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WALKWAY/STREET LIGHT CHART (PRIVATE) PHASE VI			
STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
DAGNY WAY	0+12	25' R	
JOHN GALT WAY	1+51	37' R	
FLOYD FERRIS	0+98	10' L	
OWEN KELLOGG COURT	3+05	15' L	
		NORTHING	EASTING
WALKWAY LIGHT 1	551,575.07	1,376,592.23	
WALKWAY LIGHT 2	551,800.18	1,376,990.98	

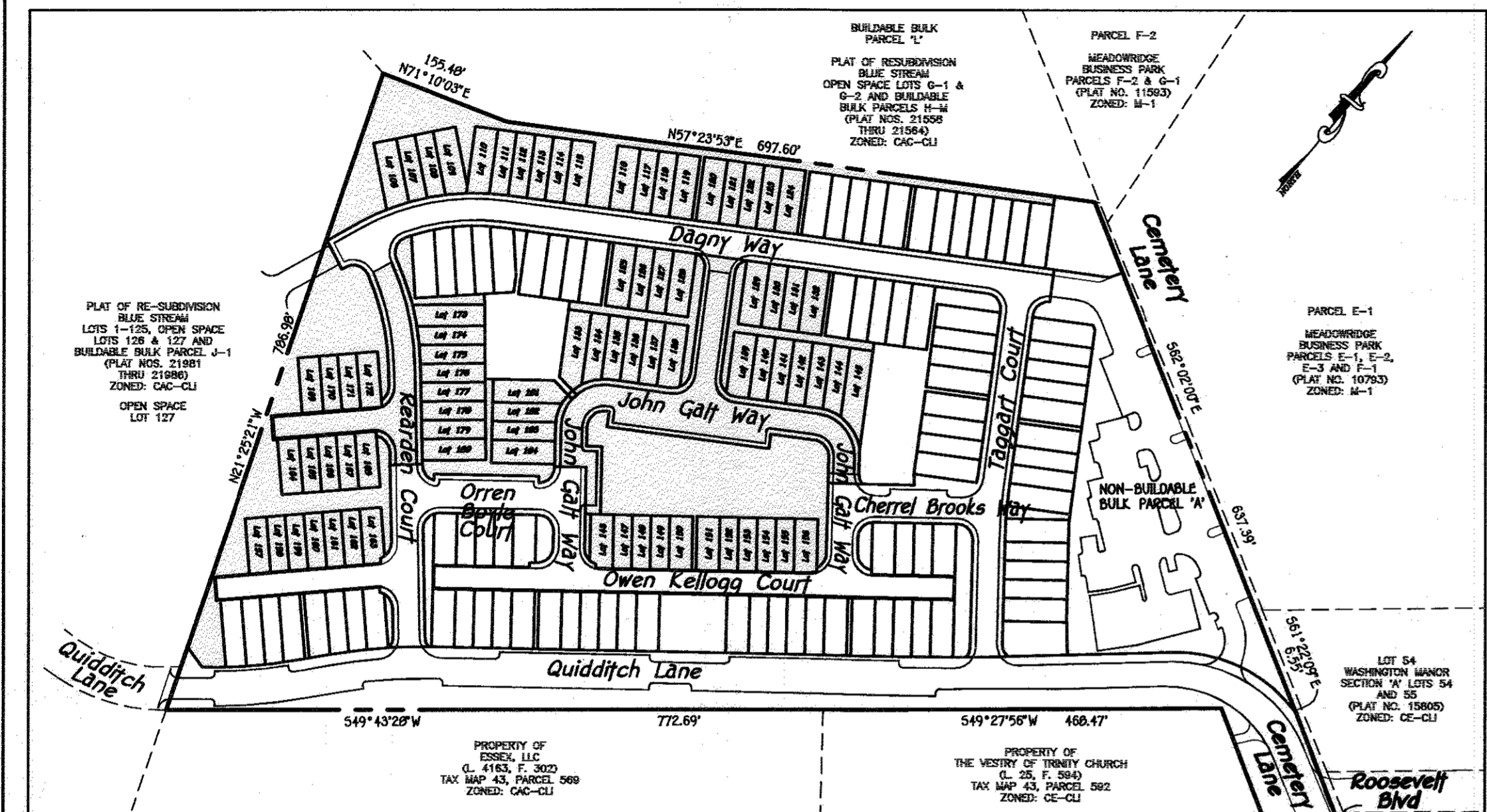
# SITE DEVELOPMENT PLAN

## MORRIS PLACE

### LOTS 106 THRU 184, OPEN SPACE LOTS 185 THRU 193

#### PHASE VI

TAX MAP No. 43 GRID No. 4 PARCEL NO. 599  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND



**SITE MAP**  
SCALE: 1" = 150'

LEGEND	
SYMBOL	DESCRIPTION
-----	EXISTING STORM DRAIN LINE
-x-x-x-	EXISTING FENCE
-----	BOUNDARY/RIGHT OF WAY LINE
-----	BUILDING RESTRICTION LINE
-----	PROPOSED CURB TRANSITION
-----	PROPOSED STORM DRAIN PIPE
-----	PROPOSED PERFORATED PIPE
-----	PROPOSED CONCRETE
-----	PROPOSED PAVING
-----	PROPOSED L.O.D.
-----	EXISTING SOILS 5% AND GREATER W/ K <sub>w</sub> > 0.35 SEE SHEET 5
-----	EXISTING SLOPES 15% TO 24.9%
-----	EXISTING SLOPES 25% AND GREATER
-----	RETENTION
-----	REFORESTATION
-----	SUPER SILT FENCE
-----	SILT FENCE
-----	EXISTING CONTOUR 2' INTERVAL
-----	PROPOSED CONTOUR 2' INTERVAL
-----	SPOT ELEVATION
-----	WALKOUT BASEMENT
-----	EROSION CONTROL MATING
-----	WATER AND SEWER EASEMENT
-----	STORM DRAIN EASEMENT

AMENITY AREA CHART		
PHASE	REQUIRED	PROVIDED
EXISTING I-B	0.50 AC.	0.51 AC.
EXISTING IV	0.22 AC.	0.22 AC.
EXISTING V	0.27 AC.	0.34 AC.
VI	0.74 AC.	0.88 AC.
TOTAL	1.73 AC.	1.95 AC.

STREET ADDRESS CHART			
LOT NO.	STREET ADDRESS	LOT NO.	STREET ADDRESS
106	7780 DAGNY WAY	148	7707 OWEN KELLOGG COURT
107	7778 DAGNY WAY	149	7705 OWEN KELLOGG COURT
108	7776 DAGNY WAY	150	7711 OWEN KELLOGG COURT
109	7774 DAGNY WAY	151	7715 OWEN KELLOGG COURT
110	7772 DAGNY WAY	152	7717 OWEN KELLOGG COURT
111	7768 DAGNY WAY	153	7719 OWEN KELLOGG COURT
112	7766 DAGNY WAY	154	7721 OWEN KELLOGG COURT
113	7764 DAGNY WAY	155	7723 OWEN KELLOGG COURT
114	7762 DAGNY WAY	156	7725 OWEN KELLOGG COURT
115	7760 DAGNY WAY	157	7914 ELLIS WYATT COURT
116	7756 DAGNY WAY	158	7912 ELLIS WYATT COURT
117	7754 DAGNY WAY	159	7910 ELLIS WYATT COURT
118	7752 DAGNY WAY	160	7908 ELLIS WYATT COURT
119	7750 DAGNY WAY	161	7906 ELLIS WYATT COURT
120	7746 DAGNY WAY	162	7904 ELLIS WYATT COURT
121	7744 DAGNY WAY	163	7902 ELLIS WYATT COURT
122	7742 DAGNY WAY	164	7811 RICHARD HALLEY WAY
123	7740 DAGNY WAY	165	7809 RICHARD HALLEY WAY
124	7738 DAGNY WAY	166	7807 RICHARD HALLEY WAY
125	7736 DAGNY WAY	167	7805 RICHARD HALLEY WAY
126	7734 DAGNY WAY	168	7803 RICHARD HALLEY WAY
127	7732 DAGNY WAY	169	7801 RICHARD HALLEY WAY
128	7730 DAGNY WAY	170	7800 RICHARD HALLEY WAY
129	7728 DAGNY WAY	171	7804 REARDEN COURT
130	7726 DAGNY WAY	172	7802 REARDEN COURT
131	7724 DAGNY WAY	173	7734 REARDEN COURT
132	7722 DAGNY WAY	174	7732 REARDEN COURT
133	7930 JOHN GALT WAY	175	7730 REARDEN COURT
134	7928 JOHN GALT WAY	176	7728 REARDEN COURT
135	7946 JOHN GALT WAY	177	7726 REARDEN COURT
136	7944 JOHN GALT WAY	178	7724 REARDEN COURT
137	7942 JOHN GALT WAY	179	7722 REARDEN COURT
138	7940 JOHN GALT WAY	180	7720 REARDEN COURT
139	7932 JOHN GALT WAY	181	7934 JOHN GALT WAY
140	7930 JOHN GALT WAY	182	7936 JOHN GALT WAY
141	7928 JOHN GALT WAY	183	7938 JOHN GALT WAY
142	7926 JOHN GALT WAY	184	7960 JOHN GALT WAY
143	7924 JOHN GALT WAY		
144	7922 JOHN GALT WAY		
145	7920 JOHN GALT WAY		
146	7703 OWEN KELLOGG COURT		
147	7705 OWEN KELLOGG COURT		



**VICINITY MAP**  
SCALE: 1" = 2000'

SITE ANALYSIS DATA CHART	
A. TOTAL AREA OF THIS SUBMISSION = 5,984 AC.	
B. LIMIT OF DISTURBED AREA = 5.44 AC. (236,801 sqft.)	
C. PRESENT ZONING DESIGNATION = CAC-CL	
D. PROPOSED USE: RESIDENTIAL	
E. BUILDING COVERAGE OF SITE: 31%	
F. PREVIOUS HOWARD COUNTY FILES: ECP-13-035, S0P-12-148, S0P-01-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, S0P-15-017, S0P-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D	
G. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE: 0.00 AC.	
H. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC.	
I. NET TRACT AREA = 5,984 AC.	
J. TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA (TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA) = 0 AC.	
K. TOTAL AREA OF FOREST = 0 AC.	
L. TOTAL IMPERVIOUS AREA = 2.47 AC.	
M. TOTAL AREA OF SEVERELY ERODIBLE SOILS = 0 AC.	

RESIDENTIAL PARKING TABULATION	
TOTAL RESIDENTIAL PARKING REQUIRED: 382 PARKING SPACES	
TOWNSHOUSES: 2 SPACES PER UNIT	
OVERFLOW PARKING 0.3 PER UNIT	
156 UNITS X 2 = 312 PARKING SPACES	
EXISTING PHASES I-IV RESIDENTIAL PARKING PROVIDED: 172 PARKING SPACES	
4 FRONT LOAD TOWNSHOUSES: 96 SPACES	
2 SPACES PER UNIT (1 GARAGE + 2 DRIVEWAY)	
5 REAR LOAD TOWNSHOUSES: 20 SPACES	
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)	
OVERFLOW SPACES: 56 SPACES PROVIDED BY ON-STREET PARKING	
EXISTING ON-STREET PARKING PER F-14-028: 53 SPACES	
PROPOSED BY THIS S0P: 3 SPACES	
EXISTING PHASE V RESIDENTIAL PARKING PROVIDED: 140 PARKING SPACES	
34 REAR LOAD TOWNSHOUSES: 136 SPACES	
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)	
OVERFLOW SPACES: 4 SPACES PROVIDED BY ON-STREET PARKING	
PHASE VI RESIDENTIAL PARKING PROVIDED: 239 PARKING SPACES	
32 FRONT LOAD TOWNSHOUSES: 104 SPACES	
2 SPACES PER UNIT (1 GARAGE + 1 DRIVEWAY)	
27 REAR LOAD TOWNSHOUSES: 108 SPACES	
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)	
OVERFLOW SPACES: 27 SPACES PROVIDED BY ON-STREET PARKING	
TOTAL RESIDENTIAL PARKING PROVIDED: 551 PARKING SPACES	
TOTAL TOWNSHOUSES: 464 SPACES	
TOTAL ON-STREET PARKING = 87 PARKING SPACES	

- GENERAL NOTES CONTINUED:**
37. PLAT SUBJECT TO WP-14-068 WHICH THE PLANNING DIRECTOR ON JANUARY 17, 2014 APPROVED TO WAIVE SECTION 16.12(C)(4) - SINGLE FAMILY ATTACHED LOTS SHALL HAVE A MINIMUM 15 FEET OF FRONTAGE ON A PUBLIC ROAD APPROXIMATELY AS SHOWN HEREON. THE FOLLOWING:
    - 1) THE PETITIONER OR DESIGNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF SAFE VEHICULAR ACCESS TO ALL RESIDENTIAL UNITS THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE MAINTENANCE OF THE ROAD PROVIDING ACCESS TO THE RESIDENTIAL UNITS, MAINTENANCE OF THE PRIVATE ROAD SYSTEM INCLUDING FOR SNOW REMOVAL AND FLOWING ON THE PRIVATE ROAD.
    - 2) UPON COMPLETION OF ANY PORTION OF THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PETITIONER OR DESIGNER SHALL PROVIDE ROAD MAINTENANCE TRASH REMOVAL SERVICES, SNOW REMOVAL TO THE DEVELOPMENT UNTIL THE ROADS ARE TRANSFERRED TO THE H.O.A.
    - 3) ON ALL FUTURE SUBDIVISION PLANS AND SITE DEVELOPMENT PLANS, PROVIDE A BRIEF DESCRIPTION OF MAINTENANCE, WP-14-068, AS A GENERAL NOTE TO INCLUDE REQUESTS, SECTIONS OF THE REGULATIONS, ACTION AND DATE.
    - 4) ON ALL FUTURE SUBDIVISION PLANS, PROVIDE A BRIEF DESCRIPTION OF THE DESIGN MANUAL WAIVER, AS A GENERAL NOTE TO INCLUDE REQUESTS, ACTION AND DATE.
    - 5) COMPLIANCE WITH THE DEVELOPMENT ENGINEERING DIVISION COMMENTS DATED JANUARY 10, 2014.
    - 6) SUBJECT TO PROVIDING THE REQUIRED VISITOR AND OVERFLOW PARKING SPACES FOR THE RESIDENTIAL UNITS ON THE SITE DEVELOPMENT PLANS.
  38. THE OPEN SPACE SHOWN HEREON IS HEREBY DEDICATED TO A PROPERTY OWNERS ASSOCIATION FOR THE RESIDENTS OF THIS SUBDIVISION AND RECORDING REFERENCES OF THE ARTICLES OF INCORPORATION AND RESTRICTIONS APPROVED BY THE BOARD OF SUPERVISORS.
  39. A MODERATE INCOME HOUSING UNIT (M.I.H.U.) AGREEMENT AND M.I.H.U. COVENANTS WILL BE RECORDED SIMULTANEOUSLY WITH THIS PLAN.
  40. ALL BOUNDARIES ARE BASED ON SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. DATED OCTOBER 24, 2007.
  41. TOPOGRAPHIC CONTOURS ARE BASED ON AERIAL CONTOURS MAPPING BY HARFORD AERIAL PHOTOGRAPHED ON SEPTEMBER 18, 2007 AND SUPPLEMENTED WITH A FIELD SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. DATED OCTOBER 24, 2007.
  42. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IS APPLICABLE.
  43. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING DIVISION AT (410) 313-1080 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
  44. THE CONTRACTOR SHALL NOTIFY "MIS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION BEING DONE. ANY DAMAGE TO PUBLIC ROADS OR EXISTING UTILITIES WILL BE CORRECTED AT CONTRACTOR'S EXPENSE.
  45. TRAFFIC CONTROL DEVICES:
    - A. THE R-1-1 (STOP) SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE MAJOR PAVING IS COMPLETED.
    - B. THE TRAFFIC CONTROL DEVICES SHOWN ON THE PLANS ARE APPROPRIATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410) 313-5252 PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
    - C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MAND AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUNUTCD)
    - D. ALL SIGN POSTS SHALL BE TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED (QUICK PUNCH), SQUARE TUBE (POST 1 1/4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - LONG THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
  46. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
  47. A PRIVATE ROAD STREET ASSEMBLY SHALL BE FABRICATED AND INSTALLED (FOR EACH OF THE PRIVATE ROADS INTERSECTING QUIDDITCH LANE) BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT (410) 313-5752 FOR DETAILS AND COST ESTIMATES.
  48. ALL SHOULDS AND SLOPES SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED.
  49. ALL FILL AREAS (ROADWAYS, UNDER STRUCTURES, ETC.) TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION AS REQUIRED BY ASHTO 100.
  50. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
  51. DECKS MUST BE 10' FROM THE PUBLIC SEWER, WATER AND UTILITY EASEMENT, UNLESS SUBJECT TO AN APPROVED WAIVER.
  52. THIS PLAN IS SUBJECT TO A WAIVER TO DESIGN MANUAL VOLUME II, APPROVED ON 12/15/16 BY DEVELOPMENT ENGINEERING DIVISION REQUESTING A WAIVER TO SECTION 5.4, PARAGRAPH 8.5, ALLOWING CONSTRUCTION OF AN 8' DEEP DECK ON TWELVE (12) TOWNSHOUSE UNITS (LOTS 15-18, 62-67 & 156) OF CONTRACT NO. 14-4777-D WHICH ENCOMPASS A MAXIMUM OF FIVE (5) FEET INTO THE STRUCTURE SETBACK FROM THE PUBLIC SEWER, WATER AND UTILITY EASEMENT.
  53. THIS PLAN IS SUBJECT TO DESIGN MANUAL VOLUME II, APPROVED ON 12/15/16 BY DEVELOPMENT ENGINEERING DIVISION REQUESTING A WAIVER TO SECTION 5.4, PARAGRAPH 8.5, WHICH ALLOWS:
    - CONSTRUCTION OF AN 8' DEEP DECK ON LOTS 68 THRU 95, LOTS 146 THRU 155 AND LOTS 164 THRU 172 WHICH ENCOMPASS A MAXIMUM OF FIVE (5) FEET INTO THE STRUCTURE SETBACK.
    - CONSTRUCTION OF TOWNSHOUSE UNITS ON LOTS 157 THRU 163 WHICH ENCOMPASS A MAXIMUM OF FIVE (5) FEET INTO THE STRUCTURE SETBACK.
    - CONSTRUCTION OF AN 8' DEEP DECK ON LOTS 157 THRU 163 WHICH ENCOMPASS A MAXIMUM OF THREE (3) FEET INTO THE PUBLIC SEWER, WATER AND UTILITY EASEMENT.

- GENERAL NOTES**
1. SUBJECT PROPERTY IS ZONED CAC-CL AND GRANDFATHERED PER 02/02/04 COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING AMENDMENTS EFFECTIVE 07/28/06.
  2. COORDINATES BASED ON MD 83, HARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 4384 AND NO. 4386.
    - STA. 4384 N 591,676.40795 E 1,376,108.3992 ELEVATION 209.451
    - STA. 4386 N 590,534.2018 E 1,376,025.2998 ELEVATION 209.298
  3. THIS PLAN IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT OCTOBER 2007, BY FISHER, COLLINS AND CARTER, INC.
  4. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT.
  5. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
    - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE)
    - SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1 1/2" MIN) GEOMETRY - MAX. 1% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS
    - STRUCTURE (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H2S LOADING) DRAINAGE ELEMENTS - SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRAINWAY SURFACE
    - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE
  6. PROPERTY SUBJECT TO PROCEED DEPARTMENT OF PLANNING AND ZONING FILE NO. ECP-13-035, S0P-12-148, S0P-01-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, S0P-15-017, S0P-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
  7. TO THE BEST OF OUR KNOWLEDGE, NO CEMETERIES EXIST ON SITE BY BOTH VISUAL OBSERVATION AND REVIEW OF AVAILABLE HOWARD COUNTY INFORMATION.
  8. THERE IS NO FLOODPLAIN WITHIN THE LIMITS OF THIS SITE DEVELOPMENT PLAN SUBMITTAL.
  9. TRAFFIC STUDY DATED JANUARY, 2012 WAS PREPARED BY THE TRAFFIC GROUP, INC. AND WAS APPROVED ON MARCH 14, 2013 UNDER F-14-028.
  10. THIS PROPERTY IS NOT LOCATED IN A HISTORIC DISTRICT.
  11. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2004 ZONING REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003 AND THE "COMP-LITE" ZONING REGULATION AMENDMENTS APPROVED BY COUNCIL ON CONSTRUCTION OF THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
  12. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
  13. ARTICLES OF INCORPORATION FOR THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC. WAS FILED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON SEPTEMBER 23, 2014, RECEIPT NO. 01606080.
  14. THE EXISTING BUILDINGS AND ACCESSORY STRUCTURES HAVE BEEN REMOVED PRIOR TO RECORDED OF THE FINAL PLAN FOR F-14-028.
  15. THE FOREST STAND DELINEATION REPORT FOR THIS PROJECT WAS PREPARED BY MCCARTHY AND ASSOCIATES ON JUNE, 2009 AND WAS APPROVED WITH THE COMPREHENSIVE SKETCH PLAN, S-10-002 BY THE PLANNING DIRECTOR ON JUNE 7, 2010.
  16. THE TRAFFIC STUDY AND THE APPO (ADEQUATE PUBLIC FACILITIES ORDINANCE) ROAD FACILITIES TEST FOR THIS SUBDIVISION WAS APPROVED WITH THE COMPREHENSIVE SKETCH PLAN, S-10-002, BY THE PLANNING DIRECTOR, ON JUNE 7, 2010.
  17. PUBLIC WATER AND SEWER IS PROVIDED VIA CONTRACT NOS. 14-4777-D AND 14-4897-D
  18. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 10.122.B OF THE HOWARD COUNTY CODE.
  19. A PRE-SUBMISSION MEETING WAS HELD ON AUGUST 12, 2009 FOR THIS PROJECT.
  20. THE 65 DBA NOISE CONTOUR LINE WAS OBTAINED FROM A NOISE STUDY PREPARED BY M&S GROUP DATED JUNE, 2009 AND IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1998 AND CAN BE CONSIDERED TO EXHAUST LOCATE THE 65 DBA NOISE CONTOUR LINE REQUIREMENT WAS ESTABLISHED BY HOWARD COUNTY TO AEST DEVELOPEES, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
  21. THERE ARE NO WETLANDS, STREAMS, 100 YEAR FLOODPLAIN OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SQUARE FEET LOCATED ON THIS SITE DEVELOPMENT PLAN. THERE ARE NO WETLANDS ON-SITE THAT WILL BE DESTROYED OR THAT WILL REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND.
  22. FOREST CONSERVATION HAS BEEN PROVIDED UNDER F-14-028 IN ACCORDANCE WITH SECTION 16.12(D) OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL WITH OFF-SITE REFORESTATION OF 2.59 ACRES.
  23. NO FOREST RESOURCES EXIST ON THIS SITE PER THE FOREST STAND DELINEATION REPORT DATED JUNE, 2009 PREPARED BY MCCARTHY AND ASSOCIATES.
  24. PLAT SUBJECT TO WP-12-173 WHICH THE PLANNING DIRECTOR ON JUNE 25, 2012 APPROVED TO WAIVE SECTION 16.14(G) REQUIRING THE SUBMISSION OF A PRELIMINARY PLAN WITHIN FOUR (4) MONTHS OF SKETCH PLAN APPROVAL AND SECTION 16.110(6D) REQUIRING RESIDENTIAL PROJECTS WITH 101 PLUS HOUSING UNITS NINE (9) MONTHS AFTER STARTING DATE SUBJECT TO:
    - 1) THE PRELIMINARY PLAN FOR PHASES I THRU III FOR 19 UNITS MUST BE SUBMITTED TO DPZ ON OR BEFORE NOVEMBER 1, 2012.
    - 2) A 10' PRIVATE TREE MAINTENANCE EASEMENT AND A 10' PRIVATE PARKING SETBACK RUNNING ALONG THE EDGE OF THE PUBLIC ROAD SHOWING ON THIS PLAN OF SUBDIVISION IS RESERVED UPON ALL LOTS FRONTING ON THE SAID PUBLIC ROAD RIGHT-OF-WAY. THIS EASEMENT ALLOWS HOWARD COUNTY THE RIGHT TO ACCESS THE PROPERTY, WHEN NECESSARY, FOR THE SPECIFIC PURPOSE OF THE INSTALLATION, REPAIR AND MAINTENANCE OF COUNTY OWNED TREES LOCATED WITHIN THE BOUNDARIES OF THE PRIVATE LOTS. NO BUILDING OR STRUCTURE OF ANY KIND SHALL BE LOCATED ON OR OVER THE SAID EASEMENT AREA.
    - 3) THE LOTS CREATED BY THIS SUBDIVISION PLAN AREA SUBJECT TO A FEE OR ASSESSMENT TO COVER OR DEFRAY ALL OR PART OF THE DEVELOPER'S COST OF THE INSTALLATION OF THE WATER AND SEWER FACILITIES, PURSUANT TO THE HOWARD COUNTY CODE SECTION 10.112. THIS FEE OR ASSESSMENT, WHICH RUNS WITH THE LAND, IS A CONTRACTUAL OBLIGATION BETWEEN THE DEVELOPER AND EACH OWNER OF THIS PROPERTY AND IS NOT IN ANY WAY A FEE OR ASSESSMENT OF HOWARD COUNTY.
    - 4) H.O.A. COVENANTS AND RESTRICTIONS ARE RECORDED IN LIBER 16221, FOLIO 418 AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.
  25. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE FOR PRIVATE ROADS ARE PROVIDED BY THE MORRIS PLACE COMMUNITY ASSOCIATION, INC. FOR THE TOWNSHOUSE LOTS FRONTING PRIVATE STREETS.
  26. QUIDDITCH LANE IS A PUBLIC ROAD MAINTAINED BY HOWARD COUNTY, MARYLAND. ALL OTHER ROADS OR STREETS ARE PRIVATELY OWNED AND MAINTAINED BY THE MORRIS PLACE COMMUNITY ASSOCIATION, INC.
  27. THIS PLAN IS SUBJECT TO A LETTER DATED MARCH 16, 2010 WHICH THE PLANNING DIRECTOR GRANTED APPROVAL TO ALLOW A REDUCTION IN THE REQUIRED COMMERCIAL SPACE TO 200 SQUARE FEET PER RESIDENTIAL UNIT. HOWEVER, IF THE ADJOINING LIGONS PROPERTY (PARCEL 599), WHICH HAS FRONTAGE ON ROUTE 1 IS LATER INTEGRATED WITH THIS SUBDIVISION, 300 SQUARE FEET OF COMMERCIAL SPACE FOR EACH RESIDENTIAL UNIT MAY BE REQUIRED, OR WHAT REGULATIONS DICTATE AT THAT TIME.
  28. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.12(A) OF THE HOWARD COUNTY CODE AND LANDSCAPE OBLIGATIONS FOR THIS SITE DEVELOPMENT PLAN (APPO PHASE VI) HAS BEEN PROVIDED BY A FINANCIAL SURETY IN THE AMOUNT OF \$44,250.00 BASED ON 40 GRADE TREES, 60 EVERGREENS, 240 SHRUBS WHICH WILL BE PROTECTED AS PART OF THE DEVELOPER'S ACCEPTED FOR THIS SITE DEVELOPMENT PLAN.
  29. THIS PROJECT COMPLES WITH THE ROUTE 1 MANUAL IN REGARDS TO THE "CAC-CL" ZONING DISTRICT.
  30. FEBRUARY 6, 2012 AND JULY 10, 2013 THE DEPARTMENT OF PLANNING AND ZONING HAS TENTATIVELY ALLOCATED FOR THIS SUBDIVISION IN THE ROUTE 1 PLANNING AREA IN ACCORDANCE WITH THE FOLLOWING ALLOCATION SCHEDULE AND MILESTONES:
 

PHASE NO.	FILE NO.	ALLOCATION YEAR	NO. OF ROUTE 1 ALLOCATIONS	NO. OF M.I.H.U. ALLOCATIONS	TOTAL NO. OF ALLOCATIONS	NO. OF SITE DEVELOPMENT PLAN
I-IV	F-14-028	2016	43	10	53	FINAL PLANS BY NOVEMBER 9, 2013
V	F-15-047	2017	15	18	34	SITE DEVELOPMENT PLAN DUE 07/01/14 & 11/01/14
VI	F-16-017	2018	79	0	79	SITE DEVELOPMENT PLAN DUE 07/01/15 & 11/01/15
TOTALS			138	28	166	

AMENITY AREA CHART THIS SHEET	
34. AMENITY AREA REQUIREMENTS PROVIDED WITH S0P FOR APPO PHASES I THRU VI. SEE AMENITY AREA CHART THIS SHEET.	
35. STORMWATER MANAGEMENT FOR THIS REDEVELOPMENT PROJECT HAS BEEN PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL (REVISED 2008), SECTION 2.0.1.1.1, REVISED 2008, S0P-15-017 AND BY THE CONSTRUCTION OF THREE (3) M-6 BIO RETENTION FACILITIES UNDER THIS SITE DEVELOPMENT PLAN.	
36. MODERATE INCOME HOUSING UNITS (M.I.H.U.) FOR PHASE V TABULATION: <ol style="list-style-type: none"> <li>A. TOTAL PROJECT M.I.H.U. REQUIREMENT = 25 M.I.H.U. (156 UNITS X 15%) = 23.4 M.I.H.U.</li> <li>B. M.I.H.U. FOR PHASE I THRU V PROVIDED = 14 M.I.H.U. (87 UNITS X 15%) = 13.05 M.I.H.U. OR 14 M.I.H.U.</li> <li>C. M.I.H.U. FOR PHASE I THRU V PROVIDED = 14 M.I.H.U. (25 M.I.H.U.) = 14 M.I.H.U.</li> <li>E. M.I.H.U. FOR PHASE V PROVIDED = 11 M.I.H.U.</li> </ol>	

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SERVICE OFFICE: 10772 WILMINGTON NATIONAL PARK  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2995

STATE OF MARYLAND  
FRANK JOHN MANLANSAN II, L.S. NO. 21476  
PROFESSIONAL LAND SURVEYOR

**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/11/17.

10/10/16  
DATE

**OWNER**  
CDCG362HLP  
C/O CDCG ASSET MANAGEMENT LLC  
8965 E. HARTFORD DRIVE  
SUITE 200  
SCOTTSDALE, AZ 85255  
ATTN: STEVEN S. BENSON  
(480) 696-3733

**DEVELOPER**  
BEAZER HOMES CORP  
8965 GUILFORD ROAD  
COLLINGSWOOD, MD 21046  
ATTN: EDWARD GOLD  
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kat Johnson* 11-4-16  
Chief, Division of Land Development Date

*Chad Clark* 11-2-16  
Chief, Development Engineering Division Date

*Walter Taylor* 12-7-16  
Director - Department of Planning and Zoning Date

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 106 THRU 184 AND OPEN SPACE LOTS 185 THRU 193

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23909-23912	4	CAC & CL			

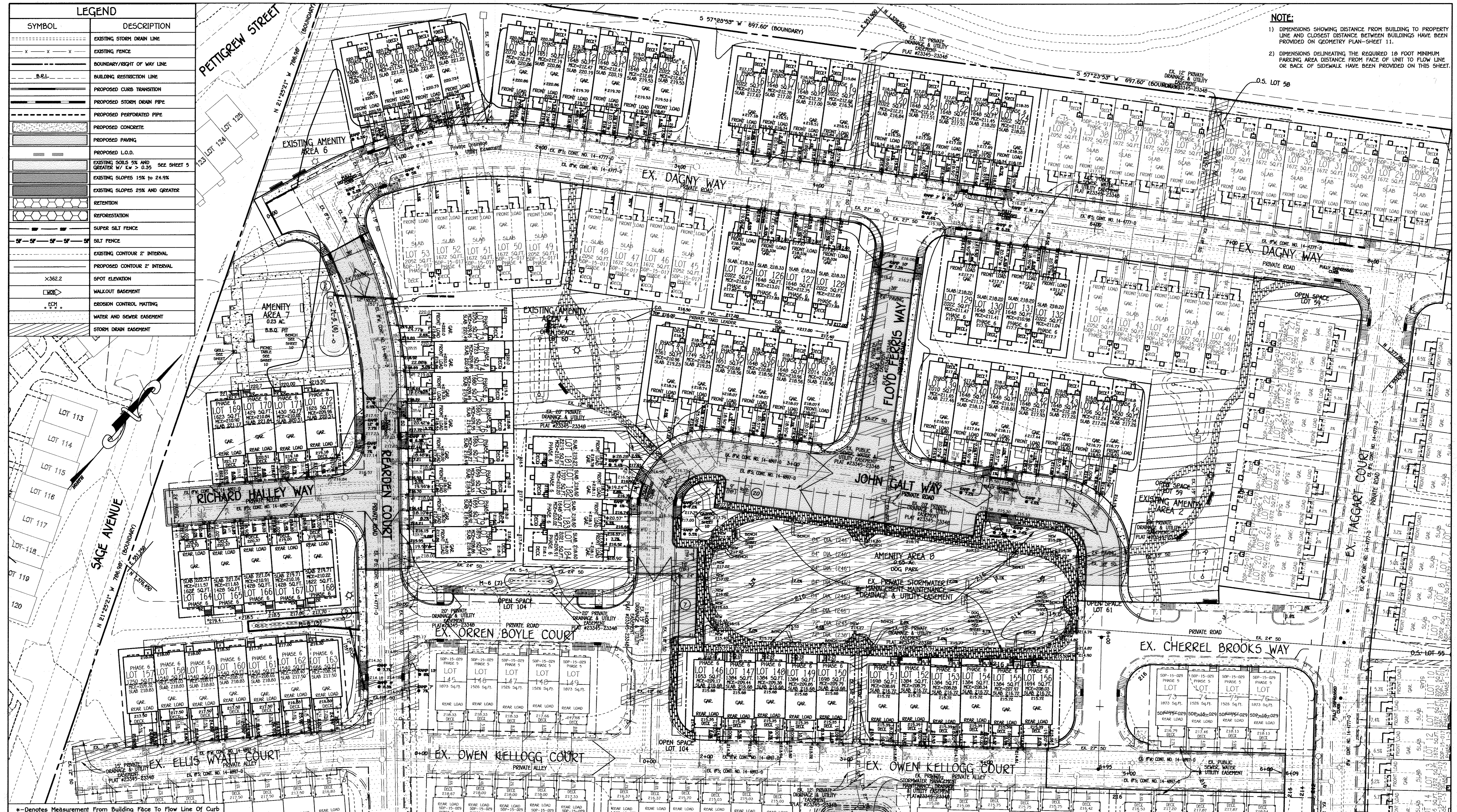






LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING STORM DRAIN LINE
- - - - -	EXISTING FENCE
- - - - -	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
- - - - -	PROPOSED CURB TRANSITION
- - - - -	PROPOSED STORM DRAIN PIPE
- - - - -	PROPOSED PERFORATED PIPE
- - - - -	PROPOSED CONCRETE
- - - - -	PROPOSED PAVING
- - - - -	PROPOSED L.O.D.
- - - - -	EXISTING SOILS 5% AND GREATER W/ C.V. > 0.35
- - - - -	EXISTING SLOPES 15% TO 24.9%
- - - - -	EXISTING SLOPES 25% AND GREATER
- - - - -	RETENTION
- - - - -	REFORESTATION
- - - - -	SUPER SILT FENCE
- - - - -	SILT FENCE
- - - - -	EXISTING CONTOUR 2' INTERVAL
- - - - -	PROPOSED CONTOUR 2' INTERVAL
X362.2	SPOT ELEVATION
WALKOUT	WALKOUT BASEMENT
ECM	EROSION CONTROL MATTING
- - - - -	WATER AND SEWER EASEMENT
- - - - -	STORM DRAIN EASEMENT

**NOTE:**  
 1) DIMENSIONS SHOWING DISTANCE FROM BUILDING TO PROPERTY LINE AND CLOSEST DISTANCE BETWEEN BUILDINGS HAVE BEEN PROVIDED ON GEOMETRY PLAN-SHEET 11.  
 2) DIMENSIONS DELINEATING THE REQUIRED 18 FOOT MINIMUM PARKING AREA DISTANCE FROM FACE OF UNIT TO FLOW LINE OR BACK OF SIDEWALK HAVE BEEN PROVIDED ON THIS SHEET.



\*-Denotes Measurement From Building Face to Flow Line of Curb

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK, 10272 BALTIMORE NATIONAL PARK  
 ELLSWORTH CITY, MARYLAND 21142  
 (410) 461-2899

NO.	REVISION	DATE

STATE OF MARYLAND  
 PROFESSIONAL SURVEYOR

0' 30' 60' 120'

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 SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 21476, EXPIRATION DATE: 7/14/17.  
 Frank John Hanuljan II, L.S. No. 21476 1/14/16 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kent LaDove*  
 Chief, Division of Land Development 11-2-16 DATE

*Neil Long*  
 Chief, Development Engineering Division 12-17-16 DATE

Director - Department of Planning and Zoning

**OWNER**  
 C/O CDCG ASSET MANAGEMENT LLC  
 8985 E. HARTFORD DRIVE  
 SUITE 200  
 SCOTTSDALE, AZ 85255  
 ATTN: STEVEN S. BENSON  
 (480) 696-3733

**DEVELOPER**  
 BEAZER HOMES CORP  
 8965 GUILFORD ROAD  
 COLUMBIA, MD 21046  
 ATTN: EDWARD GOLD  
 (410) 720-5071

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 106 THRU 104 AND OPEN SPACE LOTS 189 THRU 193
PLAT	BLOCK NO.	ZONE
23099-23912	4	CAC & CLJ
TAX/ZONE	ELEC. DIST.	CENSUS TR.
43	1	6069.02
WATER CODE	SEWER CODE	
C-02	7390000	

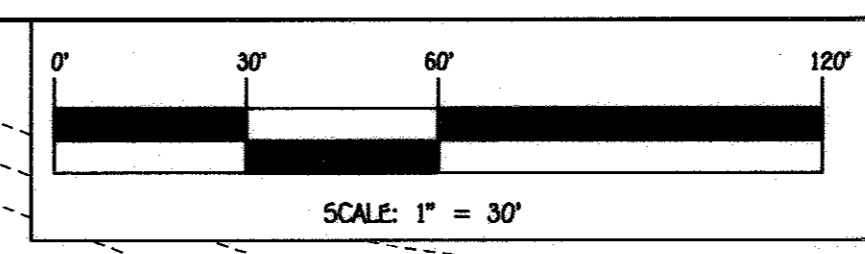
**SITE DEVELOPMENT PLAN**

**SINGLE FAMILY TOWNHOUSE MORRIS PLACE**  
 LOTS 106 THRU 104 AND OPEN SPACE LOTS 189 THRU 193  
 PHASE VI  
 ZONED: CAC & CLJ

PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SGP-02-148, SGP-01-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SGP-15-017, SGP-15-029, W & 5 CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D  
 TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30' DATE: SEPTEMBER, 2016  
 SHEET 3 OF 11 SDP 16-001

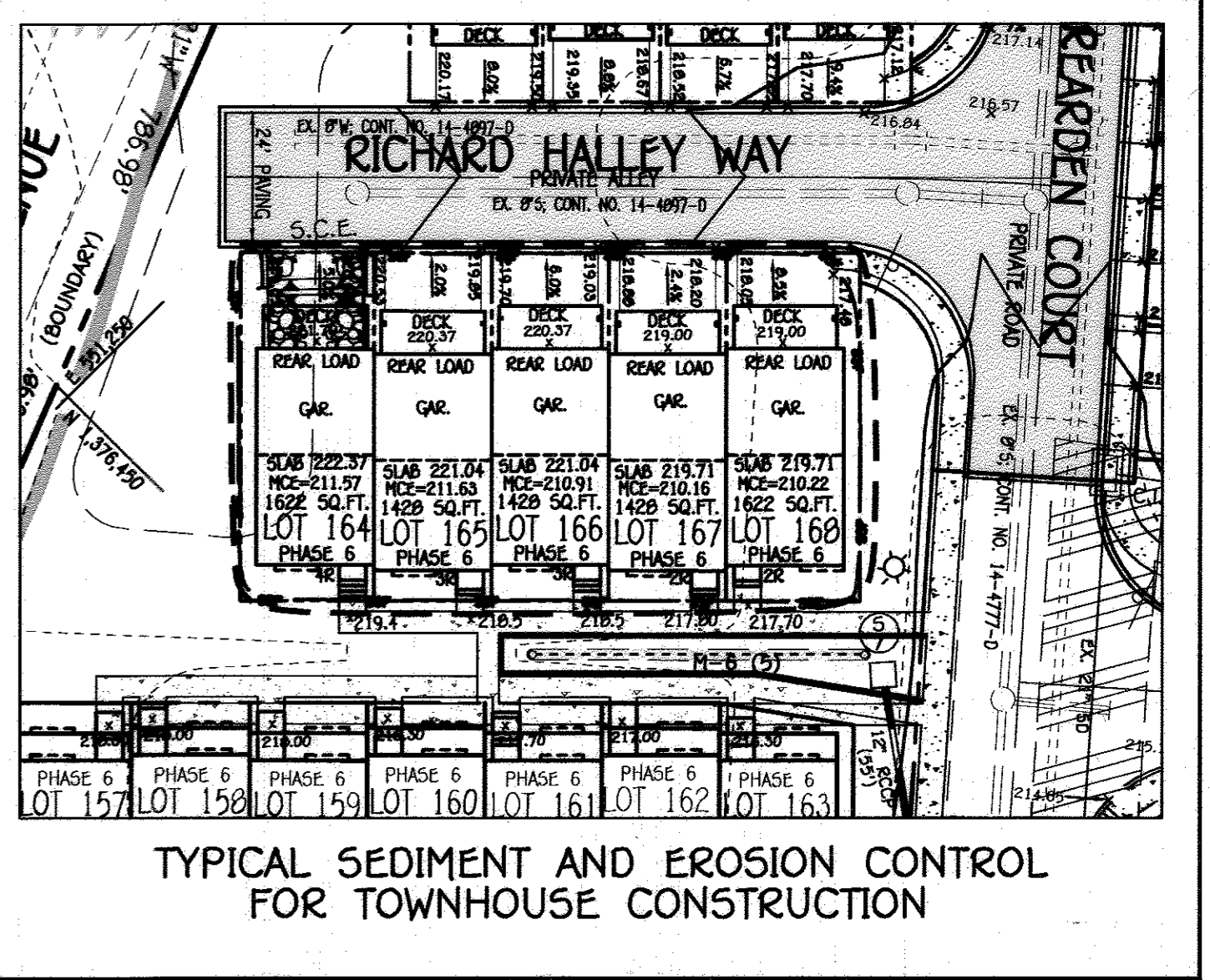
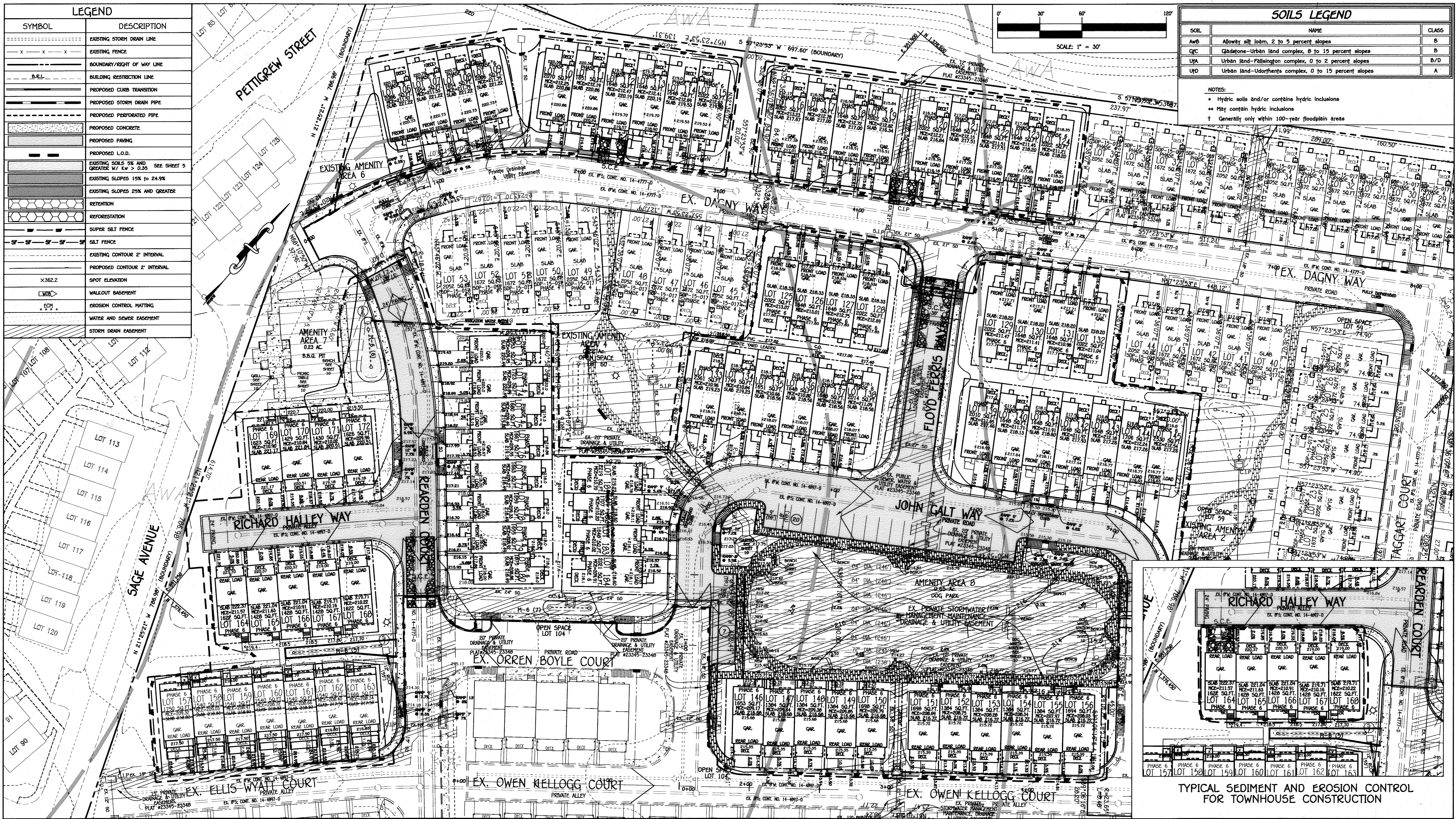


LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING STORM DRAIN LINE
x x x	EXISTING FENCE
---	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
---	PROPOSED CURB TRANSITION
---	PROPOSED STORM DRAIN PIPE
---	PROPOSED PERFORATED PIPE
---	PROPOSED CONCRETE
---	PROPOSED PAVING
---	PROPOSED L.O.D.
---	EXISTING SOILS 5% AND SEE SHEET 5 GREATER W/ K <sub>v</sub> > 0.35
---	EXISTING SLOPES 15% TO 24.5%
---	EXISTING SLOPES 25% AND GREATER
---	RETENTION
---	REFORESTATION
---	SUPER SILT FENCE
SF-SF	SILT FENCE
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x.362.2	SPOT ELEVATION
---	WALKOUT BASEMENT
---	EROSION CONTROL MATING
---	WATER AND SEWER EASEMENT
---	STORM DRAIN EASEMENT



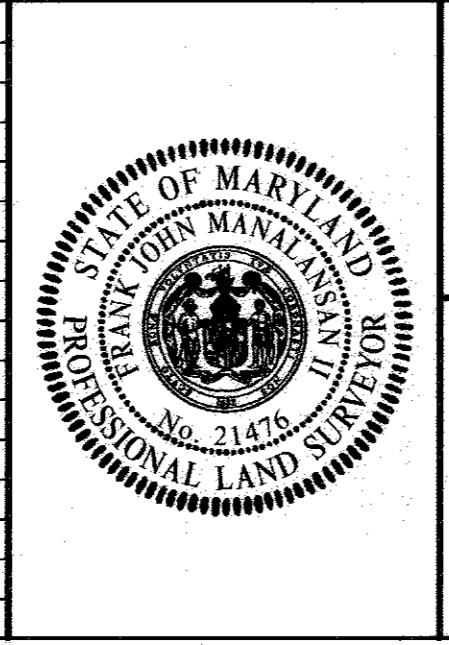
SOILS LEGEND		
SOIL	NAME	CLASS
AwB	Alloway silt loam, 2 to 5 percent slopes	B
CQC	Gladstone-Urban land complex, 0 to 15 percent slopes	B
UVA	Urban land-Fallington complex, 0 to 2 percent slopes	B/D
UPD	Urban land-Udorphents complex, 0 to 15 percent slopes	A

- NOTES:
- Hydric soils and/or contains hydric inclusions
  - May contain hydric inclusions
  - Generally only within 100-year floodplain areas



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALDWIN NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461 - 2999

NO.	REVISION	DATE



**PROFESSIONAL CERTIFICATE**  
 "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 Surveyor: *Frank John Marulanan II* Date: 10/16/16  
 FRANK JOHN MARULANAN II, L.S.  
 LICENSE NO. 21476  
 EXPIRATION DATE: 7/11/17

**BUILDER/DEVELOPER'S CERTIFICATE**  
 "I/we certify that all development and construction will be done according to this plan, for sediment and erosion control 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: *Brian Krauff* Date: 10/16/16  
 BRIAN KRAUFF

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: *John R. Roberts* Date: 10/16/16  
 JOHN R. ROBERTS  
 HOWARD SCD

**OWNER**  
 C/O CDG ASSET MANAGEMENT LLC  
 8905 E. HARTFORD DRIVE  
 SUITE 200  
 SCOTTSDALE, AZ 85255  
 ATTN: STEVEN S. BENSON  
 (480) 696-3733

**DEVELOPER**  
 BEAZER HOMES CORP  
 9905 GUILFORD ROAD  
 COLUMBIA, MD 21046  
 ATTN: EDWARD GOLD  
 (410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: *Kate Schuman* Date: 11-4-16  
 Chief, Division of Land Development

Signature: *John Galt* Date: 11-2-16  
 Chief, Development Engineering Division

Signature: *William J. ...* Date: 12-17-16  
 Director - Department of Planning and Zoning

PROJECT	SECTION	LOTS NO.			
MORRIS PLACE	N/A	LOTS 106 THRU 184 AND OPEN SPACE LOTS 189 THRU 193			
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23909-23912	4	CAC & CLI	43	1	6069.02
WATER CODE	SEWER CODE				
C-02	7390000				

**SEDIMENT & EROSION CONTROL PLAN**

**SINGLE FAMILY TOWNHOUSE MORRIS PLACE**  
 LOTS 106 THRU 184  
 AND OPEN SPACE LOTS 185 THRU 193  
 PHASE VI  
 ZONED: CAC & CLI

PREVIOUS HOWARD COUNTY FILES: ECP-13-035, S0P-82-148, S0P-91-50, 5-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, S0P-15-017, S0P-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D  
 TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4  
 FIRST ELECTION DISTRICT: HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30' DATE: SEPTEMBER, 2016  
 SHEET 4 OF 11 S0P 16-001



### SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. SOIL PREPARATION**
- 1. TEMPORARY STABILIZATION**
    - a. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE ADDITIONAL OR CONSTRUCTION EQUIPMENT, SUCH AS BACK HOVING OR CLOSER PLANS OR DEEPER TROWERS ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSED, IT MUST BE ROLLED OR BROADCAST SMOOTH BUT NOT LEFT IN THE EQUIPMENT CONDITION. SLOPES 2:1 OR FLATTER ARE TO BE TROLLED WITH ROLLS RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
    - b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
    - c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
    - d. PREPARATION OF STABLE SURFACES SHALL BE ACCORDING TO THE REQUIREMENTS OF SECTION 8-4-3.
  - 2. PERMANENT SEEDING**
    - 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:
      - i. SOIL WITHIN 6 INCHES AND 1 1/2 INCHES OF SURFACE.
      - ii. SOLUBLE SALTS LESS THAN 500 PPM (PPM).
      - iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY THAT EXCEEDS THE FINED MATERIAL (GREATER THAN 30 PERCENT SET FLUID CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF PESTICIDE. AN EXCEPTION IF LONGWASS MILLS IS PLANTED, THEN A SANDY SOIL LESS THAN 30 PERCENT SET FLUID CLAY WOULD BE ACCEPTABLE.
      - iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
      - v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
    - b. SEEDING SHALL BE ACCORDING TO THE REQUIREMENTS OF SECTION 8-4-3.
    - c. SEEDING SHALL BE ACCORDING TO THE REQUIREMENTS OF SECTION 8-4-3.
    - d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
    - e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RICE LAMN GRASS TO SPREAD THE SURFACE. LIME SHOULD BE APPLIED TO THE SURFACE AND KEPT THE AREA FOR SEED APPLICATION. LOOSENING SOIL BY DISKING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO LOOSEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDING PREPARATION. TRUCK SLIPPERS 3:1 OR FLATTER WITH TROLLED EQUIPMENT LOOSEN THE SOIL IN AN ADEQUATE MANNER WITH ROLLS RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LIME TO A DEPTH OF 3 TO 5 INCHES OF SOIL LOOSE AND FERTILIZER SEEDING LOOSENING MAY BE UNNECESSARY ON HEAVILY DISTURBED AREAS.

