

| SHEET INDEX |   |    |                                |
|-------------|---|----|--------------------------------|
| NO          | DESCRIPTION                             | NO | DESCRIPTION                    |
| 1           | TITLE SHEET                             | 9  | SEDIMENT CONTROL DETAILS       |
| 2           | OVERALL SITE DEVELOPMENT PLAN           | 10 | LANDSCAPE PLAN                 |
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| 8           | GRADING AND SEDIMENT CONTROL PLAN       |    |                                |

| SOILS CHART |                    |                        |                |           |           |          |                  |
|-------------|--------------------|------------------------|----------------|-----------|-----------|----------|------------------|
| MAP SYMBOL  | NAME               | STRUCTURAL LIMITATIONS | EROSION HAZARD | HYDRIC    | SLOPE (%) | K FACTOR | HYDROLOGIC GROUP |
| GDA         | Gladstone Loom     | Dwellings w/ Basements | Slight         | No        | 0-3       | .20      | B                |
| GDB         | Gladstone Loom     | Not limited            | Moderate       | No        | 3-8       | .20      | B                |
| GmD         | Glenview Silt Loom | Very limited           | Moderate       | Partially | 3-8       | .37      | C                |

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS AND FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED SEPTEMBER 2009.
- THE COORDINATES SHOWN HEREIN ARE IN MARYLAND COORDINATE SYSTEM NAD 83/91 BASED ON THE HOWARD COUNTY GEODETIC CONTROL. HOWARD COUNTY MONUMENT NOS. 0012 AND 16E1 WERE USED FOR THIS PROJECT. THE ELEVATIONS ARE IN NAVD83 BASED ON THE SAME CONTROL MONUMENT.
- PROPOSED WATER IS PUBLIC. EXISTING WATER CONTRACT NO. 24-3703-D. EXISTING WATER INFORMATION IS FROM HOWARD COUNTY PLANS AND FIELD SURVEY. A PRIVATE WIC WILL BE PROVIDED FROM THE PUBLIC MAIN.
- PROPOSED SEWER IS PUBLIC. EXISTING SEWER CONTRACT NO. 24-3566-D. EXISTING SEWER INFORMATION IS FROM HOWARD COUNTY PLANS AND FIELD SURVEY. A PRIVATE SMC WILL BE PROVIDED FROM THE PUBLIC MAIN.
- STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED BY AN EXISTING STORMWATER MANAGEMENT POND 6 PER F-96-179 AND BY A NEW BIO-RETENTION FACILITY. ALL PROPOSED AND EXISTING STORMWATER MANAGEMENT FACILITIES ARE TO BE PRIVATELY OWNED AND MAINTAINED.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY FOR THIS PROJECT IS NOT REQUIRED.
- NO WETLANDS ARE FOUND ON THIS PROJECT PER FIELD VISIT BY PHRA IN DECEMBER 2008.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP DATED OCTOBER 26, 2009 AND WAS APPROVED ON NOVEMBER 16, 2009.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED SEPTEMBER 2009.
- SUBJECT PROPERTY ZONED B-1 & PEC PER 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS DATED 7/28/06.
- THE CONTRACTOR SHALL TEST EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T193.
- ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. THERE IS NO EXTERIOR BUILDING MOUNTED LIGHTING AT THIS TIME. UNDER CANOPY LIGHTING WILL BE PROVIDED - SEE DETAILS IN THIS PLAN SET. NO OTHER NEW EXTERIOR LIGHTING IS PROPOSED BESIDES THE UNDER CANOPY LIGHTING.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE OPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$3,480.00 FOR 8 SHADE TREES, 0 ORNAMENTAL TREES, 2 EVERGREEN TREES AND 26 SHRUBS.
- FOREST CONSERVATION FOR THIS SITE WAS PREVIOUSLY PROVIDED UNDER F-99-28, SECTION 9, GTW'S WAVERLY WOODS.
- THERE ARE EXISTING STRUCTURES ON SITE AS SHOWN ON THE PLAN. ALL EXISTING STRUCTURES WILL REMAIN.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- ALL PAVING IS TO BE P-3 PAVING OR AS RECOMMENDED BY PROFESSIONAL GEOTECHNICAL ENGINEER.
- SEE SITE DETAILS SHEET FOR CURB AND GUTTER AND SIDEWALK DETAILS.
- THE PROPOSED SERVICE STATION WILL NOT BE SPRINKLERED. ALL WATER METERS SHALL BE LOCATED IN BUILDING.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE 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 THE TOP OF EACH POST.
- NO OVERHEAD BGE POWER LINES ARE LOCATED IN THE VICINITY OF THE PROPOSED DEVELOPMENT.
- APPLICABLE DPZ FILE REFERENCES: SDP-98-125, S-94-07, WP-98-145, F-96-179, F-97-180, F-99-25, F-99-28, SDP-98-35, F-01-05, BA-08-049C, F-10-073, EA-14-011C.
- NO STEEP SLOPES, STREAMS OR FLOODPLAINS ARE LOCATED ON SITE.
- THIS SDP IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 75-2003. 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.
- AN ACCESSIBLE ROUTE SHALL BE PROVIDED BETWEEN HANDICAPPED PARKING OR PUBLIC RIGHT OF WAYS TO THE MAIN BUILDING ENTRANCE IN ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMPS SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS. EXCEPT AS SUPERSEDED IN CURRENT ADA AND LOCAL STANDARDS THE FOLLOWING SHALL APPLY:
  - MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%.
  - A MINIMUM 6' x 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING EGRESS POINTS.
  - ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACES.
  - AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS.
- CONTRACTOR TO PROVIDE SMOOTH TRANSITION BETWEEN EXISTING AND PROPOSED PAVING AND EXISTING AND PROPOSED CURB AND GUTTER.
- CONDITIONAL USE BA-08-049C FOR PROPOSED SERVICE STATION WAS APPROVED ON OCTOBER 27, 2009 SUBJECT TO THE FOLLOWING CONDITIONS:
  - THE CONDITIONAL USE SHALL APPLY ONLY TO THE PROPOSED GASOLINE SERVICE STATION, AS DESCRIBED IN THE PETITION AND CONDITIONAL USE PLAN SUBMITTED ON APRIL 30, 2009 TO THE BOARD AS PETITIONER'S EXHIBIT #1, AND NOT TO ANY OTHER ACTIVITIES, USES, OR STRUCTURES ON THE SUBJECT PROPERTY.
  - OUTSIDE OPERATIONS ARE LIMITED TO DISPENSING GASOLINE, DIESEL FUEL, PRESSURIZED AIR, THE CHANGING OF TIRES, PROPANE GAS EXCHANGE, AND VACUUMING.
  - ALL OUTSIDE SALES OF PROPANE SHALL BE SCREENED.
  - THE PREMISES SHALL BE MAINTAINED AT ALL TIMES IN A CLEAN AND ORDERLY CONDITION, INCLUDING THE CARE OR REPLACEMENT OF PLANT MATERIALS REQUIRED IN THE LANDSCAPING PLAN. THE REQUIREMENT FOR COMPLIANCE WITH THIS PROVISION SHALL BE WITH ALL PARTIES HAVING A LEASE OR OWNERSHIP INTEREST IN THE GASOLINE SERVICE STATION.
  - ABANDONMENT OF THE PREMISES (INCLUDING LANDSCAPING) OF ANY GASOLINE SERVICE STATION WHICH IS NOT IN CONTINUOUS OPERATION OR IS ABANDONED SHALL BE MAINTAINED IN THE SAME MANNER AS IS REQUIRED UNDER THESE REGULATIONS FOR OPERATING GASOLINE SERVICE STATIONS.
  - VOIDANCE OF THE USE: THE GASOLINE SERVICE STATION CONDITIONAL USE SHALL BECOME VOID UPON NOTICE OF ABANDONMENT BY THE OWNER. IF NOTICE OF ABANDONMENT IS NOT RECEIVED, BUT IT IS DETERMINED BY THE DEPARTMENT OF PLANNING AND ZONING THAT A GASOLINE SERVICE STATION HAS NOT BEEN IN CONTINUOUS OPERATION FOR A PERIOD OF TWELVE MONTHS, A REVOCATION HEARING SHALL BE INITIATED BY THE DEPARTMENT OF PLANNING AND ZONING IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN SECTION 133.LL FOR PURPOSES OF THIS SUBSECTION, "CONTINUOUS OPERATION" SHALL MEAN OPERATION AS A GASOLINE SERVICE STATION AT LEAST EIGHT HOURS PER DAY, FIVE DAYS PER WEEK.
  - REMOVAL: IF A GASOLINE SERVICE STATION IS ABANDONED AND THE CONDITIONAL USE BECOMES VOID AS PROVIDED ABOVE, ALL GASOLINE PUMPS, PLUMBING CANOPIES AND OTHER IMPROVEMENTS (NOT INCLUDING BUILDINGS) SHALL BE REMOVED FROM THE SITE WITHIN SIX MONTHS OF THE DATE THE CONDITIONAL USE BECOMES VOID.
  - THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND COUNTY LAWS AND REGULATIONS.
 SEE CONTINUATION OF GENERAL NOTES ON SHEET 12.

