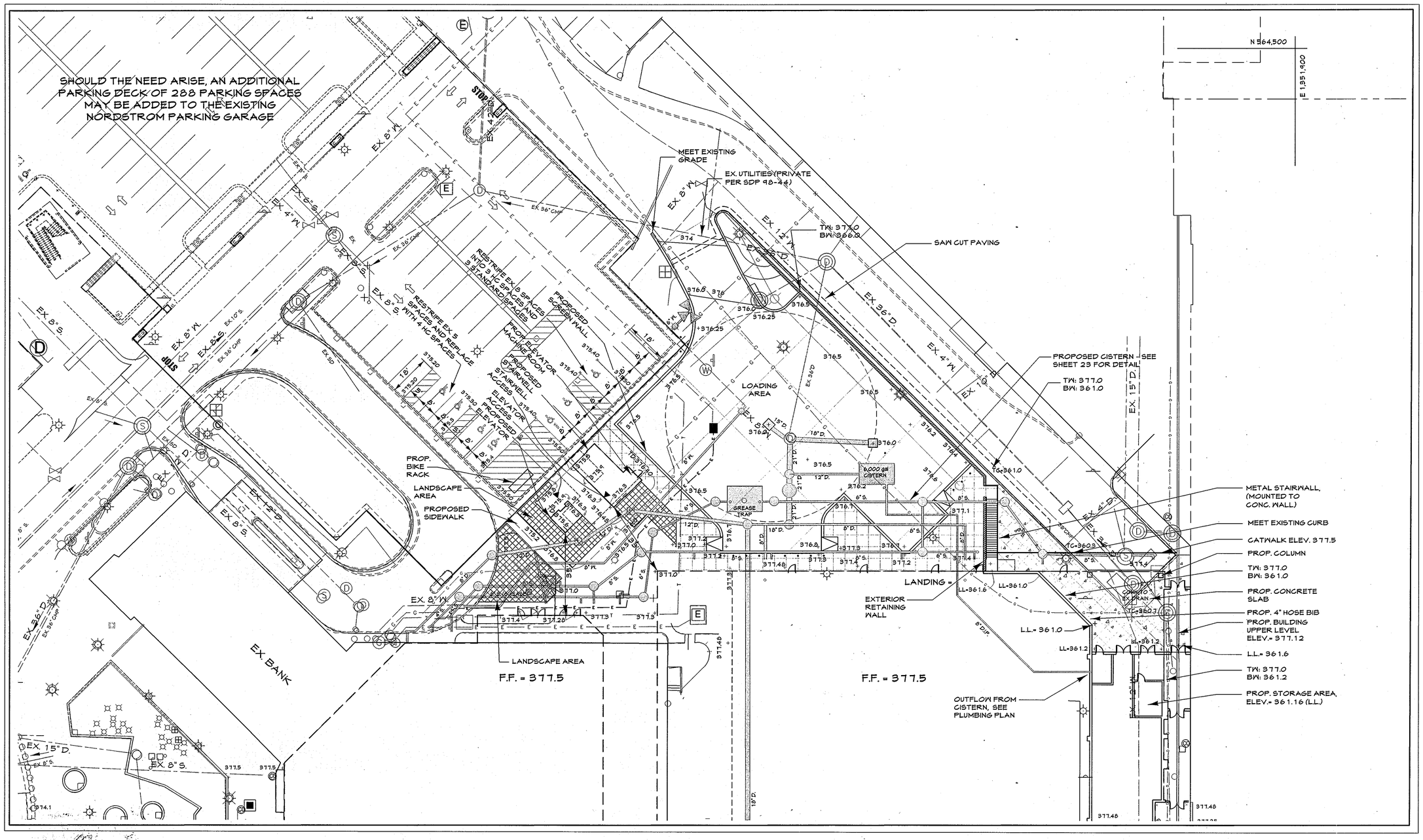

LEGEND

- Existing Minor Contour
- Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- Existing Storm Drains
- Existing Water Main
- Existing Sanitary Sewer
- Existing Light
- Tract Boundary
- Utility Easement Line
- Proposed Building
- Proposed Grades
- Proposed Sewer
- Proposed Water and Fire Hydrant
- Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Existing Building
- Proposed Retaining Wall

"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. 10551, Expiration Date 8 28 13"

LOADING DETAIL

SCALE: 1"=20'

20 10 0 20 40

SCALE: 1" = 20'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13

Chief, Division of Land Development — Date 4-09-13

Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
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Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN W. RANOCCHIA, JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

SITE DEVELOPMENT PLAN - PHASE 1 - DETAILS
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 7 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=20'

SDP-13-016

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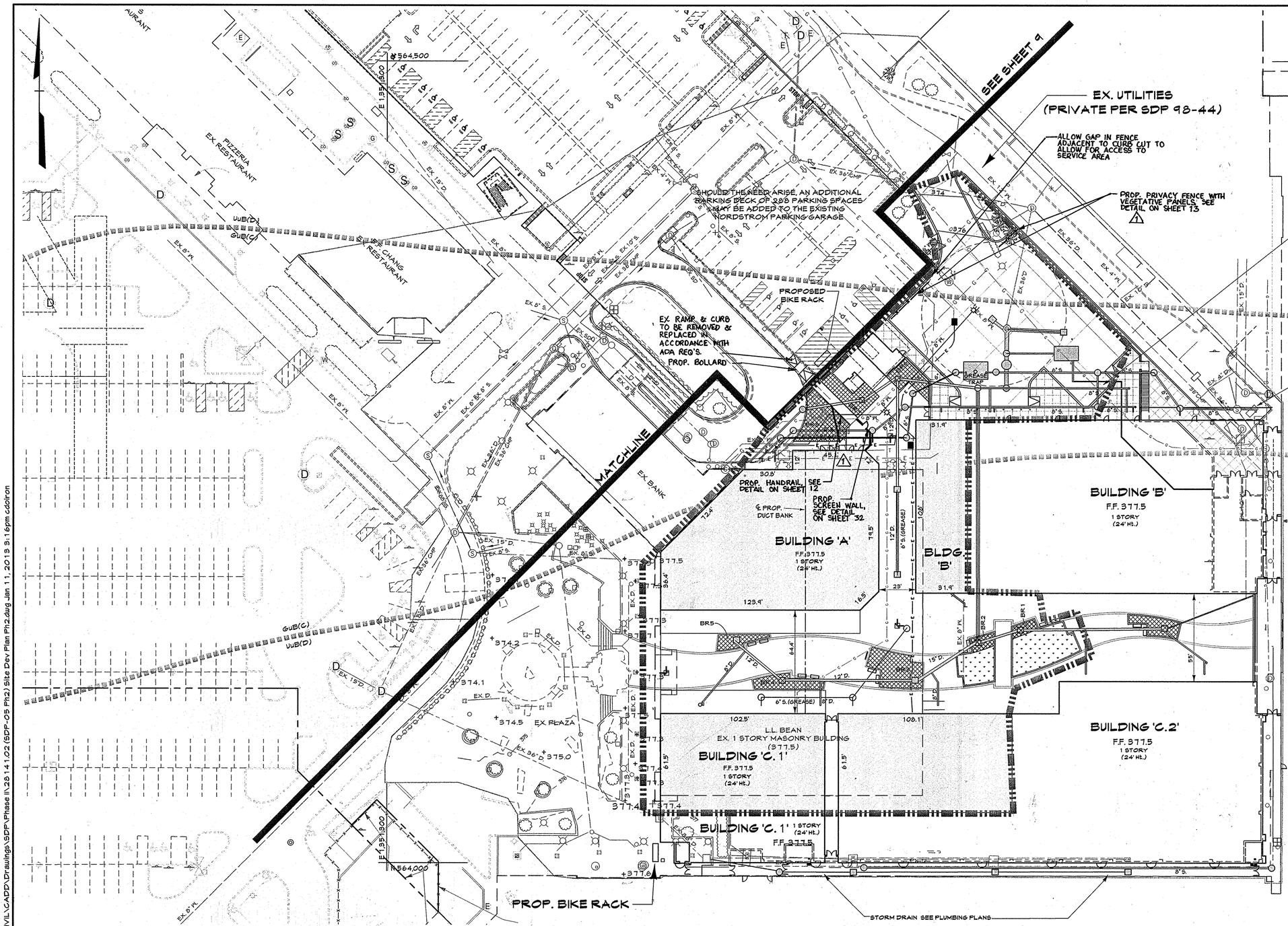

MALL
EX. 2 STORY MASONRY BUILDING

LEGEND

- 676 — Existing Minor Contour
- 670 — Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- EX. 15" D. — Existing Storm Drains
- EX. 8" W. — Existing Water Main
- EX. 8" S. — Existing Sanitary Sewer
- Existing Light
- Tract Boundary
- Utility Easement Line
- Existing Building
- 660 / 658 — Proposed Grades
- 8" S. — Proposed Sewer
- 8" W. — Proposed Water and Fire Hydrant
- 15" D. — Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Building
- Proposed Retaining Wall
- Limit of Disturbance
- BRB — Bio Retention Designation
- Proposed Entrance (subject to leasing)

PROPOSED BUILDING COVERAGE		
BUILDING 'A'	(ONE STORY)	+/- 12,000 SF
BUILDING 'B'	(ONE STORY)	+/- 12,000 SF
BUILDING 'C.1'	(ONE STORY)	+/- 12,000 SF
BUILDING 'C.2'	(ONE STORY)	+/- 12,000 SF
INTERIOR MALL RENOVATIONS		+/- 2,000 SF
TOTAL PROPOSED COVERAGE		75,000 SF

PHASING NOTE:
PHASE 2, REMOVE EXISTING RETAIL, CONSTRUCT REMAINDER OF BUILDINGS B AND C.1. CONTRUCT BUILDING A AND ASSOCIATED UTILITIES.

SECONDARY AMENITY NOTE:
THE 0.67 AC. SECONDARY AMENITY WILL BE COMPLETED UNDER PHASE 2

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 NUMBER: 10551 EXPIRATION DATE: 5 20 13

⚠1 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. 27020 EXPIRATION DATE: JANUARY 25, 2016.

STATE OF MARYLAND — PAUL G. CAVANAUGH — PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

30 15 0 30 60
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/8/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN R. RANCOCAS JR. — PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE
PDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RE-CONSTRUCT RAMP	09/18/15

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

SITE DEVELOPMENT PLAN - PHASE II
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 8 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

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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 NUMBER: 10551 EXPIRATION DATE: 8.28.13

⚠1 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. 27020
EXPIRATION DATE: JANUARY 25, 2016

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

30 15 0 30 60
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
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10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

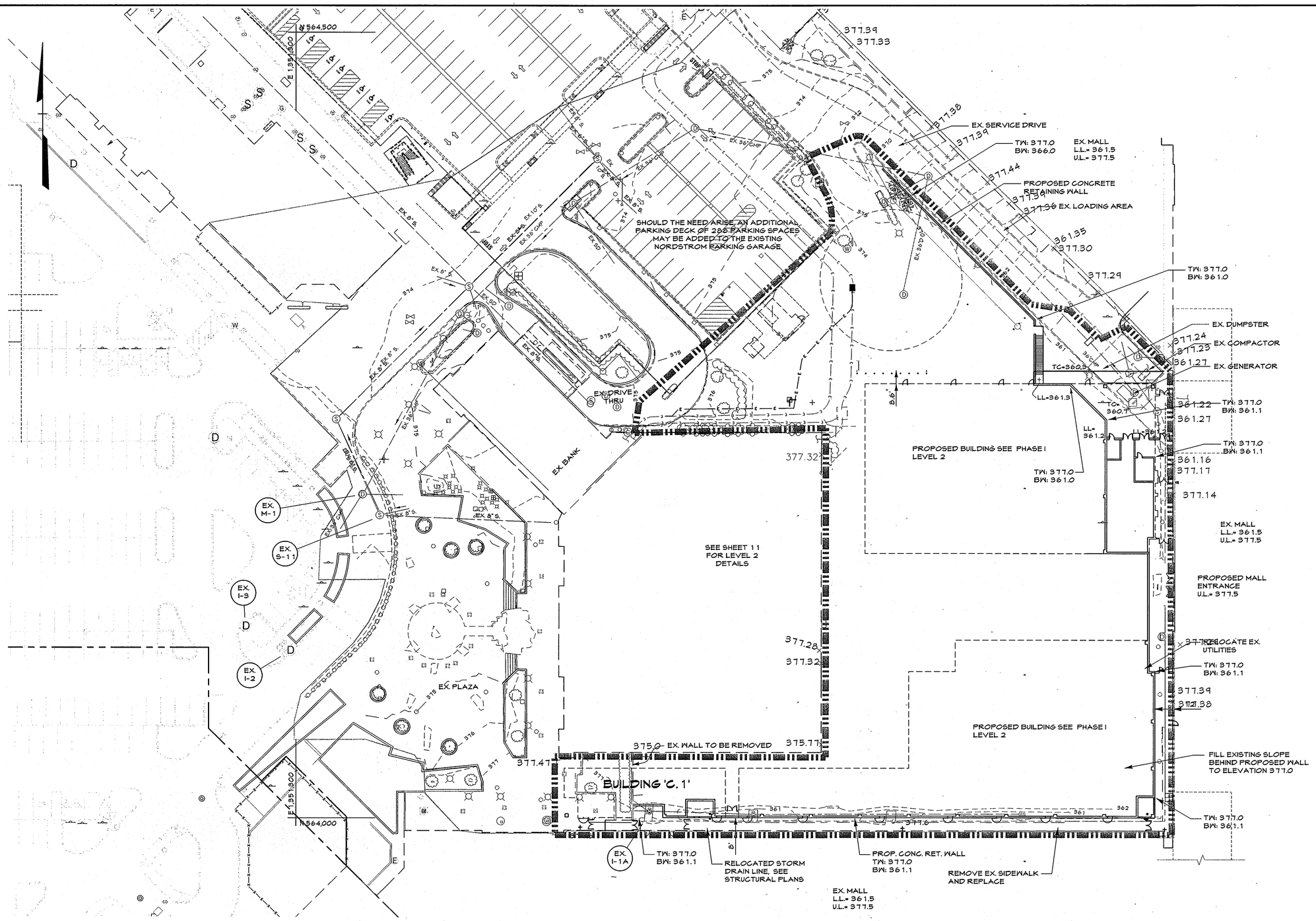
BY	NO.	REVISION	DATE
DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

SITE DEVELOPMENT PLAN - PHASE II
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 9 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=30'

SDP-13-016



LEGEND

- Existing Minor Contour
- Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- Existing Storm Drains
- Existing Water Main
- Existing Sanitary Sewer
- Existing Light
- Tract Boundary
- Utility Easement Line
- Existing Building
- Proposed Grades
- Proposed Sewer
- Proposed Water and Fire Hydrant
- Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Building
- Proposed Retaining Wall
- Proposed Landscape Island
- Limit of Disturbance

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 NUMBER: 10581 EXPIRATION DATE: 8 DEC 13

30 15 0 30 60

SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
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Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

GRADING & UTILITY PLAN - PHASE I - LEVEL 1
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 10 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

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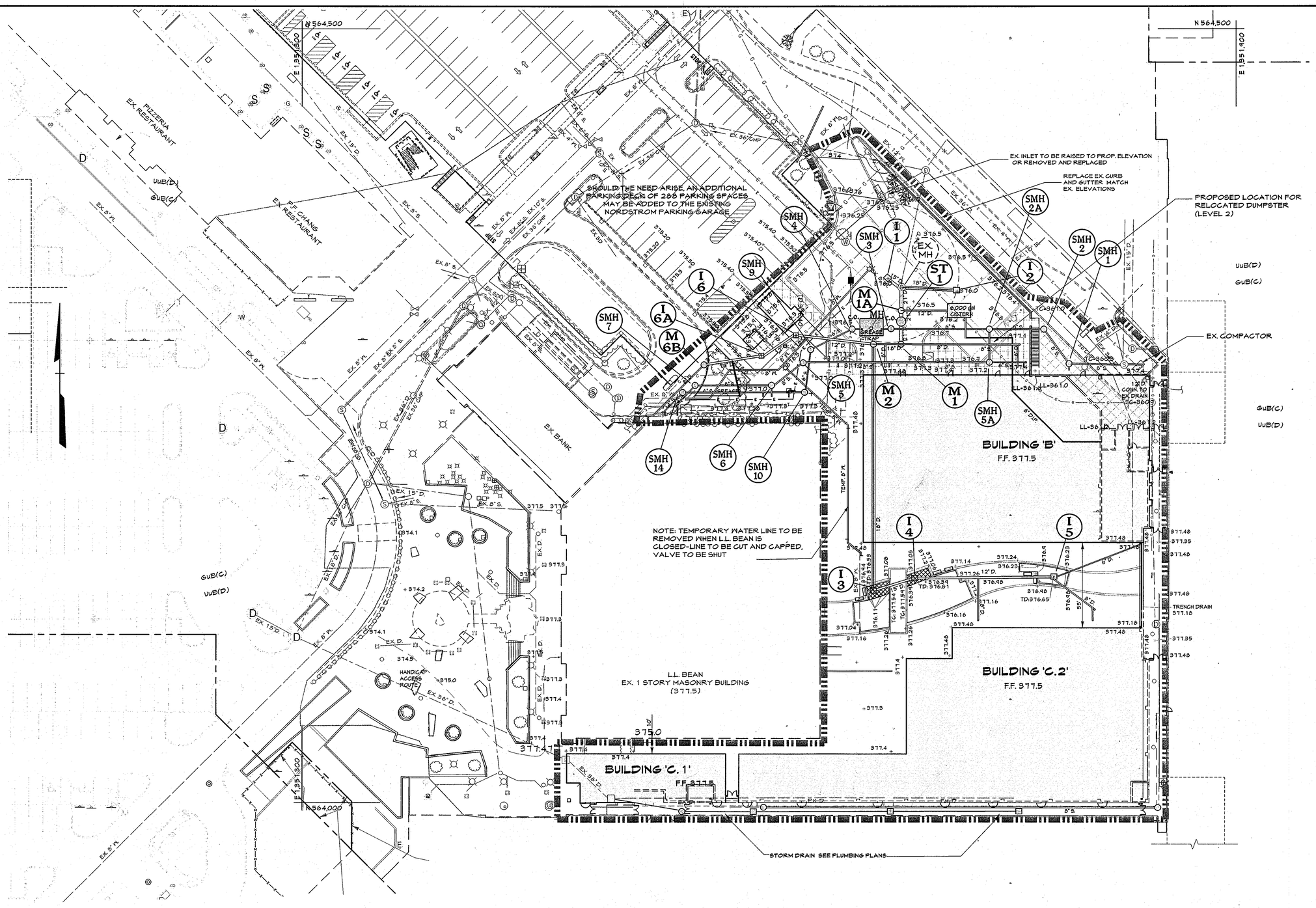

LEGEND

- Existing Minor Contour (676)
- Existing Major Contour (670)
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- Existing Storm Drains (EX. 15" D.)
- Existing Water Main (EX. 8" W.)
- Existing Sanitary Sewer (EX. 8" S.)
- Existing Light
- Tract Boundary
- Utility Easement Line
- Existing Building
- Proposed Grades (660, 658)
- Proposed Sewer (8" S.)
- Proposed Water and Fire Hydrant (8" W.)
- Proposed Storm Drain and Inlets (15" D.)
- Proposed Curb & Gutter
- Proposed Building
- Proposed Retaining Wall
- Proposed Landscape Island
- Limit of Disturbance

30 15 0 30 60

SCALE: 1" = 30'

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Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

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STATE OF MARYLAND — JOHN M. RANCOURT — No. 10551 — PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

GRADING & UTILITY PLAN - PHASE I - LEVEL 2
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 11 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

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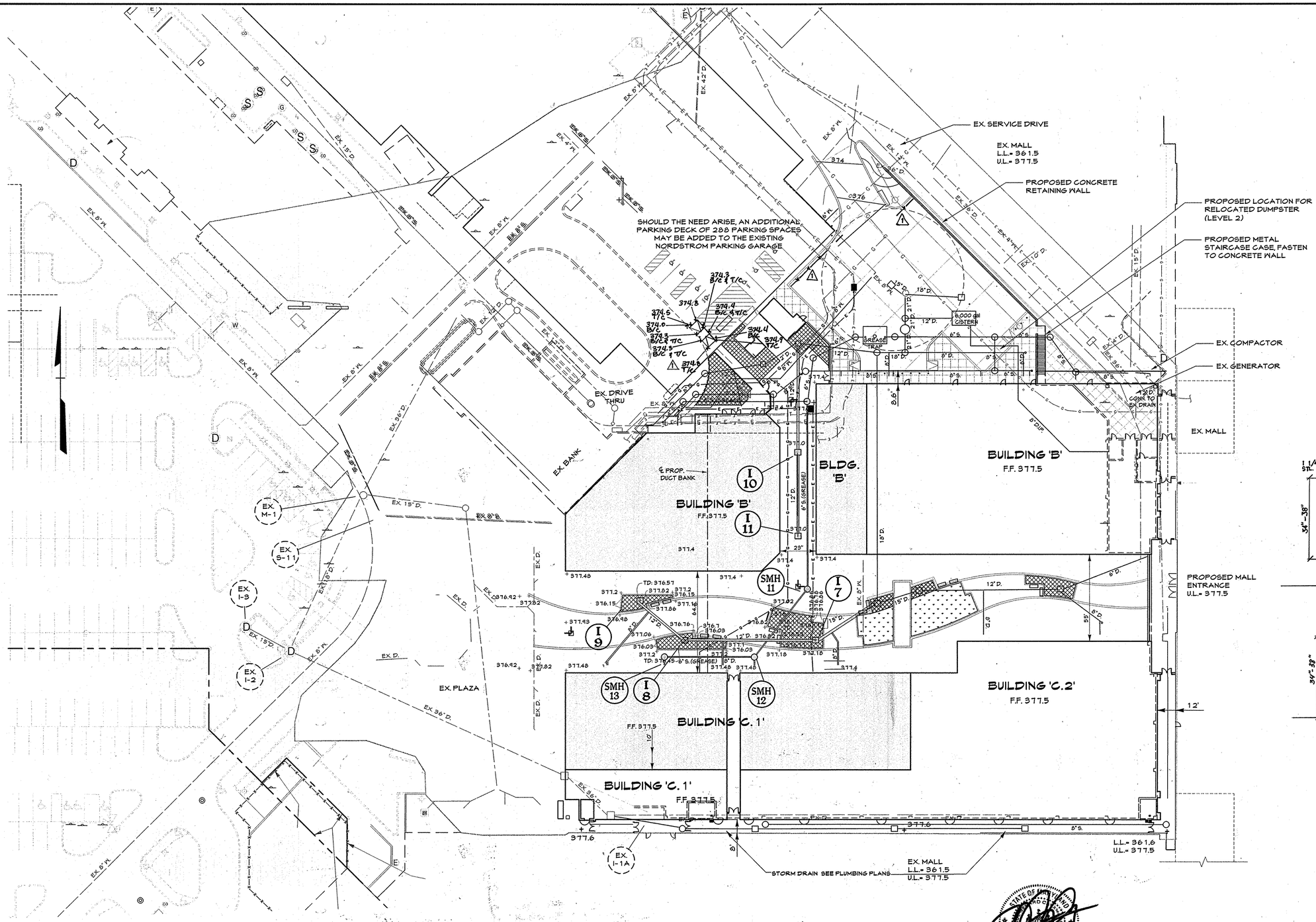

LEGEND

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- EX. 15" D. — Existing Storm Drains
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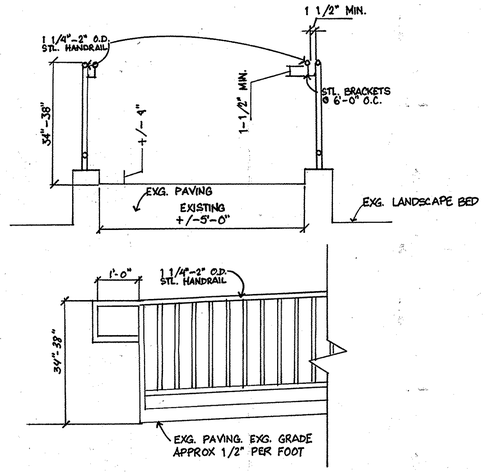
- Existing Light
- Tract Boundary
- Utility Easement Line
- Existing Building
- 660 / 655 — Proposed Grades
- 8" S. — Proposed Sewer
- 8" W. — Proposed Water and Fire Hydrant
- 15" D. — Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Building
- Proposed Retaining Wall
- Proposed Landscape Island
- Limit of Disturbance



PROPOSED HANDRAIL

SCALE: N.T.S.

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 NUMBER: 19561 EXPIRATION DATE: 6 28 13

⚠ 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. 27020 EXPIRATION DATE: JANUARY 23, 2016

STATE OF MARYLAND — PAUL G. CAVANAUGH — No. 27020 — PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

30 15 0 30 60
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE
DDC	1	REDLINE REVISION TO ADD SCREED WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15

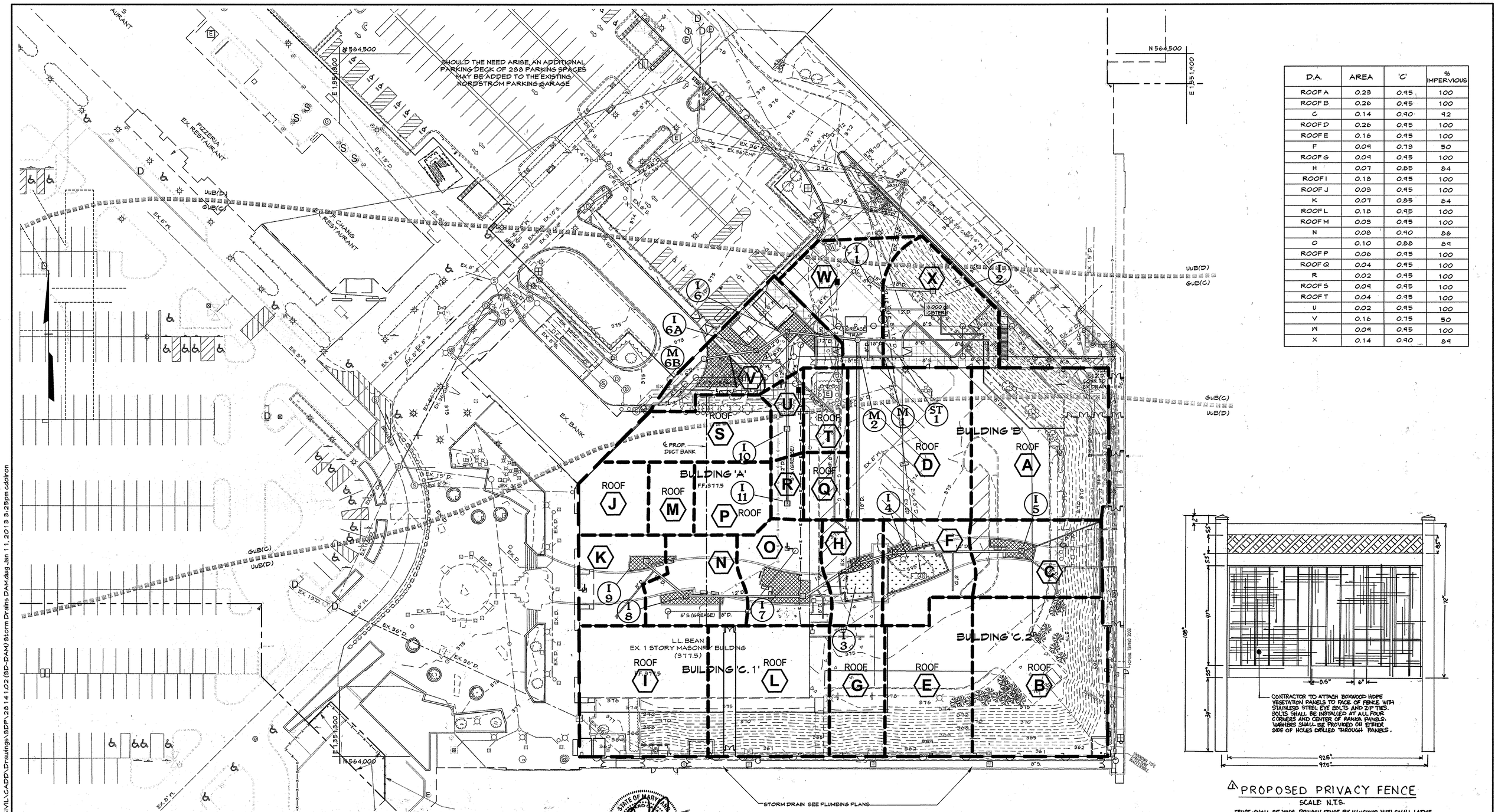
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

GRADING & UTILITY PLAN - PHASE II
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 12 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\Phase II\28141.02 (GR-UT-03 Ph2) Grading & Utility Plan Ph2.dwg Jan 11, 2013 9:24pm cdoiron



D.A.	AREA	'C'	% IMPERVIOUS
ROOF A	0.23	0.95	100
ROOF B	0.26	0.95	100
C	0.14	0.90	92
ROOF D	0.26	0.95	100
ROOF E	0.16	0.95	100
F	0.09	0.73	50
ROOF G	0.09	0.95	100
H	0.07	0.85	84
ROOF I	0.18	0.95	100
ROOF J	0.03	0.95	100
K	0.07	0.85	84
ROOF L	0.18	0.95	100
ROOF M	0.03	0.95	100
N	0.08	0.90	86
O	0.10	0.88	89
ROOF P	0.06	0.95	100
ROOF Q	0.04	0.95	100
R	0.02	0.95	100
ROOF S	0.09	0.95	100
ROOF T	0.04	0.95	100
U	0.02	0.95	100
V	0.16	0.75	50
W	0.09	0.95	100
X	0.14	0.90	89

⚠ PROPOSED PRIVACY FENCE

SCALE: N.T.S.

FENCE SHALL BE VINYL. PRIVACY FENCE BY ILLUSIONS WITH SMALL LATICE TOPPER AND NEW ENGLAND POST CAPS. COLOR SHALL BE BROWN (1108). FENCE POSTS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.

30 15 0 30 60

SCALE: 1" = 30'

*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. 10551, Expiration Date 6-28-13.

⚠ 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. 27020 EXPIRATION DATE: JANUARY 25, 2016

STATE OF MARYLAND PAUL G. CAVANAUGH No. 27020 PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND PAUL G. CAVANAUGH No. 10551 PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE
DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

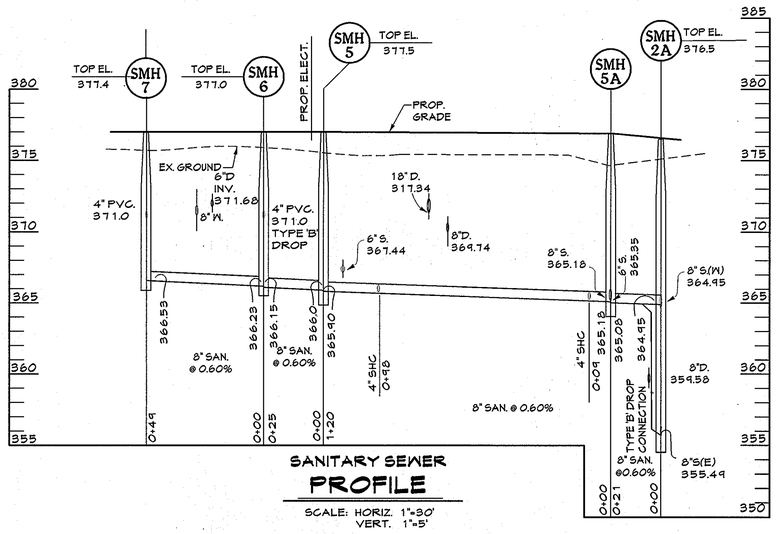
STORM DRAINS DRAINAGE AREA MAP
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 13 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

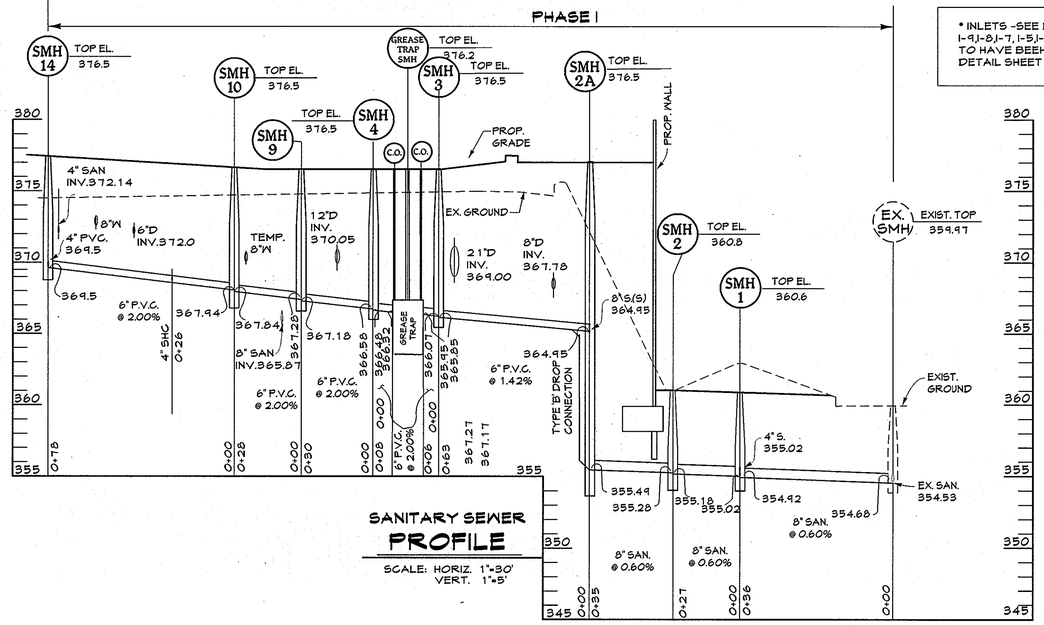
SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02 (SD-DAM) Storm Drains DAM.dwg Jan 11, 2013 3:25pm cdolron



SANITARY SEWER
PROFILE
SCALE: HORIZ. 1"=30'
VERT. 1"=5'

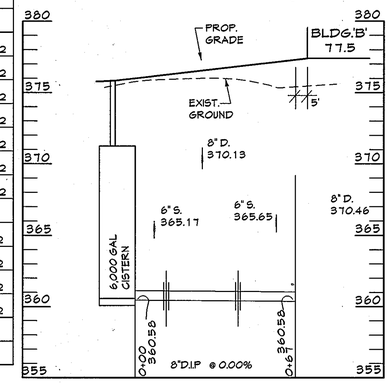
PHASE I



SANITARY SEWER
PROFILE
SCALE: HORIZ. 1"=30'
VERT. 1"=5'

STRUCTURE SCHEDULE			
NO.	TYPE	SIZE	DETAIL
I-1	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-2	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-3	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-4	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-5	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-6	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-6A	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
M-1	STANDARD PRE-CAST MANHOLE	4'-0"	HO. CO. STD. DETAIL G.5.12
M-2	STANDARD PRE-CAST MANHOLE	4'-0"	HO. CO. STD. DETAIL G.5.12
M-6B	STANDARD PRE-CAST MANHOLE	4'-0"	HO. CO. STD. DETAIL G.5.12
M-1A	STANDARD PRE-CAST MANHOLE	4'-0"	HO. CO. STD. DETAIL G.5.12

PHASE I



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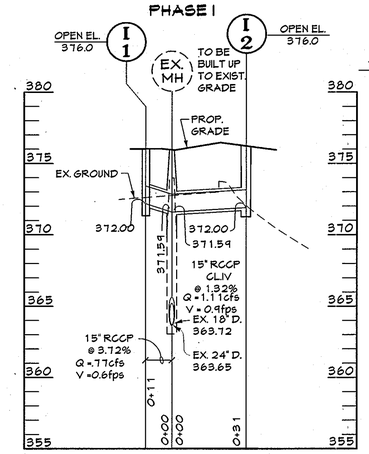

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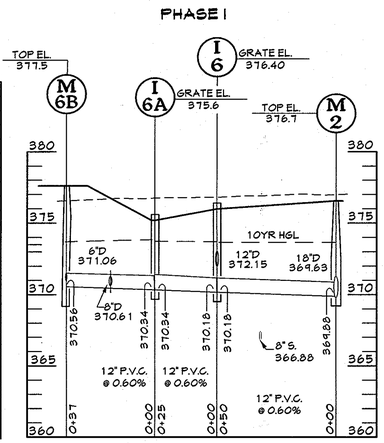

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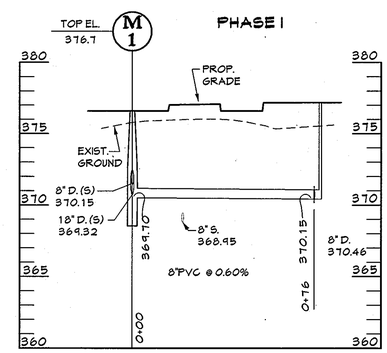
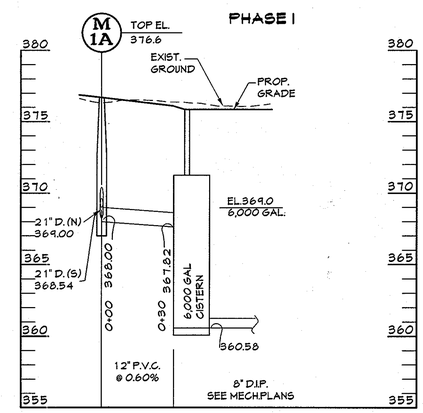
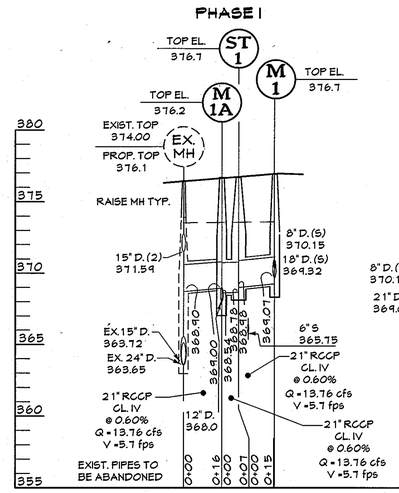


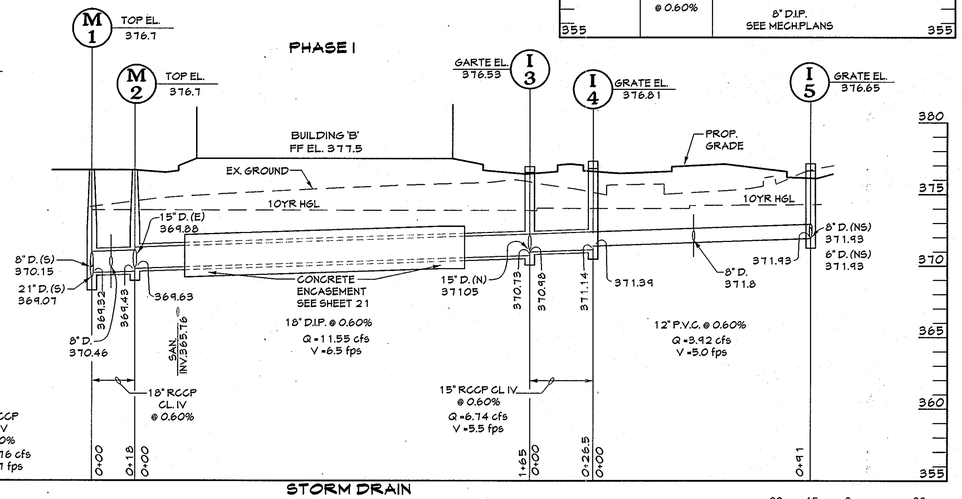
PHASE I



PHASE I



PHASE I



STORM DRAIN
PROFILE
SCALE: HORIZ. 1"=30'
VERT. 1"=5'

30 15 0 30 60
SCALE: 1" = 30'

* INLETS -SEE DETAIL SHEET 15. I-9,I-8,I-7, I-5,I-6,I-6A,I-4 AND I-3 TO HAVE BEEHIVE GRATE-SEE DETAIL SHEET 15.

PIPE SCHEDULE	
TYPE	LINER FEET
6" SAN	209
8" PVC-DRAIN	131
8" SAN.	313
12" PVC-DRAIN	477
15" RCCP	68.5
18" D.I.P.	165
4" SAN	84
18" RCCP	18
21" RCCP	38
8" D.I.P.	147

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 NUMBER: 10954 EXPIRATION DATE: 8-28-13

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/3/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

UTILITY PROFILES - PHASE I
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 14 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: As Shown

SDP-13-016

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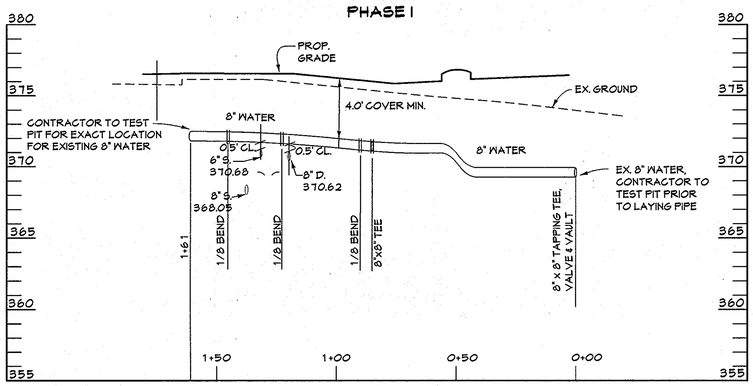
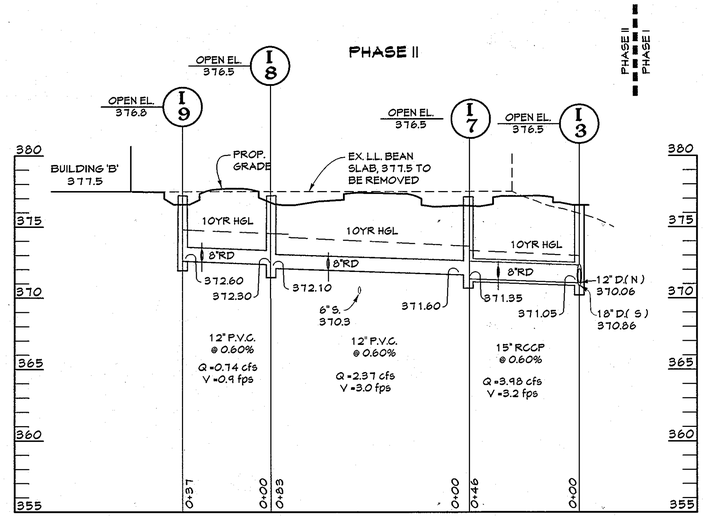
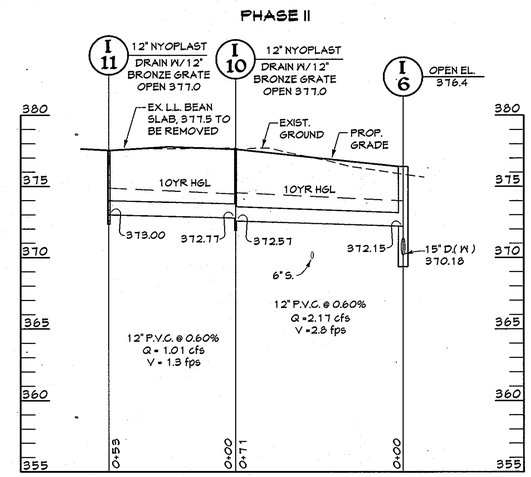


WATER LINE
PROFILE
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



STORM DRAIN
PROFILE
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



STRUCTURE SCHEDULE			
NO.	TYPE	SIZE	DETAIL
I-11		12"	NYOPLAST DRAIN
I-10		12"	NYOPLAST DRAIN
I-9	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-8	TYPE "S"		HO. CO. STD. DETAIL SD.4.22
I-7	TYPE "S"		HO. CO. STD. DETAIL SD.4.22

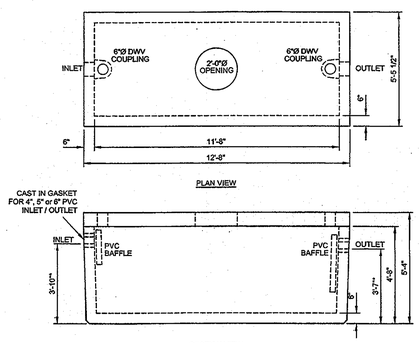
PIPE SCHEDULE	
TYPE	LINER FEET
12" PVC-DRAIN	244
8" WATER	161
15"RCCP	46

* YARD INLETS -SEE DETAIL THIS SHEET.I-9,I-8,I-7,I-6,I-6A,I-5,I-4 AND I-3 TO HAVE BEEHIVE GRATE-SEE DETAIL THIS SHEET.

1000 GALLON HEAVY DUTY GREASE INTERCEPTOR

SPECIFICATIONS/MODERN PRECAST CONCRETE STANDARDS:
- CONCRETE STRENGTH: 4000 PSI MIN. @ 28 DAYS
- REINFORCING CONFORMS TO ASTM A615 & A185
- DESIGN: MAXIMUM EARTH COVER IS 5'-0"; HS-20 LOADING
- 1" BUTYL RUBBER GASKET PROVIDED FOR JOINT
- APPROXIMATE WEIGHT: TANK - 7.92 TONS
  LID - 3.13 TONS

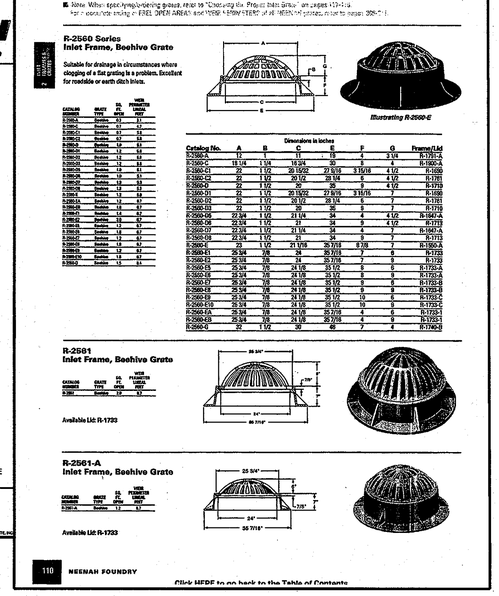
MODERN
Environmental & Wastewater Division

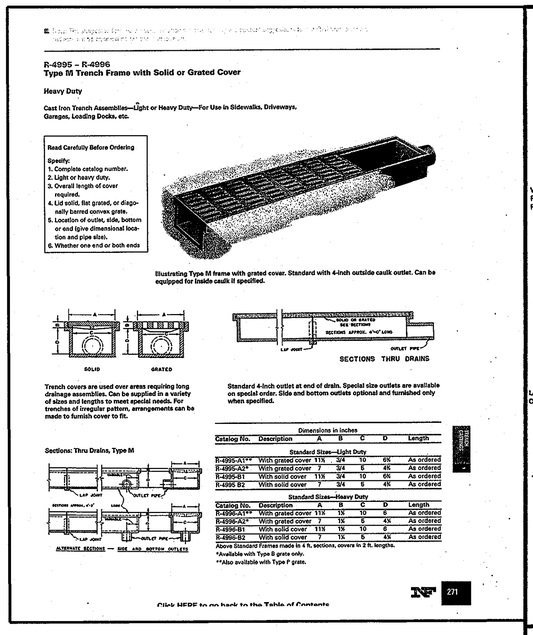


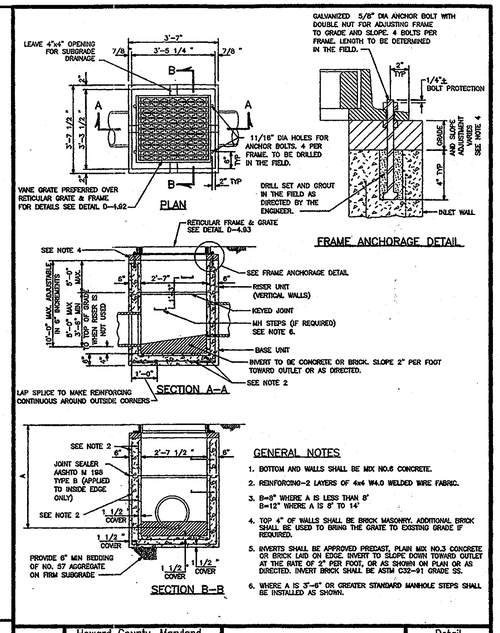
* INVERT SHOWN FOR 4"Ø PIPE

Modern ... Concrete Solutions
Modern Precast Concrete
Corporate Headquarters | 210 Durham Road, PO Box 339 | Ottsville, PA 18942
(610) 847-5112 | F (610) 847-1046 | www.modcon.com
© 2012 BY MODERN PRECAST CONCRETE, INC.