- B. TOPSOILING**
- 1. TOPSOILING** IS THE PROCESS OF PREPARING SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONSISTENT HIGH LOESSITE CONTENT, LOW NUTRIENT LEVELS, LOW PH, HAZARDOUS TONS, AND/OR UNACCEPTABLE SOIL QUANTITIES.
  - 2. TOPSOIL** SHOWN ON 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 THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PROVIDED BY USDA-NRCS.
  - 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES.**
  - 4. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.** THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR CORNERS CONTAINING SUPPLIES OF PESTICIDES AND PLANT NUTRIENTS.
  - 5. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.** THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - 6. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.**
  - 7. TOPSOILING SPECIFICATIONS:** SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
    - a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF APPROVED 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 CORNERS, STONES, SLAG, CHALK, PESTICIDES, GRAVEL, STICKS, ROOTS, TRUNKS OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.
    - b. TOPSOIL MUST BE FREE OF NODULAR PLANTS OR PLANT PARTS SUCH AS BROMELIADS, GRASS, QUACK GRASS, JOHNSON GRASS, NUT GRASS, PONDWEED, OR OTHER PLANTS WHICH FORM NODULES OR NODULAR ROOTS.
    - c. TOPSOIL MUST BE FREE OF PESTICIDES OR OTHER CHEMICALS WHICH WOULD BE HARMFUL TO PLANT GROWTH.
    - d. TOPSOIL MUST NOT BE IN A CONDITION THAT MAY OBTAIN BE DETERMINED TO PROPER GRASSING AND SEEDING PREPARATION.
  - 8. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.**
  - 9. A DESIGN AND SOIL CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.**
  - 10. UNDESIRABLE DISTURBANCE TONS:** A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES.
  - 11. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SPREADING OR COVERING WITH A MINIMUM OF 1/2 INCH OF ADDITIONAL SOIL PREPARATION AND TILLAGE, ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED TO PREVENT THE FORMATION OF CORNERS OR WATER HOLES.**
  - 12. TOPSOIL MUST NOT BE USED TO COVER AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A REGISTERED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.**

- C. SOIL AMENDMENTS (FERTILIZER & LIME SPECIFICATIONS)**
- 1. SOIL TESTS** MUST BE PERFORMED TO DETERMINE THE EXISTING NUTRIENT 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 REGISTERED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.
  - 2. FERTILIZERS** MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. NUTRIENT MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZER MUST BE DELIVERED TO THE SITE FULLY LABELLED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE MARK OR TRADEMARK AND WARRANTY OF THE PRODUCER.
  - 3. LIME MATERIALS** MUST BE GROUND LIMESTONE (HYDRATED OR BURNED LIME) MAY BE SUBSTITUTED EXCEPT WHEN HYDRATED WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDE (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH A FINENESS THAT AT LEAST 90 PERCENT WILL PASS THROUGH A #100 MESH AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH.
  - 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 GRASS PLACEMENT AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE APPLICATION OF TOPSOIL.**

### DUST CONTROL

- DEFINITION**  
CONTROLLING DUST BLowing AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.
- PURPOSE**  
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY.
- CONDITIONS WHERE PRACTICE APPLIES**  
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.
- SPECIFICATIONS**
- 1. MULCHES** - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE COMPELLED OR TOLDED TO PREVENT BLOWING.
  - 2. VEGETATIVE COVER** - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
  - 3. TILLAGE** - TO ROUGHEN SURFACE AND BRING CLOSER TO SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON INWARD SIDE OF THE SITE. CHISEL-TYPE PLANS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS AND SIMILAR PLANS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
  - 4. BROADCASTING** - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPERMINED WITH WATER UNTIL THE SURFACE IS MOIST, REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
  - 5. BARBERS** - SOLID BOARD FINISH STIFFS, SNOW FINES, BUCKLE FINES, STRAW BALE DECKS AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CONTROLLING SOIL BLOWING, CORNERS AND SOIL BLOWING. CORNERS AND SOIL BLOWING BARBERS PLACED AT RIGHT ANGLES TO PREDOMINANT CORNERS AT INTERVALS OF ABOUT 10 TO 15 FEET THEIR HEIGHT ARE EFFECTIVE IN WINDS.
  - 6. CHALK DUST** - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.
- PERMANENT METHODS**
- 1. PERMANENT VEGETATIVE COVER** - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION WITH SOIL. EXISTING TREES OR LARGE SHRUBS MAY ATTAIN VALUABLE PROTECTION BY LEFT IN PLACE.
  - 2. TOPSOILING** - CONSIDERING WITH LEAST 2" DEEP SOIL. MATERIALS, SEE STANDARDS FOR TOPSOILING.
  - 3. STONE** - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

- SEQUENCE OF CONSTRUCTION**
- OBTAIN A GRADING PERMIT (2 WEEKS)
  - NOTIFY "HEAVY UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777.
  - NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1300 AT LEAST 24 HOURS BEFORE STARTING WORK.
  - REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY.
  - THE INFRASTRUCTURE CONSTRUCTION AS DETERMINED BY THE CONSTRUCTION INSPECTION DIVISION, FROM F-14-028, 50P-15-017 AND 50P-15-029 MUST BE COMPLETED PRIOR TO BEGINNING CONSTRUCTION ON THIS PLAN.
  - INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE, AND INLET PROTECTION (1 WEEK)
  - BEGIN CONSTRUCTION OF CURBS & GUTTERS AND INSTALLATION OF ROAD BASE COURSE (2 WEEKS)
  - GRADE AND STABILIZE WITH TEMPORARY SEEDING THE BUILDING PLOTS (1 MONTH)
  - COMMENCE CONSTRUCTION OF TOWNHOUSES (6 MONTHS)
  - INSTALL FINISHED FURNISHINGS, SIDEWALKS AND STREET TREES (2 WEEKS)
  - CONTRACTOR SHALL REMOVE ALL OLD AND NEW JUNK, TRASH.
  - OBTAIN APPROVAL OF APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO REMOVAL OF SEDIMENT CONTROLS.
  - REMOVAL OF CONTROLS AND STABILIZATION OF AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROLS.
- NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON.

### TEMPORARY SEEDING NOTES (B-4-4)

- DEFINITION**  
TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.
- PURPOSE**  
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON EXPOSED SOILS.
- CONDITIONS WHERE PRACTICE APPLIES**  
EXPOSED SOILS WHERE GRASSING COVER IS REQUIRED OVER A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

**TEMPORARY SEEDING SUMMARY**

HARDINESS ZONE (FROM FIGURE B.3)	SEEDING RATE (LB./AC.)	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE (PPM)
BARLEY	96	3/1 - 5/15	436 LB./AC. (18 LB./1000 SF)	2 TONS/AC. (200 LB./1000 SF)
OATS	72	8/15 - 10/15	436 LB./AC. (18 LB./1000 SF)	2 TONS/AC. (200 LB./1000 SF)
RYE	112			

### PERMANENT SEEDING NOTES (B-4-5)

- A. SEED MIXTURES**
- 1. GENERAL USE**
    - a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FORTH ON TABLE B.2.
    - b. SEEDS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. NUTRIENT MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZER MUST BE DELIVERED TO THE SITE FULLY LABELLED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE MARK OR TRADEMARK AND WARRANTY OF THE PRODUCER.
    - c. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNED LIME) MAY BE SUBSTITUTED EXCEPT WHEN HYDRATED WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDE (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH A FINENESS THAT AT LEAST 90 PERCENT WILL PASS THROUGH A #100 MESH AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH.
    - d. 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.
    - e. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GRASS PLACEMENT AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE APPLICATION OF TOPSOIL.
  - 2. APPLICATION**
    - a. SEEDING MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. NUTRIENT MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZER MUST BE DELIVERED TO THE SITE FULLY LABELLED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE MARK OR TRADEMARK AND WARRANTY OF THE PRODUCER.
    - b. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNED LIME) MAY BE SUBSTITUTED EXCEPT WHEN HYDRATED WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDE (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH A FINENESS THAT AT LEAST 90 PERCENT WILL PASS THROUGH A #100 MESH AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH.
    - c. 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.
    - d. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GRASS PLACEMENT AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE APPLICATION OF TOPSOIL.

### STANDARD STABILIZATION NOTE

- THE FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PREPARATION DICES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 1:1 HORIZONTAL TO 1 VERTICAL (3:1).
  - SIXEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRASSING.

### HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- 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 (4:00-3:15-1995).
- 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 HAZARDOUS SUBSTANCES AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 3 CALENDAR DAYS FOR ALL DISTURBED AREAS EXCEPT AREAS WITH SLOPES GREATER THAN 3:1, 3:1 TO 4:1 TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND CONSTRUCTION AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, B-4-3, TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-5). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN THE SOIL TESTS ARE NOT FIT FOR THE PLAN AND SHOW THE RECOMMENDED RATES OF SEEDING AND FERTILIZER.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS ARE OBTAINED FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- NO CONSTRUCTION SHALL BE PERMITTED ON ANY DISTURBED AREAS UNTIL THE MOST SEEDING SEASON.

### B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING & 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 PREPARATION DITCHES, SWALES, AND ANY DISTURBED AREA UNDER ACTIVE GRASSING.
- A. SEEDING**
- 1. SPECIFICATIONS**
    - a. ALL SEED MUST MEET THE REQUIREMENT OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A REGISTERED SEED LABORATORY. ALL SEED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SEEDING. SUCH LABORATORY TESTS SHALL BE AVAILABLE TO THE INSPECTOR TO VERIFY THE TYPE OF SEED AND SEEDING RATE.
    - b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE SOIL IS FROZEN. THE APPROPRIATE SEEDING METHOD MUST BE APPLIED WHEN THE SOIL IS FROZEN.
    - c. MULCHING MUST BE PERFORMED IN SUCH A MANNER THAT MULCHING DOES NOT BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INCULCATED MULCH MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. AND FRESH INCULCATED AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDRATED. NOTE: IT IS HIGHLY IMPORTANT TO KEEP INCULCATED AS CLOSE AS POSSIBLE UNTIL THE RECOMMENDED RATES ABOVE 75 TO 80 PERCENT FERTILIZER CAN BE SOIL MIXED AND THEN THE INCULCATED MULCH IS APPLIED.
    - d. SOO SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STABILIZERS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISPERSION OF PHYTO-TOXIC MATERIALS.
  - 2. APPLICATION**
    - a. DEY SEEDING THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
    - b. INCORPORATE SEED INTO THE SURFACE. AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1.
    - c. PERMANENT SEEDING TABLE B.2 OR SITE-SPECIFIC SEEDING SPREADERS.
    - d. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH WHEELS ROLLERS TO PROVIDE GOOD SEED TO SOIL CONTACT.
    - e. DRILL OR CULTIVATOR SEEDING MECHANISMS SHOULD BE USED TO APPLY AND COVER SEED WITH SOIL.
    - f. CULTRIPING SEEDING ARE REQUIRED TO SILENCE THE SEED IN SUCH A MANNER AS TO PREVENT AT LEAST 1/4 INCH OF SOIL COVERING SEEDS MUST BE FROM AFTER PLANTING.
    - g. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. HALF THE SEEDING RATE IN EACH DIRECTION.
    - h. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NUTRIENT TO EACH OTHER. HALF THE SEEDING RATE IN EACH DIRECTION.
    - i. HYDRATED SEEDING MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. NUTRIENT MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZER MUST BE DELIVERED TO THE SITE FULLY LABELLED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE MARK OR TRADEMARK AND WARRANTY OF THE PRODUCER.
    - j. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNED LIME) MAY BE SUBSTITUTED EXCEPT WHEN HYDRATED WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDE (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH A FINENESS THAT AT LEAST 90 PERCENT WILL PASS THROUGH A #100 MESH AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH.
    - k. 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.
    - l. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GRASS PLACEMENT AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE APPLICATION OF TOPSOIL.

### B-4-4 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

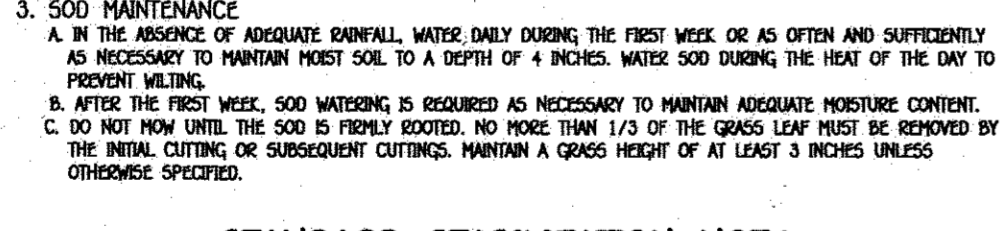
- DEFINITION**  
A HOUND OR FILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.
- PURPOSE**  
TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.
- CONDITIONS WHERE PRACTICE APPLIES**  
STACKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.
- C. MULCHING**
- 1. MULCH MATERIALS** (IN ORDER OF PREFERENCE)
    - a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY HIGH IN COLOR. STRAW IS TO BE FREE OF NODULAR WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLLY, COLD, DECAYED, OR EXCESSIVELY DRY. NOTE: USE ONLY STRAW MULCH IN AREAS WHERE ONLY SPECIES OF GRASSES IS DESIRED.
    - b. WOOD CELLULOSE FIBER MULCH (MFC) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO UNIFORM FIBROUS PHYSICAL STATE.
    - c. MULCH IS TO BE DRY OR CONTAIN A GREEN TONE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORM SPREAD SUFFICIENCY.
    - d. MULCH, INCLUDING DYE, MUST CONTAIN NO CORROSIVE OR TOXIC GROWTH INHIBITING FACTORS.
    - e. MULCH 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 SOIL. FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SOLUTION. THE MULCH MATERIAL MUST FORM A BUTTER-LIKE GROUND COVER ON APPLICATION. MULCHING MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. NUTRIENT MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZER MUST BE DELIVERED TO THE SITE FULLY LABELLED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE MARK OR TRADEMARK AND WARRANTY OF THE PRODUCER.
    - f. WOOD CELLULOSE FIBER MULCH MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER UNDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER MULCH WITH WATER AT A RATIO OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
    - g. SYNTHETIC FIBERS SUCH AS ACRYLIC (OR (MGO-TAC), DCA-70, PERPET, TERBA TAC, AC, OR OTHER APPROVED EQUAL MAY BE USED. FLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BLENDS NEEDS TO BE HEAVY AT THE CORNERS WHERE MULCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF LIQUID BLENDS IS STRICTLY PROHIBITED.
    - h. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4-15 FEET WIDE AND 300 TO 3,000 FEET LONG.

**TEMPORARY SEEDING FOR SITE STABILIZATION**

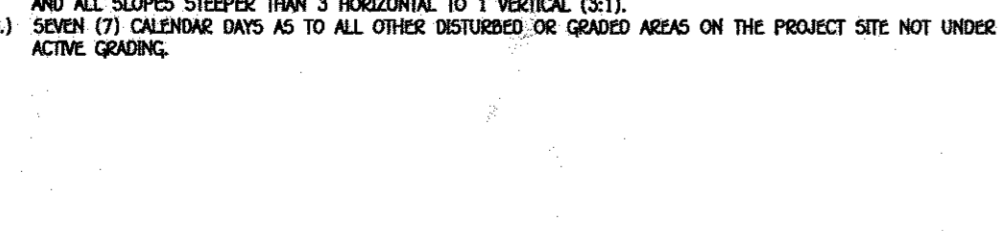
PLANT SPECS	SEEDING RATE 1/		SEEDING DEPTH 2/ (INCHES)	RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE 3/			
	LB./AC.	LB./1000 FT. 2		5b AND 6a	6b	7a AND 7b	
ANNUAL REGRASSES (LUXURIOUS PERENNIAL GRASS, MULTIFLORUM)	40	1.0	0.5	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
BARLEY (HARDEND VULGARIS)	96	2.2	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
OATS (Avena SATIVA)	72	1.7	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
WHEAT (Triticum AESTIVUM)	120	2.8	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
CEREALE RYE (SECALE CEREALE)	112	2.8	1.0	MAR. 15 TO MAY 31; AUG. 31 TO OCT. 31	MAR. 1 TO MAY 15; AUG. 1 TO NOV. 15	FEB. 15 TO APR. 30; AUG. 15 TO DEC. 15	
WARM-SEASON GRASSES							
FOXTAIL MILLET (Setaria ITALICA)	30	0.7	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14	
PEARL MILLET (Pennisetum GLAUCUM)	20	0.5	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14	

- NOTES:**
- SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIME SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.
  - SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDING, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL REGRASSES, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREALE RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREALE RYE HAS ALLOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.
  - OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
  - FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
  - THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

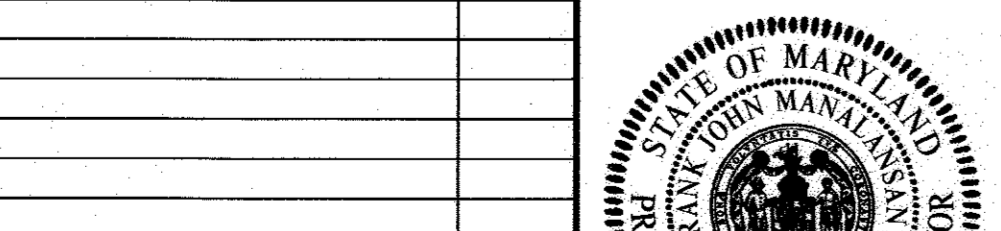
### DETAIL E-9-2 AT-GRADE INLET PROTECTION



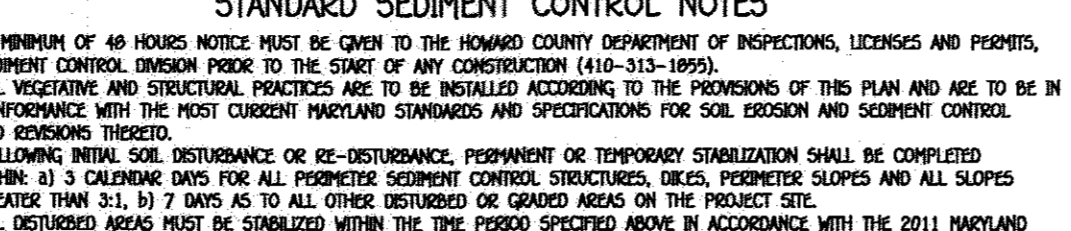
### DETAIL E-9-3 CURB INLET PROTECTION



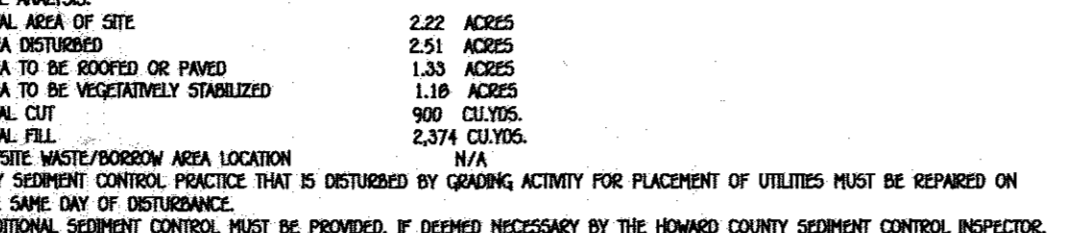
### DETAIL E-3 SUPER SILT FENCE



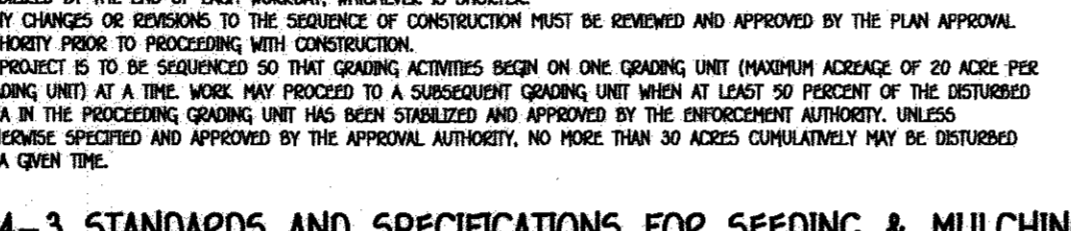
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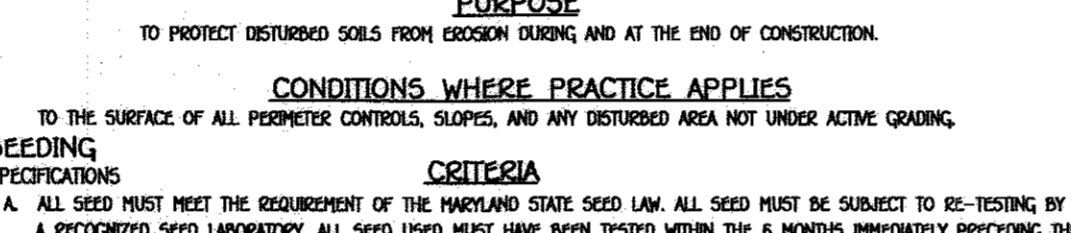
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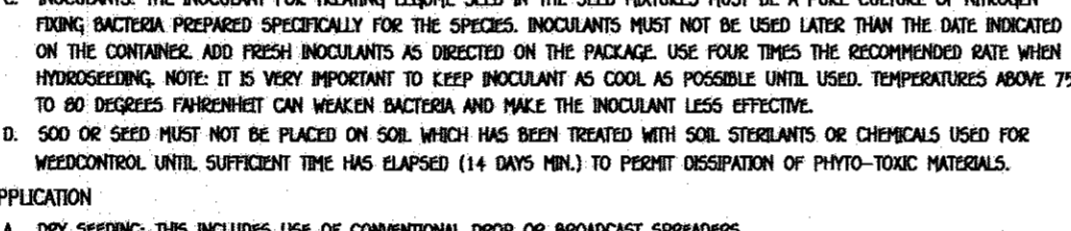
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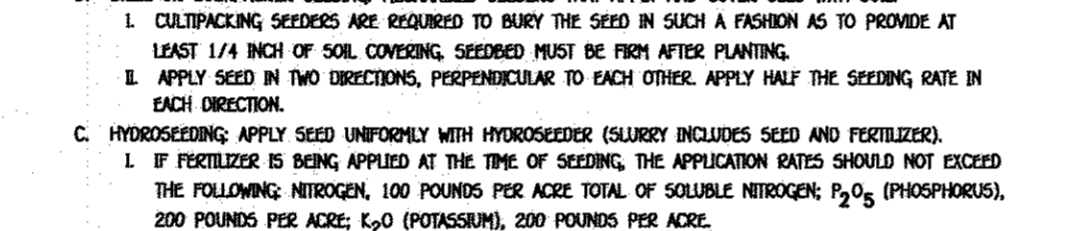
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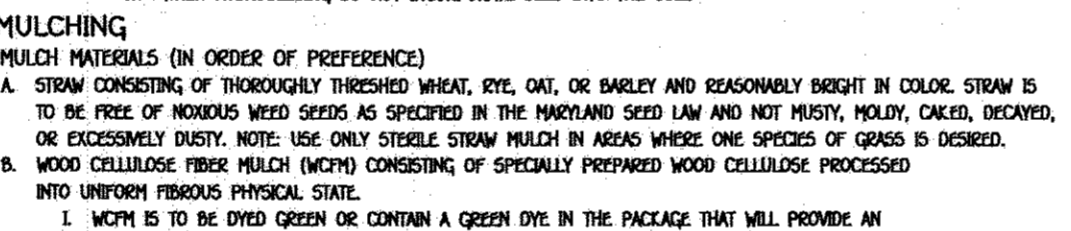
### DETAIL E-3 SUPER SILT FENCE



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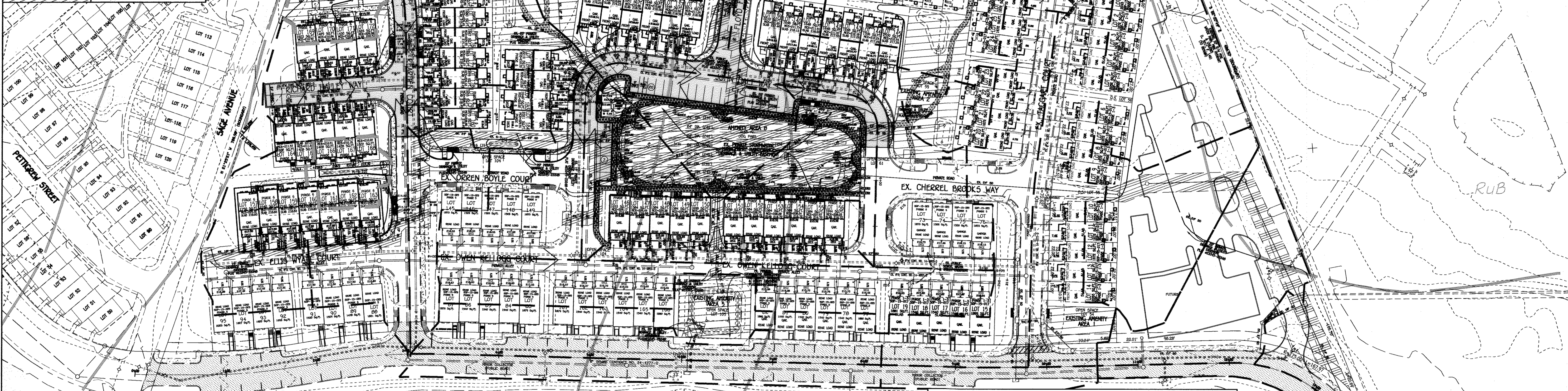
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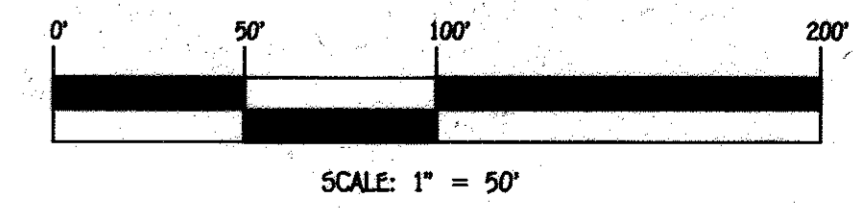
LEGEND	
SYMBOL	DESCRIPTION
	EXISTING STORM DRAIN LINE
	EXISTING FENCE
	BOUNDARY/RIGHT OF WAY LINE
	BUILDING RESTRICTION LINE
	PROPOSED CURB TRANSITION
	PROPOSED STORM DRAIN PIPE
	PROPOSED PERFORATED PIPE
	PROPOSED CONCRETE
	PROPOSED PAVING
	PROPOSED Drainage Area
	EXISTING SOILS 5% AND GREATER W/ K <sub>w</sub> > 0.35 SEE SHEET 5
	EXISTING SLOPES 15% TO 24.9%
	EXISTING SLOPES 25% AND GREATER
	RETENTION
	REFORESTATION
	SUPER SILT FENCE
	SILT FENCE
	EXISTING CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	SPOT ELEVATION
	WALKOUT BASEMENT
	EROSION CONTROL MATTING
	WATER AND SEWER EASEMENT
	STORM DRAIN EASEMENT

STORM DRAINAGE AREAS					
SUB AREA (B)	ZONING	AREA (ac) (A)	"C" FACTOR (C)	% IMPERVIOUS (P)	T <sub>c</sub> (HR)
5-6	CAC-CLJ	0.24	0.71	17	0.08
5-7	CAC-CLJ	0.14	0.35	44	0.08



SOILS LEGEND		
SOIL	NAME	CLASS
AWB	ALLOWAY SILT LOAM, 2 TO 5 PERCENT SLOPES	B
GFC	GLADSTONE-URBAN LAND COMPLEX, 8 TO 15 PERCENT SLOPES	B
UFA	URBAN LAND-FALLSINGTON COMPLEX, 0 TO 2 PERCENT SLOPES	B/D
UTD	URBAN LAND-UDORHTHENS COMPLEX, 0 TO 15 PERCENT SLOPES	A

NOTES:  
 \* HYDRIC SOILS AND/OR CONTAINS HYDRIC INCLUSIONS  
 \*\* MAY CONTAIN HYDRIC INCLUSIONS  
 † GENERALLY ONLY WITHIN 100-YEAR FLOODPLAIN AREAS



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SOURCE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2999

NO.	REVISION	DATE

STATE OF MARYLAND  
 PROFESSIONAL LAND SURVEYOR  
 No. 21476

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/17.

*Frank John Manalash II* 12/10/16  
 FRANK JOHN MANALASH II, L.S. NO. 21476 DATE

**OWNER**  
 C/O CDG ASSET MANAGEMENT LLC  
 8905 E. HARTFORD DRIVE  
 SUITE 200  
 SCOTTSDALE, AZ 85255  
 ATTN: STEVEN S. BENSON  
 (480) 696-3733

**DEVELOPER**  
 BEAZER HOMES CORP  
 8965 GUILFORD ROAD  
 COLUMBIA, MD 21046  
 ATTN: EDWARD COLO  
 (410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kat Seaman* 11-4-16  
 Chief, Division of Land Development Date

*John Smith* 11-2-16  
 Chief, Development Engineering Division Date

*Valerie Taylor* 12-7-16  
 Director - Department of Planning and Zoning Date

PROJECT: MORRIS PLACE SECTION: N/A LOTS NO. 106 THRU 184 AND OPEN SPACE LOTS 185 THRU 193

PLAT: 23909-23912 BLOCK NO. 4 ZONE CAC & CLJ TAX/ZONE 43 ELEC. DIST. 1 CENSUS TR. 6069.02

WATER CODE: C-02 SEWER CODE: 7390000

**STORM DRAIN DRAINAGE AREA MAP & SOILS MAP**

**SINGLE FAMILY TOWNHOUSE MORRIS PLACE**  
 LOTS 106 THRU 184  
 AND OPEN SPACE LOTS 185 THRU 193  
 PHASE VI  
 ZONED: CAC & CLJ

PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-02-148, SDP-01-50, 5-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, SDP-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D  
 TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 50' DATE: SEPTEMBER, 2016  
 SHEET 6 OF 11

SDP 16-001







**INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS**

INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR W.C. AND RE. V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT, THESE FACILITIES MAY BE USED FOR QP AS WELL. THE MOST COMMON SYSTEMS INCLUDE: INFILTRATION TRENCHES, INFILTRATION BASINS, SAND FILTERS, AND ORGANIC FILTERS.

WHEN PROPERLY PLANTED, VEGETATION WILL THERE AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATMENT BUFFERS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHORUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL AID IN NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTICLES FOR STORMWATER TO PERMEATE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

**DESIGN CONSTRAINTS:**

- > PLANTING BUFFER STRIPS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE REACHING THE FACILITY, THEREBY REDUCING THE POSSIBILITY OF CLOGGING.
- > DETERMINE AREAS THAT WILL BE SATURATED WITH WATER AND WATER TABLE DEPTH SO THAT APPROPRIATE PLANTS MAY BE SELECTED (HYDROLOGY IS TO BE SUBMITTED TO BIORETENTION FACILITIES, SEE FIGURE A.5 AND TABLE A.4 FOR PLANTING MATERIAL GUIDANCE).
- > PLANTS KNOWN TO SEND DOWN DEEP TAPROOTS SHOULD BE AVOIDED IN SYSTEMS WHERE FILTER FABRIC IS USED AS PART OF FACILITY DESIGN.
- > TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY.
- > PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE.
- > STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SOD.
- > TEMPORARILY DIVERT FLOWS FROM SEEDING AREAS UNTIL VEGETATION IS ESTABLISHED.
- > SEE TABLE A.5 FOR ADDITIONAL DESIGN CONSIDERATIONS.

**BIO-RETENTION SOIL BED CHARACTERISTICS**

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA, WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER. COOP. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 5% BY VOLUME (ENVIRONMENTAL QUALITY RESOURCES (EQR), 1996; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ETAB), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNITED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, HAWKBIT, NUTCRACK, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMPAR. 15.00(0.05)) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12 TO 18 LIFTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVELED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE A.3.

TABLE A.3 PLANTING SOIL CHARACTERISTICS

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (PHOSPHATE - P205)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (POTASH - K2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	0 TO 5 %
SILT	30 TO 55 %
SAND	35 TO 60%

**MULCH LAYER**

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOIDS SURFACE SEALING, WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINE SEDIMENTS, WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

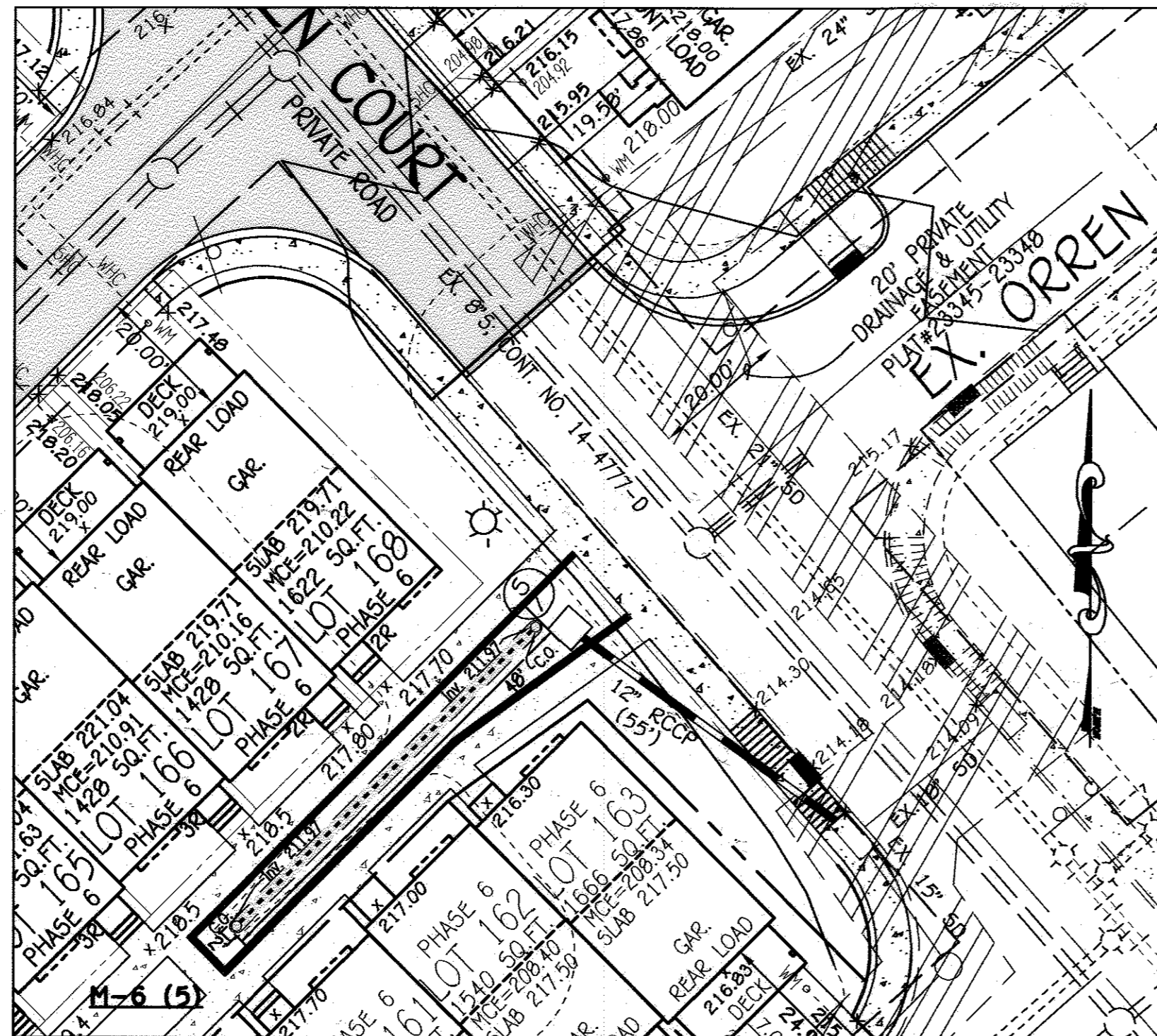
THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

**PLANTING GUIDANCE**

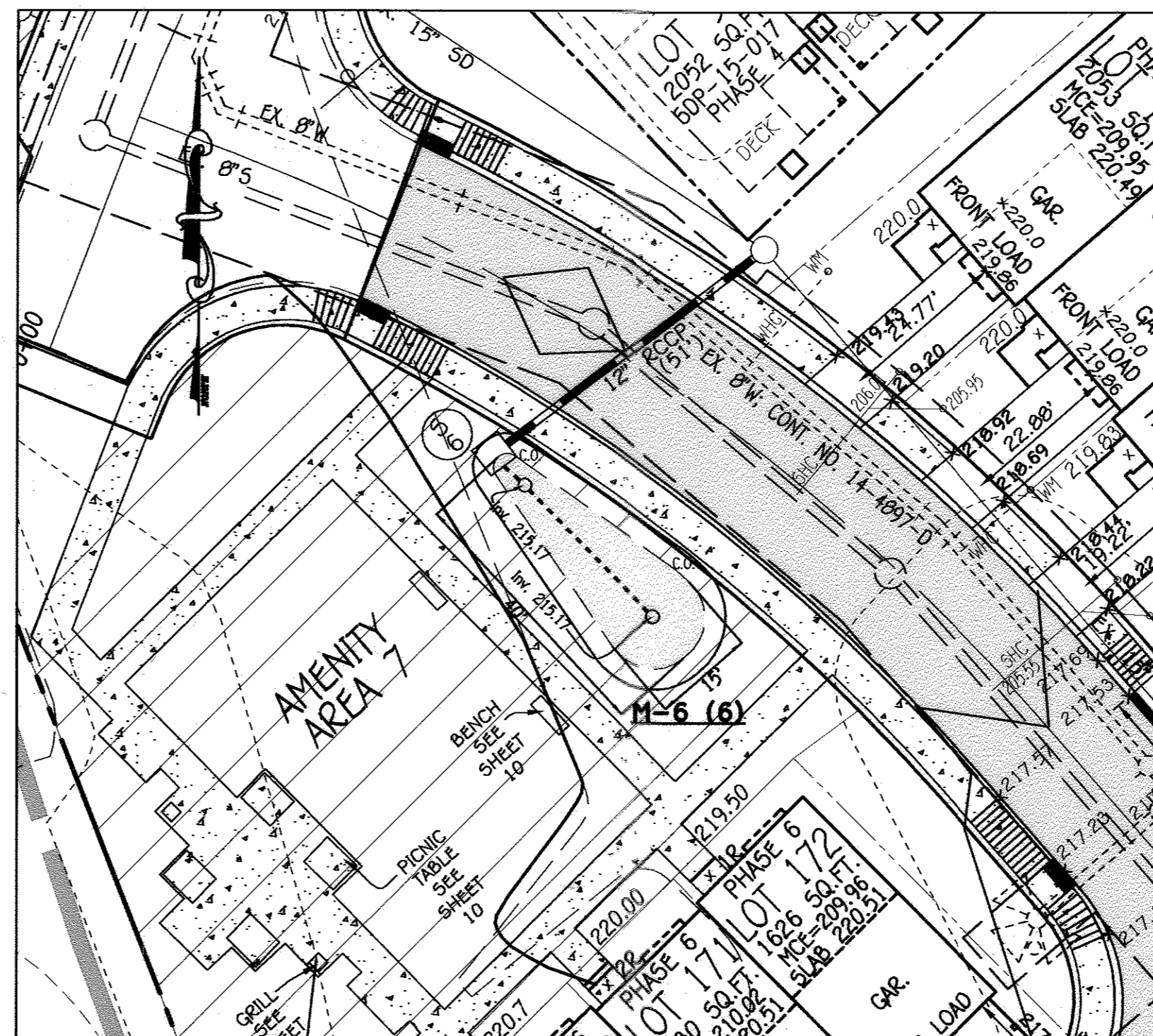
PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES. BIORETENTION SIMULATES AN UPLAND-SPECIES ECOSYSTEM. THE COMMUNITY SHOULD BE DOMINATED BY TREES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES, SHRUBS AND HERBACEOUS MATERIALS. BY CREATING A DIVERSE, DENSE PLANT COVER, A BIORETENTION FACILITY WILL BE ABLE TO TREAT STORMWATER RUNOFF AND WITHSTAND URBAN STRESSES FROM INSECTS, DISEASE, DROUGHT, TEMPERATURE, WIND, AND EXPOSURE.

THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM. THERE ARE ESSENTIALLY THREE ZONES WITHIN A BIORETENTION FACILITY (FIGURE A.5). THE LOWEST ELEVATION SUPPORTS PLANT SPECIES ADAPTED TO STANDING AND FLUCTUATING WATER LEVELS. THE MIDDLE ELEVATION SUPPORTS PLANTS THAT LIKE DRIER SOIL CONDITIONS, BUT CAN STILL TOLERATE OCCASIONAL INUNDATION BY WATER. THE OUTER EDGE

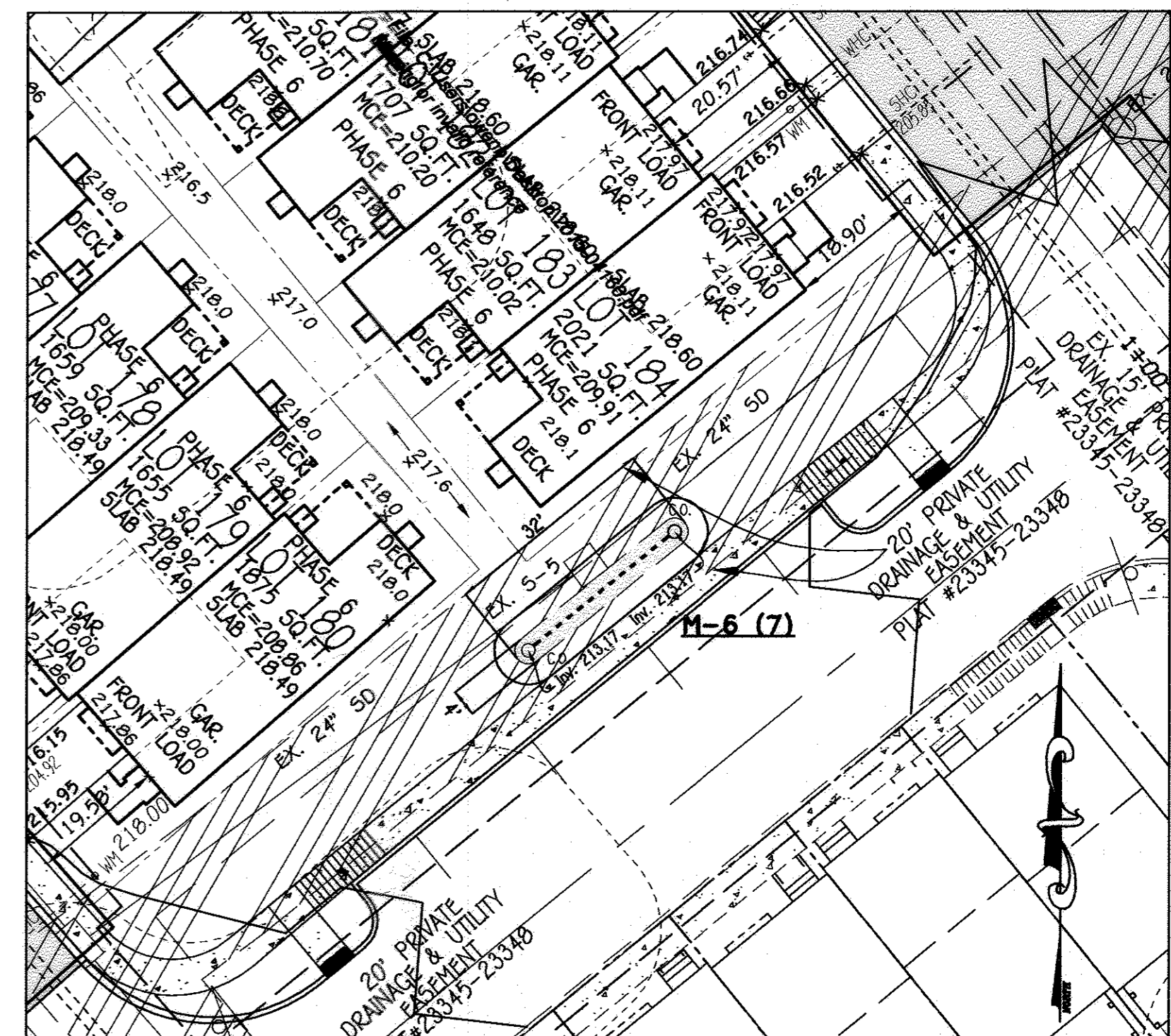
IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRIER CONDITIONS. A SAMPLE OF APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPALS DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ETAB, 1993 OR CLAYTON AND SCHUELER, 1997.



**M-6 (5)**  
(MICRO BIO-RETENTION FACILITY)  
SCALE: 1" = 20'  
DRAINAGE AREA: 5,960 SqFt.  
FILTER AREA: 127 SqFt.  
ELEVATION 214.80  
PERIMETER 131'  
WEIR ELEVATION 215.80



**M-6 (6)**  
(MICRO BIO-RETENTION FACILITY)  
SCALE: 1" = 20'  
DRAINAGE AREA: 9,938 SqFt.  
FILTER AREA: 393 SqFt.  
ELEVATION 216  
PERIMETER 111'  
WEIR ELEVATION 219



**M-6 (7)**  
(MICRO BIO-RETENTION FACILITY)  
SCALE: 1" = 20'  
DRAINAGE AREA: 6,649 SqFt.  
FILTER AREA: 123 SqFt.  
ELEVATION 216  
PERIMETER 89'  
WEIR ELEVATION 217

FACILITY NO.	A	B
M-6 (5)	214.80	211.97
M-6 (6)	218.00	215.17
M-6 (7)	216.00	213.17

**NOTES:**

UNDERDRAIN PIPE SHALL BE 6" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F796, TYPE P5 2B OR A8HTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (E.G., PVC OR HDPE).

PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.

GRAVEL LAYER SHALL BE (NO. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

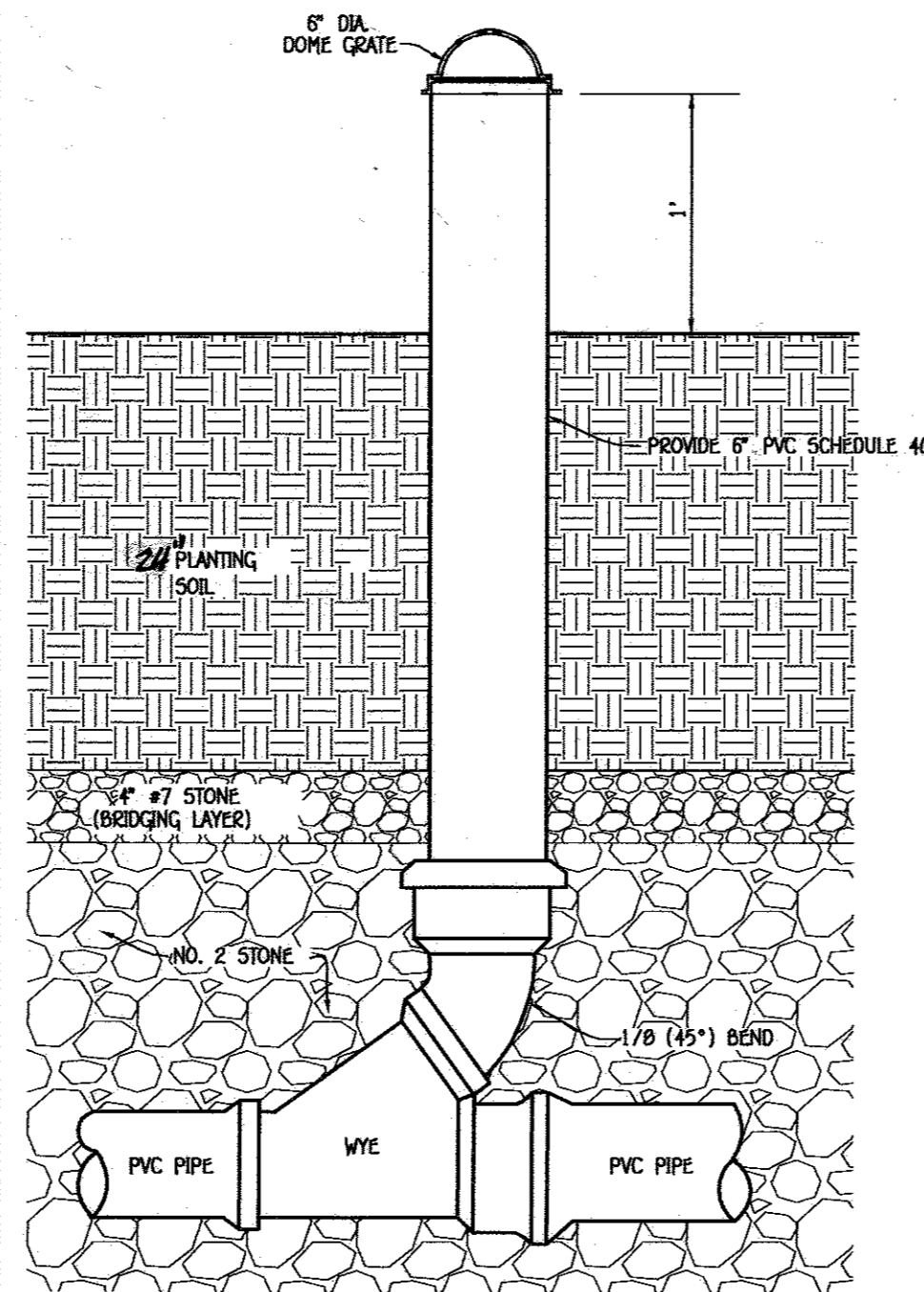
THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT POINT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIXTURE OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".



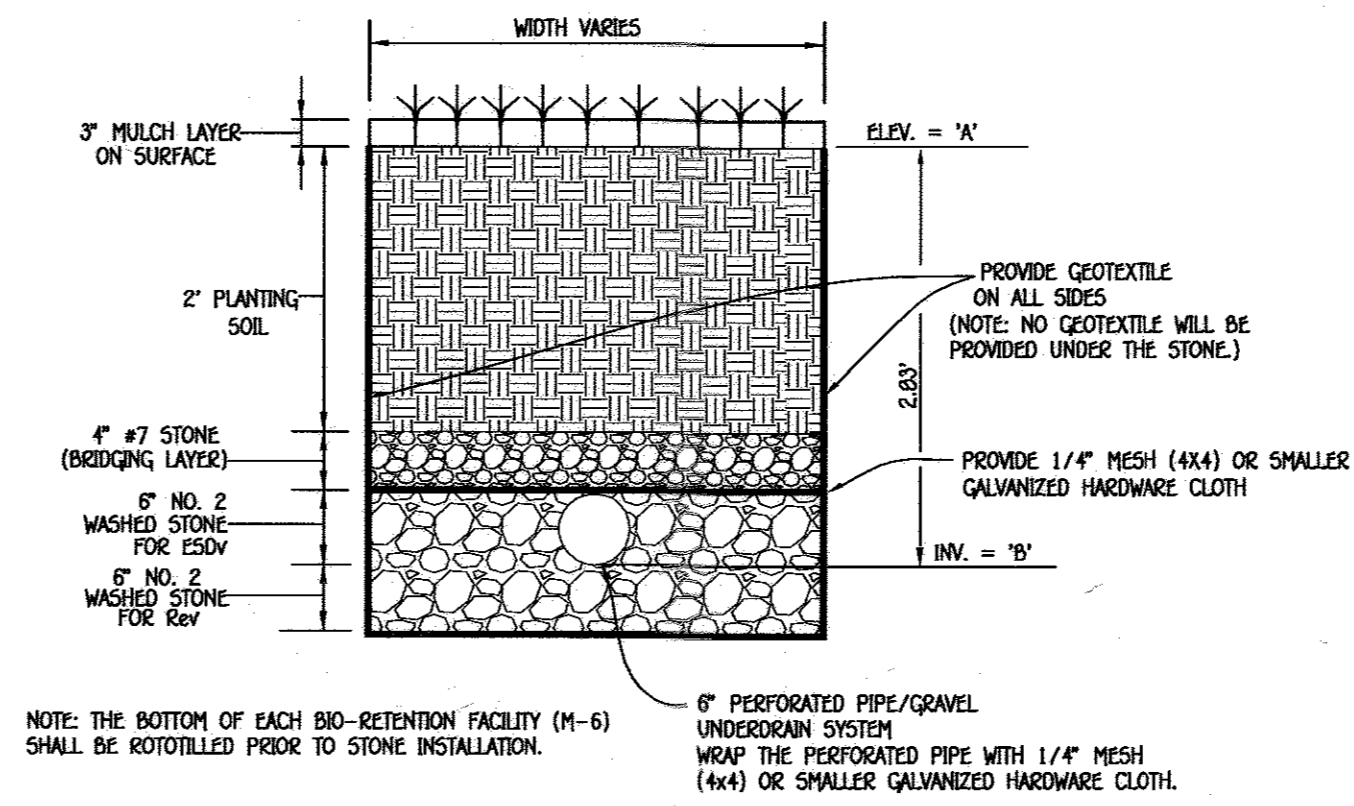
**SCH40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE**  
NO SCALE



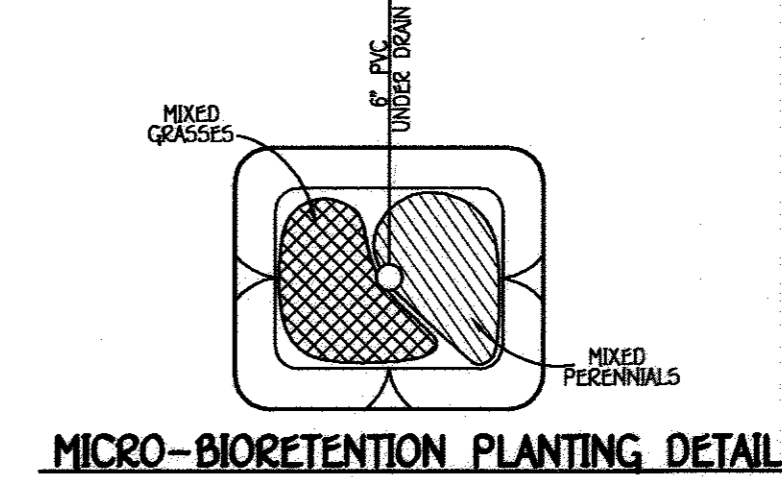
**TYPICAL CLEAN-OUT DETAIL**  
NO SCALE

**OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6)**

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING, REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



**BIO-RETENTION FACILITY (M-6) TYPICAL SECTION**  
NO SCALE



**MICRO-BIORETENTION PLANTING DETAIL**  
NOT TO SCALE

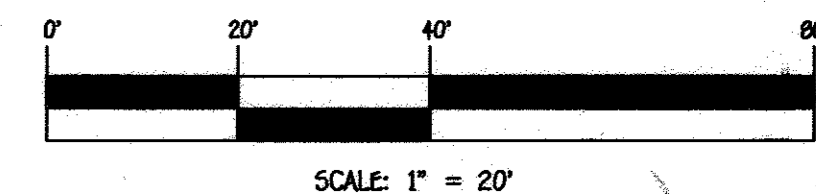
DRAINAGE AREA M-6 (5) MICRO-BIORETENTION PLANT MATERIAL		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
6	MIXED PERENNIALS	1 FT.
3	SHRUBS	2 FT.

DRAINAGE AREA M-6 (6) MICRO-BIORETENTION PLANT MATERIAL		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
44	MIXED PERENNIALS	1 FT.
22	SHRUBS	2 FT.

DRAINAGE AREA M-6 (7) MICRO-BIORETENTION PLANT MATERIAL		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
22	MIXED PERENNIALS	1 FT.
11	SHRUBS	2 FT.

- MIXED PERENNIALS \* CUT-LIME CONIFER/EVER GREEN, CAROLINA FLOWER, TRANSCADANT ASTER
- SHRUBS \* INE. BERRY, ARROWWOOD, BURNING BUSH
- MIXED GRASSES \* VIRGINIA SWITCHGRASS, PENDULOUS SEDGE, LITTLE BLUESTEM

\*SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING  
NOTE: PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION



SCALE: 1" = 20'

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK, 10272 BALTIMORE NATIONAL PIKE  
CLIASTON, MD. 21034  
(410) 461-2995



**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/17.  
*Frank John Manuvasan II* 10/10/16 DATE  
FRANK JOHN MANUVASAN II, L.S. NO. 21476

**OWNER**  
CDCG ASSET MANAGEMENT LLC  
8905 E. HARTFORD DRIVE  
SUITE 200  
SCOTTSDALE, AZ 85255  
ATTN: STEVEN S. BENSON  
(480) 696-3733

**DEVELOPER**  
BEAZER HOMES CORP  
8965 GUILFORD ROAD  
COLUMBIA, MD. 21046  
ATTN: EDWARD GOLD  
(410) 722-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kate Calabrese* 11-4-16  
Chief, Division of Land Development Date

*John Schuler* 11-2-16  
Chief, Development Engineering Division H&P Date

*Valerie J. Davis* 12-17-16  
Director - Department of Planning and Zoning Date

PROJECT	SECTION	LOTS NO.	LOTS NO.
MORRIS PLACE	N/A	LOTS 106 THRU 104	AND OPEN SPACE
		LOTS 105 THRU 193	

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23909-23912	4	CAC & CLI	43	1	6069.02

WATER CODE	SEWER CODE
C-02	7390000

**STORM WATER MANAGEMENT DETAILS**

**SINGLE FAMILY TOWNHOUSE MORRIS PLACE**  
LOTS 106 THRU 104 AND OPEN SPACE LOTS 105 THRU 193  
PHASE VI  
ZONED: CAC & CLI

PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-02-148, SDP-91-50, 5-10-02, P-13-001, WP-12-173, WP-14-088, F-14-028, F-15-047, F-16-017, SDP-15-017, SDP-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D  
TAX MAP NO. 43 PARCEL NO.: 599 GRID NO.: 4  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: SEPTEMBER, 2016  
SHEET 8 OF 11

NO.	REVISION	DATE







LANDSCAPING PLANT LIST				
SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	29	ACER RUBRUM 'ARMSTRONG' RED MAPLE	2 1/2" - 3" CAL.	
	31	NYSSA SYLVATICA BLACK TUPELO	2 1/2" - 3" CAL.	
	30	QUERCUS PHELLOS WILLOW OAK	2 1/2" - 3" CAL.	
	25	LLEX OPACA AMERICAN HOLLY	5' - 6' HGT.	
	38	PINUS STROBUS EASTERN WHITE PINE	6' - 8' HGT.	
	90	AZALEA 'BLAAM'S PINK' / 'BLAAM'S PINK AZALEA	18" - 24" SPREAD	
	92	EUONYMUS KIAUTSCHOVICUS 'MANHATTAN' MANHATTAN EUONYMUS	2 1/2" - 3" HGT.	
	56	JUNIPERUS CHINENSIS 'SARGENT' SARGENT JUNIPER	18" - 24" SPREAD	
	22	CLETHRA ALNIFOLIA SUMMERSWEET CLETHRA	2 1/2" - 3" HGT.	

NOTE:  
THE LANDSCAPE MANUAL SURETY IN THE AMOUNT OF \$44,250.00 FOR 90 SHADE TREES, 63 EVERGREEN, 260 SHRUBS SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS PLAN (SDP-16-001).

**LANDSCAPE DEVELOPER'S CERTIFICATE**

I HEREBY CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.104 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I HAVE RECEIVED CERTIFICATION OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN INSURED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SCHEDULE A - PERIMETER LANDSCAPE EDGE										
PERIMETER CATEGORY	1	2	3	4	5	6	7	8	9	TOTAL
LANDSCAPE TYPE	5	5	5	5	5	5	5	5	5	5
LINEAR FEET OF PERIMETER	50 L.F.	50 L.F.	50 L.F.	50 L.F.	50 L.F.	50 L.F.	50 L.F.	50 L.F.	50 L.F.	50 L.F.
CREDIT FOR EXISTING VEGETATION (LINEAR FEET (LF) OF CREDIT REMAINING PERIMETER (LF))	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NUMBER OF PLANTS REQUIRED	1	1	1	1	1	1	1	1	1	9
SHADE TREES	1	1	1	1	1	1	1	1	1	9
EVERGREEN TREES	0	0	0	0	0	0	0	0	0	0
CREDIT FOR EXISTING VEGETATION (NUMBER OF PLANTS PROVIDED)	0	0	0	0	0	0	0	0	0	0
NUMBER OF PLANTS REQUIRED (SMALL/MEDIUM DECIDUOUS OR EVERGREEN TREES (2:1 SUBSTITUTION))	1	1	1	1	1	1	1	1	1	9
SHRUBS (10:1 SUBSTITUTION)	10	10	10	10	10	10	10	10	10	90

**SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

SINGLE FAMILY ATTACHED	
NUMBER OF DWELLING UNITS	79
NUMBER OF TREES REQUIRED (1:1 DU APTS)	79

**SCHEDULE B PARKING LOT INTERNAL LANDSCAPING**

SINGLE FAMILY ATTACHED	
NUMBER OF PARKING SPACES	27
NUMBER OF TREES REQUIRED (1:10)	3

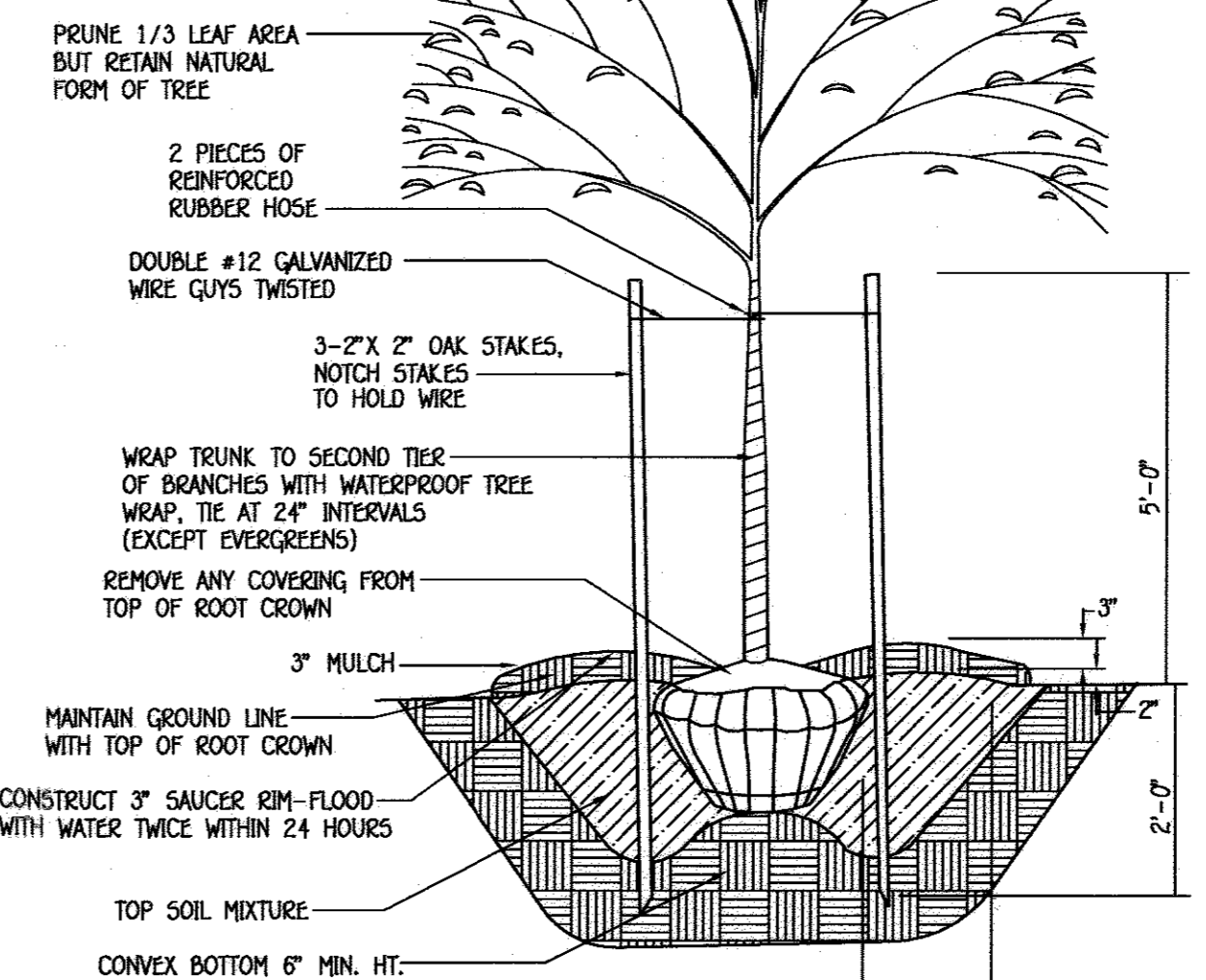
**STREET TREE SCHEDULE PHASE VI**

QTY.	SIZE	COMMENTS
155' / 40 = 3.90 3.90 x 2 = 7.8 8 TREES	2 1/2" - 3" CAL.	40' APART (Richard Halley Way)
276' / 40 = 6.90 6.90 x 2 = 13.8 14 TREES	2 1/2" - 3" CAL.	40' APART (Part of Reardon Court) sfs 0+00.00 TO 2+75.60
433' / 40 = 10.83 10.83 x 2 = 21.65 22 TREES	2 1/2" - 3" CAL.	40' APART (Part of John Galt Way) sfs 1+30.99 TO 5+63.86
161' / 40 = 4.03 4.03 x 2 = 8.06 8 TREES	2 1/2" - 3" CAL.	40' APART (Floyd Ferris Way)

TOTAL QUANTITY = 52 STREET TREES

NOTE: CONTRACTOR TO REGRADE, SOO OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STANDARDS



**TREE PLANTING DETAIL**  
NOT TO SCALE

**PLANTING SPECIFICATIONS**

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIPOLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANS AND THE NATIONAL ASSOCIATION OF NURSERYMEN (NAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DISEASE, DEFOLIATION, INJURY, SUN SCOLD INJURY, ANTHRAKNOSIS OF THE LEAF, PLANT DAMAGE, INSECT FEED DAMAGE, AND ALL FORMS OF BEETLE INFESTATIONS OR OTHER UNDESIRABLE DEFOLIATIONS. PLANT MATERIAL THAT IS WILT OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH EXPOSED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FREELY DUG, NO HEAVY PLANTS FROM COOL STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREA" (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AMENDMENTS.

CONTRACTOR SHALL BE RESPONSIBLE TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES. CONTRACTORS ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MIS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR SHALL MAKE PRELIMINARY ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

PROTECTION OF EXISTING VEGETATION TO REMAIN SHALL BE ACCOMPLISHED BY THE TEMPORARY INSTALLATION OF A FOUR FOOT HIGH SNOW FENCE OR BLAZE ORANGE SAFETY FENCE AT THE EXISTING LINE.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. ALL PLANTING IS TO BE COMPLETED WITHIN THE GROWING SEASON OF COMPLETION OF SITE CONSTRUCTION.

NO SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS.

PLANT QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE.

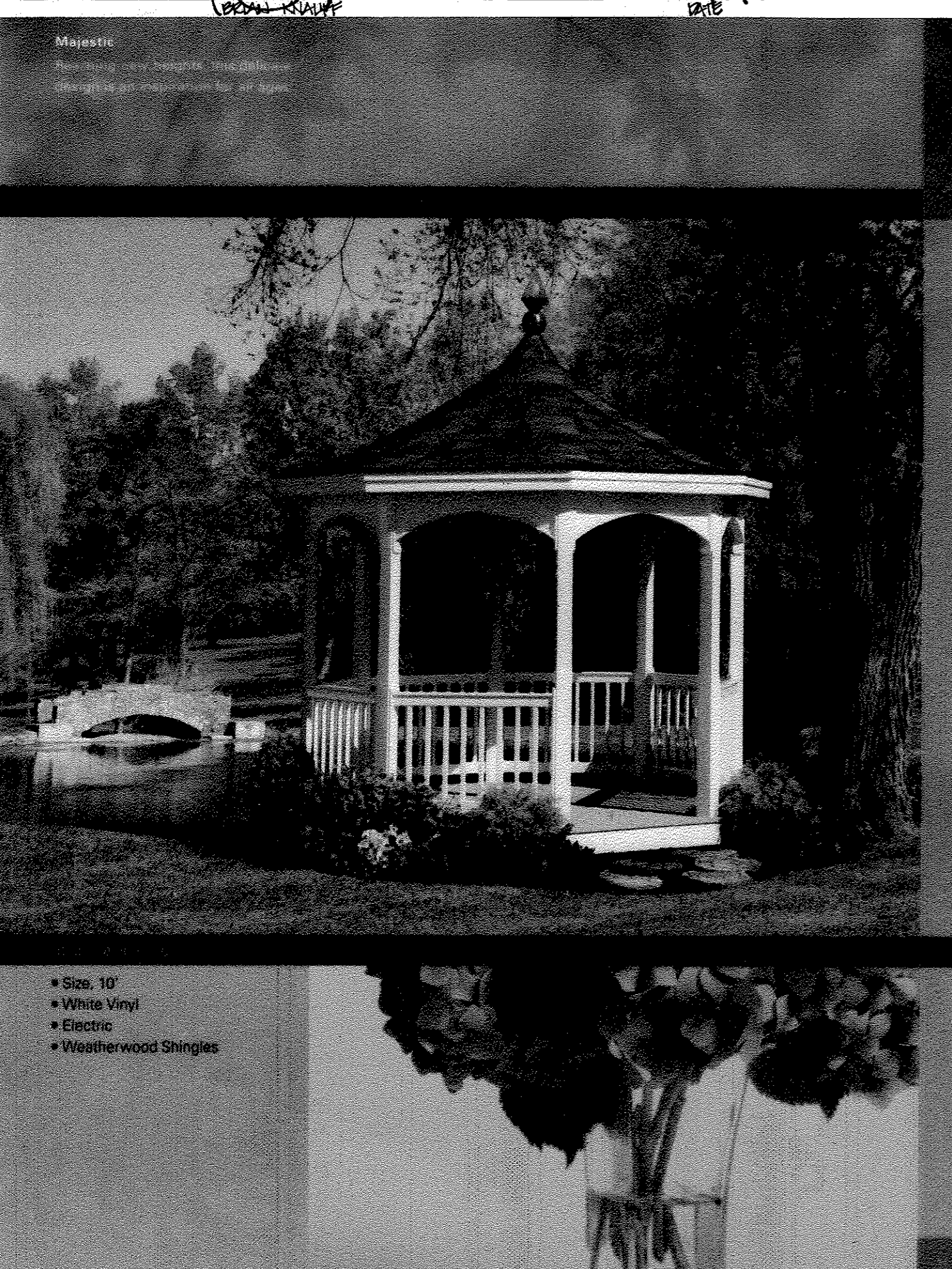
ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE.

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-SIFTED COM OR HOUSE MANURE, ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART FIBER OR COVER APPROVED ORGANIC MATERIAL, ADD 3 LBS. OF EVERGREEN FACING FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED. THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE INFORMATION ON GRADING, SEDIMENT CONTROL, LAWN, ETC.



**GAZEBO DETAIL**  
TYPE: MAJESTIC (OR APPROVED EQUAL)  
NOT TO SCALE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
BELLGATE CITY, MARYLAND 21104  
(410) 461-2995

NO.	REVISION	DATE

**ESSEX**

ESSEX is designed to add dimension and weight to larger landscape and commercial settings. Constructed using dimensionally larger lumber, these benches will provide a base for any outdoor project, but are especially suited for the grand stage.

MATERIALS	FINISH	CUSHIONS	LIFESTYLES	FINISHING TOUCHES
Shorea	Natural	N/A	Pages 20-21	Page 70

**EX48**  
4' Bench with arms  
Shorea  
width 48"  
depth 26"  
height 35"  
seat height 18"  
64 lbs. assembled

**EX72**  
6' Bench with arms  
Shorea  
width 72"  
depth 26"  
height 35"  
seat height 18"  
80 lbs. assembled

**EXCR3**  
Curved bench with arms  
Shorea  
width 63" inside radius 93"  
depth 27" outside radius 115"  
height 35"  
seat height 18"  
110 lbs. assembled

**EX96**  
8' Bench with arms  
Shorea  
width 96"  
depth 26"  
height 35"  
seat height 18"  
170 lbs. assembled

Large dimension wood adds strength and visual size to all Essex benches.  
Corner braces add strength as well as enhancing the overall design.  
Marine and teak joint construction adds strength and longevity.

**BENCH DETAIL**  
TYPE: ESSEX (OR APPROVED EQUAL)  
NOT TO SCALE

**RUSTICO COMBO**

Multi-size rectangular shapes • Slightly dimpled surface  
Chamfered edges • Square corners

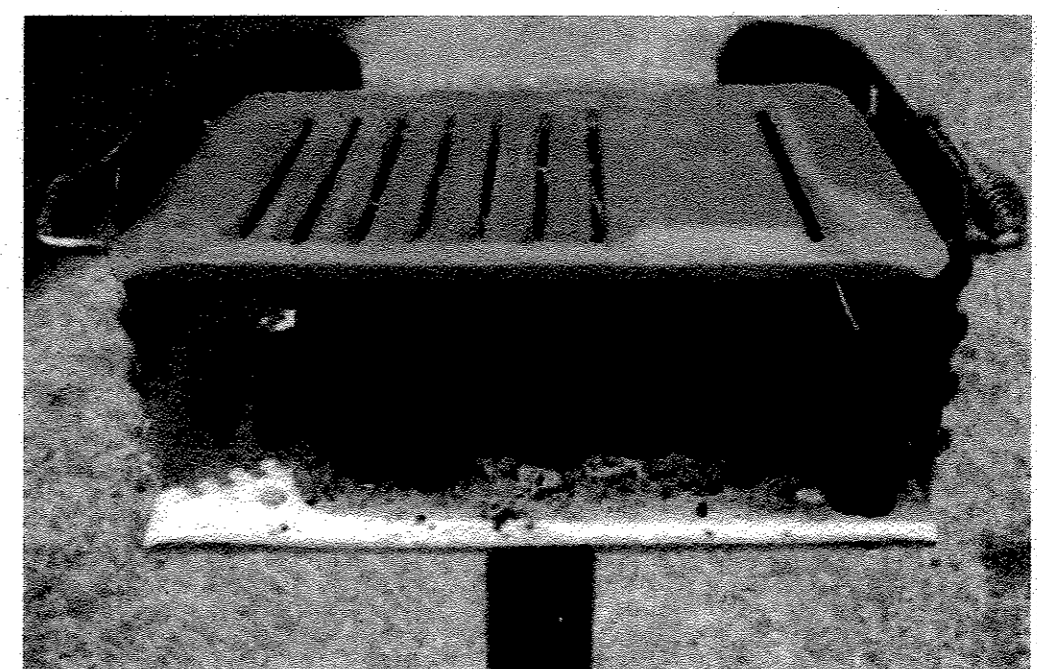
width	length	thickness	sq.ft.	sq.yards	sq.inches	sq.feet
3"	6"	2-3/8"	8.0	117	100	3,276
6"	6"	2-3/8"	4.0	58	100	3,276
6"	9"	2-3/8"	2.7	39	160	3,276
9"	9"	2-3/8"	1.8	26	40	3,276

See larger color swatches on page 120

- ashley blend
- golden brown blend
- iron island blend
- terra cotta blend
- sunstone blend
- vibrant blend
- marble blend
- onyx blend

6x6 and 6x8 also sold separately. See complete page.

**PAVERS DETAIL**  
TYPE: RUSTICO (OR APPROVED EQUAL)  
NOT TO SCALE



**STAINLESS STEEL GRILL**  
TYPE: STAINLESS STEEL (OR APPROVED EQUAL)  
NOT TO SCALE



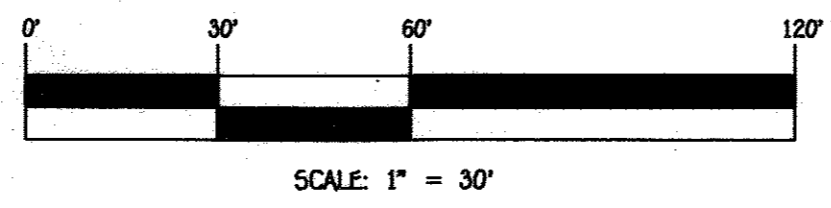
**A-FRAME PICNIC TABLE**  
TYPE: BARCO BOARD (OR APPROVED EQUAL)  
NOT TO SCALE



**STEEL DESIGNER RECEPTACLES**  
TYPE: 55 GALLON SLATED STEEL (OR APPROVED EQUAL)  
NOT TO SCALE



**DOG WASTE STATION**  
NOT TO SCALE



**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/17.

*Frank John Manlanson II* 10/10/16  
FRANK JOHN MANLANSON II, L.S. NO. 21476 DATE

**OWNER**  
C/O CDC ASSET MANAGEMENT LLC  
8589 E. HARTFORD DRIVE  
SUITE 200  
SCOTTSDALE, AZ 85255  
ATTN: STEVEN S. BENSON  
(480) 695-3733

**DEVELOPER**  
BEAZER HOMES CORP  
8965 GUILFORD ROAD  
COLUMBIA, MD 21046  
ATTN: EDWARD GOLD  
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Neil Shalinski* 11-4-16  
Chief, Division of Land Development Date

*John J. Kelly* 11-2-16  
Chief, Development Engineering Division Date

*William J. Taylor* 12-17-16  
Director - Department of Planning and Zoning Date

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 106 THRU 184 AND OPEN SPACE LOTS 185 THRU 193

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23909-23912	4	CAC & CLI	43	1	6069.02

WATER CODE: C-02 SEWER CODE: 7390000

**LANDSCAPE DETAILS**

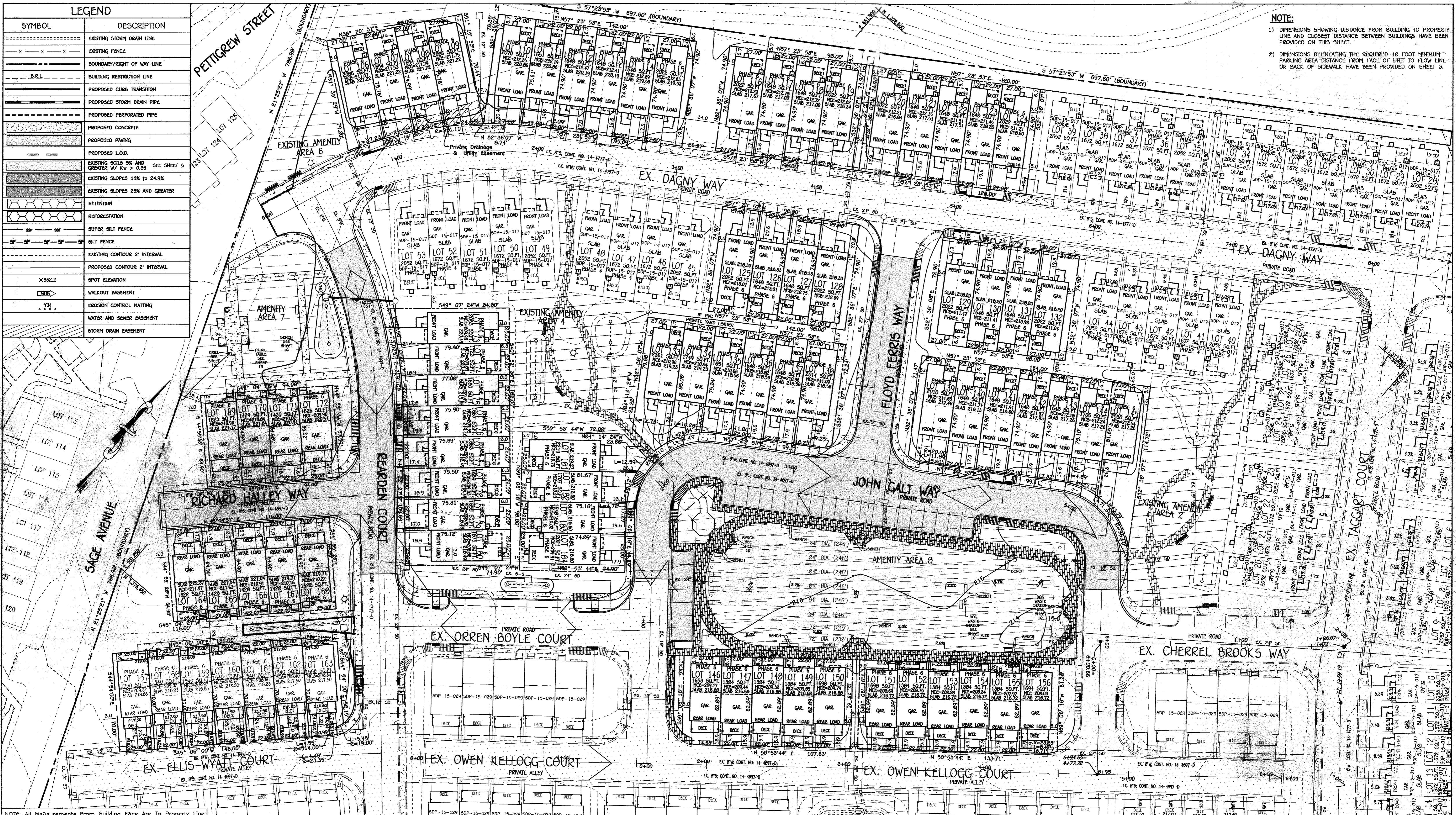
**SINGLE FAMILY TOWNHOUSE MORRIS PLACE**  
LOTS 106 THRU 184 AND OPEN SPACE LOTS 185 THRU 193  
PHASE VI  
ZONED: CAC & CLI

PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-140, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-060, F-14-028, F-15-027, F-16-017, SDP-15-017, SDP-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4997-D  
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: SEPTEMBER, 2016  
SHEET 10 OF 11 SDP 16-001



LEGEND	
SYMBOL	DESCRIPTION
	EXISTING STORM DRAIN LINE
	EXISTING FENCE
	BOUNDARY/RIGHT OF WAY LINE
	BUILDING RESTRICTION LINE
	PROPOSED CURB TRANSITION
	PROPOSED STORM DRAIN PIPE
	PROPOSED PERFORATED PIPE
	PROPOSED CONCRETE
	PROPOSED PAVING
	PROPOSED L.O.D.
	EXISTING SOILS 5% AND GREATER W/Lw > 0.35 SEE SHEET 5
	EXISTING SLOPES 15% TO 24.9%
	EXISTING SLOPES 25% AND GREATER
	RETENTION
	REFORESTATION
	SUPER SILT FENCE
	SILT FENCE
	EXISTING CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	SPOT ELEVATION
	WALKOUT BASEMENT
	EROSION CONTROL MATTING
	WATER AND SEWER EASEMENT
	STORM DRAIN EASEMENT

**NOTE:**  
 1) DIMENSIONS SHOWING DISTANCE FROM BUILDING TO PROPERTY LINE AND CLOSEST DISTANCE BETWEEN BUILDINGS HAVE BEEN PROVIDED ON THIS SHEET.  
 2) DIMENSIONS DELINEATING THE REQUIRED 10 FOOT MINIMUM PARKING AREA DISTANCE FROM FACE OF UNIT TO FLOW LINE OR BACK OF SIDEWALK HAVE BEEN PROVIDED ON SHEET 3.