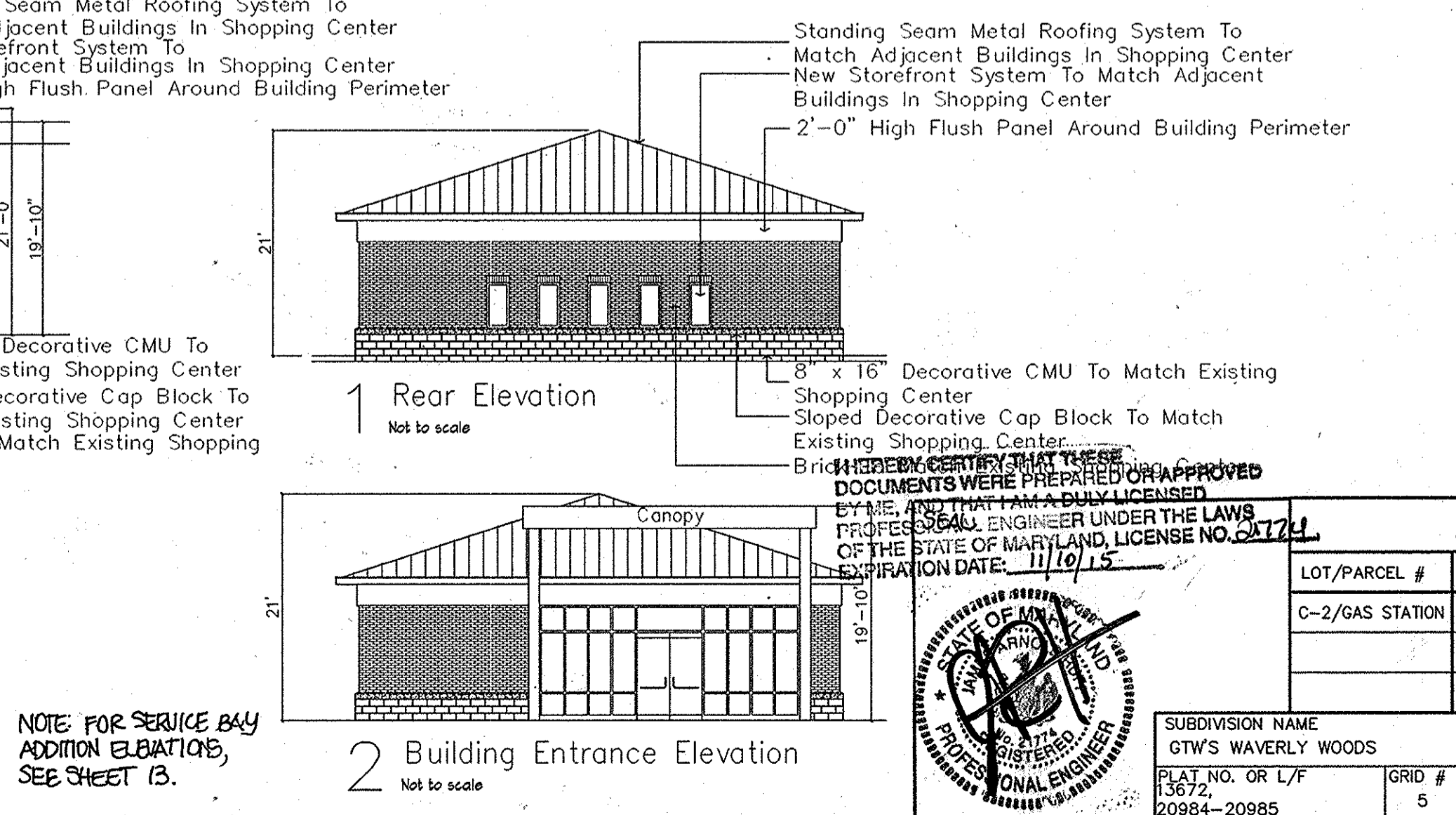
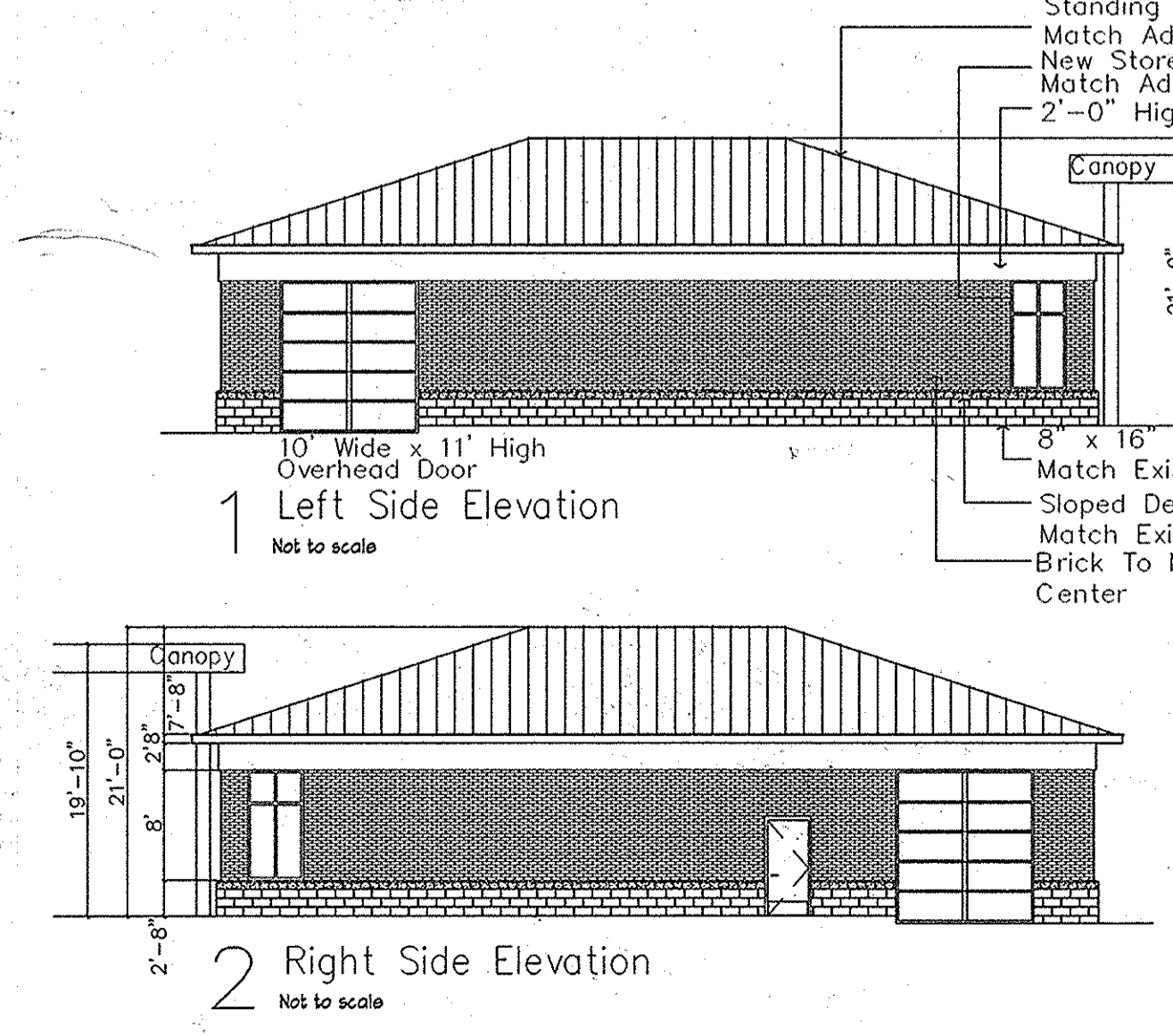
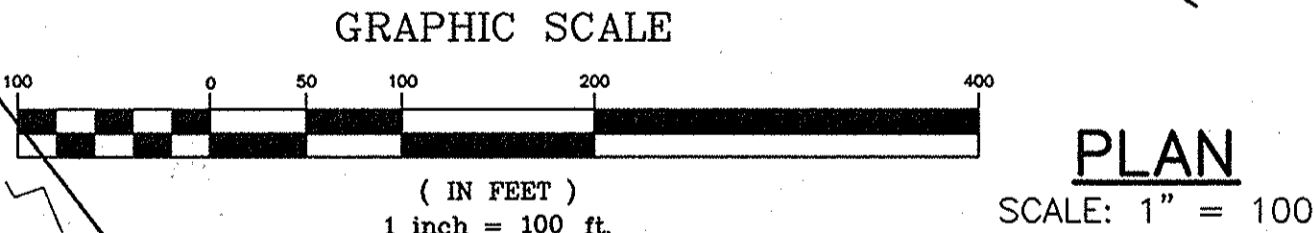
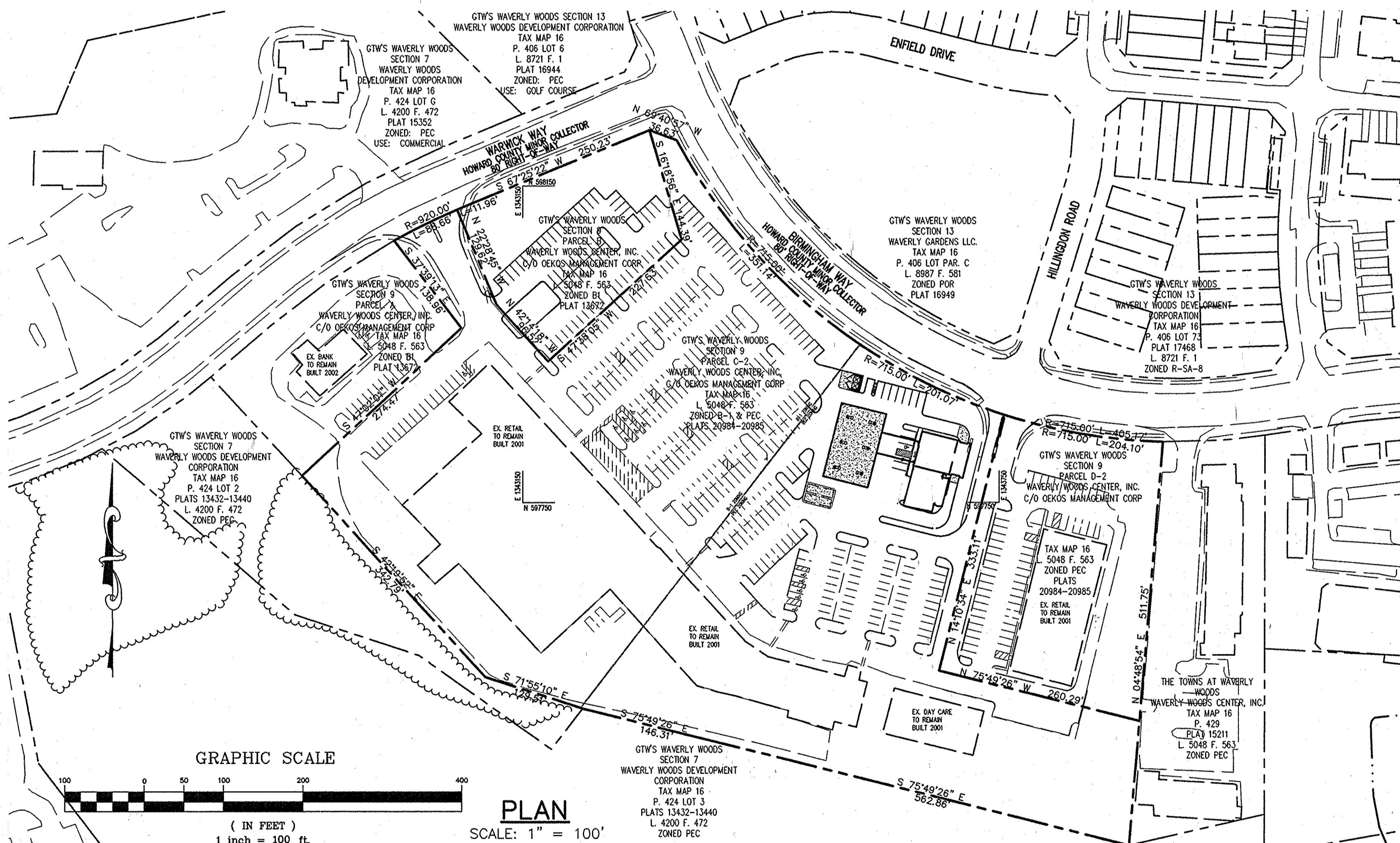
# SITE DEVELOPMENT PLAN

# GTW'S WAVERLY WOODS

## SECTION 9 PARCELS B, C-2 & D-2

## 3RD ELECTION DISTRICT

## HOWARD COUNTY, MARYLAND



NOTE FOR SERVICE BAY ADDITION ELEVATIONS, SEE SHEET 13.

**BENCHMARKS**  
 HOWARD COUNTY SURVEY CONTROL: 16E1  
 ELEVATION 463.906  
 N 593250.9638 E 1340192.7010  
 LOCATION IS: ISLE AT CORNER OF ROUTE 40 AND MARRIOTTVILLE ROAD

HOWARD COUNTY SURVEY CONTROL: 0012  
 ELEVATION 486.230  
 N 596502.7804 E 1340864.3654  
 LOCATION IS: MARRIOTTVILLE ROAD AND ROUTE 70 (NEAR BRIDGE)

**VICINITY MAP**  
 SCALE: 1" = 2000'  
 COPYRIGHT ADC THE MAP PEOPLE, PERMITTED USE NO. 20811917  
 HOWARD COUNTY ADC MAP 4814 GRID G1

**SITE DATA ANALYSIS**

|   |   |
|---|---|
| AREA OF SITE:   | 1.05 ACRES (45,798 SF) (PARCEL B)<br>10.03 ACRES (436,750 SF) (PARCEL C-2)<br>1.78 ACRES (78,173 SF) (PARCEL D-2)   |
| LIMIT OF DISTURBED AREA:                                    | 1.78 ACRES ± (78,184 SF)  |
| PRESENT ZONING:   | B-1 (BUSINESS GENERAL) AND PEC  |
| EXISTING USES:  | SHOPPING CENTER AND PARKING   |
| PROPOSED USES:  | SHOPPING CENTER, SERVICE STATION, AND PARKING AND SERVICE STATION SERVICE BAYS  |
| FLOOR AREA OF PROPOSED SERVICE STATION:                     | 5,190 SF  |
| % BUILDING COVERAGE (PARCEL C-2):                           | 92.900SF/436,750 SF = 21.2%   |
| BUILDING HEIGHT:  | MAXIMUM ALLOWABLE HEIGHT: 8'-0" PEC, 4'-0" B-1<br>HEIGHT OF PROPOSED SERVICE STATION: 21'-0"  |
| PARKING TABULATION:   |   |
| OVERALL SHOPPING CENTER TOTAL EXISTING PARKING:             | 506 SPACES (193 PUBLIC SPACES + 13 EMPLOYEE SPACES)<br>498 SPACES (SHOPPING CENTER PER SDP-98-125)<br>8 SPACES (SERVICE STATION) + 9 SPACES (SERVICE BAYS)  |
| TOTAL REQUIRED PARKING:                                     | 515 TOTAL SPACES PER ZONING<br>502 TOTAL SPACES PER PARKING NEEDS STUDY DATED 10/8/14<br>See SPACES (INCLUDING 15 HC SPACES)*   |
| TOTAL PROPOSED PARKING:                                     | 8 SPACES (4 SPACES FOR SERVICE STATION AND 4 SPACES FOR CONVENIENCE STORE - 1,800 SF/1,000 X 2 SPACES = 4 SPACES) + 9 SPACES SERVICE BAYS (3 SPACES PER BAY X 3 BAYS) 17 SPACES (INCLUDES 2 HC SPACES)  |
| PROPOSED PARKING:   |   |
| MAXIMUM NUMBER OF EMPLOYEES:                                | GAS STATION/CONVENIENCE STORE:<br>8-8 FULL AND PART TIME EMPLOYEES, THREE EMPLOYEES ON SITE AT A TIME<br>ATTN: SID ROPROS<br>MANAGER AND 2 SALES ASSOCIATES<br>SERVISE DEPARTMENT: 3 EMPLOYEES (1 MANAGER AND 2 TECHNICIANS)<br>SDP-98-125, S-94-07, WP-98-145, F-96-179, F-97-180, F-98-25, F-99-28, SDP-98-35, F-01-05, BA-08-049C, F-10-073, EA-14-011C. |
| APPLICABLE DPZ FILE REFERENCES:                             |   |
| LANDSCAPE AREA (REQUIRED FOR CONDITIONAL USE): (BA-08-049C) | REQUIRED: 20% (0.91 AC AREA OF CONDITIONAL USE) X 0.20 = 0.18 AC<br>PROVIDED: 20% (0.16 AC)   |

**LEGEND**

|                               |   |
|-------------------------------|---|
| PROPERTY LINE                 | ○ |
| EX. LIGHT POLE                | ○ |
| EX. TREE                      | ○ |
| EX. GAS VALVE                 | ○ |
| EX. WATER VALVE               | ○ |
| EX. CLEAN OUT                 | ○ |
| EX. FIRE HYDRANT              | ○ |
| EX. SANITARY MANHOLE          | ○ |
| EX. SANITARY SEWER LINE       | ○ |
| EX. STORM DRAIN               | ○ |
| EX. UNDERGROUND ELECTRIC LINE | ○ |
| EX. GAS LINE                  | ○ |
| EX. SOILS                     | ○ |
| EX. CONTOURS                  | ○ |
| EX. STRUCTURE                 | ○ |
| EX. CURB AND GUTTER           | ○ |
| EX. UTILITY EASEMENT          | ○ |
| LIMITS OF CONDITIONAL USE     | ○ |

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 Brian A. Peter Beilenson 5/3/2010 DATE  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 [Signature] 4/20/10 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 5/6/10 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 5/5/10 DATE  
 DIRECTOR

| DATE     | NO. | REVISION              |
|----------|-----|-----------------------|
| 12/10/14 | 1   | SERVICE BAY EXPANSION |

OWNER: OEKOS MANAGEMENT CORPORATION  
 ATTN: SID ROPROS  
 5565 STERRETT PLACE, SUITE 404  
 COLUMBIA, MD 21044  
 T: 410.470.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
 ATTN: RICK LEVITAN  
 10704 CLOVERBROOK DRIVE  
 POTOMAC, MARYLAND 20854  
 T: 301.370.4055

PROJECT: GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2

AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
 ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13372, 20984-20985  
 HOWARD COUNTY, MARYLAND  
 SERVICE STATION

TITLE: TITLE SHEET

Patton Harris Rust & Associates, Inc.  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

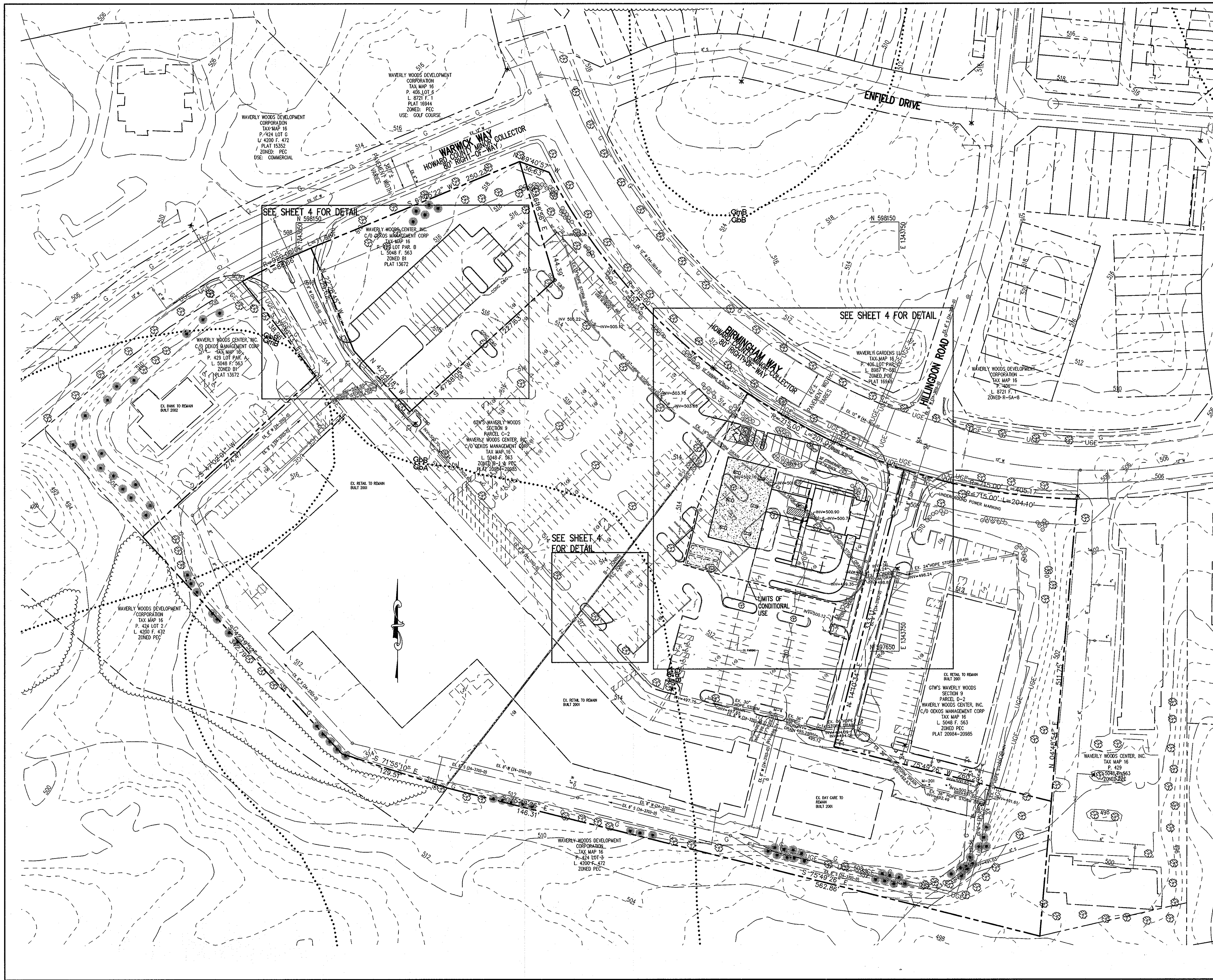
**ADDRESS CHART**

| LOT/PARCEL #    | STREET ADDRESS       |
|-----------------|----------------------|
| C-2/GAS STATION | 10781 BIRMINGHAM WAY |