GREASE TRAP DETAIL
NOT TO SCALE


R-2560 Series
Inlet Frame, Beehive Grate
Suitable for drainage in circumstances where clogging of a flat grating is a problem. Excellent for roadside or earth ditch inlets.
Illustrating R-2560-E
Dimensions in inches
R-2561
Inlet Frame, Beehive Grate
Available List: R-1733
R-2561-A
Inlet Frame, Beehive Grate
Available List: R-1733
110 NEENAH FOUNDRY
Click HERE to go back to the Table of Contents


R-4995 – R-4996
Type M Trench Frame with Solid or Grated Cover
Heavy Duty
Cast Iron Trench Assemblies—Light or Heavy Duty—For Use in Sidewalks, Driveways, Garages, Loading Docks, etc.
Read Carefully Before Ordering
Illustrating Type M frame with grated cover. Standard with 4-inch outside caulk outlet. Can be equipped for inside caulk if specified.
SECTIONS THRU DRAINS
Trench covers are used over areas requiring long drainage assemblies. Can be supplied in a variety of sizes and lengths to meet special needs. For trenches of irregular pattern, arrangements can be made to furnish cover to fit.
Standard 4-inch outlet at end of drain. Special size outlets are available on special order. Side and bottom outlets optional and furnished only when specified.
Sections: Thru Drains, Type M
Dimensions in inches
Standard Sizes—Light Duty
Standard Sizes—Heavy Duty
Above Standard Frames made in 4 ft. sections, covers in 2 ft. lengths.
*Available with Type B grate only.
**Also available with Type F grate.
271
Click HERE to go back to the Table of Contents



GENERAL NOTES
1. BOTTOM AND WALLS SHALL BE MIX NO.6 CONCRETE.
2. REINFORCING-2 LAYERS OF 4x4 W4.0 WELDED WIRE FABRIC.
3. 8"≤ WHERE A IS LESS THAN 8'
   8=12" WHERE A IS 8' TO 14'
4. TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO EXISTING GRADE IF REQUIRED.
5. INVERTS SHALL BE APPROVED PRECAST, PLAIN MIX NO.3 CONCRETE OR BRICK LAID ON EDGE. INVERT TO SLOPE DOWN TOWARD OUTLET AT THE RATE OF 2" PER FOOT, OR AS SHOWN ON PLAN OR AS DIRECTED. INVERT BRICK SHALL BE ASTM C32-91 GRADE SS.
6. WHERE A IS 3'-6" OR GREATER STANDARD MANHOLE STEPS SHALL BE INSTALLED AS SHOWN.

Howard County, Maryland
Department of Public Works
Approved: Chief, Bureau of Engineering
Type 'S' Inlet
Detail D-4.22

30 15 0 30 60
SCALE: 1" = 30'

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 NUMBER: 10451 EXPIRATION DATE: 8 28 13

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division — Date 1/31/13
Chief, Division of Land Development — Date 4-09-13
Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

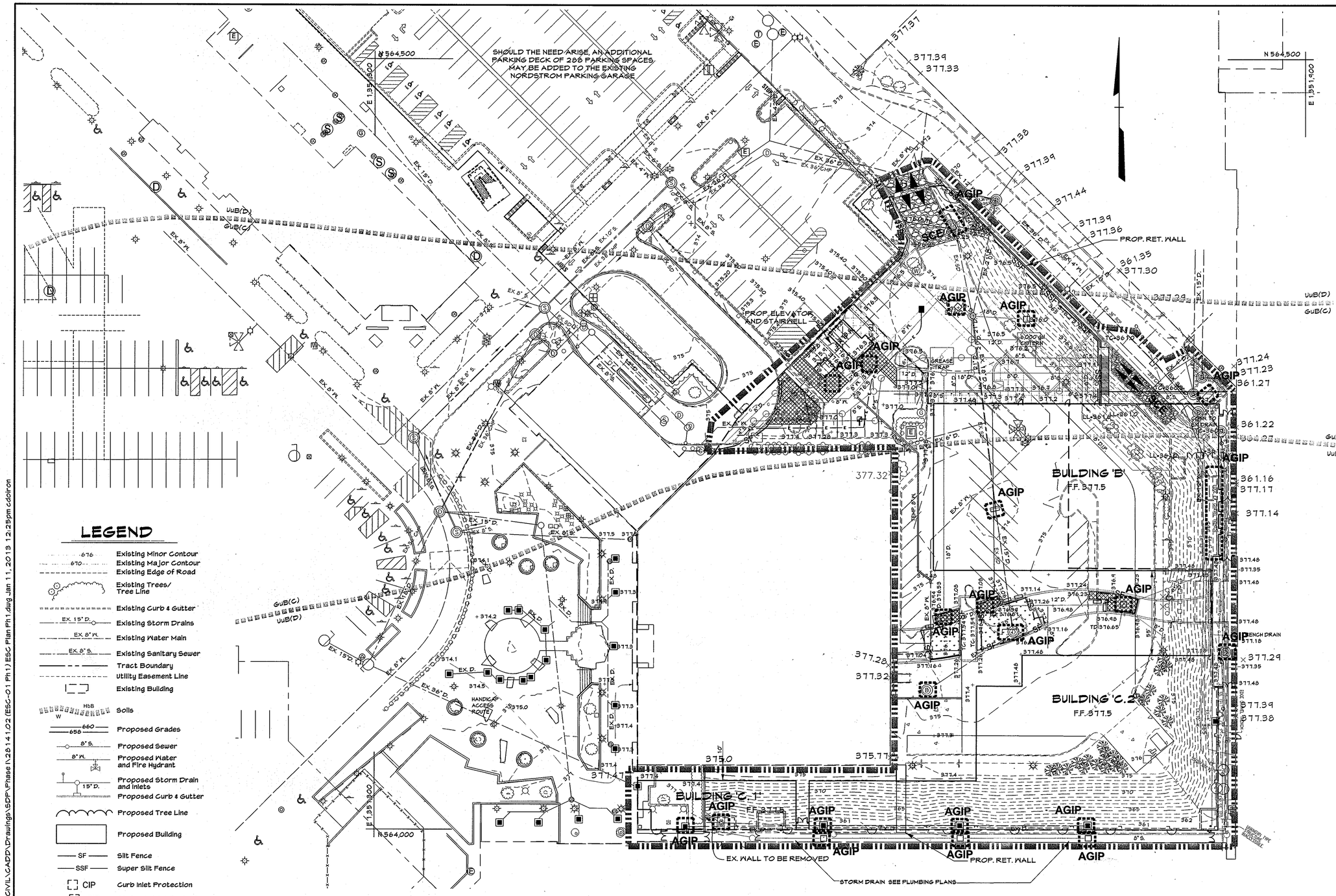
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

UTILITY PROFILES - PHASE II
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 15 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: As Shown

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02 (UT-02) Utility Profiles.dwg Jan 11, 2013 3:27pm cdotron



SEQUENCE OF CONSTRUCTION

1. Obtain grading permits. (2 days)

PHASE I

2. Install erosion and sediment control measures (Stabilized construction entrances, SSF, inlet protection to existing inlets). (5 days)
3. Contractor to relocate storm drain and other utilities in area of proposed retaining walls near existing mall. (15 days)
4. Contractor to build retaining walls. (15 days)
5. Contractor to backfill area behind retaining wall to elevation 377. Install SSF at top of retaining wall once backfill is complete in needed. (10 days).
6. Contractor to relocate water line to existing L.L. Bean building. Contractor to limit disturbance to water line and stabilize at the end of each day. (3 days)
7. Contractor to build storm drain from Ex MH to I-3. Contractor to keep existing storm drain in service as long as possible. During a 3 day dry weather forecast, disconnect existing storm drain and connect proposed storm drain. Install inlet protection at I-3. (10 days)
8. Rough grade remaining limits of phase I. Direct disturbed area to SSF, existing inlets or I-3. Construct remaining utilities, cisterns, stormceptor, micro bioretention facilities, parking lot, plaza and buildings. As inlets are installed install inlet protection. (60 days)
9. Upon completion of micro bioretention facilities install silt fence as shown until the drainage area to these facilities are stabilized. (20 days)

PHASE II

10. Install erosion and sediment control measures (SF). (2 days)
11. Remove existing building. Rough grade remaining limits of phase II. Direct disturbed area to SF or existing inlets. Construct remaining utilities, micro bioretention facilities, plaza and buildings. As inlets are installed install inlet protection. (60 days)
12. Contractor to install permanent stabilization to disturbed areas. (7 days)
13. Upon completion of micro bioretention facilities install silt fence as shown until the drainage area to these facilities are stabilized. (20 days)
14. With approval from sediment control inspector contractor to remove remaining sediment control devices and permanently stabilize those areas disturbed by this process. (7 days)

NOTE: DEMOLITION WILL OCCUR WITHIN THE L.O.D. SHOWN. TEMPORARY STOCKPILES WITHIN THE L.O.D. WILL BE ESTABLISHED.

NOTE: SILT FENCE IS TO BE UPGRADED TO "SUPER" SILT FENCE ON PAVEMENT AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

LEGEND

- 676 — Existing Minor Contour
- 670 — Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- EX. 15" D. — Existing Storm Drains
- EX. 8" W. — Existing Water Main
- EX. 8" S. — Existing Sanitary Sewer
- Tract Boundary
- Utility Easement Line
- Existing Building
- HbB — Soils
- 660 — Proposed Grades
- 8" S. — Proposed Sewer
- 8" W. — Proposed Water and Fire Hydrant
- 15" D. — Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Tree Line
- Proposed Building
- SF — Silt Fence
- SSF — Super Silt Fence
- CIP — Curb Inlet Protection
- AGIP — At Grade Inlet Protection
- Mountable Berm
- SCE — Stabilized Construction Entrance
- Limit of Disturbance

DEVELOPER'S CERTIFICATION

"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 inspection by the Howard Soil Conservation District."

1·11·13

Signature of Developer — Date
Print name below signature

ENGINEER'S CERTIFICATION

"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."

1/10/13

Signature of Engineer — Date
Print name below signature

For the Howard Soil Conservation District

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

1/15/13

Howard Soil Conservation District — Date

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 NUMBER: 16559 EXPIRATION DATE: 8 28 13

30 15 0 30 60

SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 2/14/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.			
DRAWN BY: M.S.S.			
CHECKED BY:			
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

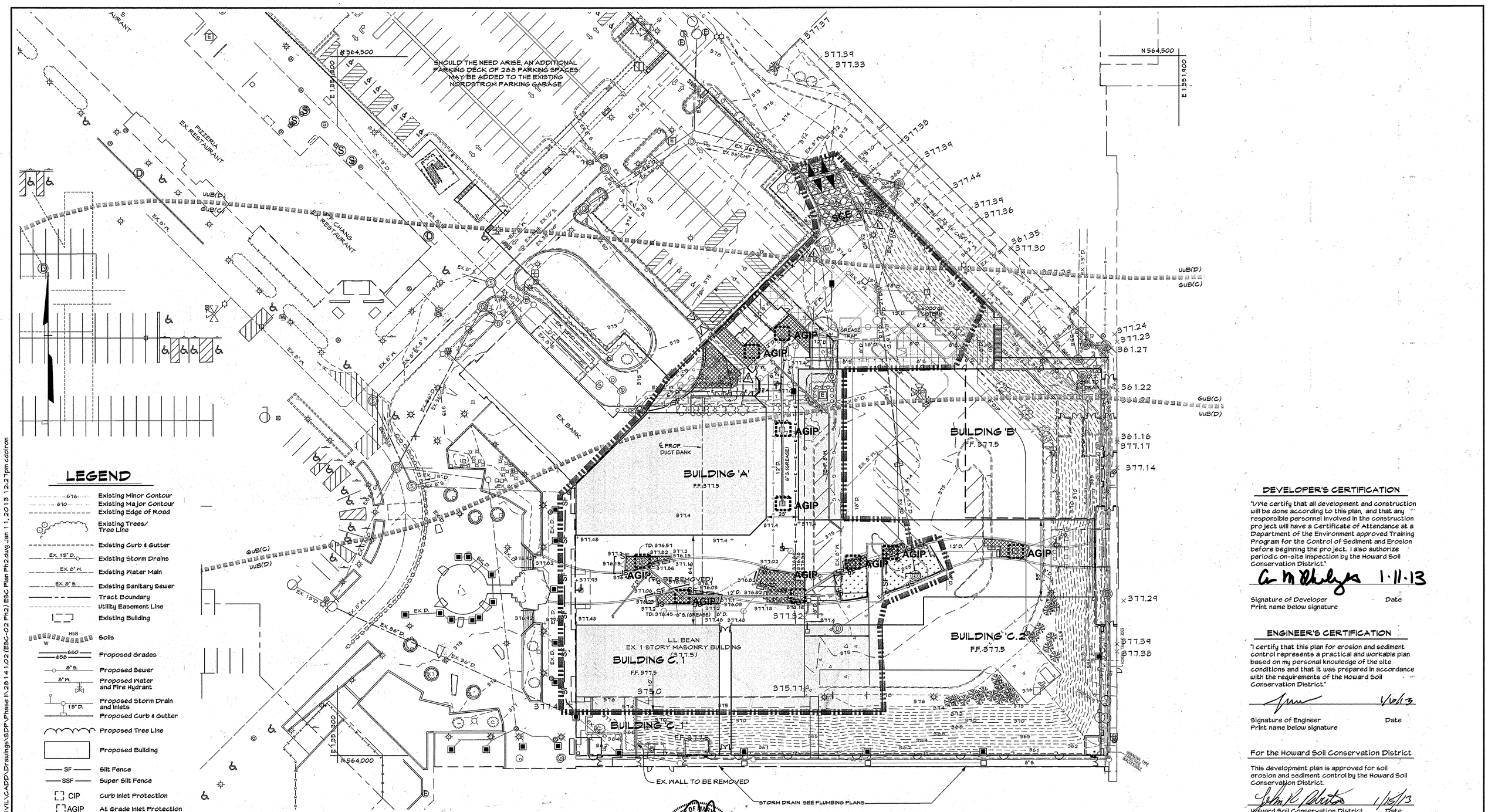
EROSION & SEDIMENT CONTROL PLAN - PHASE I
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 16 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\Phase I\28141.02 (ESC-01 Ph I) ESC Plan Ph I.dwg Jan 11, 2013 12:25pm cdoiron



LEGEND

- Existing Minor Contour
- Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- Existing Storm Drains
- Existing Water Main
- Existing Sanitary Sewer
- Tract Boundary
- Utility Easement Line
- Existing Building
- Soils
- Proposed Grades
- Proposed Sewer
- Proposed Water and Fire Hydrant
- Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Tree Line
- Proposed Building
- Silt Fence
- Super Silt Fence
- Curb Inlet Protection
- At Grade Inlet Protection
- Mountable Berm
- Stabilized Construction Entrance
- Limit of Disturbance

DEVELOPER'S CERTIFICATION

"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 inspection by the Howard Soil Conservation District."

1·11·13

Signature of Developer Date
Print name below signature

ENGINEER'S CERTIFICATION

"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."

1/08/13

Signature of Engineer Date
Print name below signature

For the Howard Soil Conservation District

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

1/15/13

Howard Soil Conservation District Date

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 NUMBER: 12654 EXPIRATION DATE: 8 28 13

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. 27020 EXPIRATION DATE: JANUARY 23, 2016

STATE OF MARYLAND PAUL G. CAVANAUGH No. 27020 PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

NOTE: DEMOLITION WILL OCCUR WITHIN THE L.O.D. SHOWN. TEMPORARY STOCKPILES WITHIN THE L.O.D. WILL BE ESTABLISHED.

NOTE: SILT FENCE IS TO BE UPGRADED TO "SUPER" SILT FENCE ON PAVEMENT AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

30 15 0 30 60
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	1/31/13 Date
Chief, Division of Land Development	4-09-13 Date
Director	4/11/13 Date

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER No. 19820 MICHAEL J. MANOCCHIA

DESIGN BY: M.J.P.	DDC.	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EROSION & SEDIMENT CONTROL PLAN - PHASE II
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 17 OF 55

C.E.I. PROJECT NUMBER 28141.02

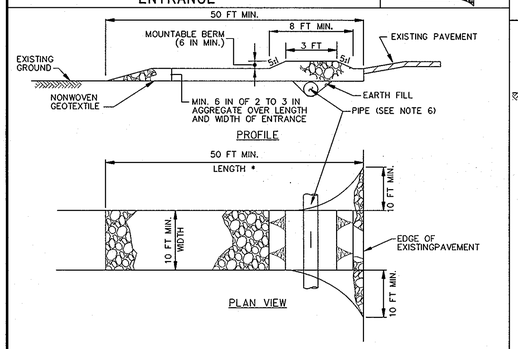
SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\Phase II\28141.02 (ESC-02 Ph2) ESC Plan Ph2.dwg Jan 11, 2013 12:27pm cdolron

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

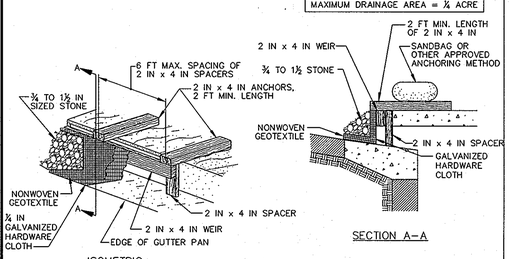
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

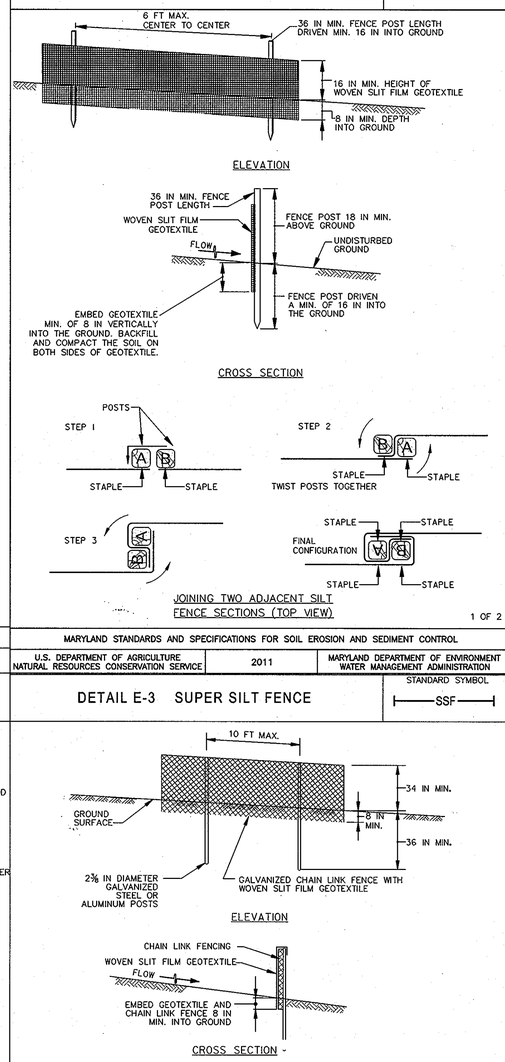
1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL —SF—



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL —SSF—

CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL —SF—

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1½ X 1½ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

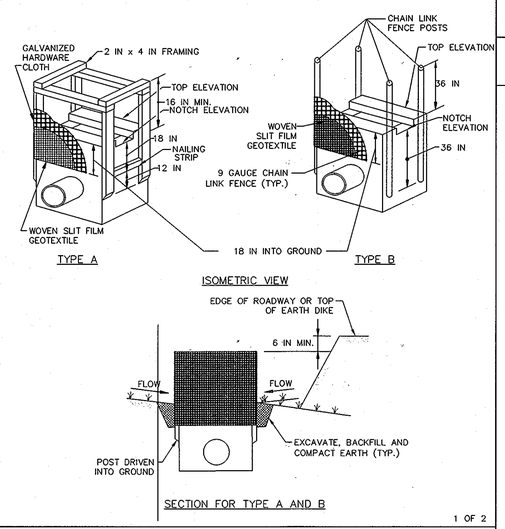
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

TYPE A MAXIMUM DRAINAGE AREA = ¼ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HOWARD SOIL CONSERVATION DISTRICT

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

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
Option 2 --Use sod. Option 3 --- See: with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES.

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

Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/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/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the *1994 MARAND STANDARDS AND SPECIFICATIONS FOR SOL EROSION AND SEDIMENT CONTROL* for additional rates and methods not covered.

HOWARD SOIL CONSERVATION DISTRICT

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 most current 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 greater 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 their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:

Total Area of Site	62.334 Acres	(Plan submission 5.67 Ac.)
Area Disturbed	3.03 Acres	
Area to be roofed or paved	2.91 Acres	
Area to be vegetatively stabilized	0.12 Acres	
Total Cut	0 Cu. Yds.	
Total Fill	8,300 Cu. Yds.	
Offsite waste/borrow area location:	To be determined by contractor	

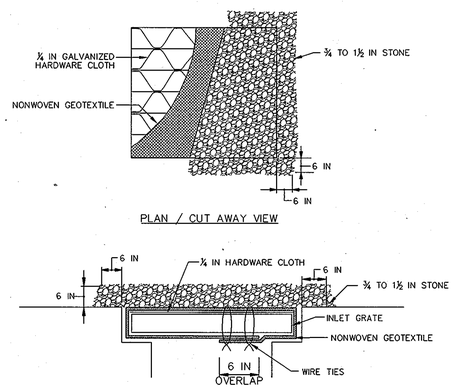
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas 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 by the end of each work day, whichever is shorter.

Rev. 9/99

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

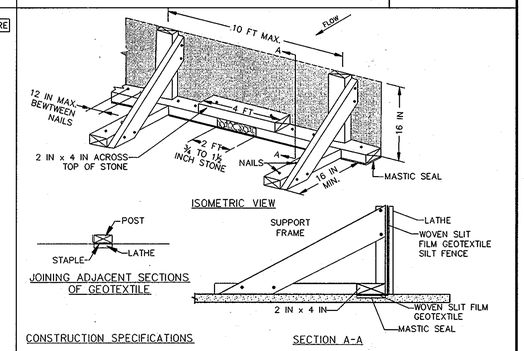
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL —SFOP—



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DEVELOPER'S CERTIFICATION

"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 inspection by the Howard Soil Conservation District."

Signature of Developer — Date 1.11.13
Print name below signature

ENGINEER'S CERTIFICATION

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — Date 1/10/13
Print name below signature

For the Howard Soil Conservation District

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District — Date 1/15/13

30 15 0 30 60
SCALE: 1" = 30'

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. 10671, Expiration Date 6 30 13

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13
Chief, Division of Land Development — Date 4-09-13
Director — Date 4/9/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN W. HANCOCK — REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.			
DRAWN BY: M.S.S.			
CHECKED BY:			
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EROSION & SEDIMENT CONTROL DETAILS
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 18 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL CAD\Drawings\SDP\28141.02 (ESC-03) Erosion & Sediment Control Details.dwg Jan 11, 2013 12:27pm cdolron

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover to protect exposed soil from erosion.

PURPOSE

To promote the establishment of vegetation on exposed soil.

CONDITIONS WHERE PRACTICE APPLIES

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

EFFECTS ON WATER QUALITY AND QUANTITY

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemical carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION

Establishment of vegetative cover on cut and fill slopes.

PURPOSE

To provide timely vegetative cover on cut and fill slopes as work progresses.

CONDITIONS WHERE PRACTICE APPLIES

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

CRITERIA

A. Incremental Stabilization - Cut Slopes
   1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
   2. Construction sequence example (Refer to Figure B.1):
      - 2.a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
      - 2.b. Perform Phase I excavation, prepare seedbed, and stabilize.
      - 2.c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
      - 2.d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

NOTE: ONCE EXCAVATION HAS BEGUN, THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

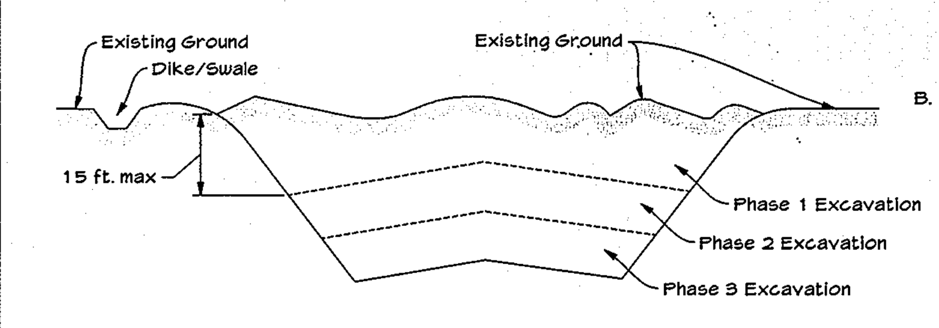


Figure B.1: Incremental Stabilization - Cut

B. Incremental Stabilization - Fill Slopes
   1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
   2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet or when the grading operation ceases as prescribed in the plans.
   3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
   4. Construction sequence example (Refer to Figure B.2):
      - 4.a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
      - 4.b. At the end of the day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
      - 4.c. Place Phase 1 fill, prepare seedbed, and stabilize.
      - 4.d. Place Phase 2 fill, prepare seedbed, and stabilize.
      - 4.e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN, THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

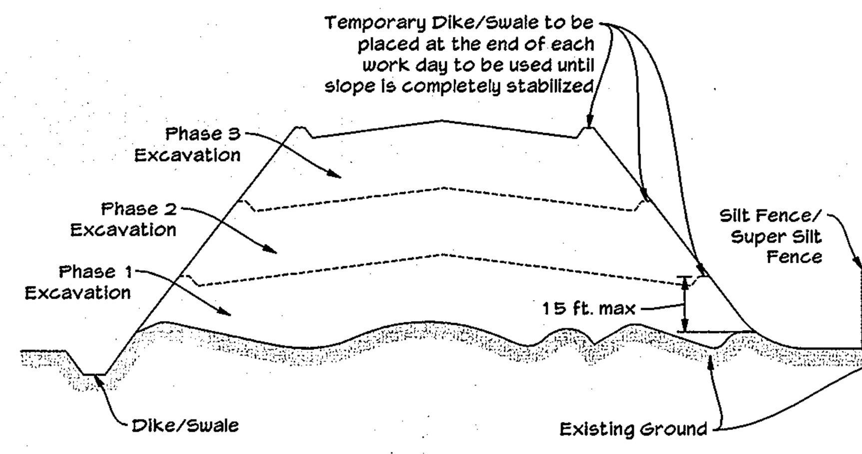


Figure B.2: Incremental Stabilization - Fill

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION

The process of preparing the soils to sustain adequate vegetative stabilization.

PURPOSE

To provide a suitable soil medium for vegetative growth.

CONDITIONS WHERE PRACTICE APPLIES

Where vegetative stabilization is to be established.

CRITERIA

A. Soil Preparation
   1. Temporary Stabilization
      - 1.a. Seed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After soil is loosened, it must not be rolled or dragged smooth but left in roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
      - 1.b. Apply fertilizer and lime as prescribed on the plans.
      - 1.c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means
   2. Permanent Stabilization
      - 2.a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
        - a. Soil pH between 6.0 to 7.0.
        - b. Soluble salts less than 500 parts per million (ppm).
        - c. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable
        - d. Soil contains 1.5 percent minimum organic matter by weight.
        - e. Soil contains sufficient pore space to permit adequate root penetration.
      - 2.a. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
      - 2.b. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
      - 2.c. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
      - 2.d. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling
   1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.
   2. Topsoil salvaged from an existing site may be used provided 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 representative soil profile section in the Soil Survey published by USDA-NRCS.
   3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
      - 3.a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
      - 3.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 material.
      - 3.c. The original soil to be vegetated contains material toxic to plant growth.
      - 3.d. The soil is so acidic that treatment with limestone is not feasible.
   4. Areas having slopes steeper than 2:1 require special consideration and design.
   5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
      - 5.a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 ½ inches in diameter.
      - 5.b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
      - 5.c. Topsoil substitutes or 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.
   6. Topsoil Application
      - 6.a. Erosion and sediment control practices must be maintained when applying topsoil.
      - 6.b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 must be corrected in order to prevent the formation of depressions or water pockets.
      - 6.c. Topsoil must not be placed if 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.

C. Soil Amendments (Fertilizer and Lime Specifications)
   1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
   3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh seive and 98 to 100 percent will pass through a #20 mesh seive.
   4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
   5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDIND AND MULCHING

DEFINITION

The application of seed and mulch to establish vegetative cover.

PURPOSE

To protect disturbed soils from erosion during and at the end of construction.

CONDITIONS WHERE PRACTICE APPLIES

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

CRITERIA

A. Seeding
   1. Specifications
      - 1.a. All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
      - 1.b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
      - 1.c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
      - 1.d. Sod and seed must not 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.
   2. Application
      - 2.a. Dry seeding: This includes use of conventional drop or broadcast spreaders.
        - a. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
        - b. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
      - 2.b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
        - a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least ¼ inch of soil covering. Seedbed must be firm after planting.
        - b. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
      - 2.c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
        - a. If fertilizer is being applied at the time of seeding, teh application rates should be exceed the following: nitrogen, 100 pounds per acre total soluble nitrogen; P_2O_5 (phosphorous), 200 pounds per acre; K_2O (potassium), 200 pounds per acre.
        - b. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
        - c. Mix seed and fertilizer on site and seed immediately and without interruption.
        - d. When hydroseeding, do not incorporate into the soil.

B. Mulching
   1. Mulch Materials (in order of preference)
      - 1.a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonable bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland See Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
      - 1.b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
        - a. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
        - b. WCFM, including dye, must contain no germination or growth inhibiting factors.
        - c. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogenous slurry. the mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
        - d. WCFM material must not contain elements or compounds at concentration levels that will by phyto-toxic.
        - e. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
   2. Application
      - 2.a. Apply mulch to all seeded areas immediately after seeding.
      - 2.b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
      - 2.c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 100 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   3. Anchoring
      - 3.a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
        - a. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
        - b. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
        - c. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
        - d. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

To stabilize disturbed soils with vegetation for up to 6 months.

PURPOSE

To use fast growing vegetation that provides cover on disturbed soils.

CONDITIONS WHERE PRACTICE APPLIES

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

CRITERIA

A. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If the Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

B. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soils tests are not required for Temporary Seeding.

C. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch along as prescribed in Section B-4-3.A.1.1b and maintain until the next seeding season.

Temporary Seeding Summary

Hardiness Zone: 6B Seed Mixture: N/A					Fertilizer Rate (10-20-20)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
N/A	Annual Ryegrass (*Lolium perenne ssp. multiflorum*)	40	May 15 to May 31 Aug 1 to Sep 30	0.5 in.	436 lb/ac (10 lb/1000sf)	2 tons/ac (90 lb/1000 sf)
	Barley (*Hordeum vulgare*)	96	May 15 to May 31 Aug 1 to Sep 30	1.0 in.		
	Foxtail Millet (*Setaria italica*)	30	Jun 1 to Jul 31	0.5 in.		
	Pearl Millet (*Pennisetum glaucum*)	20	Jun 1 to Jul 31	0.5 in.		

B-4-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION

To stabilize disturbed soils with permanent vegetation.

PURPOSE

To use long-lived perennial grasses and legumes to establish permanent cover on disturbed soils.

CONDITIONS WHERE PRACTICE APPLIES

Exposed soils where ground cover is needed for 6 months or more.

CRITERIA

A. Seed Mixtures
   1. General Use
      - 1.a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
      - 1.b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
      - 1.c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
      - 1.d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
   2. Turfgrass Mixtures
      - 2.a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
      - 2.b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan:
        - a. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of total mixture by weight.
        - b. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
        - c. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
        - d. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue 60 to 70 percent. Seeding Rate: 1 ½ to 3 pounds per 1000 square feet.

        NOTES:
        SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND".

        CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.
   3. Ideal Times of Seeding for Turf Grass Mixtures
      - Western Maryland: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
      - Central Maryland: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
      - Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
   4. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
   5. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch ever 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone: 6B Seed Mixture: Cool-Season Grass Mix					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
9	Tall Fescue (*Lolium arundinaceum*)	60	Mar 1 to May 15 Aug 1 to Oct 15	¼ to ½ in.	45 lb/ac (1 lb/1000sf)	90 lb/ac (2 lb/1000sf)	90 lb/ac (2 lb/1000sf)	2 tons/ac (90 lb/1000 sf)
	Kentucky Bluegrass (*Poa pratensis*)	40		¼ to ½ in.				
	Perennial Ryegrass (*Lolium perenne*)	20		¼ to ½ in.				

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
   1. General Specifications
      - 1.a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
      - 1.b. Sod must be machine cut at a uniform soil thickness of ¾ inches, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
      - 1.c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
      - 1.d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
      - 1.e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation
   2. Sod Installation
      - 2.a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
      - 2.b. Lay the first row of sod in a straight line with subsequent rows place parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
      - 2.c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
      - 2.d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operation of laying, tamping and irrigating for any piece of sod within eight hours.
   3. Sod Maintenance
      - 3.a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
      - 3.b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
      - 3.c. Do not mow until the sod is firmly rooted. No more than ⅓ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

DEFINITION

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

PURPOSE

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

CONDITIONS WHERE PRACTICE APPLIES

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

CRITERIA

A. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

B. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

C. Runoff from the stockpile area must drain to a suitable sediment control practice.

D. Access the stockpile area from the upgrade side.

E. Clear water runoff into the stockpile area must be minimized by use of a diversion fence such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.

F. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.

G. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

H. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

MAINTENANCE

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

DEVELOPER'S CERTIFICATION

"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 inspection by the Howard Soil Conservation District."

[signature] 1.11.13

Signature of Developer — Date
Print name below signature

ENGINEER'S CERTIFICATION

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[signature] 1/10/13

Signature of Engineer — Date
Print name below signature

For the Howard Soil Conservation District

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

[signature] 1/15/13

Howard Soil Conservation District — Date

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 NUMBER: 10551 EXPIRATION DATE: 8/28/13

30 15 0 30 60
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] Chief, Development Engineering Division	1/31/13 Date
[signature] Chief, Division of Land Development	4-09-13 Date
[signature] Director	4/11/13 Date

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN W. RANOCCHIA, SR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

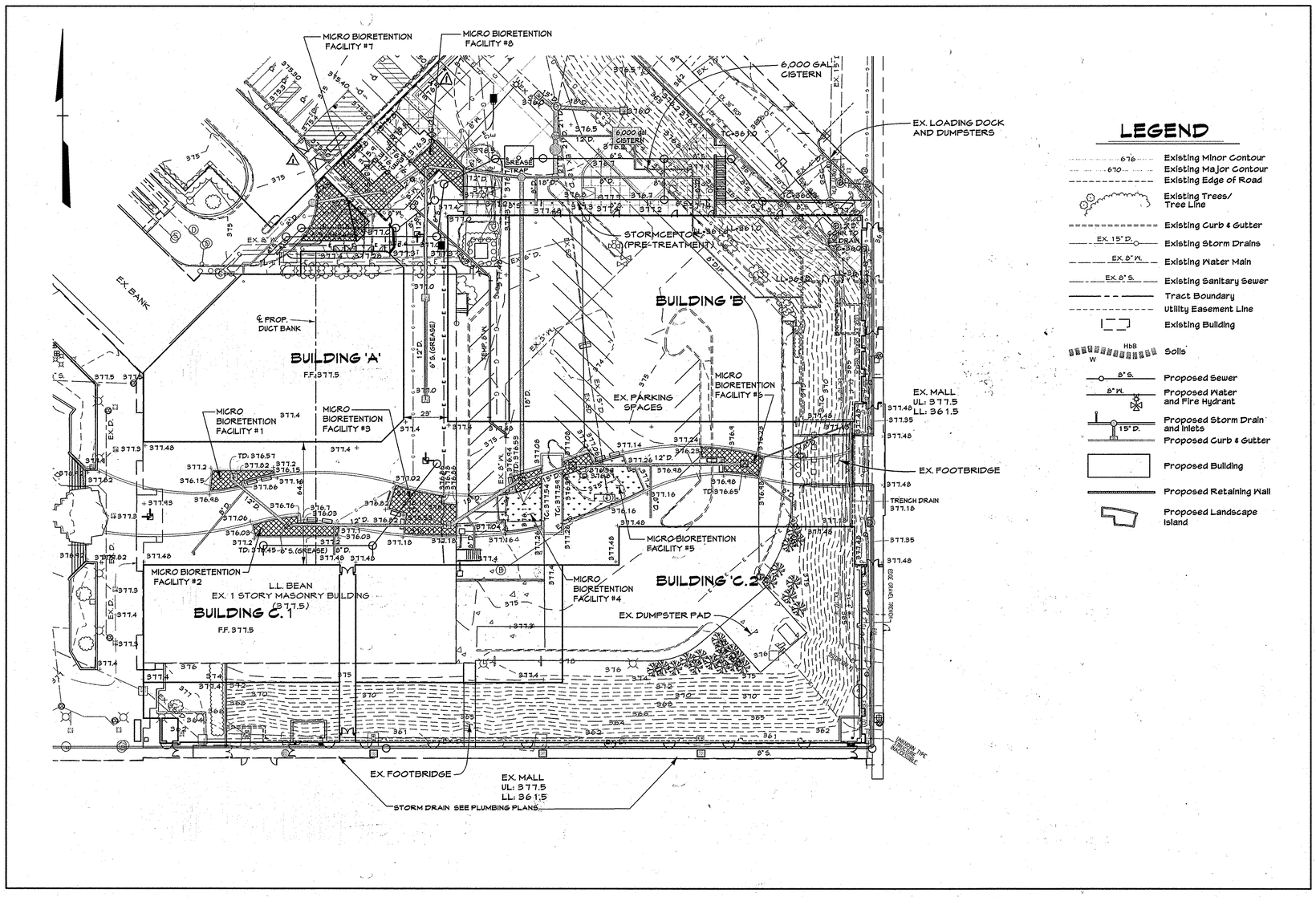
EROSION & SEDIMENT CONTROL DETAILS
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 19 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02 (ESC-04) Erosion & Sediment Control Specs.dwg Jan 11, 2013 12:28pm cdoiron



LEGEND

- 676 — Existing Minor Contour
- 670 — Existing Major Contour
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- EX. 15" D. — Existing Storm Drains
- EX. 8" W. — Existing Water Main
- EX. 8" S. — Existing Sanitary Sewer
- Tract Boundary
- Utility Easement Line
- Existing Building
- HbB W — Soils
- 8" S. — Proposed Sewer
- 8" W. — Proposed Water and Fire Hydrant
- 15" D. — Proposed Storm Drain and Inlets
- Proposed Curb & Gutter
- Proposed Building
- Proposed Retaining Wall
- Proposed Landscape Island

SWM MANAGEMENT IS BEING PROVIDED BY THE FOLLOWING METHODS

1. 8 MICRO BIO RETENTION FACILITIES WHICH ARE TREATING PART OF THE NEW ESD VOLUME.
2. (1) 6,000 GALLON CISTERN WHICH IS TREATING PART OF THE ESD VOLUME. THE WATER FROM THE CISTERN WILL BE USED TO IRRIGAT THE EXISTING LANDSCAPE AREAS IN THE OVERALL MALL AREA AND SURROUNDING COMMUNITY AND TO WASH VEHICLES. THE CISTERN WATER WILL REPLACE POTABLE WATER NOW BEING USED FOR THIS PURPOSE.
3. A STORMCEPTOR IS AN APPROVED PRACTICE FOR TREATING WATER QUALITY IN REDEVELOPMENT AREAS.

FACILITY	PHASE TO BE BUILT
STORMCEPTOR	
(M-6) M.B. #1	PHASE II
(M-6) M.B. #2	PHASE II
(M-6) M.B. #3	PHASE II
(M-6) M.B. #4	PHASE II
(M-6) M.B. #5	PHASE I
(M-6) M.B. #6	PHASE I
(M-6) M.B. #7	PHASE I
(M-6) M.B. #8	PHASE I
(M-6) CISTERN	PHASE I

SUMMARY TABLE

ESDv Required (new development):	4,813 C.F.
ESDv Provided:	4,877 C.F.
Pe:	1.0" (Redevelopment)
Pe:	1.84 (New Development)
Q10, Q100	Not Required
ESDv Required (redevelopment):	3,718 C.F.
ESDv Provided:	by stormceptor

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 NUMBER: 10951 EXPIRATION DATE: 8 28 13

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. 27020 EXPIRATION DATE: JANUARY 29 2016

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

30 15 0 30 60
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.	DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE: 1/14/13	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

STORMWATER MANAGEMENT PLAN
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 20 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=30'

SDP-13-016

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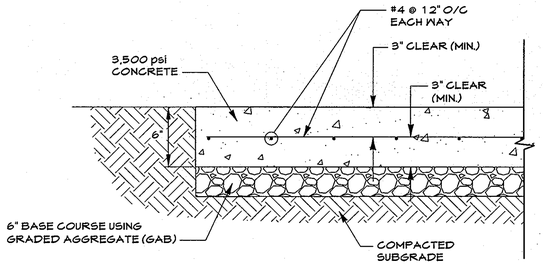
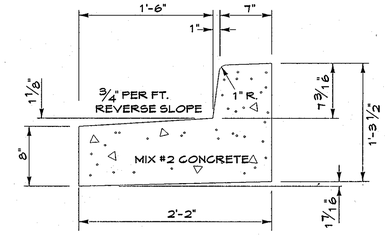
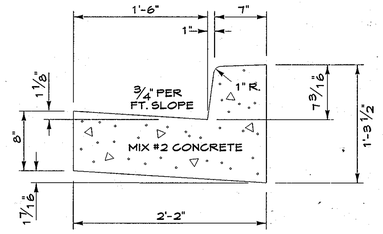


Heavy Duty Concrete Section

Not To Scale



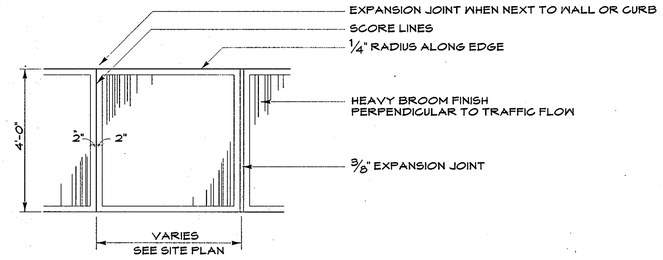
SECTION



SECTION

7" Combination Curb and Gutter

Not To Scale



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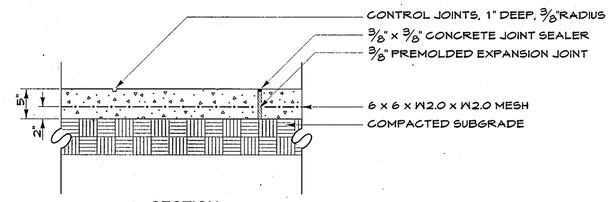
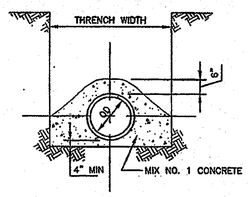


SECTION

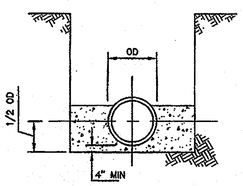
Concrete Walk

Not To Scale

NORMAL PIPE DIAMETER	MAXIMUM PAYMENT CUBIC FT PER LINEAR FT	
	CRADLE	CONCRETE ENCASEMENT
6"	1.28	1.53
8"	1.58	2.65
10"	1.86	2.95
12"	2.33	3.63
15"	2.82	4.20
18"	4.02	5.71
21"	4.52	6.35
24"	5.95	8.22
27"	6.58	8.94
30"	7.42	9.83
33"	9.42	12.16
36"	10.53	13.09
42"	12.30	15.22
48"	16.25	19.83
54"	18.46	22.97
60"	20.80	24.95
66"	23.08	27.71



CONCRETE ENCASEMENT DETAIL

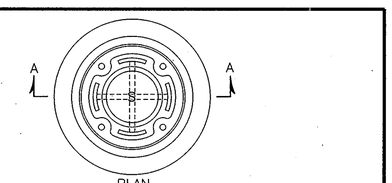


CONCRETE CRADLE DETAIL

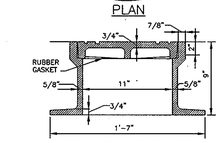
NOTES:

1. POUR CONCRETE TO UNDISTURBED EARTH.
2. CONCRETE CRADLES AND ENCASEMENT SHALL BE MIX NO. 1 CONCRETE.
3. ALL PAYMENT FOR CONCRETE ENCASEMENT OR CRADLES SHALL BE IN ACCORDANCE WITH THE TABLE ON THIS DETAIL. PAYMENT WILL NOT BE PER ACTUAL TRENCH WIDTH.
4. CONCRETE ENCASEMENTS AND CRADLES FOR WATER AND SEWER LINES ARE NOT PERMITTED WITHOUT WRITTEN AUTHORIZATION FROM THE DEPARTMENT OF PUBLIC WORKS.
5. SEE DETAIL S-3.11 AND S-3.12 FOR STREAM CROSSING DETAILS.

Revised	Howard County, Maryland Department of Public Works	Pipe Trench Cradle & Encasement	Detail G-2.13
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		



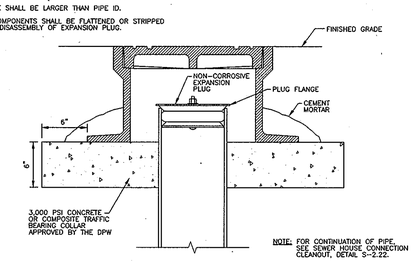
PLAN



SECTION A-A
CAST IRON FRAME & COVER

EXPANSION PLUG NOTES:

1. EXPANSION PLUG SHALL NOT INTERFERE WITH LID.
2. PLUG FLANGE SHALL BE LARGER THAN PIPE ID.
3. THREADED COMPONENTS SHALL BE FLATTENED OR STRIPPED TO PREVENT DISASSEMBLY OF EXPANSION PLUG.



NOTE: FOR CONTINUATION OF PIPE, SEE SEWER HOUSE CONNECTION CLEANOUT, DETAIL S-2.22.

ELEVATION

Revised	Howard County, Maryland Department of Public Works	Cleanout Cover Assembly For All Paved Areas	Detail S-2.23
Revised 6/30/2011 Approved	Approved: Chief, Bureau of Engineering		

20 10 0 20 40

SCALE: 1" = 20'

"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. 10551, Expiration Date 6-28-13."

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — STEVEN E. MARCOVITZ — No. 10551 — PROFESSIONAL ENGINEER

DESIGN BY:	M.J.P.
DRAWN BY:	M.S.S.
CHECKED BY:	
DATE:	1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

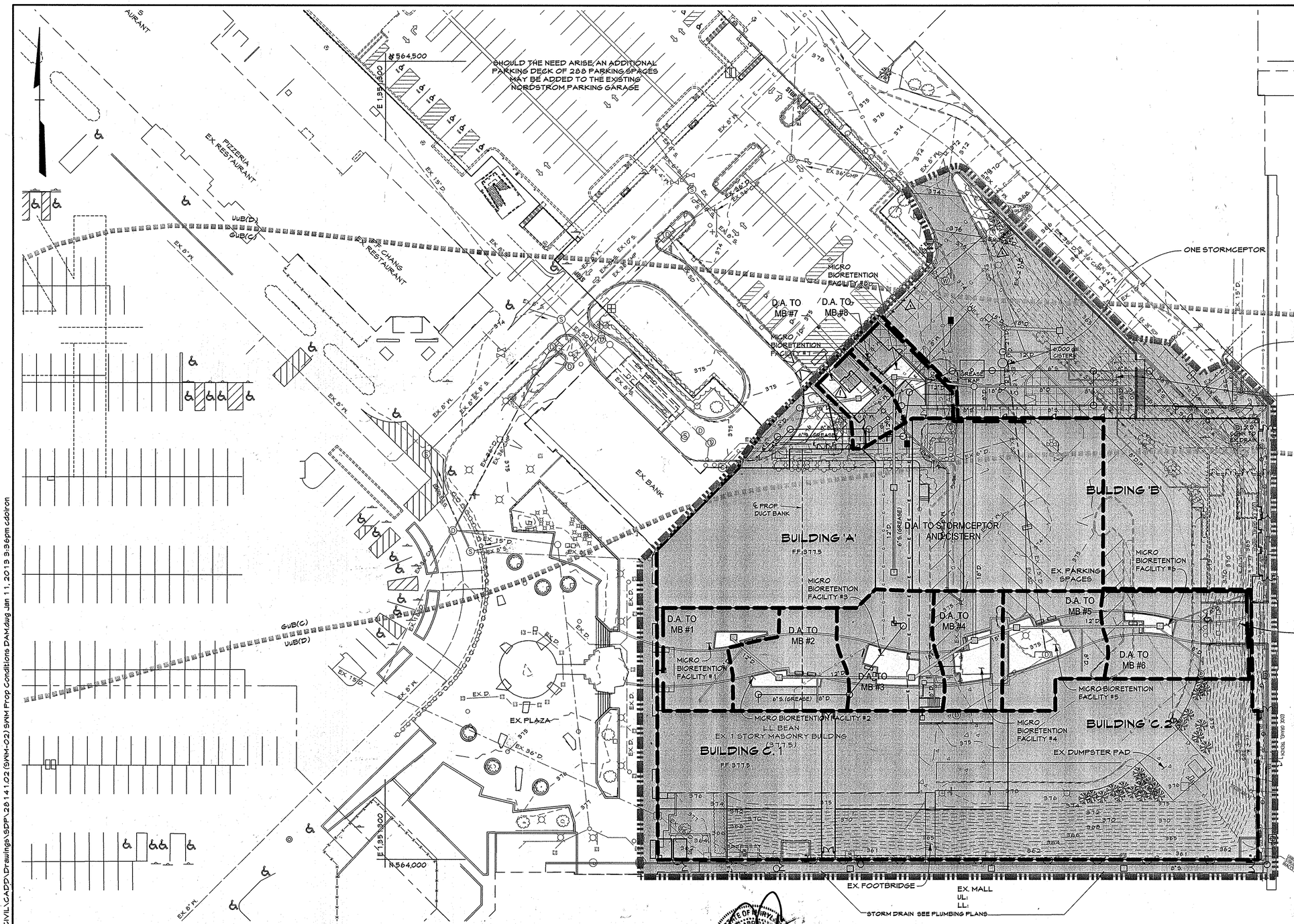
SITE DETAILS
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 21 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=20'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\Phase I\28141.02 (SDP-05 Det) Site Dev Plan Ph1 Det.dwg Jan 11, 2013 3:35pm cdolron



LEGEND

- Existing Minor Contour (676)
- Existing Major Contour (670)
- Existing Edge of Road
- Existing Trees/ Tree Line
- Existing Curb & Gutter
- Existing Storm Drains (EX. 15" D.)
- Existing Water Main (EX. 8" W.)
- Existing Sanitary Sewer (EX. 8" S.)
- Tract Boundary
- Utility Easement Line
- Existing Building
- Soils (HbB, W)
- Proposed Impervious Area
- Drainage Divide
- Drainage Area to Stormceptor and Cistern

SWM MANAGEMENT IS BEING PROVIDED BY THE FOLLOWING METHODS

1. 8 MICRO BIO RETENTION FACILITIES WHICH ARE TREATING PART OF THE NEW ESD VOLUME.
2. 1 6,000 GALLON CISTERN WHICH IS TREATING PART OF THE ESD VOLUME. THE WATER FROM THE CISTERN WILL BE USED TO IRRIGATE THE EXISTING LANDSCAPE AREAS IN THE OVERALL MALL AREA AND SURROUNDING COMMUNITY AND TO WASH VEHICLES. THE CISTERN WATER WILL REPLACE POTABLE WATER NOW BEING USED FOR THIS PURPOSE.
3. A STORMCEPTOR IS AN APPROVED PRACTICE FOR TREATING WATER QUALITY IN REDEVELOPMENT AREA.