NOTE: All Measurements From Building Face Are To Property Line

NO.	REVISION	DATE

0'      30'      60'      120'

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 SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.  
 License No. 21476, Expiration Date: 7/14/17.  
 Frank John Manalunas II, L.S. No. 21476      10/10/16      DATE

**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.  
 License No. 21476, Expiration Date: 7/14/17.  
 Frank John Manalunas II, L.S. No. 21476      10/10/16      DATE

**OWNER**  
 CDG362/HP  
 C/O CDG ASSET MANAGEMENT LLC  
 8995 E. HARTFORD DRIVE  
 SUITE 200  
 SCOTTSDALE, AZ 85255  
 ATTN: STEVEN S. BENSON  
 (480) 696-3733

**DEVELOPER**  
 BEAZER HOMES CORP  
 9905 GUILFORD ROAD  
 COLLINGDA, MD 21046  
 ATTN: EDWARD GOLD  
 (410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kent S. Cook*      11-4-16  
 Chief, Division of Land Development      Date

*W. J. ...*      11-2-16  
 Chief, Development Engineering Division      Date

*W. J. ...*      12-17-16  
 Director - Department of Planning and Zoning      Date

PROJECT	SECTION	LOTS NO.			
MORRIS PLACE	N/A	LOTS 106 THRU 184 AND OPEN SPACE LOTS 185 THRU 193			
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23909-23912	4	CAC & CU	43	1	6069.02
WATER CODE	SEWER CODE				
C-02	7390000				

**GEOMETRY PLAN**

**SINGLE FAMILY TOWNHOUSE MORRIS PLACE**  
 LOTS 106 THRU 184  
 AND OPEN SPACE LOTS 185 THRU 193  
 PHASE VI  
 ZONED: CAC & CU

PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SGP-02-148, SGP-01-50, 5-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SGP-15-017, SGP-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D  
 TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4  
 FIRST ELECTION DISTRICT: HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30'      DATE: SEPTEMBER, 2016      SHEET 11 OF 11      SGP 16-001

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK  
 ELKLOTT CITY, MARYLAND 21042  
 (410) 461-2999



**LEGEND**

RIGHT-OF-WAY LINE	---
PROPERTY LINE	---
EX. EASEMENT	---
EX. CONCRETE CURB AND GUTTER	--- EX.C&G
EX. CURB AND GUTTER TO BE REMOVED	XXXXXX
EX. EDGE OF PAVING	---
EX. CONCRETE TO BE REMOVED DESIGNATION	(TBR)
EX. BUILDING	---
EX. SIGN	EX.SIGN
EX. STORM DRAIN, MANHOLE & INLET	EX.15'-0"
EX. RIP-RAP	---
EX. SANITARY SEWER, MANHOLE & CLEANOUT	EX.6"-S
EX. WATER MAIN, VALVE & FIRE HYDRANT	EX.8"-W
EX. ELECTRIC LINE	---
EX. GAS LINE	---
EX. TELEPHONE LINE, POLE & BOX	---
EX. POLE WITH LIGHT	---
EX. UTILITY POLE & GUY WIRE	GW
EX. BOLLARD	---
EX. OVERHEAD LINE	---
EX. INDEX CONTOURS	400
EX. INTERMEDIATE CONTOURS	396
EX. TREE LINE	---
EX. TREE	---
"EXISTING" DESIGNATION	EX.
BUILDING RESTRICTION LINE	BRL
LANDSCAPE RESTRICTION LINE	LRL
PR. EASEMENT	---
PR. CONCRETE CURB & GUTTER AREA	PR.C&G
PR. IMPERVIOUS AREA	---
PR. CONCRETE	---
PR. RIP-RAP	---
PR. STORM DRAIN, MANHOLE & INLET	PR.15'-0"
PR. SANITARY SEWER & CLEANOUT	PR.6"-S
PR. WATER MAIN, VALVE & FIRE HYDRANT	PR.8"-W
PR. INDEX CONTOURS	400
PR. INTERMEDIATE CONTOURS	396
PR. SIGN	---
PR. BOLLARD	---
PR. PARKING COUNT	8
"PROPOSED" DESIGNATION	PR.
LIMIT OF DISTURBANCE	---
SOIL BORINGS	SWM-1

**GENERAL CONSTRUCTION NOTES**

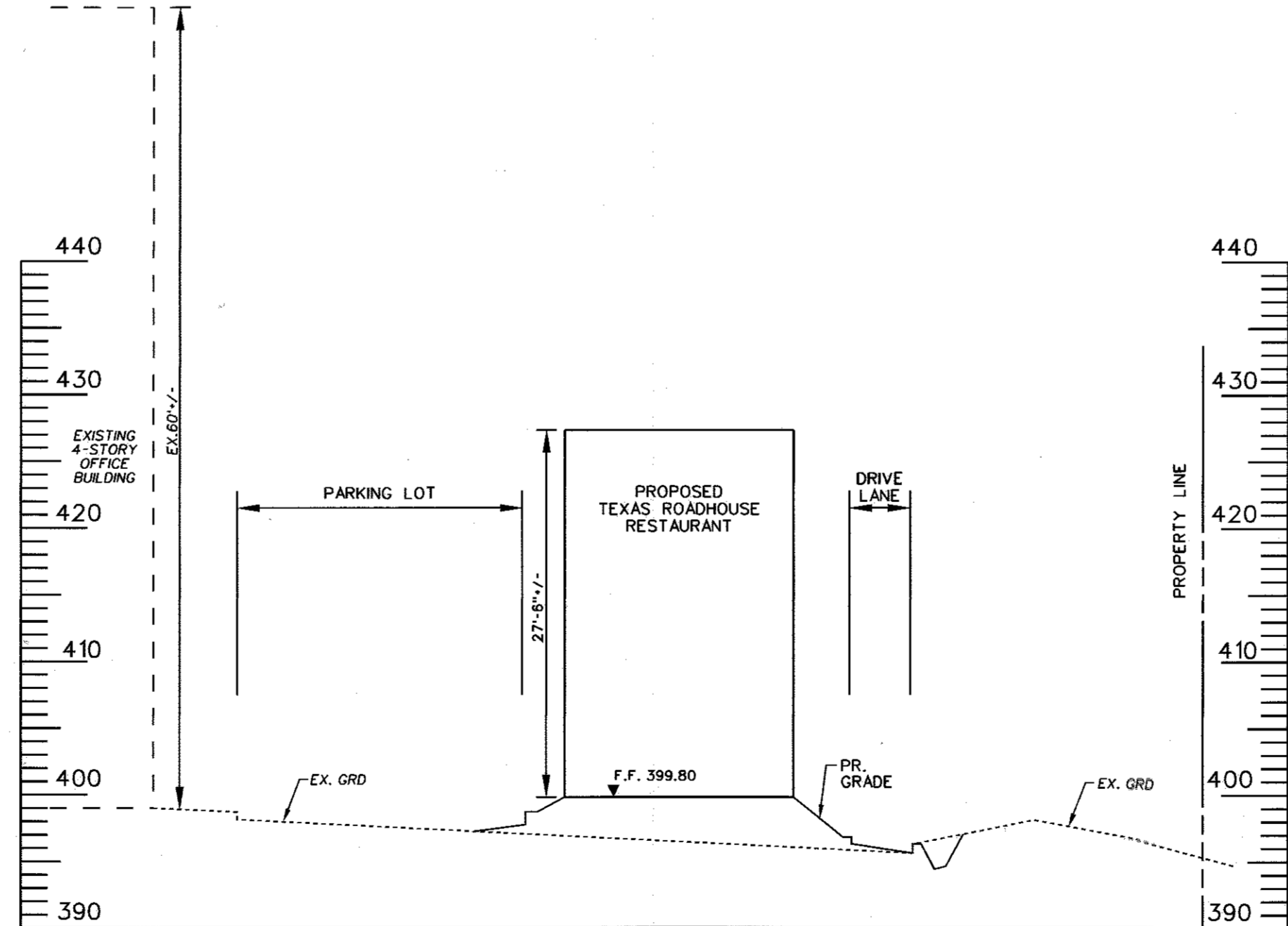
- ALL CONSTRUCTION ON SITE SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL CODES, INCLUDING:
  - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, MAY 2007, REVISED JULY 2011.
  - MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIAL, JULY 2008.
  - HOWARD COUNTY PLUMBING CODE, EXCEPT WHERE NOTED.
  - HOWARD COUNTY BUILDING CODE, EXCEPT WHERE NOTED.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK ON THE PROJECT:
  - MISS UTILITY (800) 257-7777
  - VERIZON (410) 860-8104
  - COMCAST CABLEVISION (800)787-3611
  - HOWARD COUNTY DEPT. OF PUBLIC WORKS / BUREAU OF ENGINEERING (410) 313-2414
  - HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 313-3800
  - ENGINEER IN CHARGE (410) 229-9851
- CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO STARTING CONSTRUCTION. NO CONSTRUCTION OR FABRICATION SHALL BEGAIN UNTIL CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL PERMITTING AUTHORITIES.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND REQUIREMENTS AND STANDARDS OF LOCAL GOVERNING AUTHORITY. GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE PART OF REQUIRED CONSTRUCTION DOCUMENTS AND TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS. CONTRACTOR SHALL NOTIFY TEXAS ROADHOUSE CONSTRUCTION MANAGER OF ANY DISCREPANCY BETWEEN GEOTECHNICAL REPORT, PLANS, AND OTHER DOCUMENTS.
- THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO MODIFICATION DURING CONSTRUCTION WHEN CONDITIONS DEVELOP THAT WERE NOT APPARENT DURING DESIGN AND PREPARATION OF THESE PLANS. ALL MODIFICATIONS MUST BE APPROVED BY LOCAL JURISDICTION PRIOR TO CONSTRUCTION AND/OR IMPLEMENTATION.
- SHOULD IT APPEAR THAT THE WORK TO BE DONE OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, CONTRACTOR SHALL CONTACT ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
- FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE CONTRACTOR FROM PERFORMING SUCH WORK.
- CONTRACTOR SHALL NOTIFY ENGINEER OR TEXAS ROADHOUSE CONSTRUCTION MANAGER IN CASE OF ANY DISCREPANCY OCCURRING BETWEEN INFORMATION CONTAINED ON THESE PLANS AND OTHER DOCUMENTS.
- BALTIMORE LAND DESIGN GROUP, INC. SHALL NOT BE HELD RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES OR PROCEDURES UTILIZED BY CONTRACTOR, NOR FOR SAFETY OF PUBLIC OR CONTRACTORS EMPLOYEES OR FOR FAILURE OF CONTRACTOR TO CARRY OUT WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.
- LOCATIONS OF UNDERGROUND FACILITIES AND UTILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. THEY ARE SHOWN FOR CONVENIENCE OF CONTRACTOR AND COMPLETENESS OR ACCURACY OF SAME IS NOT GUARANTEED. IT SHALL BE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT APPROPRIATE UTILITY COMPANY. NO COMPENSATION SHALL BE PAID TO CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS/HER WORK FORCE. CONTRACTOR SHALL DETERMINE LOCATION AND ELEVATION OF EXISTING UTILITIES BEFORE ORDERING ANY STRUCTURE AND BEFORE STARTING TRENCH EXCAVATION.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES WHICH ARE TO REMAIN FREE FROM DAMAGE AND MAINTAIN UNINTERRUPTED SERVICE TO ALL USERS. PROTECT WITH SAFETY FENCE OR ADEQUATE FLAGGING AS NECESSARY. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OR SUBCONTRACTOR'S ACTIONS SHALL BE REPAIRED IMMEDIATELY AT CONTRACTOR'S EXPENSE.
- BEFORE COMMENCEMENT OF WORK, CONTRACTOR SHALL REVIEW ALL PLANS AND SPECIFICATIONS AND JOB SITE. ALL DIMENSIONS AND GRADES SHOWN ON THESE PLANS SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ROADHOUSE'S CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO OR PROCEEDING WITH CONSTRUCTION. FOR ANY GRADE CHANGES, EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- CONTRACTOR SHALL INSPECT SITE TO DETERMINE IF ANY TREES, PAVING, STRUCTURES, ETC. ARE TO BE REMOVED PRIOR TO PLACING BIDS ON SUCH ITEMS.
- CONTRACTOR SHALL CLEAR PROJECT SITE OF ALL TREES, PAVING, STRUCTURES, ETC. WITHIN CONSTRUCTION AREA AS SHOWN ON EXISTING CONDITION / DEMOLITION PLAN.
- WHERE REQUIRED BY ENCOUNTERED SEEPAGE CONDITIONS, DETERMINING SYSTEMS CONSISTING OF SERIES OF INTERCEPT TRENCHES, SUMPS, AND PUMPS MAY BE USED DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ALL SEDIMENT CONTROL DEVICES WITHIN LIMITS OF DISTURBANCE DURING CONSTRUCTION OF SITE IMPROVEMENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS MAY BE NECESSARY DURING CONSTRUCTION AND/OR BY GOVERNING AGENCIES.
- STANDARD MANUFACTURERS LENGTH OF PIPE SHALL BE USED FOR ALL WATER, SEWER, STORM DRAIN PIPES DURING CONSTRUCTION.
- ALL PIPE ELEVATIONS ARE TO INVERT OF PIPE.
- CONTRACTOR SHALL PROVIDE MINIMUM OF TWO FEET OF PROTECTIVE FILL OVER STORM DRAIN PIPES DURING CONSTRUCTION.
- CONTRACTOR SHALL PLACE WITNESS POST AT TERMINUS OF ALL UTILITY STUBS.
- CONTRACTOR SHALL VERIFY SIZE, LOCATION AND ELEVATION OF ALL WATER, SEWER AND STORM DRAIN CONNECTIONS AT BUILDING WITH MECHANICAL AND PLUMBING CONTRACTORS BEFORE BEGINNING CONSTRUCTION OF SERVICE CONNECTIONS TO SERVE BUILDING.
- WATER MAINS SHALL HAVE MINIMUM OF 4.0' COVER, EXCEPT WHERE DIFFERENT DEPTHS ARE INDICATED.
- IN THE EVENT OF ANY DISCREPANCY BETWEEN ANY PLANS AND FIGURES WRITTEN THEREON, FIGURES SHALL BE TAKEN AS CORRECT.
- CONTRACTOR SHALL FURNISH OWNER A LETTER STATING THAT ALL WATER MAINS HAVE BEEN STERILIZED AND PRESSURE TESTED IN ACCORDANCE WITH MARYLAND STATE PLUMBING CODE AND PROCEDURES ESTABLISHED BY HOWARD COUNTY FIRE DEPARTMENT.
- CONTRACTOR SHALL MAINTAIN MINIMUM OF TWO FEET WIDE BENCH BEHIND ALL PROPOSED CURB IN FILL AREAS, UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE NOTED, ALL CONCRETE CURB & GUTTER SHALL BE 6" COMBINATION CONCRETE CURB AND GUTTER. FOR ADDITIONAL DETAILS, SEE HOWARD COUNTY, PLATE R-3.01.
- UNLESS OTHERWISE NOTED, SIDEWALKS SHALL CONFORM TO AFOREMENTIONED HOWARD COUNTY STANDARDS, PLATE R-3.05. SLOPES, WIDTH, AND LOCATION SHALL BE AS SHOWN ON THESE PLANS. IN ADDITION, SIDEWALKS SHALL BE PLACED ON MIN. 4" CRUSHED STONE BASE (NO.57) AND ARE TO BE REINFORCED WITH WIRE MESH.
- CONCRETE STAIRS AND PIPE HANDRAILS, IF REQUIRED, SHALL CONFORM TO AFOREMENTIONED HOWARD COUNTY STANDARDS, PLATE G-7.01 & G-7.02.
- UNLESS OTHERWISE NOTED, PAVEMENT MARKINGS SHALL BE TRAFFIC WHITE. ALL PARKING SPACES SHALL BE PAVED WITH DURABLE DUSTLESS SURFACE, PROPERLY DRAINED AND ALL PARKING SPACES SHALL BE STRIPPED PERMANENTLY.
- CONTRACTOR SHALL PROVIDE ALL PAVEMENT MARKINGS AND SIGNAGE FOR HANDICAP SPACES INDICATED ON HEREON IN ACCORDANCE WITH ALL APPLICABLE CODES.
- HANDICAP SPACES AND CURB RAMPS SHALL COMPLY WITH CURRENT A.D.A. GUIDELINES FOR SLOPE, LINE PAINTING, MATERIAL, AND SIGNAGE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL DISTURBED AREAS NOT TO RECEIVE PAVING SHALL BE STABILIZED WITH MINIMUM OF 6" TOPSOIL, SEED AND MULCH, UNLESS SPECIFIED OTHERWISE ON SEDIMENT CONTROL OR LANDSCAPE PLANS.
- CONTRACTOR SHALL FINE GRADE LANDSCAPE AREAS AND PLACE 6" OF TOPSOIL. FINISHED GRADES SHALL BE BROUGHT TO ELEVATIONS SHOWN ON GRADING PLAN. LANDSCAPE AREAS MUST DRAIN.
- SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS, DOOR AND STEP LOCATIONS, OR OTHER ITEMS ADJACENT TO THE BUILDING.
- ASSURANCES OF COMPLIANCE WITH AMERICAN WITH DISABILITIES ACT (ADA) IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER.
- THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND WAYS, MEANS AND METHODS OF CONSTRUCTION.
- CONTRACTOR TO TEST PIT AREA PRIOR TO THE INSTALLATION OF THE PROPOSED WATER AND SEWER LINES AS WELL AS THE GREASE TRAP.



**COLUMBIA CORPORATE PARK - PARCEL A-42**  
**8820 STANFORD BOULEVARD**  
**COLUMBIA, MARYLAND 21045**

**SHEET INDEX**

1 OF 17	C-1	COVER SHEET
2 OF 17	C-2	OVERALL PLAN
3 OF 17	C-3	EXISTING CONDITION AND DEMOLITION PLAN
4 OF 17	C-4	SITE PLAN
5 OF 17	C-5	SITE DETAILS - HANDICAP ACCESSIBLE ROUTE
6 OF 17	C-6	GRADING PLAN
7 OF 17	C-7	UTILITY PLAN
8 OF 17	C-8	UTILITY PROFILES
9 OF 17	C-9	STORM DRAIN DRAINAGE AREA MAP
10 OF 17	C-10	EROSION AND SEDIMENT CONTROL PLAN
11 OF 17	C-11	EROSION AND SEDIMENT CONTROL PLAN - DETAILS
12 OF 17	C-12	EROSION AND SEDIMENT CONTROL PLAN - NOTES
13 OF 17	C-13	STORM WATER MANAGEMENT PLAN - EXISTING & PROPOSED DRAINAGE AREA MAPS
14 OF 17	C-14	STORM WATER MANAGEMENT PLAN - PROFILES & DETAILS
15 OF 17	C-15	STORM WATER MANAGEMENT PLAN - DETAILS & SPECIFICATIONS
16 OF 17	C-16	LANDSCAPE PLAN
17 OF 17	C-17	LIGHTING PLAN



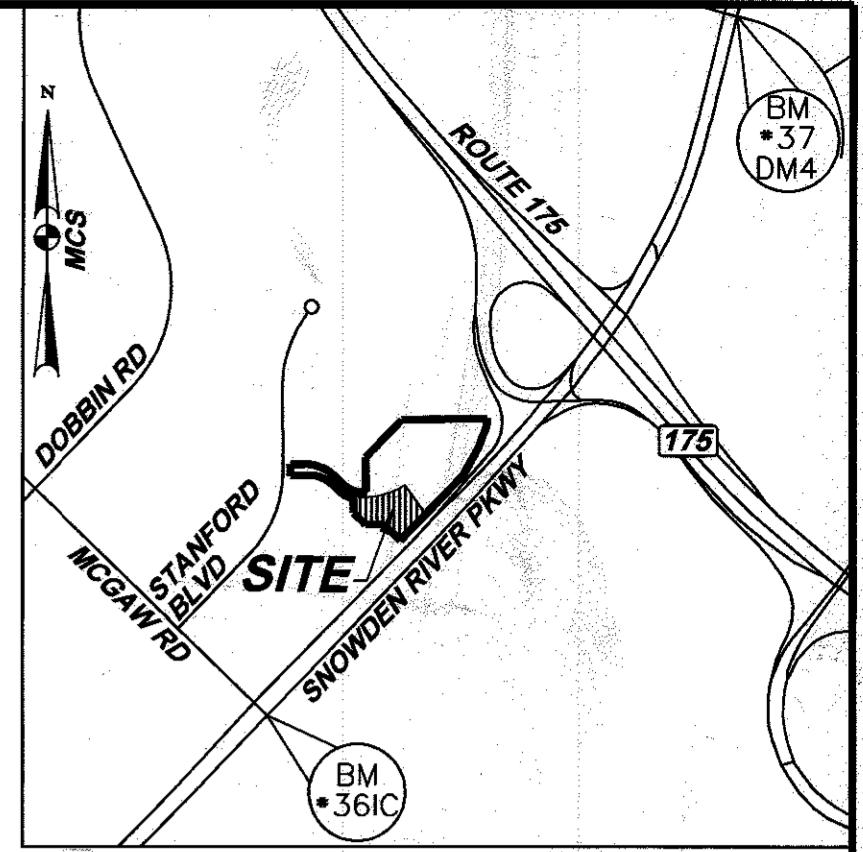
**SECTION THROUGH SITE**  
 SCALE: H: 1" = 50'  
 V: 1" = 10'

**GENERAL CONSTRUCTION NOTES (continued)**

- TESTING AND FINAL ACCEPTANCE:
  - THE CONTRACTOR SHALL PROVIDE AS A MINIMUM, A FULLY LOADED SIX-WHEEL TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER AND THE BASE MATERIAL.
  - SPECIFIC COMPACTING TESTING MAY BE REQUIRED BY THE OWNER IN SELECTED FILL AREAS. THE CONTRACTOR SHALL BEAR THE COST OF COMPACTING TESTING AS WELL AS THE RESPONSIBILITY FOR THE NECESSARY CORRECTIONS.
  - APPROVAL OF THE PAVEMENT SUBGRADE BY THE OWNER'S GEOTECHNICAL ENGINEER SHALL BE REQUIRED PRIOR TO THE PLACEMENT OF THE PAVEMENT MATERIAL.
  - SEWERY SEWER MAINS AND SERVICES SHALL BE TESTED FOR LEAKAGE AND DEFLECTION IN ACCORDANCE WITH THE REQUIREMENT OF THE LOCAL JURISDICTIONAL AUTHORITIES PRIOR TO THEIR FINAL ACCEPTANCE. ALL VALVE VAULTS SHALL BE CLEAN AND DEFLECTION SHALL BE CLEAN AND FREE OF DEBRIS PRIOR TO THEIR FINAL ACCEPTANCE.
  - WATER MAINS SHALL BE TESTED IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL REQUIREMENTS PRIOR TO THEIR FINAL ACCEPTANCE. ALL VALVE VAULTS SHALL BE CLEAN AND FREE OF DEBRIS AND WATER PRIOR TO THEIR FINAL ACCEPTANCE. THE INDIVIDUAL SERVICE BOXES SHALL BE VISIBLE AND CLEARLY LOCATED PRIOR TO THEIR FINAL ACCEPTANCE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHAL BE MOUNTED ON GALVANIZED STEEL TUBES, 4" DIA. GALVANIZED STEEL TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE). 3" LONG A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ALL PLAN DIMENSIONS ARE FACE TO FACE CURB UNLESS OTHERWISE NOTED.

**SITE NOTES**

- THE SUBJECT PROPERTY IS ZONED NT - EMPLOYMENT CENTER INDUSTRIAL PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING REGULATIONS.
- LANDSCAPE REQUIREMENTS: THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.11B OF THE HOWARD COUNTY ZONING AND LANDSCAPE MANUAL. LANDSCAPE SURETY IS BASED ON REQUIRED PLANTING ONLY AND NO SURETY IS REQUIRED FOR EXISTING LANDSCAPING THAT IS CREDITED TOWARD LANDSCAPING REQUIREMENTS. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IS BEING PROVIDED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$6,900. (17 SHADE TREES AT \$1,500 AND 12 EVERGREEN TREES AT \$1,800 ARE BEING PROVIDED FOR A TOTAL SURETY OF \$16,900).
- STORM WATER MANAGEMENT (SWM): SWM SHALL BE ADDRESSED ACCORDING TO BOTH REDEVELOPMENT AND NEW DEVELOPMENT REQUIREMENTS. A FTERRA WILL BE USED TO FULFILL REDEVELOPMENT REQUIREMENTS. A MICRO-BIORETENTION PRACTICE WILL BE USED TO NEW DEVELOPMENT REQUIREMENTS. RECHARGE REQUIREMENTS ARE BEING FULFILLED THROUGH A STONE TRENCH UNDER THE MICRO-BIORETENTION PRACTICE. ALL SWM DEVICES SHALL BE PRIVATELY OWNED AND MAINTAINED.
- FOREST CONSERVATION REQUIREMENTS: AS PER SECTION 16.022 (01/1/16) A PLANNED UNIT DEVELOPMENT WHICH HAS PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 50 PERCENT OR MORE OF THE LAND IS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992, THIS SITE IS EXEMPT FROM ANY REFORESTATION REQUIREMENTS.
- THE SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING ANALYSIS FOR THIS PROJECT WAS CONDUCTED ON JANUARY 14, 2016 BY RUELING ASSOCIATES, INC.
- A TRAFFIC STUDY WAS PERFORMED BY TRAFFIC CONCEPTS, INC. DATED JANUARY, 2016. IT WAS APPROVED ON MAY 24, 2016. A NOISE STUDY IS NOT REQUIRED FOR THIS COMMERCIAL ZONED PROPERTY.
- ALL ONSITE DRIVEWAYS AND PARKING AREAS TO BE PRIVATELY MAINTAINED.
- THERE ARE NO EXISTING OR PROPOSED WELL OR SEPTIC AREAS.
- AN ENVIRONMENTAL REPORT FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. ON JANUARY 12, 2016. FINDINGS OF THAT REPORT REVEAL THAT THERE ARE NO WETLANDS, STREAMS, OR THEIR BUFFERS OR FOREST PRESERVE WITHIN OR ADJACENT TO THE PROPOSED LIMITS OF DISTURBANCE.
- THERE ARE NO KNOWN WETLANDS REQUIRING REGULATION, CRITICAL AREAS, ARCHEOLOGICAL SITES, ENDANGERED SPECIES HABITATS, OR HAZARDOUS MATERIALS ONSITE.
- THERE ARE NO HISTORIC BUILDINGS ON THIS PROPERTY.
- THERE ARE NO SPECIMEN TREES ON THIS SITE.
- FLOOD MAP INFORMATION: SITE IS SHOWN ON MAP ENTITLED "FIRM FLOOD INSURANCE RATE MAP, HOWARD COUNTY, MARYLAND, UNINCORPORATED AREAS, PANEL 153 OF 235, COMMUNITY PANEL NUMBER 24027201550, MAINTAINED BY FEMA, 2013, AND ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY DUAL & ASSOCIATES ON NOV. 6, 2015.
- THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE. HOWEVER, UPON DISCOVERY OF ANY EVIDENCE OF BURIAL OR GRAVES, THE DEVELOPER WILL BE SUBJECT TO SECTION 16.11B OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THERE ARE NO SLOPES 15% - 24.9% SLOPES 25% OR GREATER, WETLANDS, WETLAND BUFFERS, STREAMS, STREAM BUFFERS AND 100-YR FLOODPLAIN WITHIN THE NET TRACT AREA.
- THIS SDP IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2005 AND THE AMENDED ZONING REGULATIONS PER COUNCIL NO. 75-2003 AND THE "COMP LITE" ZONING AMENDMENTS EFFECTIVE AUGUST, 2007. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- THE ENVIRONMENTAL CONCEPT PLAN (ECP-16-037) WAS APPROVED ON APRIL 1, 2016.
- PROPOSED BUILDING WILL HAVE AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP-16-061) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATION ASSOCIATED WITH THIS PLAN. THE RESTAURANT TO BE CONSTRUCTED WITHIN THE LIMITS OF SDP-16-061 WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT.
- A COMMUNITY INPUT MEETING ISN'T REQUIRED AS THE SITE ISN'T WITHIN 200 FEET FROM ANY RESIDENTIAL AREAS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATES SYSTEM. HOWARD COUNTY MONUMENT NOS. 361C AND 370M4 WERE USED FOR THIS PROJECT.
- WATER (24-1667-D) AND SEWER (20-1768-D) ARE PUBLIC.
- EXISTING UTILITIES ARE BASED ON FIELD SURVEY PREPARED BY DUAL & ASSOCIATES (SEE NOTE #14).
- A WAIVER FROM DESIGN MANUAL, VOL. IV, STANDARD DETAIL D-9.04 TO ALLOW THE CONNECTION OF A 6" SDR-35 PVC PIPE TO AN EXISTING 30" RCCP STORM DRAIN PIPE IN LIEU OF THE 36" MINIMUM DIAMETER CONNECTION PIPE BY USING AN "INSERTA TEE" CONNECTION WAS APPROVED ON MAY 10, 2016.
- THE PLANNING BOARD OF HOWARD COUNTY ACTED TO APPROVE THIS SITE DEVELOPMENT PLAN ON AUGUST 18, 2016.



**VICINITY MAP**  
 SCALE: 1" = 1,000'  
 ADC MAP #4935-K10

**BENCH MARK**

ELEVATIONS ARE BASED ON NAVD 88 DATUM PER HOWARD COUNTY CONTROL POINTS:  
 CONTROL POINT #361C: N 953,292.394; E 1,364,105.493; EL. 386.767  
 DESCRIPTION: STANDARD CONCRETE MONUMENT SET FLUSH WITH SURFACE AT CORNER OF SNOWDEN RIVER ROAD AND MCGAW ROAD  
 CONTROL POINT #370M4: EL. 362.706  
 DESCRIPTION: REBAR SET 0.3' BELOW SURFACE AT CORNER OF SNOWDEN RIVER ROAD AND DOBBIN ROAD

**SITE DATA**

- GENERAL SITE DATA:
  - TOTAL SITE AREA: 6.7838 Ac
  - PLAT REFERENCE: 23899
  - DEED REFERENCE: 1616/194
  - TAX ACCOUNT NUMBER: 1619132
  - PRESENT ZONING: NT
  - APPLICABLE DPZ FILE REFERENCES: FDP-117-A-4, F-72-010, F-93-90, F-96-90, F-97-108, F-17-010, SDP-87-193, ECP-16-037
  - EXISTING USE: EX. BUILDING (100,000 SF) AND PARKING LOT
  - PROPOSED USE: EX. BUILDING (100,000 SF), PARKING LOT AND RESTAURANT (7,522 SF)
  - EXISTING WATER: PUBLIC (CONTRACT #24-1667-D)
  - EXISTING SEWER: PUBLIC (CONTRACT #20-1768-D)
  - MAXIMUM BUILDING HEIGHT: ALLOWED: 50', PROPOSED: 27'-6"
- AREA TABULATION:
  - TOTAL SITE AREA: 6.7838 Ac
  - TOTAL DISTURBED AREA: 64,285 SF OR 1.476 Ac
  - TOTAL IMPERVIOUS AREA: 51,485 SF OR 1.182 Ac (WITHIN LOD)
  - GREEN OPEN AREA: 12,800 SF OR 0.294 Ac (WITHIN LOD)
  - TOTAL ALLOWED BUILDING COVERAGE: 3,392 Ac (50% OF PARCEL AREA)
  - TOTAL PROVIDED BUILDING COVERAGE: 2,468 Ac (36% OF PARCEL AREA)
  - WETLANDS (BUFFER): 0.00 Ac
  - FLOODPLAIN (BUFFER): 0.00 Ac
  - FORESTS: 0.00 Ac
  - STEEP SLOPES (15% AND GREATER): 0.00 Ac
  - ERODIBLE SOILS: 0.00 Ac
- PARKING SPACE DATA:
  - PARKING REQUIRED: 238 OFFICES - 100,000 SF @ 2 PS/1,000 SF (PER FDP-117-A-4) + 200 PS RESTAURANT - 7,522 SF @ 5 PS/1,000 SF (PER FDP-117-A-4) = 38 PS
  - PARKING PROVIDED: 391 TOTAL INCLUDES: 378 STANDARD SPACES @ 9' x 18' 4 VAN ACCESSIBLE HANDICAP SPACES @ 16' x 18' 11 HANDICAP SPACES @ 13' x 18'

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE

*Maura Rodman* 12/14/2016  
 County Health Officer  
 Howard County Health Department

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Ulrich* 12-12-16  
 Chief, Development Engineering Division  
*Kristen* 12-15-16  
 Chief, Division of Land Development  
*W. J. Joffe* 12-17-16  
 Director

ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.			
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42			
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
23899	24	NT	36	6	606707

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE: AUGUST 18, 2016

THE COORDINATE SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN DATUM OF 1983. THE ELEVATION SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. NAD 83/91; VERT: NAVD 88

COVER SHEET  
**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT  
 HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-4) DATE: DECEMBER, 2016

**BLDG**  
 Baltimore Land Design Group Inc.  
 Consulting Engineers  
 230 SCHILLING CIRCLE, SUITE 364 • HUNT VALLEY, MARYLAND 21091  
 PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGC.COM

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, WONA ROSTER-ZAROVAN, A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

**OWNER**  
 MERRITT-CCP, LLC  
 2066 LORD BALTIMORE DRIVE  
 BALTIMORE, MD 21244  
 (410) 298-2600  
 FAX: (410) 298-9644

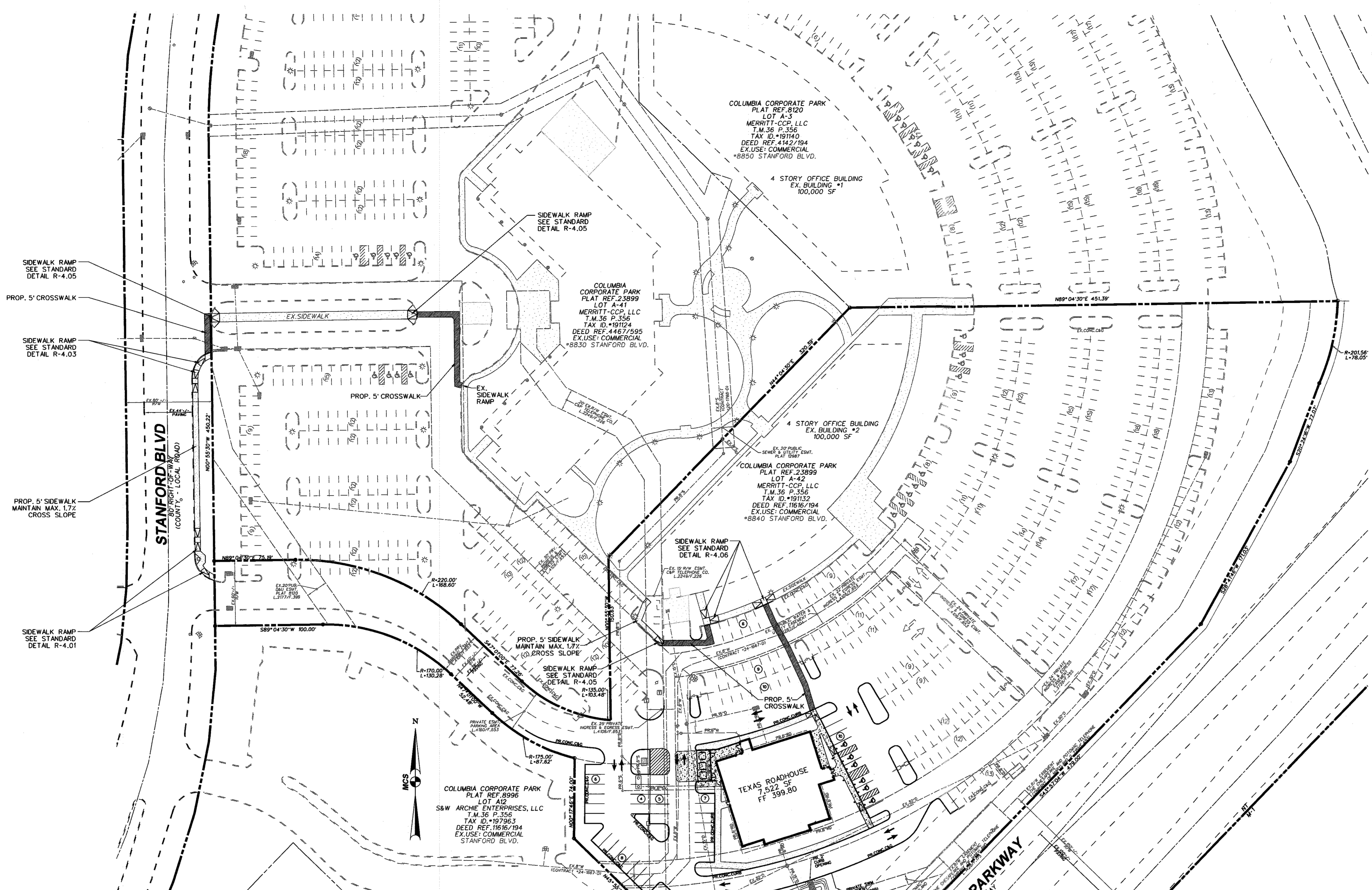
**DEVELOPER / APPLICANT**  
 TEXAS ROADHOUSE HOLDINGS LLC  
 6040 DUTCHMANS LANE, SUITE 400  
 LOUISVILLE, KY 40205  
 (502) 426-2600  
 FAX: (502) 515-7229

REVISIONS

DATE	NO.	DESCRIPTION	BY

DRAWING NO.  
**C-1**  
 SHEET 1 OF 17  
 SDP-16-061





APPROVED: DEPARTMENT OF PLANNING AND ZONING

*UICHL*  
 Chief, Development Engineering Division 12-12-16  
*Kat Shuler*  
 Chief, Division of Land Development 12-15-16  
*Valery Joffe*  
 Director 12-17-16

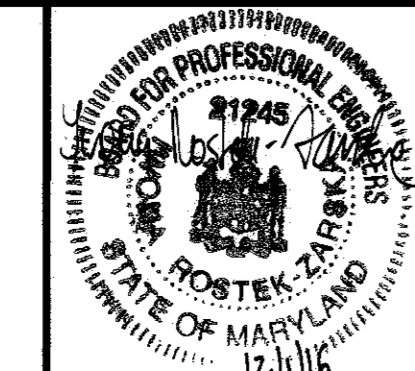
ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.	PLAT NO. or L/F	GRID NO.	ZONING
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42	23899	24	NT

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 (502) 426-9984  
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REVISIONS			
DATE	NO.	DESCRIPTION	BY

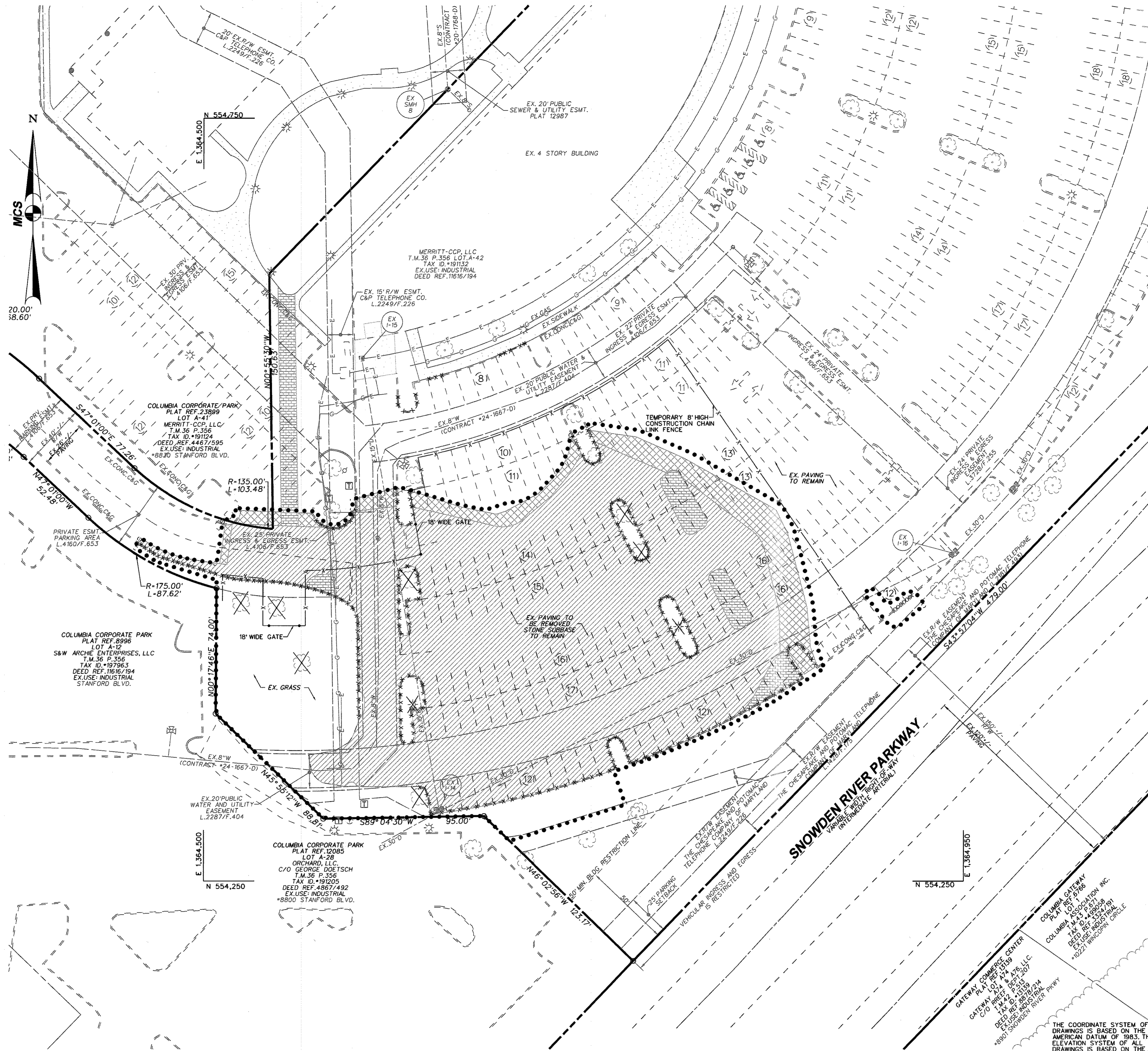
**OVERALL PLAN**  
**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT  
 HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 50' (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-B) DATE: DECEMBER, 2016

DRAWING NO.  
**C-2**  
 SHEET 2 OF 17  
 SDP-16-061



**GENERAL DEMOLITION NOTES**

1. ANY DEMOLITION IS TO BE PERFORMED IN STRICT CONFORMANCE WITH ALL APPLICABLE TOWN, COUNTY AND STATE, AND/OR GOVERNING BODY'S STANDARDS.
2. THE DEMOLITION PLAN SHALL BE DONE IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION REPORT.
3. EROSION AND SEDIMENT CONTROL MEASUREMENTS SHALL BE MAINTAINED AT ALL TIMES DURING DEMOLITION.
4. THE PURPOSE OF THIS DRAWING IS TO CONVEY THE OVERALL SCOPE OF WORK AND IT IS NOT INTENDED TO COVER ALL DETAILS OR SPECIFICATIONS REQUIRED TO COMPLY WITH GENERALLY ACCEPTED DEMOLITION PRACTICES. LANDLORD'S CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE SITE, SCOPE OF WORK, AND ALL EXISTING CONDITIONS AT THE JOB SITE PRIOR TO BIDDING AND COMMENCING THE WORK. THE LANDLORD'S DEMOLITION CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, OR PROCEDURES USED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND IS LIABLE FOR THE SAFETY OF THE PUBLIC OR CONTRACTOR'S EMPLOYEES DURING THE COURSE OF THE PROJECT.
5. THE DEMOLITION PLAN IS INTENDED TO SHOW REMOVAL OF KNOWN SITE FEATURES AND UTILITIES AS SHOWN ON THE SURVEY. THERE MAY BE OTHER SITE FEATURES, UTILITIES, STRUCTURES, AND MISCELLANEOUS ITEMS BOTH BURIED AND ABOVE GROUND THAT ARE WITHIN THE LIMITS OF WORK THAT MAY NEED TO BE REMOVED FOR THE PROPOSED PROJECT THAT ARE NOT SHOWN HEREON. THE LANDLORD'S CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF SUCH ITEMS AT NO ADDITIONAL COST TO THE OWNER.
6. THE LANDLORD'S CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES THAT ARE INTENDED TO CONTINUE TO PROVIDE SERVICE WHETHER THESE UTILITIES ARE SHOWN ON THE PLAN OR NOT.
7. UPON DISCOVERY OF ANY UNDERGROUND TANKS, LANDLORD'S CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE. NO REMOVAL OF TANKS SHALL OCCUR UNTIL AUTHORIZED BY OWNER.
8. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL TOWN, STATE, AND FEDERAL LAWS AND ORDINANCES.
9. AS SOON AS DEMOLITION WORK HAS BEEN COMPLETED, THE FINAL GRADE OF BACKFILL IN DEMOLITION AREAS SHALL BE COMPACTED PER THE GEOTECHNICAL REPORT TO PRESENT A NEAT, WELL DRAINED APPEARANCE, AND TO PREVENT WATER FROM DRAINING UNNECESSARILY ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL GRADE SITE TO EXISTING STORM DRAINAGE SYSTEM TO REMAIN ON SITE.
10. EXISTING TREES TO REMAIN SHOULD BE PROTECTED FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.
11. THE LANDLORD'S CONTRACTOR IS TO COORDINATE WORK IN THIS PROJECT TO ENSURE ACCESS TO ADJACENT PROPERTIES AT ALL TIMES.
12. THE USE OF EXPLOSIVES SHALL NOT BE PERMITTED.
13. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION PER THE LANDLORD'S CONSTRUCTION PERMIT.



**DEMOLITION LEGEND**

- EX. PAVING, CONCRETE/SIDEWALK TO BE REMOVED (STONE SUB-BASE TO REMAIN)
- EX. PAVING, CONCRETE/SIDEWALK TO BE REMOVED
- MILL & OVERLAY
- EX. SANITARY SEWER TO BE REMOVED
- EX. STORM DRAIN TO BE REMOVED
- EX. LIGHT POLE TO BE REMOVED
- EX. TREE TO BE REMOVED
- TO BE REMOVED SYMBOL
- TO BE REMOVED LABEL
- TEMPORARY 8' HIGH CONSTRUCTION CHAIN LINK FENCE
- LIMIT OF DISTURBANCE

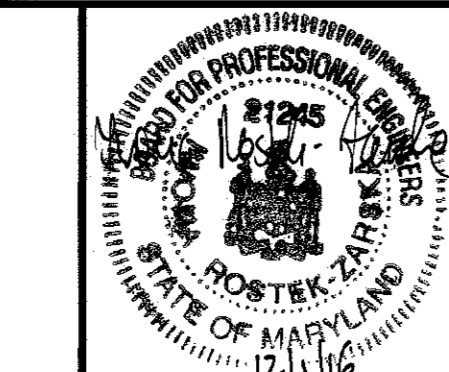
NOTE: ALL EXISTING CONDUIT LINES/DUCTS WITHIN THE LIMIT OF DISTURBANCE SHALL BE REMOVED OR ABANDONED.