SUBDIVISION NAME: GTW'S WAVERLY WOODS  
 PLAT NO. OR L/F: 20984-20985  
 GRID # 5  
 ZONING: B-1 & PEC  
 TAX MAP NO. 16  
 ELECT. DIST. 3  
 CENSUS TRACT: 603000

DESIGNED BY: JSN  
 DRAWN BY: JSN  
 PROJECT NO.: 15823-1-0  
 DATE: MARCH 29, 2010  
 SCALE: 1"=100'  
 DRAWING NO.: 1 OF 15

SDP-10-024



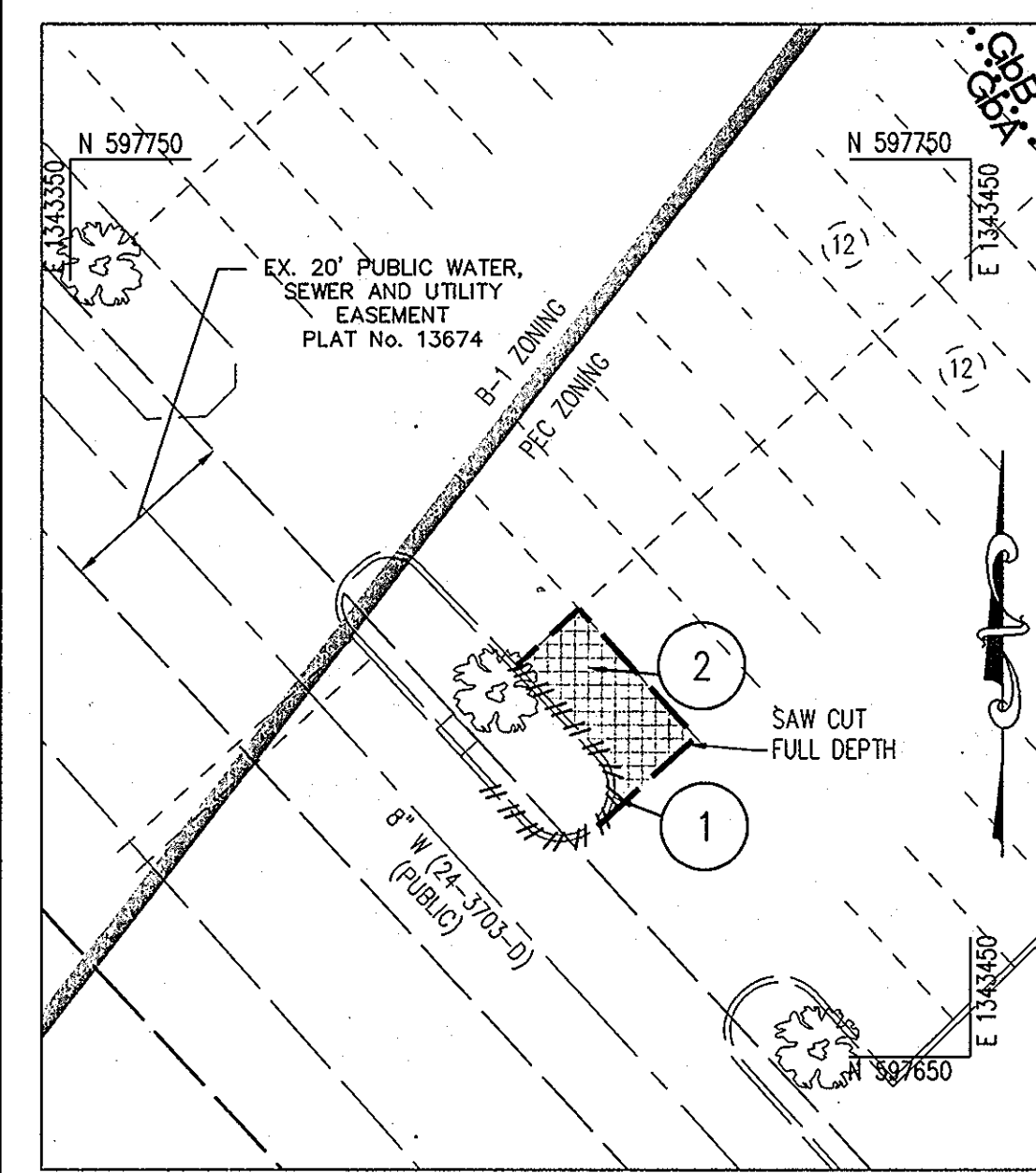
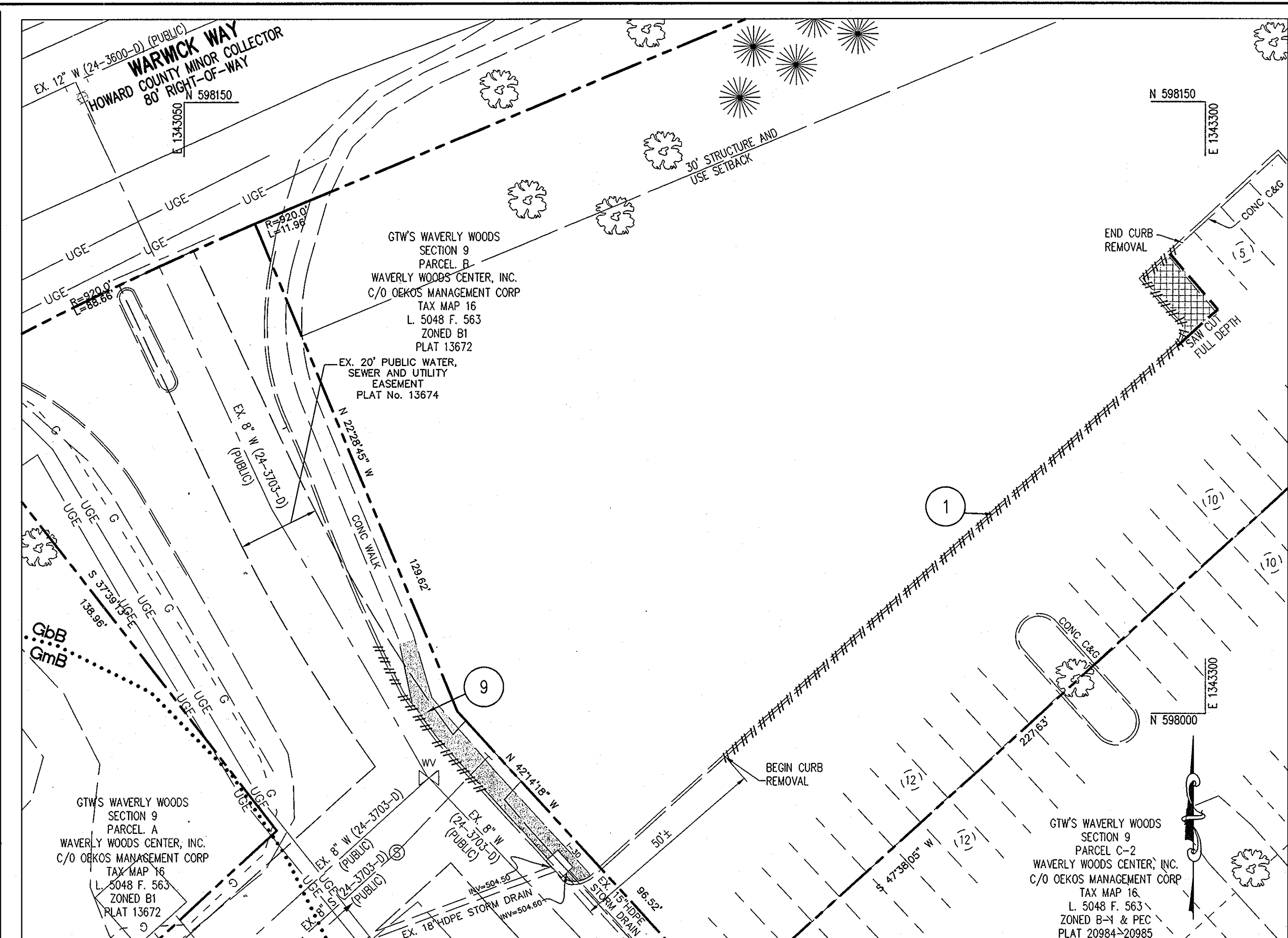
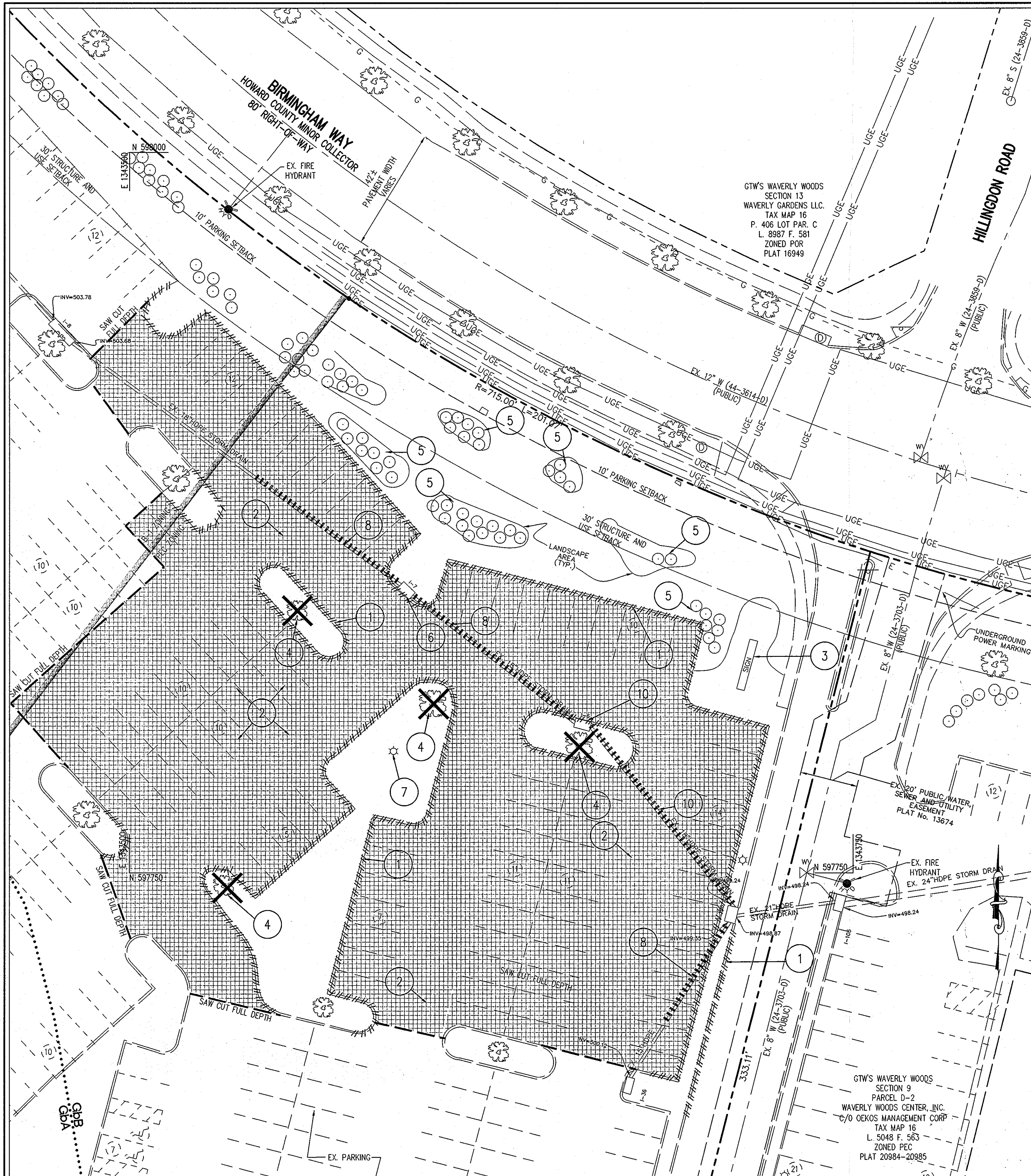
**LEGEND**

- PROPERTY LINE
- EX. LIGHT POLE
- EX. TREE
- ⊕ EX. GAS VALVE
- ⊕ EX. WATER VALVE
- EX. CLEAN OUT
- ⊕ EX. FIRE HYDRANT
- EX. SANITARY MANHOLE
- EX. STORM DRAIN MANHOLE
- EX. WATER LINE
- EX. SANITARY SEWER LINE
- EX. STORM DRAIN
- UGE EX. UNDERGROUND ELECTRIC LINE
- EX. GAS LINE
- EX. SOILS
- EX. CONTOURS
- EX. STRUCTURE
- EX. CURB AND GUTTER
- EX. UTILITY EASEMENT
- LIMITS OF CONDITIONAL USE

BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
 AT  
**1-800-257-7777**  
 AT LEAST 48 HOURS PRIOR TO EXCAVATION

GRAPHIC SCALE  
 0 25 50 100 200  
 ( IN FEET )  
 1 inch = 50 ft.