FACILITY	D.A. TO FACILITY (AC.)	IMPERVIOUS AREA	PERVIOUS AREA
stormceptor	2.17	2.07	0.1
(M-6) M.B. #1	0.07	0.06	0.01
(M-6) M.B. #2	0.08	0.07	0.01
(M-6) M.B. #3	0.10	0.09	0.01
(M-6) M.B. #4	0.07	0.06	0.01
(M-6) M.B. #5	0.09	0.06	0.03
(M-6) M.B. #6	0.13	0.12	0.01
(M-6) M.B. #7	0.04	0.03	0.01
(M-6) M.B. #8	0.04	0.03	0.01
(M-1) CISTERN	2.17	2.07	0.1

SUMMARY TABLE

ESDv Required (new development):	4,813 C.F.
ESDv Provided:	4,877 C.F.
Pe:	1.0" (Redevlopment)
Pe:	1.84 (New Development)
Q10, Q100	Not Required
ESDv Required (redevelopment):	3,718 C.F.
ESDv Provided:	by stormceptor

30 15 0 30 60

SCALE: 1" = 30'

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 NUMBER: 10991 EXPIRATION DATE: 8 28 13

PAUL G. CAVANAUGH

PROFESSIONAL ENGINEER No. 27020

⚠ 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. 27020
EXPIRATION DATE: JANUARY 29, 2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	1/8/13 Date
Chief, Division of Land Development	4-09-13 Date
Director	4/11/13 Date

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE
DDC	1	RECLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

SWM PROPOSED CONDITIONS DRAINAGE AREA MAP
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 22 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02(SWM-02) SWM Prop Conditions DAM.dwg Jan 11, 2013 3:38pm cdolron

B.3.B Specifications for Bioretention

1. Material Specifications

The allowable materials to be used in bioretention area are detailed in Table B.3.2.

2. Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4% (by weight)
magnesium	35 lb./ac.
phosphorus (phosphate - P_2O_5)	75 lb./ac
potassium (potash - K_2O)	85 lb./ac
soluble salts	not to exceed 500 ppm

All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the top soil was excavated.

Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

3. Compaction

It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention

areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3.

5. Plant Installation

Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains

Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The ends of underdrain pipes not terminating in an observation well shall be capped.

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

Table B.3.2 Materials Specifications for Bioretention

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
planting soil [2.5' to 4' deep]	sand 35 - 60% silt 30 - 55% clay 10 - 25%	n/a	USDA soil types loamy sand, sandy loam or loam
mulch	shredded hardwood		aged 6 months, minimum
pea gravel diaphragm and curtain drain	pea gravel: ASTM-D-448 ornamental stone: washed cobbles	pea gravel: No. 6 stone: 2" to 5"	
geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	n/a	for use as necessary beneath underdrains only
underdrain gravel	AASHTO M-43	0.375" to 0.75"	
underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
poured in place concrete (if required)	MSHA Mix No. 3; f'_c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
sand [1' deep]	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION

a. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER, AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

b. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

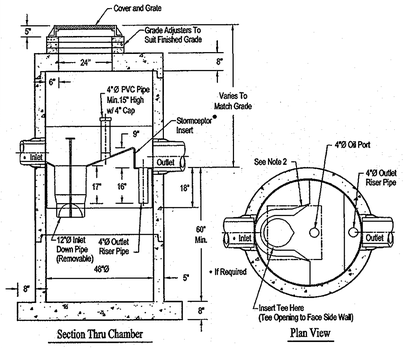
c. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

d. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS-NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

Rinker MATERIALS

Concrete Pipe Division

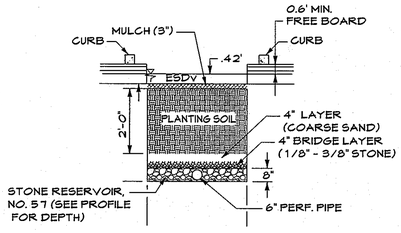
STC 450i Precast Concrete Stormceptor®
(450 U.S. Gallon Capacity)



Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Inlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

Rinker 027

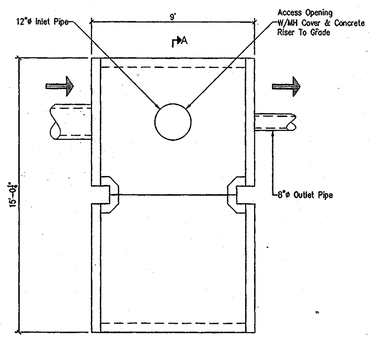
Stormwater Maintenance Schedule - Cistern		
Practice	Frequency (and after major storm)	Maintenance Requirements
Rainwater Harvesting Cistern & Stormceptor	Seasonally (and after major storm).	Replace damaged components as neccessary.
		Inspect facility for oil & sediment and Clean out if sediment is greater than 1 foot deep



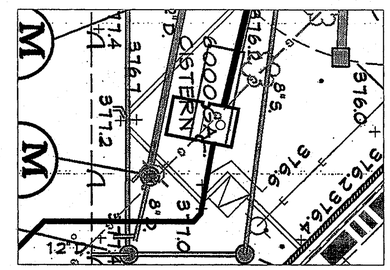
TYPICAL DETAIL

MICRO-BIORETENTION

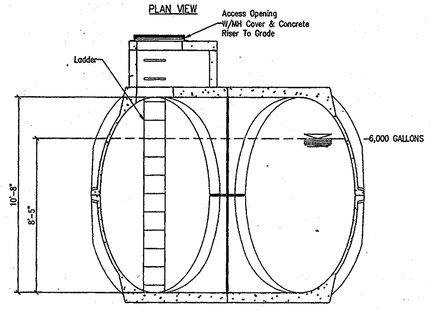
Not to Scale



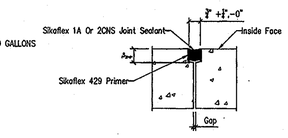
PLAN VIEW



OVERLAY VIEW



SECTION A-A



CAULK DETAIL

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CONTRACTOR IS TO VERIFY THAT ALL INFORMATION SHOWN ON DRAWINGS HAS BEEN THOROUGHLY CHECKED, COMPLIES WITH THE CONTRACT DOCUMENTS, AND IS ADEQUATE TO MEET THE FIELD CONDITIONS.

STRUCTURE DESIGN SPECIFICATIONS:
- CONCRETE COMPRESSIVE (28-DAY) STRENGTH: 5000 PSI
- REINFORCING DEFORMED BARS CONFORMING TO ASTM A615 (FY=60KSI)
- DESIGN LIVE LOAD: AASHTO HS-20
- DESIGN EARTH COVER: 1'-0" MIN. TO 10'-0" MAX.

STAGE STORAGE			
HT (IN)	UNIT VOL (CU-FT)	TOT. VOL (CU-FT)	TOT. VOL (GALLONS)
128	11	969	7246
124	19	958	7164
120	23	939	7024
116	26	916	6853
112	28	890	6658
108	30	862	6447
104	32	832	6222
100	33	800	5986
96	34	768	5741
92	34	734	5489
88	35	699	5232
84	36	664	4969
80	36	629	4704
76	36	593	4436
72	36	557	4166
68	36	521	3895
64	36	484	3624
60	36	448	3353
56	36	412	3082
52	36	376	2812
48	36	340	2544
44	35	305	2278
40	34	270	2016
36	34	235	1759
32	33	201	1505
28	32	168	1260
24	30	137	1024
20	28	107	799
16	26	79	588
12	23	53	393
8	19	30	222
4	11	11	82
0	0	0	0

REVISIONS	
NO	DATE
1	**/**/****
2	
3	
4	
5	

ROTONDO Environmental Solutions LLC
4950 EISENHOWER AVE., UNIT C ALEXANDRIA, VA 22304
PHONE: 703-212-4830
FAX: 703-212-4832
WEB: www.rotondo-es.com

DRAWN BY: FRJ
CHECKED BY: JAR
DATE: 10/25/2012
SCALE: NTS
JOB NO.:
PROJECT: **RES StormPod Cistern**
Century Engineering
Howard County, MD
CUSTOMER:
DWG. NO.:
REV.:

30 15 0 30 60
SCALE: 1" = 30'

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 NUMBER: 10981 EXPIRATION DATE: 8 28 17

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/8/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — JOHN W. RANDOLPH — No. 10981 — PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

STORMWATER MANAGEMENT DETAILS
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 23 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: As Shown

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\28141.02(SWM-03)SWM Details.dwg Jan 11, 2013 3:36pm cdoiron

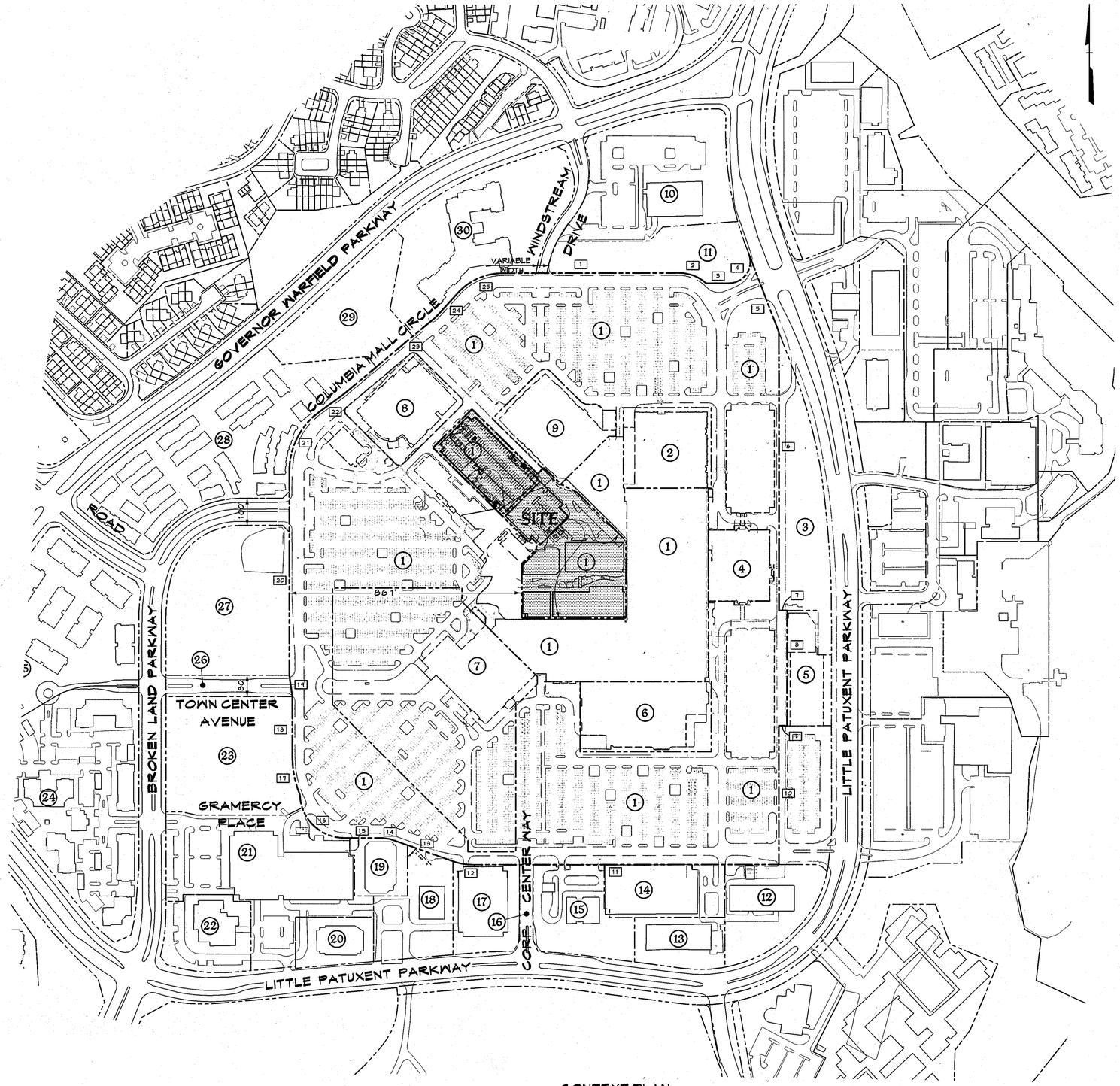
BOUNDARY INFORMATION

1	DUE EAST 651.71'	14	R=203.11 L=49.22'
2	R=154.00' L=112.05'	15	DUE WEST 145.00'
3	DUE EAST 840.1'	16	R=165.00' L=235.60'
4	R=50.00' L=154.73'	17	R=360.00' L=145.02'
5	S 20° 48' 59" E 311.34'	18	DUE NORTH 224.53'
6	DUE SOUTH 850.41'	19	N 01° 41' 49" W 60.15'
7	DUE EAST 142.00'	20	R=1010.00' L=52.00'
8	DUE SOUTH 30.00'	21	S 20° 10' 47" E 1.38.04'
9	DUE WEST 30.16'	22	N 54° 08' 51" E 104.80'
10	DUE SOUTH 516.03'	23	N 50° 00' 00" E 450.25'
11	DUE WEST 1366.65'	24	N 43° 20' 03" E 124.45'
12	R=202.49' L=84.26'	25	R=233.69' L=186.04'
13	N 70° 24' 04" W 233.11'		

BOUNDARY INFORMATION SHOWN ON THIS PLAN IS FROM A ALTA/ACSM LAND TITLE SURVEY OF PORTIONS OF THE COLUMBIA TOWN CENTER, DATED SEPTEMBER 21, 2001.

EXAMPLE: 13 - N 70° 24' 04" W 233.11'
(SEE CHART ABOVE AND MAP)

200 100 50 0 200 400
SCALE: 1" = 200'



CONTEXT PLAN

Scale: 1"=200'

LOT/PARCEL TABLE

1. MALL IN COLUMBIA BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 47 PARCEL 460, PLAT No. 18607 MALL RETAIL & PARKING LOTS
2. CM H BUSINESS TRUST C/O THE MAY CO. - MACY'S INC. COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 11 PLAT No. 18, PAGE 39 PARCEL 460, RETAIL
3. LOT 48 BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 48 PLAT No. 4355, PARCEL 460 UN-DEVELOPED
4. LT PROPCO, LLC COLUMBIA TOWN CENTER SECTION 2 LOT 43, PARCEL 460 PLAT No. 13141, RETAIL
5. FP PATUXENT PKWY, LLC COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 9 PARCEL 322, OFFICE
6. JC. PENNY COMPANY, INC. COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 10 PLAT No. 18 PAGE 39 PARCEL 322, RETAIL
7. SEARS ROEBUCK & CO COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 22 PLAT No. 4448, PARCEL 322 RETAIL
8. CM THEATER BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 45 PLAT No. 15404, PARCEL 460 CINEMA
9. CM N BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 44 PLAT No. 13142, PARCEL 460 RETAIL
10. ONE MALL, LLC COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT A-3 PARCEL 304, PLAT No. 13780 COMMERCIAL
11. COLUMBIA LAND HOLDINGS, INC. COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 39 PLAT No. 18609 UN-DEVELOPED
12. PARCEL A-2 COLUMBIA TOWN CENTER SECTION 2, AREA 4 PLAT No. 4542, PARCEL 463 RESTAURANT/OFFICE
13. 20 CC BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 4 PARCEL A-4, OFFICE
14. CMI CORPORATE PARKING BUSINESS TRUST, PARCEL A-6 PARCEL 463, PARKING DECK
15. 30 CCC BUSINESS TRUST C/O PROPERTY TAX DEPT. COLUMBIA TOWN CENTER SECTION 2, AREA 4, PARCEL A-7 PARCEL 463, OFFICE
16. COLUMBIA TOWN CENTER SECTION 2, AREA 2 ENTRANCE DRIVE
17. CMI CORPORATE PARKING BUSINESS TRUST COLUMBIA TOWN CENTER PARCEL A, PLAT BOOK 6321 PARCEL 490, PARKING DECK
18. PARKVIEW OFFICE, LP COLUMBIA TOWN CENTER SECTION 2, AREA 5, PARCEL B PLAT 1414/529, PARCEL 490 OFFICE
19. PARK SQUARE LIMITED PARTNERSHIP COLUMBIA TOWN CENTER SECTION 2, AREA 5 PARCEL C-4 C/O PROPERTY TAX DEPARTMENT PLAT 4423/286 OFFICE
20. PARKSIDE LIMITED PARTNERSHIP COLUMBIA TOWN CENTER SECTION 2, AREA 5 PARCEL C-1 PLAT No. 5577 OFFICE
21. CMI CORPORATE PARKING BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 1, PARCEL E PLAT 1853/346, PARCEL 382 PARKING DECK
22. SEVENTY COLUMBIA CORPORATE CENTER, LP COLUMBIA TOWN CENTER SECTION 2, AREA 6 PARCEL B, PLAT No. 4512 PARCEL 504, OFFICE
23. PARCEL D BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 8 PARCEL D, UN-DEVELOPED
24. COLUMBIA TOWN CENTER, LLC COLUMBIA TOWN CENTER SECTION 2, AREA 9 PARCEL A, PLAT No. 17431 PARCEL 514, RESIDENTIAL
25. THE WHITNEY & TOWN CENTER CONDOMINIUM COLUMBIA TOWN CENTER SECTION 2, AREA 9 PARCEL B, PLAT No. 12669 PARCEL 514 (PH.7&8) RESIDENTIAL
26. MALL ENTRANCES BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 1, LOT 40 PLAT No. 12495 ENTRANCE DRIVE
27. PARCEL C BUSINESS TRUST COLUMBIA TOWN CENTER SECTION 2, AREA 8 PARCEL C UN-DEVELOPED
28. GOVERNOR'S GRANT CONDOMINIUM COLUMBIA TOWN CENTER SECTION 2, AREA 8 PARCEL B, PLAT No. 14634 SINGLE FAMILY ATTACHED PARCEL 514, RESIDENTIAL
29. HOWARD RESEARCH & DEVELOPMENT CORP. COLUMBIA TOWN CENTER SECTION 2, AREA 8 LOT 1 PLAT No. 14021 OPEN SPACE
30. THE EVERGREEN'S AT COLUMBIA TOWN CENTER, LLC COLUMBIA TOWN CENTER SECTION 2, AREA 8, PARCEL A PLAT No. 14021, PARCEL 382 (LOT A) RESIDENTIAL

NOTE: ALL PROPERTIES ARE ZONED NT (NEW TOWN) - EMPLOYMENT CENTER COMMERCIAL.

LEGEND

- SITE LIMITS / LIMIT OF SUBMISSION
- (5) ADJACENT LOT/PARCEL
- 8 PROPERTY BOUNDARY
- PROPOSED BUILDING
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER

"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. 10571, Expiration Date 8-28-13"

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND JOHN M. JAMBOROSKI No. 10571 REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

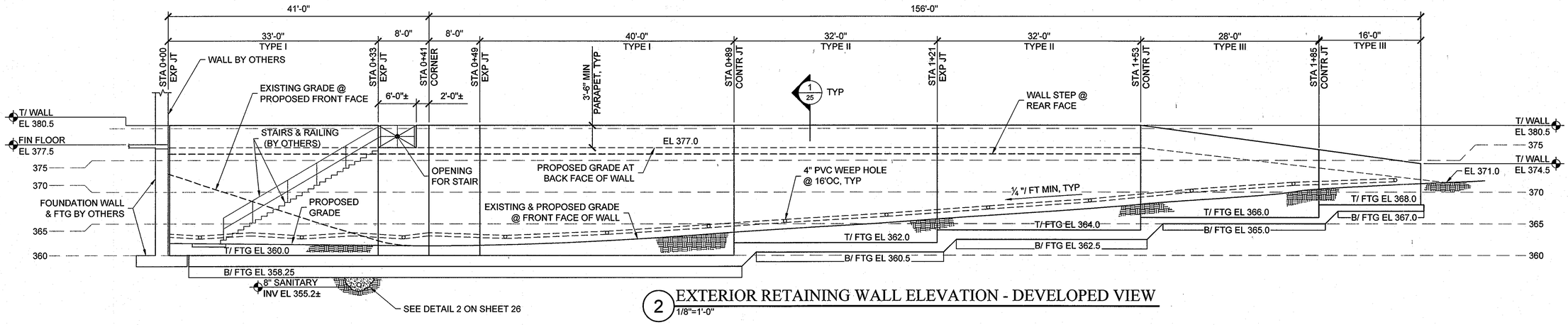
PROPERTY INFORMATION
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 24 OF 55

C.E.I. PROJECT NUMBER 28141.02

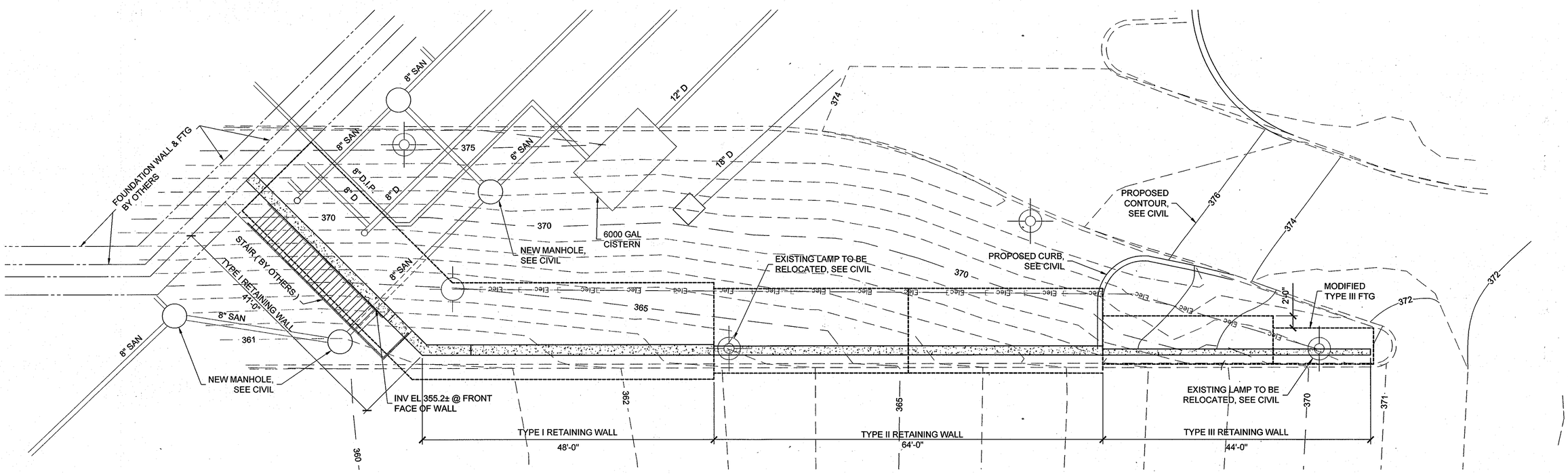
SCALE:

SDP-13-016

S:\2028\Facilities\28141.02 Columbia Mall\CIVIL\CADD\Drawings\SDP\Phase 1\28141.02 (SDP-06 Dev) Property Information.dwg Jan 11, 2013 3:38pm cdolron



2 EXTERIOR RETAINING WALL ELEVATION - DEVELOPED VIEW
1/8"=1'-0"



1 EXTERIOR RETAINING WALL PLAN
1/8"=1'-0"

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 NUMBER: 22443 EXPIRATION DATE: 8/23/2013

GRAPHIC SCALE
0 4 8 16 FEET 24
SCALE: 1/8" = 1'-0"

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND MATTHEW EUGENE FEE 22443 PROFESSIONAL ENGINEER

DESIGN BY: M.E.P.
DRAWN BY: D.W.F.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EXTERIOR RETAINING WALL PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 25 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: AS NOTED

SDP-13-016

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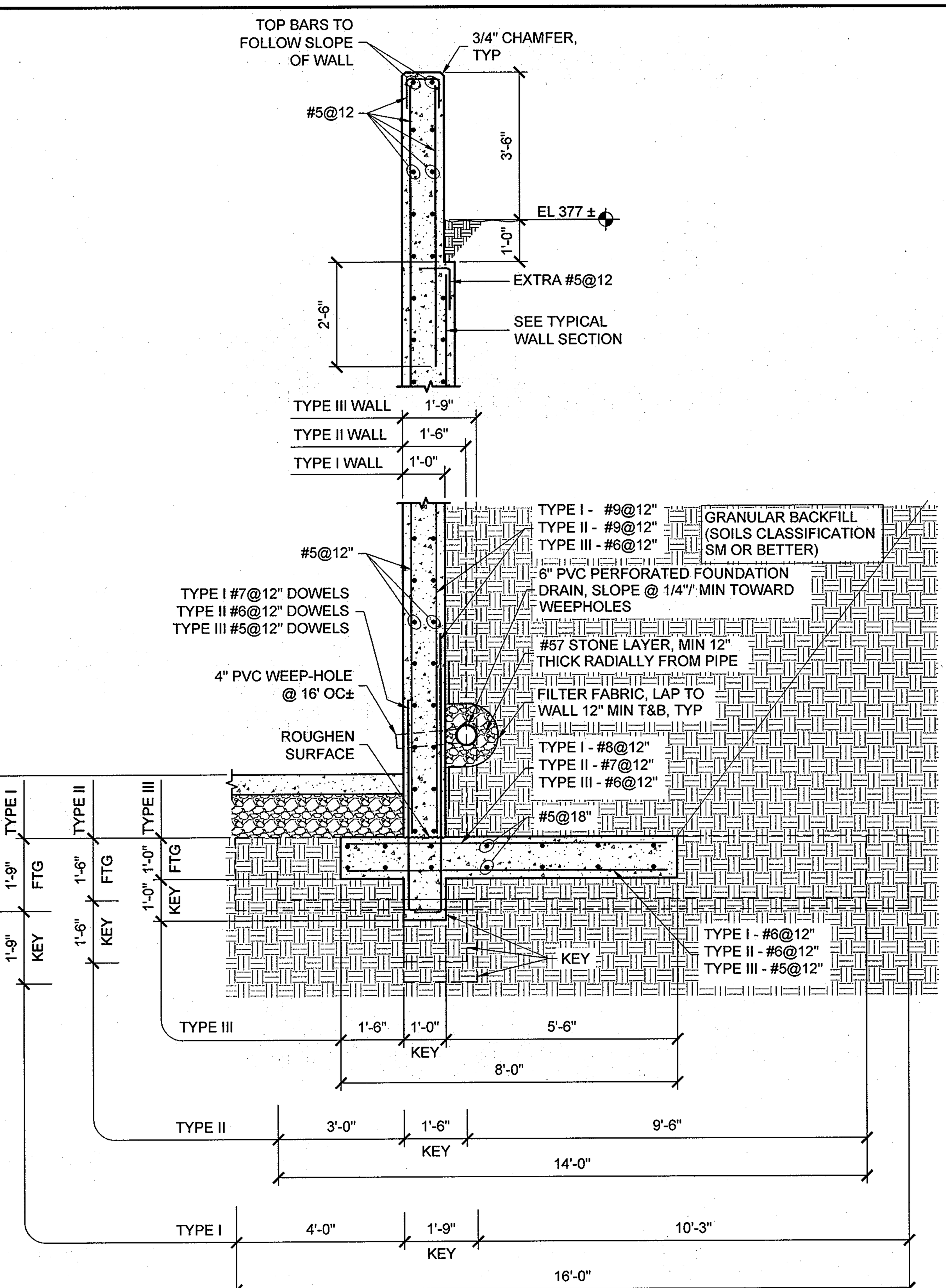
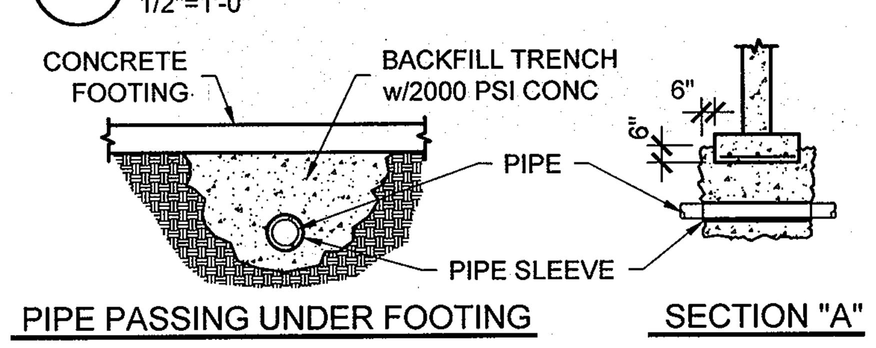


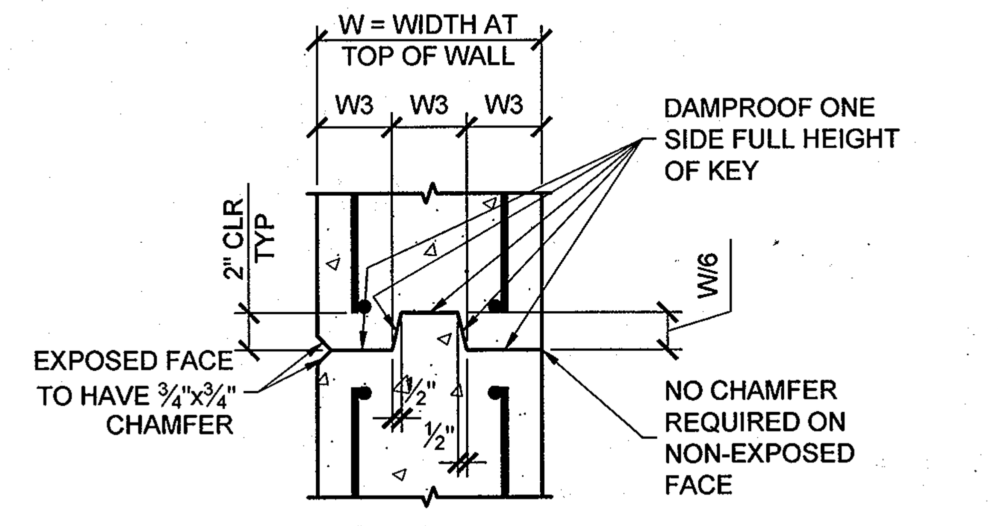
1 TYPICAL WALL SECTION

1/2"=1'-0"



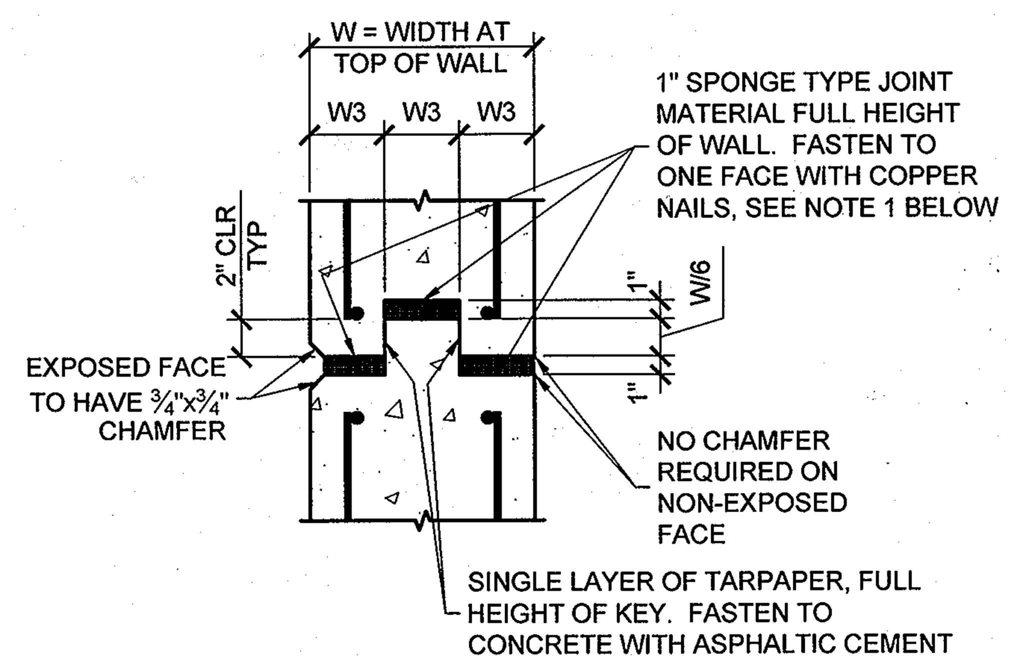
2 TYPICAL FOOTING AT PIPES

3/4"=1'-0"



STEM CONTRACTION JOINT

SECTION



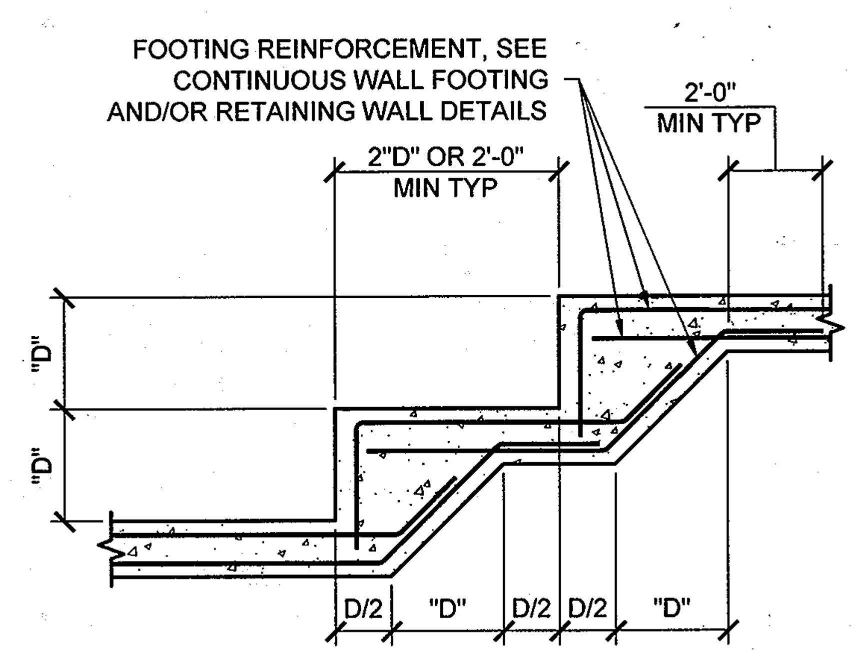
STEM EXPANSION JOINT

SECTION

NOTES:
1. JOINT LOCATIONS SHALL BE AS SHOWN ON CONTRACT DRAWING. IF NO LOCATIONS ARE GIVEN CONCRETE RETAINING WALLS SHALL HAVE CONTRACTION JOINTS A MAXIMUM OF EVERY 30'-0", AND EXPANSION JOINTS, WITH 1" SPONGE TYPE MATERIAL A MAXIMUM OF EVERY 90'-0".
2. STOP KEY 9" BELOW TOP OF WALL.
3. REINFORCING STEEL SHALL NOT PASS THROUGH CONTRACTION OR EXPANSION JOINT.
4. ALL KEYS ARE NOMINAL SIZE.
5. ONLY PLACE CONTRACTION AND EXPANSION JOINTS IN STEMS (NO JOINT IN FOOTING).

3 CONTRACTION AND EXPANSION JOINT DETAILS

1 1/2"=1'-0"



NOTE: "D" = 2'-0" MAXIMUM STEP

4 TYPICAL FOOTING STEP

3/4"=1'-0"

GENERAL NOTES

DESIGN CRITERIA

1. THE DESIGN OF THE STRUCTURE IS IN ACCORDANCE WITH IBC 2009.
2. DESIGN LIVE LOADS:
   A. 2' LIVE LOAD SURCHARGE
   B. WIND DESIGN DATA: VEHICULAR IMPACT CONTROLS
   C. EARTHQUAKE DESIGN DATA: SEISMIC DESIGN CATEGORY B. NO ADDITIONAL SEISMIC REQUIREMENTS.
   D. HANDRAILS: 50 PLF OF 200 LB CONCENTRATED LOAD APPLIES IN ANY DIRECTION AT TOP PER 1607.7
   E. GUARDS: 50 PLF OF 200 LB CONCENTRATED LOAD APPLIES IN ANY DIRECTION AT TOP PER 1607.7
   F. VEHICULAR BARRIER SYSTEMS: 6000 LB CONCENTRATED LOAD APPLIED HORIZONTALLY IN ANY DIRECTION PER 1607.7

MISCELLANEOUS

1. CONTRACTOR SHALL VERIFY CONDITIONS IN THE FIELD AND IMMEDIATELY NOTIFY ENGINEER OR ARCHITECT OF ANY CONDITIONS NOT AS SHOWN. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS REQUIRED.
2. CONTRACTOR SHALL COORDINATE DETAILING, FABRICATION AND ERECTION WITH ALL RELATED TRADES PRIOR TO SUBMITTING SHOP DRAWINGS FOR APPROVAL. ALL SHOP DRAWINGS USED FOR WORK SHALL BEAR THE STAMP OF THE ARCHITECT/ENGINEER. NO SHOP DRAWINGS SHALL BE USED WHICH ARE MARKED "REVISE AND RESUBMIT", "REJECTED", "RETURNED FOR CORRECTION", OR WORDS TO THAT EFFECT.
3. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL, MECHANICAL, AND CIVIL REQUIREMENTS. DISCREPANCIES AND/OR INTERFERENCES SHALL BE REPORTED TO THE ARCHITECT.
4. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS OR UPON WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
5. THE DESIGN LIVE LOADS SHALL NOT BE EXCEEDED DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SHORING AND/OR BRACING DURING CONSTRUCTION TO ACCOUNT FOR ALL LOADING, INCLUDING BUT NOT LIMITED TO GRAVITY, WIND, EARTHQUAKE, EARTH AND CONSTRUCTION LOADING. BRACING MEMBERS SHOWN ARE THOSE REQUIRED FOR THE FINISHED STRUCTURE AND MAY NOT BE ADEQUATE FOR CONSTRUCTION LOADS.

DEMOLITION NOTES

1. REMOVE EXISTING CONSTRUCTION AS SHOWN ON PLANS. SEE SECTIONS AND DETAILS FOR EXTENT OF STRUCTURE TO BE REMOVED. EXISTING STRUCTURAL STEEL FRAMING SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.
2. CONCRETE ENCASEMENT AROUND REMAINING STEEL WILL REMAIN, UNLESS NOTED OTHERWISE.
3. IF FIELD CONDITIONS DIFFER FROM THOSE SHOWN ON DRAWINGS, NOTIFY STRUCTURAL ENGINEER BEFORE PROCEEDING WITH DEMOLITION.

EXISTING CONSTRUCTION

1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS ARE OBTAINED FROM AVAILABLE SOURCES, AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. THE CONTRACTOR SHALL VERIFY THESE DIMENSIONS AND ELEVATIONS BY ACTUAL FIELD MEASUREMENTS PRIOR TO FABRICATION OF ANY MATERIALS AFFECTED AND PRIOR TO START OF WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER.

FOUNDATIONS

1. THE FOUNDATION DESIGN IS BASED ON SOILS REPORT BY CENTURY ENGINEERING INC. DATED JANUARY 5, 2011.
3. SHALLOW FOUNDATIONS SHALL BE SPREAD AND/OR CONTINUOUS FOOTINGS. THE FOLLOWING PROPERTIES ARE GIVEN IN THE REPORT:
   A. BEARING STRATUM IS UNDISTURBED SILTY SAND.
   B. MINIMUM SAFE BEARING CAPACITY = 2,500 PSF.
   C. ACTIVE PRESSURE = 45 PCF EQUIVALENT FLUID PRESSURE.
   D. PASSIVE PRESSURE = 315 PCF EQUIVALENT FLUID PRESSURE.
   E. SLIDING FRICTION COEFFICIENT = 0.35
4. ALL EXISTING FILL MATERIALS, CONSISTING OF GRAVEL, BRICK FRAGMENTS, CONCRETE CHIPS, WOOD CHIPS, AND DEMOLITION DEBRIS SHALL BE REMOVED IN THE REGIONS OF ALL FOUNDATIONS.
5. THE TESTING AND INSPECTION AGENCY SHALL VERIFY SOIL BEARING CAPACITY AT EACH FOOTING PRIOR TO INSTALLATION OF FOOTING. NOTIFY ENGINEER OF ANY VARIATION FROM ANTICIPATED BEARING CAPACITY FOR APPROPRIATE REDESIGN OR LOWERING OF FOOTING.
6. THE BOTTOMS OF ALL FOOTINGS SHALL BE 2'-6" MINIMUM BELOW FINISHED GRADE UNLESS ROCK OF SPECIFIED BEARING CAPACITY IS ENCOUNTERED AT A HIGHER ELEVATION, IN WHICH CASE FOOTING MAY BE RAISED IF APPROVED BY THE ENGINEER.
7. EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 (VERTICAL) TO 2 (HORIZONTAL) SLOPE WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION, WITHOUT UNDERPINNING, SHORING OR BRACING.
8. ALL ADJACENT FOOTINGS THAT ABUT SHALL BE SEPARATED BY A PAPER JOINT TO PREVENT BOND.
9. BACKFILLING AGAINST WALLS SHALL NOT BE DONE UNTIL CONCRETE HAS BEEN CURED TO ATTAIN SUFFICIENT STRENGTH (7 DAYS MINIMUM).
10. THE CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS, AND ADJACENT STRUCTURES, PAVEMENTS, AND UTILITIES. ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, MAINTENANCE, AND REMOVAL OF ALL SHORING, BRACING, AND DEWATERING REQUIRED TO PROPERLY CONSTRUCT THE FOUNDATIONS AND TO PROTECT ADJACENT STRUCTURES, PAVEMENTS AND UTILITIES. DO NOT REMOVE SHORING SUCH AS SHEET PILING IF IT WILL CAUSE SETTLEMENT OR DAMAGE TO EXISTING OR NEW STRUCTURES, PAVEMENT, AND/OR UTILITIES.
11. MAXIMUM LENGTH OF FOUNDATION WALL OR GRADE BEAM PLACED IN ONE OPERATION SHALL NOT EXCEED 60 FEET.
12. THE CONTRACTOR SHALL REFER TO THE CIVIL, ARCHITECTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS OF TRENCHES, PITS, CONDUITS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.

CONCRETE

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301 - "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318 - "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
2. CONCRETE DESIGN MIXES:

CONCRETE DESIGN MIXES

MIX NO	LOCATION	TYPE[b]	STRENGTH[a] (PSI)	MAX W/C RATIO (BY WT.)	MIN. CEMENT (LBS/CY.)	AIR ENTRAINMENT (%)	ADDITIONAL REQUIREMENTS
3	FOOTINGS	N.WT.	3500	0.50	580	5-8	(MD SHA MIX NO. 3)
3	WALLS	N.WT.	4000	0.45	615	5-8	(MD SHA MIX NO. 6)

[a] DESIGN COMPRESSIVE STRENGTH AT 28 DAYS.

[b] N. WT = NORMAL WEIGHT CONCRETE

[c] ALL CONCRETE SHALL CONTAIN A WATER-REDUCING ADMIXTURE.

[d] CALCIUM CHLORIDE IS PROHIBITED.

3. NO CONCRETE SHALL BE PLACED UNTIL CONCRETE DESIGN MIXES HAVE BEEN SUBMITTED FOR EACH CLASS OF CONCRETE NOTED ABOVE AND HAVE BEEN APPROVED BY THE ENGINEER. CONCRETE USED IN THE STRUCTURE SHALL CONFORM TO THE APPROVED DESIGN MIX. THE USE OF ANY ADDITIVES NOT IN THE APPROVED DESIGN MIX IS PROHIBITED.
4. REPRESENTATIVE TEST CYLINDERS WILL BE TAKEN FROM THE CONCRETE PLACED EACH DAY IN ACCORDANCE WITH SPECIFICATIONS.
5. REINFORCING STEEL SHALL BE DEFORMED BARS OF NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60.
6. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
7. CONCRETE COVER OVER REINFORCING SHALL BE 3" FOR FOOTINGS AND OTHER STRUCTURAL CONCRETE DEPOSITED AGAINST GROUND, 2" FOR CONCRETE PERMANENTLY EXPOSED TO EARTH OR WEATHER.
8. ALL STRUCTURAL MEMBERS SHALL BE POURED FOR THEIR FULL DEPTHS IN ONE OPERATION. NO HORIZONTAL JOINTS SHALL BE PLACED IN WALLS EXCEPT AS SHOWN ON THE DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.
9. NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SUBGRADE.
10. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER, UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER IN WRITING.
11. PROVIDE BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH CRSI MANUAL OF STANDARD PRACTICE AND PROJECT SPECIFICATIONS.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

1. AN APPROVED INDEPENDENT TESTING AND INSPECTION AGENCY SHALL INSPECT, MONITOR AND/OR TEST THE FOLLOWING: THE TESTING AND INSPECTION AGENCY WILL BE PAID BY THE OWNER. REPORTS OF INSPECTIONS SHALL BE SUBMITTED TO THE ARCHITECT AND BUILDING OFFICIAL.
2. SOILS
   A. FILL AND/OR BACKFILL PLACEMENT AND COMPACTION, INCLUDING TESTING OF IN-PLACE DENSITY.
   B. VERIFICATION OF SOIL BEARING CAPACITY FOR FOOTINGS AND FOUNDATIONS.
3. CONCRETE CONSTRUCTION
   A. MONITOR, INSPECT AND TEST IN ACCORDANCE WITH TABLE 1704.4 OF IBC.
   B. INSPECT REINFORCING STEEL.
   C. SAMPLING AND TESTING OF CONCRETE MATERIALS.
   D. INSPECTION OF CONCRETE PLACEMENT.
   E. VERIFICATION OF CURING TEMPERATURES AND CURING METHODS.

SUBMITTALS

SUBMIT THE FOLLOWING [IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS]:

7. EARTHWORK
   A. SUBMIT LABORATORY TESTS FROM QUALIFIED SOILS TESTING LABORATORY FOR SOIL CLASSIFICATION AND MOISTURE-DENSITY RELATIONSHIP FOR PROPOSED ON-SITE AND/OR BORROW MATERIAL TO BE USED AS FILL/BACKFILL.
8. CAST-IN-PLACE CONCRETE
   A. CONCRETE DESIGN MIXES WITH SUPPORTING TEST DATA.
   B. SHOP DRAWINGS: FABRICATION AND PLACING DRAWINGS FOR REINFORCING STEEL AND SUPPORTS FOR REINFORCING.
   C. PRODUCT DATA FOR ADMIXTURES, AND CONCRETE ACCESSORIES.
   D. MATERIAL TEST REPORTS FOR AGGREGATES.
   E. MATERIAL CERTIFICATES FOR CEMENTITIOUS MATERIALS, ADMIXTURES, JOINT FILLERS, AND REPAIR MATERIALS.