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
Chief, Development Engineering Division	12-12-16
Chief, Division of Land Development	12-15-16
Director	12-17-16

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART				
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COLUMBIA CORPORATE PARK	1 / 1	356 / A-42		
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.
23899	24	NT	36	6
				CENSUS TRACT
				606707

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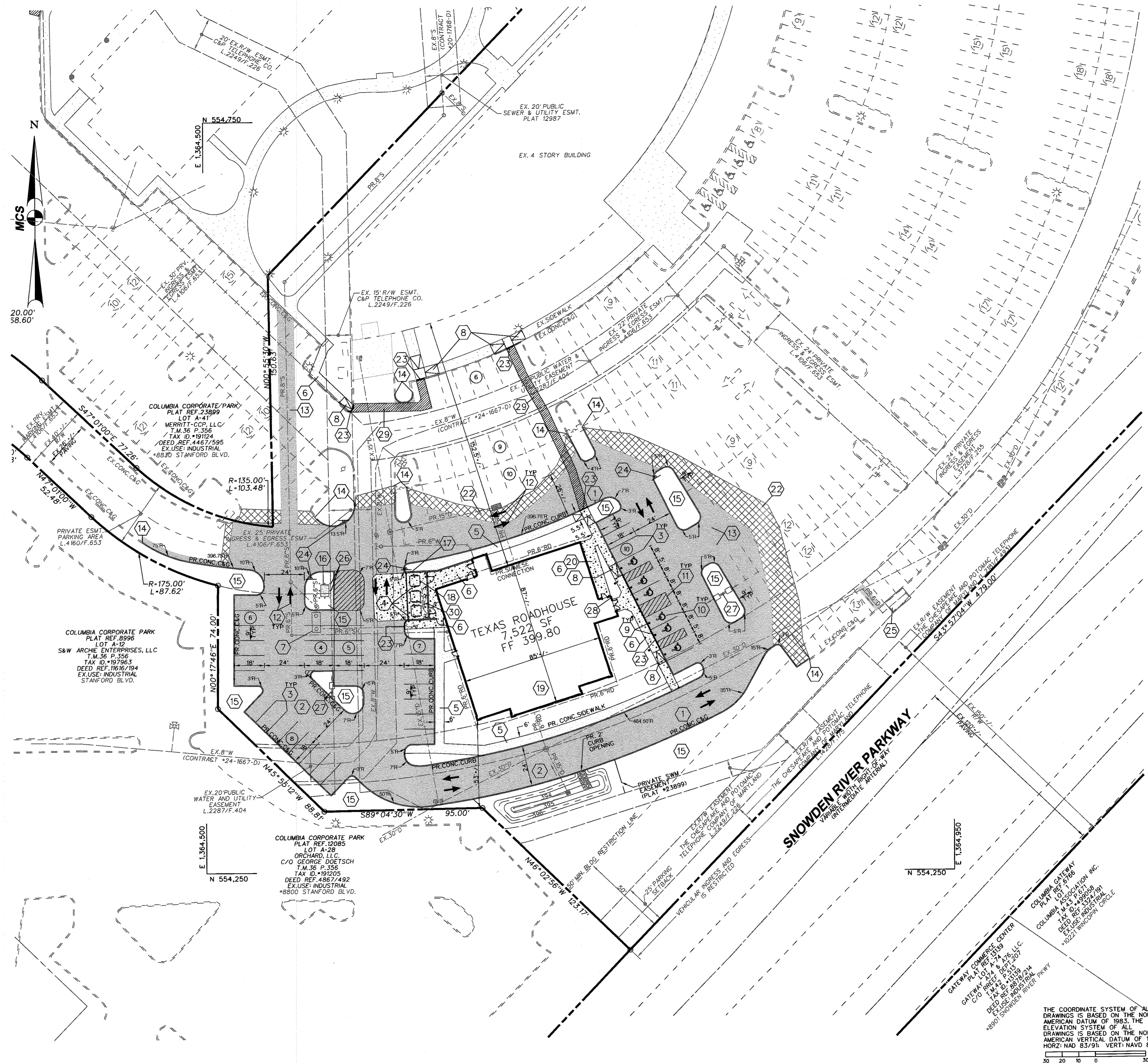
**DEVELOPER / APPLICANT**  
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(502) 426-9984  
FAX: (502) 515-7229

REVISIONS			
DATE	NO.	DESCRIPTION	BY

**EXISTING CONDITION / DEMOLITION PLAN**  
**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT  
HOWARD COUNTY, MARYLAND  
SCALE: 1" = 30'  
NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-11 DATE: DECEMBER, 2016

DRAWING NO.  
**C-3**  
SHEET 3 OF 17  
SDP-16-061

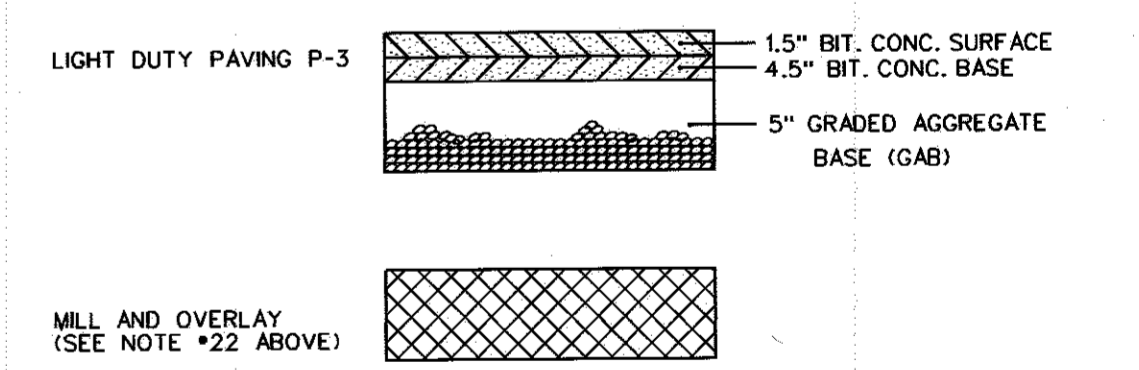




**SITE CONSTRUCTION NOTES**

- 1 PROPOSED MONOLITHIC CURB TO BE USED ALONG SIDEWALKS & CONCRETE CURB TO BE USED FOR LANDSCAPED ISLANDS (6\"/>

**PAVEMENT SECTION DETAILS**



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	Date
Chief, Division of Land Development	Date
Director	Date

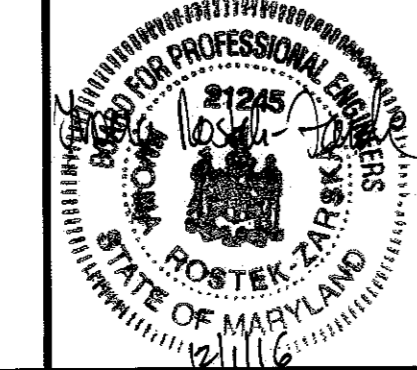
ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART

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PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
23899	24	NT	36	6	606707

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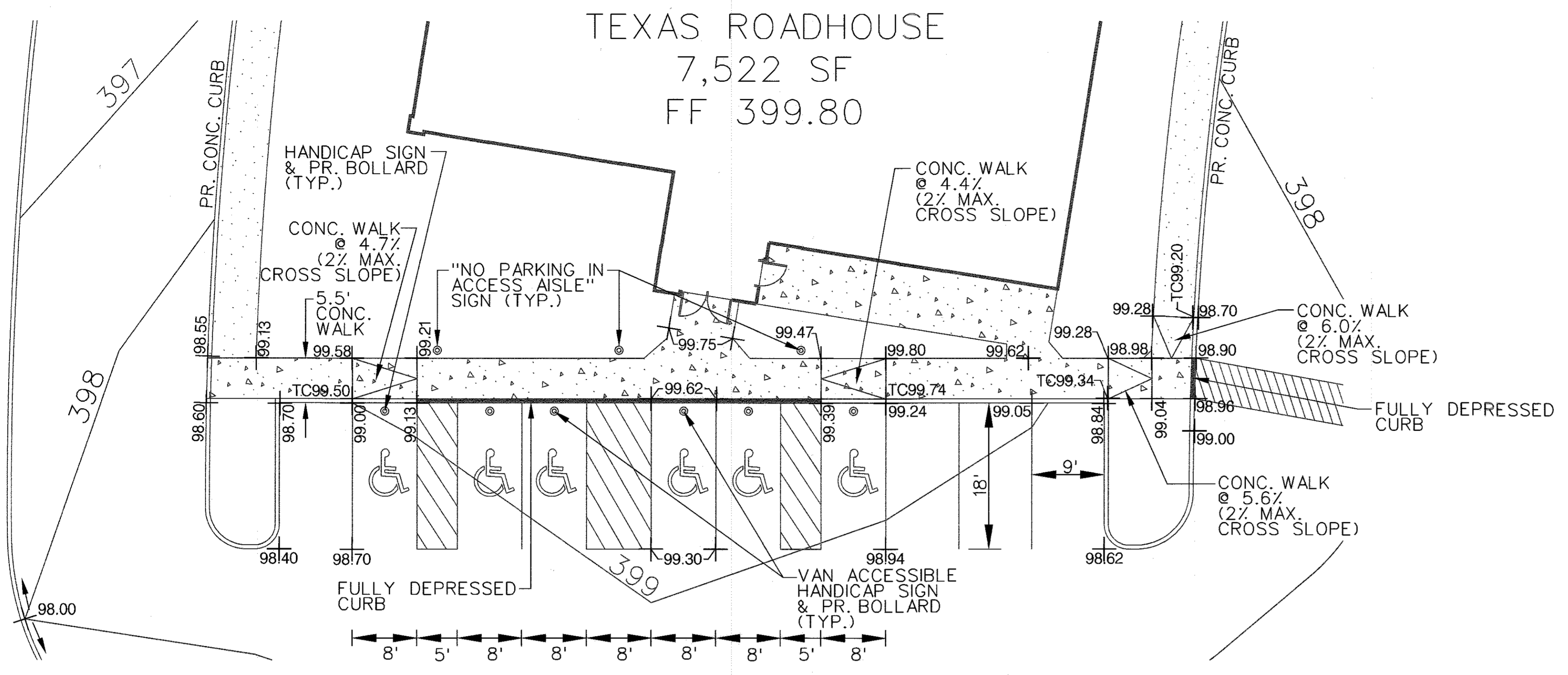
REVISIONS

DATE	NO.	DESCRIPTION	BY

**SITE PLAN**  
**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT  
HOWARD COUNTY, MARYLAND (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-B) DATE: DECEMBER, 2016  
SCALE: 1" = 30'

DRAWING NO. **C-4**  
SHEET 4 OF 17  
SDP-16-061





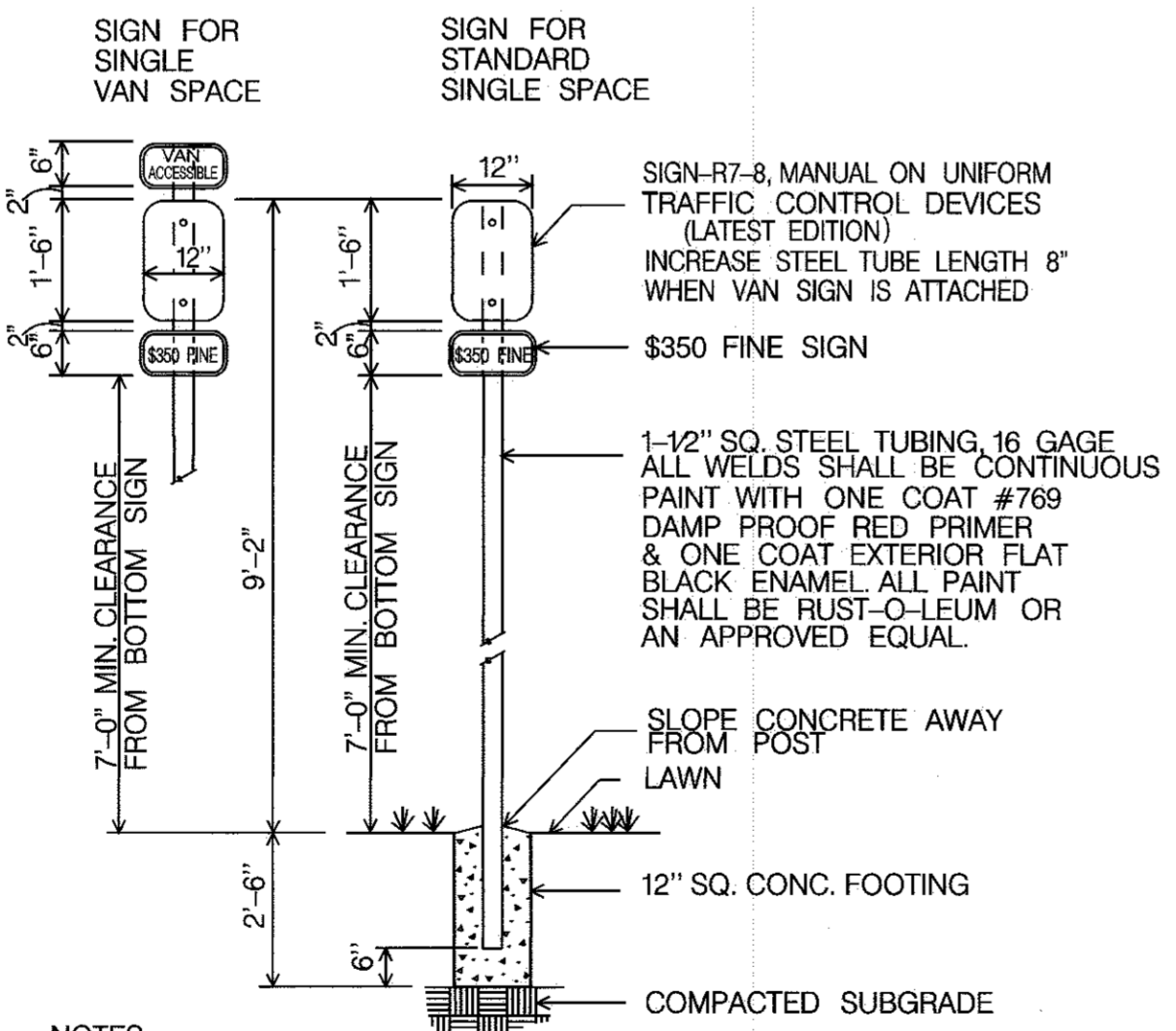
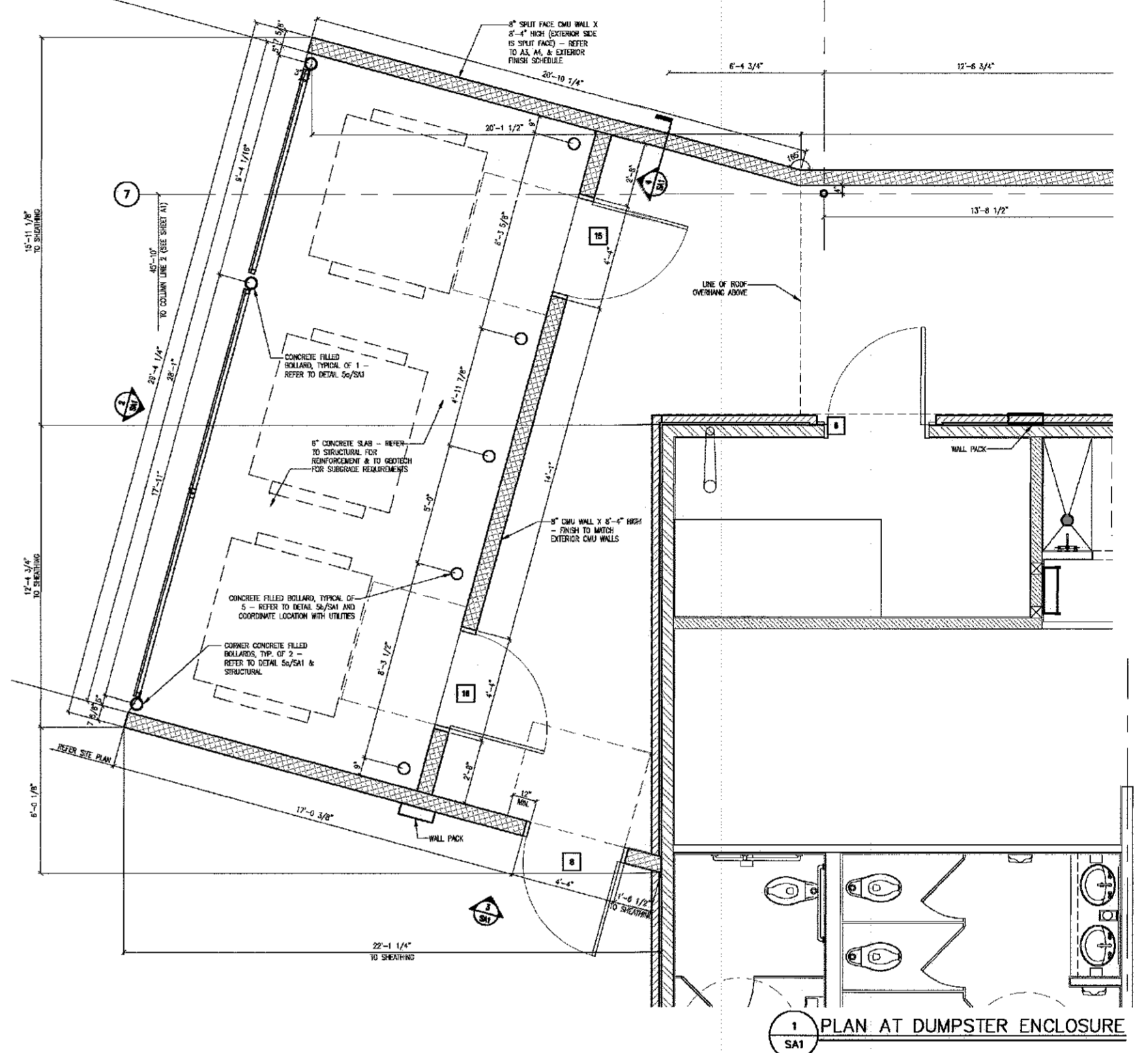
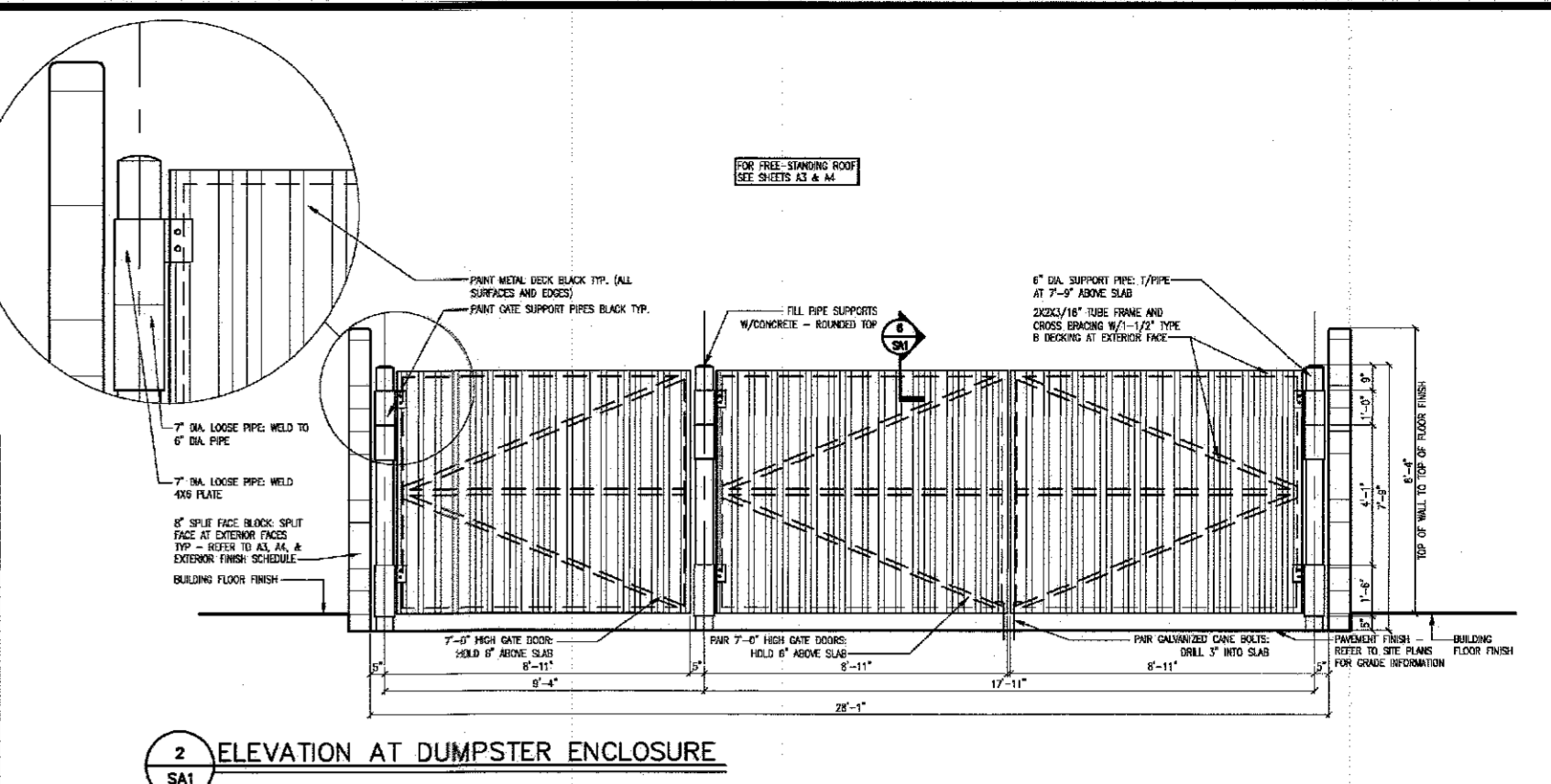
HANDICAP ACCESSIBLE ROUTE FOR PROPOSED RESTAURANT

SCALE: 1" = 10'

NOTE: SPOT SHOT ELEVATIONS SHOWN ON THIS PLAN ARE FOR FINISH GRADE ELEVATIONS AND BOTTOM OF CURBS, UNLESS NOTED OTHERWISE.

**DUMPSTER ENCLOSURE NOTES**

- CONCRETE FLOOR AT ENCLOSURE, 4" MIN. THICK TO BE 1/2" BELOW FINISH FLOOR. COLOR SHALL BE IDENTICAL TO ADJACENT CONCRETE. COLOR SHALL BE IDENTICAL TO ADJACENT CONCRETE. COLOR SHALL BE IDENTICAL TO ADJACENT CONCRETE.
- CONCRETE SHALL BE IDENTICAL TO ADJACENT CONCRETE. COLOR SHALL BE IDENTICAL TO ADJACENT CONCRETE. COLOR SHALL BE IDENTICAL TO ADJACENT CONCRETE.



ALL DIMENSIONS ARE IN INCHES \* REDUCE SPACING 50 PERCENT

COLORS:  
LEGEND AND BORDER - GREEN  
WHITE SYMBOL ON BLUE BACKGROUND  
BACKGROUND - WHITE

NOTE: SIGN TO BE A MIN. OF 2'-0" FROM FACE OF CURB

NOTES:  
1. DISTANCE FROM GROUND TO BOTTOM OF SIGN SHALL BE 7'  
2. SEE HANDICAPPED PARKING SPACE DETAIL THIS SHEET FOR LOCATION OF HANDICAPPED SIGN.  
3. VAN ACCESSIBLE SPACES SHALL INCLUDE "VAN SIGN" AS REQUIRED  
4. SIGNS SHALL CONFORM TO CURRENT ADA CRITERIA. SIGN COLORS:  
LETTERS AND BORDER - GREEN  
WHITE H.C. SYMBOLS ON BLUE BACKGROUND  
BACKGROUND - WHITE

\$350 FINE SIGN / VAN ACCESSIBLE SIGN

SIGN TO UTILIZE AN ALUMINUM BLANK 6" X 12" X 0.080" THICK WITH TWO SINGLE POST MOUNTING HOLES.

THE TEXT AND BORDER SHALL BE STANDARD GREEN TO MATCH THAT ON R7-8 AND THE BACKGROUND SHALL BE REFLECTIVE WHITE. TEXT SHALL BE IN 3" CHARACTERS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART				
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.		
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42		
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.
23899	24	NT	36	6
				CENSUS TRACT
				606707

THE COORDINATE SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN DATUM OF 1983. THE ELEVATION SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. HORIZ: NAD 83/91 VERT: NAVD 88

SCALE: 1" = 10'

1 Not To Scale Detail Handicap Parking Signs Not To Scale Not To Scale

**BLDG**  
Baltimore Land Design Group Inc.  
Consulting Engineers  
230 SCHILLING CIRCLE, SUITE 364 • HUNT VALLEY, MARYLAND 21031  
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, WONA ROSTEK-ZARSKA AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

**OWNER**  
MERRITT-CCP, LLC  
2066 LORD BALTIMORE DRIVE  
BALTIMORE, MD 21244  
(410) 298-2600  
FAX: (410) 298-9644

**DEVELOPER / APPLICANT**  
TEXAS ROADHOUSE HOLDINGS LLC  
6040 DUTCHMANS LANE, SUITE 400  
LOUISVILLE, KY 40205  
(502) 426-9984  
FAX: (502) 515-7229

REVISIONS		
DATE	NO.	DESCRIPTION

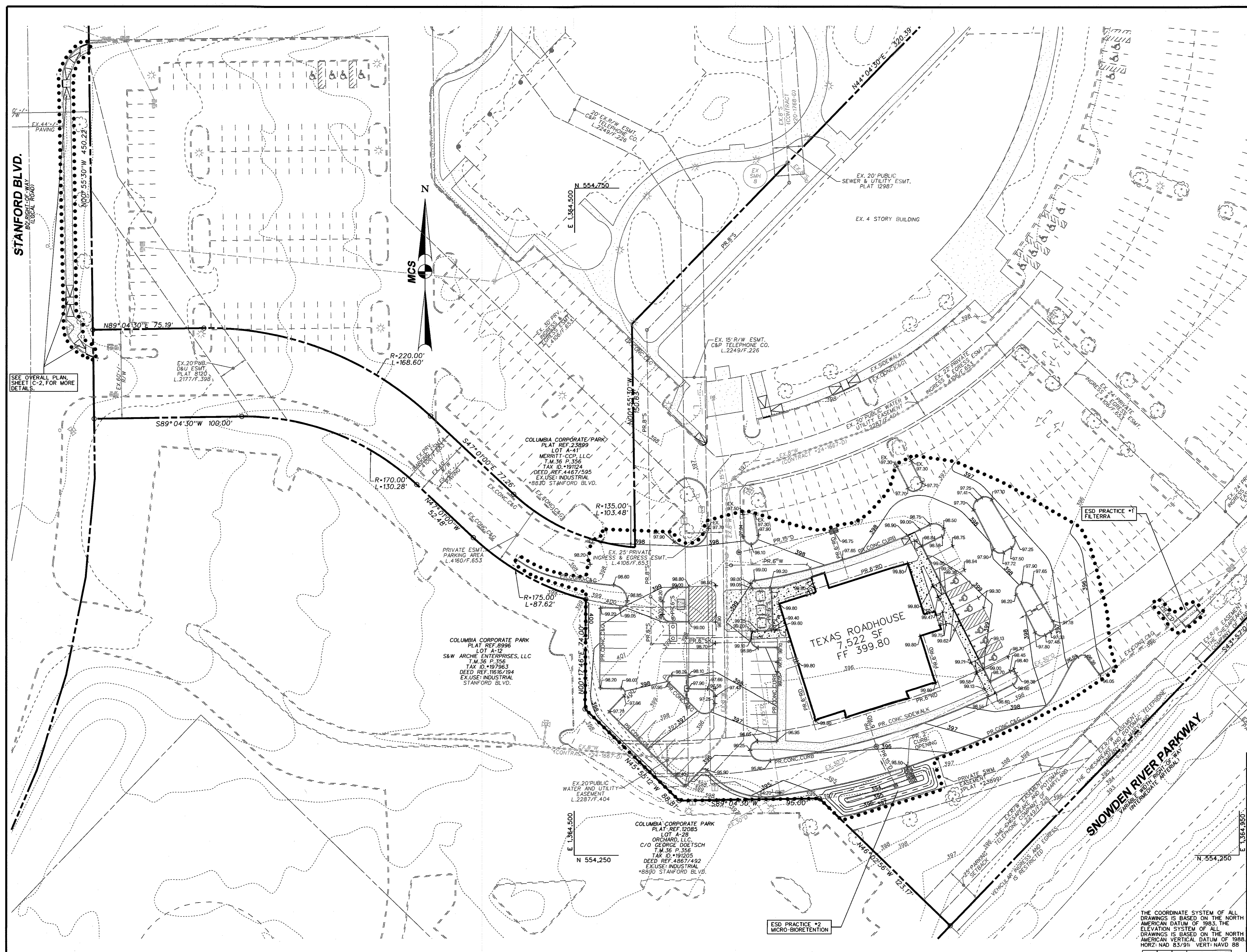
**SITE DETAILS**  
 HANDICAP ACCESSIBLE ROUTE AND HANDICAP SIGN DETAILS  
**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT  
 HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 10' (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-1) DATE: DECEMBER, 2016

DRAWING NO.  
**C-5**  
SHEET 5 OF 17  
SDP-16-061



**GRADING GENERAL NOTES**

- SEE COVER SHEET FOR "GENERAL SITE NOTES" AND "GENERAL CONSTRUCTION NOTES".
- ALL GRADING, BACKFILLING, EXCAVATION, ETC., SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND RECOMMENDATIONS SET FORTH IN GEOTECHNICAL REPORT. REFER TO THAT REPORT FOR ADDITIONAL INFORMATION NOT TRANSFERRED TO THESE PLANS.
- ALL GRADING, EROSION, AND SEDIMENT CONTROL AND RELATED WORK UNDERTAKEN ON THIS SITE SHALL BE IN ACCORDANCE WITH LOCAL JURISDICTION.
- FORMS FOR CONCRETE SIDEWALKS, CURBS, GUTTERS, AND DRIVEWAYS THAT ARE TO BE CONSTRUCTED TO CONFORM TO EXISTING ROADS SHALL BE INSTALLED TO GRADES SHOWN ON THESE PLANS. PRIOR TO PLACING CONCRETE, THE FORMS SHALL BE INSPECTED AND APPROVED BY LOCAL JURISDICTION FOR CONFORMANCE TO EXISTING ROAD IMPROVEMENTS. GRADES OF NEW IMPROVEMENTS ARE SUBJECT TO FIELD ADJUSTMENT TO FIT CONDITIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MATCHING EXISTING FACILITIES TO AVOID ANY ABRUPT OF APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS, OR HAZARDOUS CONDITIONS.
- CONTRACTOR SHALL NOT DISTURB ANY PERMANENT SURVEY POINTS WITHOUT CONSENT OF LOCAL JURISDICTION. ANY POINTS DESTROYED SHALL BE REPLACED BY A LICENSED SURVEYOR AT CONTRACTOR'S EXPENSE.
- WHERE UNSTABLE OR UNSUITABLE MATERIALS ARE ENCOUNTERED DURING SUBGRADE PREPARATION, AREA IN QUESTION SHALL BE OVER EXCAVATED AND REPLACED BY SELECT BACKFILL MATERIAL AS DIRECTED IN FIELD BY ENGINEER.
- REPRESENTATIVE OF GEOTECHNICAL ENGINEER SHALL BE ON-SITE DURING GRADING OPERATIONS AND SHALL OBSERVE GRADING AND IDENTIFY ANY CONDITIONS THAT SHOULD BE CORRECTED AND RECOMMEND CORRECTIVE MEASURES TO CONTRACTOR.
- GRADING AT THE BOUNDARIES SHALL BE DONE SO AS NOT TO OBSTRUCT RUNOFF OF STORM WATERS FROM ADJACENT PROPERTIES.
- CONTRACTOR MUST OBTAIN APPROVED BORROW SOIL MATERIALS OFFSITE WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE ON-SITE.
- ALL DISTURBED AREAS NOT TO RECEIVE PAVING SHALL BE STABILIZED WITH MINIMUM OF 6" TOPSOIL, SEED AND MULCH, UNLESS SPECIFIED OTHERWISE ON SEDIMENT CONTROL OR LANDSCAPE PLANS.
- SPOT SHOT ELEVATIONS SHOWN ON THIS PLAN ARE FOR FINISH GRADE ELEVATIONS AND BOTTOM OF CURBS, UNLESS NOTED OTHERWISE.



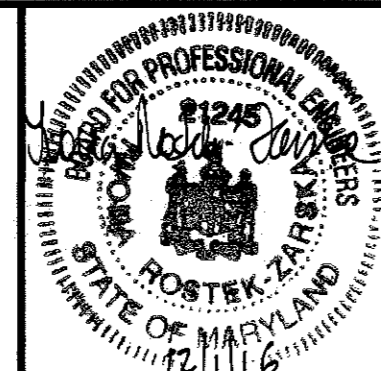
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i> Chief, Development Engineering Division	12-12-16 Date
<i>[Signature]</i> Chief, Division of Land Development	12-15-16 Date
<i>[Signature]</i> Director	12-17-16 Date
ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART			
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.	
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42	
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.
23899	24	NT	36
ELEC. DIST.	CENSUS TRACT		
6	606707		

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HOWARD COUNTY, MARYLAND  
SCALE: 1" = 30'  
(NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-17-A-1) DATE: DECEMBER, 2016

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LOUISVILLE, KY 40205  
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FAX: (502) 515-7229

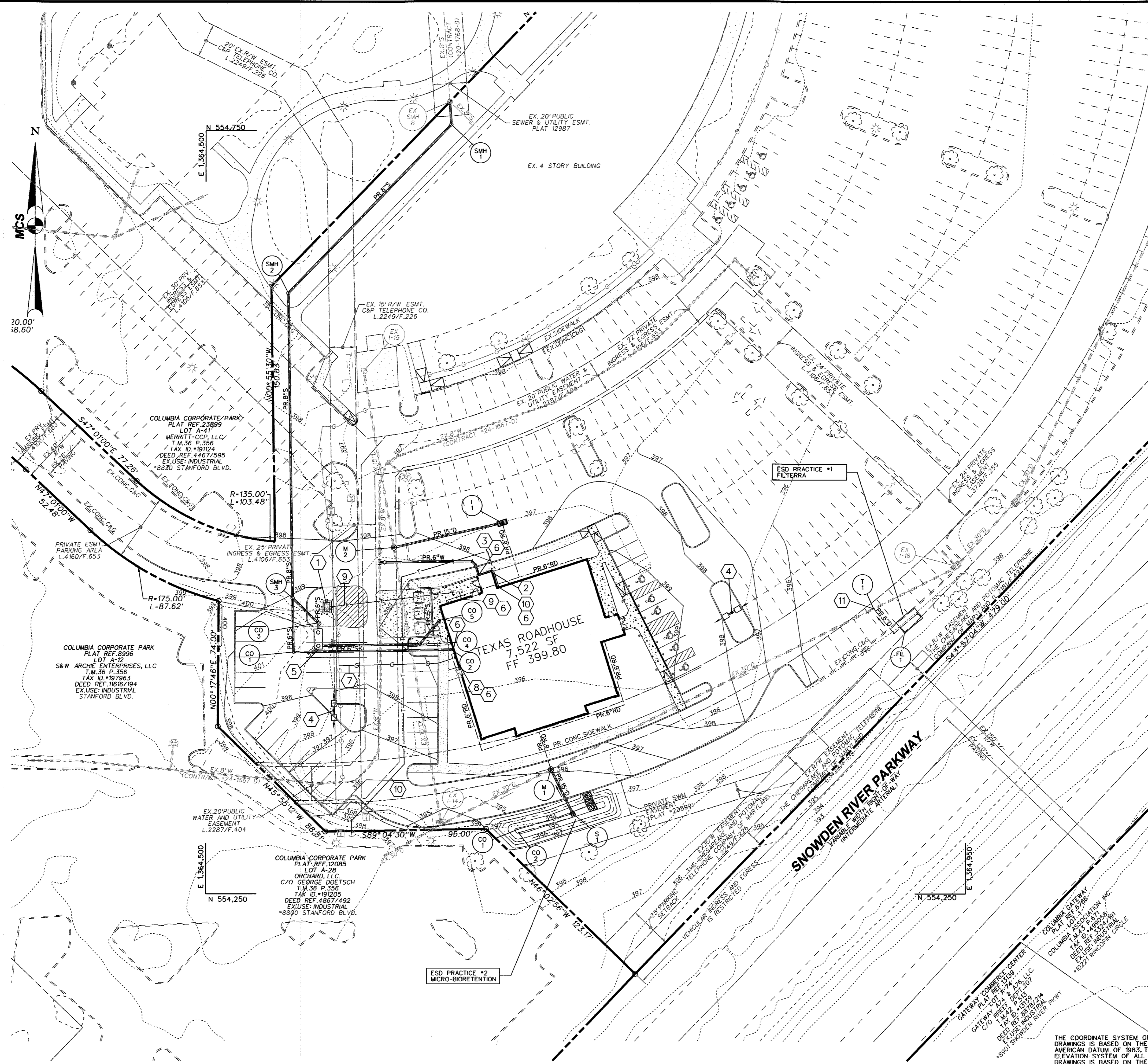
REVISIONS			
DATE	NO.	DESCRIPTION	BY

**GRADING PLAN**  
**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT

**DRAWING NO.**  
**C-6**

SHEET 6 OF 17  
SDP-16-061





- ### GENERAL UTILITY NOTES
- CONTRACTOR IS TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND ENSURE NO CONFLICTS EXIST WITH PROPOSED IMPROVEMENTS. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
  - CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO THE REMOVAL OF INDICATED UTILITIES ON SITE (SEE DEMOLITION PLAN). CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR DEMOLITION AND HAUL OFF FROM THE APPROPRIATE AUTHORITIES.
  - AUTHORIZATION MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS TO CONSTRUCT, ALTER OR MODIFY A WATER OR SEWER LINE.
  - AT THE COMPLETION OF THE WATER AND/OR SEWER CONSTRUCTION THE CONTRACTOR WILL FURNISH THE WATER SYSTEM INSPECTOR RECORD DRAWINGS OF THE PROJECT.
  - BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE GAS COMPANY FOR THE CONSTRUCTION OF THE GAS LINE BETWEEN METER AND MAIN.
  - BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE POWER COMPANY FOR THE CONSTRUCTION OF ELECTRICAL CONDUIT TO PROVIDE SERVICE TO THE TRANSFORMER.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, PRIOR TO CONSTRUCTION, ALL EXISTING LOCATIONS AND INVERT ELEVATIONS OF SANITARY SEWERS, STORM DRAINAGE, AND WATER MAINS. IF ANY INVERT ELEVATION VARIES MORE THAN 0.1 FT. FROM RECORD ELEVATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL THE CONTRACTOR IS NOTIFIED BY THE ENGINEER.
  - CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
  - COORDINATE WITH BUILDING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
  - ALL SEWERS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING CLEANING OF ANY SILT OR DEBRIS ACCUMULATED IN STRUCTURES.
  - ALL SURPLUS EXCAVATED MATERIAL FROM THE TRENCH SHALL BE DISPOSED OFF THE SITE BY CONTRACTOR.
  - COORDINATE EXACT TRENCHING, ROUTING, AND POINT OF TERMINATION WITH ALL UTILITY COMPANIES.
  - WATER MAIN SHALL BE A MINIMUM OF SIX (6) INCHES AND HAVE A MINIMUM DEPTH OF 48 INCHES.
  - THE SANITARY SEWER AND POTABLE WATER LINES ARE TO BE SEPARATED BY AT LEAST 10 FEET HORIZONTALLY, OR THE POTABLE WATER LINE SHALL BE AT LEAST 18 INCHES VERTICALLY ABOVE THE SANITARY SEWER.
  - CONTRACTOR TO RECONFIGURE PROPOSED ELECTRIC/TELEPHONE/CABLE CONDUITS AS NECESSARY TO AVOID CONFLICT WITH TREES/LANDSCAPING. SEE LANDSCAPE PLANS FOR DETAILS.
  - THRUST BLOCKS TO BE PLACED AT ALL BEND LOCATIONS WITHIN THE POTABLE WATER LINES.

- ### UTILITY NOTES
- PROPOSED PAD MOUNTED TRANSFORMER. CONTRACTOR SHALL COORDINATE DIRECTLY WITH ELECTRIC COMPANY PRIOR TO CONSTRUCTION TO DETERMINE FINAL LOCATION. PAD TO BE CONSTRUCTED PER ELECTRIC COMPANY SPECIFICATIONS. ELECTRIC METER TO BE INSTALLED AT TRANSFORMER.
  - FIRE DEPARTMENT CONNECTION (FDC). SEE MEP PLANS FOR EXACT LOCATION AND DETAILS.
  - 6" DUCTILE IRON FIRE LINE. SEE PLUMBING PLANS FOR DETAILS. THE CONNECTIONS TO THE EXISTING PUBLIC WATER AND SEWER SHALL BE INSTALLED UNDER THE ADVANCED DEPOSIT ORDER (ADO) PROGRAM. THE PORTIONS OF THE CONNECTIONS WITHIN THE PUBLIC EASEMENT SHALL BE PUBLIC. INSIDE METER SETTING (PRIVATE). 6" FIRE SERVICE WITH 2" DOMESTIC.
  - PROPOSED SITE LIGHTING FIXTURES. SEE PHOTOMETRIC PLAN FOR DETAILS.
  - PROPOSED 3,000 GAL. GREASE INTERCEPTOR. CONTRACTOR SHALL REFERENCE PLUMBING PLANS.
  - UTILITY CONNECTION TO BUILDING. SEE PLUMBING/ELECTRICAL DRAWINGS FOR EXACT BUILDING CONNECTIONS AND LOCATIONS.
  - GAS SERVICE LINE TIE INTO EXISTING GAS MAIN. CONTRACTOR SHALL COORDINATE WITH GAS COMPANY FOR GAS MAIN CONNECTION POINT. THE PREFERRED LOCATION AND INSTALLATION OF THE GAS SERVICE LINE AT EXISTING MAIN.
  - PROPOSED GAS METER PER GAS COMPANY.
  - SECONDARY ELECTRIC SERVICE LINE CONNECT TO PROPOSED PAD MOUNTED TRANSFORMER. ELECTRIC UTILITY LAYOUT FOR COORDINATION PURPOSES ONLY. CONTRACTOR TO INSTALL 3" - 4" PVC CONDUITS FROM TRANSFORMER TO BUILDING. (SEE ELECTRICAL PLANS FOR DETAILS). CONTRACTOR SHALL COORDINATE WITH ELECTRIC COMPANY PRIOR TO ANY EXCAVATION OR INSTALLATION OF CONDUITS.
  - TELEPHONE/CABLE SERVICE LINE. CONTRACTOR SHALL COORDINATE WITH TELEPHONE/CABLE COMPANY PRIOR TO ANY EXCAVATION OR INSTALLATION OF CONDUITS. CONTRACTOR TO INSTALL 2" - 4" PVC CONDUITS. MINIMUM 6 LINES REQUIRED FOR TELEPHONE AND MINIMUM 5 LINES REQUIRED FOR CABLE.
  - INSERTA TEE CONNECTION. SEE SHEET C-15 FOR MORE DETAILS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12/12/16  
 Chief, Development Engineering Division Date

*[Signature]* 12-15-16  
 Chief, Division of Land Development Date

*[Signature]* 12-17-16  
 Director Date

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

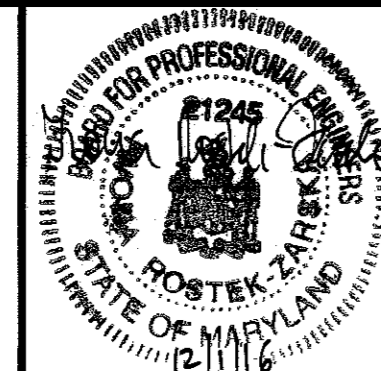
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COLUMBIA CORPORATE PARK	1 / 1	356 / A-42	
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.
23899	24	NT	36
ELEC. DIST.	CENSUS TRACT		
6	606707		

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 6040 DUTCHMANS LANE, SUITE 400  
 LOUISVILLE, KY 40205  
 (502) 426-9964  
 FAX: (502) 515-7229

REVISIONS			
DATE	NO.	DESCRIPTION	BY

**UTILITY PLAN**

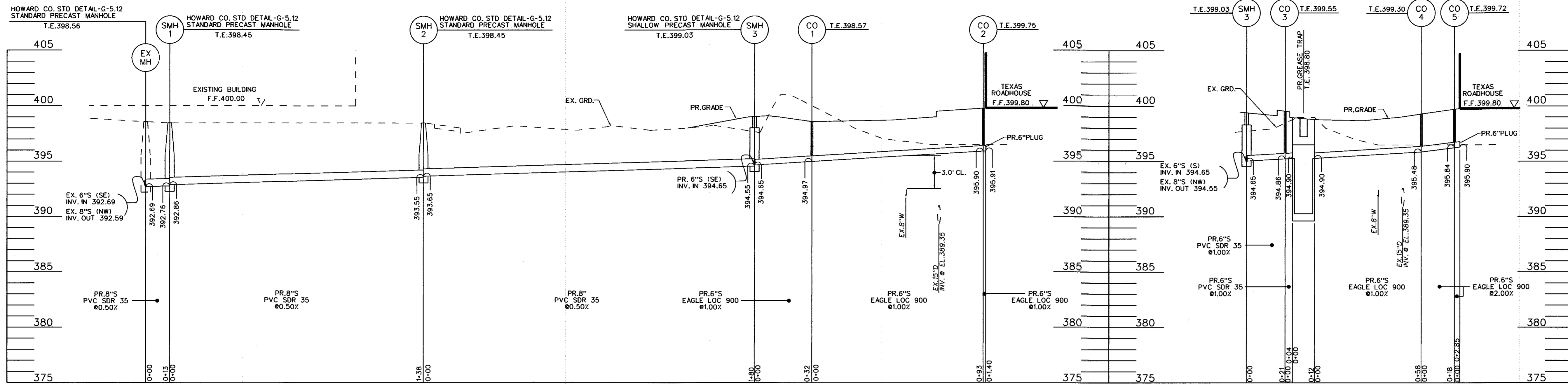
**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT

HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30'  
 NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-1) DATE: DECEMBER, 2016