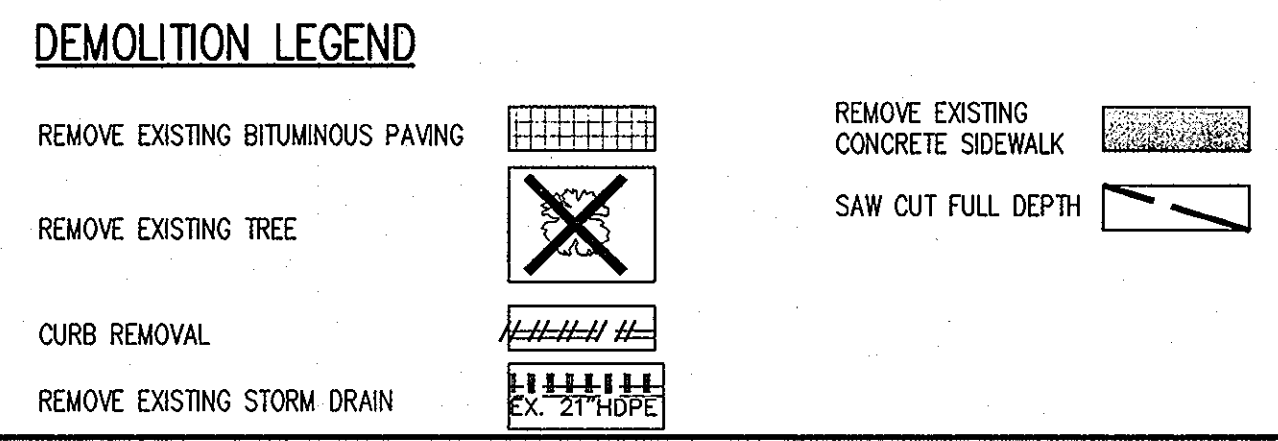
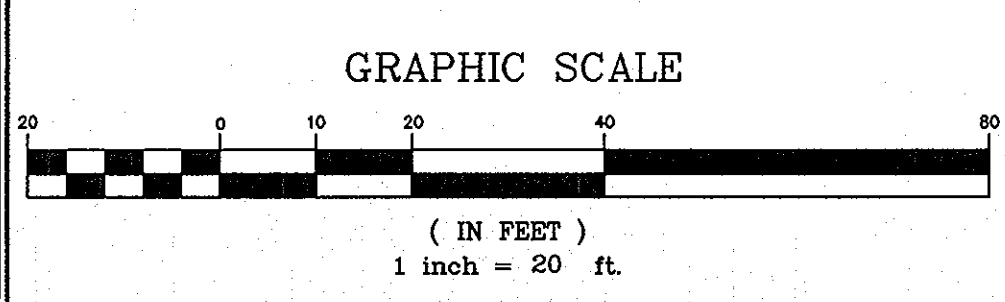
|  |  |
|--|--|
| APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  |  |
| <i>McDermott</i><br>CHIEF, DEVELOPMENT ENGINEERING DIVISION  | 4/20/10<br>DATE  |
| <i>Walt Shadish</i><br>CHIEF, DIVISION OF LAND DEVELOPMENT   | 5/05/10<br>DATE  |
| <i>Thomas E. Suttler</i><br>DIRECTOR   | 5/15/10<br>DATE  |
| DATE NO.   | REVISION   |
| OWNER  | OEKOS MANAGEMENT CORPORATION<br>ATTN: SID ROROS<br>5565 STERRETT PLACE, SUITE 404<br>COLUMBIA, MD 21044<br>T: 410.740.5057                                       |
| DEVELOPER  | CONVENIENCE RETAILING, LLC<br>ATTN: RICK LEVITAN<br>10704 CLOVERBROOK DRIVE<br>POTOMAC, MARYLAND 20854<br>T: 301.370.4055  |
| PROJECT  | <b>GTW'S WAVERLY WOODS<br/>SECTION 9, PARCELS B, C-2, AND D-2</b>  |
| AREA   | TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1<br>ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20894-20895<br>HOWARD COUNTY, MARYLAND<br>SERVICE STATION |
| TITLE  | <b>OVERALL SITE<br/>DEVELOPMENT PLAN</b>   |
| Patton Harris Rust & Associates, Inc.<br>Engineers, Surveyors, Planners, Landscape Architects.<br>8818 Centre Park Drive<br>Columbia, MD 21045<br>T 410.997.8900<br>F 410.997.9282 |  |
| SEAL   | DESIGNED BY : ALC  |
|  | DRAWN BY : ALC   |
|  | PROJECT NO : 15823-1-0   |
|  | DATE : MARCH 29, 2010  |
|  | SCALE : 1" = 50'   |
| BY : <i>ALC</i>  | DRAWING NO. 2 OF 15  |



- DEMOLITION KEY:**
- 1 REMOVE EXISTING CURB AND GUTTER
  - 2 REMOVE EXISTING BITUMINOUS PAVEMENT
  - 3 RELOCATE EXISTING SIGN. REFER TO SHEET 4 FOR NEW LOCATION
  - 4 REMOVE EXISTING TREE
  - 5 REMOVE EXISTING LANDSCAPE AREA AND EXISTING SHRUBS
  - 6 REMOVE EXISTING STORM DRAIN INLET
  - 7 REMOVE EXISTING LIGHT. COORDINATE WITH OWNER FOR SALVAGING OF LIGHT.
  - 8 REMOVE EXISTING STORM DRAIN ONLY AFTER COMPLETION OF BYPASS STORM DRAIN SYSTEM
  - 9 REMOVE EXISTING CONCRETE SIDEWALK
  - 10 REMOVE EXISTING INLET AND PIPE ONLY AFTER INITIAL ROUGH GRADING IS ACCOMPLISHED

- DEMOLITION NOTES**
1. ALL MATERIALS DEMOLISHED, UNLESS IDENTIFIED TO BE SALVAGED (CONCRETE, PAVING, AND OTHER DEBRIS) SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PER FEDERAL, STATE AND LOCAL REGULATIONS. ALL COSTS OF HAULING, DISPOSAL AND TIPPING FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF THE BASE BID.
  2. ALL MATERIALS IDENTIFIED TO BE SALVAGED SHALL BE REMOVED WITH CARE TO MINIMIZE DAMAGE AND SHALL BE STORED ON SITE FOR REUSE OR FOR RETRIEVAL BY OWNER OR OWNER AGENT. SALVAGED ITEMS INCLUDE SIGNS.
  3. ALL QUANTITIES OF DEMOLITION SHALL BE DETERMINED BY THE CONTRACTOR AND COVERED IN THE BASE BID. CONTRACTOR SHALL MAKE NECESSARY SITE INSPECTIONS PRIOR TO BID TO VERIFY ALL QUANTITIES TO HIS SATISFACTION.
  4. CONTRACTOR SHALL REFER TO SEPARATE PLANS IN THE CIVIL SERIES (STORMWATER MANAGEMENT, SEDIMENT CONTROL, PAVING, ETC.) TO DETERMINE APPROPRIATE SEQUENCE OF ALL DEMOLITION ACTIVITIES.
  5. REFER TO SEPARATE PLANS FOR SEDIMENT AND EROSION CONTROL REQUIREMENTS.
  6. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY EXISTING UTILITIES.
  7. ALL UNDERGROUND ELECTRICAL LINES FEEDING LIGHTING FIXTURES SHALL BE REMOVED BACK TO THE NEAREST JUNCTION BOX OUTSIDE THE LIMIT OF WORK.
  8. EXISTING UTILITY LINES HAVE BEEN SHOWN USING THE BEST AVAILABLE RECORDS OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL CALL MISS UTILITY TO LOCATE ALL UNDERGROUND UTILITY LINES AND SUPPLEMENT THOSE MARKINGS BY ENGAGING A PRIVATE UTILITY LOCATING COMPANY (AT CONTRACTORS EXPENSE) TO ENSURE THAT ALL EXISTING UTILITIES HAVE BEEN MARKED.

BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
 AT  
**1-800-257-7777**  
 AT LEAST 48 HOURS PRIOR TO EXCAVATION



**SEE SHEET 8 FOR GRADING**

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*John P. ...* 4/20/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Keith Sheppard* 5/15/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Thomas E. Buttle* 5/15/10  
 DIRECTOR DATE

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

OWNER: OEKOS MANAGEMENT CORPORATION  
 ATTN: SID ROROS  
 5565 STERRETT PLACE, SUITE 404  
 COLUMBIA, MD 21044  
 T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
 ATTN: RICK LEVITAN  
 10704 CLOVERBROOK DRIVE  
 POTOMAC, MARYLAND 20854  
 T: 301.370.4055

PROJECT: **GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2**

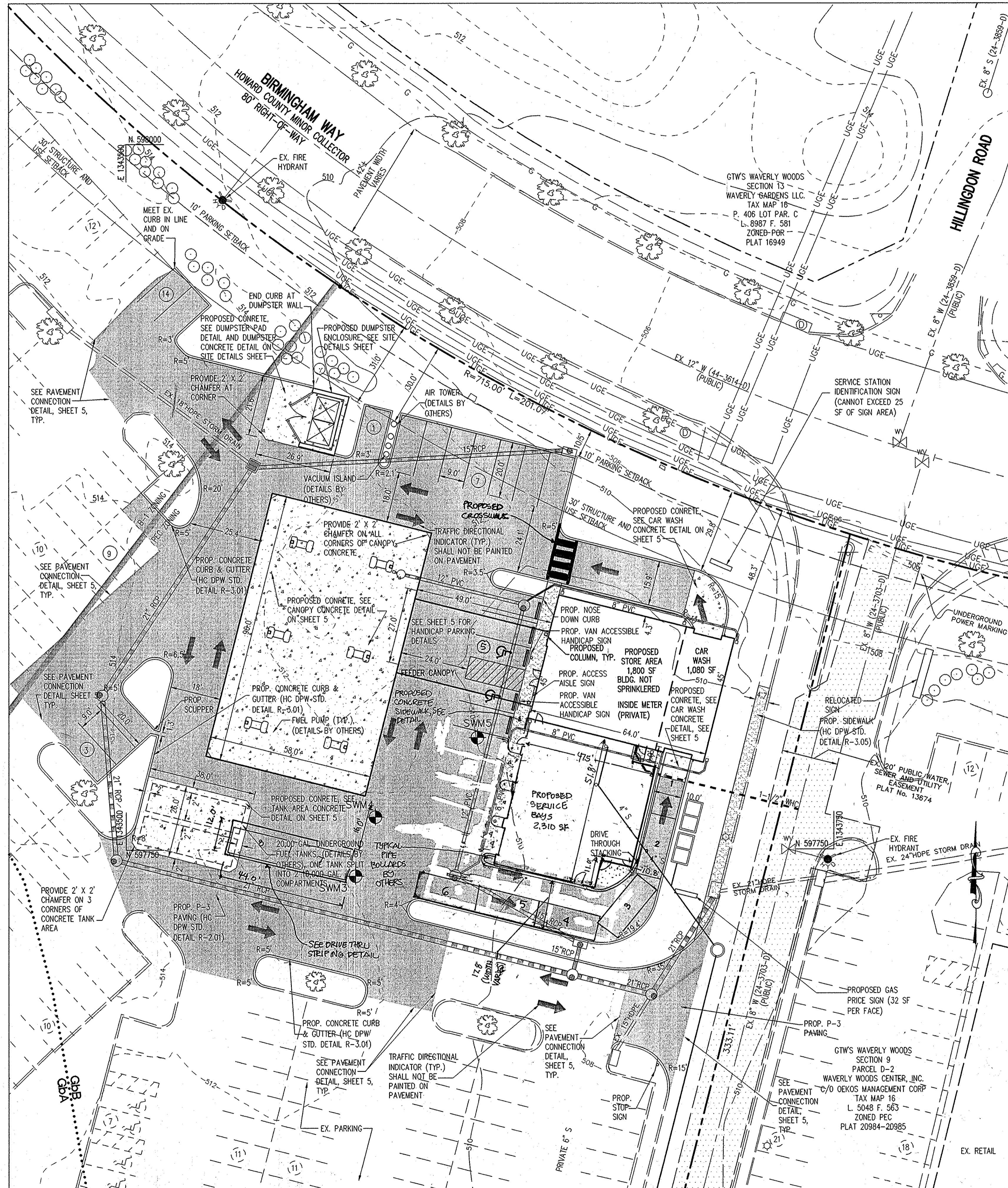
AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
 ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20984-20985  
 HOWARD COUNTY, MARYLAND SERVICE STATION

TITLE: **EXISTING CONDITIONS AND DEMOLITION PLAN**

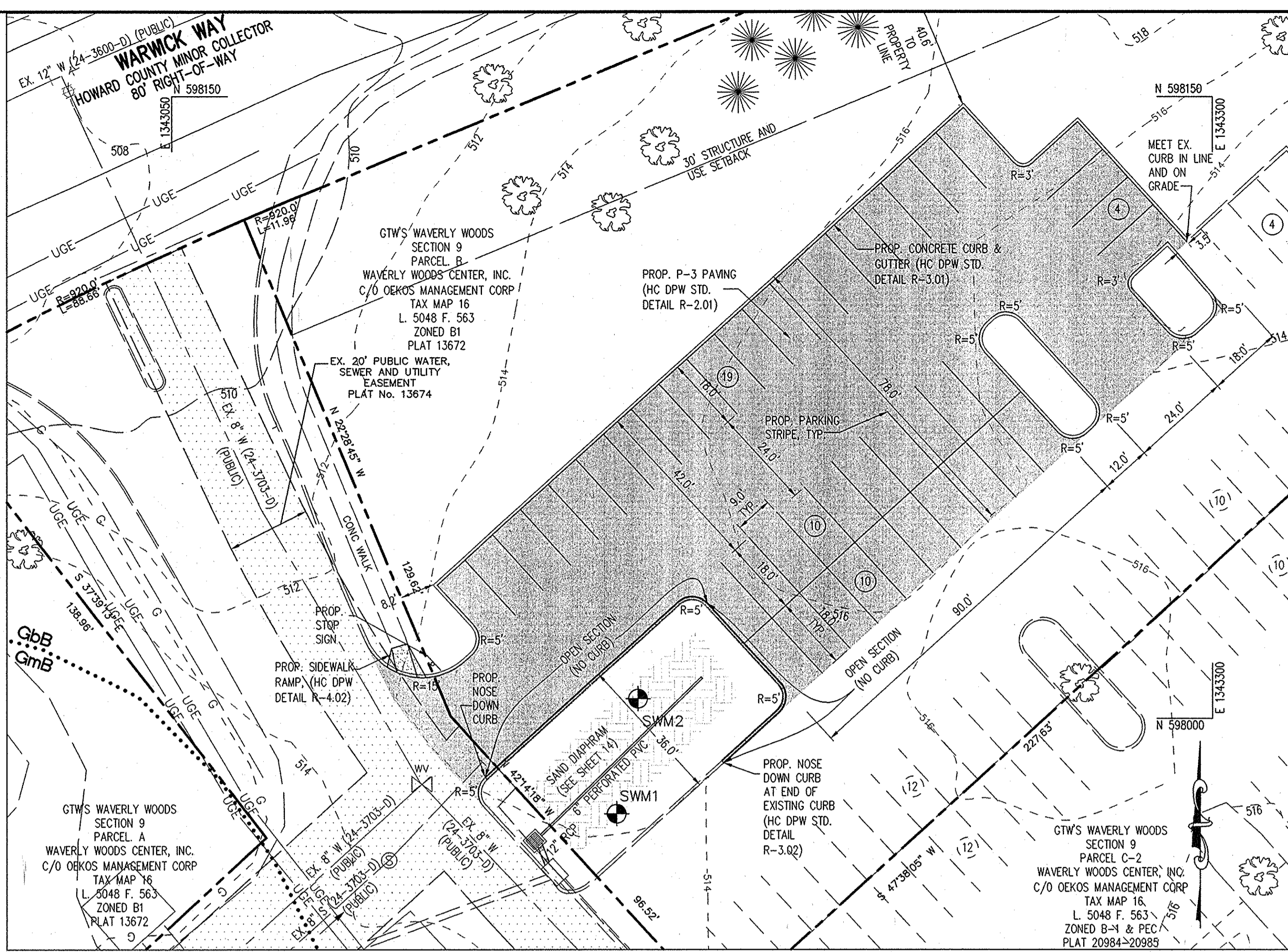
**Patton Harris Rust & Associates, Inc.**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