GRAPHIC SCALES

0 1 2 4 FEET 6

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

0 3" 6" 1 FEET 2

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

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 NUMBER: 22443 EXPIRATION DATE: 8/23/2013

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature	Date
Chief, Development Engineering Division	1/31/13
Chief, Division of Land Development	4-09-13
Director	4/11/13

CENTURY ENGINEERING

CONSULTING ENGINEERS - PLANNERS

10710 Gilroy Road, Hunt Valley, MD 21031

Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND · MATTHEW EUGENE PEARCE · 22443 · PROFESSIONAL ENGINEER

DESIGN BY: M.E.P.

DRAWN BY: D.W.F.

CHECKED BY:

DATE:

BY	NO.	REVISION	DATE

DEVELOPER

GENERAL GROWTH PROPERTIES

10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EXTERIOR RETAINING WALL DETAILS

THE MALL IN COLUMBIA

COLUMBIA TOWN CENTER

TAX MAP: 30, 36 LOT: 47 PARCEL: 460

ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND

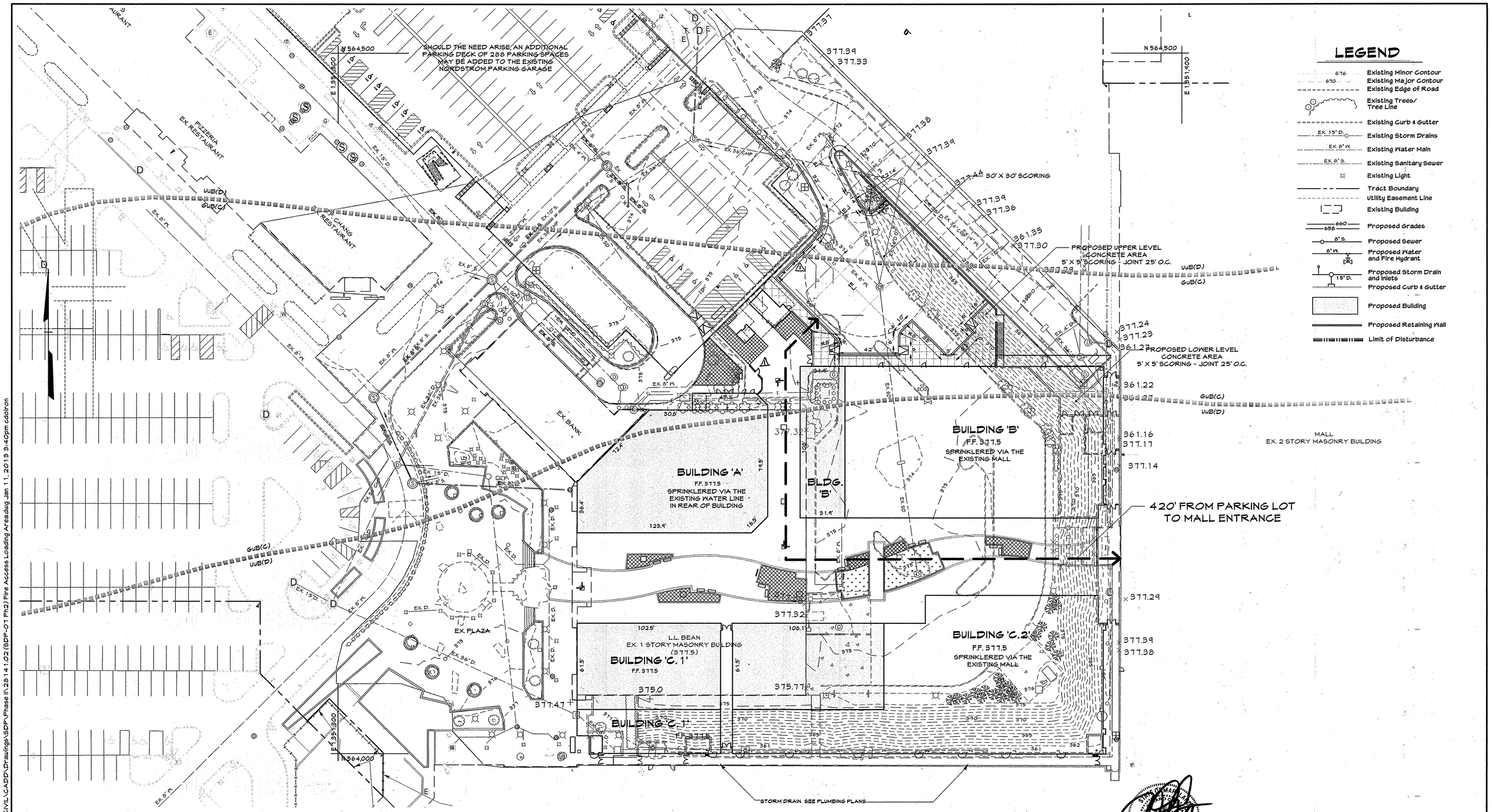
SHEET 26 OF ~~49~~ 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: AS NOTED

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\STRUCTURES\CADD\28141 S-2.dwg Nov 09, 2012 11:14am mott



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 NUMBER: 10551 EXPIRATION DATE: 8-28-13

⚠ 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. 27020
EXPIRATION DATE: JANUARY 25, 2016

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13
Chief, Division of Land Development — Date 4-09-13
Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE: 1/14/13

BY	NO.	REVISION	DATE
DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

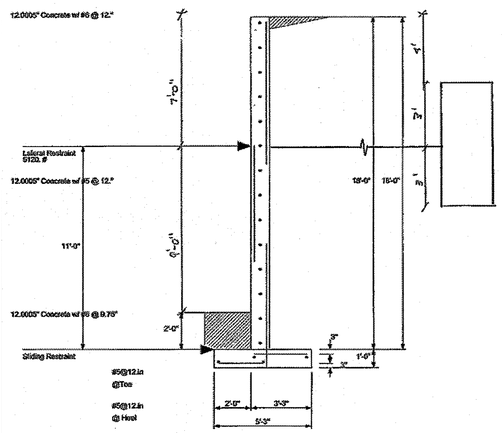
FIRE ACCESS & LOADING AREA PAVING PLAN
THE MALL IN COLUMBIA
BUILDING EXPANSION
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 GRID: 19, 20, 1, 2 ZONED: NT PARCEL: 460 F-04-045
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 27 OF 55

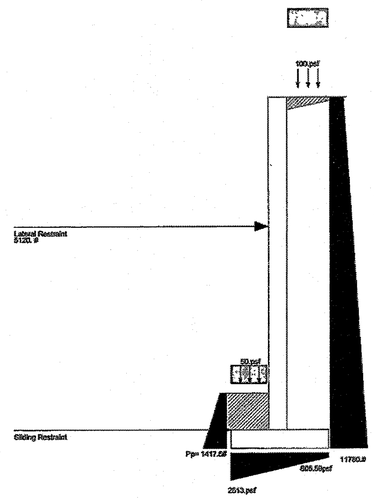
C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=30'

SDP-13-016

S:\2008\Facilities\28141.00 Columbia Mall\CIVIL\CADD\Drawings\SDP\Phase II\28141.02 (SDP-07 Ph2) Fire Access Loading Area.dwg Jan 11, 2013 3:40pm cdolron

FINAL DESIGN





Title :
Job #
Degnr:
Date: 4:19PM, 20 AUG 12
Description :
Scope :

Code Ref: ACI 318-02, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Rev: 2002G08
Licensee: CENTURY ENGINEERING, Ver 5.6.0, 4-Dec-2002,
KP06-0307-EMERSON-LD Engineering Software

Restrained Retaining Wall Design — Page 1 — retaining walls not adjacent

Description Final Condition - tieback at 11ft

Criteria

Retained Height	=	18.00 ft
Wall height above soil	=	0.00 ft
Total Wall Height	=	18.00 ft
Top Support Height	=	11.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	24.00 in
Soil Density	=	120.00 pcf
Wind on Stem	=	0.0 psf

Surcharge Loads

Surcharge Over Heel	=	100.0 psf
>>>NOT Used To Resist Sliding & Overturn		
Surcharge Over Toe	=	50.0 psf
NOT Used for Sliding & Overturning		

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Soil Data

Allow Soil Bearing	=	2,500.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	60.0
Toe Active Pressure	=	0.0
Passive Pressure	=	315.0
Footing/Soil Friction	=	0.303
Soil height to ignore for passive pressure	=	0.00 in

Uniform Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft

Footing Strengths & Dimensions

fc =	3,000 psi	Fy =	60,000 psi	
Min. As %		=	0.0014	
Toe Width		=	2.00 ft	
Heel Width		=	3.25	
Total Footing Width		=	5.25	
Footing Thickness		=	12.00 in	
Key Width		=	0.00 in	
Key Depth		=	0.00 in	
Key Distance from Toe		=	0.00 ft	
Cover @ Top = 3.00 in	@ Btm.=		3.00 in	

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line
Base Above/Below Soil at Back of Wall	=	0.0 ft

Design Summary

Total Bearing Load	=	8,711 lbs
...resultant ecc.	=	5.40 in
Soil Pressure @ Toe	=	2,513 psf NG
Soil Pressure @ Heel	=	503 psf OK
Allowable	=	2,500 psf
Soil Pressure Exceeds Allowable!		
ACI Factored @ Toe	=	3,619 psf
ACI Factored @ Heel	=	1,128 psf
Footing Shear @ Toe	=	33.0 psi OK
Footing Shear @ Heel	=	75.1 psi OK
Allowable	=	83.1 psi
Reaction at Top	=	5,119.5 lbs
Reaction at Bottom	=	6,680.5 lbs

Sliding Calcs Slab Resists All Sliding !
Lateral Sliding Force = 6,680.5 lbs

Concrete Stem Construction

Thickness	=	12.00 in	Fy =	60,000 psi
Wall Weight	=	145.0 pcf	fc =	4,000 psi

Stem is FIXED to top of footing

		@ Top Support	Maxx Between Top & Base	@ Base of Wall
		Stem OK	Stem OK	Stem OK
Design height	=	11.00 ft	5.74 ft	0.00 ft
Rebar Size	=	# 6	# 5	# 8
Rebar Spacing	=	12.00 in	12.00 in	0.75 in
Rebar Placed at	=	Edge	Edge	Edge
Rebar Depth 'd'	=	8.50 in	9.50 in	8.50 in
Design Data				
fb/FB + fa/Fa	=	0.489	0.623	0.870
Mu ...Actual	=	7,913.5 ft-#/ft	8,003.8 ft-#/ft	17,179.2 ft-#/ft
Mn * Phi ....Allowable	=	16,187.5 ft-#/ft	12,933.5 ft-#/ft	19,740.8 ft-#/ft
Shear Force @ this height	=	0.0 lbs		6,350.8 lbs
Shear.....Actual	=	0.00 psi		81.67 psi
Shear.....Allowable	=	107.52 psi		107.52 psi
Rebar Lap Required	=	22.20 in	18.50 in	
Rebar embedment into footing	=			6.00 in

Footing Design Results

		Toe	Heel
Factored Pressure	=	3,619	1,128 psf
Mu' : Upward	=	6,429	0 ft-#/ft
Mu' : Downward	=	1,232	8,540 ft-#/ft
Mu: Design	=	5,197	8,540 ft-#/ft
Actual 1-Way Shear	=	33.03	75.09 psi
Allow 1-Way Shear	=	83.11	83.11 psi

Other Acceptable Sizes & Spacings:
Toe: # 5 @ 12.00 in -or- #4@ 13.25 in, #5@ 20.50 in, #6@ 29.00 in, #7@ 39
Heel: # 5 @ 12.00 in -or- #4@ 8.00 in, #5@ 12.25 in, #6@ 17.50 in, #7@ 23.
Key: No key defined -or- No key defined

Title :
Job #
Degnr:
Date: 4:19PM, 20 AUG 12
Description :
Scope :

Code Ref: ACI 318-02, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Rev: 2002G08
Licensee: CENTURY ENGINEERING, Ver 5.6.0, 1-Oct-2003,
KP06-0307-EMERSON-LD Engineering Software

Restrained Retaining Wall Design — Page 2 — retaining walls are adjacent

Description Final Condition - tieback at 11ft

Summary of Forces on Footing : Slab RESISTS sliding, stem is FIXED at footing

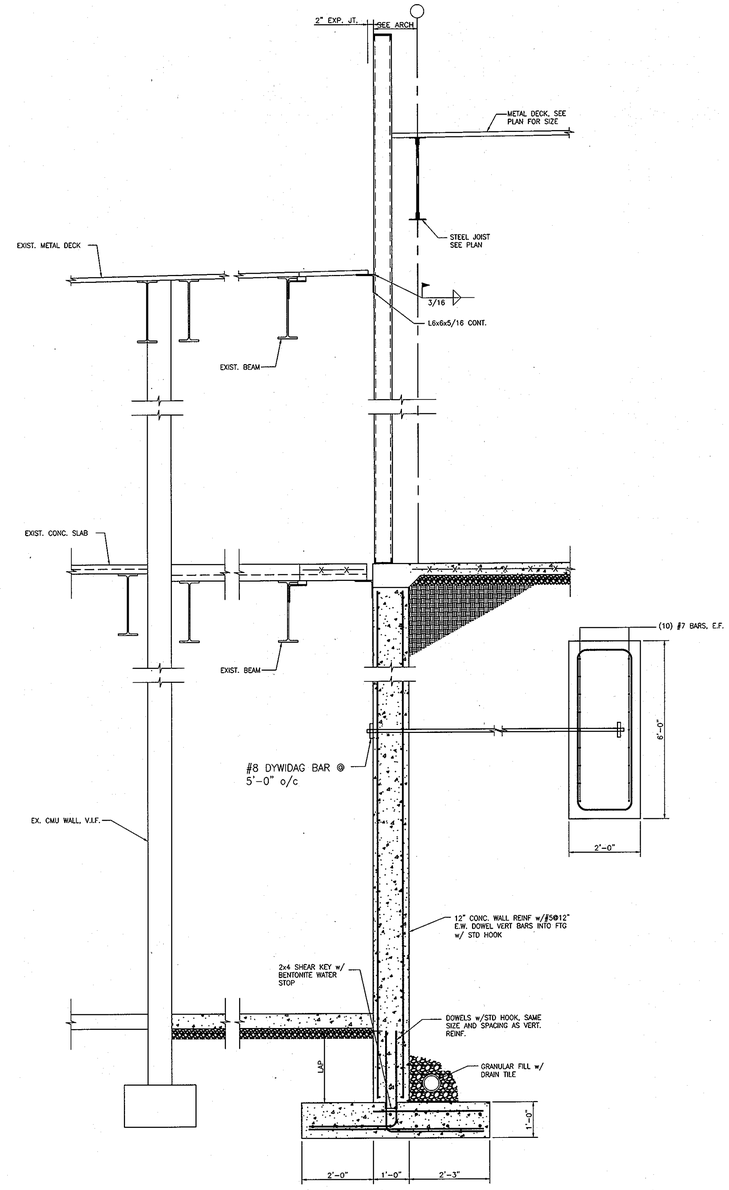
Forces acting on footing for soil pressure >>> Sliding Forces are restrained by the adjacent slab

Load & Moment Summary For Footing : For Soil Pressure Calcs

Moment @ Top of Footing Applied from Stem		=	-10,105.4 ft-#	
Surcharge Over Heel	=	lbs	ft	ft-#
Axial Dead Load on Stem	=	lbs	ft	ft-#
Soil Over Toe	=	480.0 lbs	1.00 ft	480.0 ft-#
Surcharge Over Toe	=	lbs	ft	ft-#
Stem Weight	=	2,610.0 lbs	2.50 ft	6,525.0 ft-#
Soil Over Heel	=	4,850.0 lbs	4.13 ft	20,047.5 ft-#
Footing Weight	=	761.3 lbs	2.63 ft	1,996.3 ft-#
Total Vertical Force	=	8,711.3 lbs	Base Moment =	18,945.4 ft-#

Soil Pressure Resisting Moment = 3,921.2 ft-#

2 RETAINING WALL CALCULATIONS
Scale: NTS



1 SECTION AT RETAINING WALL
Scale: 1/2" = 1'-0"

CARROLL ENGINEERING, INC.
215 Schilling Circle, Suite 102
Hunt Valley, MD 21031
t 410.785.7423

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

STATE OF MARYLAND — MICHAEL BARRY MERSON — No. 11443 — PROFESSIONAL ENGINEER

DESIGN BY:	M.J.P.
DRAWN BY:	M.S.S.
CHECKED BY:	
DATE:	

BY	NO.	REVISION	DATE

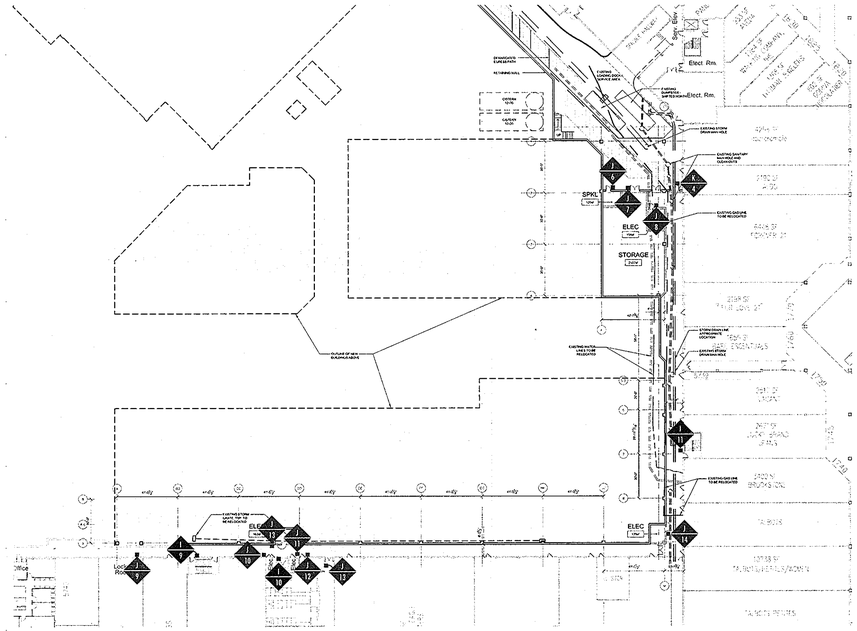
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

STRUCTURAL WALL DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET **28** OF **55**

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP - 13 - 016



WAYFINDING SIGNAGE

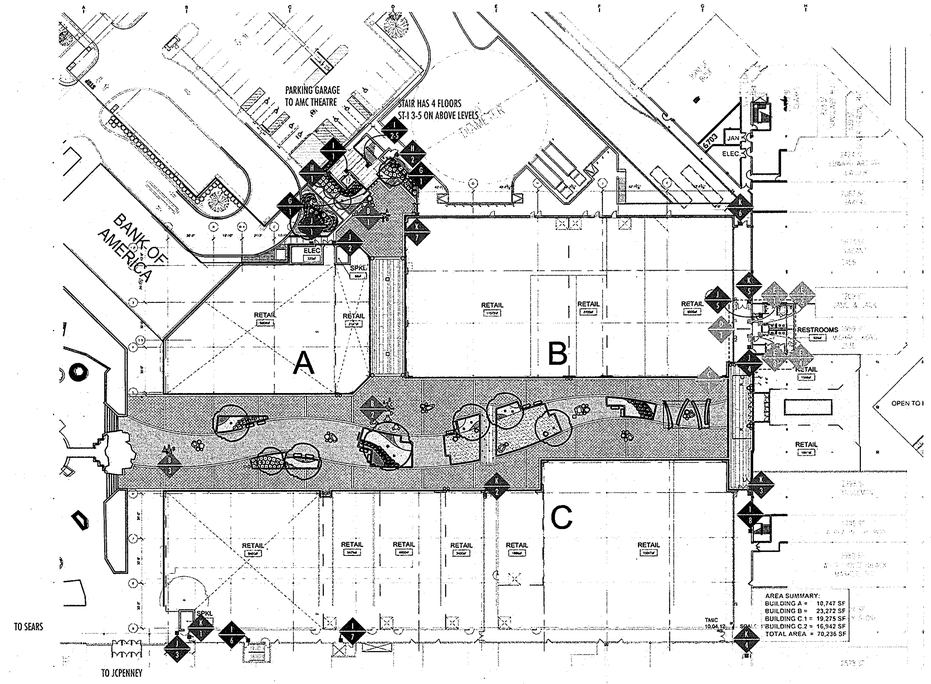
- (A) BUILDING ENTRY ID - NOT USED
- (B) ANCHOR DIRECTIONAL - FREESTANDING
- (C) SERVICE DIRECTIONAL BLADE
- (D) RESTROOM ID BLADE
- (E) ADA RESTROOM PLAQUE
- (F) DIRECTIONAL - WALL MOUNTED - NOT USED
- (G) DECK ELEVATOR/STAIR ID
- (H) DECK LEVEL ID - VESTIBULE
- (I) ADA ELEVATOR/STAIR PLAQUE
- (J) ADA ROOM NAME PLAQUES
- (K) AUTHORIZED PERSONNEL ONLY

DENOTES ELECTRICAL HOOKUP REQUIRED

SIGN TYPE

SIGN NUMBER

1 LEVEL ONE SIGNAGE PLAN



WAYFINDING SIGNAGE

- (A) BUILDING ENTRY ID - NOT USED
- (B) ANCHOR DIRECTIONAL - FREESTANDING
- (C) SERVICE DIRECTIONAL BLADE
- (D) RESTROOM ID BLADE
- (E) ADA RESTROOM PLAQUE
- (F) DIRECTIONAL - WALL MOUNTED - NOT USED
- (G) DECK ELEVATOR/STAIR ID
- (H) DECK LEVEL ID - VESTIBULE
- (I) ADA ELEVATOR/STAIR PLAQUE
- (J) ADA ROOM NAME PLAQUES
- (K) AUTHORIZED PERSONNEL ONLY

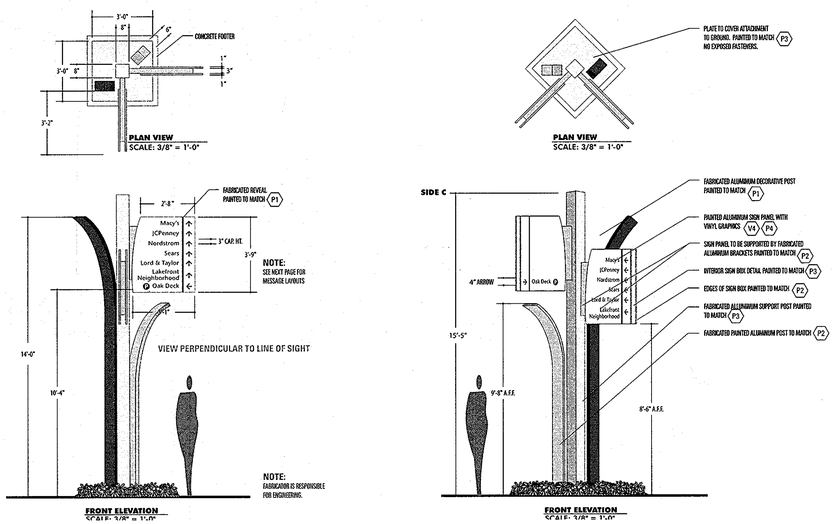
NOTE:
COORDINATE ST-B LOCATIONS WITH ARCHITECT AND LANDSCAPE ARCHITECT

DENOTES ELECTRICAL HOOKUP REQUIRED

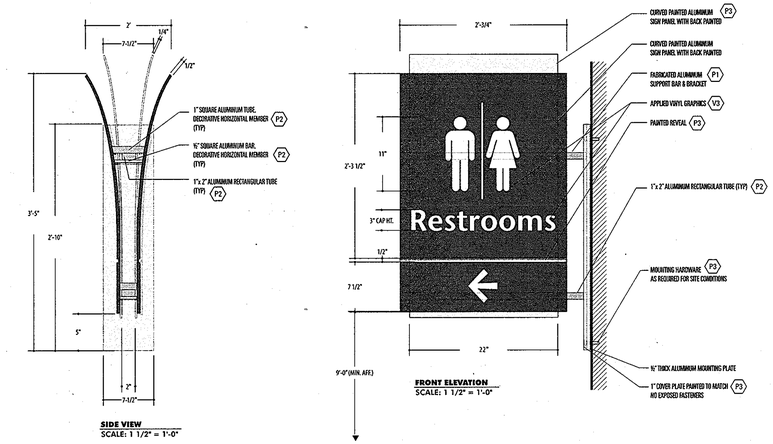
SIGN TYPE

SIGN NUMBER

2 LEVEL TWO SIGNAGE PLAN



3 DIRECTIONAL SIGNAGE



4 RESTROOM SIGNAGE

ARCHITECT 10662 GORDON MICHAEL GOOD STATE OF MARYLAND

The design is in compliance with The Mall in Columbia Neighborhood Design Guidelines- Downtown Columbia.

JP2 ARCHITECTS
2835 O'Donnell Street, Suite 300
Baltimore, MD 21224
t 410.276.7470
f 410.276.7471
www.JP2architects.com

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

DIRECTIONAL SIGNAGE DETAILS

THE MALL IN COLUMBIA

COLUMBIA TOWN CENTER

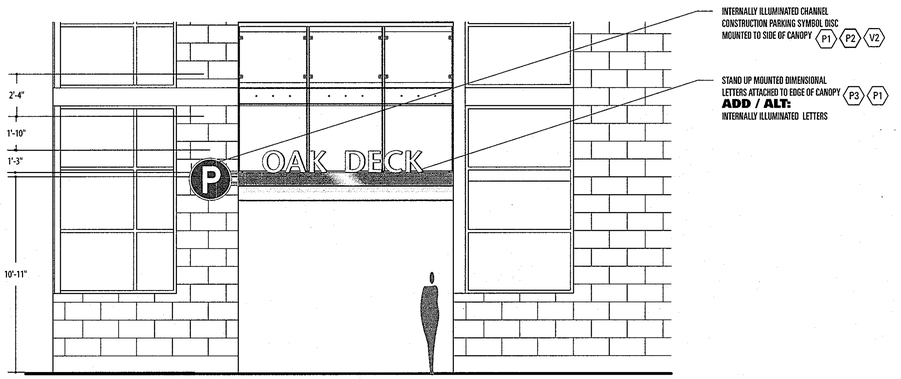
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND

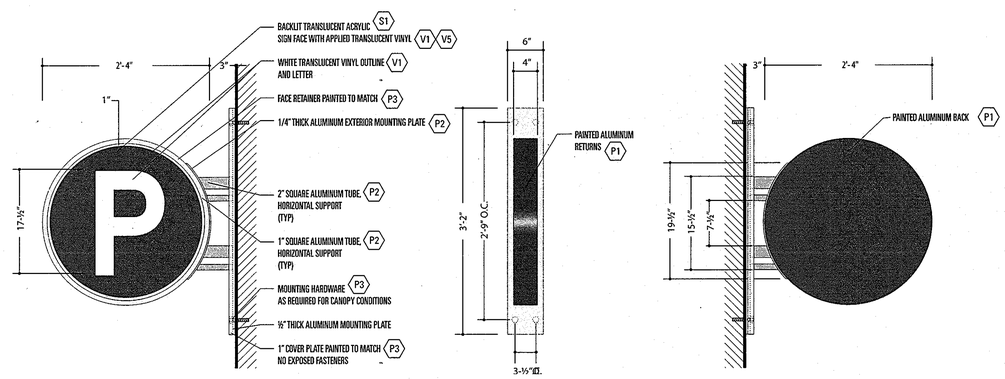
SHEET 29 OF 55

C.E.I. PROJECT NUMBER 28141.02

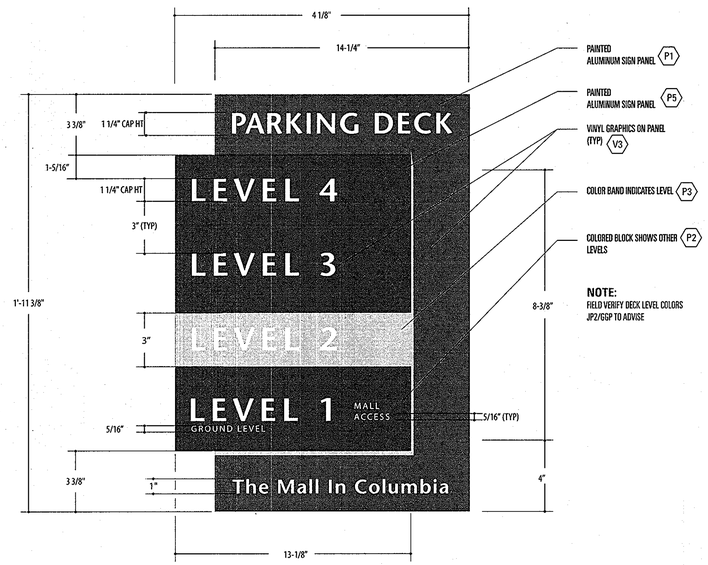
SCALE:

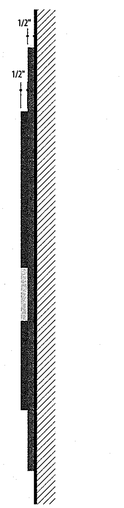
SDP - 13 - 016



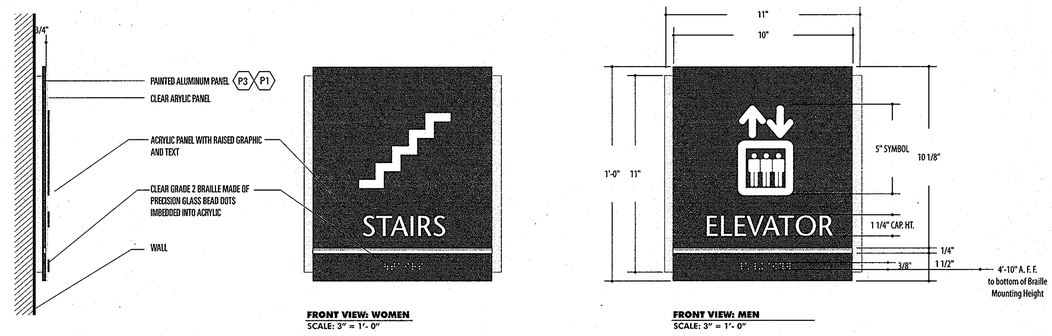


1 GARAGE TOWER SIGNAGE





2 DIRECTIONAL SIGNAGE DETAIL



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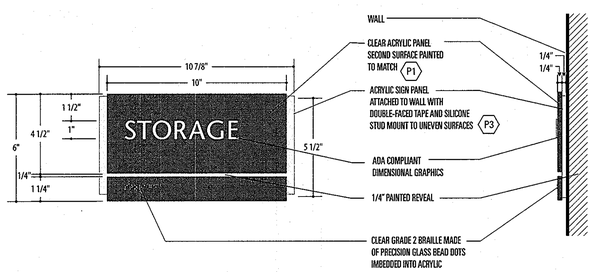
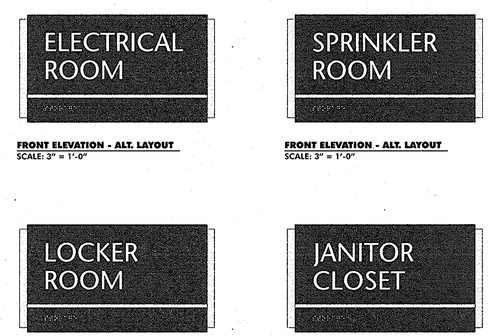


4 ROOM SIGNAGE DETAIL



5 ROOM SIGNAGE DETAIL

The design is in compliance with The Mall in Columbia Neighborhood Design Guidelines- Downtown Columbia.

JP2 ARCHITECTS
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www.JP2architects.com

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/3/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/9/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

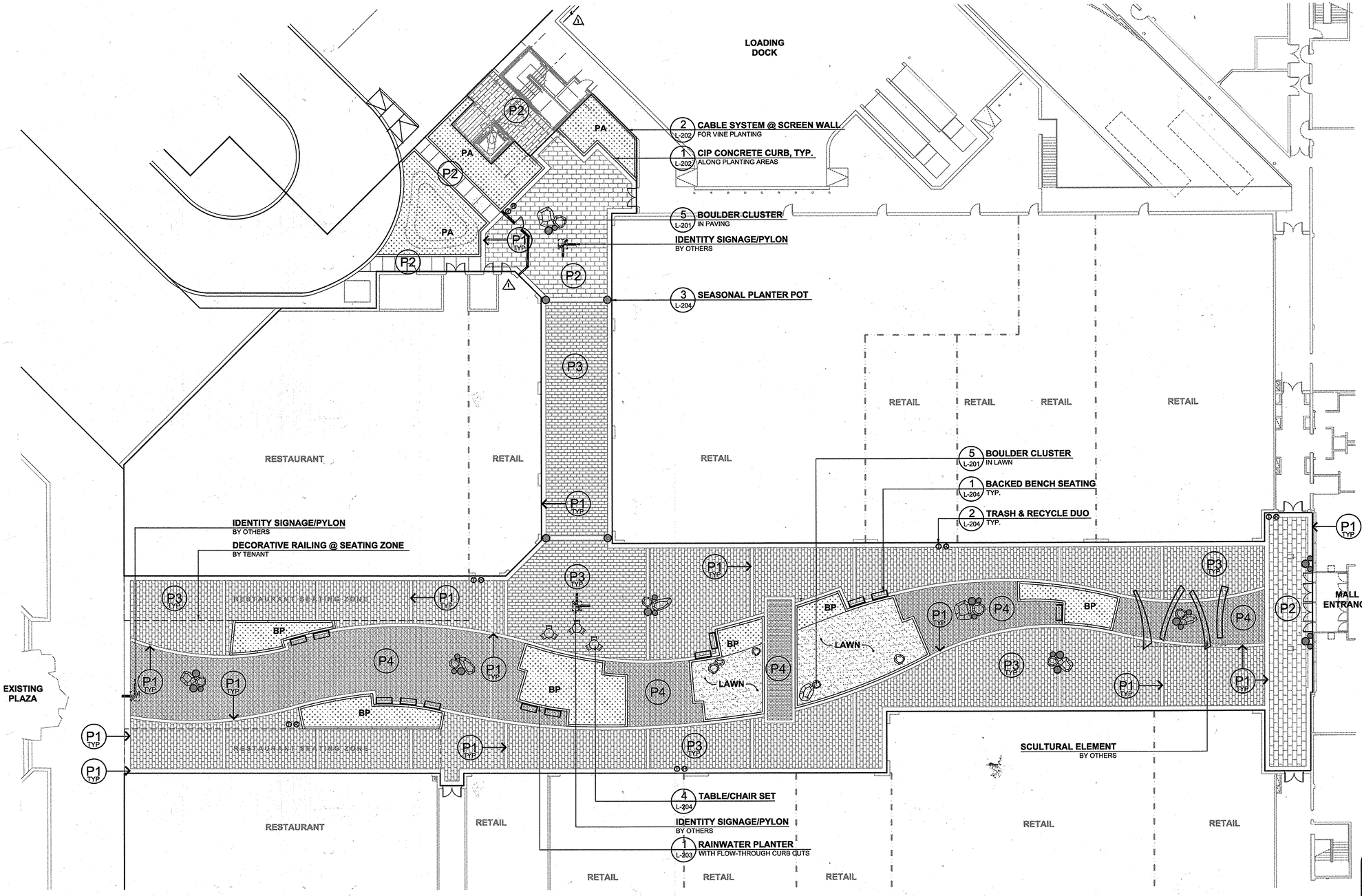
DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

DIRECTIONAL SIGNAGE DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 30 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE:

SDP - 13 - 016



1 Hardscape Plan

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

Hardscape Legend

Paving

- P1 — 2 L-201 — CONCRETE BANDING: 12", 18" OR 24" WIDE CONCRETE BAND W/ DECORATIVE SCORING
- P2 — 3 L-201 — CONCRETE PAVING: CONCRETE PAVING W/ DECORATIVE SCORING; SEE L-104 FOR PATTERN
- P3 — 4 L-201 — CONCRETE PAVERS: 12"x24" RUNNING BOND PAVER FIELD TO MATCH EXISTING MALL PAVERS; SEE L-104 FOR PATTERN & TYPE
- P4 — 4 L-201 — CONCRETE PAVERS: RANDOM RUNNING BOND PAVER FIELD CONSISTING OF NEW COLOR PALETTE; SEE L-104 FOR PATTERN & TYPE

Furnishings

REFER TO SHEET L-204 FOR FURNISHING TYPES.

HARDSCAPE NOTES:

1. REFER TO SHEETS L-102, L-103 & L-104 FOR LAYOUT INFORMATION.
2. PA = PLANTING AREA, SEE SHEET L-301 FOR PLANTING PLAN.
3. BP = BIORETENTION PLANTING AREA, SEE SHEET L-301 FOR PLANTING PLAN.
4. REFER TO LIGHTING PLANS FOR SITE LIGHTING.
5. REFER TO CIVIL PLANS FOR PLAZA GRADING.

0 8' 16' 32' 48'

N

⚠ 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. 27020 EXPIRATION DATE: JANUARY 25, 2016

REFER TO SHEET 8 FOR CALL-OUTS AND DETAIL REFERENCES FOR REVISION #1

STATE OF MARYLAND PAUL G. CAVANAUGH No. 27020 PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH DOWNTOWN GUIDELINES IN THE AMOUNT OF $5,010.00 FOR 1 SHADE TREES, 6 ORNAMENTAL / EVERGREEN, 127 SHRUBS AND Ø LINEAR FEET OF FENCING/WALLS. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND REGISTERED LANDSCAPE ARCHITECT

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Stuff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.	BY	NO.	REVISION	DATE
DRAWN BY: M.S.S.	DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE AND RECONSTRUCT RAMP	09/18/15
CHECKED BY:				
DATE:				

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

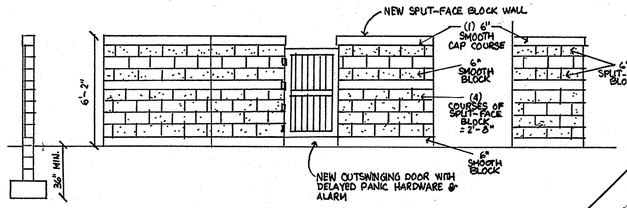
HARDSCAPE PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-101) SHEET 31 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP-13-016

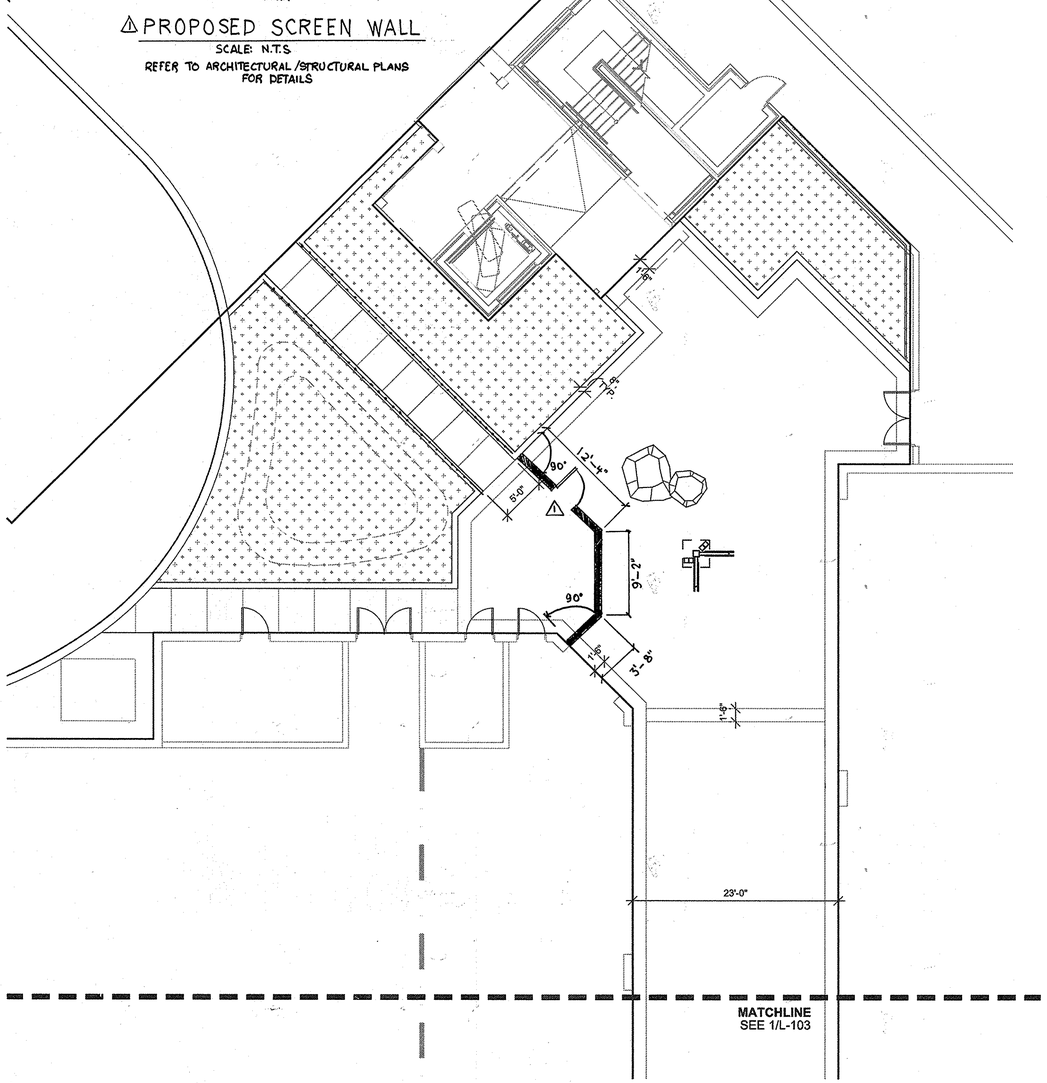
R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-101 Hardscape Plan.dwg Oct 25, 2012 5:37pm heidi



⚠ PROPOSED SCREEN WALL

SCALE: N.T.S.

REFER TO ARCHITECTURAL/STRUCTURAL PLANS FOR DETAILS



1 Layout Plan - North

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

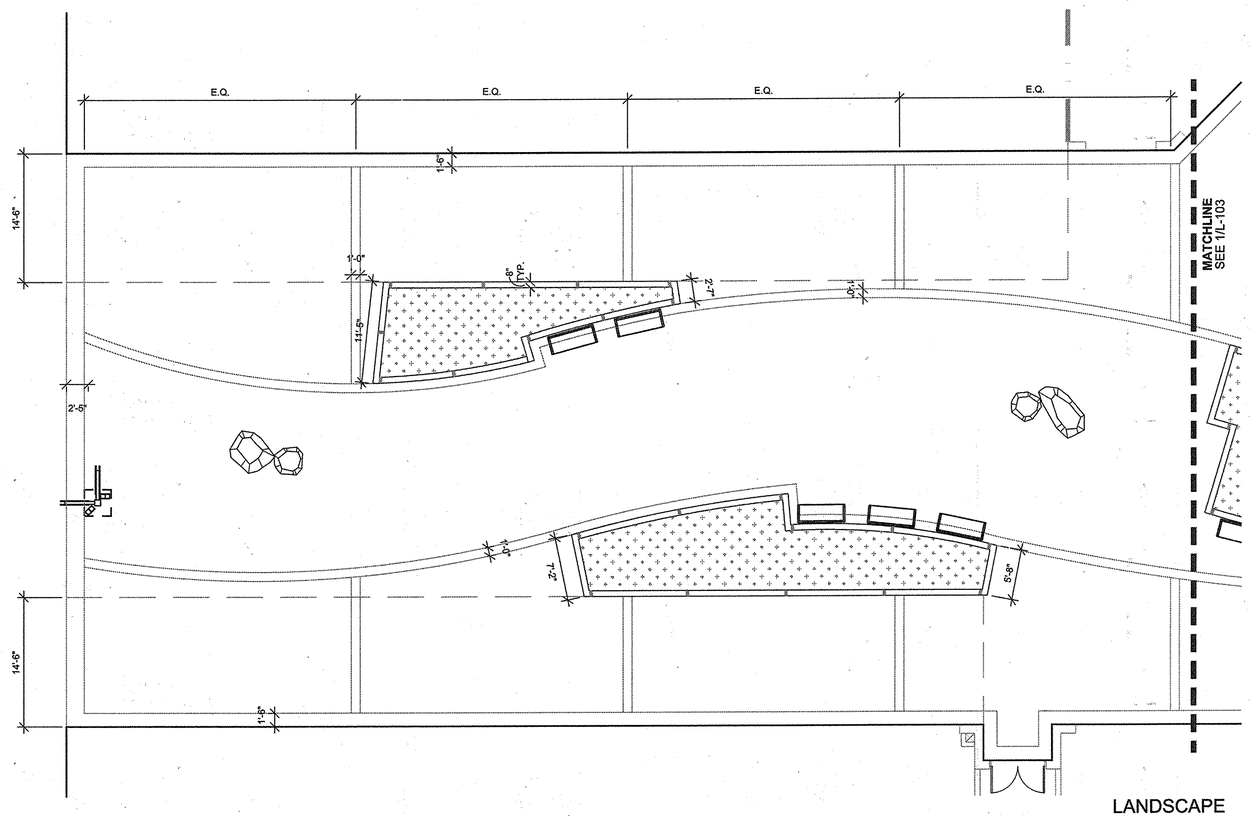
0 4' 8' 16' 24' N

Layout Legend

P.O.B.	POINT OF BEGINNING
F.O.B.	FACE OF BUILDING
B.O.C.	BACK OF CURB
P.O.C.	POINT OF CENTER
P.T.	POINT OF TANGENCY
℄	CENTER LINE
	ALIGN
EJ	EXPANSION JOINT (@ CONCRETE PAVING)
EJ	EXPANSION JOINT (@ CONC. SLAB BELOW STONE PAVERS)
CJ	CONTROL JOINT (@ CONCRETE PAVING)

LAYOUT NOTES:

1. REFER TO SHEET L-101 FOR HARDSCAPE MATERIALS PLAN & PAVING TYPES.
2. REFER TO CIVIL PLANS FOR ALL DRAINAGE & CONNECTION TO STORM WATER.
3. PROVIDE EXPANSION JOINTS ALONG ALL BUILDING & CURB EDGES; REFER TO STRUCTURAL DRAWINGS.
4. PROVIDE EXPANSION JOINTS EVERY 16' O.C. OR AS SHOWN; REFER TO STRUCTURAL DRAWINGS.
5. EXPANSION JOINTS @ CONCRETE PAVERS ARE LOCATED IN CONCRETE SLAB BELOW; REFER TO STRUCTURAL DRAWINGS.