DRAWING NO.  
**C-7**

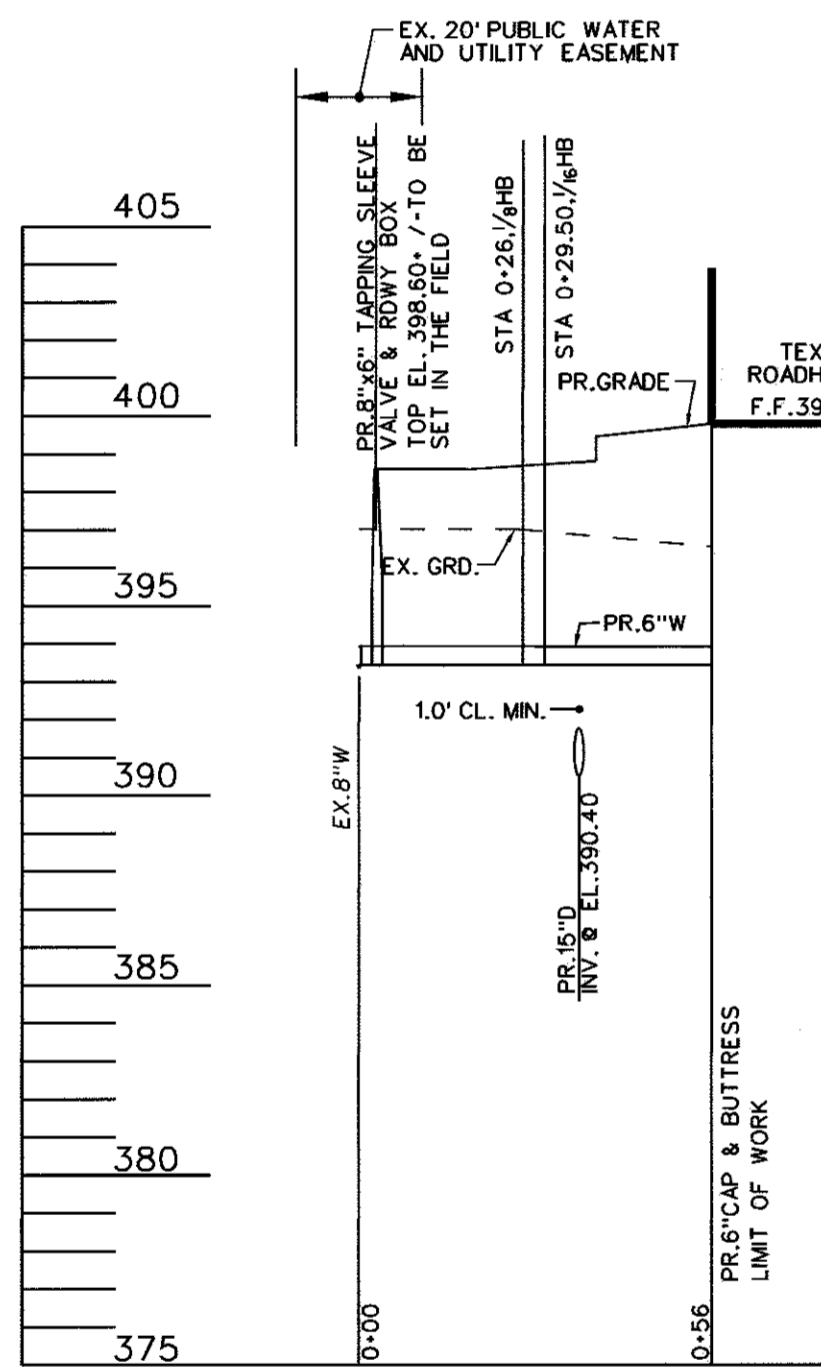
SHEET 7 OF 17  
 SDP-16-061



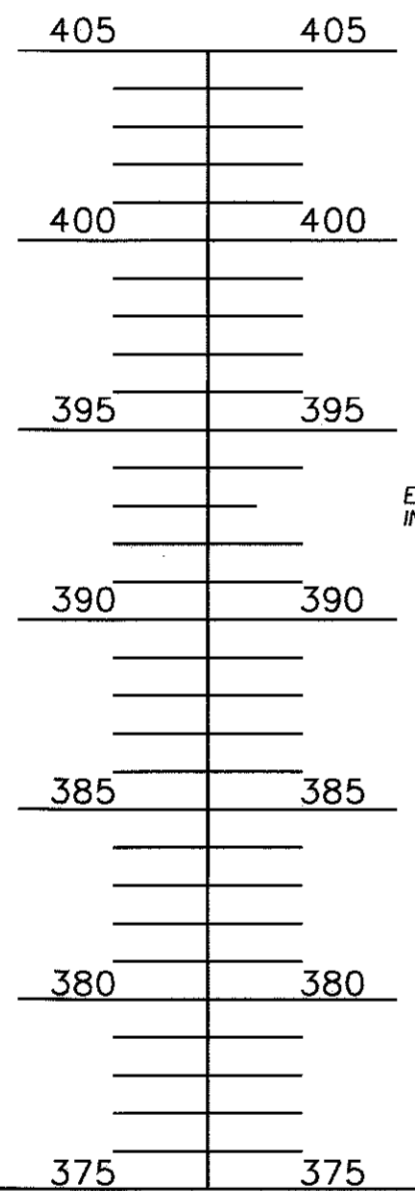


**SANITARY HOUSE CONNECTION PROFILE**  
SCALE: H: 1" = 30'  
V: 1" = 5'

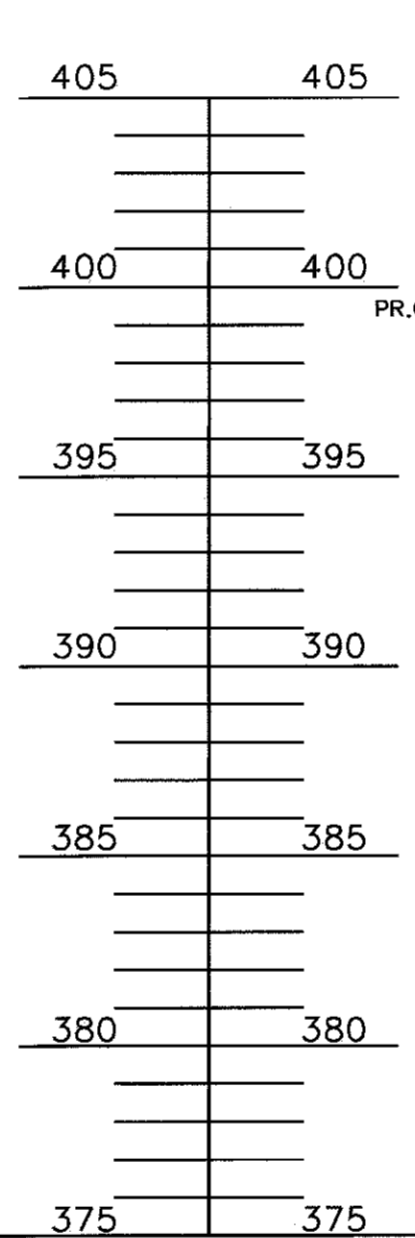
**SANITARY HOUSE CONNECTION PROFILE**  
SCALE: H: 1" = 30'  
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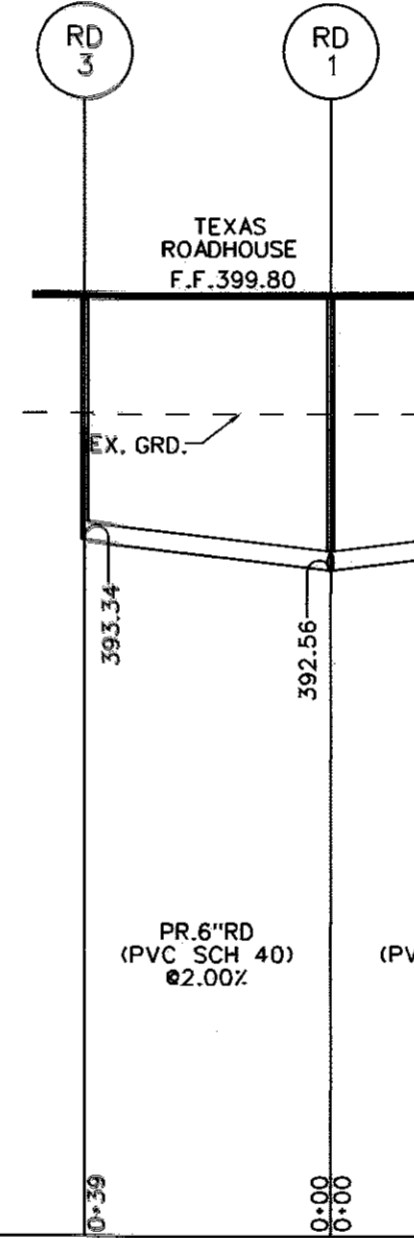
**6" WATER PROFILE**  
SCALE: H: 1" = 30'  
V: 1" = 5'



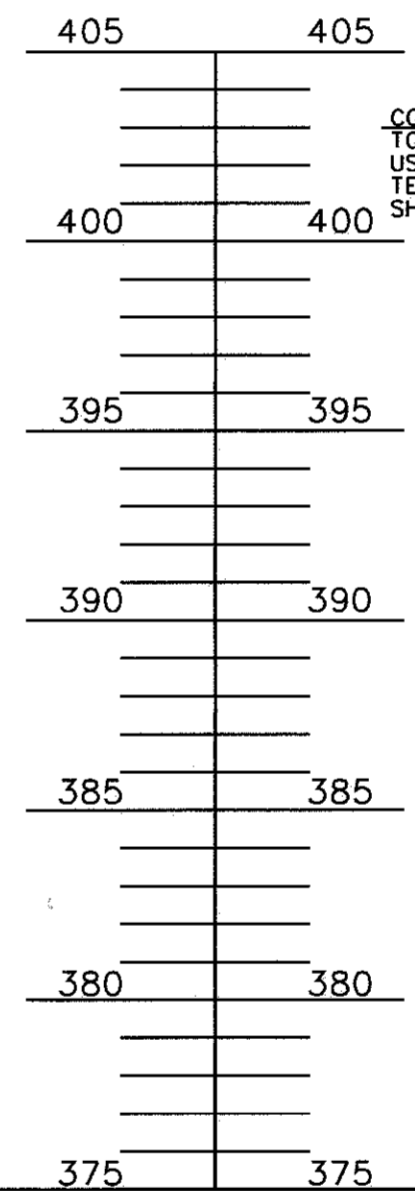
**STORM DRAIN PROFILE**  
SCALE: H: 1" = 30'  
V: 1" = 5'



**ROOF DRAIN PROFILE**  
SCALE: H: 1" = 30'  
V: 1" = 5'



**ROOF DRAIN PROFILE**  
SCALE: H: 1" = 30'  
V: 1" = 5'



**FILTRERRA (FIL #1) PROFILE**  
SCALE: H: 1" = 30'  
V: 1" = 5'

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
Chief, Development Engineering Division	Date 12-12-16
Chief, Division of Land Development	Date 12-15-16
Director	Date 12-17-16

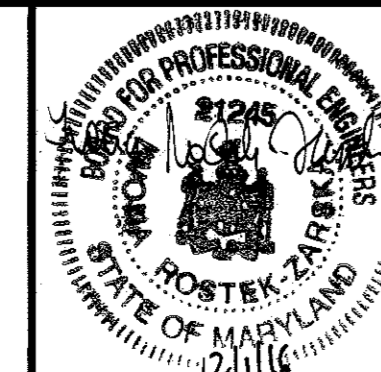
ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART		
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42
PLAT NO. or L/F	GRID NO.	ZONING
23899	24	NT
TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
36	6	605707

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UTILITY PROFILES  
**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-11) DATE: DECEMBER, 2016

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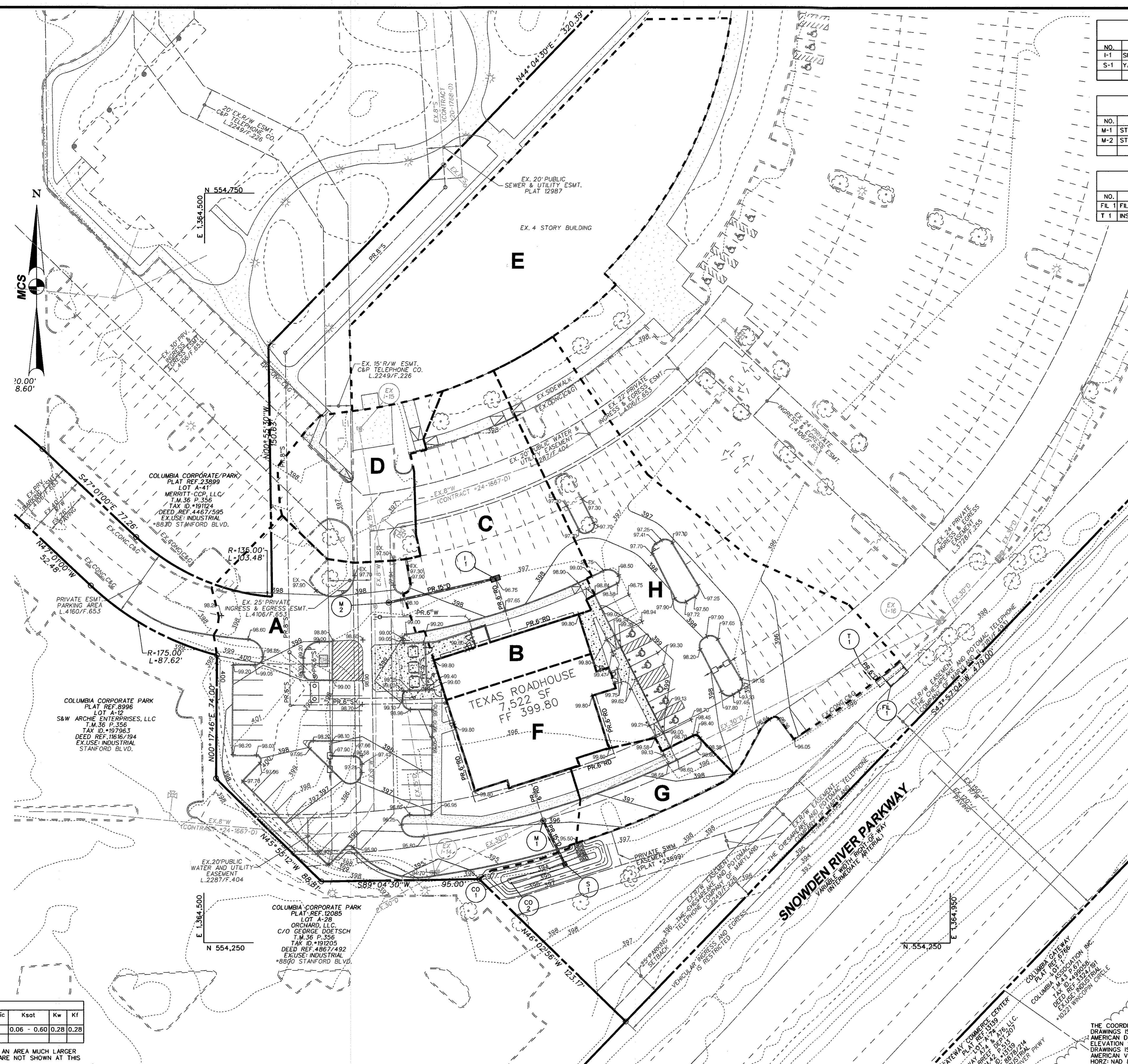
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DRAWING NO.  
**C-8**  
SHEET 8 OF 17  
SDP-16-061





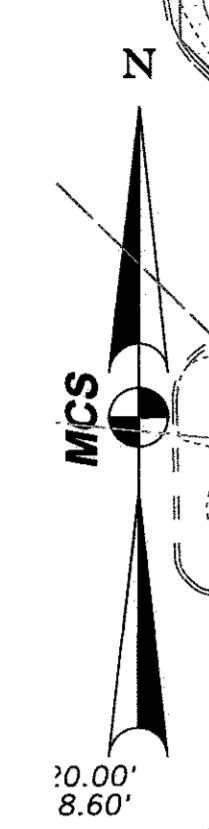
INLET SCHEDULE					
NO.	TYPE	INV. IN	INV. OUT	GRATE ELEV.	REMARKS
I-1	SINGLE WR INLET	391.90	390.63	396.75	HOWARD CO. STD. DETAIL PLATE D-4.37
S-1	YARD INLET (SEE SHEET C-14)	-----	390.98	395.00	HOWARD CO. STD. DETAIL PLATE D-4.14

MANHOLE SCHEDULE					
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS
M-1	STANDARD 4'-0" PRECAST	390.40	386.92	396.05	HOWARD CO. STD. DETAIL PLATE G-5.13
M-2	STANDARD 4'-0" PRECAST	390.30	390.10	398.15	HOWARD CO. STD. DETAIL PLATE G-5.14

STRUCTURE SCHEDULE					
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS
FL 1	FILTERRA	-----	391.97	395.47	FILTERRA - 13' x 7' (SEE SHEET C-15)
T 1	INSERTA TEE	389.91	-----	-----	SEE DETAIL SHEET C-15

PIPE SCHEDULE			
SIZE	TYPE	ESTIMATED QUANTITY	
15"	RCCP CL. IV	95 LF	
6"	PVC SCH 40	313 LF	
6"	SDR-35	37 LF	

DRAINAGE AREA			
NO.	ACRES (A-1)	COEFF. "C"	IMP. (I)
A	0.66	0.76	85
B	0.05	0.95	100
C	0.29	0.81	69
D	0.16	0.71	68
E	0.53	0.95	100
F	0.12	0.95	100
G	0.08	0.73	71
H	0.57	0.82	86



SOIL CLASSIFICATION					
Symbol	Description	Hydrologic Group	Ksat	Kw	Kf
UID	Urban land - Udorthents complex	D	0.06 - 0.60	0.28	0.28

NOTE: THE URBAN LAND SOIL TYPE ENCOMPASSES AN AREA MUCH LARGER THAN THE SUBJECT SITE. THEREFORE, SOIL LINES ARE NOT SHOWN AT THIS SCALE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: *[Signature]* 12-12-16  
 Chief, Division of Land Development: *[Signature]* 12-15-16  
 Director: *[Signature]* 12-17-16

ADDRESS CHART	
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PERMIT INFORMATION CHART				
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COLUMBIA CORPORATE PARK	1 / 1	356 / A-42	23899	24

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 230 SCHILLING CIRCLE, SUITE 364 • HUNT VALLEY, MARYLAND 21031  
 PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, INOCHA ROSKIE ZARSKA AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

**OWNER**  
 MERRITT-CCP, LLC  
 2066 LORD BALTIMORE DRIVE  
 BALTIMORE, MD 21244  
 (410) 298-2600  
 FAX: (410) 298-9644

**DEVELOPER / APPLICANT**  
 TEXAS ROADHOUSE HOLDINGS LLC  
 6040 DUTCHMANS LANE, SUITE 400  
 LOUISVILLE, KY 40205  
 (502) 426-9984  
 FAX: (502) 515-7229

REVISIONS		
DATE	NO.	DESCRIPTION

**STORM DRAIN DRAINAGE AREA MAP**  
**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT  
 HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30' (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-1) DATE: DECEMBER, 2016

DRAWING NO.  
**C-9**  
 SHEET 9 OF 17  
 SDP-16-061



**CONSTRUCTION NOTES**

- UNLESS OTHERWISE NOTED, ALL CONSTRUCTION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH:
  - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, MAY 18 2007, REVISED, JULY 29, 2011.
  - USDA NATURAL RESOURCES CONSERVATION SERVICE MARYLAND, CONSERVATION PRACTICE STANDARD, CODE 378, JANUARY 2000, IF APPLICABLE.
  - MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION, JULY 2008, STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIAL.
- THIS CONSTRUCTION MAY REQUIRE A PERMIT FROM THE ARMY CORPS OF ENGINEERS, THE WATER MANAGEMENT ADMINISTRATION, AND/OR HOWARD COUNTY. IT IS THE RESPONSIBILITY OF THE LANDOWNER TO CONTACT THESE THREE AGENCIES TO DETERMINE IF THE PROJECT REQUIRES A PERMIT.
  - U.S. ARMY CORPS OF ENGINEERS - (410) 962-3670
  - WATER MANAGEMENT ADMINISTRATION (410) 831-3538
  - HOWARD COUNTY PLANNING AND ZONING DEVELOPMENT ENGINEERING DIVISION - (410) 313-2350
  - HOWARD COUNTY INSPECTION LICENSES AND PERMITS - (410) 313-2455

**SEDIMENT AND EROSION CONTROL STANDARD NOTES:**

**UTILITY NOTES**

- CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE) OF THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

**INLET PROTECTION NOTES**

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

- ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
  - INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.
- ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PAGE E.23 (OR AS MAY BE AMENDED). THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

\* STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL.

**SEDIMENT CONTROL TRAFFIC NOTE**

ANY TRAVEL LINE CLOSED BEFORE 9:00 A.M. OR AFTER 3:30 P.M. MUST BE APPROVED BY HOWARD COUNTY, DPW OR THE STATE HIGHWAY ADMINISTRATION.

**MAINTENANCE NOTE**

- CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

**DAILY STABILIZATION NOTE**

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

- FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
- FOR AREAS TO BE VEGETATIVELY STABILIZED:
  - PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS, OR SWALES.
  - PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.
- ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

**STANDARD STABILIZATION NOTE**

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

**TEMPORARY STOCKPILE NOTE**

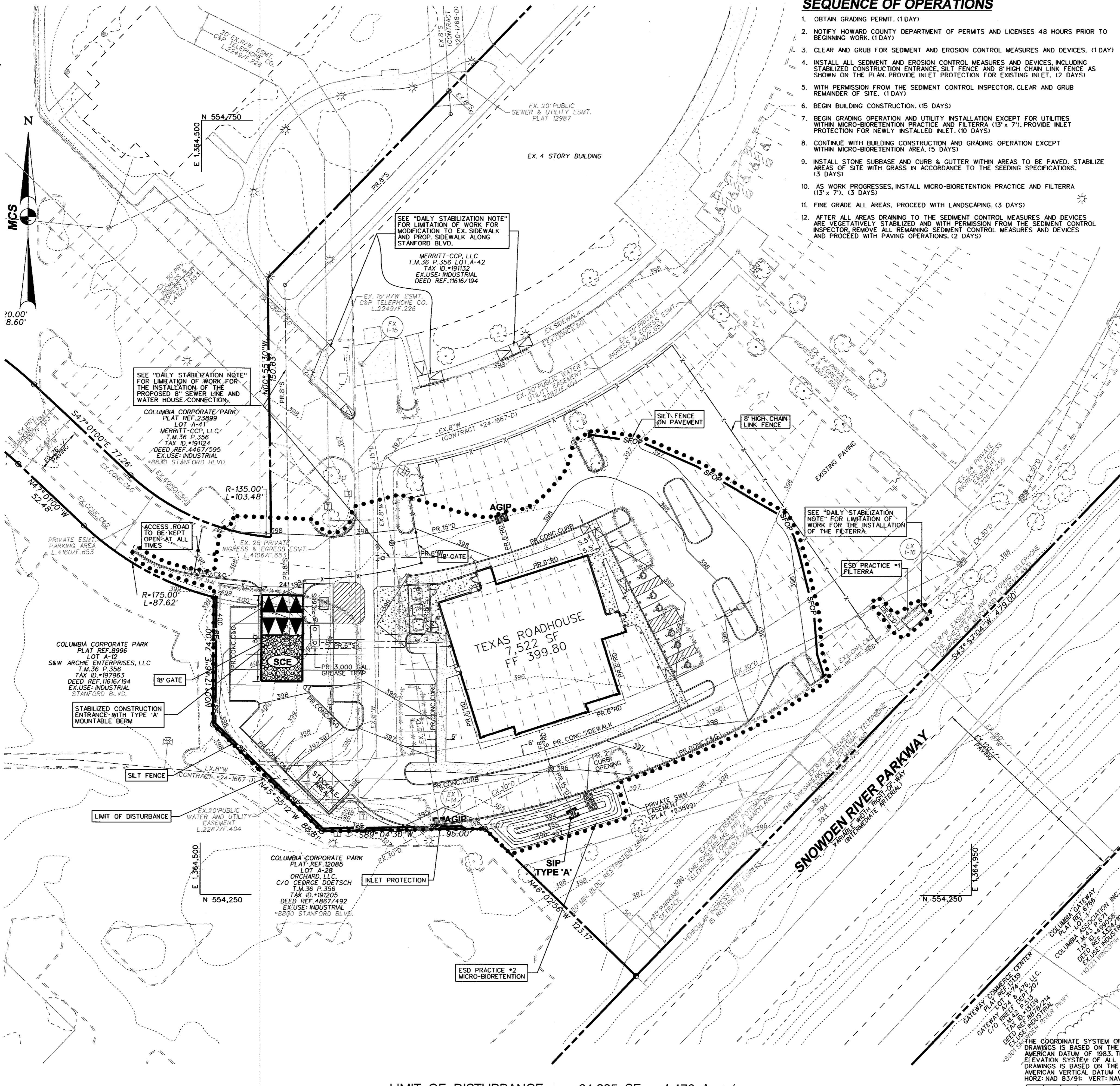
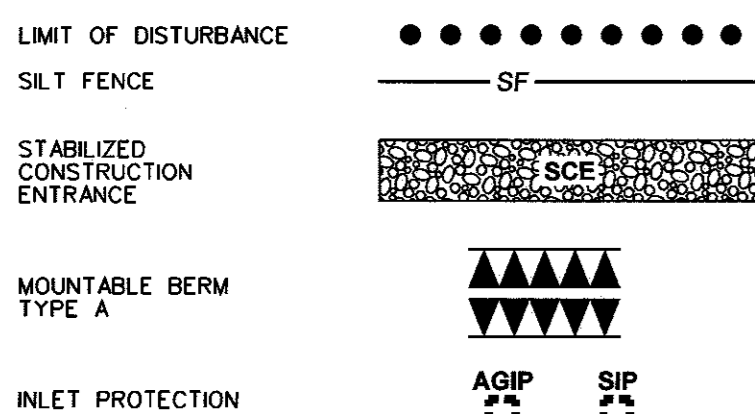
- TEMPORARY STOCKPILES SHALL BE:
- LOCATED WITHIN THE LIMIT OF DISTURBANCE (LOD).
  - DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.
  - POSITIONED TO NOT IMPERE UPON, OR IMPAIR THE FUNCTION OF SAID DEVICE.
  - POSITIONED TO NOT ALTER DRAINAGE DIVIDES.

SOIL MAP #18

SOIL CLASSIFICATION		Hydrologic Group	Ksat	Kw	Kf
Symbol	Description				
UDT	Urban land - Urban/intermittent complex	D	0.06 - 0.60	0.28	0.28

NOTE: THE URBAN LAND SOIL TYPE ENCOMPASSES AN AREA MUCH LARGER THAN THE SUBJECT SITE. THEREFORE, SOIL LINES ARE NOT SHOWN AT THIS SCALE.

**SEDIMENT CONTROL LEGEND**



**SEQUENCE OF OPERATIONS**

- OBTAIN GRADING PERMIT. (1 DAY)
- NOTIFY HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES 48 HOURS PRIOR TO BEGINNING WORK. (1 DAY)
- CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES. (1 DAY)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND 8' HIGH CHAIN LINK FENCE AS SHOWN ON THE PLAN. PROVIDE INLET PROTECTION FOR EXISTING INLET. (2 DAYS)
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF SITE. (1 DAY)
- BEGIN BUILDING CONSTRUCTION. (15 DAYS)
- BEGIN GRADING OPERATION AND UTILITY INSTALLATION EXCEPT FOR UTILITIES WITHIN MICRO-BIOTENTION PRACTICE AND FILTERRA (13' x 7'). PROVIDE INLET PROTECTION FOR NEWLY INSTALLED INLET. (10 DAYS)
- CONTINUE WITH BUILDING CONSTRUCTION AND GRADING OPERATION EXCEPT WITHIN MICRO-BIOTENTION AREA. (5 DAYS)
- INSTALL STONE SUBBASE AND CURB & GUTTER WITHIN AREAS TO BE PAVED. STABILIZE AREAS OF SITE WITH GRASS IN ACCORDANCE TO THE SEEDING SPECIFICATIONS. (3 DAYS)
- AS WORK PROGRESSES, INSTALL MICRO-BIOTENTION PRACTICE AND FILTERRA (13' x 7'). (3 DAYS)
- FINE GRADE ALL AREAS. PROCEED WITH LANDSCAPING. (3 DAYS)
- AFTER ALL AREAS DRAWING TO THE SEDIMENT CONTROL MEASURES AND DEVICES ARE VEGETATIVELY STABILIZED AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES AND DEVICES AND PROCEED WITH PAVING OPERATIONS. (2 DAYS)

**SEDIMENT CONTROL GENERAL NOTES**

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855, COVER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
  - PRIOR TO THE START OF EARTH DISTURBANCE.
  - UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
  - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER grading unit.
- PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS HERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-3), TEMPORARY SEEDING (SEC. B-4-4), AND MULCHING (SEC. B-4-5). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15% OF CUT AND/OR FILL STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPES AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- PERMANENT AND TEMPORARY STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED BY THE CID.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	6.784 ACRES +/-
AREA TO BE VEGETATIVELY STABILIZED	1.476 ACRES +/-
AREA TO BE ROOFED OR PAVED	1.822 ACRES +/-
TOTAL CUT	2,000 CUBIC YARDS +/-
TOTAL FILL	2,000 CUBIC YARDS +/-
OFF-SITE WASTE/BORROW AREA LOCATION	N/A
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES OR REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT, A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
  - INSPECTION DATE
  - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
  - NAME AND TITLE OF INSPECTOR
  - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
  - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G. PERCENT COMPLETE) AND/OR CURRENT FINISHES
  - EVIDENCE OF SEDIMENT DISCHARGES
  - IDENTIFICATION OF PLAN DEFICIENCIES
  - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
  - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
  - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
  - PHOTOGRAPHS
  - MONITORING/SAMPLING
  - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
  - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (MPR, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE MINORLY AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2" IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (UNLESS OTHERWISE APPROVED BY THE CID):
  - USE I AND II: MARCH 1 - JUNE 15
  - USE III AND III: OCTOBER 1 - APRIL 30
  - USE IV: MARCH 1 - MAY 31
- A COPY OF THIS PLAN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHILE THE SITE IS ACTIVE.
- EARTH QUANTITY VOLUMES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR IS ADVISED TO PERFORM HIS OWN ANALYSIS PRIOR TO PLACING A BID ON THIS ITEM.

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John L. Blanton* 12/16/16  
 Howard Soil Conservation District

**DEVELOPER'S CERTIFICATE**

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 Sediment and Erosion 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.

*Daniel F. Palocco* 12/1/16  
 Daniel F. Palocco Date

**ENGINEER'S CERTIFICATE**

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.

*Iwona Rostek-Zarska* 12/1/16  
 Iwona Rostek-Zarska Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*John E. Shuler* 12-12-16  
 Chief, Development Engineering Division Date

*W. J. Shuler* 12-15-16  
 Chief, Division of Land Development Date

*W. J. Shuler* 12-17-16  
 Director Date

ADDRESS CHART

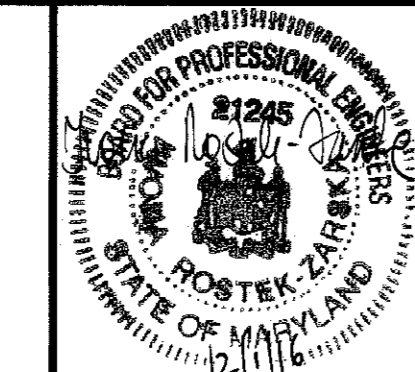
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.			
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42			
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
23899	24	NT	36	6	606707

LIMIT OF DISTURBANCE = 64,285 SF or 1.476 Ac +/-

**BLDG**  
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 Consulting Engineers  
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HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, IWONA ROSTEK-ZARSKA, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

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DATE	NO.	DESCRIPTION	BY

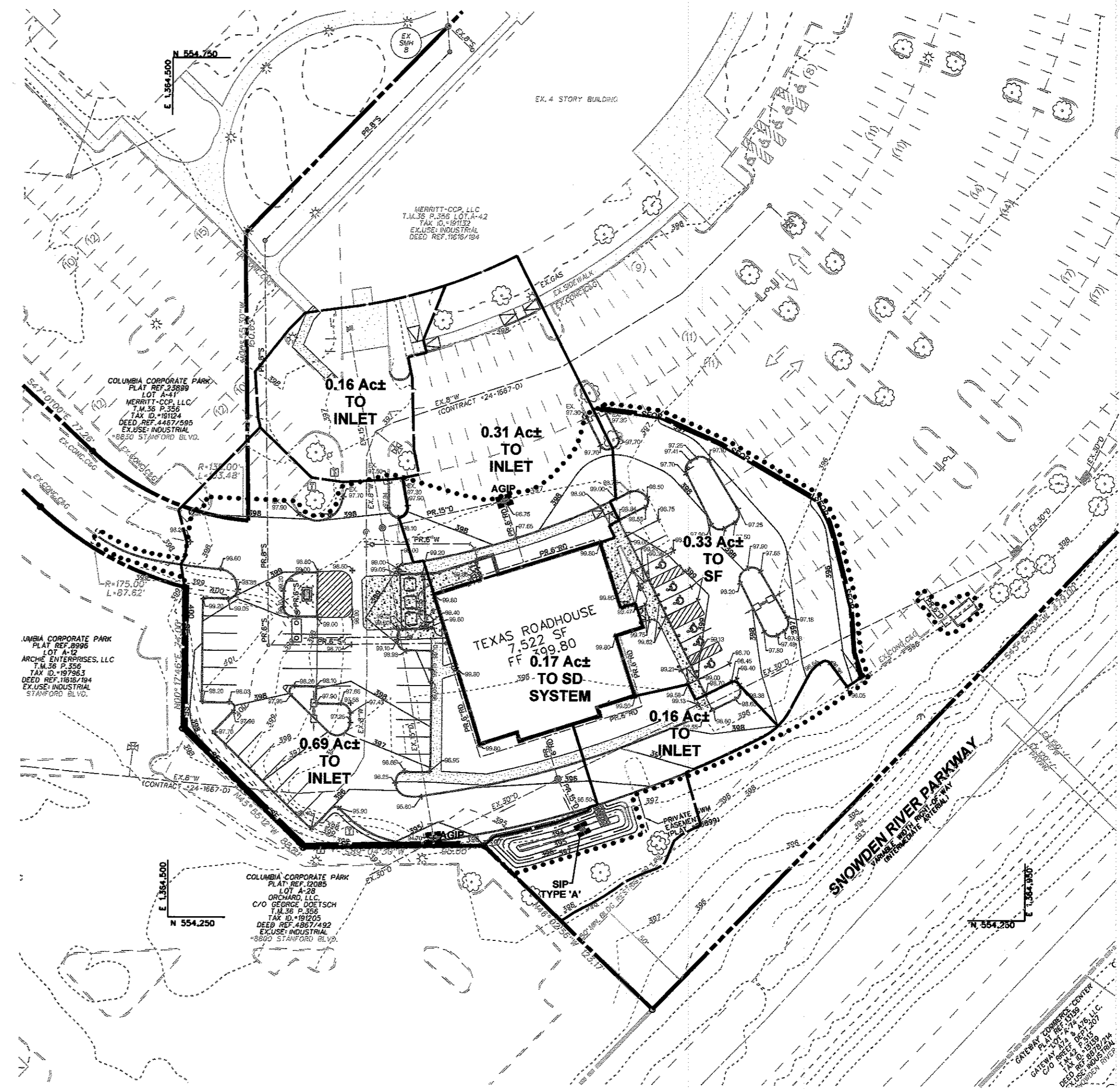
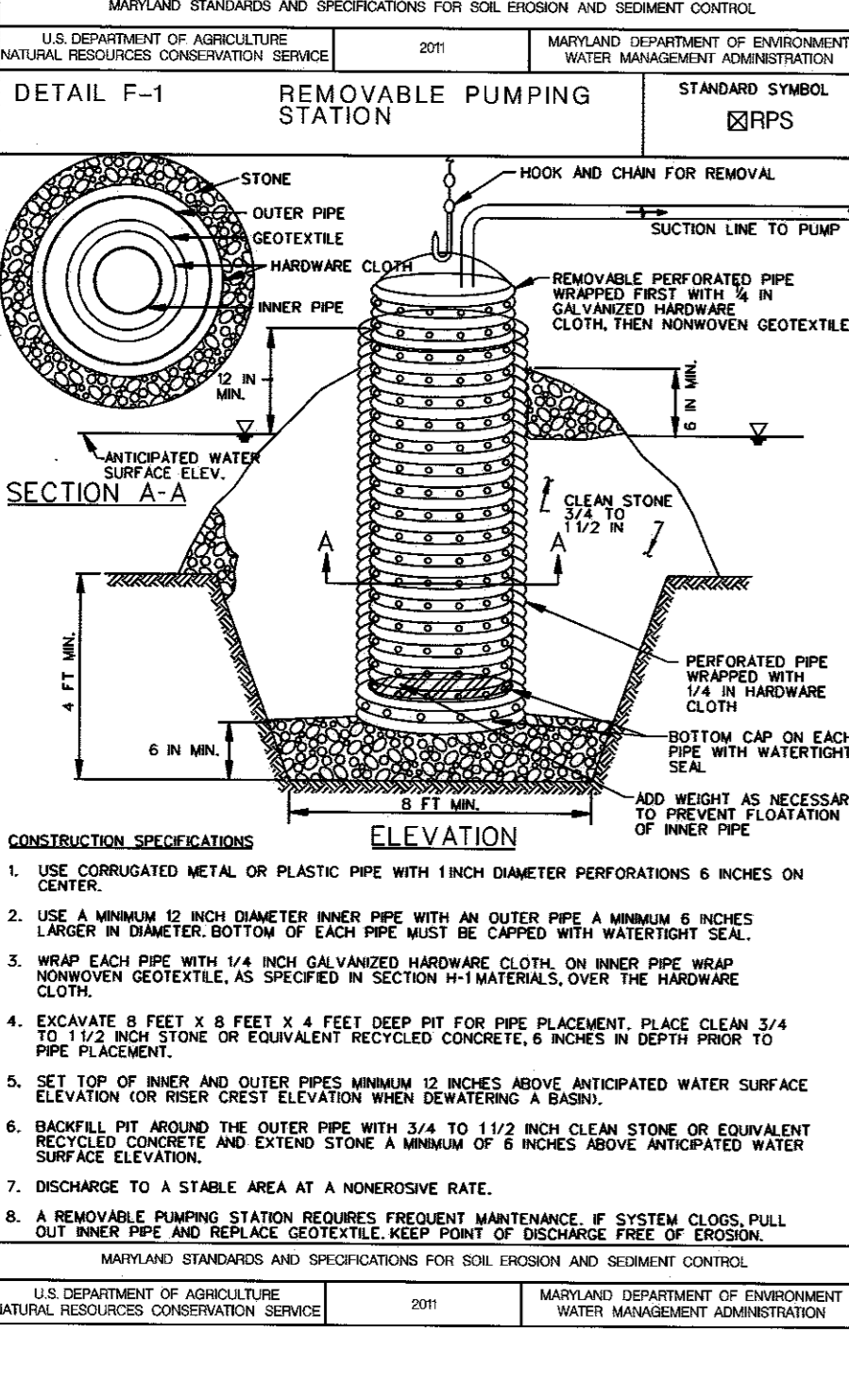
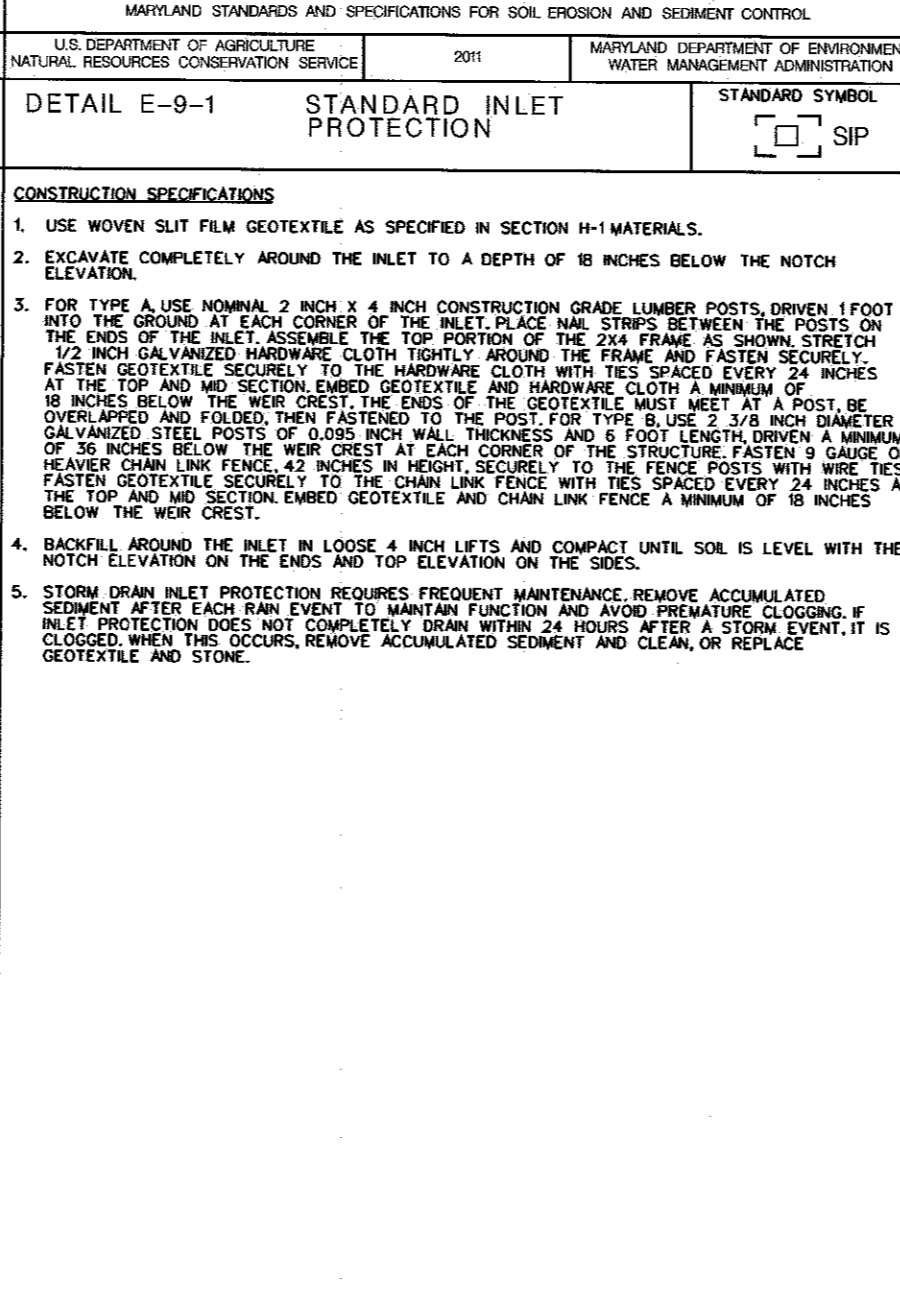
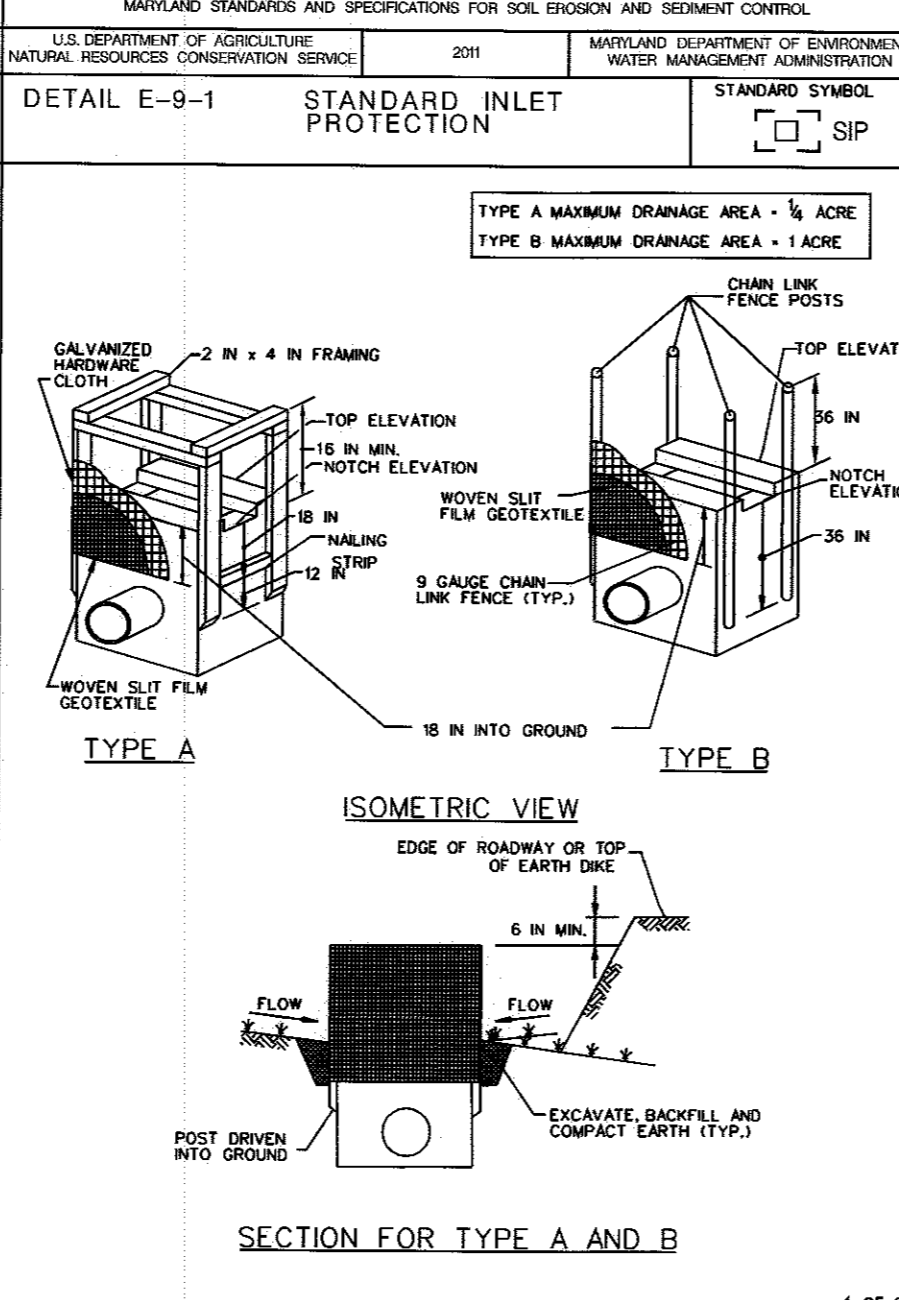
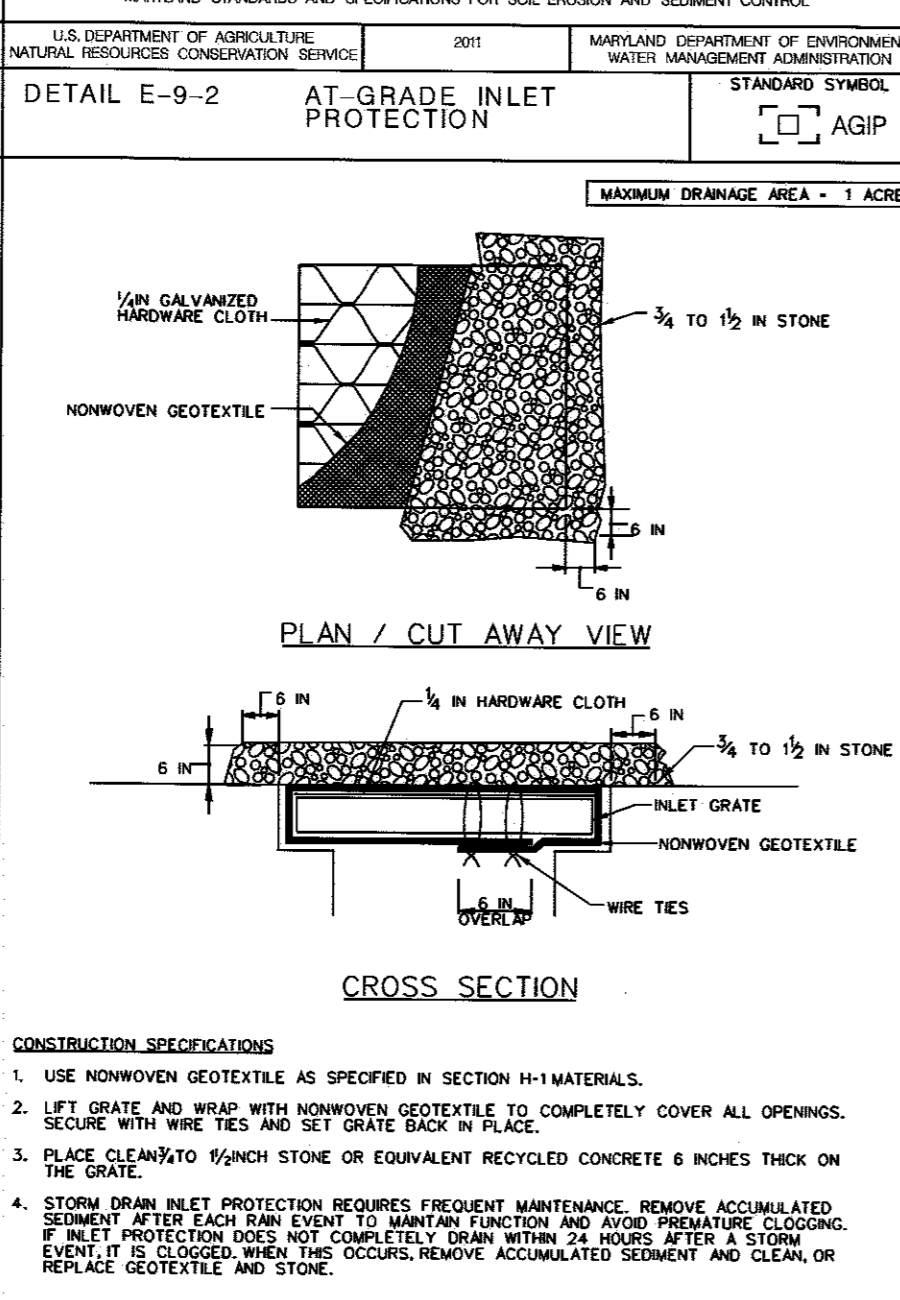
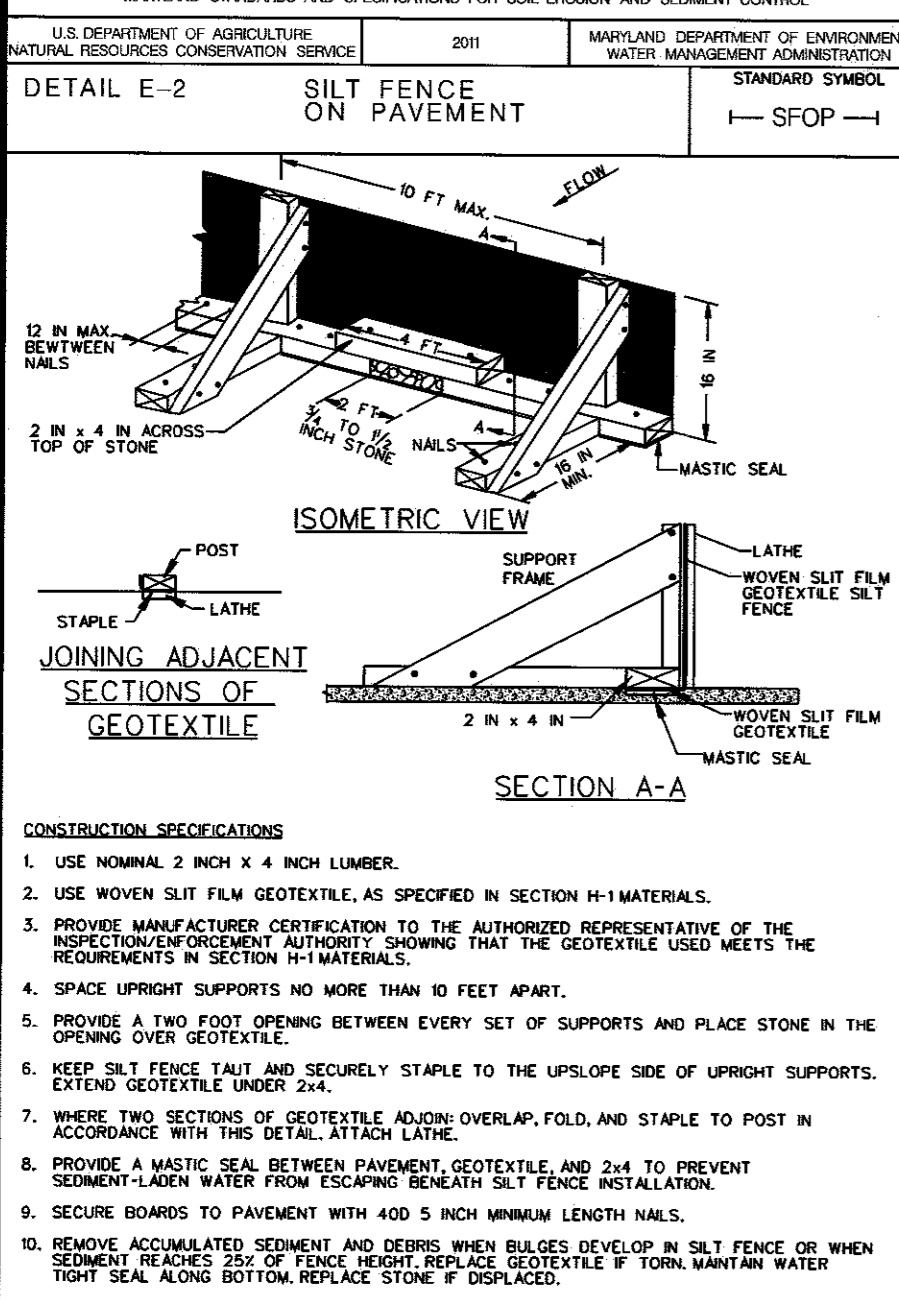
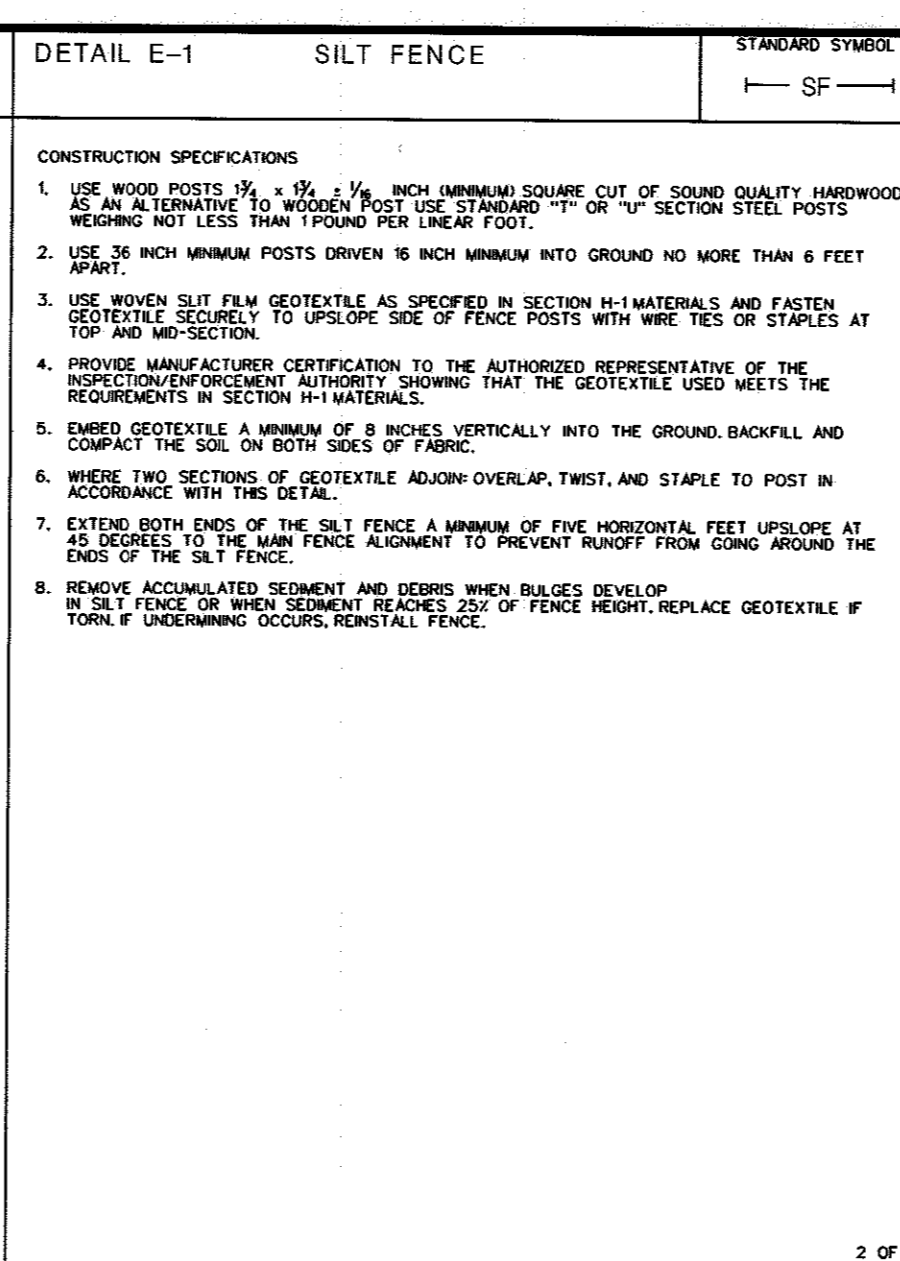
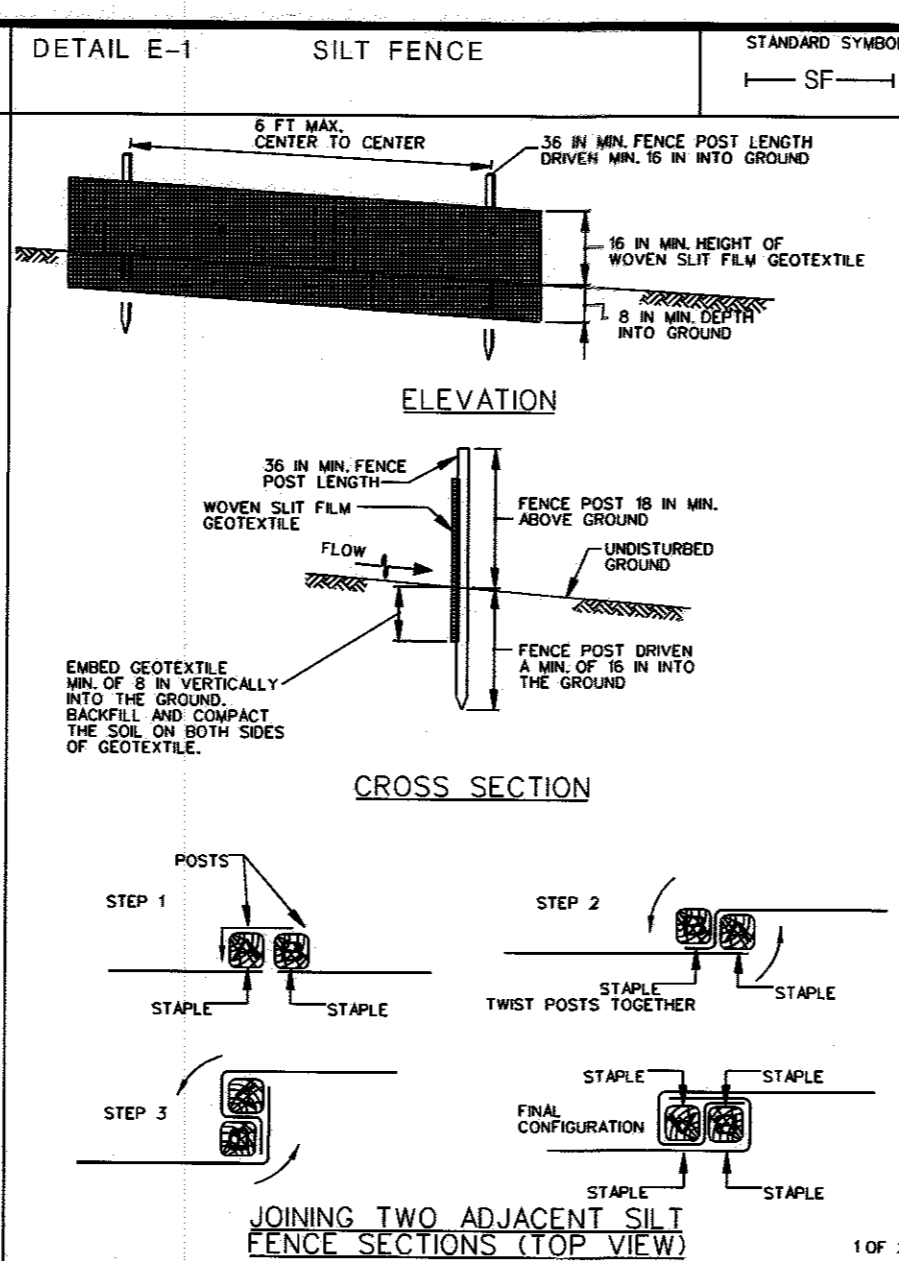
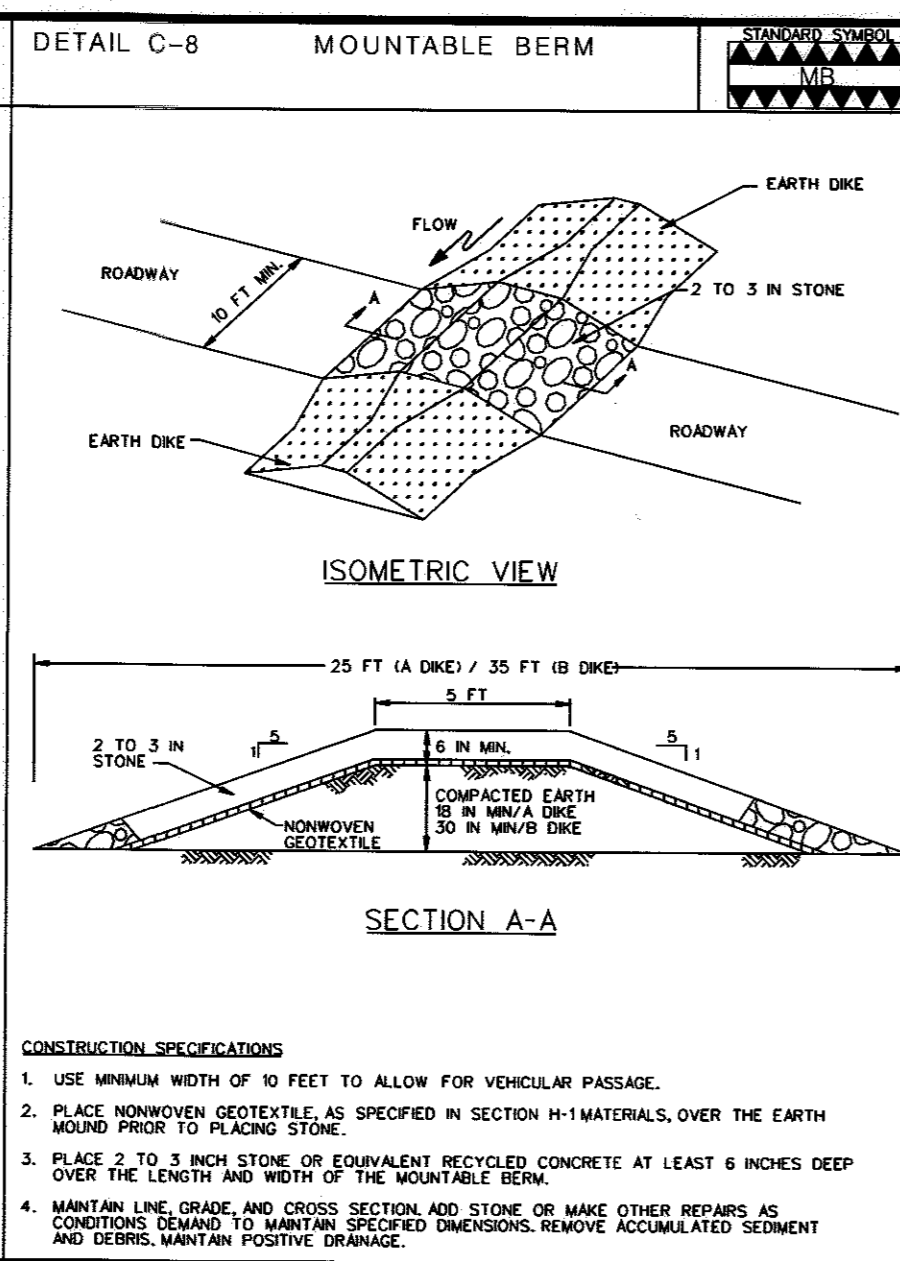
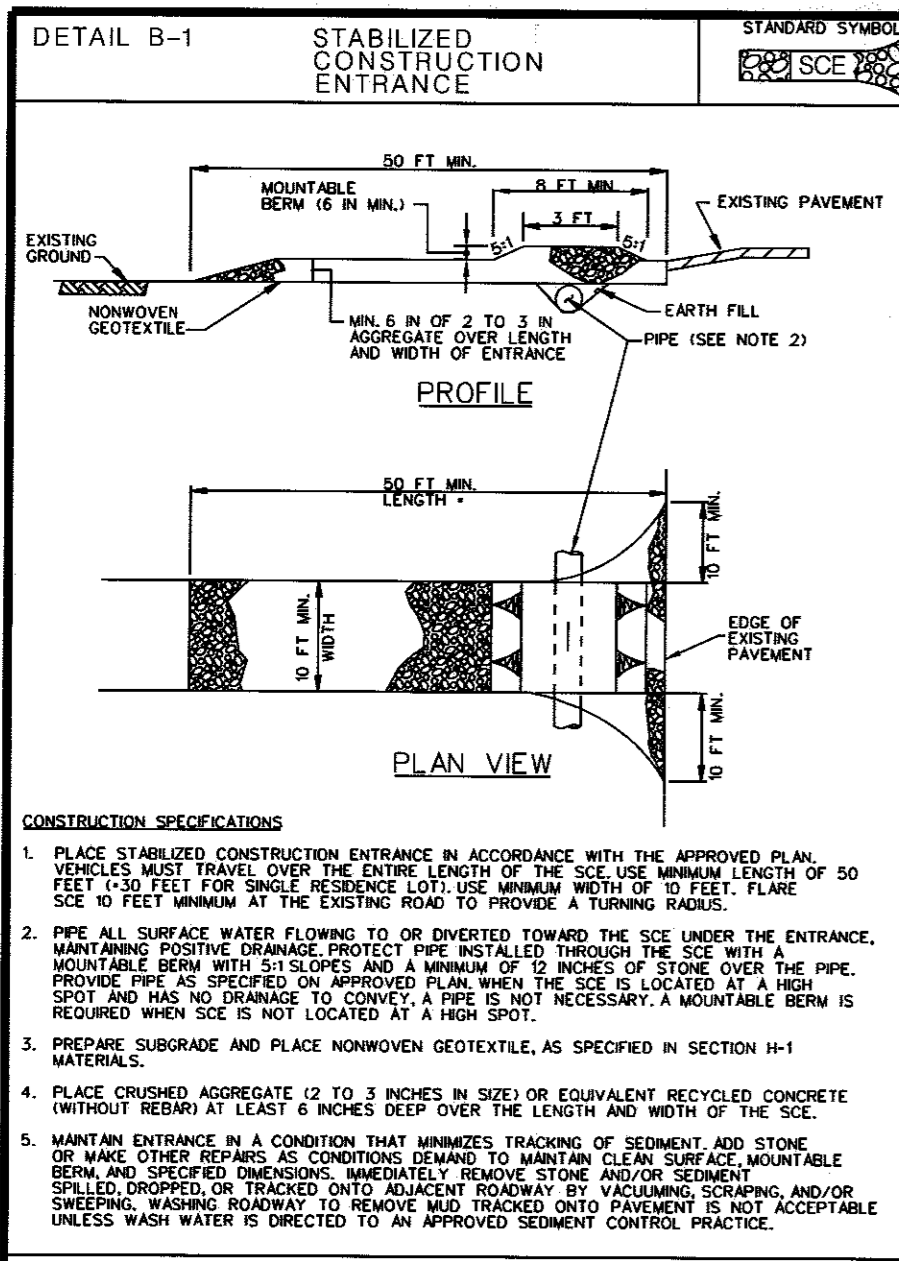
**EROSION AND SEDIMENT CONTROL PLAN**