SEAL: STATE OF MARYLAND PROFESSIONAL ENGINEER

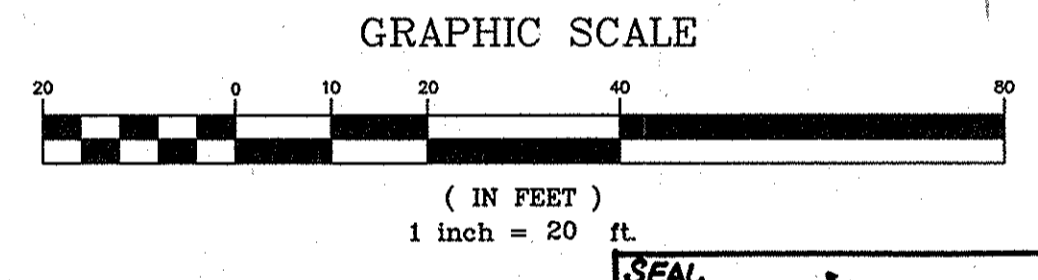
DESIGNED BY: ALC  
 DRAWN BY: ALC  
 PROJECT NO.: 15823-1-0  
 DATE: MARCH 29, 2010  
 SCALE: 1" = 20'  
 DRAWING NO. 3 OF 15



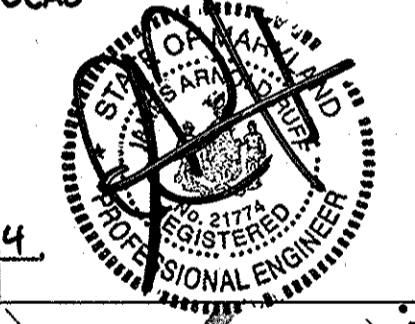
**SITE DEVELOPMENT PLAN**  
SCALE: 1"=20'



**SITE DEVELOPMENT PLAN**  
SCALE: 1"=20'



HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21774, EXPIRATION DATE: 11/1/13



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
*Peter B. Silenason* 5/3/2010  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

**SEE SHEET 8 FOR GRADING AND SHEET 3 FOR LIMITS OF PAVEMENT REMOVAL**

- LEGEND**
- PROPOSED P-3 PAVING
  - SOIL BORING
  - PROPOSED CONCRETE PAVING
  - PROPOSED CONCRETE SIDEWALK

BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
 AT  
**1-800-257-7777**  
 AT LEAST 48 HOURS PRIOR TO EXCAVATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Michael DeWane* 4/20/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*West Sheldahl* 5/4/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Thomas J. Buttle* 5/5/10  
 DIRECTOR

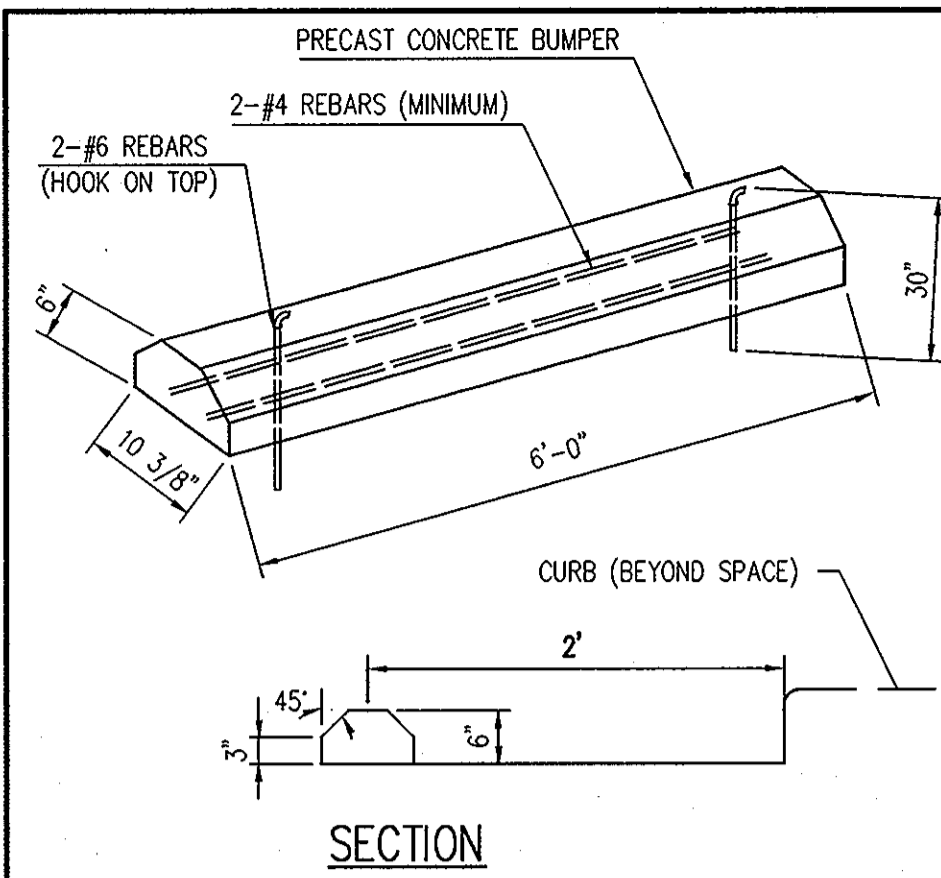
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| 12/10/14   | 1 | SERVICE BAY EXPANSION |
| DATE NO.   |   | REVISION              |
| OWNER  |   |                       |
| OEKOS MANAGEMENT CORPORATION<br>ATTN: SID ROROS<br>5565 STEBBETT PLACE, SUITE 404<br>COLUMBIA, MD 21044<br>T: 410.740.5057 |   |                       |
| DEVELOPER  |   |                       |
| CONVENIENCE RETAILING, LLC<br>ATTN: RICK LEVITAN<br>10704 CLOVERBROOK DRIVE<br>POTOMAC, MARYLAND 20854<br>T: 301.370.4055  |   |                       |

**PROJECT** GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2  
**AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1**  
 ZONING: B-1 & PEC, 3RD ELECTION DISTRICT PLATS 13672, 20984-20985  
 HOWARD COUNTY, MARYLAND  
 SERVICE STATION

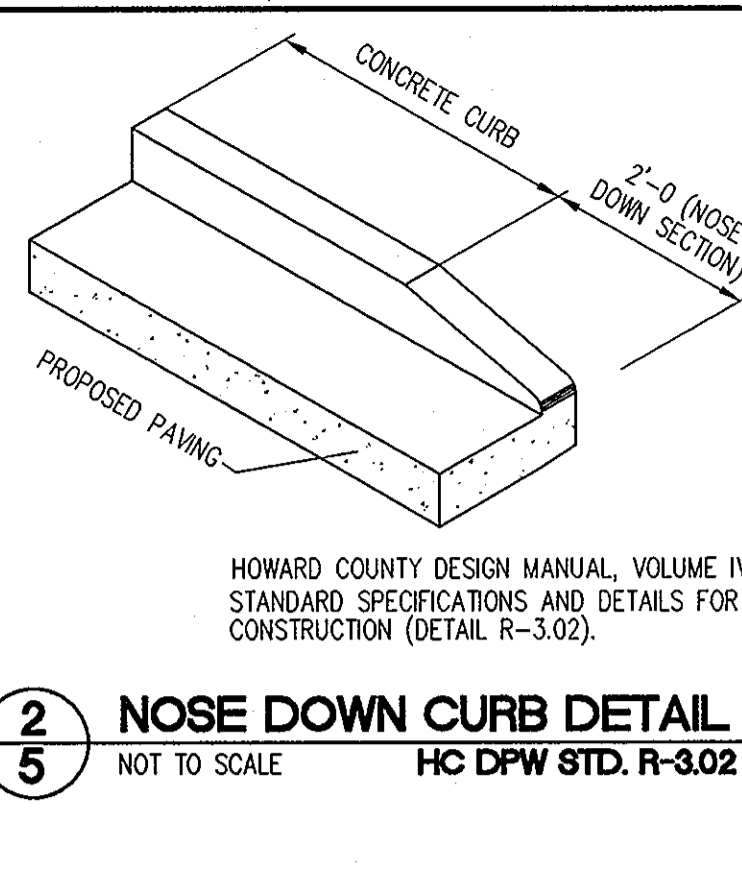
**TITLE** SITE DEVELOPMENT PLAN

**Patton Harris Rust & Associates, Inc.**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

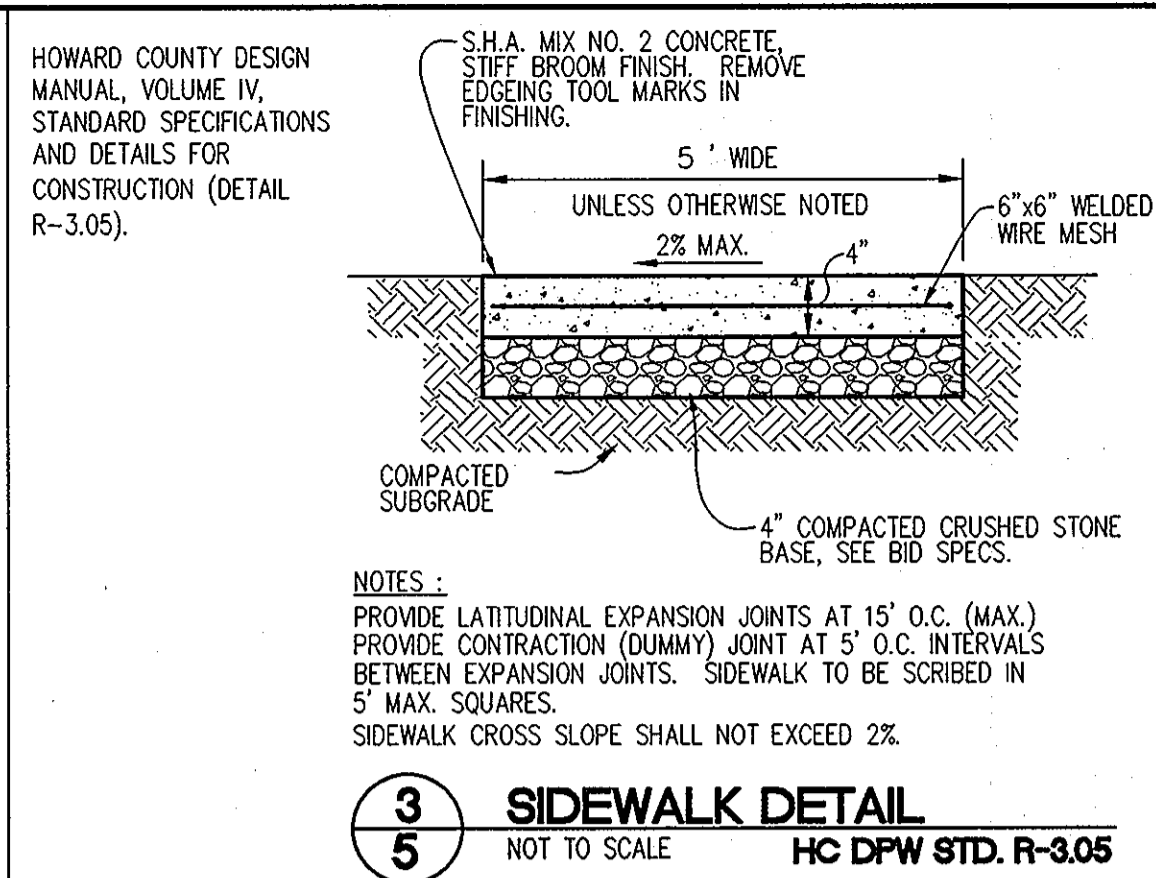
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 DRAWN BY: ALC  
 PROJECT NO: 15823-1-0  
 DATE: MARCH 29, 2010  
 SCALE: 1" = 20'  
 DRAWING NO. 4 OF 15