2 Layout Plan - West

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

0 4' 8' 16' 24' N

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND · REGISTERED LANDSCAPE ARCHITECT · NO. 1884

⚠ 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. 27020
EXPIRATION DATE: JANUARY 25, 2016

STATE OF MARYLAND · PAUL G. CAVANAUGH · No. 27020 · PROFESSIONAL ENGINEER

PAUL G CAVANAUGH

PROFESSIONAL ENGINEER NO. 27020

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Stieff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

LAYOUT PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-102) SHEET 32 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP-13-016

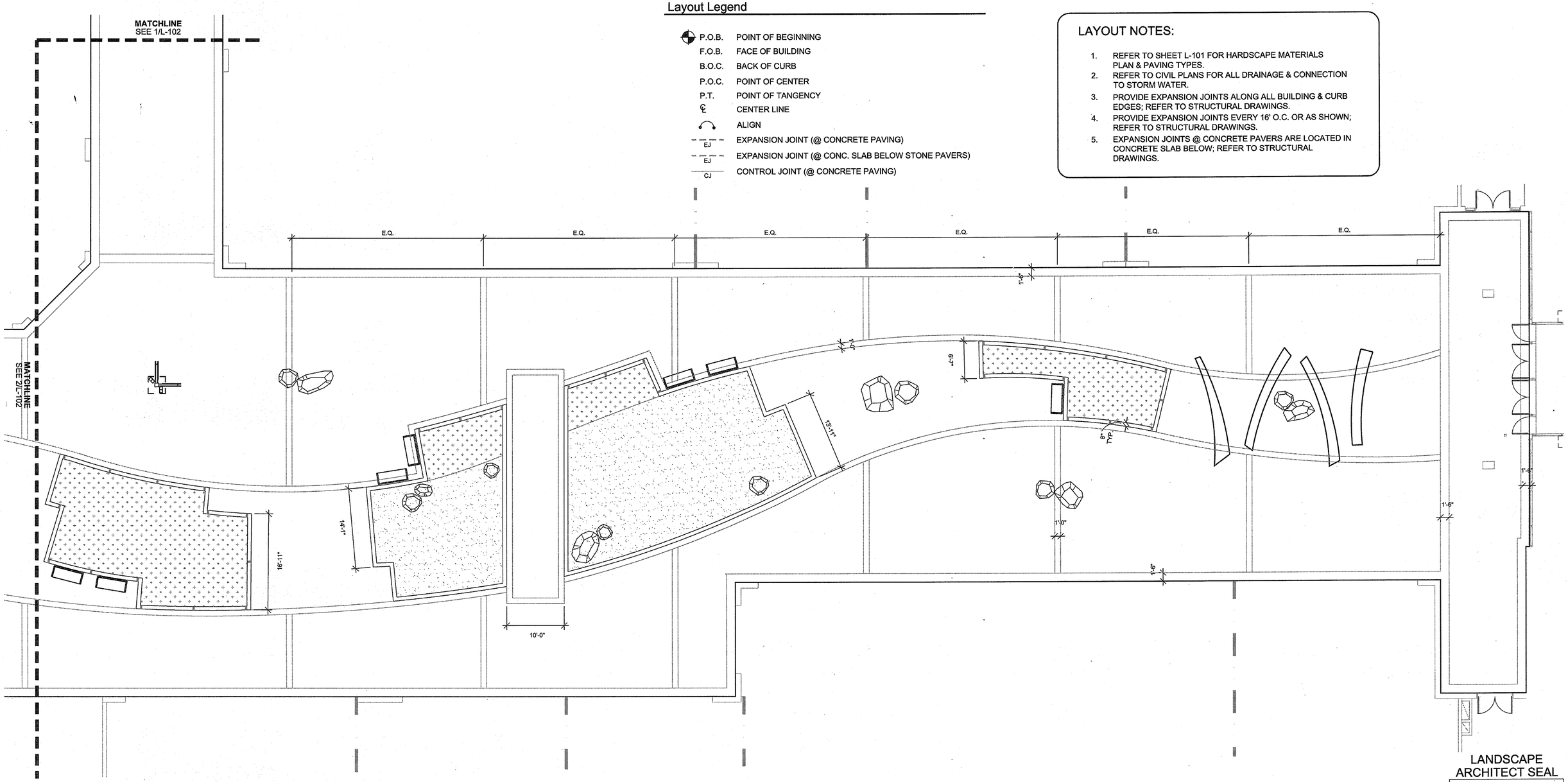
R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-102 Layout Plan.dwg Oct 25, 2012 1:31pm grace

Layout Legend

P.O.B.	POINT OF BEGINNING
F.O.B.	FACE OF BUILDING
B.O.C.	BACK OF CURB
P.O.C.	POINT OF CENTER
P.T.	POINT OF TANGENCY
℄	CENTER LINE
	ALIGN
EJ	EXPANSION JOINT (@ CONCRETE PAVING)
EJ	EXPANSION JOINT (@ CONC. SLAB BELOW STONE PAVERS)
CJ	CONTROL JOINT (@ CONCRETE PAVING)

LAYOUT NOTES:

1. REFER TO SHEET L-101 FOR HARDSCAPE MATERIALS PLAN & PAVING TYPES.
2. REFER TO CIVIL PLANS FOR ALL DRAINAGE & CONNECTION TO STORM WATER.
3. PROVIDE EXPANSION JOINTS ALONG ALL BUILDING & CURB EDGES; REFER TO STRUCTURAL DRAWINGS.
4. PROVIDE EXPANSION JOINTS EVERY 16' O.C. OR AS SHOWN; REFER TO STRUCTURAL DRAWINGS.
5. EXPANSION JOINTS @ CONCRETE PAVERS ARE LOCATED IN CONCRETE SLAB BELOW; REFER TO STRUCTURAL DRAWINGS.



1 Layout Plan - East
Scale: 1/8"=1'-0"

0 4' 8' 16' 24'

N

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND
NO. 681
LANDSCAPE ARCHITECT

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Stieff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13

Chief, Division of Land Development — Date 4-09-13

Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

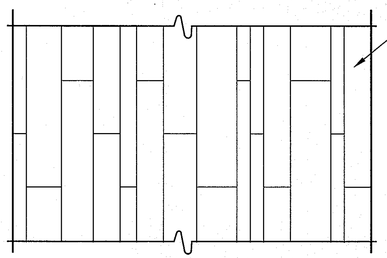
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

LAYOUT PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-103) SHEET 33 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE:

SDP-13-016

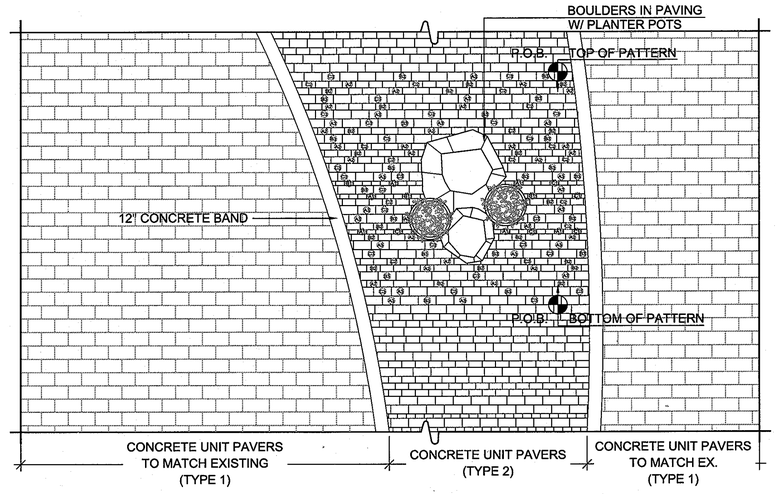
R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-103 Layout Plan.dwg Oct 25, 2012 1:35pm grace



NOTE:
1. REFER TO PLAN 1/L-101 FOR ORIENTATION OF PAVING FIELD.

1 P1 Concrete Paving Pattern

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



KEY - CONCRETE UNIT PAVERS TO MATCH EX.
BY HANOVER

P3: MATRIX# M115 / FINISH 13 12"x24" = 40%
P3: MATRIX# M1913 / FINISH 13 12"x24" = 60%

KEY - CONCRETE UNIT PAVERS IN CENTER
BY HANOVER

SIZE	*COLOR*
1: 4"x8"	P4/A: MATRIX# M1930 / FINISH 13
2: 6"x12"	P4/B: MATRIX# M115 / FINISH 13
3: 8"x16"	P4/C: LIMESTONE GREY TUDOR FINISH

NOTE:
1. PAVERS SELECTED IN ACCORDANCE W/ NEIGHBORHOOD DESIGN GUIDELINES & TO MATCH EXISTING PAVERS ON SITE.

2 P2 & P3 Concrete Paver Pattern

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

Layout Legend

P.O.B.	POINT OF BEGINNING
F.O.B.	FACE OF BUILDING
B.O.C.	BACK OF CURB
P.O.C.	POINT OF CENTER
P.T.	POINT OF TANGENCY
℄	CENTER LINE
	ALIGN
EJ	EXPANSION JOINT (@ CONCRETE PAVING)
EJ	EXPANSION JOINT (@ CONC. SLAB BELOW STONE PAVERS)
CJ	CONTROL JOINT (@ CONCRETE PAVING)

LAYOUT NOTES:

1. REFER TO SHEET L-101 FOR HARDSCAPE MATERIALS PLAN & PAVING TYPES.
2. REFER TO CIVIL PLANS FOR ALL DRAINAGE & CONNECTION TO STORM WATER.
3. PROVIDE EXPANSION JOINTS ALONG ALL BUILDING & CURB EDGES; REFER TO STRUCTURAL DRAWINGS.
4. PROVIDE EXPANSION JOINTS EVERY 16' O.C. OR AS SHOWN; REFER TO STRUCTURAL DRAWINGS.
5. EXPANSION JOINTS @ CONCRETE PAVERS ARE LOCATED IN CONCRETE SLAB BELOW; REFER TO STRUCTURAL DRAWINGS.

POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH DOWNTOWN GUIDELINES IN THE AMOUNT OF $ 5,010.00 FOR 1 SHADE TREES, 6 ORNAMENTAL / EVERGREEN, 12 SHRUBS AND Ø LINEAR FEET OF FENCING/WALLS. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND
MICHAEL J. RYKIEL
No. 1241
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Stieff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

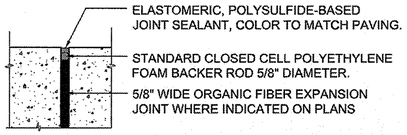
LAYOUT PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-104) SHEET 34 OF 55

C.E.I. PROJECT NUMBER 28141.02

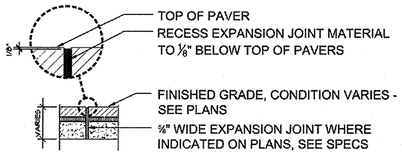
SCALE:

SDP-13-016

R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-104 Layout Plan.dwg Oct 25, 2012 5:36pm heidi



@ CONCRETE PAVING



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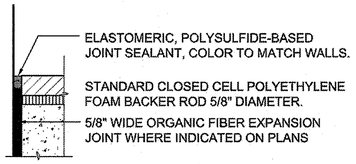
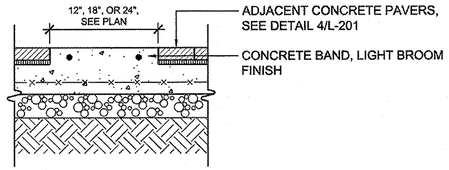


@ BUILDING FACE

1 Expansion Joint

Scale: N.T.S.

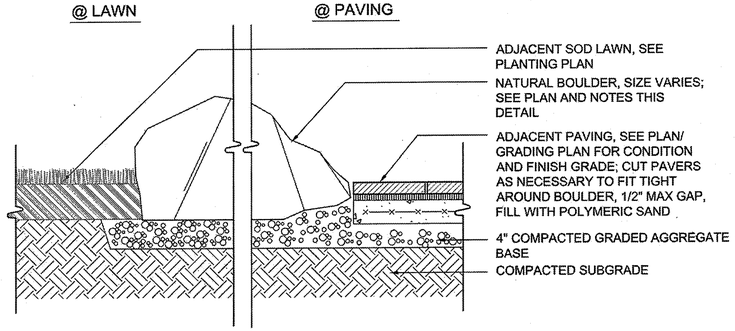


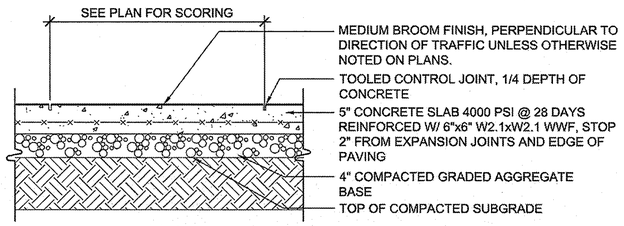
2 Concrete Banding

Scale: 1" = 1'-0"

@ LAWN

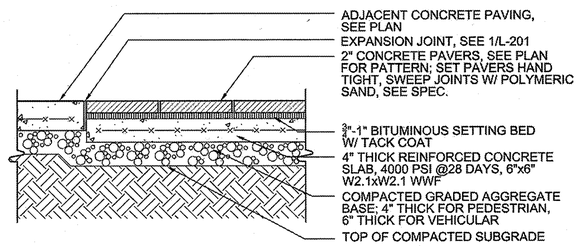
@ PAVING





3 Concrete Paving

Scale: 1" = 1' - 0"



4 Concrete Pavers

Scale: 1" = 1'-0"

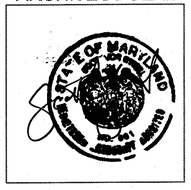
BOULDER NOTES:

1. CONTRACTOR MUST SELECT BOULDERS TO MATCH EXISINTG BOULDERS ON SITE. BOULDERS TO HAVE A MINIMUM LENGTH OF 2', MAX OF 5'; BOULDERS TO HAVE A MINIMUM HEIGHT OF 18", MAX OF 36". LANDSCAPE ARCHITECT TO APPROVE ALL BOULDERS PRIOR TO INSTALLATION. SEE MATERIALS PLAN FOR TYPES AND SIZES.
2. SET ALL BOULDERS 2/3 ABOVE FINISH GRADE, 1/3 BELOW GRADE.
3. BOULDER TO BE PLACED BY STRAPS OR CABLES W/ CARPET TO PREVENT SCARRING. BOULDERS W/ EXCESSIVE SCARRING WILL BE REJECTED.

5 Boulders in Paving & Lawn

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

LANDSCAPE ARCHITECT SEAL



THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Stieff Silver Building, 800 Wyman Park Drive, Suite 100 Baltimore, MD 21211 410.235.5001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/3/13
Chief, Division of Land Development	Date 1-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY:	M.J.P.
DRAWN BY:	M.S.S.
CHECKED BY:	
DATE:	

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

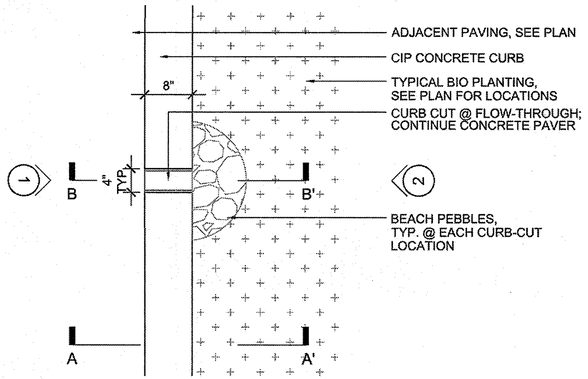
HARDSCAPE DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-201) SHEET 35 OF 55

C.E.I. PROJECT NUMBER 28141.02

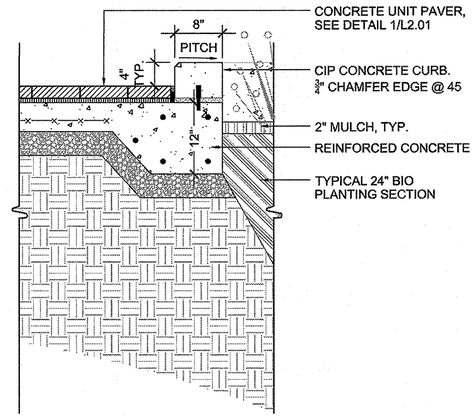
SCALE:

SDP-13-016

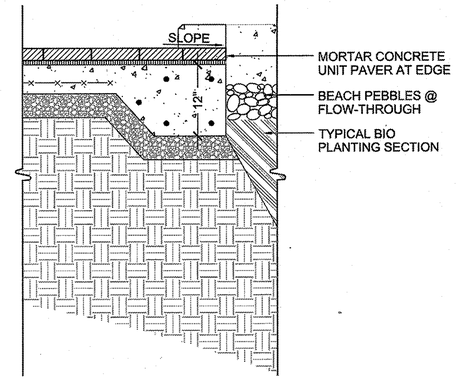
R:\11 Projects\111108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-201 Hardscape Details.dwg Oct 25, 2012 1:39pm grace



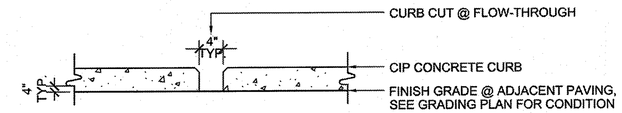
CURB
ENLARGEMENT PLAN



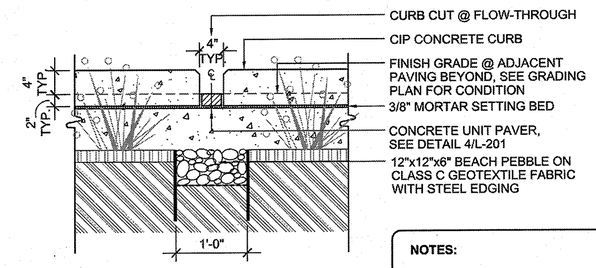
CURB @ FLOW THROUGH
SECTION-ELEVATION A



CURB CUT @ FLOW THROUGH
SECTION-ELEVATION B



CURB CUT @ FLOW THROUGH
FRONT ELEVATION (1)



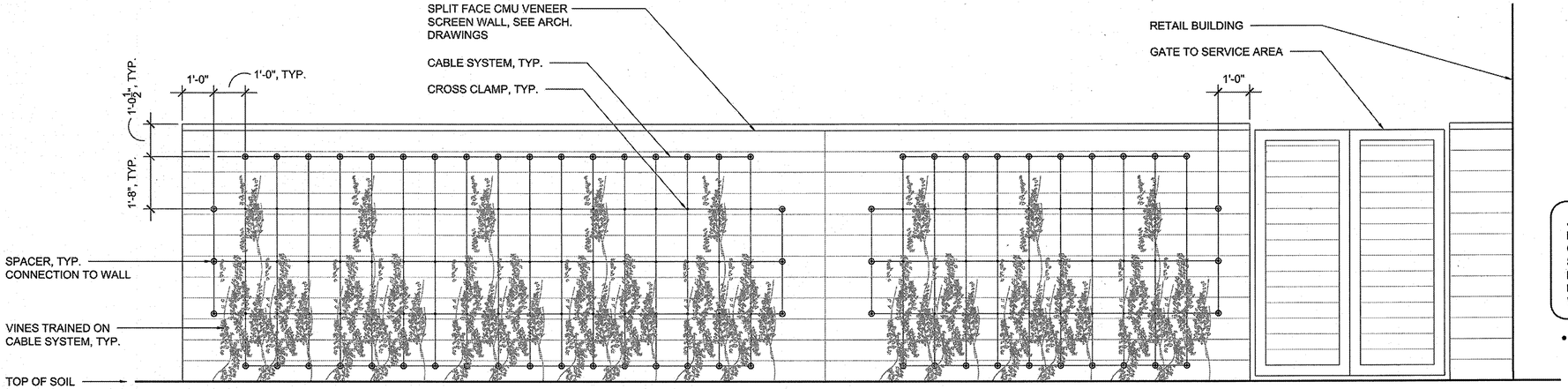
CURB CUT @ FLOW THROUGH
REAR SECTION-ELEVATION (2)

NOTES:

1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR PRECAST CONCRETE CURB UNITS & JOINT LAYOUT.
2. PROVIDE 4" CURB CUT @ FLOW THROUGH PLANTERS AS SHOWN. NO CURB CUT @ TURF AREA & NW PLANTER @ BANK DROP-OFF AREA.

1 Cast-in-Place Concrete Curb

Scale: 1" = 1'-0"



JAKOB® ROPE SYSTEMS
DORFSTRASSE 34
CH-3555 TRUBSCHACHEN
SWITZERLAND
PHONE: +41 (0)34 495 10 10
FAX: +41 (0)34 495 10 25
WEB: WWW.JAKOB.CH

- MODEL: GREEN SOLUTIONS G1 FACADE GREENING

2 Cable System for Vine Planting @ Screen Wall

N.T.S.

LANDSCAPE ARCHITECT SEAL

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Graff Siter Building, 800 Wyman Park Drive, Suite 100 Baltimore, MD 21211 410.235.5001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

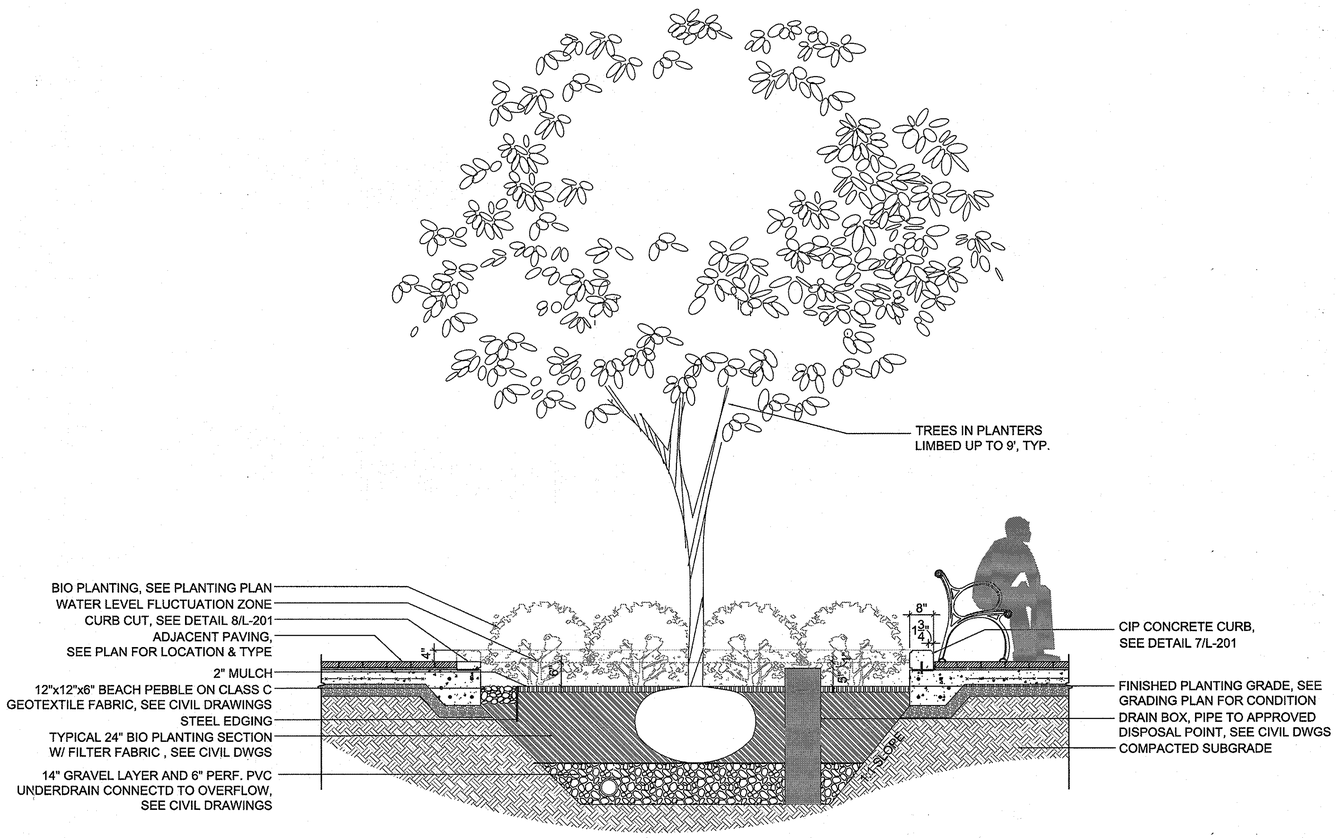
HARDSCAPE DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-202) SHEET 36 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

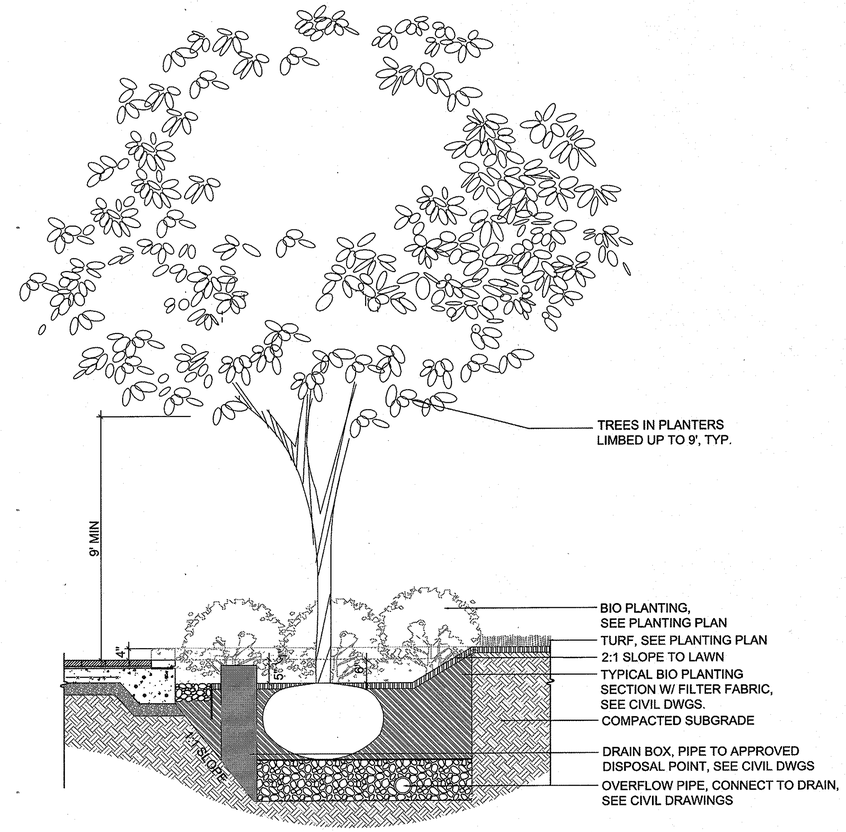
SDP-13-016

R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-202 Hardscape Details.dwg Oct 25, 2012 1:40pm grace



1 Rainwater Planter w/ Flow-through Curb Cuts

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



2 Rainwater Planter @ Lawn

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

LANDSCAPE ARCHITECT SEAL

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Steel Saw Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

HARDSCAPE DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-203) SHEET 37 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP-13-016

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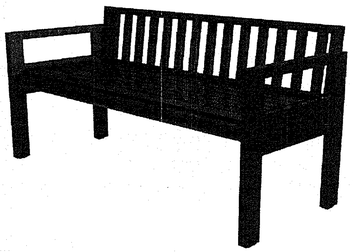


- MODEL: MODIFIED (SLATTED) BARBARY
- SIZE: 24" x 63" x 30"
- COLOR: BRONZE POWDERCOAT W/CLEAR COAT
- SURFACE MOUNT PER MANUFACTURER SPECS

BENCHMARK DESIGN GROUP, INC.
456 OSCEOLA AVE JACKSONVILLE
BEACH, FL 32250
PHONE: (904) 246-5060
FAX: (904) 246-9008
WEB: benchmarkdesigngroup.com

1 Bench

N.T.S.

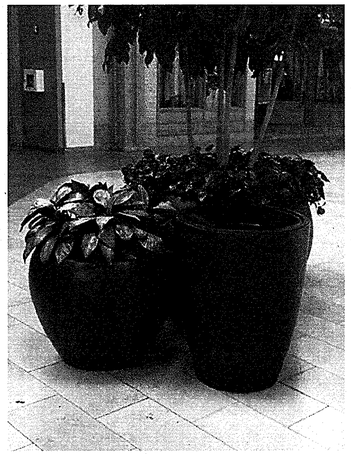
- MODEL: POE
- SIZE: 29'D x 39"H
- COLOR: SLIVER POWDERCOAT W/ SATIN CLEAR COAT
- SURFACE MOUNT PER MANUFACTURER SPECS

- RECYCLING RECEPTACLE TO MATCH LITTER RECEPTACLE WITH GRAPHIC TO INDICATE RECYCLING FUNCTION

LANDSCAPE FORMS, INC.
431 LAWNDALE AVE.
KALAMAZOO, MI 49048
PHONE: (800) 430.6209
FAX: (269) 381.3455
WEB: www.landscapeforms.com

2 Litter and Recycle Receptacle

N.T.S.



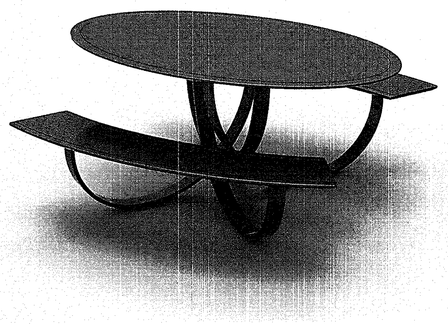
- MODEL: CROWLEY
- SIZE: 30"D x 22"H
- COLOR: BRONZE POWDERCOAT W/ SATIN CLEAR COAT

- MODEL: RALIEGH/DRUM
- SIZE: 21"D x 32"H, 30"D x 42"H
- COLOR: BRONZE POWDERCOAT W/ SATIN CLEAR COAT

BENCHMARK DESIGN GROUP, INC.
456 OSCEOLA AVE JACKSONVILLE
BEACH, FL 32250
PHONE: (904) 246-5060
FAX: (904) 246-9008
WEB: benchmarkdesigngroup.com

3 Planter Pot

N.T.S.



MODEL: CHARLIE TABLE
TABLE & CHAIR SET TO BE PROVIDED BY LANDSCAPE FORMS, INC.

- SURFACE MOUNT PER MANUFACTURER SPECS

LANDSCAPE FORMS, INC.
431 LAWNDALE AVE.
KALAMAZOO, MI 49048
PHONE: 800.430.6209
FAX: 269.381.3455
WEB: www.landscapeforms.com

4 Table/Chair Set

N.T.S.

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND — STEPHEN J. JABLONSKI — NO. 881

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Steff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.5001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/21/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

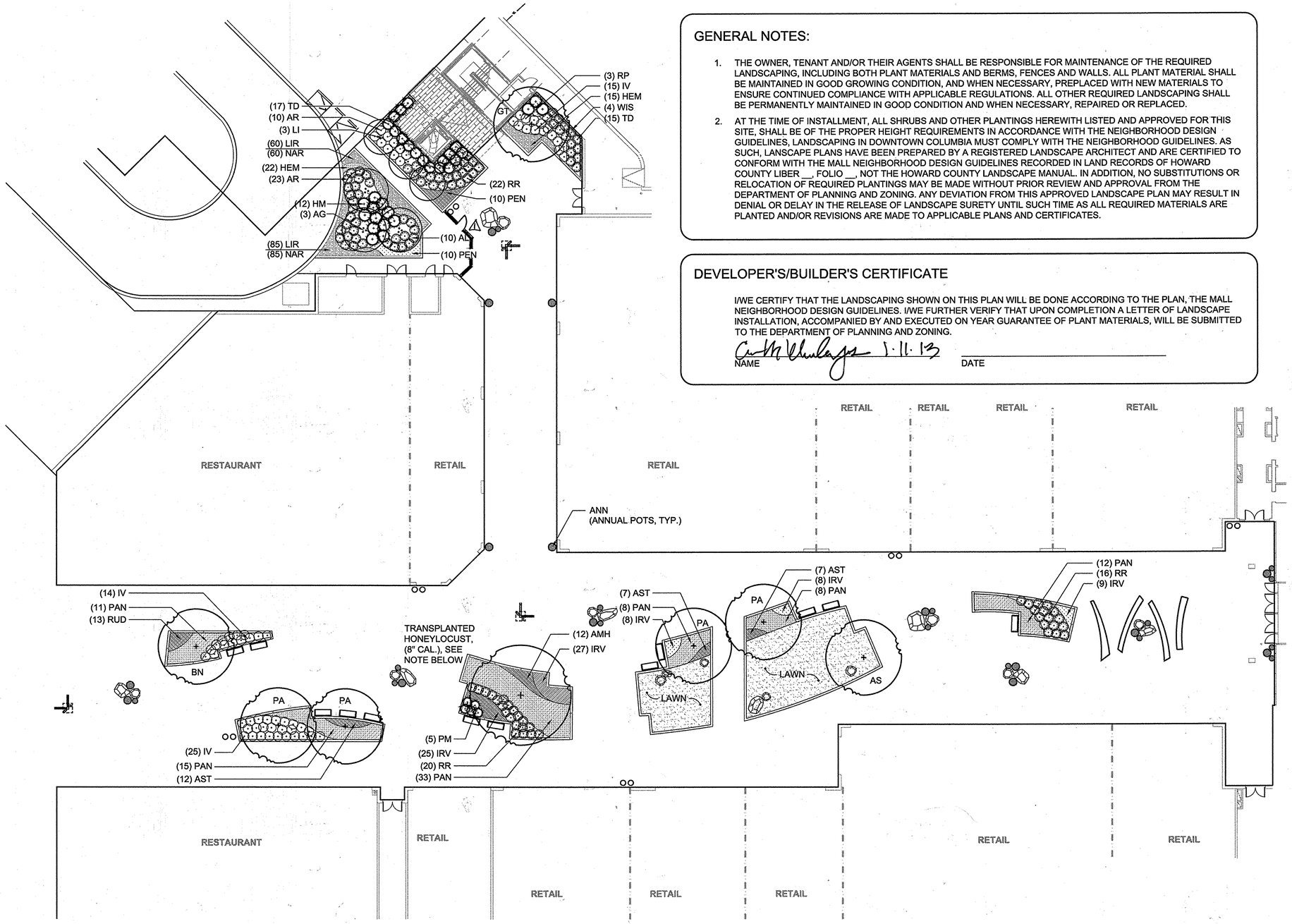
HARDSCAPE DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-204) SHEET 38 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP-13-016

R:\11 Projects\11108 Columbia Mall – LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-204 Hardscape Details.dwg Oct 25, 2012 1:56pm grace



GENERAL NOTES:

1. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIAL SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, PREPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
2. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE NEIGHBORHOOD DESIGN GUIDELINES, LANDSCAPING IN DOWNTOWN COLUMBIA MUST COMPLY WITH THE NEIGHBORHOOD GUIDELINES. AS SUCH, LANSCAPE PLANS HAVE BEEN PREPARED BY A REGISTERED LANDSCAPE ARCHITECT AND ARE CERTIFIED TO CONFORM WITH THE MALL NEIGHBORHOOD DESIGN GUIDELINES RECORDED IN LAND RECORDS OF HOWARD COUNTY LIBER __, FOLIO __, NOT THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, THE MALL NEIGHBORHOOD DESIGN GUIDELINES. I/WE FURTHER VERIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AND EXECUTED ON YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME 1.11.13 DATE

PLANT SCHEDULE (THIS SHEET ONLY)

QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT	COMMENTS
SHADE TREES					
1	AS	Acer saccharum 'Green Mountain'/ Green Mountain Surgar Maple	4" CAL.	B&B	Strong Central Leader, Full Canopy, Limb @ 6' Ht. Min.
1	GT	Gleditsia triacanthos var. inermis 'Shademaster'/ Shademaster Honeylocust	4" CAL.	B&B	Strong Central Leader, Full Canopy, Limb @ 6' Ht. Min.
1	BN	Betula nigra 'Dura Heat'/ Dura Heat River Birch	10' Ht.	B&B	Multi Stem, 3 cane min., 5 cane max. Specimen Quality
4	PA	Platanus x acerifolia 'Bloodgood'/ London Planetree	4" Cal.	B&B	Strong Central Leader Matched Specimens
ORNAMENTAL TREES					
3	AG	Acer griseum/ Paperbark Maple	12' HT.	B&B	Matching Specimens, MultiStem 3 cane min., 5 cane max., Limb @ 5' Ht. Min.
3	LI	Lagerstroemia indica 'Tonto'/ Tonto Crape Myrtle	8' Ht.	B&B	Tree Form, Multi-Stem 3 cane min., 5 cane max., Matched
SHRUBS					
33	AR	Azalea x 'Roblem'/ Autumn Starlight Azalea	#3	Cont.	21" Spd. White Flower with Pink Flecks
10	AL	Azalea x 'Robles'/ Autumn Lilac Azalea	#3	Cont.	21" Spd.
12	HM	Hydrangea macrophylla 'Bailmer'/ Endless Summer Hydrangea	#5	Cont.	30" Spd.
54	IV	Itea virginica 'Sprich'/ Little Henry Sweetspire	#3	Cont.	18" Spd.
5	PM	Pinus mugo var. pumilio/ Dwarf Mugo Pine	#5	Cont.	30" Spd. Matched, Full
3	RP	Rhododendron 'PJM Compact Form'/ PJM Compact Form Rhododendron	#7	Cont.	30" Spd. Purple Flower Color
58	RR	Rosa 'Radrazz'/ Knock Out Rose	#3	Cont.	18" Spd. Red Flower Color
32	TD	Taxus x media 'Densiformis/ Densiformis Yew	#7	Cont.	30" Spd.
GROUNDCOVERS + PERENNIALS					
12	AMH	Amsonia hubrichtii/ Thread-leaf Blue Star	#1	Cont.	24" O.C.
26	AST	Aster novae anglie 'Purple Dome'/ New England Aster	#1	Cont.	15" O.C.
37	HEM	Hemerocallis 'Gail's Fragrant Treasure'/ Gail's Fragrant Treasure Daylilly	#1	Cont.	18" O.C.
77	IRV	Iris versicolor/ Blue Flag Iris	#1	Cont.	18" O.C.
145	LIR	Liriope spicata/ Spreading Lilyturf	#1	Cont.	12" O.C.
87	PAN	Panicum virgatum/ Switch Grass	#2	Cont.	36" O.C.
20	PEN	Pennisetum alopecuroides 'Hameln'/ Dwarf Fountain Grass	#1	Cont.	18" O.C.
13	RUD	Rudbeckia fulgida var. fulgida/ Black Eyed Susan	#1	Cont.	18" O.C.
ANNUALS, BULBS & VINES					
145	NAR	Narcissus 'Marieke'/ Daffodil	DN1	Bulb	12" O.C. Interplant with Liriope
4	WIS	Wisteria frutescens American Wisteria	#5	Cont.	8' O.C. 5' HT. Staked
360	ANN	Annuals/ Seasonal Annuals	SP#4	Cont.	6" O.C. Min. 3 Season Rotation

NOTE:
ALTERNATE PLANTING FOR TRANSPLANTED HONEYLOCUST

1	Ulmus parvifora 'Allee'/ Allee Elm	8" Cal.	B&B	Strong Central Leader Specimen Quality

1 Planting Plan

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

0 8' 16' 32' 48'

N

POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH DOWNTOWN GUIDELINES IN THE AMOUNT OF $ 5010 FOR 1 SHADE TREES, 6 ORNAMENTAL / EVERGREEN, 127 SHRUBS AND ✓ LINEAR FEET OF FENCING/WALLS. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Bluff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

⚠ 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. 27020 EXPIRATION DATE: JANUARY 29, 2014

STATE OF MARYLAND No. 27020 PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/8/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.	DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

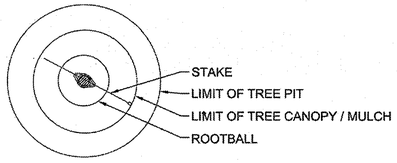
PLANTING PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-301) SHEET 39 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

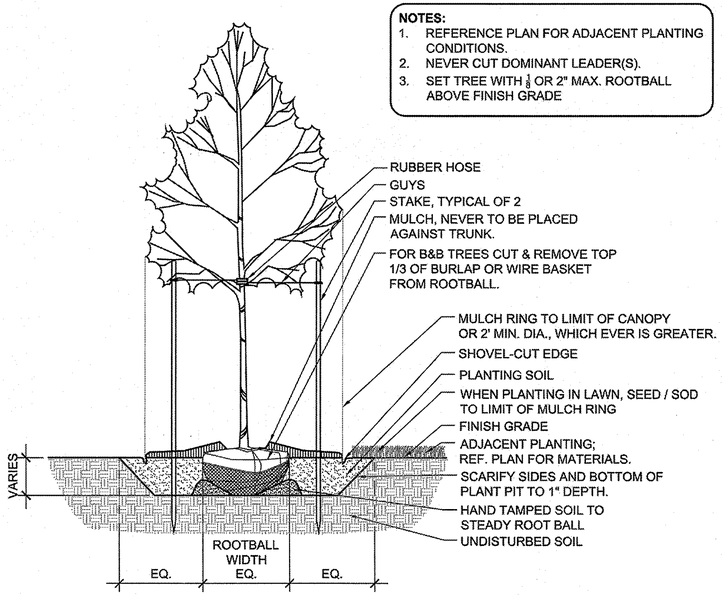
SDP-13-016

R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-301 Planting Plan.dwg Oct 25, 2012 5:35pm heidi

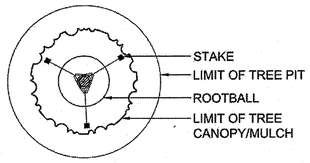


PLAN

NOTES:
1. REFERENCE PLAN FOR ADJACENT PLANTING CONDITIONS.
2. NEVER CUT DOMINANT LEADER(S).
3. SET TREE WITH $\frac{1}{8}$ OR 2" MAX. ROOTBALL ABOVE FINISH GRADE



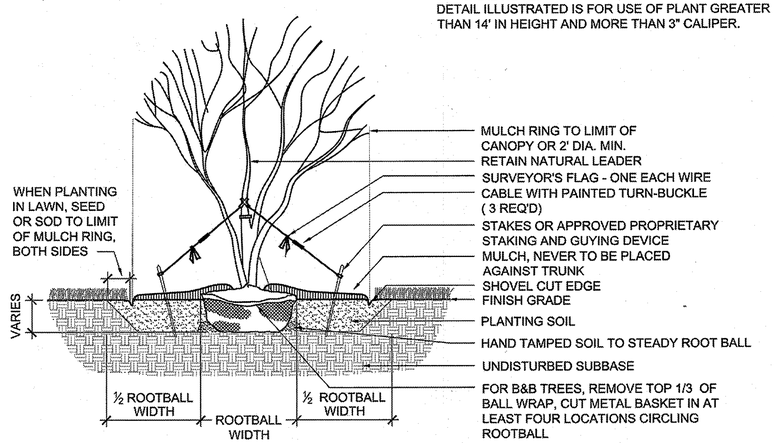
1 Shade / Specimen Tree
Scale: 1/2" = 1' - 0"



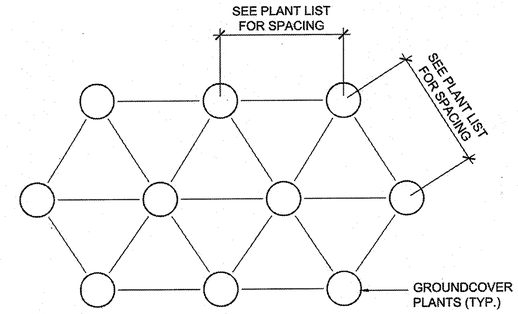
PLAN

NOTES:
1. REFERENCE PLAN FOR ADJACENT PLANTING CONDITIONS.
2. NEVER CUT DOMINANT LEADER(S).
3. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
4. SET TREE WITH 1/8 OR 2" MAX. ROOTBALL ABOVE FINISH GRADE.

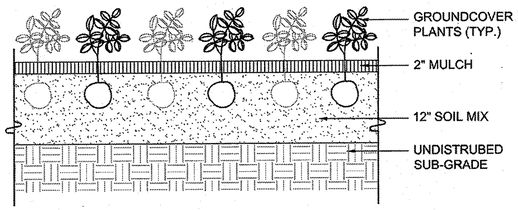
GENERAL NOTE:
DETAIL ILLUSTRATED IS FOR USE OF PLANT GREATER THAN 14' IN HEIGHT AND MORE THAN 3" CALIPER.



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



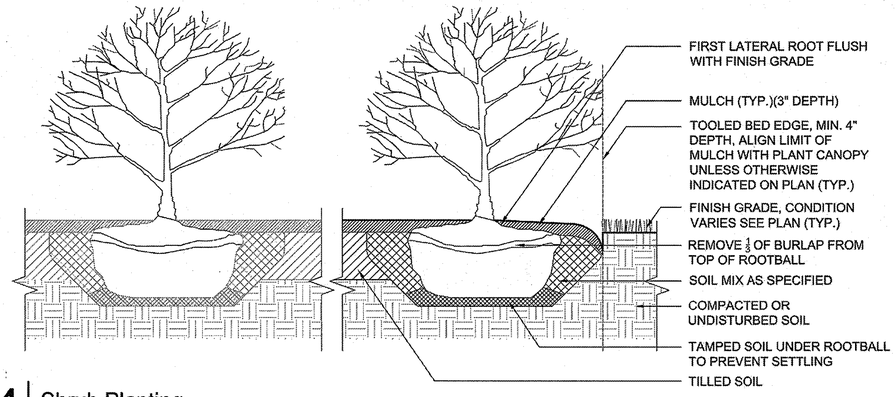
PLAN



SECTION

NOTE:
SET PLANTS WITH BOTTOM OF LEAVES AT GRADE AFTER MULCH

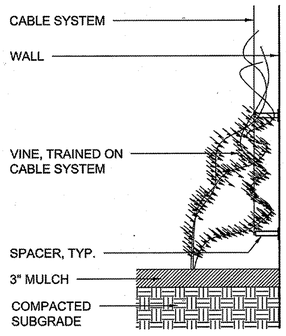
3 Groundcover Planting
Scale: 1" = 1'-0"



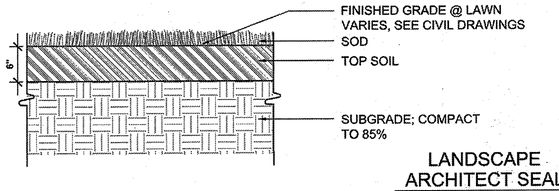
4 Shrub Planting
Scale: 1" = 1' - 0"

SEQUENCE OF CONSTRUCTION (GENERAL) REFER TO SPECIFICATIONS

1. STAKE OUT PLANT/BED LOCATIONS.
2. CUT EDGE OF PLANT BED
3. TILL SOIL AND APPLY AMENDMENTS TO ENTIRE PLANTING AREA.
4. APPLY PRE-EMERGENT HERBICIDE (TWO WEEKS PRIOR TO PLANTING).
5. INSTALL PLANTS.
6. INSTALL FERTILIZER TABLETS IN EACH PLANT PIT.
7. PLACE BACKFILL.
8. WATER EACH INDIVIDUAL PLANT THOROUGHLY.
9. PLACE MULCH OVER ENTIRE PLANT BED.
10. WATER ENTIRE PLANT BED THOROUGHLY.



5 Vine Planting
N.T.S.



6 Lawn
1" = 1'-0"

LANDSCAPE ARCHITECT SEAL

STATE OF MARYLAND — CHRISTOPHER RYKIEL — No. 961 — LANDSCAPE ARCHITECT

THE DESIGN IS IN COMPLIANCE WITH THE MALL IN COLUMBIA NEIGHBORHOOD DESIGN GUIDELINES - DOWNTOWN COLUMBIA.