**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT

HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30'  
 (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-17-A-D) DATE: DECEMBER, 2016

DRAWING NO.  
**C-10**  
 SHEET 10 OF 17  
 SDP-16-061





PROPOSED DRAINAGE AREA MAP  
SCALE: 1" = 50'

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
*Jubal Roberts* 12/16/16  
Howard Soil Conservation District, District Director

DEVELOPER'S CERTIFICATE  
"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."  
*D.P.E.R.* 12/11/16  
Daniel F. Pollock, District Director

ENGINEER'S CERTIFICATE  
"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."  
*Iwona Rostek-Zarska* 12/11/16  
Iwona Rostek-Zarska, District Director

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*John Stahl* 12.12.16  
Chief, Development Engineering Division  
*Vette Schaefer* 12-15-16  
Chief, Division of Land Development  
*Valerie Taylor* 12-17-16  
Director

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.	ELEC. DIST.	CENSUS TRACT	
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42	6	606707	
PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
23899	24	NT	36	6	606707

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REVISIONS			
DATE	NO.	DESCRIPTION	BY

**EROSION AND SEDIMENT CONTROL PLAN**  
STANDARD DETAILS AND PROPOSED DRAINAGE AREA MAP  
**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-B) DATE: DECEMBER, 2016

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**C-11**  
SHEET 11 OF 17  
SDP-16-061



**B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

**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.

**Adequate Vegetative Establishment:**

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

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

**B-4-1 Standards and Specifications for Incremental Stabilization**

**Conditions Where Practice Applies:**

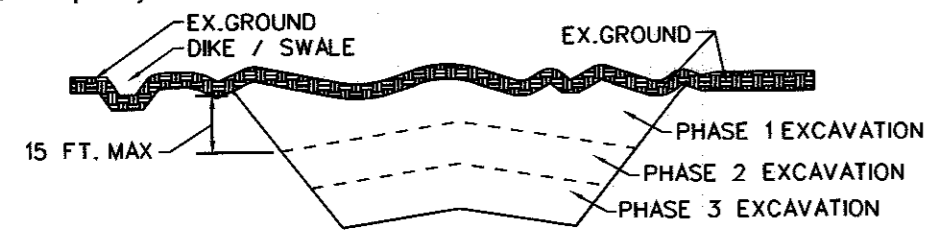
Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

**Criteria:**

**A. Incremental Stabilization - Cut Slopes**

- Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
- Construction sequence example (Refer to Figure B.1 in "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control")
  - Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
  - Perform Phase 1 excavation, prepare seedbed, and stabilize.
  - Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
  - Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

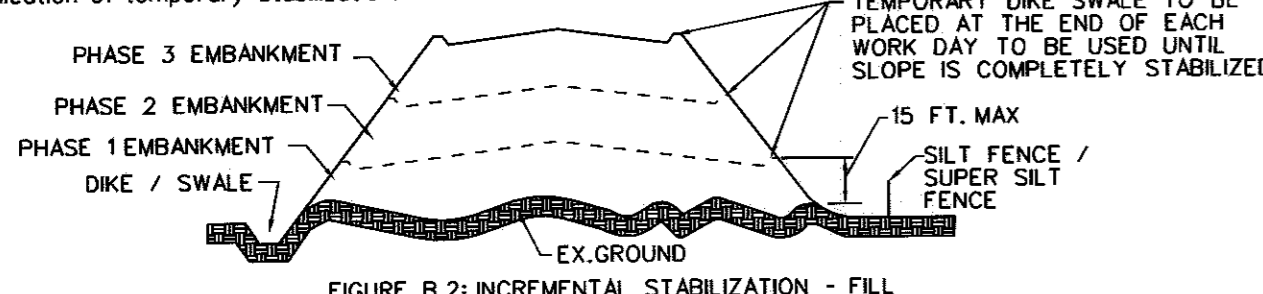
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



**B. Incremental Stabilization - Fill Slopes**

- 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.
- Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
- At the end of each day, install temporary water conveyance practices, as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- Construction sequence example (Refer to Figure B.2 in "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control")
  - 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.
  - At the end of each day, install temporary water conveyance practices, as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
  - Place Phase 1 fill, prepare seedbed, and stabilize.
  - Place Phase 2 fill, prepare seedbed, and stabilize.
  - 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.



**B-4-2 Standards and Specifications for Soil Preparation, Topsoiling and Soil Amendments**

**Conditions Where Practice Applies:**

Where vegetative stabilization is to be established

**Criteria:**

**A. Soil Preparation**

**1. Temporary Stabilization**

- Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of surface agricultural or construction equipment, such as disc harrows or chiselplows or rippers mounted on construction equipment. After the soils are loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

- Apply fertilizer and lime as prescribed on the plans.

- Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

**2. Permanent Stabilization**

- A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
  - Soil pH between 6.0 and 7.0.
  - Soluble salts less than 800 parts per million (ppm).
  - 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 loesslike soils will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
  - Soil contains 1.5 percent minimum organic matter by weight.
  - Soil contains sufficient pore space to permit adequate root penetration.

- Application of amendments or topsoils required if on-site soils do not meet the above conditions.

- 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.

- Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

- 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 reseed 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 parallel to the contour of the slope. Leave the top 1 to 5 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

**B. Topsoiling**

- Topsoil 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.

- 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 the representative soil profile section in the Soil Survey published by USDA-NRCS.

- Topsoiling is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent materials not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soils so acidic that treatment with limestone is not feasible.

- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
  - 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 1/2 inches in diameter.
  - 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.
  - 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.
- Topsoil Application
  - Erosion and sediment control practices must be maintained when applying topsoil.
  - Uniformly distribute topsoil 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.
  - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoils excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

**C. Soil Amendments (Fertilizer and Lime Specifications)**

- 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.
- Fertilizers must be uniform in composition, free flowing and suitable for accurate application by the appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must only 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.
- Lime materials must be ground limestone (hydrated or burnt lime) may be substituted except when hydrosedding 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 sieve and 98 to 100 percent will pass through a #20 mesh sieve.
- 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.
- Where the subsoils are highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1000 square feet) prior to the placement of topsoil.

**B-4-3 Standards and Specifications for Seeding and Mulching**

**Conditions Where Practice Applies:**

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

**Criteria:**

**A. Seeding**

- General Use
  - All seed must meet the requirements 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.
  - 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.
  - Incubants: The incubant 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 noted on the package. Use four times the recommended rate when hydrosedding. Note: It is very important to keep inoculants as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
  - Sod or 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 phytotoxic materials.

**2. Application**

- Dry Seeding: This includes use of conventional drop or broadcast spreaders.
  - 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.
  - 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.
- Drill or Outdragger Seeding: Mechanized seeders that apply and cover seed with soil.
  - Outdragger seeders are required to bury the seed in such a fashion so as to provide at least 1/2 inch of soil covering. Seedbed must be firm after planting.
  - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
- Hydrosedding: Apply seed uniformly with hydroseder (slurry includes seed and fertilizer).
  - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre, total of soluble nitrogen P205 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
  - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydrosedding). Normally, not more than 2 tons are applied by hydrosedding at any one time. Do not use burnt or hydrated lime when hydrosedding.
  - Mix seed and fertilizer on site and seed immediately and without interruption.
  - When hydrosedding do not incorporate seed into the soil.

**B. Mulching**

- Mulch Materials (in order of preference)
  - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively discolored. Note: Use only sterile straw mulch in areas where one species of grass is desired.
  - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - 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.
    - WCFM, including dyes, must contain no germination or growth inhibiting factors.
    - 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 homogeneous slurry. The mulch material must form a blitter-like ground cover 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.
    - WCFM material must not contain elements or compounds of concentration levels that will be phytotoxic.
    - 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**

- Apply mulch to all seeded areas immediately after seeding.
  - 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.
  - Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Anchoring
    - 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.
    - 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.

- Synthetic binders such as Acrylic DLR (Agra-Tack), DCA-70, Petrosel, Terra Tex 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.
- 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**

**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:**

- 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 this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

**TEMPORARY SEEDING SUMMARY**

No.	Species	Application Rate (lb/acc)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate (20-20-20)
	FOXTAL MILLET	30	5/1-8/14	1/2"	4.36 lb/acc (10 lb/1000 sq ft)	2 tons/acc (90 lb/1000 sq ft)
	ANNJAJ RYEGRASS	40	2/15-4/30 8/15-11/30	1/2"		
	CEREAL RYE	112	2/15-4/30 8/15-12/15	1"		

**B-4-5 Standards and Specification for Permanent Stabilization**

**Conditions Where Practice Applies:**

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

**Criteria:**

**A. Seed Mixtures**

- General Use
  - 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.
  - 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.
  - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
  - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 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.
- Turfgrass Mixtures
  - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - Select one or more of the species or mixtures listed below based on the site conditions or purposes. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
    - 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 the total mixture by weight.
    - 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 Rye/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.
    - 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.
    - 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 and 60 to 70 percent. Seeding Rate: 1/2 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 materials 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

**C. Ideal Times of Seeding for Turf Grass Mixtures**

- Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
- Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 6b)
- Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

- Fill 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 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

- If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 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**

No.	Species	Application Rate (lb/acc)	Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Lime Rate
	CREeping RED FESCUE	30	2/15-4/30	1/2"	45 lb/acc (10 lb/1000 sq ft)	90 lb/acc (20 lb/1000 sq ft)	90 lb/acc (20 lb/1000 sq ft)	2 tons/acc (90 lb/1000 sq ft)
	PERENNIAL RYEGRASS	20	5/1-8/14	1/2"				
	TALL FESCUE	40	2/15-4/30	1/2"				
	WHITE CLOVER	5	8/15-11/30	1/2"				
	PERENNIAL RYEGRASS	35	5/1-8/14	1/2"				
	TALL FESCUE (80%)	270	2/15-4/30	1/2"				
	PERENNIAL RYEGRASS (20%)	30	5/1-8/14	1/2"				

\*For dates 5/1 - 8/14 add either foxtal or pearl millet to the seed mixture as noted above.

Note: For sites having disturbed areas over 5 acres the rates shown above for permanent seeding should be deleted and the rates recommended by the soil testing agency should be used. Soil testing should be performed at the time of fine grading and the results should be furnished to the sediment control inspector.

**B. Sod**

- General Specifications
  - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
  - Sod must be machine cut to a uniform soil thickness of 1/2 inch, plus or minus 1/16 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.
  - 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.
  - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
  - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.

**2. Sod Installation**

- During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- Lay the first row of sod in a straight line with subsequent rows placed 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. The mixture of all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- 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 soil contact exists between sod roots and the underlying soil surface.
- 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 operations of laying, tamping and irrigating for any piece of sod within eight hours.

**3. Sod Maintenance**

- In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain root soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
- After the first week, sod watering is required as necessary to maintain adequate moisture content.
- Do not mow until the sod is firmly rooted. No more than 1/3 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 Area**

**Conditions Where Practice Applies:**

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

**Criteria:**

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- 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.
- Runoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the upgrade side.
- Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- 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.
- 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**

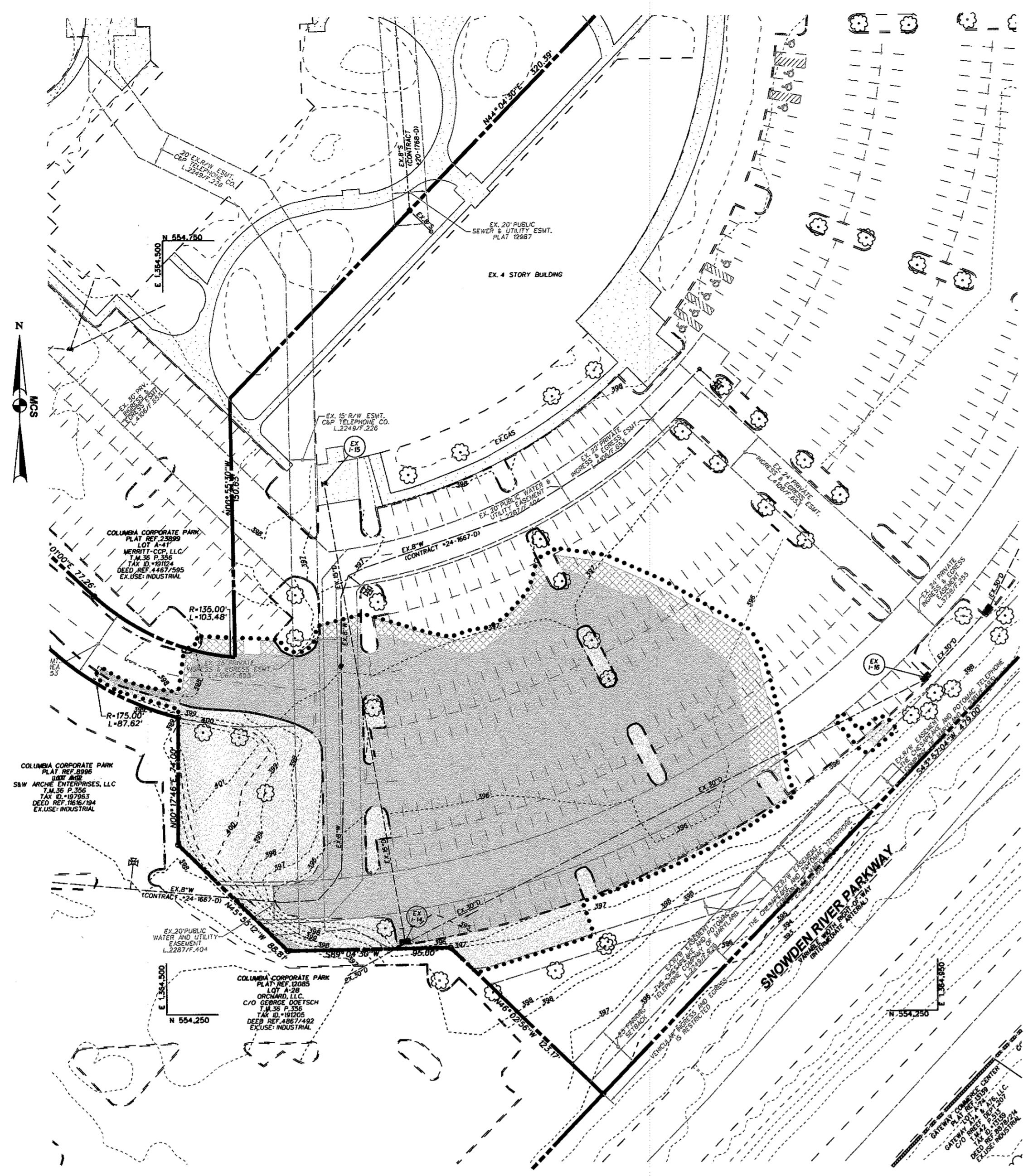
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile 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.

**H-1 Standards and Specifications for Materials**

**TABLE H.1: GEOTEXTILE FABRICS**

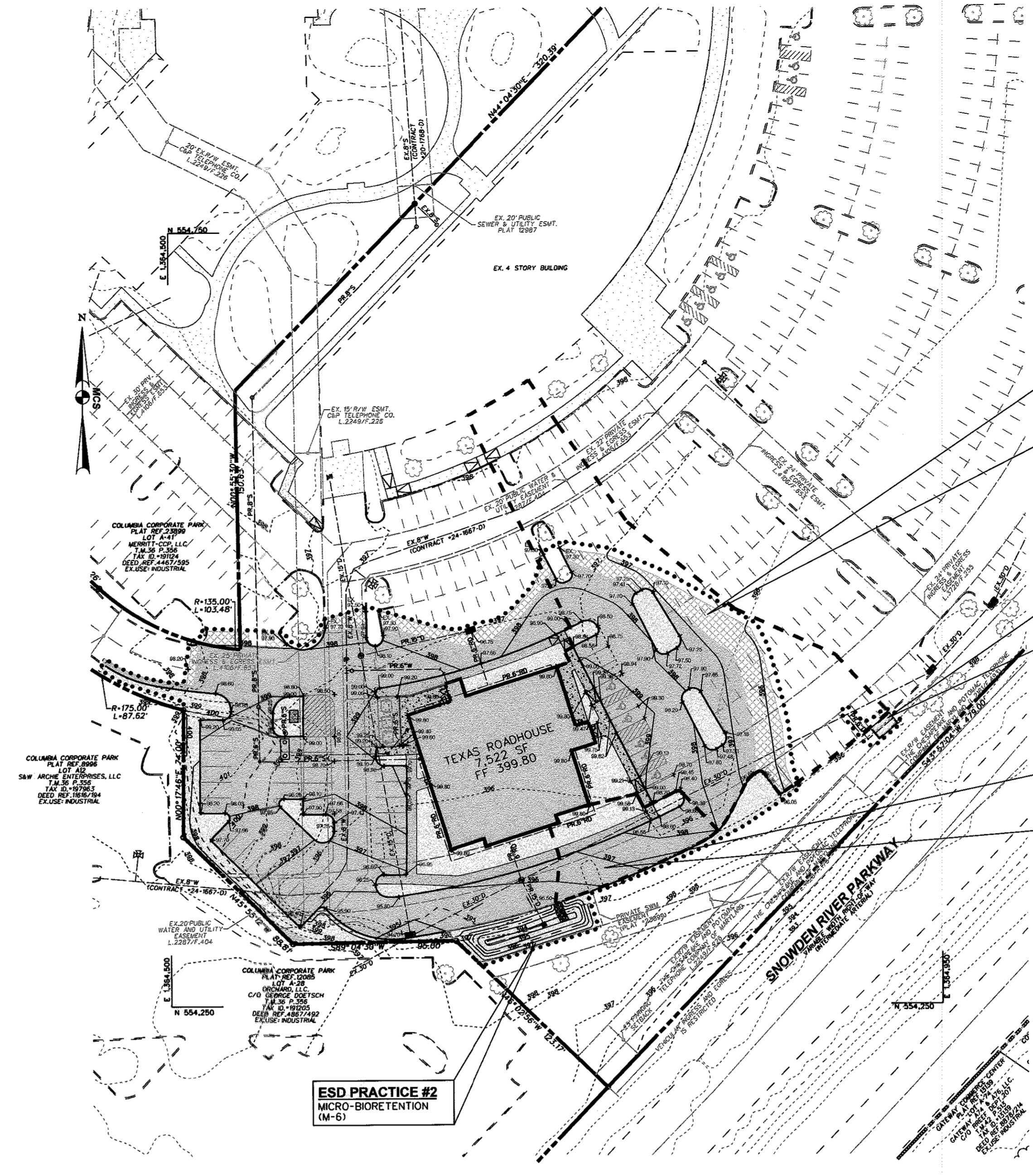
PROPERTY	TEST METHOD	WOVEN SPLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM	AVERAGE	MINIMUM	AVERAGE	MINIMUM	AVERAGE
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	





**EXISTING CONDITION MAP**

SCALE: 1" = 50'  
 SWM LIMIT OF DISTURBANCE - 62,150 SF OR 1.427 AC  
 EX. IMPERVIOUS AREA - 42,252 SF OR 0.970 AC



**PROPOSED CONDITION MAP**

SCALE: 1" = 50'  
 SWM LIMIT OF DISTURBANCE - 62,150 SF OR 1.427 AC  
 PR. IMPERVIOUS AREA - 43,649 SF OR 1.002 AC

**D.A. 'A'**  
 TOTAL AREA TO ESD #1 - 24,763 SF OR 0.568 AC  
 CONTRIBUTING IMPERVIOUS AREA - 21,130 SF OR 0.485 AC  
 MIN. IMP. AREA TO BE TREATED - 21,126 SF OR 0.485 AC

**ESD PRACTICE #1**  
 FILTERRA (13' x 7')

**D.A. 'B'**  
 TOTAL AREA TO ESD #2 - 3,670 SF OR 0.084 AC  
 CONTRIBUTING IMPERVIOUS AREA - 2,677 SF OR 0.061 AC  
 MIN. IMP. AREA TO BE TREATED - 1,397 SF OR 0.032 AC

**ESD PRACTICE #2**  
 MICRO-BIORETENTION (M-6)

**SWM LEGEND**

- EX. / PR. IMPERVIOUS AREA [Symbol]
- EX. / PR. GRASS [Symbol]
- PR. MILL AND OVERLAY [Symbol]
- PR. DRAINAGE AREA TO ESD PRACTICE [Symbol]
- LIMIT OF DISTURBANCE (LOD) [Symbol]

SOIL MAP #18

SOIL CLASSIFICATION				
Symbol	Description	Hydrologic Group	Ksat	Kw Kf
UID	Urban land - Udorthents complex	D	0.06 - 0.60	0.28 0.28

NOTE: THE URBAN LAND SOIL TYPE ENCOMPASSES AN AREA MUCH LARGER THAN THE SUBJECT SITE. THEREFORE, SOIL LINES ARE NOT SHOWN AT THIS SCALE.

**SWM DESIGN NARRATIVE**

The proposed development is within Parcel A-35 of the Columbia Corporate Park. It consists of a restaurant (7,420 sf) and associated parking. The area is currently being used as a parking lot. The subject site is draining towards an existing pond which is providing 2-, 10-, and 100-yr quantity management as shown on previously approved drawings (SDP-87-193 & FDP-117-Ad). The current zoning is New Town (NT).

The majority of the proposed development is impervious (73% +/-). Therefore, it qualifies as redevelopment. With a small increase in impervious area, the proposed development is also subject to new development requirements. As a result, stormwater management shall be addressed according to both redevelopment and new development requirements. The redevelopment portion of the site will be treated by a Filterra (13' x 7') while a micro-bioretenion facility will fulfill ESD volume requirements for the new development portion. Recharge requirements are being fulfilled through a stone trench under the micro-bioretenion facility.

**Natural resource protection and enhancement:**  
 As mentioned above, most of this subject site is impervious. The remainder has already been graded/compacted. The surrounding existing landscaping will remain intact. As a matter of fact, proposed landscaping will be provided to enhance the subject site.

**Maintenance of natural flow patterns:**  
 Natural flow patterns are being preserved. This is reflected in the proposed grading as shown on the stormwater management plans.

**Reduction of impervious areas through better site design, alternative surfaces, non-structural practices:**  
 The proposed development was strategically placed as shown on the plans to minimize total site imperviousness while maintaining visibility from Snowden River Parkway. The majority of the subject site is impervious (73% +/-). While a reduction in impervious area wasn't achieved, the increase is very minimal (3.3% +/-). Alternative surfaces weren't a feasible option due to the type/property of onsite soils. The existing grades as well as the type of terrain (impervious) weren't conducive to non-structural practices.

**Integration of erosion and sediment controls into SWM strategy:**  
 This typically is in reference to the placement of primary ESD practices such as traps and basins so that they're not placed in the same location as SWM practices that will ultimately rely on ground infiltration. The subject site doesn't feature any traps or basins. Inlet protection is being provided for all new inlets and some existing ones as well.

**Implementation of ESD planning techniques and practices:**  
 As mentioned above, the proposed development was strategically placed as shown on the plans to minimize total site imperviousness. Every effort was made to maintain the existing landscaping as well as the drainage pattern. The landscaping will actually be enhanced within the proposed development. The size of the subject site and the amount of existing impervious areas precluded the use of any natural areas and landscape features to manage the runoff from the proposed impervious area. The type/property of the onsite soils further streamlined the type of ESD practices that could be used to fulfill ESD requirements. As a result, a micro-bioretenion practice will be used to fulfill ESD requirements for new development and a Filterra for redevelopment. Both practices will slow down runoff to maintain discharge timing and increase infiltration and evapotranspiration.

**STORM WATER MANAGEMENT DESIGN SUMMARY**

THIS SITE FALLS UNDER BOTH THE REDEVELOPMENT AND NEW DEVELOPMENT CRITERIA. THEREFORE SWM SHALL BE PROVIDED BY EITHER A REDUCTION OF EXISTING IMPERVIOUS AREA WITHIN THE LIMIT OF DISTURBANCE (LOD) BY 50% AND/OR PROVIDING WATER QUALITY TREATMENT FOR AN EQUIVALENT AREA FOR THE IMPERVIOUS AREA THAT COULD NOT BE REDUCED.

IN ADDITION, STORM WATER MANAGEMENT SHALL BE PROVIDED ACCORDING TO THE NEW DEVELOPMENT REQUIREMENTS IN THE NEW DESIGN MANUAL FOR ANY NET INCREASE IN IMPERVIOUS AREA WITHIN THE LIMIT OF DISTURBANCE.