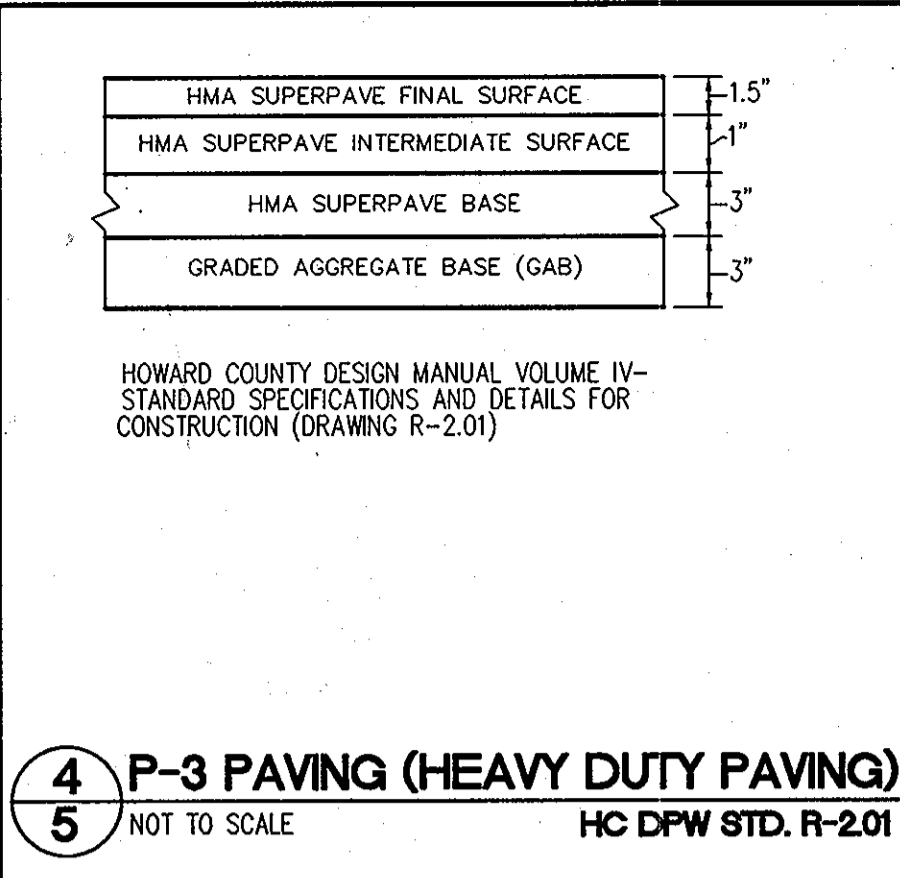
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**5** CONCRETE WHEEL STOP  
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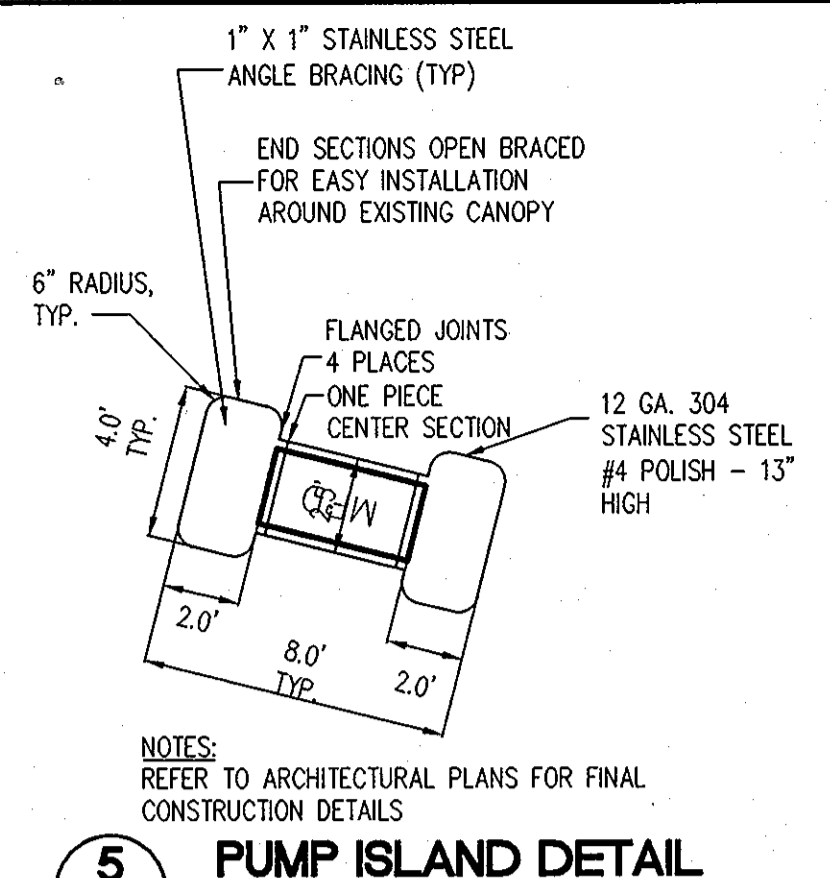
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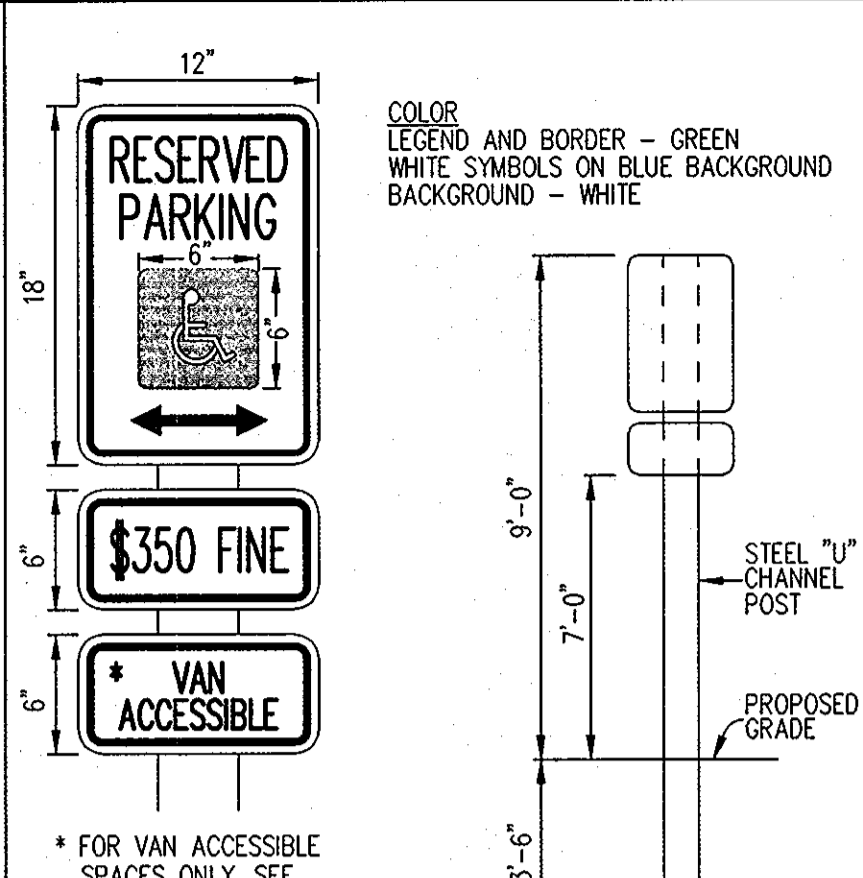
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**5** SIDEWALK DETAIL  
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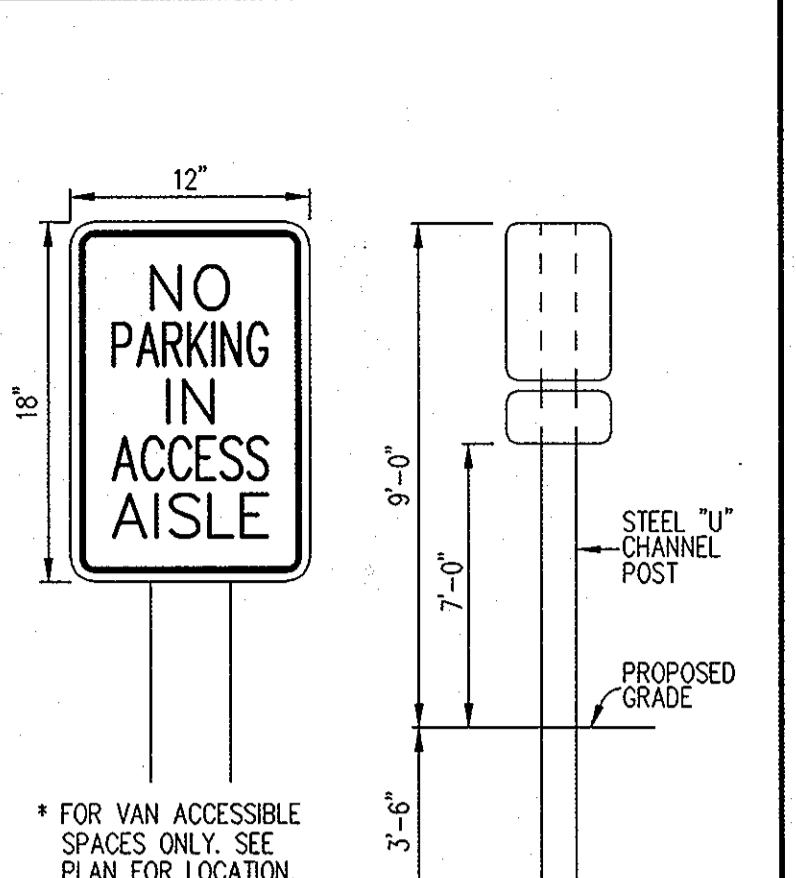
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**5** P-3 PAVING (HEAVY DUTY PAVING)  
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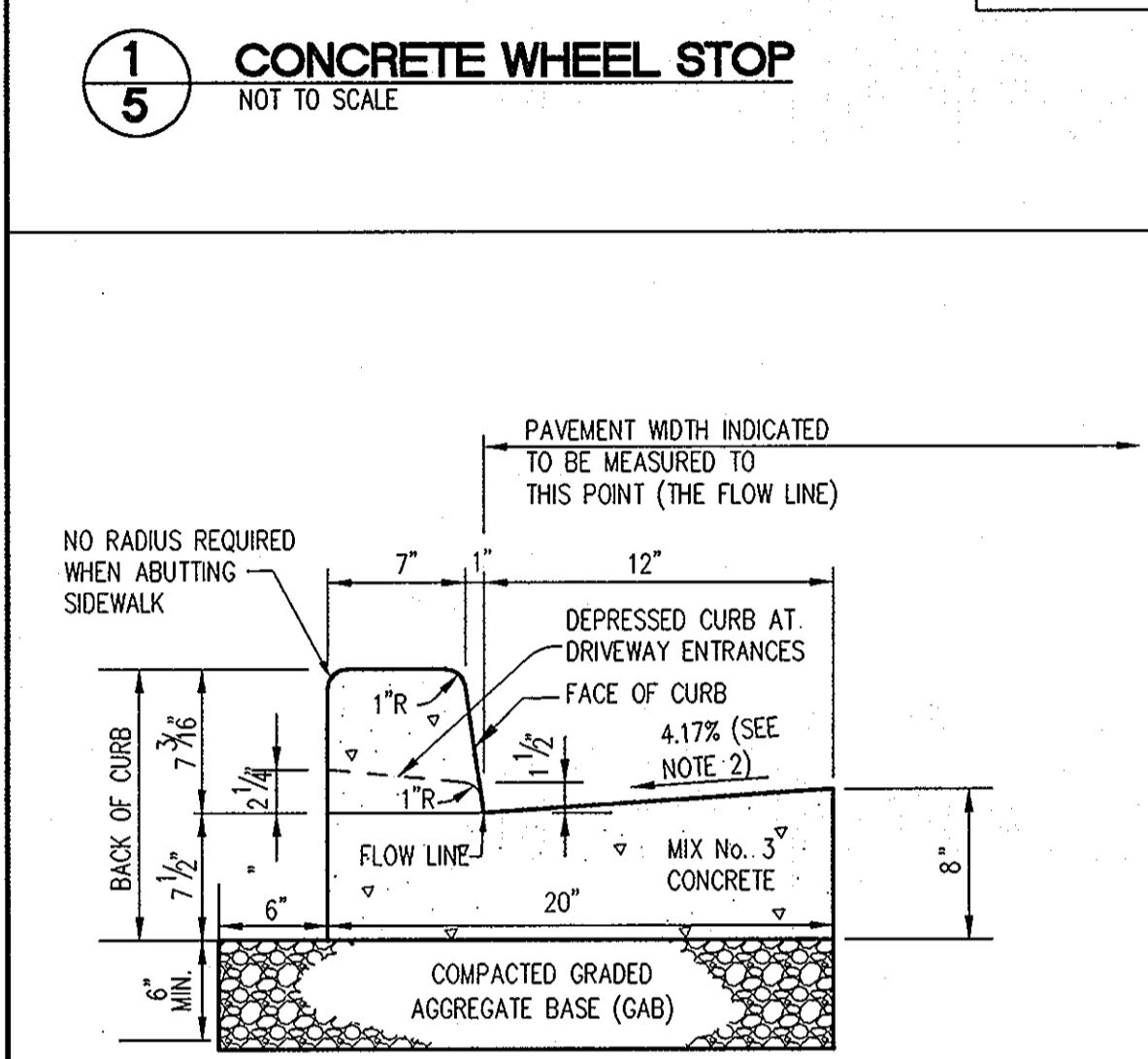
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**5** PUMP ISLAND DETAIL  
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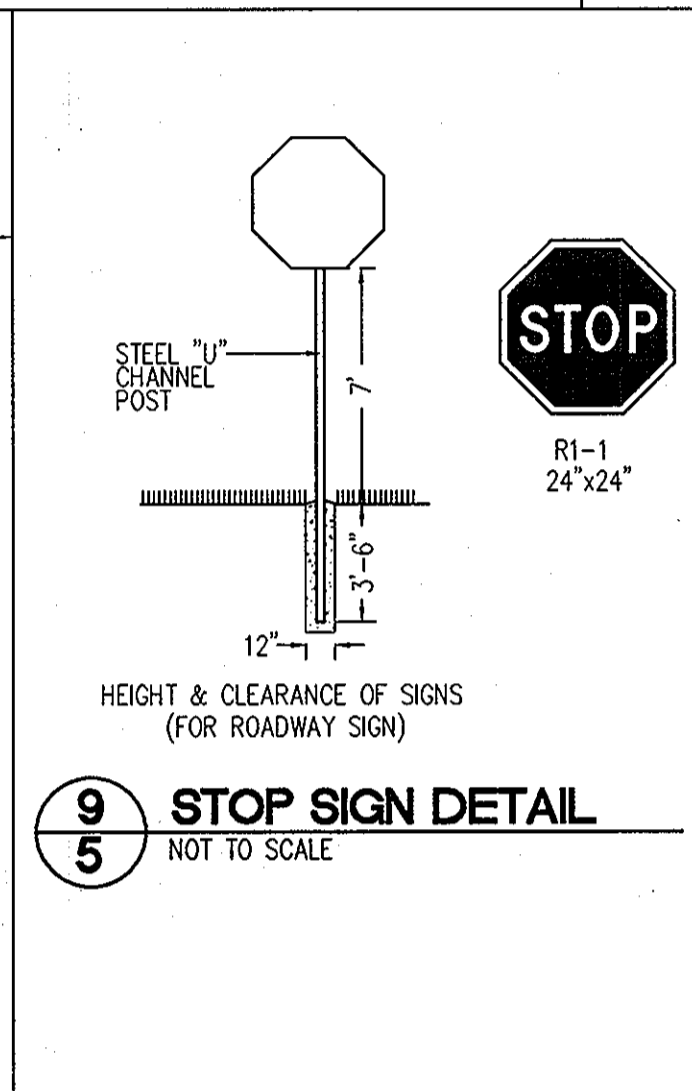
**6**  
**5** HANDICAP SIGN DETAIL  
NOT TO SCALE



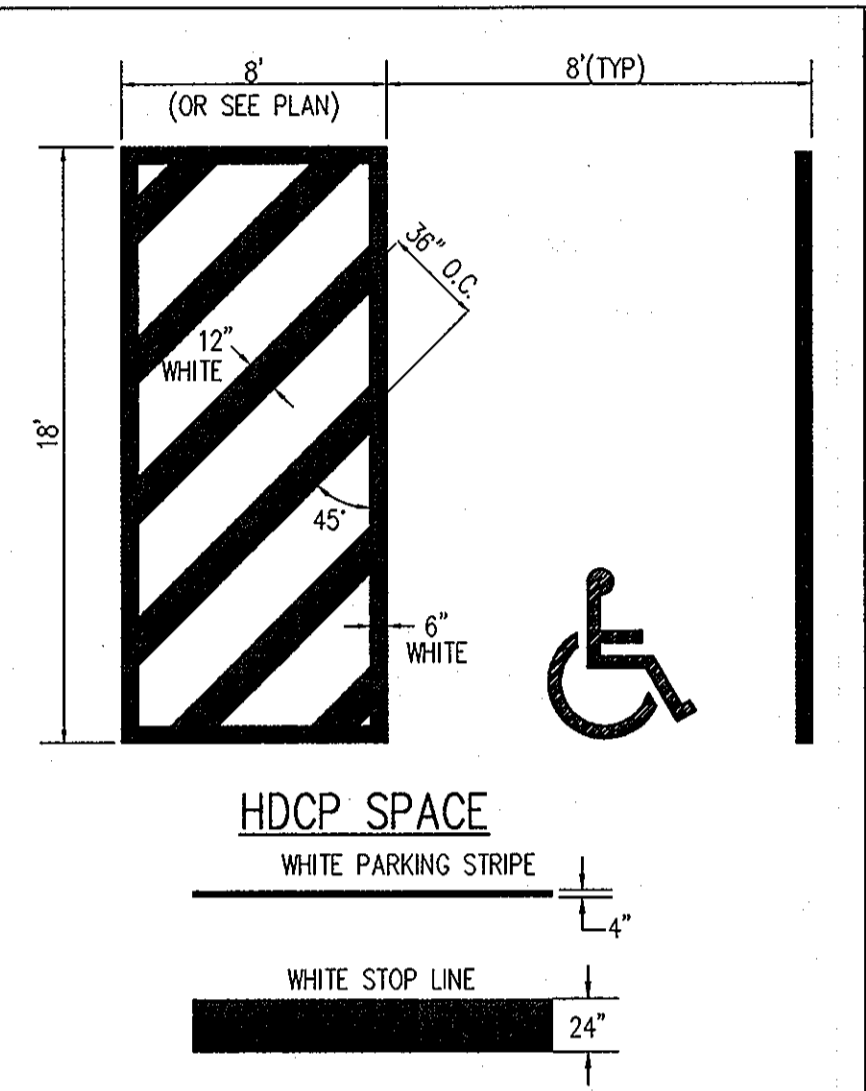
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**5** ACCESS AISLE SIGN  
NOT TO SCALE