MAHAN RYKIEL ASSOCIATES INC
The Sheff Silver Building, 800 Wyman Park Drive, Suite 100, Baltimore, MD 21211 410.235.6001

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/12/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

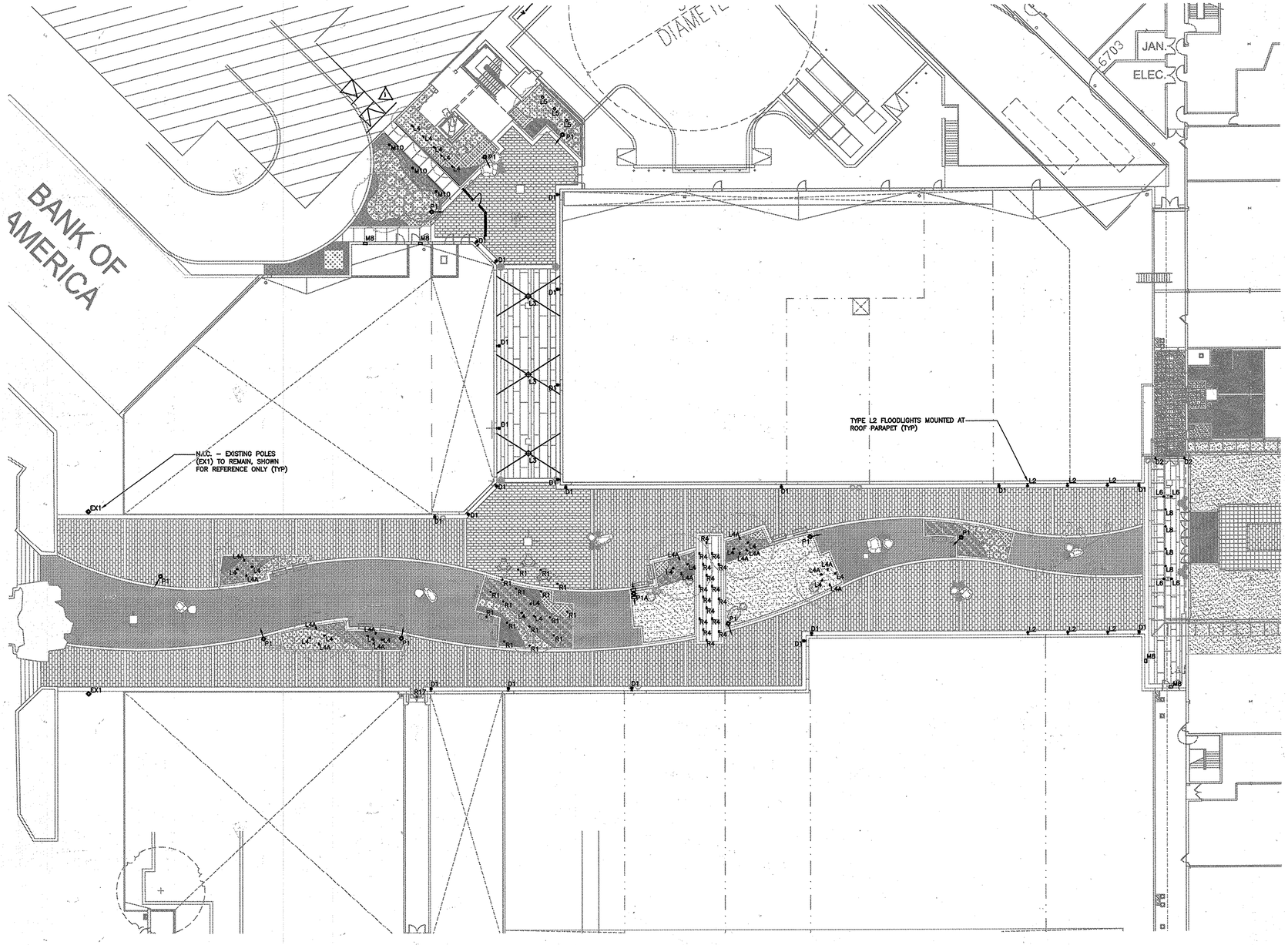
PLANTING DETAILS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
(L-401) SHEET 40 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP-13-016

R:\11 Projects\11108 Columbia Mall - LL Bean\CAD\MRA\02_30CD Submission\24x36 SDP Submittal\L-401 Planting Details.dwg Oct 25, 2012 1:58pm grace



THIS DESIGN IS IN COMPLIANCE WITH 'THE MALL NEIGHBORHOOD DESIGN GUIDELINES' OF DOWNTOWN COLUMBIA (ver. 4/11/2012)

STATE OF MARYLAND
PAUL G. CAVANAUGH
No. 27020
PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

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. 27020 EXPIRATION DATE: JANUARY 29, 2016

ARCHITECT
10662
GORDON MICHAEL SCOTT
STATE OF MARYLAND

the lighting practice
THE LIGHTING PRACTICE
600 Chestnut Street
Suite 772
Philadelphia, PA 19106

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE
DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

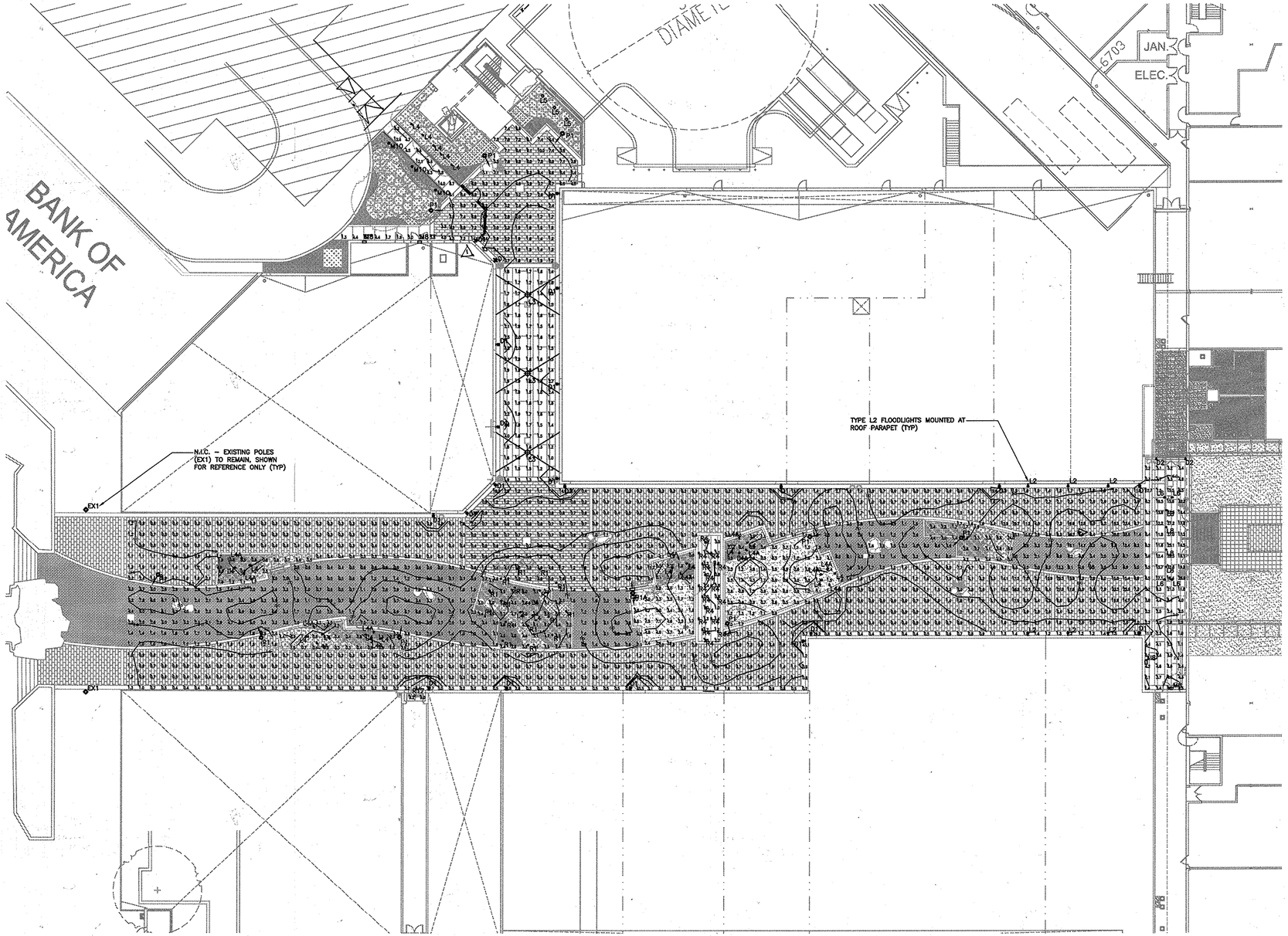
BUILDING AND SITE LIGHTING PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 41 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: 1"=20'

SDP - 13 - 016

F:\LP\2011\11082\LP\SDP-01and SDP-02 Building & Site Lighting Plan and Photometric Lighting Plan.dwg Oct 19, 2012 4:25pm jwidmer



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. 27020 EXPIRATION DATE JANUARY 25, 2016

STATE OF MARYLAND PAUL G. CAVANAUGH PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER NO. 27020

THIS DESIGN IS IN COMPLIANCE WITH 'THE MALL NEIGHBORHOOD DESIGN GUIDELINES' OF DOWNTOWN COLUMBIA (ver. 4/11/2012)

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site	Illuminance	Fc	3.76	38.6	0.2	18.80	193.00

ARCHITECT 10662 GORDON MICHAEL CODAY STATE OF MARYLAND

the lighting practice
THE LIGHTING PRACTICE
600 Chestnut Street
Suite 772
Philadelphia, PA 19106

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13
Chief, Division of Land Development — Date 4-09-13
Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.	DDC	1	REDLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	09/18/15
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EXTERIOR LIGHTING PHOTOMETRIC PLAN
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 42 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: 1"=20'

SDP - 13 - 016

F:\LP\2011\11082\LP\SDP-01and SDP-02 Building & Site Lighting Plan and Photometric Lighting Plan.dwg Oct 19, 2012 4:28pm jwidmer

THE MALL IN COLUMBIA
COLUMBIA, MARYLAND

TLP PROJECT NUMBER:
11082.00

SCHEDULE OF LIGHTING FIXTURES

TYPE	MTG.	DESCRIPTION	LAMPING QTY.	LAMPING LAMP DESIGNATION	LOAD (VA)	VOLTS	MANUFACTURER	CATALOG NUMBER
D1	WALL	METAL HALIDE UP/DOWN SCONCE, NOMINAL 6-1/2 INCH WIDE X 5 INCH DEEP X 12 INCH HIGH CAST ALUMINUM HOUSING WITH OVERALL 8 INCH DEEP PROJECTION, CLEAR TEMPERED GLASS LENS ON TOP AND BOTTOM APERTURES. FIELD ADJUSTABLE 12°-28° REFLECTOR. INTEGRAL ELECTRONIC BALLAST. FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.	1	CDM35/T6/830	45		DESIGN PLAN ERCO	DU1-9-T8-P-99-0-(VOLT)-T-O
D2	WALL	DECORATIVE FLUORESCENT SCONCE, NOMINAL 3 INCH WIDE X 24 INCH HIGH X MAXIMUM 4 INCH DEEP ALUMINUM HOUSING WITH WRAPPING OPAL ACRYLIC LENS AND SLOTTED DECORATIVE METAL TRIM DETAIL. INTEGRAL ELECTRONIC BALLAST, OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS. CONTRACTOR SHALL MOUNT SCONCE TO A NOMINAL 2 INCH WIDE SINGLE GANG SWITCH BOX PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.	1	FP14/830/ECO	17		ORIGINAL CAST LIGHTING	VP1-010A-24-GW-PTD(FINISH)-1LF14-(VOLT)
L2	ROOF LINE	PARAPET-MOUNTED METAL HALIDE ADJUSTABLE ACCENT LUMINAIRE, NOMINAL 5 INCH DIAMETER X 11 INCH LONG MACHINED ALUMINUM HOUSING WITH REGRESSED CLEAR GLASS LENS AND WEEP HOLE, PROVIDE SPREAD LENS ACCESSORY. HOUSING MOUNTS TO BALLAST ENCLOSURE WITH ADJUSTABLE LOCKING KNUCKLE ASSEMBLY. NOMINAL 14 INCH LONG MACHINED ALUMINUM STEM PROVIDES EXTENSION OVER PARAPET AND HAVE 180° LOCKING SWIVEL TO ALLOW RE-LAMPING FROM ROOF. WEATHER-TIGHT BALLAST ENCLOSURE IS NOMINAL 7-1/2 INCH HIGH X 5 INCH WIDE X 3 INCH DEEP MACHINED ALUMINUM HOUSING WITH INTEGRAL ELECTRONIC BALLAST AND ACCEPTS DIRECT CONDUIT FEED. CONTRACTOR SHALL MOUNT ENCLOSURE ON BACK SIDE OF PARAPET. REFER TO ELECTRICAL DRAWINGS FOR MOUNTING DETAIL. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL.	1	CDM70/PAR30L/M/SP/3K/ALTO	79		BK LIGHTING WINONA LIGHTING	CUS-1914-26-(FINISH)-(VOLT)
L3	CATENARY	CATENARY-MOUNTED METAL HALIDE PENDANT LUMINAIRE MOUNTED TO CONTRACTOR-SUPPLIED AND INSTALLED STAINLESS STEEL CABLE SYSTEM, NOMINAL 19 INCH DIAMETER X 16 INCH HIGH HOUSING WITH IMPACT-RESISTANT OPAL WHITE ACRYLIC DIFFUSER, SEGMENTED SPECULAR ALUMINUM REFLECTOR WITH I.E.S. TYPE V SQUARE OPTICAL DISTRIBUTION, HINGED SILK SCREENED BOTTOM LENS WITH SAFETY CABLE. OVERALL PAINT FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. LUMINAIRE INCLUDES NOMINAL 9 INCH TALL X 8 INCH WIDE DIE-CAST ALUMINUM CABLE COMPARTMENT FOR MOUNTING TO STAINLESS STEEL CABLE SUSPENSION SYSTEM. CONTRACTOR SHALL PROVIDE MINIMUM 1/4 INCH DIAMETER STAINLESS STEEL SPAN WIRE AND HARDWARE AS REQUIRED FOR CONNECTION TO BUILDING FACES. ELECTRICAL POWER FEED SHALL BE BLACK. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS OF ALL BUILDING CONNECTIONS. CONTRACTOR SHALL INSTALL AIRCRAFT CABLE AND LUMINAIRE WITH A NOMINAL 12 INCHES OF VERTICAL DEFLECTION/SWAG FROM MOUNTING POINTS. CONTRACTOR SHALL COORDINATE FINAL MOUNTING POSITIONS WITH THE DESIGN PROFESSIONAL IN THE FIELD. STRUCTURAL ENGINEER SHALL REVIEW AND APPROVE ALL CABLE MOUNTING ATTACHMENTS TO BUILDING EXTERIOR. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR ALL REQUIREMENTS FOR MOUNTING OF STAINLESS STEEL SUSPENSION CABLE.	1	MHC70/U/M/3K/ALTO	79		LOUIS POULSEN	LPI-MIN-P-1/70W/MH/ED17-120/277-(FINISH)-TSSQ-OPAL
L4	GRND	GROUND-MOUNTED L.E.D. ADJUSTABLE ACCENT UPLIGHT LUMINAIRE, NOMINAL 2-1/4 INCH DIAMETER x 4 INCH LONG MACHINED ALUMINUM HOUSING WITH FLUSH CLEAR GLASS LENS, PROVIDE HONEYCOMB LOUVER ACCESSORY, 3000°K WHITE LED LIGHT ENGINE PROVIDES A MINIMUM 250 INITIAL DELIVERED LUMENS IN A 35° MEDIUM FLOOD DISTRIBUTION. HOUSING MOUNTS TO GROUND STAKE ACCESSORY WITH ADJUSTABLE LOCKING KNUCKLE THAT PROVIDES 360° ROTATION AND 180° TILT. PROVIDE NOMINAL 1 INCH DIAMETER X 7 INCH LONG PVC GROUND STAKE. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. LUMINAIRE CONNECTS TO REMOTE POWER SUPPLY; REFER TO L4P FOR SPECIFICATION OF POWER. REFER TO DETAILS IN ELECTRICAL DRAWINGS FOR MOUNTING INFORMATION.	–	LEDs BY MANUFACTURER	10		BK LIGHTING WINONA LIGHTING LUMIERE	NS-LED-e22-MFL-A9-(FINISH)-11-360SL+SK

THE MALL IN COLUMBIA
COLUMBIA, MARYLAND

TLP PROJECT NUMBER:
11082.00

SCHEDULE OF LIGHTING FIXTURES

TYPE	MTG.	DESCRIPTION	LAMPING QTY.	LAMPING LAMP DESIGNATION	LOAD (VA)	VOLTS	MANUFACTURER	CATALOG NUMBER
L4A	TREE	SIMILAR TO TYPE L4, EXCEPT FOR MOUNTING ACCESSORY. PROVIDE TREE STRAP MOUNTING, STRAP SHALL BE 1 INCH WIDE OLIVE GREEN NYLON WITH LENGTH AS REQUIRED FOR TREE CALIPER. STRAP INCLUDES LOW-PROFILE MACHINED ALUMINUM THREADED CAP FOR CONNECTION OF LUMINAIRE AND LOW-VOLTAGE WIRING. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. CONTRACTOR SHALL COORDINATE MOUNTING LOCATIONS OF ALL TREE LIGHTS WITH DESIGN PROFESSIONAL IN THE FIELD. ALL LOW-VOLTAGE WIRING SHALL BE RUN DISCREETLY AND JACKETING SHALL MATCH TREE. LUMINAIRE CONNECTS TO REMOTE POWER SUPPLY; REFER TO L4P FOR SPECIFICATION OF POWER. REFER TO DETAILS IN ELECTRICAL DRAWINGS FOR MOUNTING INFORMATION.	–	LEDs BY MANUFACTURER	10		BK LIGHTING WINONA LIGHTING LUMIERE	NS-LED-e22-MFL-A9-(FINISH)-11-360SL+TS-TMC-(FINISH)-(LENGTH)
L5	GRND	METAL HALIDE GROUND-MOUNTED ADJUSTABLE ACCENT UPLIGHT LUMINAIRE, NOMINAL 4 INCH DIAMETER x 8-1/2 INCH LONG MACHINED ALUMINUM HOUSING WITH WALL WASH OPTICS AND "CUT-OFF" VISOR, CLEAR GLASS LENS. HOUSING MOUNTS TO BALLAST ENCLOSURE WITH ADJUSTABLE LOCKING KNUCKLE. WEATHER-TIGHT BALLAST ENCLOSURE IS NOMINAL 9-3/4 INCH TALL X 3-1/4 INCH DIAMETER MACHINED ALUMINUM HOUSING WITH ELECTRONIC BALLAST; ENCLOSURE IS GROUND-MOUNTED WITH NOMINAL 18 INCH LONG X 3-1/4 INCH DIAMETER RECESSED PVC POWERPIPE STAKE. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL.	1	CDM35/T6/830	45		BK LIGHTING WINONA LIGHTING LUMIERE	YO-WW-O-(FINISH)-9-CV+PPII-35-E
L6	SURF	METAL HALIDE COLUMN-MOUNTED LUMINAIRE MOUNTED IN THE DOWNLIGHT POSITION, NOMINAL 3 INCH DIAMETER X 7 INCH LONG HOUSING MOUNTED TO ALUMINUM BALLAST ENCLOSURE. REGRESSED CLEAR GLASS LENS WITH HONEYCOMB BAFFLE ACCESSORY. WEATHER-TIGHT BALLAST ENCLOSURE IS NOMINAL 8 INCH TALL X 3-1/2 INCH DIAMETER MACHINED ALUMINUM HOUSING WITH ELECTRONIC BALLAST AND ALLOWS FOR DIRECT CONDUIT FEED. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTINGS HEIGHT. U.L. WET LOCATION LABEL.	1	CDM35/PAR20/M/SP/3K/ALTO	45		BK LIGHTING WINONA LIGHTING LUMIERE	CUS-1908-81-35WCMH-(FINISH)
L8	PIPE	METAL HALIDE STRUCTURE-MOUNTED FLOOD LIGHT, NOMINAL 6 INCH DIAMETER X 9-1/2 INCH TALL X 8 INCH DEEP ALUMINUM HOUSING, FULLY-GASKETED LAMP ENCLOSURE WITH CLEAR TEMPERED GLASS LENS, 20° OPTICAL REFLECTOR WITH WIDE BEAM SPREAD LENS, TAPERED GLARE SHIELD. INTEGRAL ELECTRONIC BALLAST. NOMINAL 1/2 INCH STAINLESS STEEL NIPPLE ACCEPTS DIRECT ELECTRICAL FEED. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. REFER TO DETAILS IN ELECTRICAL DRAWINGS FOR MOUNTING INFORMATION. ELECTRICAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS FOR APPLICATION OF SPECIFIED TUBE CLAMP ACCESSORY TO CONFIRM COMPATIBILITY.	1	CDM35/TC/830	45		BEGA WE-EF ERCO	84124M-265-316-(FINISH)+280
M8	WALL	COMPACT FLUORESCENT TRAPEZOIDAL WALL-MOUNTED FULL-CUTOFF LUMINAIRE, NOMINAL 16 INCH WIDE X 9 INCH DEEP X 7 INCH TALL CAST ALUMINUM HOUSING, FULLY-GASKETED ASSEMBLY WITH TEMPERED GLASS LENS WITH SOLITE DIFFUSING OPTION, MEDIUM THROW OPTICS. INTEGRAL 2-LAMP ELECTRONIC BALLAST. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.	2	PL-C26W/830/4P/ALTO	54		GARDCO McGRAW EDISON LITHONIA	101-MT-2260F-UNV-(FINISH)-SL
M10	GRND	GROUND-MOUNTED L.E.D. LIGHT BOLLARD, NOMINAL 8 INCH DIAMETER X 42 INCH HIGH EXTRUDED ALUMINUM HOUSING WITH DIE-CAST ALUMINUM GENTLY ROUNDED CAP, FLUSH CLEAR POLYCARBONATE LENS, 3500°K WHITE LED LIGHT ENGINE PROVIDES A MINIMUM 600 INITIAL DELIVERED LUMENS IN AN ASYMMETRIC DISTRIBUTION, INTEGRAL POWER SUPPY WITH SURGE PROTECTION. OVERALL FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL, U.L. WET LOCATION LABEL. CONTRACTOR SHALL ORIENT BOLLARD TO ENSURE ASYMMETRIC LIGHT DISTRIBUTION ILLUMINATES SIDEWALK.	–	LEDs BY MANUFACTURER	15		SE'LUX	NT-3.50LG3700-35-(FINISH)-(VOLT)
P1	POLE	METAL HALIDE INDIRECT POST-TOP LUMINAIRE, NOMINAL 28 INCH HIGH X 28 INCH WIDE CAST ALUMINUM INDIRECT 'SAIL' STYLE LUMINAIRE MOUNTED TO 13'-0" TALL ROUND TAPERED STEEL POLE, SPECULAR ALUMINUM REFLECTOR & DIFFUSE RIBBED SAILOR REFLECTOR SYSTEM, SAIL IS FIELD ADJUSTABLE TO 15°/30°/45°/60° INCREMENTS. OVERALL LUMINAIRE AND POLE HEIGHT IS NOMINAL 15 FEET. OVERALL CUSTOM BRONZE FINISH, DESIGN PROFESSIONAL SHALL PROVIDE RAL MATCH DURING SUBMITTAL REVIEW. U.L. WET LOCATION LABEL. ASSEMBLY SHALL BE ABLE TO WITHSTAND 90MPH WINDS WITH 1.3 GUST FACTOR.	1	CDM150/T6/830	161		HESS AMERICA	CA450-150MH-(VOLT)-A-13RT-CC/(FINISH)-N

THIS DESIGN IS IN COMPLIANCE WITH 'THE MALL NEIGHBORHOOD DESIGN GUIDELINES' OF DOWNTOWN COLUMBIA (ver. 4/11/2012)

GENERAL NOTES:

1. ALL LIGHTING FIXTURES, LAMPS AND RELATED DEVICES FURNISHED UNDER THIS CONTRACT SHALL CARRY THE APPROVAL LABEL OF UL OR ETL FOR THE SPECIFIC APPLICATION IN WHICH THEY ARE USED.

2. THE STATEMENT "FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL" SHALL BE INTERPRETED TO MEAN THAT THE FINISH OF THE LUMINAIRE SHALL MATCH THE APPEARANCE OF A PAINT CHIP, COLOR NUMBER, OR METAL SWATCH FURNISHED BY THE DESIGN PROFESSIONAL DURING THE SUBMITTAL REVIEW PROCESS.

3. UNLESS OTHERWISE INDICATED, ALL FLUORESCENT BALLASTS SHALL BE ELECTRONIC TYPE. ELECTRONIC BALLASTS FOR STRAIGHT AND U-BENT LAMPS SHALL BE PROGRAMMED START TYPE. ELECTRONIC BALLASTS FOR COMPACT FLUORESCENT LAMPS (TWIN TUBE, TRIPLE TUBE, AND QUAD TUBE) SHALL BE EQUIPPED WITH A PROTECTIVE SHUT DOWN CIRCUIT TO SHUT OFF THE BALLAST WHEN THE LAMP IS APPROACHING FAILURE. UNLESS OTHERWISE NOTED, FLUORESCENT AND COMPACT FLUORESCENT BALLASTS SHALL BE MANUFACTURED BY ADVANCE, UNIVERSAL LIGHTING TECHNOLOGIES, OSRAM SYLVANIA, OR GENERAL ELECTRIC. UNLESS OTHERWISE NOTED, FLUORESCENT LAMP DIMMING BALLASTS SHALL BE LUTRON HI-LUME SERIES. UNLESS OTHERWISE NOTED, HIGH WATTAGE H.I.D. LAMP BALLASTS SHALL BE CWA TYPE; LOW WATTAGE H.I.D. LAMP BALLASTS SHALL BE ELECTRONIC TYPE.

4. WHITE L.E.D.'S SHALL MEET, AT A MINIMUM, CHROMATICITY STANDARDS SET BY ANSI/NEMA/ANSLG C79.377-2008. L.E.D. LUMEN MAINTENANCE SHALL BE MEASURED IN ACCORDANCE WITH IESNA LM-80 STANDARDS. PHOTOMETRIC TESTING FOR SOLID STATE LUMINAIRES SHALL BE IN ACCORDANCE WITH IESNA LM-79 STANDARDS.

5. UNLESS OTHERWISE NOTED, LAMP DESIGNATIONS ARE FOR LAMPS BY PHILIPS LIGHTING COMPANY. LAMPS OF EQUIVALENT CHARACTERISTICS WITH EQUAL OR BETTER PERFORMANCE FROM GENERAL ELECTRIC, OSRAM/SYLVANIA AND VENTURE LIGHTING ARE ACCEPTABLE ALTERNATIVES.

6. CONTRACTOR SHALL CONFIRM FIXTURE VOLTAGES, CEILING TRIMS, AND MOUNTING HARDWARE ARE COMPATIBLE WITH THEIR APPLICATION AS DETERMINED BY THE DESIGN PROFESSIONAL PRIOR TO ORDERING FIXTURES.

7. CONTRACTOR SHALL SELECT, FURNISH AND INSTALL THE CORRECT SIZE OF SECONDARY WIRING FROM REMOTE TRANSFORMERS AND/OR REMOTE BALLASTS AS REQUIRED TO KEEP VOLTAGE DROP IN THE SECONDARY WIRING BELOW 3% OF RATED VOLTAGE.

8. ALL DIMMABLE FLUORESCENT, CERAMIC METAL HALIDE, AND L.E.D. LAMPS SHALL BE BURNED CONTINUOUSLY FOR 100 HOURS PRIOR TO FOCUSING OF FIXTURES AND COMMISSIONING OF CONTROL SYSTEMS.

9. CONTRACTOR SHALL PROVIDE LABOR AND EQUIPMENT FOR FOCUSING OF ADJUSTABLE FIXTURES AND PRESETTING OF LIGHTING CONTROL SYSTEMS. FOCUSING AND PRESETTING SHALL BE DONE IN THE PRESENCE OF THE DESIGN PROFESSIONAL. CONTRACTOR SHALL FOCUS LIGHTING AFTER DARK IF DIRECTED BY THE OWNER'S REPRESENTATIVE. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL PROVIDE AT LEAST ONE DAY OF A FACTORY-TRAINED AND CERTIFIED TECHNICIAN TO PROVIDE WARRANTY START UP AND PROGRAMMING FOR ALL LIGHTING CONTROL SYSTEMS AND PROGRAMMABLE LIGHTING FIXTURES.

10. CONTRACTOR SHALL PROVIDE THE FOLLOWING WITH THEIR BID:

    A. THE UNIT PRICE, WITHOUT LAMP, FOR EACH LIGHTING FIXTURE TYPE LISTED WITHIN THE LIGHTING FIXTURE SCHEDULE. THE UNIT PRICE SHALL BE FOR ONE OF THE LISTED MANUFACTURER'S FOR THAT PARTICULAR FIXTURE. THE MANUFACTURER SHALL BE IDENTIFIED. SUBSTITUTIONS FOR FIXTURES PROVIDED BY MANUFACTURERS NOT LISTED IN THE SCHEDULE ARE NOT ACCEPTABLE. SEE BELOW FOR REQUIREMENTS ASSOCIATED WITH SUBMITTING LIGHTING FIXTURE SUBSTITUTIONS.
    B. THE TOTAL QUANTITY OF EACH FIXTURE TYPE WITH THE EXTENDED COST FOR THAT QUANTITY.
    C. THE UNIT PRICE, TYPE, AND QUANTITY OF LAMPS.

11. WITHIN 21 DAYS OF CONTRACT AWARD, THE CONTRACTOR SHALL FURNISH SUBMITTALS FOR ALL SPECIFIED LIGHTING FIXTURES FOR REVIEW BY THE DESIGN PROFESSIONAL. THE SUBMITTALS SHALL INCLUDE LUMINAIRE CATALOG CUTS, SUBMITTAL SHEETS, OR MANUFACTURERS SHOP DRAWINGS INDICATING THE FOLLOWING:

    A. MANUFACTURER'S NAME AND COMPLETE CATALOG NUMBER
    B. FIXTURE TYPE, DIMENSIONS AND FINISHES
    C. FIXTURE PHOTOMETRIC TEST DATA FROM AN INDEPENDENT TEST LABORATORY
    D. FIXTURE ACCESSORIES, COMPONENTS, AND HARDWARE WHEN SPECIFIED
    E. LAMP TYPE, QUANTITY, WATTAGE, LUMEN OUTPUT, RATED LIFE, COLOR TEMPERATURE, COLOR RENDERING INDEX AND BEAM SPREAD AS APPLICABLE
    F. BALLAST TYPE AND FIXTURE VOLTAGE

    SUBMITTALS FOR LIGHTING FIXTURES MOUNTED WITHIN ARCHITECTURAL COVES OR CASEWORK, VARIABLE LENGTH FIXTURES, AND FOR NON-STANDARD, OR CUSTOM FIXTURES, SHALL ALSO INCLUDE SCALED DRAWINGS SHOWING THE LAYOUT AND DIMENSIONS OF ALL FIXTURE COMPONENTS AND ACCESSORIES, THE METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS.

12. LIGHTING FIXTURE SUBSTITUTION REQUESTS MUST BE SENT TO AND RECEIVED BY THE LIGHTING DESIGNER FOR REVIEW 14 DAYS PRIOR TO BID DATE. FAILURE TO SUBMIT WITHIN THIS DEADLINE SHALL CONSTITUTE A GUARANTEE THAT THE SPECIFIED FIXTURES WILL BE SUPPLIED. THE SUBMITTAL SHALL INCLUDE THE FOLLOWING:

    A. SIX HARD COPIES OF THE SUBMITTALS REQUIRED ABOVE FOR BOTH THE SPECIFIED FIXTURE AND THE PROPOSED SUBSTITUTION.
    B. ONE NON-RETURNABLE WORKING SAMPLE OF THE PROPOSED SUBSTITUTE FIXTURE WITH CORD & PLUG CONNECTION FOR 120 VOLT OPERATION, AND SPECIFIED LAMP(S).
    C. CONTRACTOR'S STATEMENT INDICATING THE EFFECT OF THE SUBSTITUTION ON THE CONSTRUCTION SCHEDULE COMPARED TO THE SCHEDULE WITHOUT THE APPROVAL OF THE PROPOSED SUBSTITUTION.
    D. CONTRACTOR'S CERTIFICATION STATING THAT THE PROPOSED SUBSTITUTION CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS IN EVERY RESPECT AND IS APPROPRIATE FOR THE APPLICATIONS INDICATED IN THE DOCUMENTS.
    E. CONTRACTOR'S CERTIFICATION STATING THAT ANY MODIFICATIONS TO ANY BUILDING SYSTEM OR EQUIPMENT THAT MAY RESULT FROM THE PROPOSED LIGHTING FIXTURE SUBSTITUTION WILL BE DESIGNED AND CONSTRUCTED AT THE CONTRACTOR'S EXPENSE.
    F. CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME THAT MAY BECOME NECESSARY SHOULD THE PROPOSED SUBSTITUTION FAIL TO PERFORM IN A MANNER THAT MATCHES THE SPECIFIED FIXTURE.
    G. CONTRACTOR-NET UNIT PRICE FOR THE SPECIFIED FIXTURE AND FOR THE PROPOSED SUBSTITUTE FIXTURE.

THE LIGHTING DESIGNER SHALL BE REIMBURSED BY THE CONTRACTOR FOR ALL OF THE DESIGNER'S TIME ASSOCIATED WITH THE REVIEW OF THE PROPOSED FIXTURE SUBSTITUTION(S). PAYMENT SHALL BE MADE IN ADVANCE OF THE REVIEW, BASED ON THE DESIGNER'S ESTIMATE OF THE REQUIRED TIME. THE PAYMENT SHALL BE BASED ON THE DESIGNER'S STANDARD HOURLY RATES FOR THE PERSONNEL INVOLVED IN THE REVIEW.

ARCHITECT
#06632
GORDON MICHAELSON
STATE OF MARYLAND

the lighting practice
THE LIGHTING PRACTICE
600 Chestnut Street
Suite 772
Philadelphia, PA 19106

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EXTERIOR LIGHTING FIXTURE SCHEDULE
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 43 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: NO SCALE

SDP - 13 - 016

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THE MALL IN COLUMBIA COLUMBIA, MARYLAND					TLP PROJECT NUMBER: 11082.00			
SCHEDULE OF LIGHTING FIXTURES								
TYPE	MTG.	DESCRIPTION	LAMPING		LOAD (VA)	VOLTS	MANUFACTURER	CATALOG NUMBER
			QTY.	LAMP DESIGNATION				
P1A	POLE	SIMILAR TO TYPE P1, EXCEPT DOUBLE-HEAD POLE WITH BACK-TO-BACK 180° MOUNTING OF HEADS. EACH HEAD SHALL MOUNT TO NOMINAL 20 INCH LONG ARMATURE.	2	CDM150/T6/830	322		HESS AMERICA	CA450-150MH-(VOLT)-B-13RT-CC/(FINISH)-N
R1	TREE	LED DECORATIVE LANTERN WITH METAL CYLINDRICAL HOUSING, NOMINAL 9 INCH LONG X 2 INCH DIAMETER PERFORATED ALUMINUM HOUSING WITH RECESSED LIGHT ENGINE, 3000°K WHITE LED LIGHT ENGINE PROVIDES A MINIMUM 300 INITIAL DELIVERED LUMENS IN A 60' WIDE FLOOD DISTRIBUTION. WEATHER-TIGHT CABLE CONNECTION, STAINLESS STEEL AIRCRAFT CABLE SUSPENSION WITH TANDEM POWER FEEDS, CONTRACTOR SHALL SECURE FEEDS AND CABLE WITH BLACK SHRINK WRAP. OVERALL FINISH OF HOUSING SHALL BE SELECTED BY DESIGN PROFESSIONAL. U.L. WET LOCATION LABEL. LUMINAIRE CONNECTS TO REMOTE POWER SUPPLY; REFER TO R1P FOR SPECIFICATION OF POWER. REFER TO DETAILS IN ELECTRICAL DRAWINGS FOR MOUNTING INFORMATION. MOUNTING HEIGHTS WITHIN TREE SHALL BE COORDINATED IN THE FIELD WITH DESIGN PROFESSIONAL.	–	LEDs BY MANUFACTURER	8		BK LIGHTING LUMIERE VISTA PRO	CUS-1404-11-(FINISH)
R4	GRND	SOLAR L.E.D. PAVER, NOMINAL 4 INCH WIDE X 8 INCH LONG X 2 INCH DEEP STAINLESS STEEL HOUSING WITH METAL EDGE TRIM HIGH IMPACT POLYCARBONATE TOP LENS, LED LIGHT ENGINE. LED COLOR SHALL BE SELECTED BY DESIGN PROFESSIONAL. INTEGRAL BATTERY PACK AND PHOTOCELL SENSOR FOR AUTOMATED DUSK TO DAWN OPERATION. ASSEMBLY INCLUDES BACK BOX HOUSING WITH ANCHOR PLATE FOR CONCRETE POUR INSTALLATIONS. U.L. WET LOCATION AND IP68 RATED. OVERALL METAL TRIM FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL. LUMINAIRE DOES NOT REQUIRE ELECTRICAL POWER. NO CIRCUITING REQUIRED.	–	LEDSs BY MANUFACTURER	–	–	METEOR LIGHTING	SH-180C-(COLOR)-(FINISH)-H
R17	REC	RECESSED LED DOWNLIGHT, NOMINAL 4 INCH DIAMETER APERTURE X MAXIMUM 7 INCH DEEP HOUSING, 3000°K WHITE LED LIGHT ENGINE WITH MINIMUM 800 INITIAL DELIVERED LUMENS, SEMI-SPECULAR CLEAR LOW-IRIDESCENT ALZAK REFLECTOR WITH WHITE RETURN FLANGE, MEDIUM BEAM OPTICS WITH 45° VISUAL CUTOFF. INTEGRAL 0-10V DRIVER, U.L. WET LOCATION LABEL.	–	LEDSs BY MANUFACTURER	15		PORTFOLIO GOTHAM LIGHTOLIER	LD409-D010-ERM4830-4LM1H-WF

THIS DESIGN IS IN COMPLIANCE WITH 'THE MALL NEIGHBORHOOD DESIGN GUIDELINES' OF DOWNTOWN COLUMBIA (ver. 4/11/2012)

GENERAL NOTES:

1. ALL LIGHTING FIXTURES, LAMPS AND RELATED DEVICES FURNISHED UNDER THIS CONTRACT SHALL CARRY THE APPROVAL LABEL OF UL OR ETL FOR THE SPECIFIC APPLICATION IN WHICH THEY ARE USED.

2. THE STATEMENT "FINISH SHALL BE SELECTED BY DESIGN PROFESSIONAL" SHALL BE INTERPRETED TO MEAN THAT THE FINISH OF THE LUMINAIRE SHALL MATCH THE APPEARANCE OF A PAINT CHIP, COLOR NUMBER, OR METAL SWATCH FURNISHED BY THE DESIGN PROFESSIONAL DURING THE SUBMITTAL REVIEW PROCESS.

3. UNLESS OTHERWISE INDICATED, ALL FLUORESCENT BALLASTS SHALL BE ELECTRONIC TYPE. ELECTRONIC BALLASTS FOR STRAIGHT AND U-BENT LAMPS SHALL BE PROGRAMMED START TYPE. ELECTRONIC BALLASTS FOR COMPACT FLUORESCENT LAMPS (TWIN TUBE, TRIPLE TUBE, AND QUAD TUBE) SHALL BE EQUIPPED WITH A PROTECTIVE SHUT DOWN CIRCUIT TO SHUT OFF THE BALLAST WHEN THE LAMP IS APPROACHING FAILURE. UNLESS OTHERWISE NOTED, FLUORESCENT AND COMPACT FLUORESCENT BALLASTS SHALL BE MANUFACTURED BY ADVANCE, UNIVERSAL LIGHTING TECHNOLOGIES, OSRAM SYLVANIA, OR GENERAL ELECTRIC. UNLESS OTHERWISE NOTED, FLUORESCENT LAMP DIMMING BALLASTS SHALL BE LUTRON HI-LUME SERIES. UNLESS OTHERWISE NOTED, HIGH WATTAGE H.I.D. LAMP BALLASTS SHALL BE CWA TYPE; LOW WATTAGE H.I.D. LAMP BALLASTS SHALL BE ELECTRONIC TYPE.

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5. UNLESS OTHERWISE NOTED, LAMP DESIGNATIONS ARE FOR LAMPS BY PHILIPS LIGHTING COMPANY. LAMPS OF EQUIVALENT CHARACTERISTICS WITH EQUAL OR BETTER PERFORMANCE FROM GENERAL ELECTRIC, OSRAM/SYLVANIA AND VENTURE LIGHTING ARE ACCEPTABLE ALTERNATIVES.

6. CONTRACTOR SHALL CONFIRM FIXTURE VOLTAGES, CEILING TRIMS, AND MOUNTING HARDWARE ARE COMPATIBLE WITH THEIR APPLICATION AS DETERMINED BY THE DESIGN PROFESSIONAL PRIOR TO ORDERING FIXTURES.

7. CONTRACTOR SHALL SELECT, FURNISH AND INSTALL THE CORRECT SIZE OF SECONDARY WIRING FROM REMOTE TRANSFORMERS AND/OR REMOTE BALLASTS AS REQUIRED TO KEEP VOLTAGE DROP IN THE SECONDARY WIRING BELOW 3% OF RATED VOLTAGE.

8. ALL DIMMABLE FLUORESCENT, CERAMIC METAL HALIDE, AND L.E.D. LAMPS SHALL BE BURNED CONTINUOUSLY FOR 100 HOURS PRIOR TO FOCUSING OF FIXTURES AND COMMISSIONING OF CONTROL SYSTEMS.

9. CONTRACTOR SHALL PROVIDE LABOR AND EQUIPMENT FOR FOCUSING OF ADJUSTABLE FIXTURES AND PRESETTING OF LIGHTING CONTROL SYSTEMS. FOCUSING AND PRESETTING SHALL BE DONE IN THE PRESENCE OF THE DESIGN PROFESSIONAL. CONTRACTOR SHALL FOCUS LIGHTING AFTER DARK IF DIRECTED BY THE OWNER'S REPRESENTATIVE. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL PROVIDE AT LEAST ONE DAY OF A FACTORY-TRAINED AND CERTIFIED TECHNICIAN TO PROVIDE WARRANTY START UP AND PROGRAMMING FOR ALL LIGHTING CONTROL SYSTEMS AND PROGRAMMABLE LIGHTING FIXTURES.

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    B. THE TOTAL QUANTITY OF EACH FIXTURE TYPE WITH THE EXTENDED COST FOR THAT QUANTITY.
    C. THE UNIT PRICE, TYPE, AND QUANTITY OF LAMPS.

11. WITHIN 21 DAYS OF CONTRACT AWARD, THE CONTRACTOR SHALL FURNISH SUBMITTALS FOR ALL SPECIFIED LIGHTING FIXTURES FOR REVIEW BY THE DESIGN PROFESSIONAL. THE SUBMITTALS SHALL INCLUDE LUMINAIRE CATALOG CUTS, SUBMITTAL SHEETS, OR MANUFACTURERS SHOP DRAWINGS INDICATING THE FOLLOWING:

    A. MANUFACTURER'S NAME AND COMPLETE CATALOG NUMBER
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    C. FIXTURE PHOTOMETRIC TEST DATA FROM AN INDEPENDENT TEST LABORATORY
    D. FIXTURE ACCESSORIES, COMPONENTS, AND HARDWARE WHEN SPECIFIED
    E. LAMP TYPE, QUANTITY, WATTAGE, LUMEN OUTPUT, RATED LIFE, COLOR TEMPERATURE, COLOR RENDERING INDEX AND BEAM SPREAD AS APPLICABLE
    F. BALLAST TYPE AND FIXTURE VOLTAGE

    SUBMITTALS FOR LIGHTING FIXTURES MOUNTED WITHIN ARCHITECTURAL COVES OR CASEWORK, VARIABLE LENGTH FIXTURES, AND FOR NON-STANDARD, OR CUSTOM FIXTURES, SHALL ALSO INCLUDE SCALED DRAWINGS SHOWING THE LAYOUT AND DIMENSIONS OF ALL FIXTURE COMPONENTS AND ACCESSORIES, THE METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS.

12. LIGHTING FIXTURE SUBSTITUTION REQUESTS MUST BE SENT TO AND RECEIVED BY THE LIGHTING DESIGNER FOR REVIEW 14 DAYS PRIOR TO BID DATE. FAILURE TO SUBMIT WITHIN THIS DEADLINE SHALL CONSTITUTE A GUARANTEE THAT THE SPECIFIED FIXTURES WILL BE SUPPLIED. THE SUBMITTAL SHALL INCLUDE THE FOLLOWING:

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    C. CONTRACTOR'S STATEMENT INDICATING THE EFFECT OF THE SUBSTITUTION ON THE CONSTRUCTION SCHEDULE COMPARED TO THE SCHEDULE WITHOUT THE APPROVAL OF THE PROPOSED SUBSTITUTION.
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    THE LIGHTING DESIGNER SHALL BE REIMBURSED BY THE CONTRACTOR FOR ALL OF THE DESIGNER'S TIME ASSOCIATED WITH THE REVIEW OF THE PROPOSED FIXTURE SUBSTITUTION(S). PAYMENT SHALL BE MADE IN ADVANCE OF THE REVIEW, BASED ON THE DESIGNER'S ESTIMATE OF THE REQUIRED TIME. THE PAYMENT SHALL BE BASED ON THE DESIGNER'S STANDARD HOURLY RATES FOR THE PERSONNEL INVOLVED IN THE REVIEW.

ARCHITECT 10682
GORDON MICHAEL GOODE
STATE OF MARYLAND

the lighting practice
THE LIGHTING PRACTICE
600 Chestnut Street
Suite 772
Philadelphia, PA 19106

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

EXTERIOR LIGHTING FIXTURE SCHEDULE
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 44 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: NO SCALE

SDP - 13 - 016

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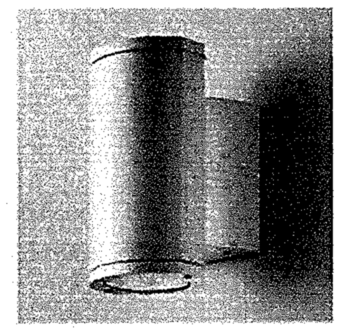
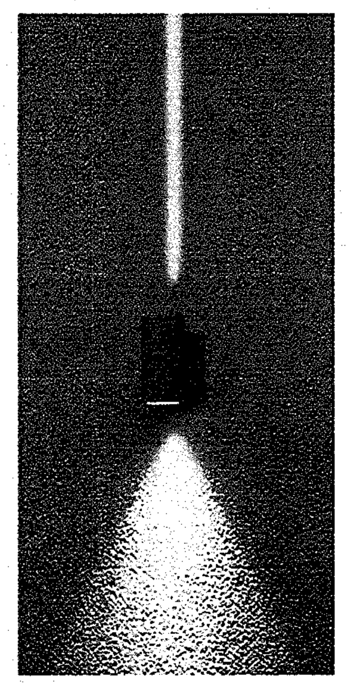
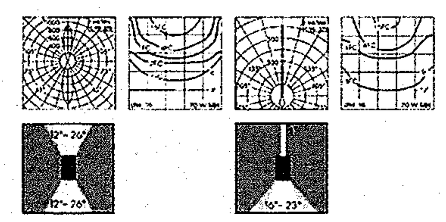
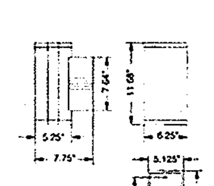




- Unique elliptical shape
- Low copper alloy die cast aluminum body
- UL, cUL listed wet label
- Field adjustable for beam spreads
- Available as: Reflector up and down
  - Reflector down only (closed top)
  - Reflector up only (closed bottom)
  - Reflector down prism up
  - Reflector up prism down
  - Prism up only (closed bottom)
  - Prism down only (closed top)
  - Prism up and down
- Clear tempered glass lens
- 39W, 70W and 100W are supplied with integral electronic ballast; 150W is supplied with remote magnetic HPF ballast
- 39W, 70W and 150W are supplied with high color rendering Master Color Metal Halide with CRI's of 80-85; 100W is normal metal halide with a CRI of 65





duo metal halide half beam angles

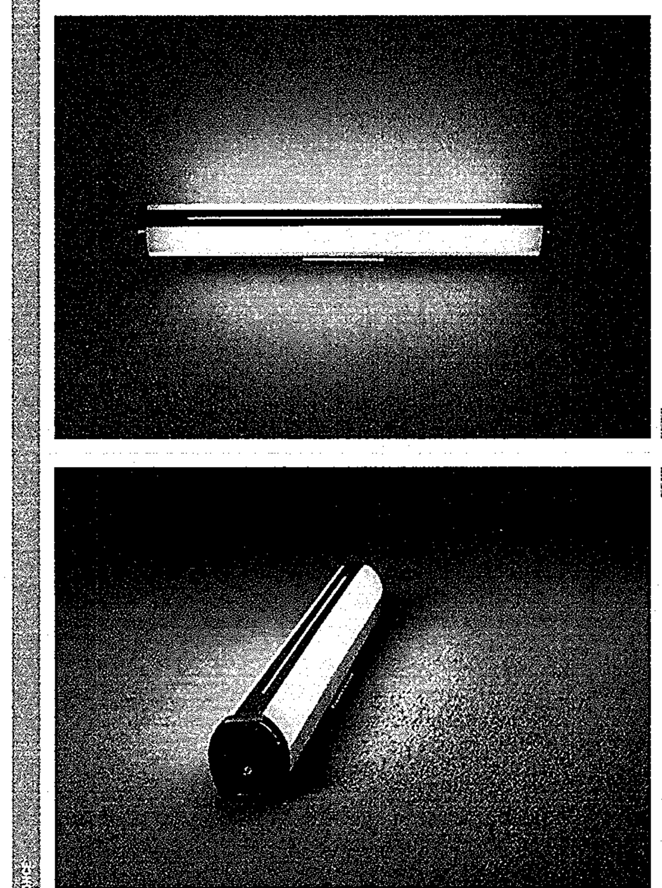
	REFLECTOR	PRISM
DOUBLE REFLECTOR	12°- 26°	
PRISM UP REFLECTOR DOWN	16°- 23°	1°
PRISM UP PRISM DOWN		1°

duo/metal halide

2

the lighting practice — Catalog No: DU1-9-T8-P-99-0-(VOLT)-T-0 — Date: 08/21/2012 — Fixture Type: **D1**

Lamp Type: (1) CDM35/T6/830



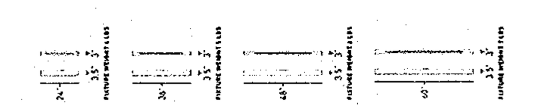
VP1-010A-24-GW-SGP

ADA

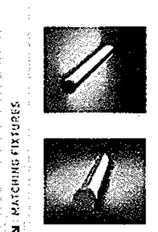
FEATURES

- The Vapor features an extruded aluminum back channel 2.50" wide and 0.125" thick with a matte anodized protective coating.
- Features solid aluminum die-cast ends with die-cut silicone foam gaskets.
- 0.08" thick aluminum decorative bar with slot cutout.
- 3/16" thick extruded virgin white acrylic is 45% DR high impact, UV stable, F1 rated, and UL-94 HB Flame Class rated.
- Extruded neoprene rubber gasket runs the length of the diffuser on both sides.
- Vapor can be mounted vertically or horizontally.
- 21 standard powder coat paints offered, however all RAL colors available.
- Utilizes highly efficient, long lasting and low mercury T5 or T5HO lamps for minimal fixture maintenance and lamp disposal.
- Contact factory for additional modifications or options.