SWM LIMIT OF DISTURBANCE = 62,150 SF  
 EX. IMPERVIOUS AREA WITHIN LOD = 42,252 SF  
 PR. IMPERVIOUS AREA WITHIN LOD = 43,649 SF  
 PR. INCREASE IN IMPERVIOUS AREA = 1,397 SF (3.3% +/-)  
 WATER QUALITY TO BE PROVIDED FOR 50% OF EX. IMPERVIOUS AREA - 21,126 SF  
 ESDV TO BE PROVIDED FOR INCREASE IN IMPERVIOUS AREA - 1,397 SF

**ESD TARGETS REQUIRED:**  
 REDEVELOPMENT, Pe = 1.0"  
 MIN. REQUIRED IMPERVIOUS AREA TO RECEIVE WATER QUALITY TREATMENT - 21,126 SF

NEW DEVELOPMENT, Pe = 2.0"  
 MIN. REQUIRED IMPERVIOUS AREA FOR ESDV COMPUTATIONS - 1,397 SF  
 ESDV REQUIRED (MIN.) - 221 CF  
 Rev PROVIDED (MIN.) - 13 CF

**ESD TARGETS PROVIDED:**  
 REDEVELOPMENT - ESD PRACTICE #1  
 STRUCTURE TYPE: FILTERRA (13' x 7')  
 DRAINAGE AREA "A"  
 Pe = 1.0"  
 IMPERVIOUS AREA TREATED - 21,130 SF

NEW DEVELOPMENT - ESD PRACTICE #2  
 STRUCTURE TYPE: MICRO-BIORETENTION (M-6)  
 DRAINAGE AREA "B"  
 Pe = 2.22"  
 IMPERVIOUS AREA TREATED - 2,677 SF  
 ESDV PROVIDED - 480 CF  
 Rev PROVIDED - 67 CF

Lot/Parcel Number	Facility Name & Number	Practice Type (Quantity)	Public	Private	HOA Maintains	Misc.
A-42	Filterra - ESD #1	FL (WQv)		X		Owner will maintain
A-42	Micro-bioretenion - ESD #2	M-6 (ESDv)		X		Owner will maintain

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12-12-16  
 Chief, Development Engineering Division Date

*[Signature]* 12-15-16  
 Chief, Division of Land Development Date

*[Signature]* 12-17-16  
 Director Date

ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

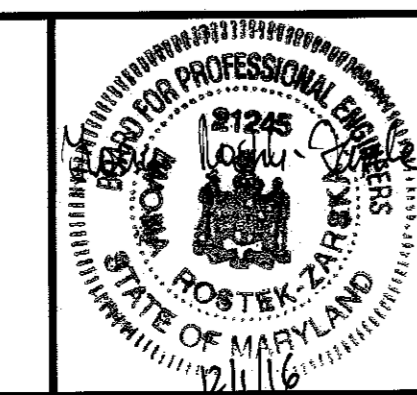
PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42

PLAT NO. OF L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
23899	24	NT	36	6	606707

THE COORDINATE SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN DATUM OF 1983. THE ELEVATION SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. HORZ: NAD 83/91; VERT: NAVD 88

**BLDG**  
 Baltimore Land Design Group Inc.  
 Consulting Engineers  
 230 SCHILLING CIRCLE, SUITE 364 • HUNT VALLEY, MARYLAND 21041  
 PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM



**PROFESSIONAL CERTIFICATION**

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, WIONA ROSTEK-ZARSKA, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

**OWNER**  
 MERRITT-CCP, LLC  
 2066 LORD BALTIMORE DRIVE  
 BALTIMORE, MD 21244  
 (410) 298-2600  
 FAX: (410) 298-9644

**DEVELOPER / APPLICANT**  
 TEXAS ROADHOUSE HOLDINGS LLC  
 6040 DUTCHMANS LANE, SUITE 400  
 LOUISVILLE, KY 40205  
 (502) 426-9984  
 FAX: (502) 515-7229

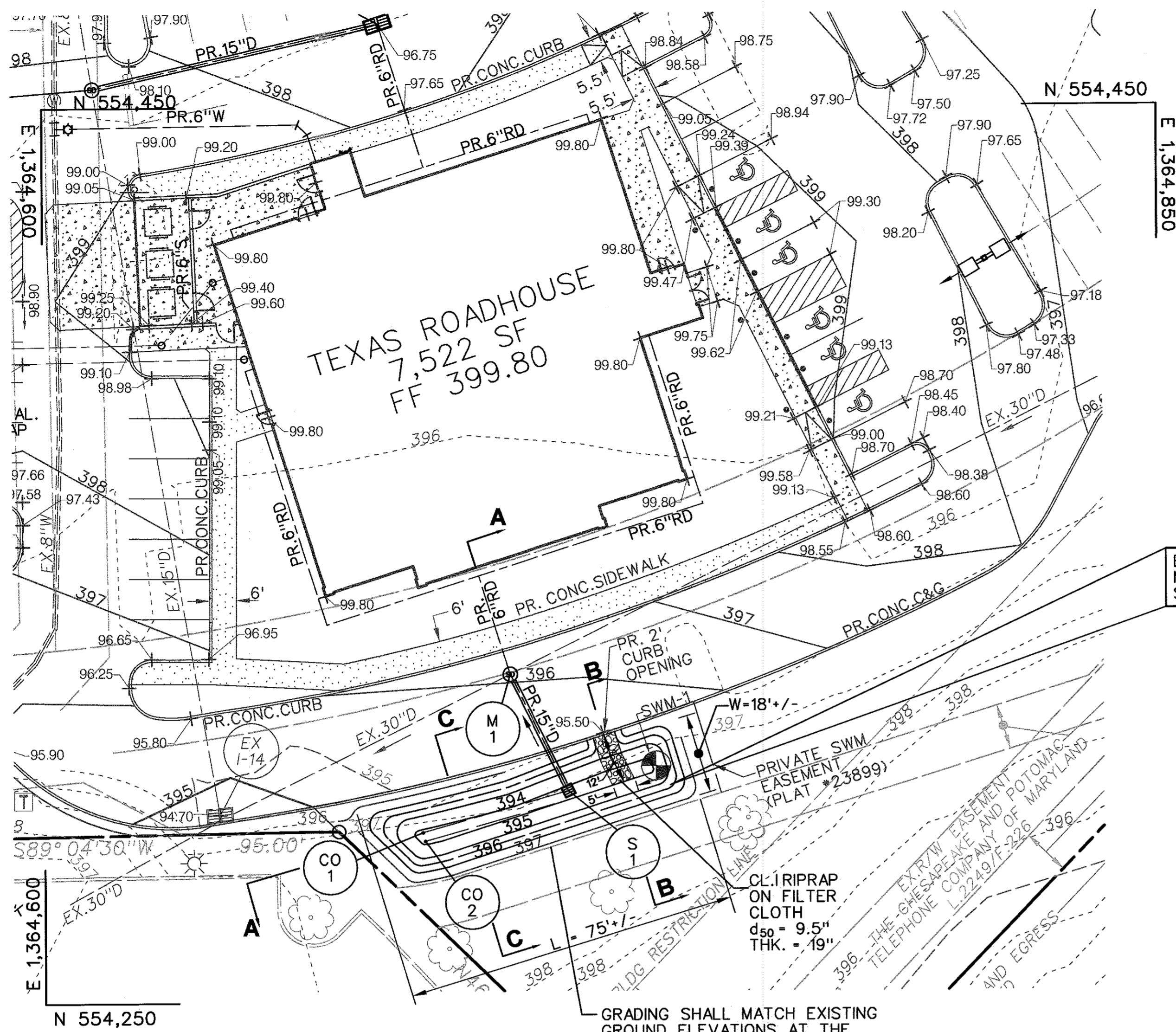
REVISIONS

DATE	NO.	DESCRIPTION	BY

**STORMWATER MANAGEMENT PLAN**  
 DRAINAGE AREA MAPS  
**COLUMBIA CORPORATE PARK**  
 SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
 8820 STANFORD BOULEVARD  
 COLUMBIA, MARYLAND 21045  
 RESTAURANT  
 HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-8) DATE: DECEMBER, 2016

DRAWING NO.  
**C-13**  
 SHEET 13 OF 17  
 SDP-16-061



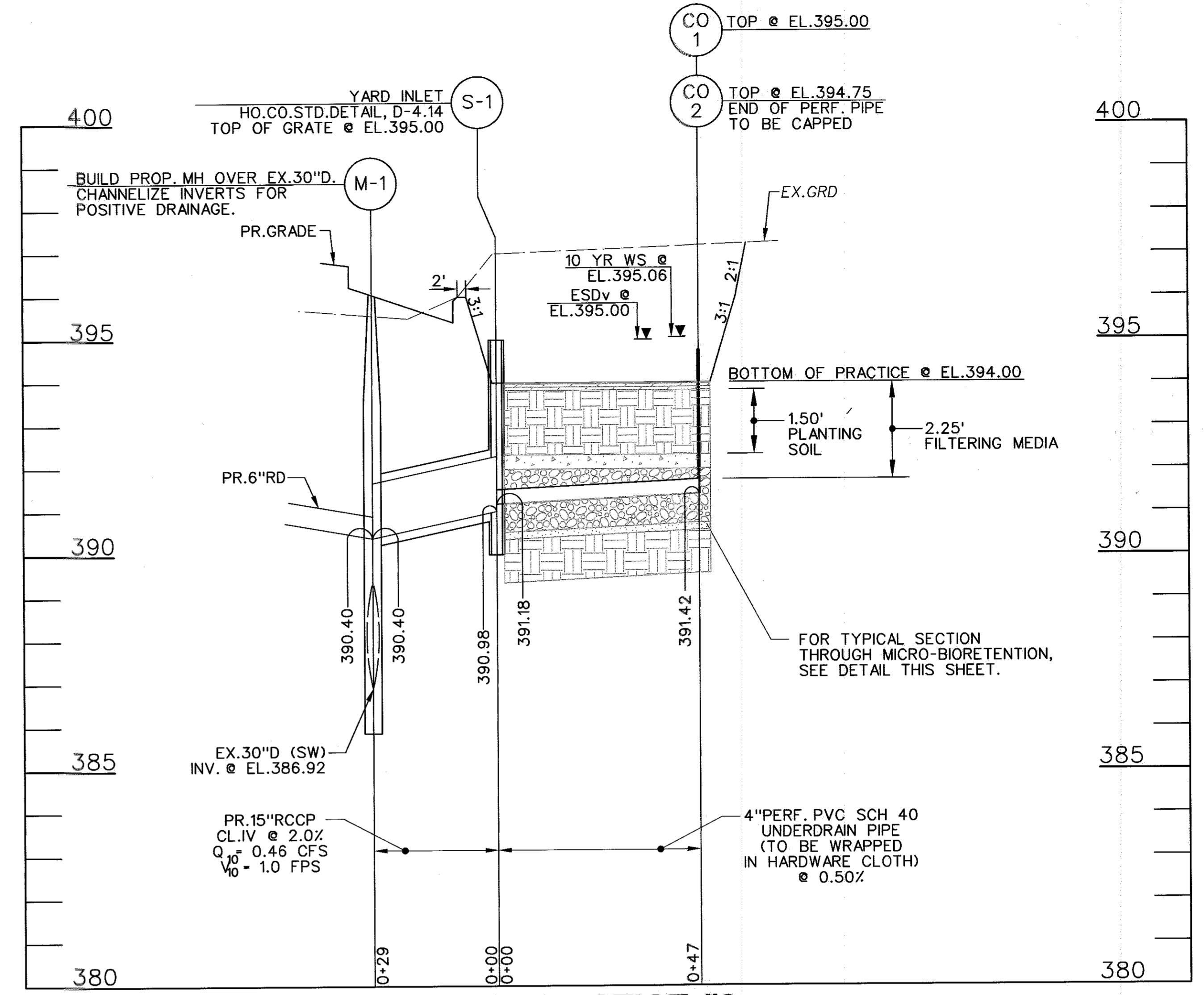


**PLAN VIEW**

SCALE: 1" = 20'

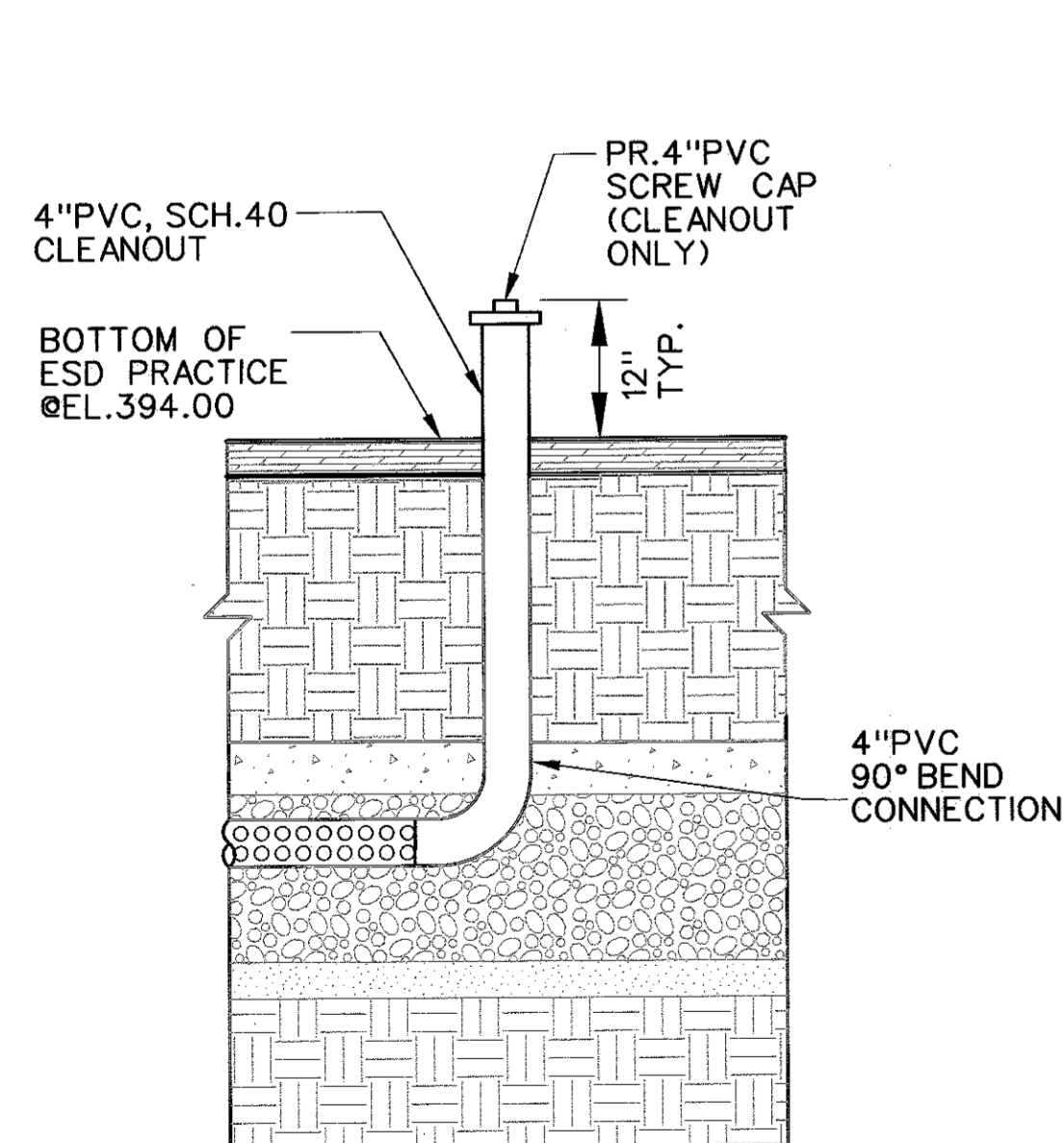
ESD PRACTICE #2  
MICRO-BIORETENTION (M-6)  
SEE DETAIL THIS SHEET

GRADING SHALL MATCH EXISTING  
GROUND ELEVATIONS AT THE  
EDGE OF THE C&P EASEMENT.



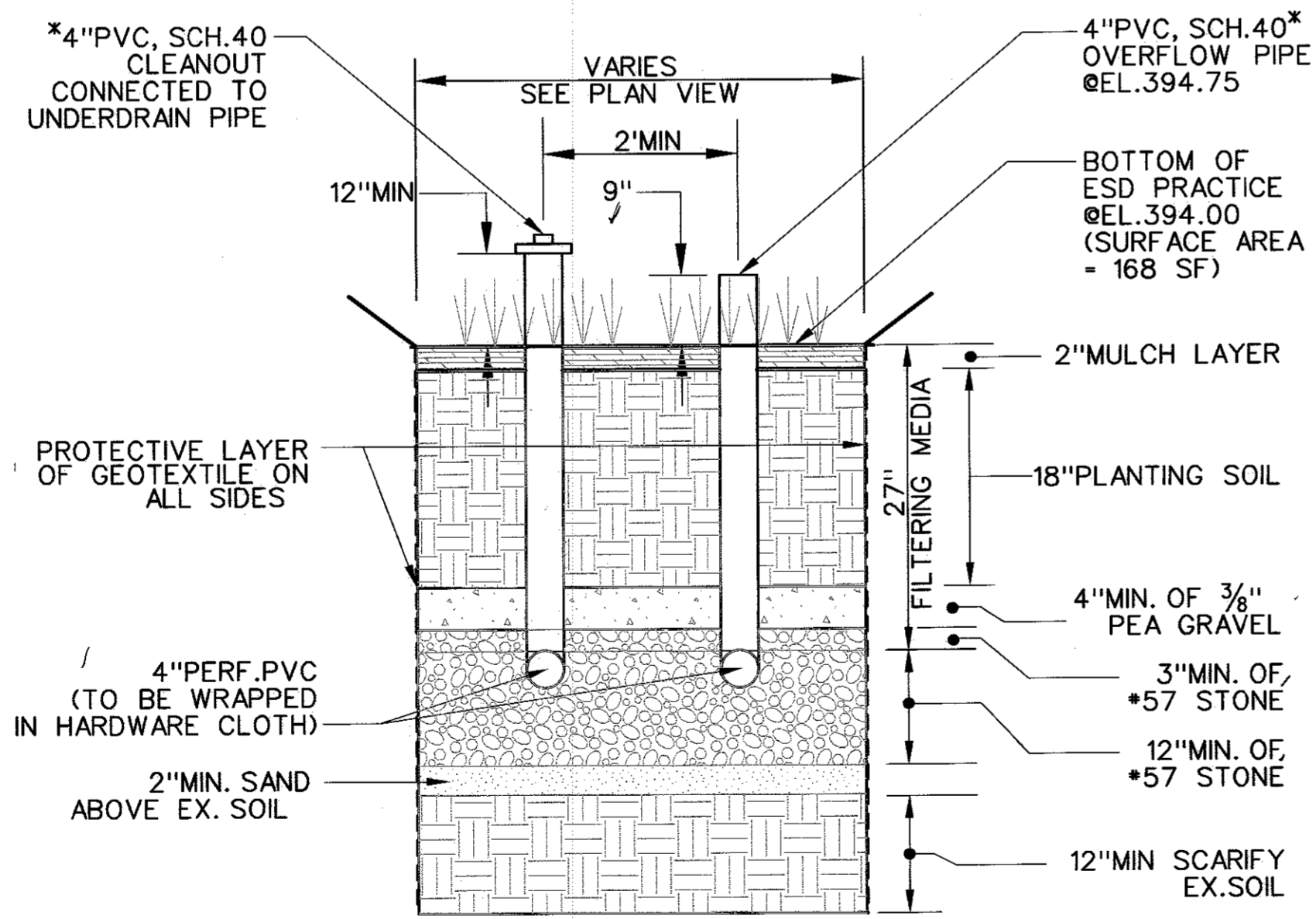
**ESD PRACTICE #2  
SECTION A-A**

SCALE: H: 1" = 20'  
V: 1" = 2'



**UNDERDRAIN CLEANOUT  
TYPICAL DETAIL**

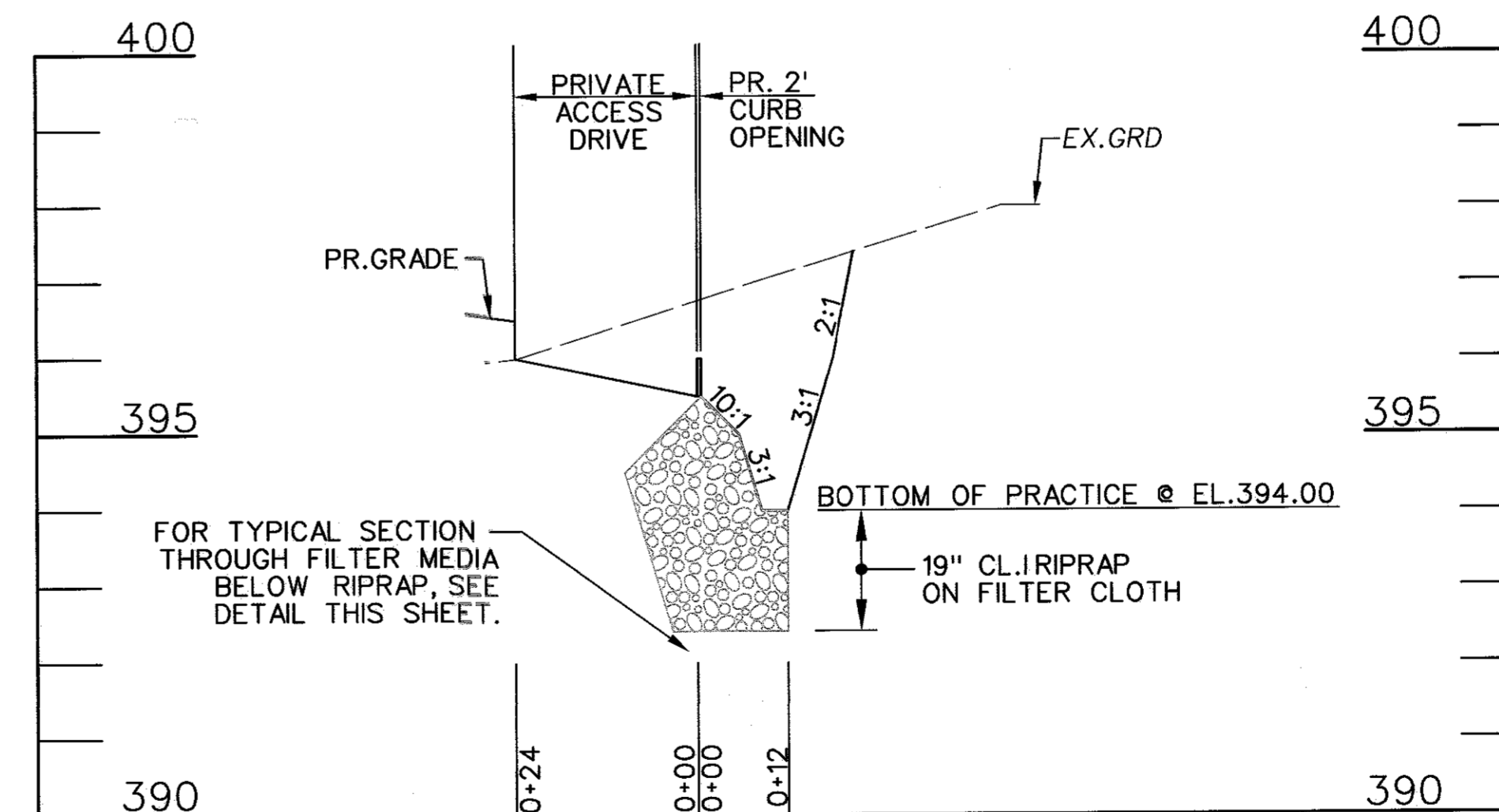
NOT TO SCALE



**TYPICAL SECTION THROUGH  
MICRO-BIORETENTION  
SECTION C-C**

NOT TO SCALE

\*DO NOT CONNECT THE UNDERDRAIN  
PIPE TO THE  
OVERFLOW PIPE



**ESD PRACTICE #2  
SECTION B-B**

SCALE: H: 1" = 20'  
V: 1" = 2'

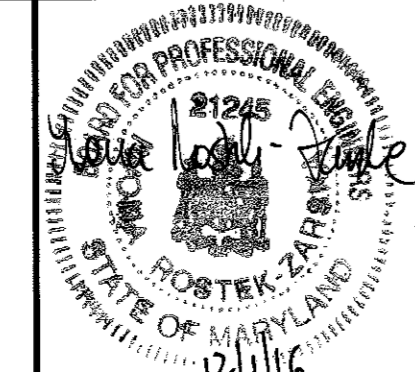
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>John Chubb</i> Chief, Development Engineering Division	12-12-16 Date
<i>Vestley D. Jones</i> Chief, Division of Land Development	12-15-16 Date
<i>W. Allen Jorgensen</i> Director	12-17-16 Date

ADDRESS CHART	
LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART				
SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.		
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42		
PLAT NO. or L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.
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**PROFESSIONAL CERTIFICATION**  
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(502) 426-9984  
FAX: (502) 515-7229

REVISIONS			
DATE	NO.	DESCRIPTION	BY

**STORMWATER MANAGEMENT PLAN**  
ESD #2 (MICRO-BIORETENTION) - PLAN AND PROFILES  
**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE  
8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT  
HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A-II) DATE: DECEMBER, 2016

DRAWING NO.  
**C-14**  
SHEET 14 OF 17  
SDP-16-061



## CONSTRUCTION SPECIFICATIONS

### MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

#### I. MATERIAL SPECIFICATIONS

The allowable materials to be used in these practices are detailed in Table B.4.1.

#### II. FILTERING MEDIA OR 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 micro-bioretenion practice 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:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%) and compost (40%).
- Clay Content - Media should have a clay content of less than 5%.
- pH Range - Should be between 5.5-7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There should be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter and soluble salts. A texture analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

#### III. COMPACTION

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf 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 restructure the soil profile through the 12 inch compaction zone. Subsoiling 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.

#### IV. PLANT MATERIAL

Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3, of the 2000 Maryland Stormwater Design Manual Volumes 1 and 2 and the landscape plan, prepared for this project, for the specific plantings and specifications. Plant material shall conform to the American Association of Nurserymen's Publication, the American Standard Nursery Stock.

#### V. PLANT INSTALLATION

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed to a uniform thickness of 2" to 3". Shredded or chipped 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.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball above the final grade surface. The diameter of the planting hole shall be at least six inches larger than the diameter of the planting ball to 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, defolants, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill area fertilizer at a rate of 2 pounds per 1000 square feet.

#### VI. UNDERDRAINS

Underdrains should meet the following criteria:

- Pipe - Should be 4" - 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a Minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a Minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (1/8" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

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).

#### VII. MISCELLANEOUS

These practices may not be constructed until all contributing drainage area has been stabilized.

**Table B.4.1**  
Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

MATERIAL	SPECIFICATION	SIZE	NOTES
Plantings	See Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%) & coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 (3/8" TO 1/2")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe: 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes not necessary; underdrain pipes, Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 5; f'c = 3500 psi @ 28 days, normal weight air-entrained; reinforcing to meet ASTM-A15-80	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; oil 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 350.8R/89; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil stress) and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gneiss (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

## CONSTRUCTION CRITERIA

The following items should be addressed during construction of projects with micro-bioretenion:

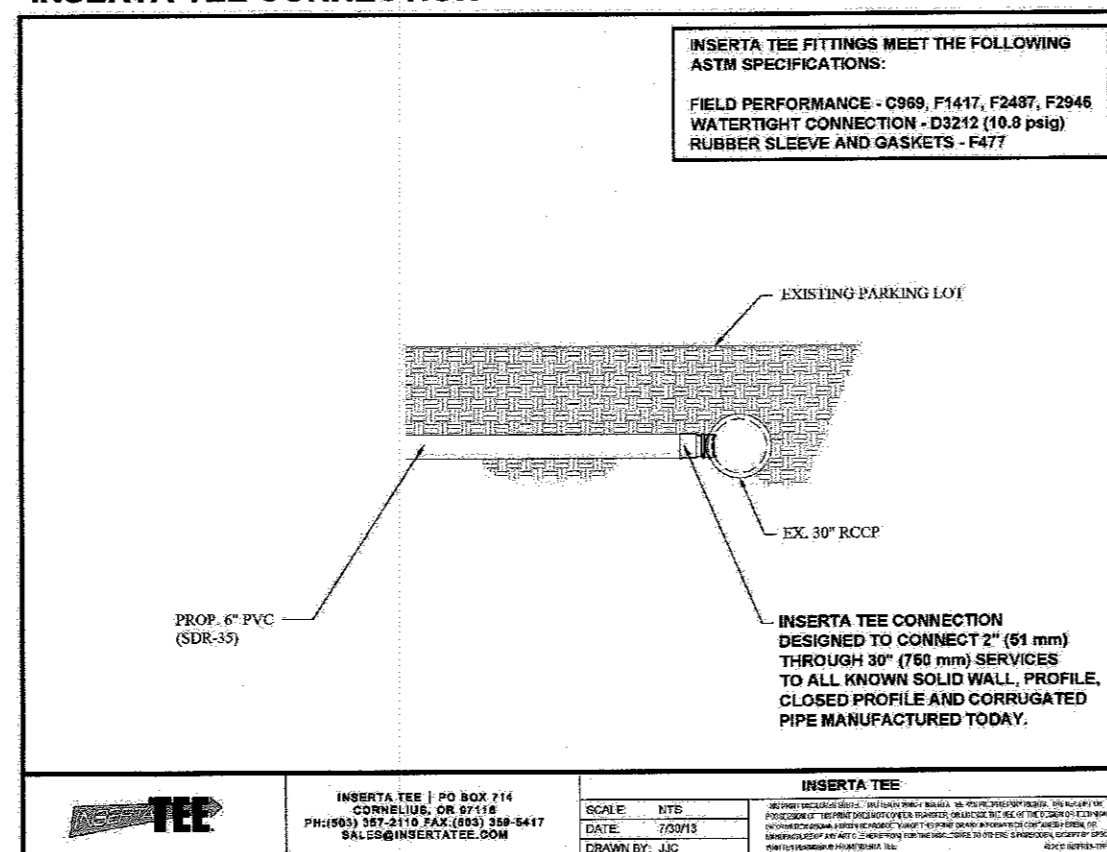
- Erosion and Sediment Control: Micro-bioretenion practices should not be constructed until the contributing drainage area is stabilized. If this is impractical, runoff from disturbed areas shall be diverted away and no sediment control practices shall be used near the proposed location. No sediment can enter stone storage area.
- Soil Compaction: Excavation should be conducted in dry conditions (3-day dry weather forecast) with equipment located outside of the practice to minimize bottom and sidewall compaction. Only light weight, low ground contact equipment should be used within micro-bioretenion practices and the bottom scarified before installing underdrains and filtering media.
- Underdrain Installation: Gravel for the underdrain system should be clean, washed, and free of fines. Underdrain pipes should be checked to ensure that both the material and perforations meet specifications. The upstream ends of the underdrain pipe should be capped prior to installation.
- Filter Media Installation: Bioretention soils may be mixed on-site before placement. However, soils should not be placed under saturated conditions. The filter media should be placed and graded using excavators or backhoes operating adjacent to the practice and be placed in horizontal layers (12 inches per lift maximum). Proper compaction of the media will occur naturally. Spraying or sprinkling water on each lift until saturated may quicken setting times.
- Landscape Installation: The optimum planting time is during the Fall. Spring planting is also acceptable but may require watering.

## INSPECTION NOTES

Regular inspections shall be made during the following stages of construction:

- During excavation to subgrade and placement and backfill of underdrain systems.
- During placement of filter media.
- During construction of appurtenant conveyance.
- Upon completion of final grading and establishment of permanent stabilization.
- At the end of planting warranty period.
- Regular inspections after completion of facility. This must be done twice a year, in spring and fall at the Minimum. Mulch must be inspected each spring.

### INSERTA TEE CONNECTION



## OPERATION AND MAINTENANCE SCHEDULE

### LANDSCAPE INFILTRATION, MICRO-BIORETENTION, RAIN GARDENS, BIORETENTION SWALE, ENHANCED FILTERS

- Inspect and perform maintenance of plant material, mulch layer and soil layer annually, except as noted otherwise below.
- Address soil erosion on as needed basis, with a minimum of once per month and after heavy storm events.
- Inspect plant material twice a year, in spring and fall. Prune plants as needed. Remove dead and diseased vegetation considered beyond treatment. Treat diseased trees and shrubs. Replace dead vegetation, if specific plants are not surviving, plant more appropriate species. Acceptable replacement plant materials limited to that contained in the 2000 Maryland Stormwater Design Manual Volume II, Table A.4.1 and 2.
- Water vegetation during the first few months after strip is established and during prolonged dry periods.
- Maintain vigorous and dense growth. Any bare spots, burned out areas, or eroded areas must be repaired immediately.
- Replace all deficient stakes and wires.
- Inspect and maintain mulch in each spring.
- Where practices are used to treat areas with higher concentrations of heavy metals (e.g., parking lots, roads), replace mulch annually. Otherwise, replace the top two to three inches with new layer as necessary or every two to three years at Minimum. Remove previous mulch layer before applying new layer.
- Remove and replace top few inches of discolored filter media with fresh material when water ponds for more than 48 hours. Dispose removed media of property in county approved sanitary landfill.
- Remove silt and sediment from surface of filter bed when accumulation exceeds one inch.
- Inspect and repair any structures, inlet and outlet channels, drains, control structures, and any other elements related to proper functioning of facility.
- All structural components of structures including sills, walls, pipes, grates, trash racks and manhole covers shall be repaired or replaced as required to keep structures safe and serviceable.

## SEQUENCE OF OPERATIONS

- This sequence of operation shall be implemented in accordance with the sequence of operation as shown on the approved sediment and erosion control plans.
- Notify Miss Utility at 1-800-257-7777 at least three (3) working days prior to beginning of this work. (1 day)
- Notify professional engineer who will be performing the as-built certification at least three (3) working days prior to beginning of this work. (1 day)
- Follow sequence of operations shown on the approved erosion and sediment control plans.
- Excavate for ESD Practice #2. Scarify existing subsols at least 1 foot below facility invert elevations. Rototill 2" of sand into subsols before placement of stone. Contractor to block off runoff to ESD Practice areas until after complete installation and upstream areas are stabilized. (3 days)
- Begin placement of geotextile, stone, underdrains, media, inlets & mulch as per approved storm water management plans. (2 days)
- Install Filterra unit as per approved storm water management plans. (1 day)
- Connect 6" outfall pipe from Filterra unit to existing 30" pipe using the "inserta Tee" as shown on the detail on this sheet. (1 day)
- After completion of micro-bioretenion practice and Filterra unit, notify engineer in charge so he/she could prepare the as-built survey and submit to the appropriate agencies for approval. (1 day)
- Conduct final as-built drawings and computations and submit to Howard County, Construction Inspection Division (CID) for review and approval. (3 days)
- Continue with sequence of operation as shown on the approved sediment and erosion control plans.

### Filterra Standard Plan Notes

#### Construction & Installation

- Each unit shall be constructed at the locations and elevations according to the sizes shown on the approved drawings. Any modifications to the elevation or location shall be at the direction of and approved by the Engineer.
- If the Filterra unit is stored before installation, the top slab must be placed on the box using the 2x4 wood provided, to prevent any contamination from the site. All internal fittings supplied (if any), must be left in place as per the delivery.
- The unit shall be placed on a compacted sub-grade with a minimum 6-inch gravel base matching the final grade of the curb line in the area of the unit. The unit to be placed such that the unit and top slab match the grade of the curb in the area of the unit. Compact undisturbed sub-grade materials to 95% of maximum density at +1.2% of optimum moisture. Unsuitable material below sub-grade shall be replaced to the site engineer's approval.
- Outlet connections shall be aligned and sealed to meet the approved drawings with modifications necessary to meet site conditions and local regulations.
- Once the unit is set, the internal wooden forms and protective mesh cover must be left intact. Remove only the temporary wooden shipping blocks between the box and top slab. The top lid should be sealed onto the box section before backfilling, using a non-shrink grout, neoprene or similar waterproof seal. The boards on top of the lid and boards sealed in the unit's throat must NOT be removed. The Supplier (Americast or its authorized dealer) will remove these sections at the time of activation. Backfilling should be performed in a careful manner, bringing the appropriate fill material up in 6" lifts on all sides. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of Filterra unit shall conform to ASTM specification C991 "Standard Practice for Installation of Underground Precast Utility Structures", unless directed otherwise in contract documents.
- Curb and gutter construction (where present) shall ensure that the flow-line of the Filterra unit is at a greater elevation than the flow-line of the bypass structure or relief (drop inlet, curb cut or similar). Failure to comply with this guideline may cause failure and/or damage to the Filterra environmental device.
- Each Filterra unit must receive adequate irrigation to ensure survival of the living system during periods of drier weather. This may be achieved through gutter flow or through the tree grate.

#### Activation

- Activation of the Filterra unit is performed ONLY by the Supplier. Purchaser is responsible for Filterra unit protection and subsequent clean out cost. This process cannot commence until the project site is fully stabilized and cleaned (fill landscaping, grass cover, final paving and street sweeping completed), negating the chance of construction materials contaminating the Filterra system. Care shall be taken during construction not to damage the protective throat and top plates.
- Activation includes installation of plant(s) and mulch layers as necessary.

#### Maintenance

- Each correctly installed Filterra unit is to be maintained by the Supplier, or a Supplier approved contractor for a minimum period of 1 year. The cost of this service is to be included in the price of each Filterra unit. Extended maintenance contracts are available at extra cost upon request.
- Annual maintenance consists of a maximum of (2) scheduled visits. The visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands. The fall visit helps the system by removing excessive leaf litter.
- Each maintenance visit consists of the following tasks:
  - Filterra unit inspection
  - Foreign debris, silt, mulch & trash removal
  - Filter media evaluation and recharge as necessary
  - Plant health evaluation and pruning or replacement as necessary
  - Replacement of mulch
  - Disposal of all maintenance refuse items
  - Maintenance records updated and stored (reports available upon request)
- The beginning and ending date of Supplier's obligation to maintain the installed system shall be determined by the Supplier at the time the system is activated. Owners must promptly notify the Supplier of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology.

06/28/05 www.filterra.com Toll Free: (866) 349-3455

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 12-12-16  
Date

Chief, Division of Land Development 12-15-16  
Date

Director 12-17-16  
Date

ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION / AREA	LOT / PARCEL NO.
COLUMBIA CORPORATE PARK	1 / 1	356 / A-42

PLAT NO. OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELEC. DIST.	CENSUS TRACT
23899	24	NT	36	6	606707

Reuling Associates, Inc. Boring Log Page 1 of 2

PROJECT: TEXAS ROADHOUSE  
Location: See Boring Location Plan  
DATE START: 1-6-16  
FINISH: 1-6-16  
HAMMER WT.: 140 lbs.  
BORING METHOD: HSA

PROJECT NO.: ELEV: 397.4+  
SPOON O.D.: 2"  
ROCK CORE DIA.:

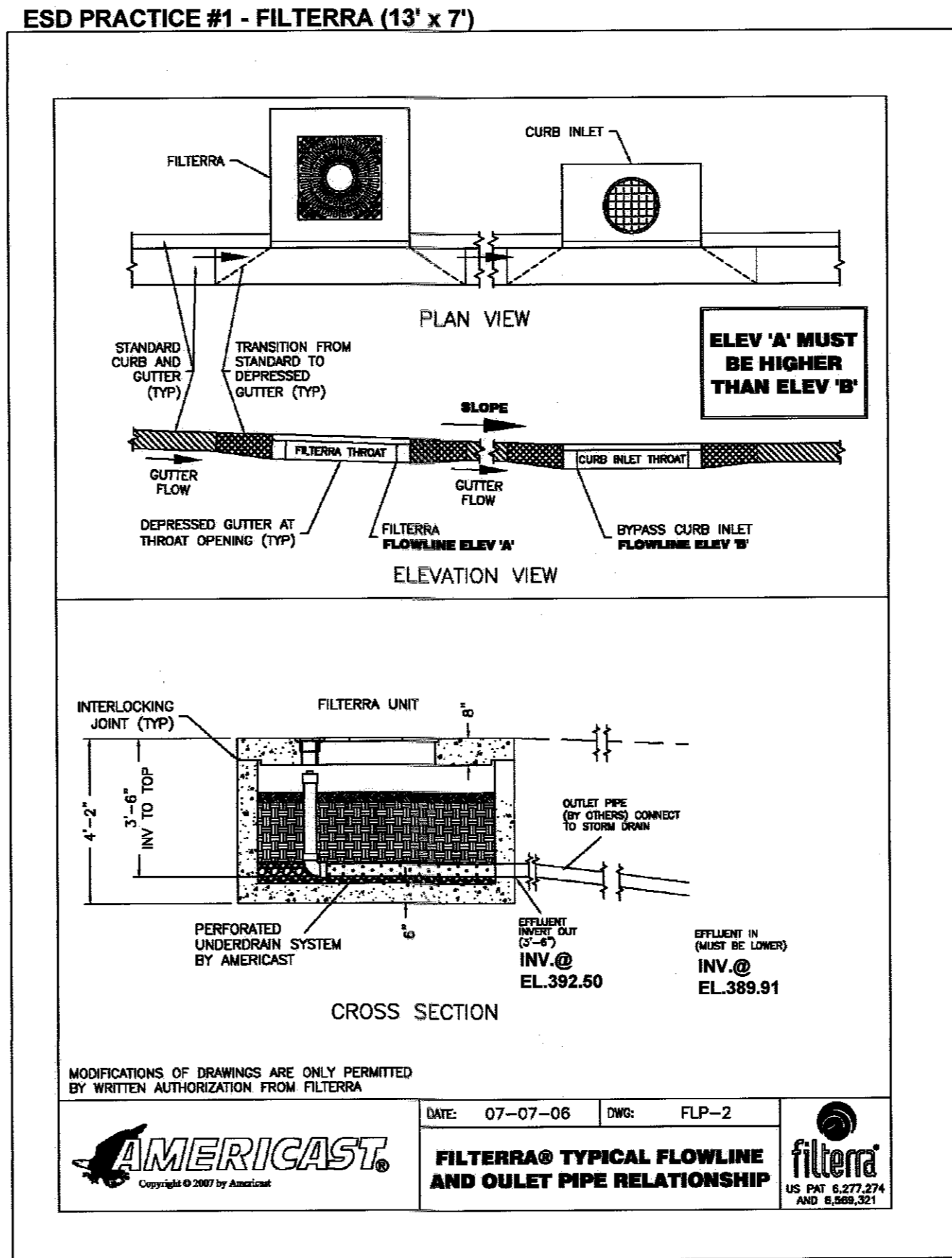
BORING NO.: SWM1  
INSPECTOR:  
FOREMAN:  
HAMMER DROP: 30 in.

Scale	Elev	Description	Depth	Scale	No	Blows / Bin	Type	REC	Notes
		Light brown and brown, moist, medium stiff clayey sand, some gravel	0		1	1-2-5	DS	12	Topsoil: 2"
		USDA Classification: Sandy Clay Loam			2	4-7-5	DS	12	
		Stiff			3	4-8-10	DS	14	
		Very Stiff			4	9-12-14	DS	18	
		Very Stiff			5	10-12-14-14	DS	10	
		End of Boring							

LEGEND  
DS DRIVEN SPLIT SPOON  
ST SHELBY  
PS PISTON SAMPLE  
RC ROCK CORE  
HSA HOLLOW STEM AUGER  
MD MUD DRILLING

GROUND WATER  
WATER ON RODS: DRY  
WATER AT COMPLETION: DRY  
CAVED  
WATER AT 24 HOURS: DRY to C.I.

### SOIL BORING PROFILE



### FILTERRA DETAIL

THE COORDINATE SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN DATUM OF 1983. THE ELEVATION SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. HORIZ: NAD 83/91; VERT: NAVD 88

0 10 20 30

**BLDG**  
Baltimore Land Design Group Inc.  
Consulting Engineers

230 SCHILLING CIRCLE, SUITE 364 • HUNT VALLEY, MARYLAND 21031  
PHONE: 410.229.9851 • FAX: 410.229.9865 • BLDG@BLDGINC.COM

**PROFESSIONAL CERTIFICATION**

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, IWONA ROSTEK-ZARZYNSKA AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE: JUNE 9, 2018.

**OWNER**  
MERRITT-CCP, LLC  
2066 LORD BALTIMORE DRIVE  
BALTIMORE, MD 21244  
(410) 298-2600  
FAX: (410) 298-9644

**DEVELOPER / APPLICANT**  
TEXAS ROADHOUSE HOLDINGS LLC  
6040 DUTCHMANS LANE, SUITE 400  
LOUISVILLE, KY 40205  
(502) 426-9988  
FAX: (502) 515-7229

DATE	NO.	DESCRIPTION	BY

**STORMWATER MANAGEMENT PLAN**  
NOTES, SPECIFICATIONS, SOIL BORING AND ESD PRACTICE #1 DETAILS

**COLUMBIA CORPORATE PARK**  
SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE

8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT

HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN (NEW TOWN - EMPLOYMENT CENTER INDUSTRIAL, FDP-117-A) DATE: DECEMBER, 2016

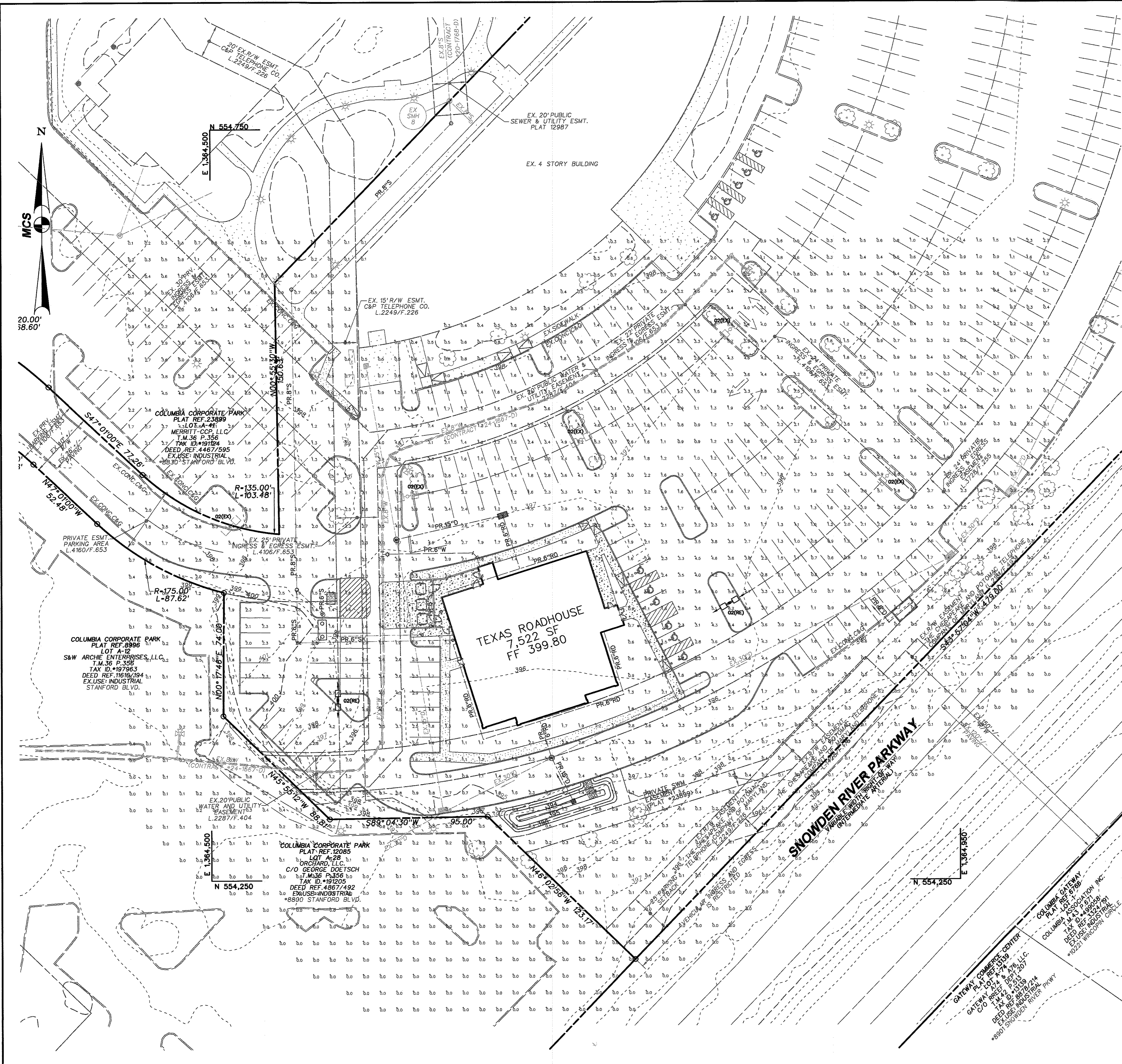
**DRAWING NO. C-15**

SHEET 15 OF 17  
SDP-16-061









### Luminaire Schedule

Symbol	Label	Qty	Arrangement	Mounting Height	Total Lamp Lumens	LLF	Description
□○□	02(EX)	8	BACK TO BACK	27'-6" POLE MTD ON 30" RAISED POLE BASE	36000	0.720	ECA18-3H-400MH (BACK TO BACK)
*□○□	02(RE)	2	BACK TO BACK	27'-6" POLE MTD ON 30" RAISED POLE BASE	36000	0.720	ECA18-3H-400MH (BACK TO BACK)

\* RELOCATED EXISTING POLE AND FIXTURE

### Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Texas Roadhouse	Illuminance	Fc	2.03	5.8	0.0	N.A.	N.A.

**NOTE:**  
All exterior light fixtures shall be oriented to direct light inwards and downwards on-site away from all adjoining residential properties and public roads in accordance with Section 134.0 of the Howard County Zoning Regulations.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

<i>[Signature]</i> Chief, Development Engineering Division	12-12-16 Date
<i>[Signature]</i> Chief, Division of Land Development	12-15-16 Date
<i>[Signature]</i> Director	12-17-16 Date

#### ADDRESS CHART

LOT / PARCEL NO.	STREET ADDRESS
356 / A-42	RESTAURANT - 8820 STANFORD BOULEVARD

**WATTS DESIGN COMPANY, INC.**  
Electrical Consultants  
1911 Falls Road  
Parkton, MD 21242  
Tel 410-357-5934  
Fax 410-357-5936

THE COORDINATE SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN DATUM OF 1983. THE ELEVATION SYSTEM OF ALL DRAWINGS IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.  
HORIZ: NAD 83/91; VERT: NAVD 88

#### REVISIONS

DATE	NO.	DESCRIPTION	BY

### LIGHTING AND PHOTOMETRIC PLAN

## COLUMBIA CORPORATE PARK

SECTION 1, AREA 1, PARCEL A-42 - TEXAS ROADHOUSE

8820 STANFORD BOULEVARD  
COLUMBIA, MARYLAND 21045  
RESTAURANT

DRAWING NO. **C-17**

SHEET 17 OF 17

SDP-16-061

# BLDG

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