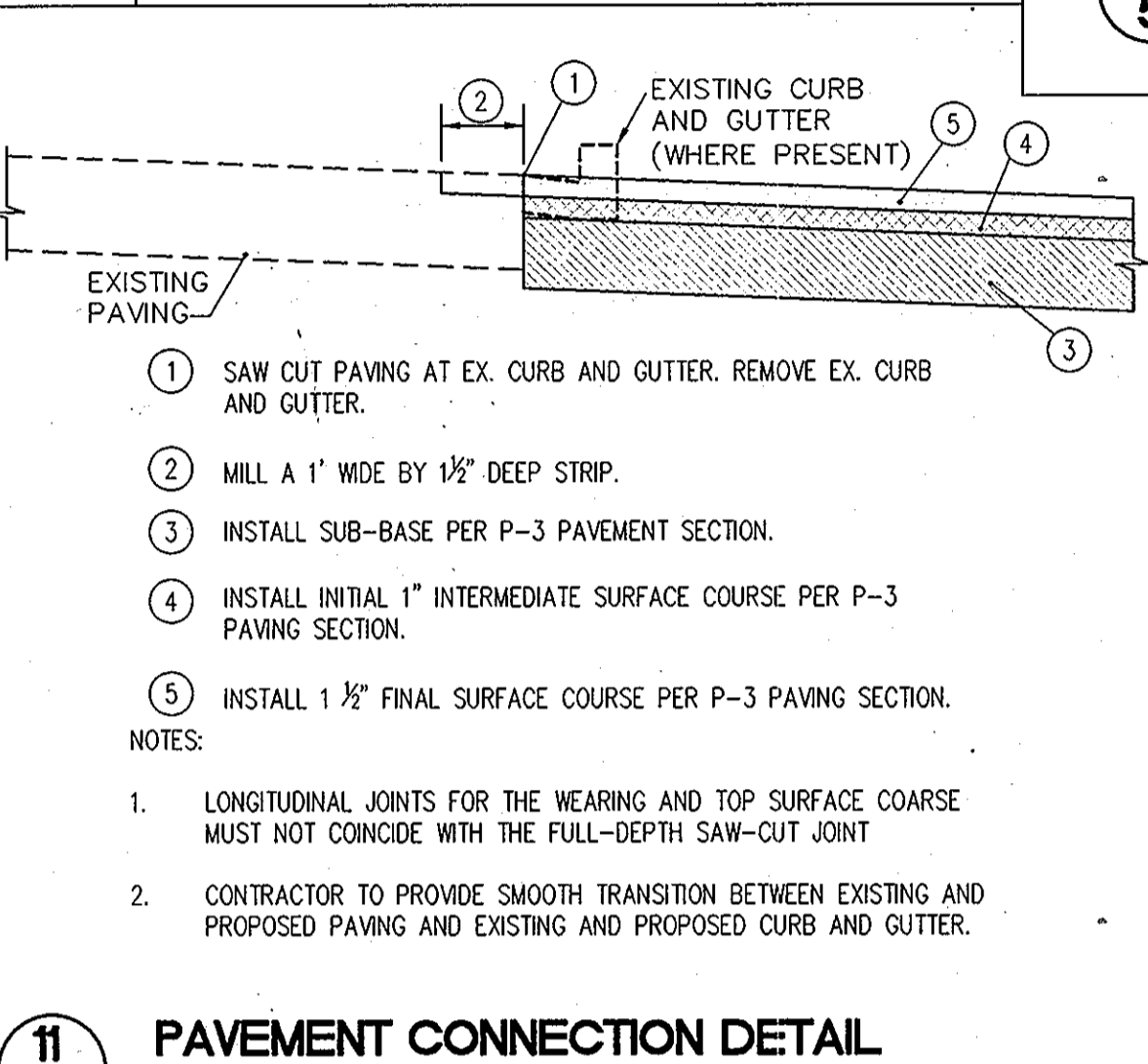
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**5** 7' COMBINATION CURB AND GUTTER  
NOT TO SCALE HC DPW STD. R-3.01



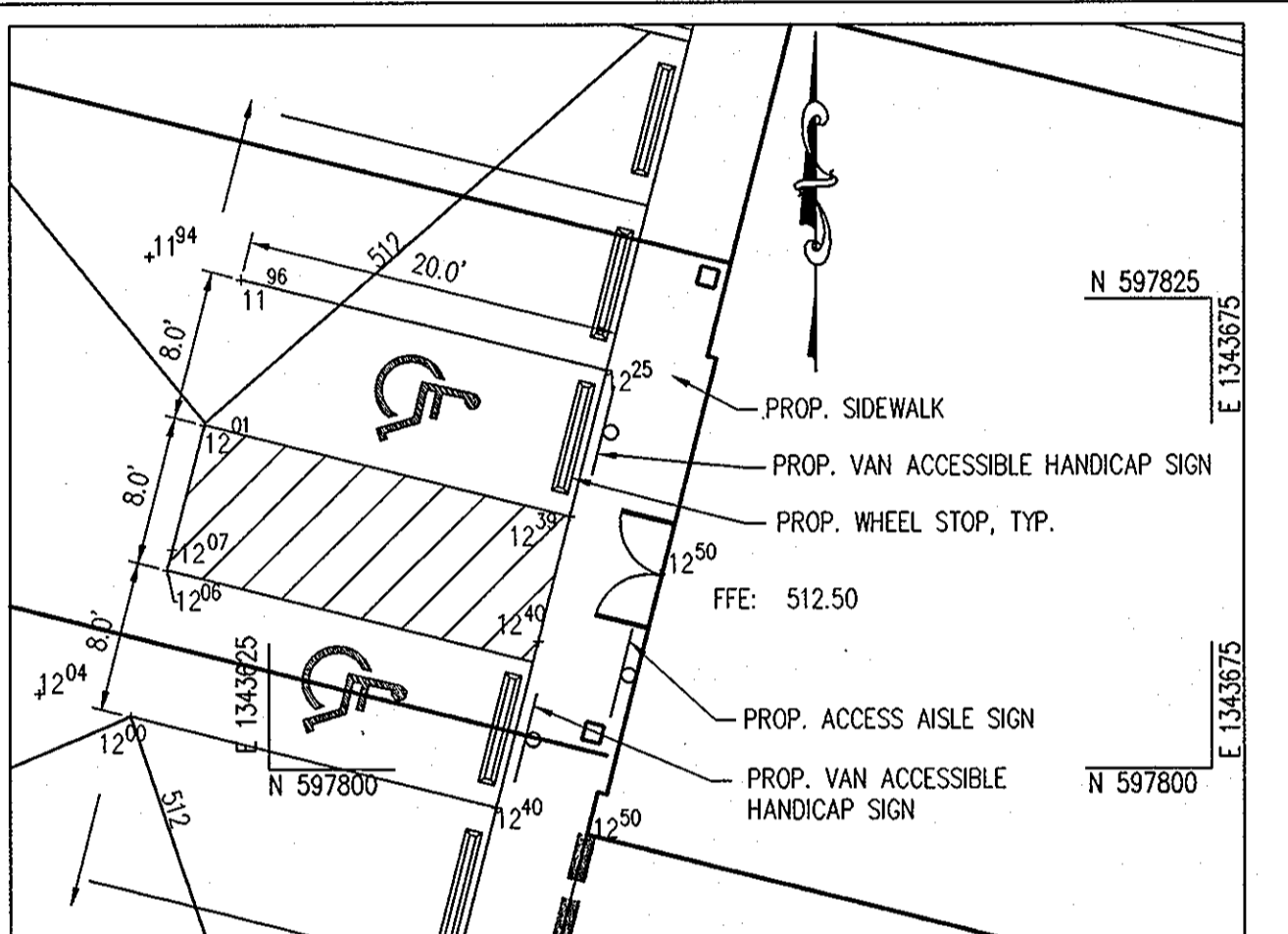
**9**  
**5** STOP SIGN DETAIL  
NOT TO SCALE



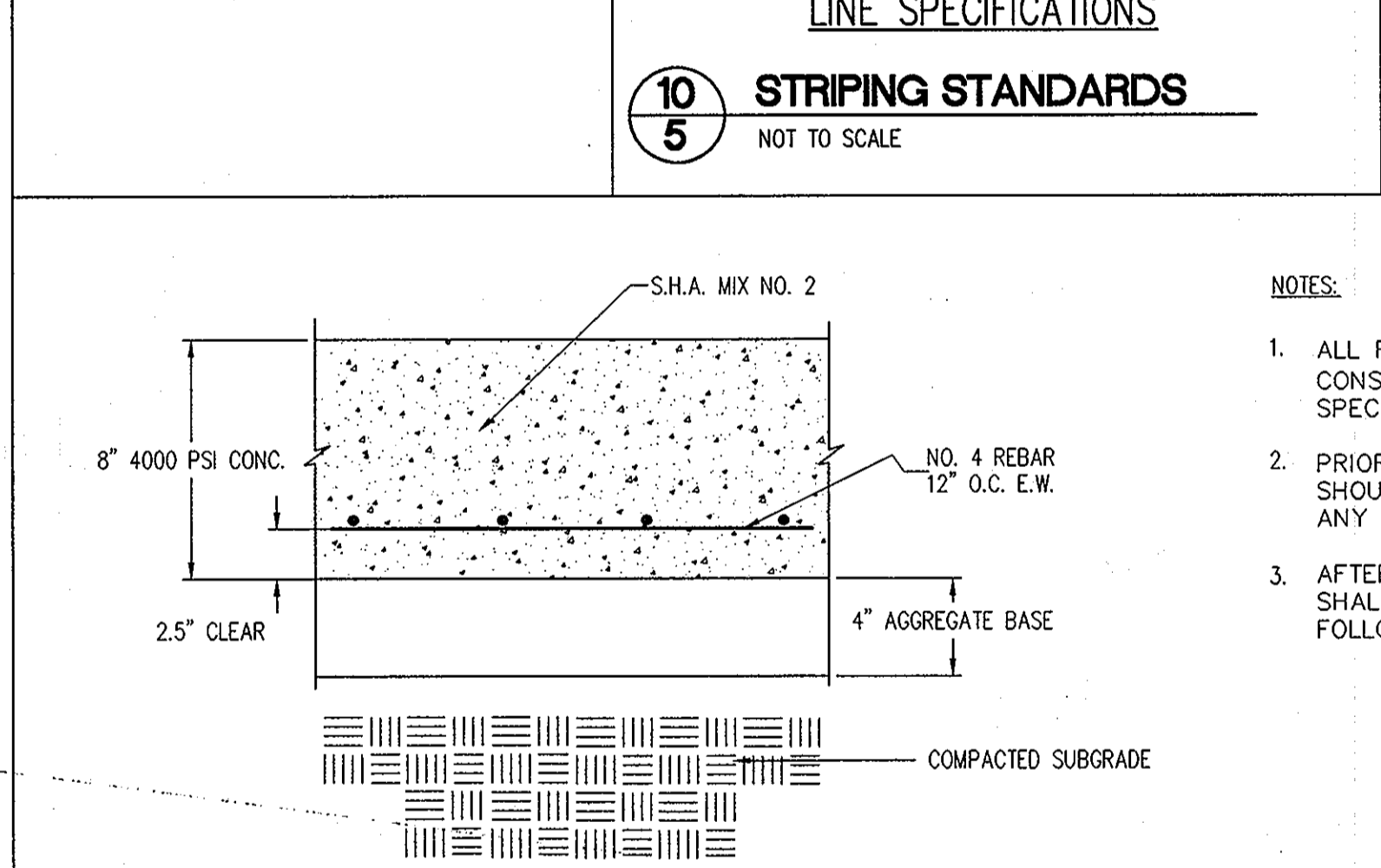
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**5** STRIPING STANDARDS  
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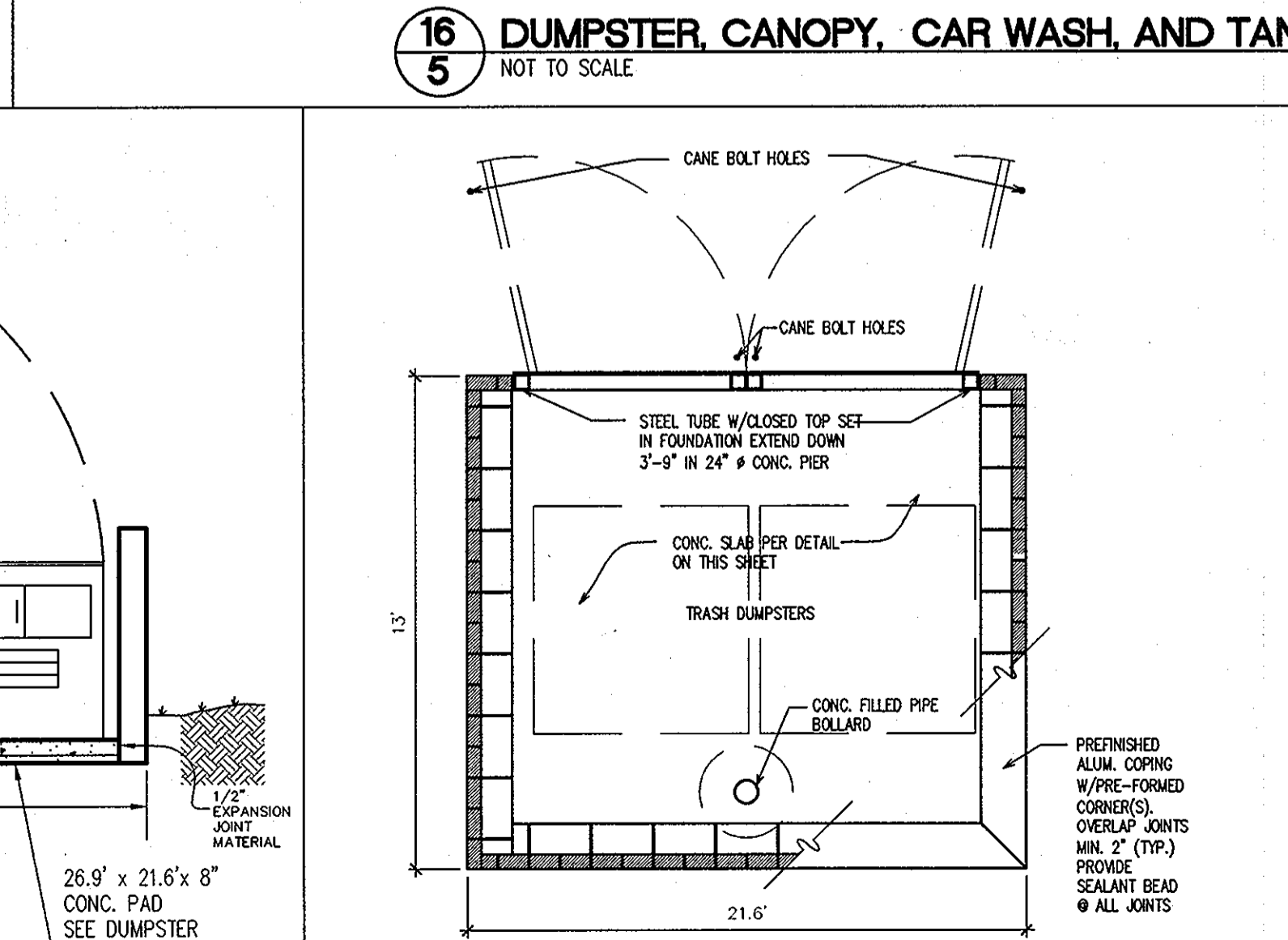
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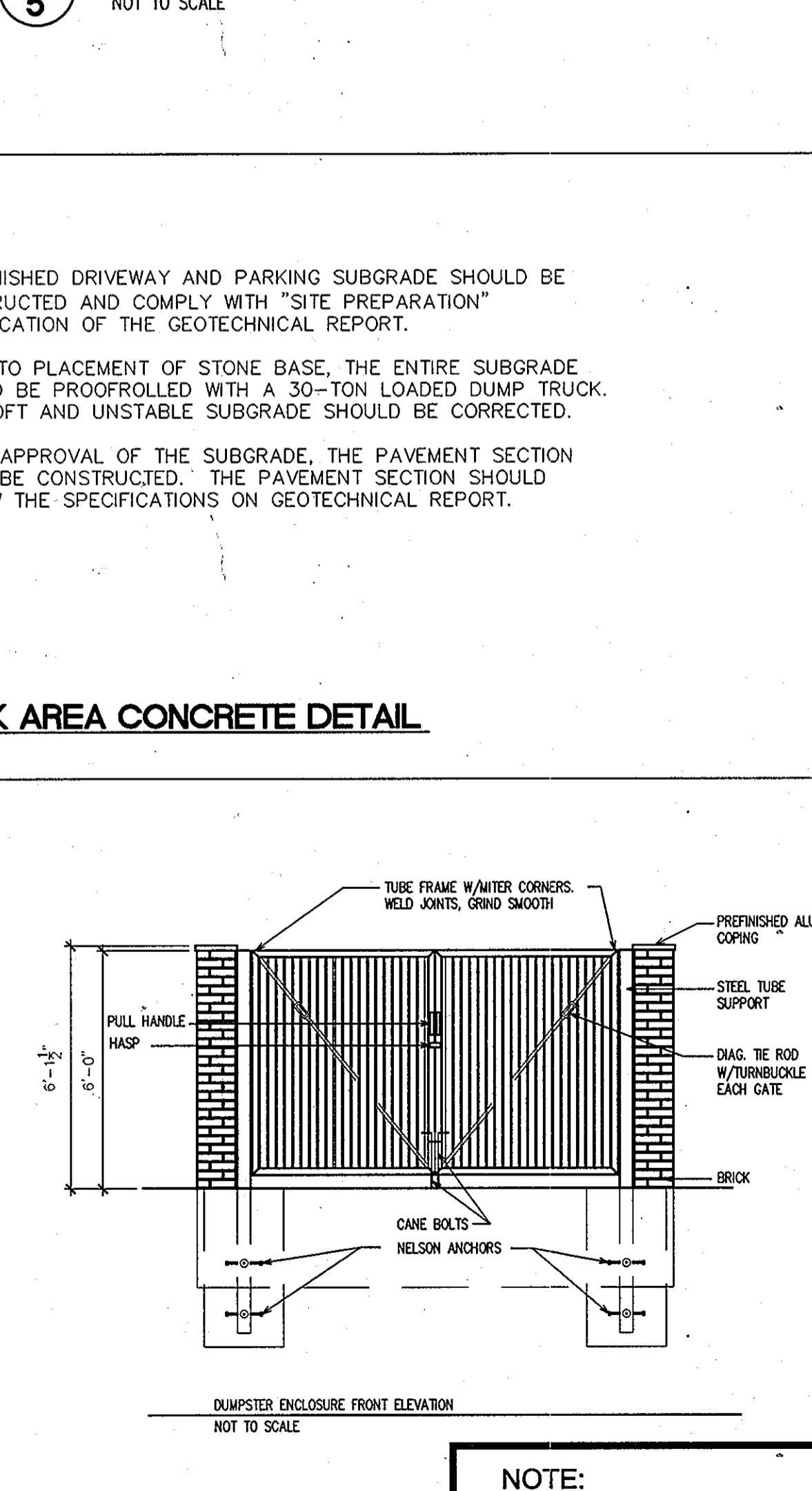
**12**  
**5** HANDICAP PARKING DETAIL  
SCALE: 1" = 10'