VP1-010A-24-GW-SGP



MATCHING FIXTURES



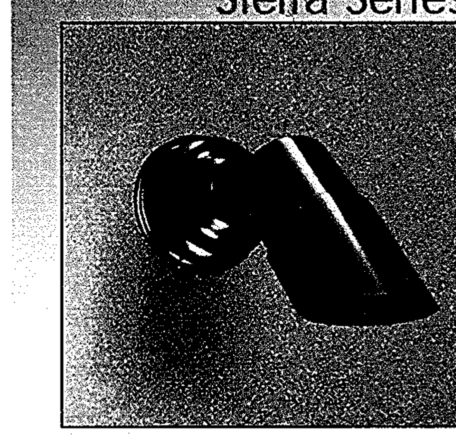
OCL www.ocl.com

VAPOR OUTDOOR SCONCE

the lighting practice — Catalog No: VP1-010A-24-GW-PTD(FINISH)-1LF14-(VOLT) — Date: 10/15/2012 — Fixture Type: **D2** — Page: 1 of 2

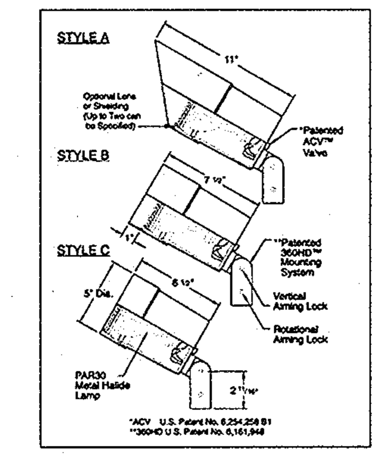
Lamp Type: (1) FP14/830/ECO

Sierra Series™



The **Sierra Series™** is designed for use with the PAR30 Master Color™ and other PAR30 metal halide lamps in wattages of 35W and 70W. The all aluminum construction and rich polyester powder coat finish will provide years of performance for this very popular lamp. The lighting designer has seven different ballast options to choose from, which facilitate a wide variety of practical applications. The Sierra Series incorporates the Patented ACV™ Valve System for increased protection against internal condensation corrosion. It also incorporates the Patented 360HD™ Mounting System with B-K Lighting's exclusive 'aim-and-lock technology'.

Features
- Tamper proof design.
- Completely sealed optical compartment.
- Clear, tempered glass lens, factory sealed.
- Machined aluminum construction with stainless steel hardware.
- Patented ACV™ Valve System. See page 33.
- Patented 360HD™ Mounting System allows vertical to horizontal and rotational aiming with positive 'aim-and-lock technology', provides integral wireway. See page 33.
- Medium base pulse rated lamp holder with 250° C, 18 ga., wire leads.
- Listed with 35W and 70W PAR30 metal halide lamps.
- For use with 35W or 70W, 120V or 277V metal halide ballast.



CATALOG NUMBER LOGIC

Example: SE - 63 - BLW - 10 - 11 - C - PC70-120

Series

Lamp Type
- 0 - By others
- 60 - 35 PAR30/MH/SP(35W), 10° Spot
- 61 - 35 PAR30/MH/FL(35W), 30° Flood
- 62 - 70 PAR30/MH/SP(70W), 10° Spot
- 63 - 70 PAR30/MH/FL(70W), 40° Flood

Finish

Powder Coat Color	Satin	Wrinkle
Bronze	BZP	BZW
Black	BLP	BLW
White(Gloss)	WHP	WHW
Aluminum	SAP	—
Verde	—	VER

Lens Type
- 9 - Clear (Standard), 10 - Spread, 13 - Rectilinear

Shielding
- 11 - Honeycomb Baffle

Cap Style
- A - 45°, B - 90°, C - Flush

Ballast Style and Input Voltage
- HP35-120 or 277 - Recessed in grade (35W)*
- HP70-120 or 277 - Recessed in grade (70W)*
- HPRM35-120 or 277 - Recessed in grade (35W)*
- HPRM70-120 or 277 - Recessed in grade (70W)*
- PPII-120 or 277 - Power Pipe II™ above grade (35W only)
- PC35-120 or 277 - Power Canopy™, wall or ceiling mount (35W)
- PC70-120 or 227 - Power Canopy™, wall or ceiling mount (70W)
- RM35-120 or 277 - Remote wall mounted housing (35W)
- RM70-120 or 277 - Remote wall mounted housing (70W)
- TSB35-120 or 277-LENGTH - Tree strap mounted electronic ballast (35W)
- TSB70-120 or 277-LENGTH - Tree strap mounted electronic ballast (70W)
- TMB35-120 or 277 - Pole top or tenon mount electronic ballast (35W)
- TMB70-120 or 277 - Pole top or tenon mount electronic ballast (70W)

For ballast information, see page 25.

B-K LIGHTING

24

the lighting practice — Catalog No: SE-0-(FINISH)-10-B+TMB-H70E-MT + 2" TENON AND STEEL MOUNTING PLATE (BY OTHERS) — Date: 08/21/2012 — Fixture Type: **L2** — Page: 1 of 4

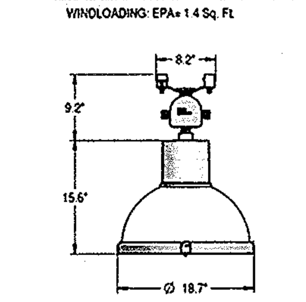
Lamp Type: (1) CDM70/PAR30L/M/SP/3K/ALTO

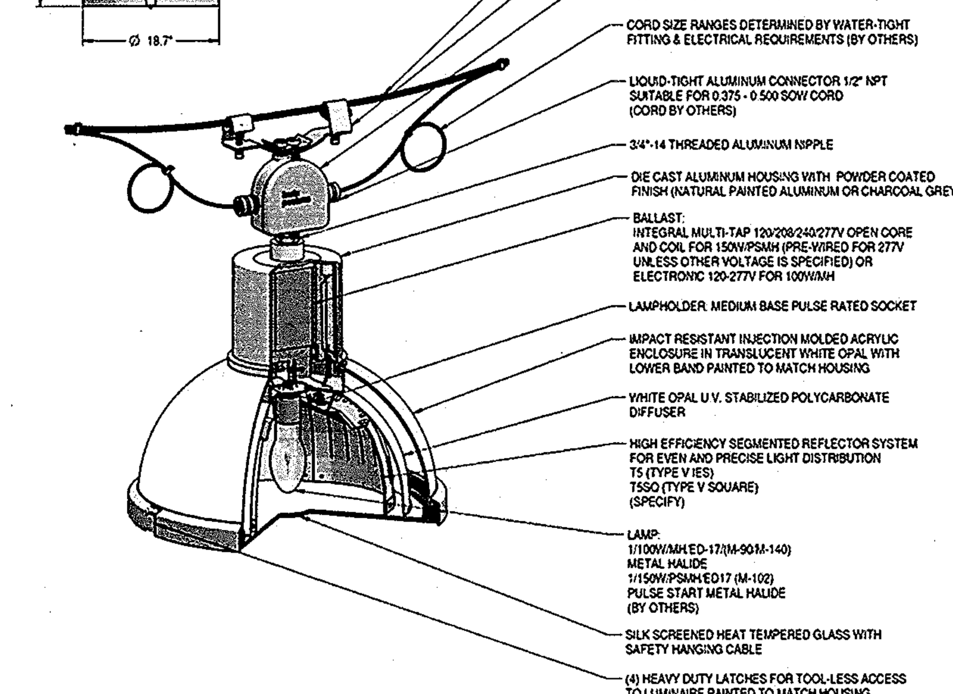
Design: Mads Odgård

OPAL

Type:
Project:
Catalog Number:

WINDLOADING: EPA= 1.4 Sq. Ft.

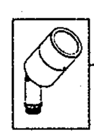




louis poulsen — Louis Poulsen Lighting, Inc., 3260 Meridian Parkway, Fort Lauderdale, FL 33331 Telephone: (954) 349-2525 Fax: (954) 349-2550 www.louispoulsen.com

the lighting practice — Catalog No: LPI-MIN-P-1/70W/MH/ED17-120/277-(FINISH)-T5SQ-OPAL — Date: 08/21/2012 — Fixture Type: **L3**

Lamp Type: (1) MHC70/U/M/3K/ALTO



BKSSL — the power of adjust e-lume

NITE STAR™

PROJECT:
TYPE:
CATALOG NUMBER:
SOURCE:
NOTES:

CATALOG NUMBER LOGIC

Example: - NS - LED - e23 - SP - A5 - BZW - 12 - 11 - 360SL

Material
- Blank - Aluminum
- B - Brass
- S - Stainless Steel

Series
- NS - Nite Star™

Source
- LED - 'e' Technology with Integral Driver

LED Type
- e36 - 8WLED/2.7K
- e22 - 8WLED/3K
- e23 - 8WLED/4K
- e24 - 8WLED/Red
- e25 - 8WLED/Green
- e26 - 8WLED/Blue
- e27 - 8WLED/Amber

Optics*
- NSP - Narrow Spot (Red Indicator)
- SP - Spot (Green Indicator)
- MFL - Medium Flood (Yellow Indicator)
- WFL - Wide Flood (Blue Indicator)

Adjust-e-Lume® Output Intensity** (Choose factory setting)
- A9 (Standard), A8, A7, A6, A5, A4, A3, A2, A1
- **Please see Adjust e-Lume® photometry to determine desired intensity.

Finish

Aluminum Finish

Powder Coat Color	Satin	Wrinkle
Bronze	BZP	BZW
Black	BLP	BLW
White (Gloss)	WHP	WHW
Aluminum	SAP	—
Verde	—	VER

Brass Finish

Machined	MAC
Polished	POL
Mitique™	MIT

Stainless Finish

Machined	MAC
Polished	POL
Brushed	BRU

Premium Finish

ABP	Antique Brass Powder	CMG	Cascade Mountain Granite	RMG	Rocky Mountain Granite
AMG	Aleutian Mountain Granite	CRI	Cracked Ice	SDS	Sonoran Desert Sandstone
AQW	Antique White	CRM	Cream	SMG	Sierra Mountain Granite
BCM	Black Chrome	HUG	Hunter Green	TXF	Textured Forest
BGE	Beige	MDS	Mojave Desert Sandstone	WCP	Weathered Copper
BPP	Brown Patina Powder	NBP	Natural Brass Powder	WIR	Weathered Iron
CAP	Clear Anodized Powder	OCP	Old Copper		Also available in RAL Finishes. See submittal SUB-1439-00

Lens Type
- 12 - Soft Focus Lens
- 13 - Rectilinear Lens

Shielding
- 11 - Honeycomb Baffle

Option
- 360SL - 360SL™ Rotational Knuckle Mounting System

LM79 DATA

BK No.	CCT (Typ.)	Input Watts (Typ.)	CRI (Typ.)
e36	2700K	8.4	90
e22	3100K	8.4	90
e23	4100K	8.4	75
e24	Red (627nm)	7.9	~
e25	Green (530nm)	8.4	~
e26	Blue (470nm)	8.4	~
e27	Amber (590nm)	7.9	~

L70 DATA

Minimum Rated Life (hrs.) 70% of Initial lumens (L_{70})
50,000
50,000
50,000
50,000
50,000
50,000
50,000

***OPTICAL DATA**

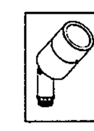
Beam Type	Angle	Visual Indicator
Narrow Spot	14°	Red Dot
Spot	18°	Green Dot
Medium Flood	25°	Yellow Dot
Wide Flood	36°	Blue Dot

B-K LIGHTING — 40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com — SUBMITTAL DATE 6-27-12 — DRAWING NUMBER SUB000929

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF B-K LIGHTING, INC. AND ITS RECEIPT OR POSSESSION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS, OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT SPECIFIC WRITTEN AUTHORIZATION OF B-K LIGHTING, INC. IS STRICTLY FORBIDDEN.

the lighting practice — Catalog No: NS-LED-e22-MFL-A9-(FINISH)-11-360SL+SK — Date: 08/31/2012 — Fixture Type: **L4** — Page: 1 of 3

Lamp Type: LEDs BY MANUFACTURER



BKSSL — the power of adjust e-lume

NITE STAR™

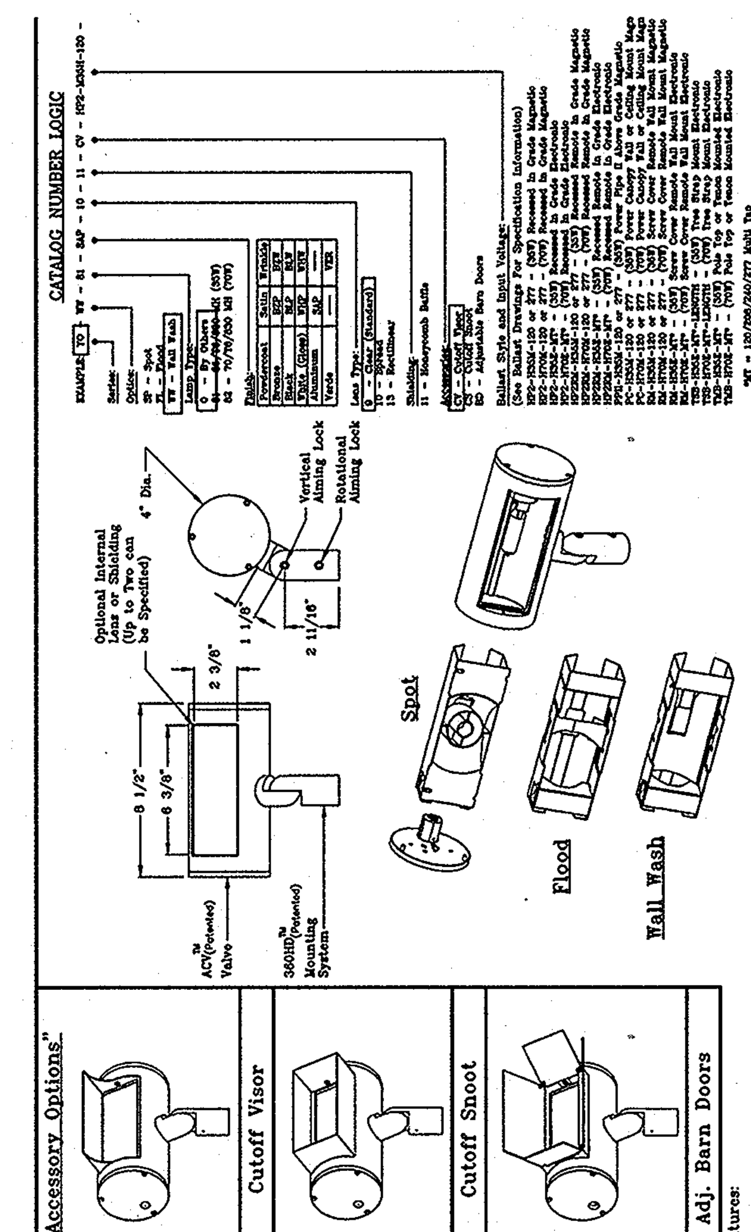
PROJECT: TYPE: CATALOG NUMBER: SOURCE: NOTES:

CATALOG NUMBER LOGIC (same as above)

B-K LIGHTING — 40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com — SUBMITTAL DATE 6-27-12 — DRAWING NUMBER SUB000929

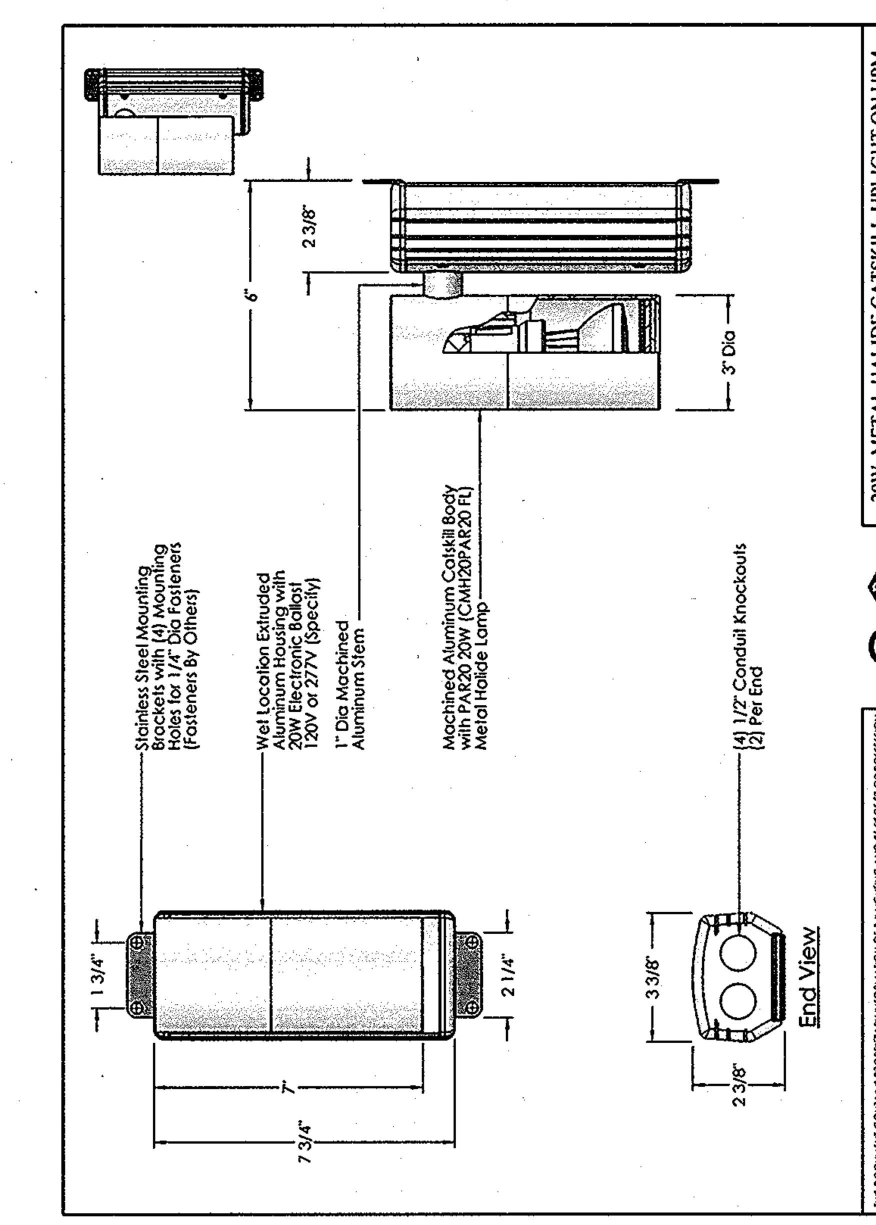
the lighting practice — Catalog No: NS-LED-e22-MFL-A9-(FINISH)-11-360SL +TS-TMC-(FINISH)-(LENGTH) — Date: 08/31/2012 — Fixture Type: **L4A** — Page: 1 of 3

Lamp Type: LEDs BY MANUFACTURER



the lighting practice — Catalog No: YO-WW-0-(FINISH)-9-CV+PPII-35-E — Date: 08/22/2012 — Fixture Type: **L5**

Lamp Type: (1) CDM35/T6/830



the lighting practice — Catalog No: CUS-1908-81-35WCMH-(FINISH) — Date: 08/22/2012 — Fixture Type: **L6** — Page: 1 of 5

Lamp Type: (1) CDM35/PAR20/M/SP/3K/ALTO

THIS DESIGN IS IN COMPLIANCE WITH 'THE MALL NEIGHBORHOOD DESIGN GUIDELINES' OF DOWNTOWN COLUMBIA (ver. 4/11/2012)

ARCHITECT 10662 GORDON MICHAEL GODAT STATE OF MARYLAND

the lighting practice — THE LIGHTING PRACTICE 600 Chestnut Street Suite 772 Philadelphia, PA 19106

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING — CONSULTING ENGINEERS - PLANNERS — 10710 Gilroy Road, Hunt Valley, MD 21031 — Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000 COLUMBIA, MARYLAND 21044 410-992-6000

LIGHTING FIXTURE CUTSHEET DATA
THE MALL IN COLUMBIA

COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 45 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE: NO SCALE

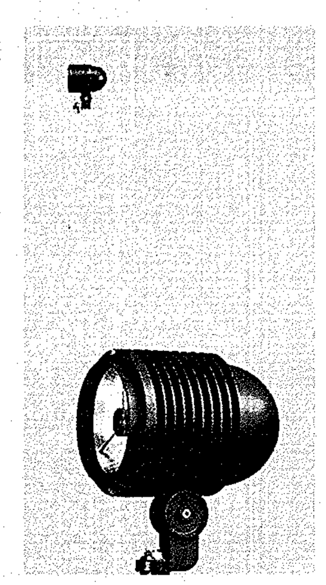
SDP - 13 - 016

Small scale floodlights

Housing: One piece die-cast aluminum with integral cooling fins.
Enclosure: Lamp enclosure/optical system consists of a die-cast aluminum clamping ring, clear tempered glass, molded high temperature silicone rubber gasket and reflector secured to housing by two captive stainless steel screws threaded into stainless steel inserts. Fully gasketed for weather tight operation in any mounting orientation using a molded silicone rubber gasket.
Mounting: Provided with a ½" I.P.S. stainless steel nipple for direct attachment to cast boxes or other accessories.
Electrical: H.I.D. lampholders are G8.5, bi-pin with nickel plated contacts. Ballasts are integral and electronic, universal voltage 120V through 277V. Provided with at least 2' of 18-3 SJTOW black 300V cord.
Finish: These luminaires are available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.
UL listed, suitable for wet locations. Protection class: IP65.

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:

Mounting options:
252 Stainless steel tree screw
280 Tube clamp
550 Post mount arm for pole top Ø 3"
551 Wall mount arm
555 Pole mount hub for pole top Ø 3"



Floodlights with ½" I.P.S. nipple

	Lamp		β	Lumen	A	B	C						
8412MH	1	39W T4 G8.5 MH	20	3300	6¼	9½	7¾	265	130	131	132	316	315

180° glare shield · Color effect filters · Exchangeable lenses · Wide beam · Flat beam · β = Beam angle

BEGA-US 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com
Copyright BEGA-US 2010 Updated 2/10

Catalog No: 8412MH-265-316-(FINISH)+280
Date: 08/22/2012
Fixture Type:
the lighting practice Lamp Type: (1) CDM35/TC/830
L8
Page: 1 of 1

Job:
Type:
Notes:

Featuring CosmoPolis Electronic HID System
100 Line
Page 1 of 3
101 Performance Sconce

The Philips Gardco 101 Trapezoidal Wedge high performance sconce luminaires are designed to integrate naturally to wall surfaces. The 101 luminaires are available with three (3) different distribution patterns. Each luminaire is designed to accept HID sources up to 175MH, and Compact Fluorescent up to (2) 42W. Housings are sealed throughout, completely excluding moisture, dust, insects and contaminants.

101 luminaires installed in the normal downlight position and with a flat glass lens, provide full cutoff performance.

PREFIX – DISTRIBUTION – WATTAGE – VOLTAGE – FINISH – OPTIONS

Enter the order code into the appropriate box above. Note: Philips Gardco reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.

PREFIX
101 Trapezoidal Wedge (Standard Luminaire)
101EM Emergency Sconce
101EMC Emergency Sconce, Cold Temperature
101EMR Remote Emergency Sconce
Refer to configuration chart below for available combinations

DISTRIBUTION
FT Forward Throw *Not Available with Fluorescent or LPS sources*
WT Wide Throw *Not Available with Fluorescent or LPS sources*
MT Medium Throw

WATTAGE AND VOLTAGE

LAMP / VOLTAGE CHART - 101

	Voltage					
HID*	120	208	240	277	347	480
60CMPE	•	200 - 277				
50MH	•			•		
70MH	•	•	•	•	•	
100MH	•	•	•	•	•	•
150MH	•	•	•	•	•	
175MH**	•	•	•	•	•	•
50CMHE¹	UNIV					
70CMHE¹	UNIV					
100CMHE¹	UNIV					
35HPS	•					
50HPS	•			•		
70HPS	•	•	•	•	•	•
100HPS	•	•	•	•	•	•
150HPS	•	•	•	•	•	
18LPS	•			•		
Fluorescent						
26QF¹	UNIV				•	
226QF¹	UNIV				•	
32TRF¹	UNIV				•	
232TRF¹	UNIV				•	
42TRF¹	UNIV				•	
242TRF¹	UNIV				•	

Combinations marked with a dot, shown with "UNIV" or "200-277" are available for ordering

60CMPE
60 Watt CosmoPolis high performance electronic ceramic MH lamp and ballast system
Available in FT, WT and MT
Available 120V or 200V - 277V only

* MH, CMHE and HPS types require medium based E17 lamps. All MH 150W and below are pulse start by design including CMHE types
** 175MH not available for sale in the United States

MH - Metal Halide
CMHE - Ceramic Metal Halide with Electronic Ballast
HPS - High Pressure Sodium
LPS - Low Pressure Sodium
TRF - Triple Tube Fluorescent
QF - Quad Fluorescent

CONFIGURATION CHART - 101EM OR 101EMC¹

	Distribution			Voltage					
Fluorescent	FT	WT	MT	120	208	240	277	347	480
226QF²			•	•			•		
32TRF			•	•			•		
42TRF			•	•			•		

CONFIGURATION CHART - 101EMR¹

	Distribution			Voltage					
Fluorescent	FT	WT	MT	120	208	240	277	347	480
226QF²³⁴			•	•			•		
32TRF			•	•			•		
232TRF²³⁴			•	•			•		
42TRF			•	•			•		
242TRF²⁴			•	•			•		

1. Fluorescent and CMHE luminaires feature electronic ballasts that accept 120V through 277V, 50hz to 60hz, input. Specify "UNIV" voltage for 120V through 277V
2. One (1) lamp is powered in emergency mode with EM, EMC and EMR types with the BB4CG option
3. Available with ICE420 option, which powers two (2) lamps in emergency mode. ICE420 option only available with 226QF or 232TRF. CAUTION: Maximum battery pack input power for EMR units with ICE420 option is 100 watts (.83 amps) when heating element is on. This is in addition to the normal input power for luminaire lamps and ballast
4. Available with I162 option, which powers two (2) lamps in emergency mode. Lamps are wired in parallel. In emergency mode, should one lamp become inoperable, the remaining lamp will operate with a minimum total initial output of 2,250 lumens
5. Refer to "101 Emergency Sconce Table" on page 3 for additional information

1611 Clovis Barker Road, San Marcos, TX 78666
(800) 227-0758 (512) 753-1000 FAX: (512) 753-7855 sitelighting.com
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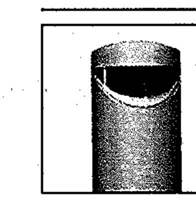
Philips Gardco reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.
79115-124/0512

PHILIPS GARDCO

Catalog No: 101-MT-226QF-UNV-(FINISH)-SL
Date: 08/22/2012
Fixture Type:
the lighting practice Lamp Type: (2) PL-C 26W/830/4P/ALTO
M8
Page: 1 of 3

Notch Bollard LED
se'lux

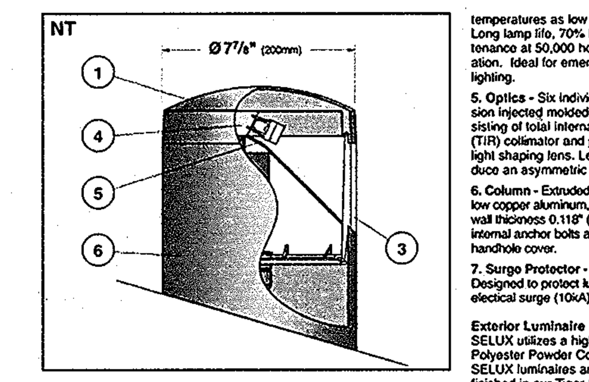


Project:
Type: Qty:
NT – Series – Height – Light Engine – CCT – Finish – Voltage
Options

Series	Height	Light Engine	CCT	Finish	Voltage	Options
NT Notch Bollard	2 2 ft. (.6m) 2.5 2.5 ft. (.74m) 3 3 ft. (.9m) 3.5 3.5 ft. (1.1m) 4 4 ft. (1.2m) or specify custom height	LG3500 8.5W LG3700 12W (6) high flux white LEDs	35 3500K 50 5000K	WH White BK Black SV Silver SP Specify Premium Color	120 208 240 277 347³ 480³	HL¹ High-low Switching for LG3700 only (see p.3 for details) DM 1-10VDimming for LG3700 only CE² Conformité Européenne

¹120V, 240V and 277V only ² 120V-277V only ³ With internal stepdown transformer

NT



1. Luminaire Cover - Die-cast, aluminum cover, low copper alloy.
2. Gasketing - (not shown) Continuous gasket provides weather-proofing, dust, and insect control at shielding base, and fixture cover.
3. Shielding - Transparent, continuous one-piece injection molded, UV stabilized polycarbonate lens, minimum wall thickness 5/16" (8.25mm).
Shielding is flush with column surface completely enclosing optic chamber.
4. Light Engine - (6) High flux LEDs mounted to metal core PC boards attached to an aluminum heatsink for maximum LED performance and life. Includes LED drivers and precise high performance injection-molded lenses. Complete light engine can be easily replaced. LEDs can be started and re-started instantly at temperatures as low as -20°C. Long lamp life, 70% lumen maintenance at 50,000 hours of operation. Ideal for emergency circuit lighting.
5. Optics - Six individual precision injected molded lenses consisting of total internal reflection (TIR) collimator and precision light shaping lens. Lenses produce an asymmetric distribution.
6. Column - Extruded, thick-walled low copper aluminum, minimum wall thickness 0.118" (3mm) with internal anchor bolts and flush handhole cover.
7. Surge Protector - (not shown) Designed to protect luminaire from electrical surge (10kA).
Exterior Luminaire Finish - SELUX utilizes a high quality Polyester Powder Coating. All SELUX luminaires and poles are finished in our Tiger Drylac certified facility and undergo a five stage intensive pretreatment process where product is thoroughly cleaned, phosphated and sealed. SELUX powder coated products provide excellent salt and humidity resistance as well as ultra violet resistance for color retention. All products are tested in accordance with test specifications for coatings from ASTM and PCI.
Standard exterior colors are White (WH), Black (BK), and Silver (SV). Selux premium colors (SP) are available, please specify from your SELUX color selection guide.
5 Year Limited LED Luminaire Warranty - SELUX offers a 5 year limited warranty to the original purchaser that the Notch LED Bollard shall be free from defects in material and workmansip for up to five (5) years from date of shipment. This limited warranty covers the LED driver and LEDs when installed and operated according to SELUX instructions. Luminaire suitable for ambient temp. up to 55°C For details and exclusions, see SELUX Terms and Conditions of sale.
Listings and Ratings - Luminaire Tested to IESNA LM-79-08. LEDs tested to LM-80 standards.

SELUX Corp. © 2012
TEL (845) 691-7723
FAX (845) 691-6749
www.selux.com/usa
NT-0212-01 (ss-V2.36)
NRTL Listed (i.e. UL, CSA) for wet locations
Union Made Affiliated with IBEW Local 363 IP54 CE
In a continuing effort to offer the best product possible, we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product. Specification sheets found at www.selux.com/usa are the most recent versions and supercede all other printed or electronic versions.

Catalog No: NT-3.50LG3700-35-(FINISH)-(VOLT)
Date: 08/22/2012
Fixture Type:
the lighting practice Lamp Type: LEDs BY MANUFACTURER
M10
Page: 1 of 3

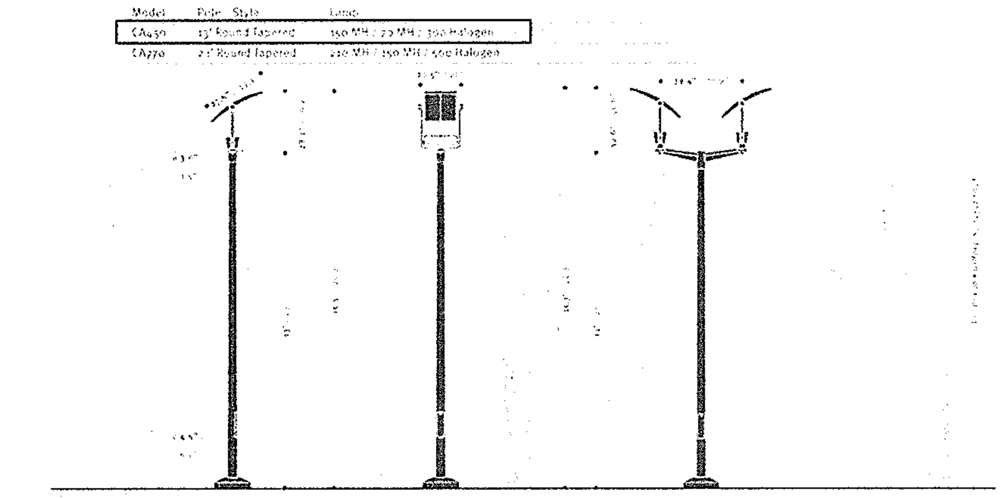
CAMPO

www.hessamerica.com/1600

CAMPO . Pole Mounted Luminaire

CAMPO's cast aluminum sail with heavy cast ribs and finned lower housing combine to form a distinctive high tech indirect lighting system. Optical system of highly specular aluminum collects and redirects light output onto special sail reflector of precision diffuse ribbed material designed to soften and spread illumination. Sail is adjustable via precision machined aluminum knobs to 15°, 30°, 45° and 60°. Round tapered steel pole with flush handhole is hot-dip galvanized prior to being finished in finely textured paint. Optional twin mount galvanized steel bracket is available for both models. All hardware is stainless steel. Standard color: matte silver grey metallic. Special colors available. UL Listed for Wet Locations.

Model	Pole Style	Lamp
CA450	13' Round Tapered	150 MH / 70 MH / 300 Halogen
CA770	21' Round Tapered	250 MH / 150 MH / 500 Halogen

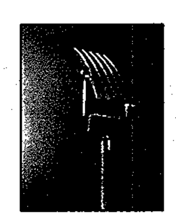


74

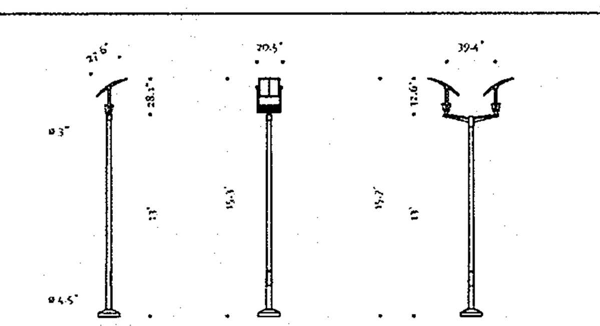
Catalog No: CA450-13' ROUND TAPERED-150MH-(VOLT)-(FINISH)
Date: 08/22/2012
Fixture Type:
the lighting practice Lamp Type: (1) CDM150/T6/830
P1
Page: 4 of 4

CAMPO 450 HID Pole Mounted Luminaire

Project Name
Address
City
State
ZIP



Dimensions



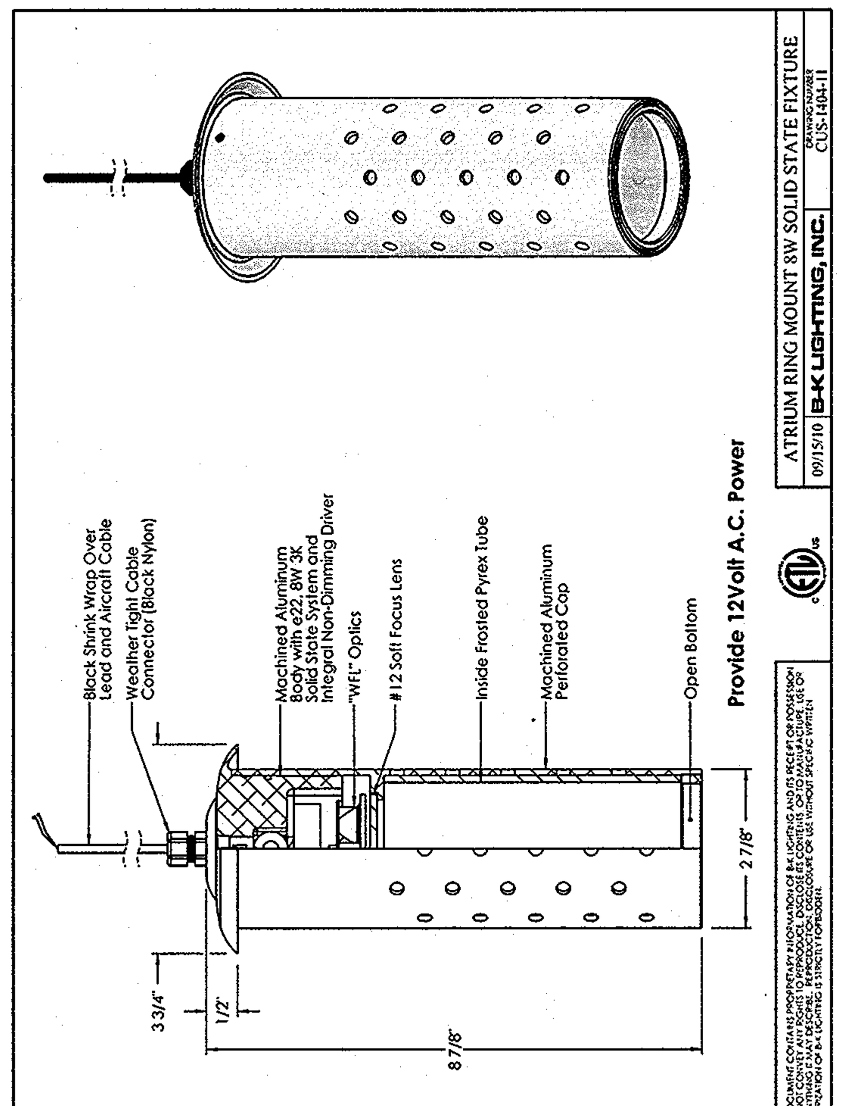
CAMPO 450 HID Pole Mounted Luminaire
Luminaire EPA = 3.7 sq ft
CA450 Luminaire = 56 lbs
www.hessamerica.com

Type	Model	Watt	Lamp	Volt	Mounting	Pole	Finish	Option
	CA450	70 150	MH – Metal Halide	2 - 120 7 - 277	A – Single Post Mount B – Twin Mount	13RT – 13' Round Taper	SG - Silver Grey CC - Custom Color	SF - Single Fuse N - None

Ordering Information
CA450 | MH | 13RT
Comment

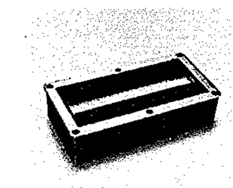
Specifications are subject to change without notification
HessAmerica . P.O. Box 28 . Gaffney, SC 29342 . Phone: 864-487-3535 . Fax: 864-487-3175 . www.hessamerica.com
.hess

Catalog No: CA450--150MH-(VOLT)-B-13RT-(FINISH)-N
Date: 10/02/2012
Fixture Type:
the lighting practice Lamp Type: (1) CDM150/T6/830
P1A
Page: 1 of 3



Catalog No: CUS-1404-11-(FINISH)
Date: 08/22/2012
Fixture Type:
the lighting practice Lamp Type: 3000K WHITE LEDs BY MANUFACTURER
R1
Page: 1 of 1

METEOR SOLAR LED LIGHTING
Solar LED Paver Light ***SH-180***



Type :
Project :
Quantity:
Note :

General	
Size	Edge length : 7.9" / Width : 3.9" Height : 2"
Weight	2.54 lbs
Rim Finish	Brushed / polished stainless steel Optional : SUS316 stainless steel / Brass
Lens	GE super light permeable PC
Housing	SUS304 stainless steel, cast aluminum
Power Storage	Ultracapacitor
Protection Class	IP68
Operational	
Switch	Lighting sensitive auto on/off
Operation Time	Minimum 12 hrs (fully charged) 4~8 hrs (overcast)
Full Charge Time	6hrs (direct sunlight)
Environmental	
Compressive Strength	9902 lbs / 4456 kgs (minimum)
Operating Temperature	-4F~140F / -20C~60C
Storage Temperature	-13F~176F / -25C~80C
Moisture Protection	IP68

Color	LUX (Average)
White	55
Warm White	47.50
Amber	40
Red	80
Blue	35
Green	90

Ordering Information

Model# – LED Color – Rim Finish – Housing

Model#	LED Color	Rim Finish	Housing
SH-180C (product) SH-180B (battery sample)	A - Amber B - Blue G - Green R - Red W - White WW - Warm White	B - Brushed Stainless Steel P - Polished Stainless Steel B316 - SUS316 Stainless Steel BR - Brass	H - Housing and Anchor Plate Included – - Without Housing and Anchor Plate

ILOS Corp. 19745 Colima Rd #1-807, Rowland Heights, CA 91748 P: 213.255.2060 F: 213.596.3704 www.meteor-lighting.com

Catalog No: SH-180C-(COLOR)-(FINISH)-H
Date: 08/31/2012
Fixture Type:
the lighting practice Lamp Type: LEDs BY MANUFACTURER
R4
Page: 1 of 1

DESCRIPTION
PORTFOLIO

4 inch LED recessed medium beam downlight with 50° cut off specially designed for LED technology. Two-stage reflector system produces smooth distribution with excellent light control and low aperture brightness. Lumen packages include 900 and 1300 delivered lumens with color temperatures of 2700K, 3000K, 3500K, 4000K. Suitable for commercial construction and exceeds high efficacy requirements (with designated trims) for IECC-2009.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Lower Shielding Reflector
Self-flanged, spun .050" thick aluminum lower reflector in combination with a lensed upper optical chamber provides superior lumen output with minimal source brightness. Available in all Portfolio Alzak® finishes.

Trim Retention
Lower reflector is retained with two torsion springs holding the flange tightly to the finished ceiling surface.

Plaster Frame / Collar
New Construction Housing: Die cast aluminum 1-1/2" deep collar accommodates ceiling materials up to 2". Remodel Housing: Galvanized steel plaster ring accommodates up to 1" ceiling thickness.

Universal Mounting Bracket
Accepts 1/2" EMT, C channel and bar hangers and adjusts 5" vertically from above and below the ceiling (new construction housing only).

Junction Box
(4) 1/2" and (2) 3/4" trade size pry outs positioned to allow straight conduit runs. Listed for (8) #12 AWG (four in, four out) 90°C conductors and feed thru branch wiring.

Thermal
Extruded aluminum heat sink conducts heat away from the LED module for improved performance and longer life.

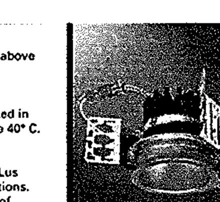
LED
LED system contains a plurality of high brightness white LED's combined with a high reflectance upper reflector and convex transitional lens producing even distribution with no pixilation. Rated for 50,000 hours at 70% lumen maintenance. Auto resetting, thermally protected. LED's are turned off when safe operating temperatures are exceeded. Color variation within 3-step MacAdam ellipses. Flexible disconnect allows for tool-less replacement of LED engine from below ceiling.

Driver
Driver can be serviced from above or through the aperture.

Environmental
Fixture should not be operated in ambient temperatures above 40° C.

Code Compliance
Thermally protected and cULus listed for protected wet locations. IP54 Certified. Optional City of Chicago environmental air (CCEA) marking for plenum applications. EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits. Non-IC rated - Insulation must be kept 3" from top and sides of housing. RoHS Compliant. ARRA Compliant. Photometric testing completed in accordance with IES LM 79 standards. LED life testing completed in accordance with LM 80 standards.

Warranty
5 year warranty.



LD409
LD413
LD4R09
LD4R13

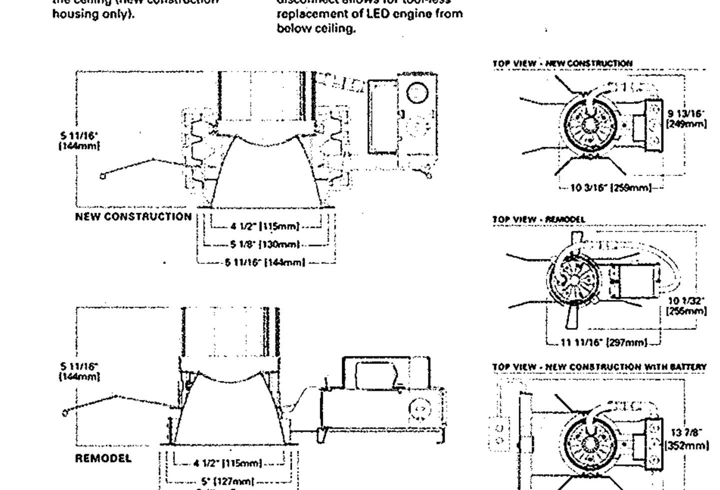
4LM

LED

4 Inch
Medium Beam Downlight
New Construction or Remodel

IECC
Qualified & Compliant with designated LED modules and trims.

Energy Data	
Sound Rating: Class A standards	
Operating Temperature: 40°C (104°F)	
1300 Lumen	
(Values at non-dimming line voltage)	
Minimum Starting Temp: -30°C (-22°F)	
EMI/RFI: FCC Title 47 CFR, Part 18, Class B	
Input Voltage: UNV (90V - 305V)	
Power Factor: >0.90 (at nominal input 120/230/243/277 VAC & 100% of Rated Output Power)	
Input Power: 24.8W	THD: <21%
120V Input Current: .21A	277V Input Current: .09A
Maximum Non-IC Ambient Continuous	
Input Frequency: 47-63Hz	
Rated Wattage: 24.8W	
900 Lumen D120 / D010	
(Values at non-dimming line voltage)	
Minimum Starting Temp: -30°C (-22°F)	
EMI/RFI: FCC Title 47 CFR, Part 18, Class B (Consumer)	
Input Voltage: 120/120-305V	
Power Factor: >0.90	
Input Power: 14.3W	THD: <20%
Input Frequency: 50-60Hz	
Rated Wattage: 14.3W/17.5W	



COOPER Lighting www.cooperlighting.com
Specifications and dimensions subject to change without notice.
Consult your representative for additional options and finishes.
ADP110786
2011-08-22

Catalog No: LD409-D010-ERM4830-4LM1H-WF
Date: 08/30/2012
Fixture Type:
the lighting practice Lamp Type: LEDs BY MANUFACTURER
R17
Page: 1 of 2

ARCHITECT GORDON MICHAEL CODA STATE OF MARYLAND

THIS DESIGN IS IN COMPLIANCE WITH 'THE MALL NEIGHBORHOOD DESIGN GUIDELINES' OF DOWNTOWN COLUMBIA (ver. 4/11/2012)

the lighting practice
THE LIGHTING PRACTICE
600 Chestnut Street
Suite 772
Philadelphia, PA 19106

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division — Date 1/31/13
Chief, Division of Land Development — Date 4-09-13
Director — Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

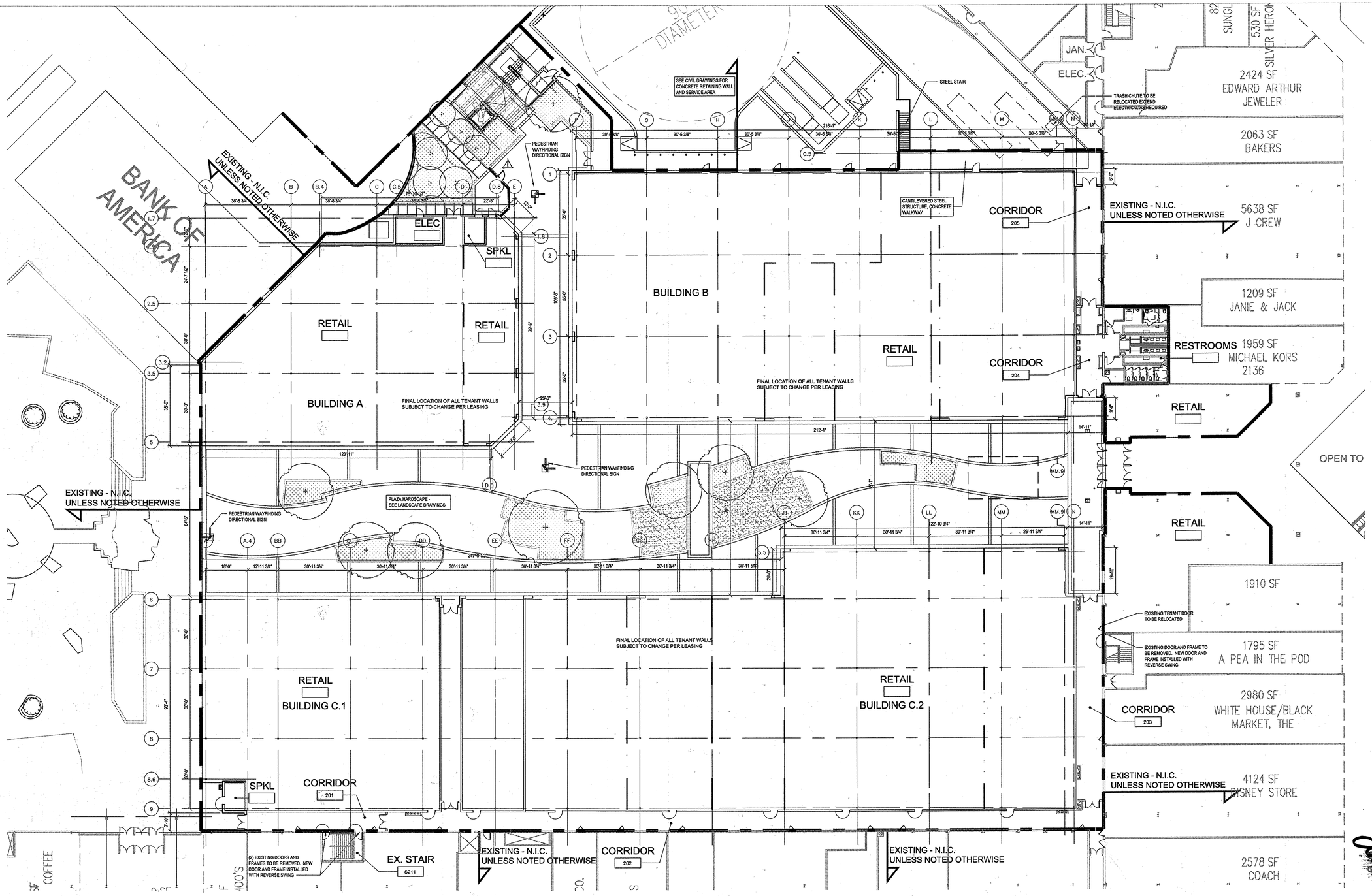
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

LIGHTING FIXTURE CUTSHEET DATA
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 46 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE: NO SCALE

SDP - 13 - 016

F:\LP\2011\11082\A\(00) Howard Co DPW Border.dwg Aug 22, 2012 4:00pm jbregman



1 OVERALL LEVEL TWO PLAN

Scale: 1:20

The design is in compliance with The Mall in Columbia Neighborhood Design Guidelines- Downtown Columbia.

JP2 ARCHITECTS
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f 410.276.7471
www.JP2architects.com

STATE OF MARYLAND PAUL G. CAVANAUGH PROFESSIONAL ENGINEER

PAUL G. CAVANAUGH

PROFESSIONAL ENGINEER NO. 27020

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. 27020 EXPIRATION DATE: JANUARY 25, 2016

ARCHITECT 10562 JOHN MICHAEL GOLA STATE OF MARYLAND

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/9/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.	DDC	1	REPLINE REVISION TO ADD SCREEN WALL, SCREEN FENCE, AND RECONSTRUCT RAMP	08/18/15
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:				
	BY	NO.	REVISION	DATE

DEVELOPER

GENERAL GROWTH PROPERTIES

10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

OVERALL PLAZA LEVEL PLAN

THE MALL IN COLUMBIA

COLUMBIA TOWN CENTER

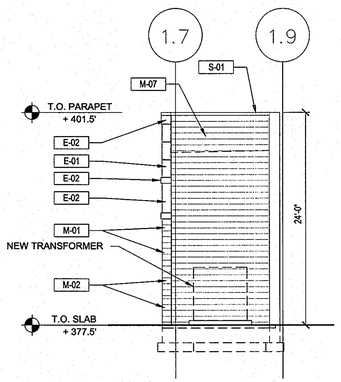
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND

SHEET 47 OF 55

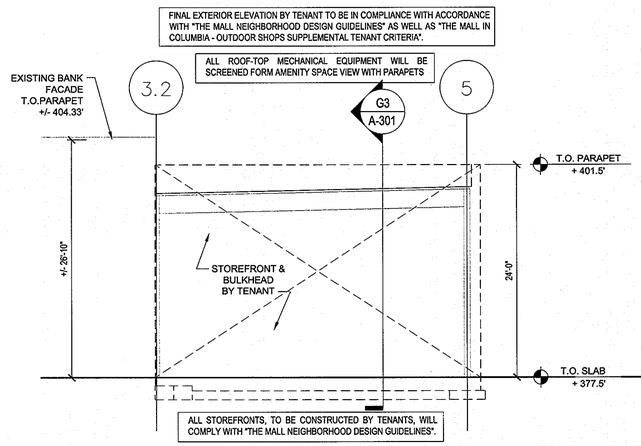
C.E.I. PROJECT NUMBER 28141.02

SCALE:

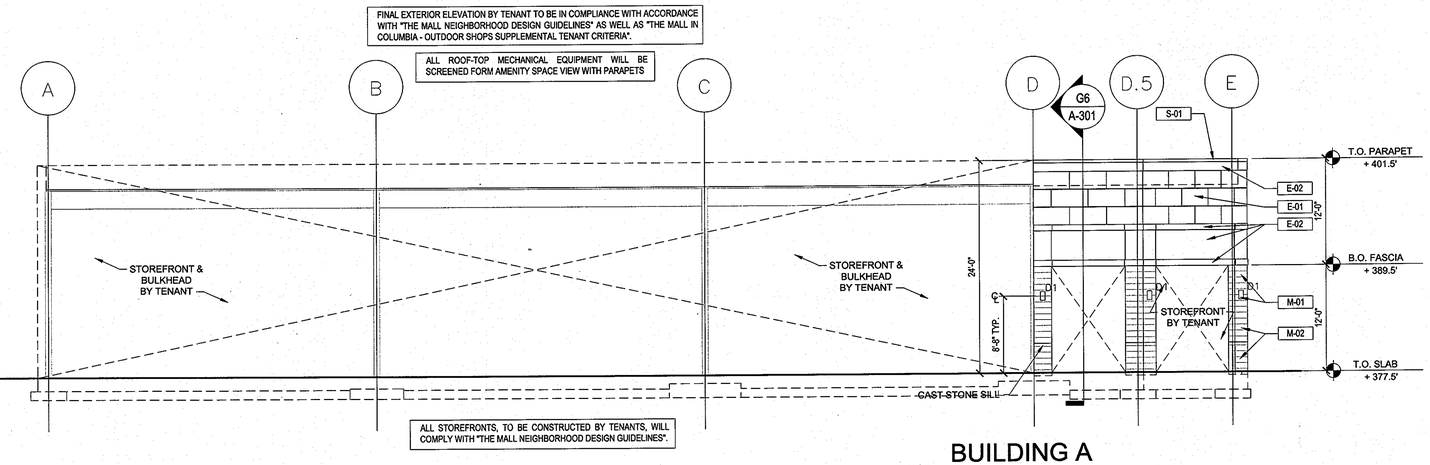
SDP - 13 - 016



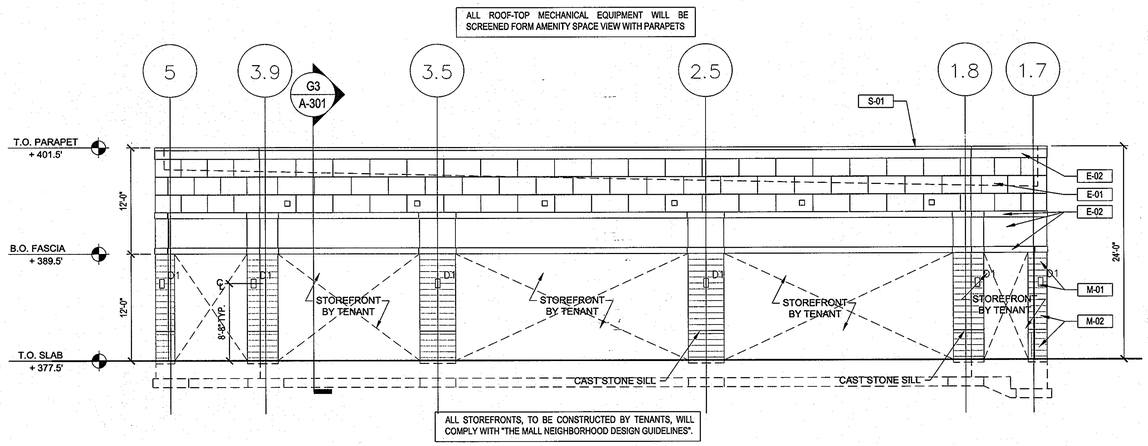
1 BUILDING A WEST ELEVATION
Scale: 1/8" = 1'-0"



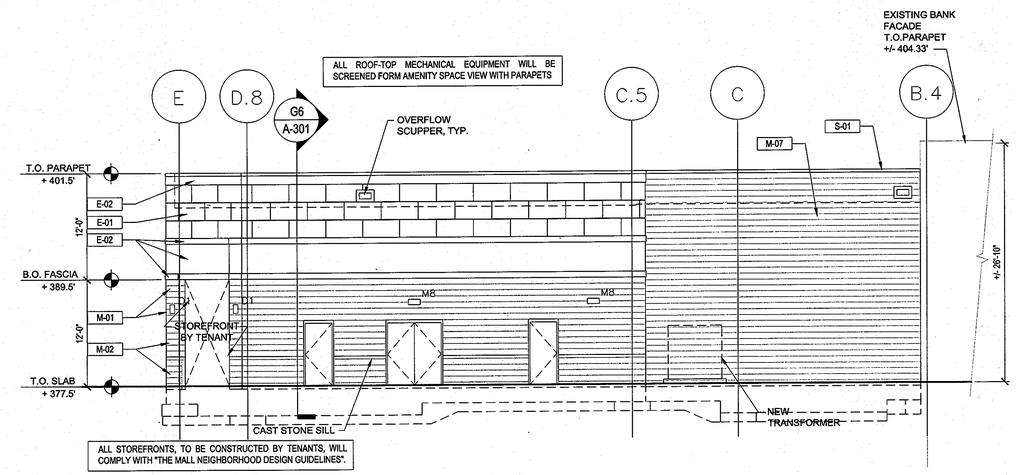
2 BUILDING A WEST ELEVATION
Scale: 1/8" = 1'-0"



3 BUILDING A SOUTH ELEVATION
Scale: 1/8" = 1'-0"



4 BUILDING A EAST ELEVATION
Scale: 1/8" = 1'-0"



5 BUILDING A NORTH ELEVATION
Scale: 1/8" = 1'-0"

THESE ELEVATIONS REPRESENT THE PORTION OF BUILDING CONSTRUCTION UNDER THE CONTROL OF THE CLIENT AT THE TIME OF SUBMISSION FOR BUILDING PERMIT. FUTURE TENANTS, IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" WILL BE RESPONSIBLE FOR CONSTRUCTING ITEMS SUCH AS: STOREFRONTS INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE AND FULL FACADE AREAS AS INDICATED ON BUILDING 'A' IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA".

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

ALL STOREFRONTS, TO BE CONSTRUCTED BY TENANTS, WILL COMPLY WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES".

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JP2 ARCHITECTS
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f 410.276.7471
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APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 1-09-13
Director	Date 1/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

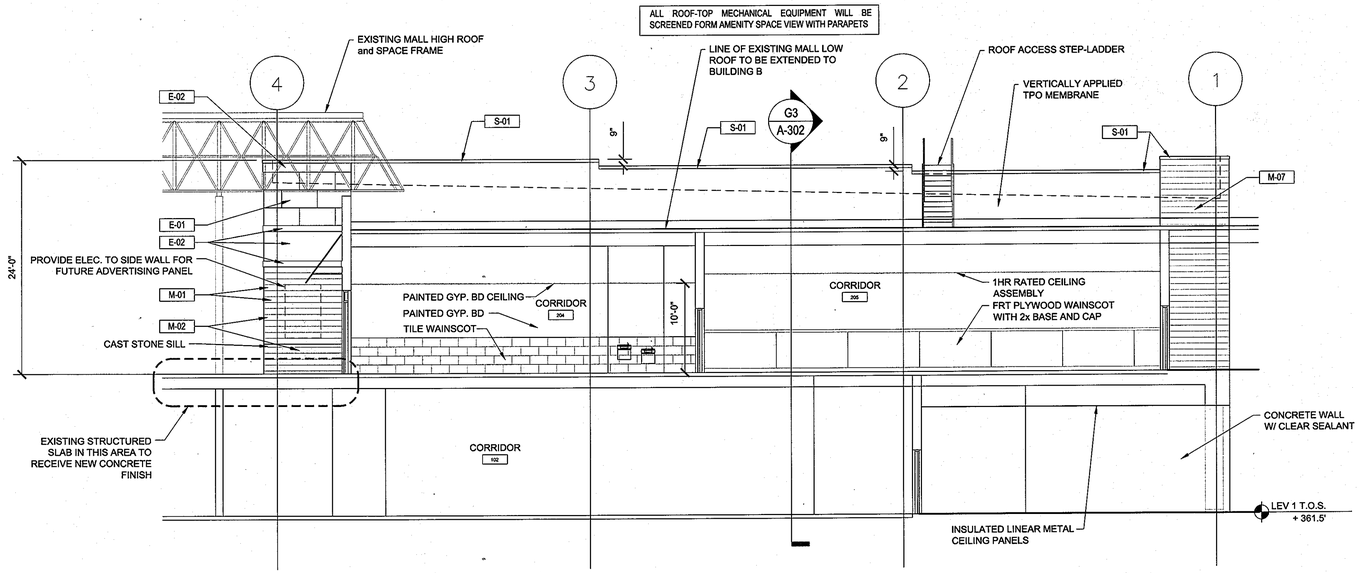
DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

BUILDING A ELEVATIONS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 48 OF 55

C.E.I. PROJECT NUMBER 28141.02
SCALE:

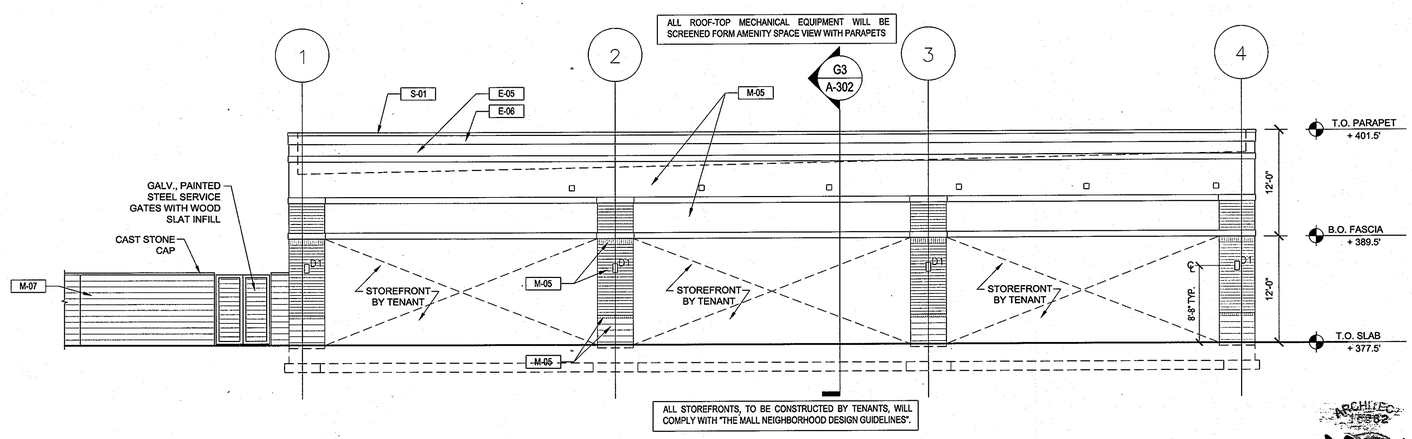
SDP - 13 - 016



1 BUILDING B EAST ELEVATION

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

EXTERIOR MATERIAL SCHEDULE	
DESIG.	
E-01	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 434a CHLOE
E-02	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 465b HEIRLOOM
E-03	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 105 SUEDE
E-04	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 453a STAINLESS
E-05	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 461 TOAST
E-06	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 107 SUNSET YELLOW
M-01	MANUFACTURED STONE CLADDING SYSTEM - ARRISCRAFT : COLOR TO MATCH EXISTING GARAGE STAIR TOWER (SANDBLAST FINISH)
M-02	MANUFACTURED STONE CLADDING SYSTEM - ARRISCRAFT (ROCKED FINISH): SANDRIFT / ALTERNATE COLOR: WHEAT
M-03	MASONRY STARTER COURSE - ARRISCRAFT - ADAIR LIMESTONE
M-04	BRICK VENEER MASONRY - GLEN-GERY - PLUM IRONSPOT (MODULAR)
M-05	BRICK VENEER MASONRY - GLEN-GERY - TAWNY BEIGE (MODULAR)
M-06	STONE VENEER - LANDMARK STONE - MOUNTAIN LEDGE : WHEAT
M-07	SPLIT-FACE CMU VENEER - TRENWYTH: CAMBRIDGE
M-08	GROUND-FACE CMU VENEER - TRENDSTONE BY TRENWYTH: CAMBRIDGE
M-09	MANUFACTURED STONE SILL - ARRISCRAFT - SANDRIFT
M-10	PRECAST WALL CAP
P-01	BENJAMIN MOORE - EXTERIOR COLUMNS : MILKY WAY
P-02	BENJAMIN MOORE - STEEL CHANNEL AT ENTRY : COLOR TBD
P-03	BENJAMIN MOORE - MISC. METALS : GLOUCESTER SAGE
S-01	COPING : ALUMINUM - SANDSTONE
S-02	METAL CANOPY
W-01	ALUMINUM STOREFRONT ENTRY SYSTEM



2 BUILDING B WEST ELEVATION

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

THESE ELEVATIONS REPRESENT THE PORTION OF BUILDING CONSTRUCTION UNDER THE CONTROL OF THE CLIENT AT THE TIME OF SUBMISSION FOR BUILDING PERMIT. FUTURE TENANTS, IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" WILL BE RESPONSIBLE FOR CONSTRUCTING ITEMS SUCH AS: STOREFRONTS INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE AND FULL FACADE AREAS ON BUILDING 'B' IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA".

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

ALL STOREFRONTS, TO BE CONSTRUCTED BY TENANTS, WILL COMPLY WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES".

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JP2 ARCHITECTS
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www.JP2architects.com

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/3/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

BUILDING B ELEVATIONS

THE MALL IN COLUMBIA

COLUMBIA TOWN CENTER

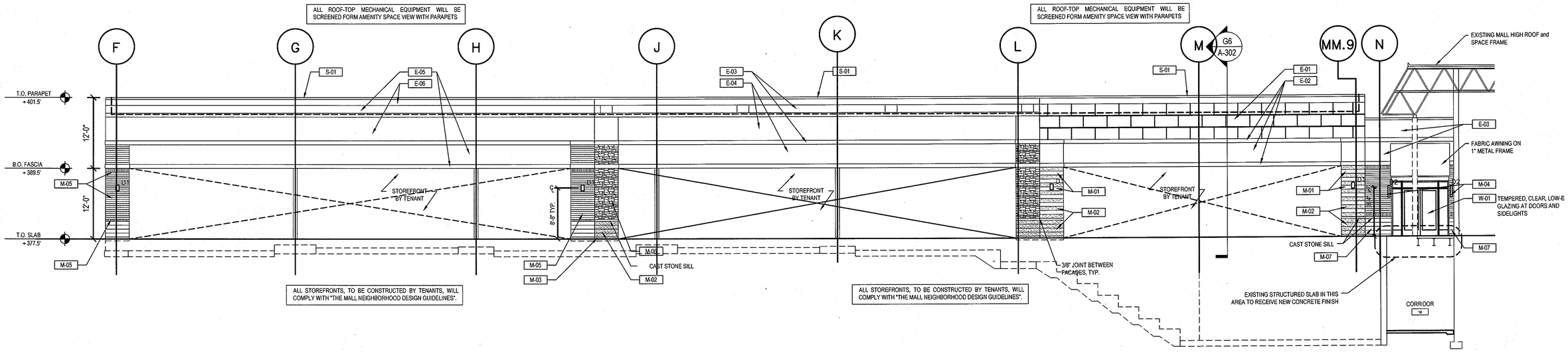
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND

SHEET 49 OF 55

C.E.I. PROJECT NUMBER 28141.02

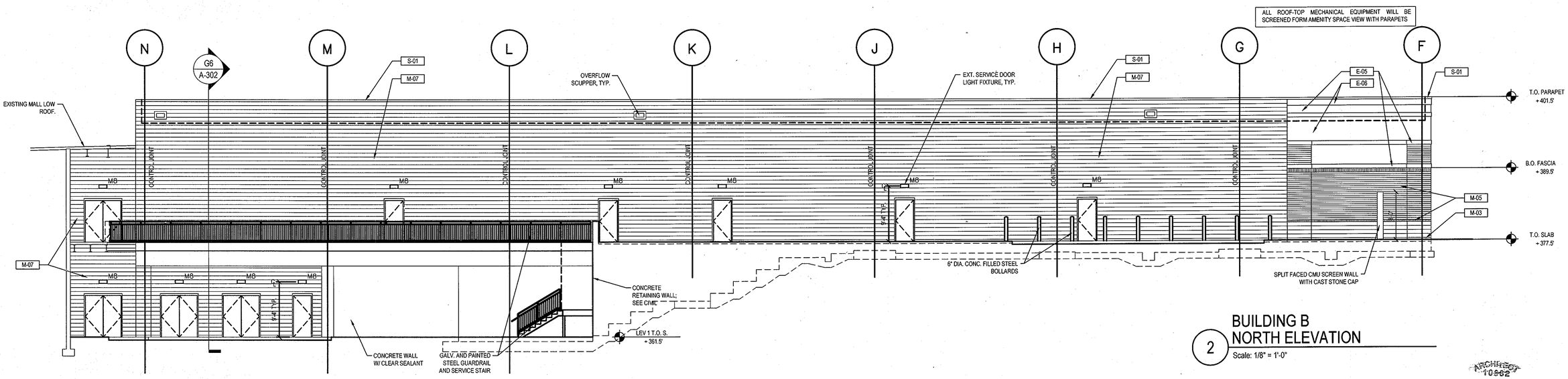
SCALE:

SDP - 13 - 016



1 BUILDING B SOUTH ELEVATION

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



2 BUILDING B NORTH ELEVATION

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

THESE ELEVATIONS REPRESENT THE PORTION OF BUILDING CONSTRUCTION UNDER THE CONTROL OF THE CLIENT AT THE TIME OF SUBMISSION FOR BUILDING PERMIT. FUTURE TENANTS, IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" WILL BE RESPONSIBLE FOR CONSTRUCTING ITEMS SUCH AS: STOREFRONT'S INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE AND FULL FACADE AREAS ON BUILDING 'B' IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA".

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

ALL STOREFRONTS, TO BE CONSTRUCTED BY TENANTS, WILL COMPLY WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES".

ARCHITECT 10662
JORDAN MICHAEL GREEN
STATE OF MARYLAND

The design is in compliance with The Mall in Columbia Neighborhood Design Guidelines- Downtown Columbia.

JP2 ARCHITECTS
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f 410.276.7471
www.JP2architects.com

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 Gilroy Road, Hunt Valley, MD 21031
Phone: 443.589.2400 Fax: 443.589.2401

DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

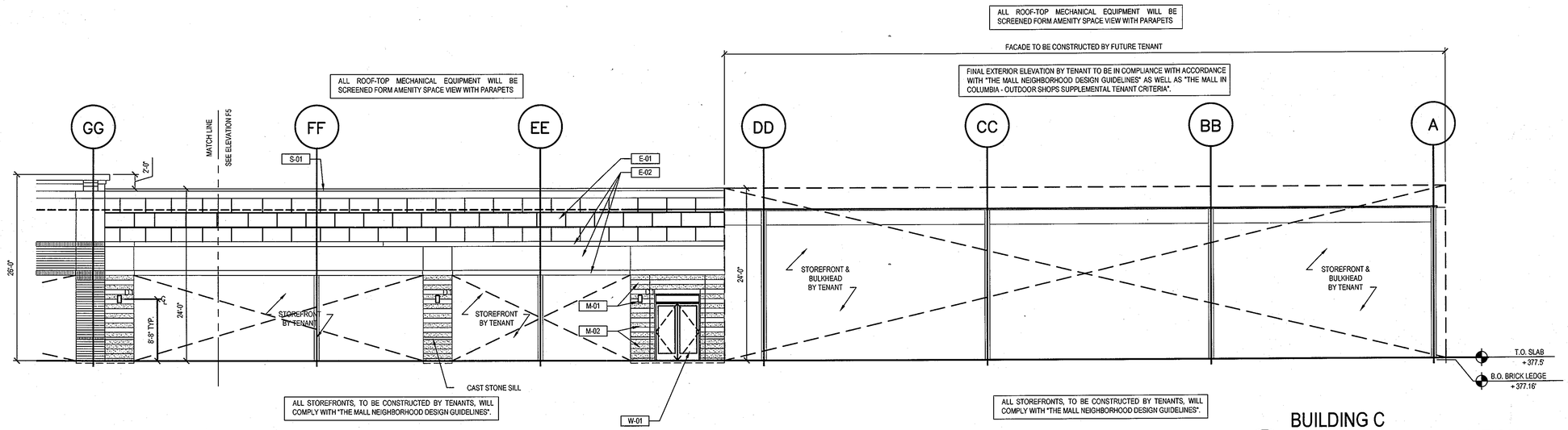
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

BUILDING B ELEVATIONS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 50 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP - 13 - 016



1 BUILDING C PARTIAL NORTH ELEVATION

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

EXTERIOR MATERIAL SCHEDULE	
DESIG.	
E-01	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 434a CHLOE
E-02	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 465b HEIRLOOM
E-03	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 105 SUEDE
E-04	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 453a STAINLESS
E-05	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 461 TOAST
E-06	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 107 SUNSET YELLOW
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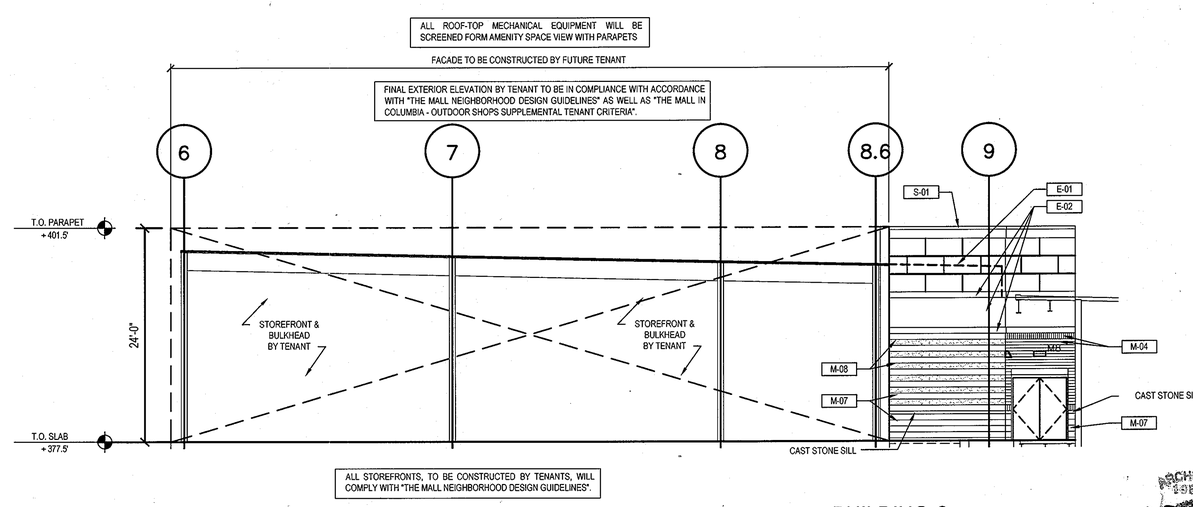
M-03	MASONRY STARTER COURSE - ARRISCRAFT - ADAIR LIMESTONE
M-04	BRICK VENEER MASONRY - GLEN-GERY - PLUM IRONSPOT (MODULAR)
M-05	BRICK VENEER MASONRY - GLEN-GERY - TAWNY BEIGE (MODULAR)
M-06	STONE VENEER - LANDMARK STONE - MOUNTAIN LEDGE : WHEAT
M-07	SPLIT-FACE CMU VENEER - TRENWYTH: CAMBRIDGE
M-08	GROUND-FACE CMU VENEER - TRENDSTONE BY TRENWYTH: CAMBRIDGE
M-09	MANUFACTURED STONE SILL - ARRISCRAFT - SANDRIFT
M-10	PRECAST WALL CAP
P-01	BENJAMIN MOORE - EXTERIOR COLUMNS : MILKY WAY
P-02	BENJAMIN MOORE - STEEL CHANNEL AT ENTRY : COLOR TBD
P-03	BENJAMIN MOORE - MISC. METALS : GLOUCESTER SAGE
S-01	COPING : ALUMINUM - SANDSTONE
S-02	METAL CANOPY
W-01	ALUMINUM STOREFRONT ENTRY SYSTEM



2 BUILDING C WEST ELEVATION

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

THESE ELEVATIONS REPRESENT THE PORTION OF BUILDING CONSTRUCTION UNDER THE CONTROL OF THE CLIENT AT THE TIME OF SUBMISSION FOR BUILDING PERMIT. FUTURE TENANTS, IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" WILL BE RESPONSIBLE FOR CONSTRUCTING ITEMS SUCH AS: STOREFRONTS INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE AND FULL FACADE AREAS AS INDICATED ON BUILDING 'C' IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA".

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

ALL STOREFRONTS, TO BE CONSTRUCTED BY TENANTS, WILL COMPLY WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES".

ARCHITECT 19852 GORDON MICHAEL SIDDY STATE OF MARYLAND

The design is in compliance with The Mall in Columbia Neighborhood Design Guidelines- Downtown Columbia.

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/31/13

Chief, Division of Land Development — Date 4-09-13

Director — Date 4/4/13

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DESIGN BY: M.J.P.
DRAWN BY: M.S.S.
CHECKED BY:
DATE:

BY	NO.	REVISION	DATE

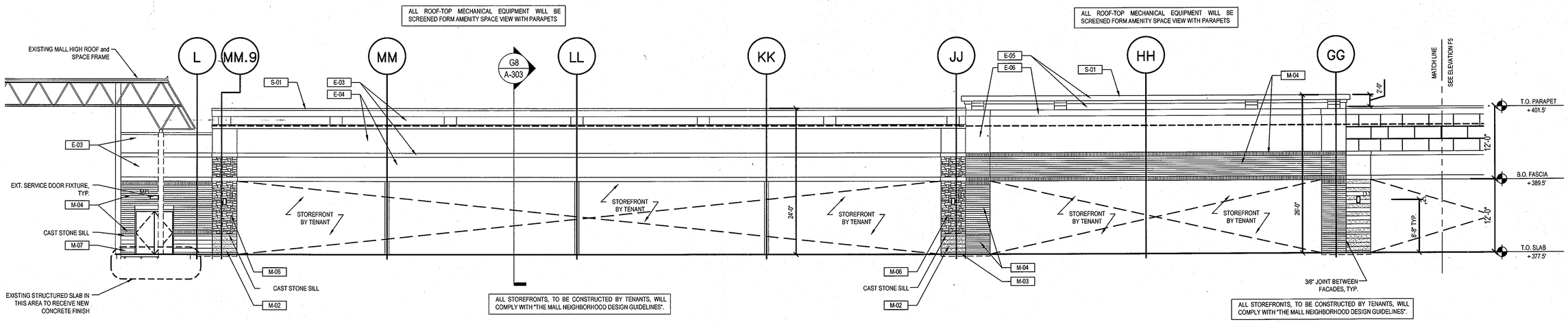
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

BUILDING C ELEVATIONS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 51 OF 55

C.E.I. PROJECT NUMBER 28141.02

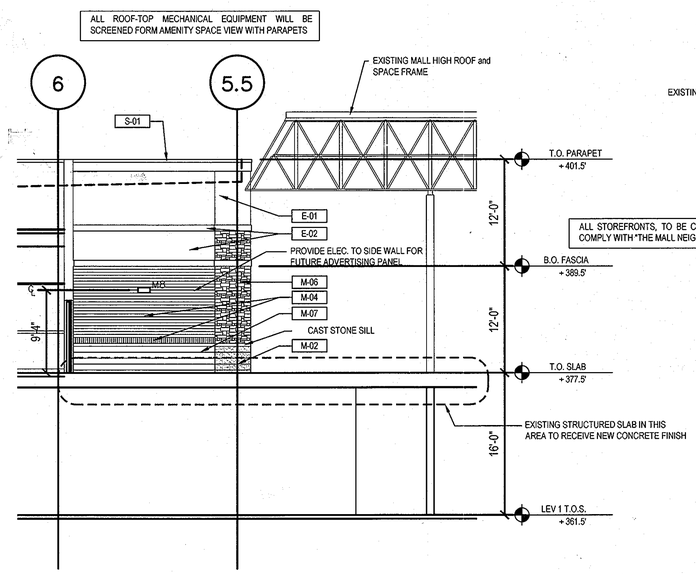
SCALE:

SDP - 13 - 016

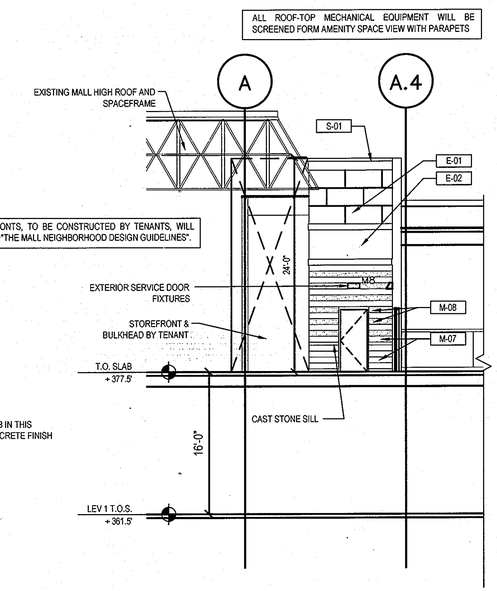


1 BUILDING C
PARTIAL NORTH ELEVATION
Scale: 1/8" = 1'-0"

EXTERIOR MATERIAL SCHEDULE	
DESIG.	
E-01	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 434a CHLOE
E-02	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 465b HEIRLOOM
E-03	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 105 SUEDE
E-04	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 453a STAINLESS
E-05	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 461 TOAST
E-06	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 107 SUNSET YELLOW
M-01	MANUFACTURED STONE CLADDING SYSTEM - ARRISCRAFT : COLOR TO MATCH EXISTING GARAGE STAIR TOWER (SANDBLAST FINISH)
M-02	MANUFACTURED STONE CLADDING SYSTEM - ARRISCRAFT (ROCKED FINISH): SANDRIFT / ALTERNATE COLOR: WHEAT
M-03	MASONRY STARTER COURSE - ARRISCRAFT - ADAIR LIMESTONE
M-04	BRICK VENEER MASONRY - GLEN-GERY - PLUM IRONSPOT (MODULAR)
M-05	BRICK VENEER MASONRY - GLEN-GERY - TAWNY BEIGE (MODULAR)
M-06	STONE VENEER - LANDMARK STONE - MOUNTAIN LEDGE : WHEAT
M-07	SPLIT-FACE CMU VENEER - TRENWYTH: CAMBRIDGE
M-08	GROUND-FACE CMU VENEER - TRENDSTONE BY TRENWYTH: CAMBRIDGE
M-09	MANUFACTURED STONE SILL - ARRISCRAFT - SANDRIFT
M-10	PRECAST WALL CAP
P-01	BENJAMIN MOORE - EXTERIOR COLUMNS : MILKY WAY
P-02	BENJAMIN MOORE - STEEL CHANNEL AT ENTRY : COLOR TBD
P-03	BENJAMIN MOORE - MISC. METALS : GLOUCESTER SAGE
S-01	COPING : ALUMINUM - SANDSTONE
S-02	METAL CANOPY
W-01	ALUMINUM STOREFRONT ENTRY SYSTEM



3 BUILDING C
EAST ELEVATION
Scale: 1/8" = 1'-0"



2 BUILDING C
SOUTH ELEVATION
Scale: 1/8" = 1'-0"

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ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

ALL STOREFRONTS, TO BE CONSTRUCTED BY TENANTS, WILL COMPLY WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES".

ARCHITECT
STEVEN MICHAEL
STATE OF MARYLAND

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Chief, Development Engineering Division	Date 1/31/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

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BY	NO.	REVISION	DATE

DEVELOPER
GENERAL GROWTH PROPERTIES
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COLUMBIA, MARYLAND 21044
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BUILDING C ELEVATIONS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 52 OF 55

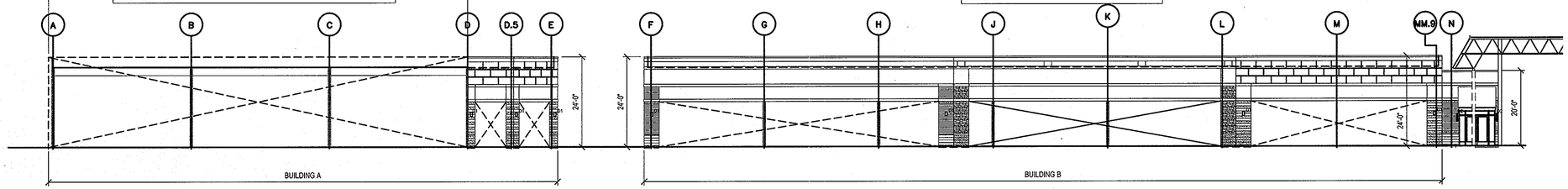
C.E.I. PROJECT NUMBER 28141.02
SCALE:

SDP - 13 - 016

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

FACADE TO BE CONSTRUCTED BY FUTURE TENANT

FINAL EXTERIOR ELEVATION BY TENANT TO BE IN COMPLIANCE WITH ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA".



ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

THIS ELEVATION REPRESENTS THE PORTION OF BUILDING CONSTRUCTION UNDER THE CONTROL OF THE CLIENT AT THE TIME OF SUBMISSION FOR BUILDING PERMIT. FUTURE TENANTS, IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" WILL BE RESPONSIBLE FOR CONSTRUCTING ITEMS SUCH AS: STOREFRONTS INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE AND FULL FACADE AREAS AS INDICATED ON BUILDING 'A' IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" .

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1 BUILDINGS A & B NORTH ELEVATION, SHELL ONLY

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

TENANT IMPROVEMENTS THAT ARE IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" INCLUDE STOREFRONTS INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE.

FACADE TO BE CONSTRUCTED BY FUTURE TENANT

FINAL EXTERIOR ELEVATION BY TENANT TO BE IN COMPLIANCE WITH ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA".

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

ALL ROOF-TOP MECHANICAL EQUIPMENT WILL BE SCREENED FORM AMENITY SPACE VIEW WITH PARAPETS

THIS RENDERED ELEVATION IS A REPRESENTATION OF THE COMPLETED BUILDING SHOWING BASE BUILDING CONSTRUCTION BY THE OWNER AS WELL AS TENANT IMPROVEMENTS THAT ARE IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA". TENANTS AREA RESPONSIBLE FOR CONSTRUCTING ITEMS SUCH AS: STOREFRONTS INCLUDING ENTRANCES AND GLAZED AREAS, AWNINGS, CANOPIES, PARAPET EXTENSIONS, EXTERIOR SIGNAGE AND FULL FACADE AREAS AS INDICATED ON BUILDING 'A' IN ACCORDANCE WITH "THE MALL NEIGHBORHOOD DESIGN GUIDELINES" AS WELL AS "THE MALL IN COLUMBIA - OUTDOOR SHOPS SUPPLEMENTAL TENANT CRITERIA" .

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2 BUILDINGS A & B NORTH ELEVATION AFTER FULL TENANT FIT OUT

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

ARCHITECT 10662 GORDON MICHAEL COOPER STATE OF MARYLAND

The design is in compliance with The Mall in Columbia Neighborhood Design Guidelines- Downtown Columbia.

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date 1/23/13
Chief, Division of Land Development	Date 4-09-13
Director	Date 4/11/13

CENTURY ENGINEERING
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DESIGN BY: M.J.P.				
DRAWN BY: M.S.S.				
CHECKED BY:				
DATE:	BY	NO.	REVISION	DATE

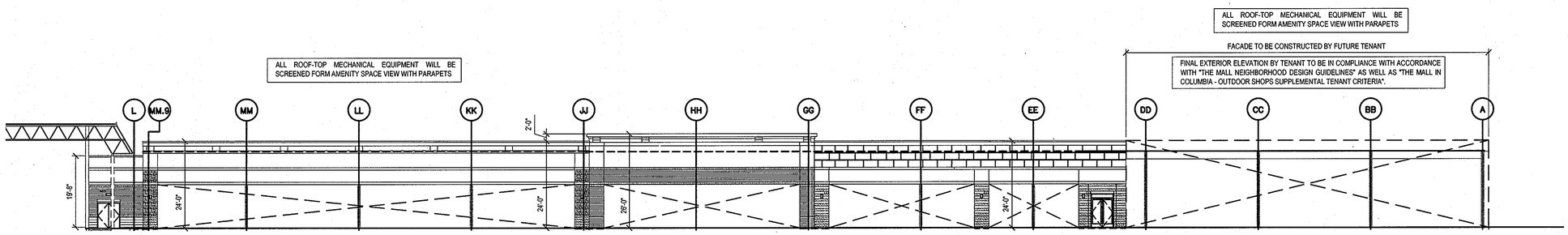
DEVELOPER
GENERAL GROWTH PROPERTIES
10440 LITTLE PATUXENT PARKWAY, SUITE 1000
COLUMBIA, MARYLAND 21044
410-992-6000

DAP PRESENTATION ELEVATIONS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
ELECTION DISTRICT 5 HOWARD COUNTY, MARYLAND
SHEET 53 OF 55

C.E.I. PROJECT NUMBER 28141.02

SCALE:

SDP - 13 - 016



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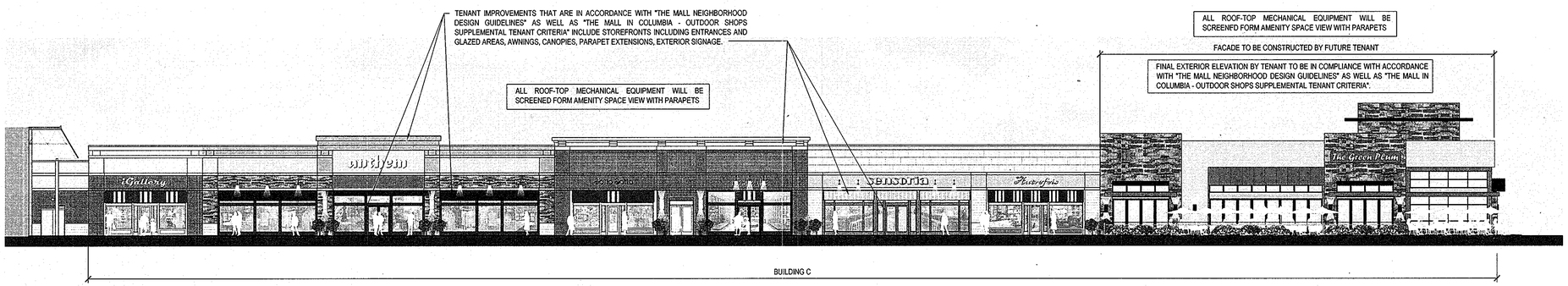
1 BUILDING C SOUTH ELEVATION, SHELL ONLY

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



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2 BUILDING C SOUTH ELEVATION AFTER FULL TENANT FIT OUT

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

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Chief, Division of Land Development	Date 4-09-13
Director	Date 5/11/13

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DAP PRESENTATION ELEVATIONS
THE MALL IN COLUMBIA
COLUMBIA TOWN CENTER
TAX MAP: 30, 36 LOT: 47 PARCEL: 460
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SHEET 54 OF 55

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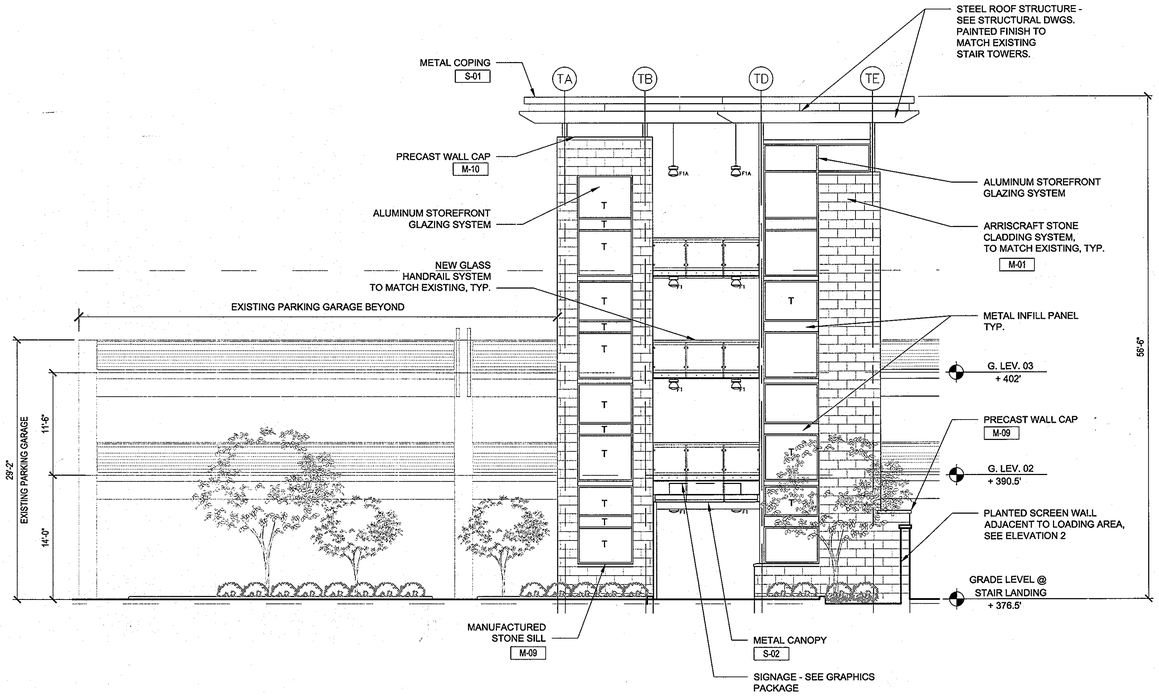
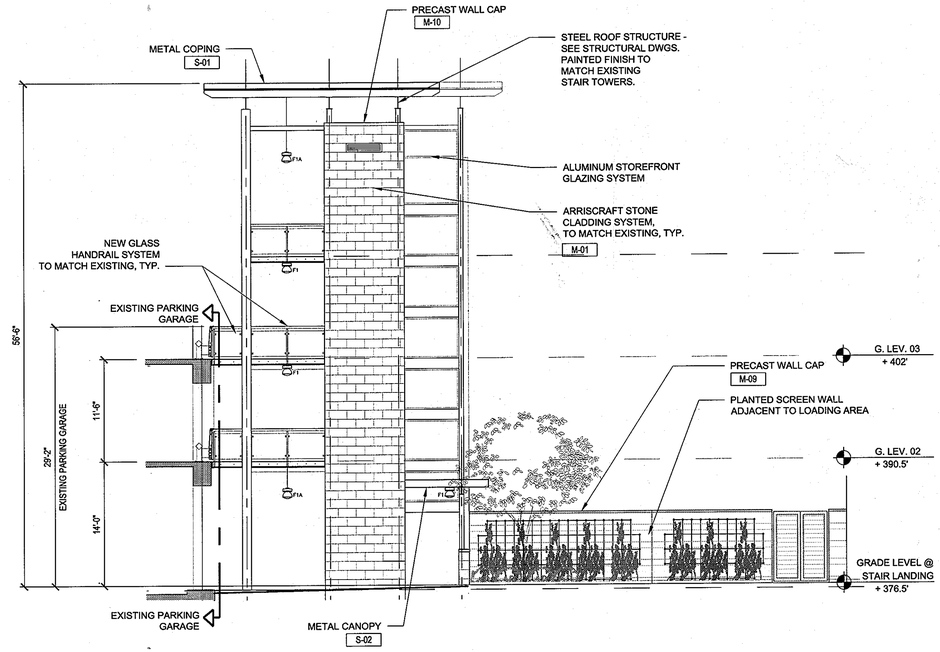


1 GARAGE ELEVATOR TOWER SOUTH ELEVATION

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



2 GARAGE ELEVATOR TOWER EAST ELEVATION

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

EXTERIOR MATERIAL SCHEDULE	
DESIG.	
E-01	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 434a CHLOE
E-02	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 465b HEIRLOOM
E-03	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 105 SUEDE
E-04	EXTERIOR INSULATION FINISH SYSTEM (EIFS): DRYVIT: 453a STAINLESS
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P-03	BENJAMIN MOORE - MISC. METALS : GLOUCESTER SAGE
S-01	COPING : ALUMINUM - SANDSTONE
S-02	METAL CANOPY
W-01	ALUMINUM STOREFRONT ENTRY SYSTEM

ARCHITECT 19662 JAMES MICHAEL SPRAGUE STATE OF MARYLAND

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 1/3/13
Chief, Division of Land Development — Date 4-09-13
Director — Date 4/11/13

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GARAGE TOWER
THE MALL IN COLUMBIA
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