**13**  
**5** CURB AND GUTTER WITH SCUPPER DETAIL  
NOT TO SCALE



**14**  
**5** TYPICAL DUMPSTER PAD  
NOT TO SCALE



**15**  
**5** DUMPSTER ENCLOSURE DETAILS  
NOT TO SCALE

NOTE:  
SEE ARCHITECTURAL PLANS  
FOR FULL DUMPSTER  
ENCLOSURE DETAILS

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
*Raifon P. Peter* 5/3/2010  
COUNTY HEALTH OFFICER DATE  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*John D. Quinn* 4/20/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*West Shadron* 5/05/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Thomas E. Suttler* 5/15/10  
DIRECTOR DATE

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

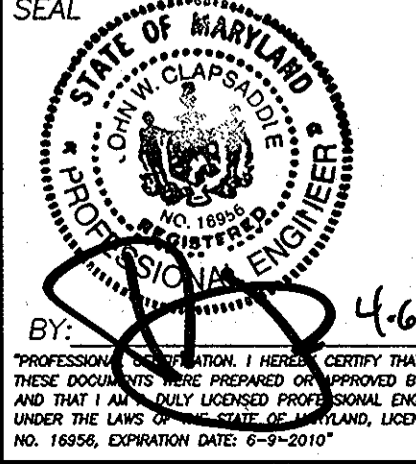
OWNER: OEKOS MANAGEMENT CORPORATION  
ATTN: SID ROROS  
5565 STERRETT PLACE, SUITE 404  
COLUMBIA, MD 21044  
T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
ATTN: RICK LEVITAN  
10704 CLOVERBROOK DRIVE  
POTOMAC, MARYLAND 20854  
T: 301.370.4055

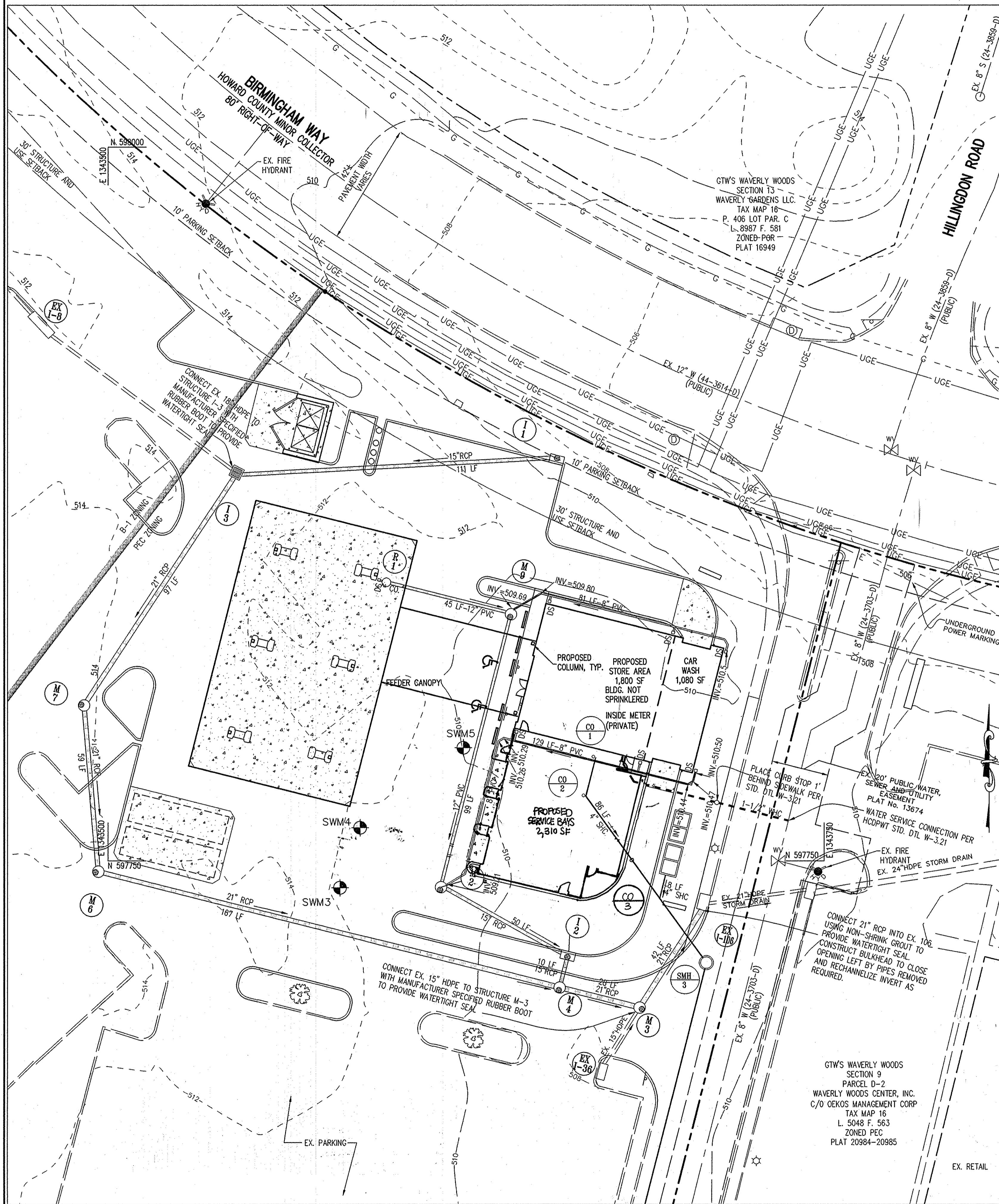
PROJECT: GTW'S WAVERLY WOODS  
SECTION 9, PARCELS B, C-2, AND D-2  
AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20984-20985  
HOWARD COUNTY, MARYLAND  
SERVICE STATION

TITLE: SITE DETAILS  
Patton Harris Rust & Associates, Inc.  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: JSN  
DRAWN BY: ALC  
PROJECT NO: 15823-1-0  
DATE: MARCH 29, 2010  
SCALE: AS SHOWN  
DRAWING NO. 5 OF 15

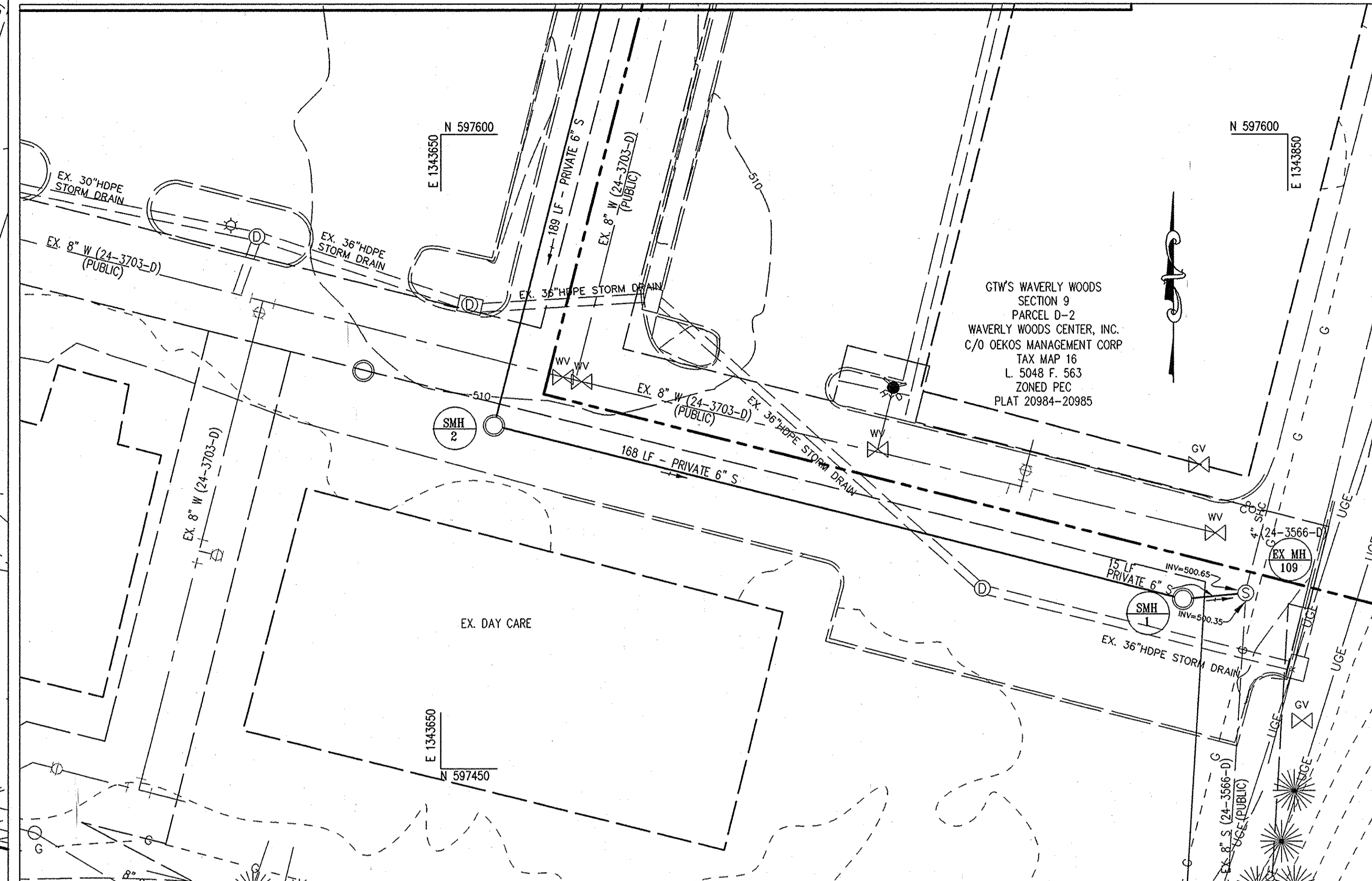


MATCHLINE - SEE THIS SHEET

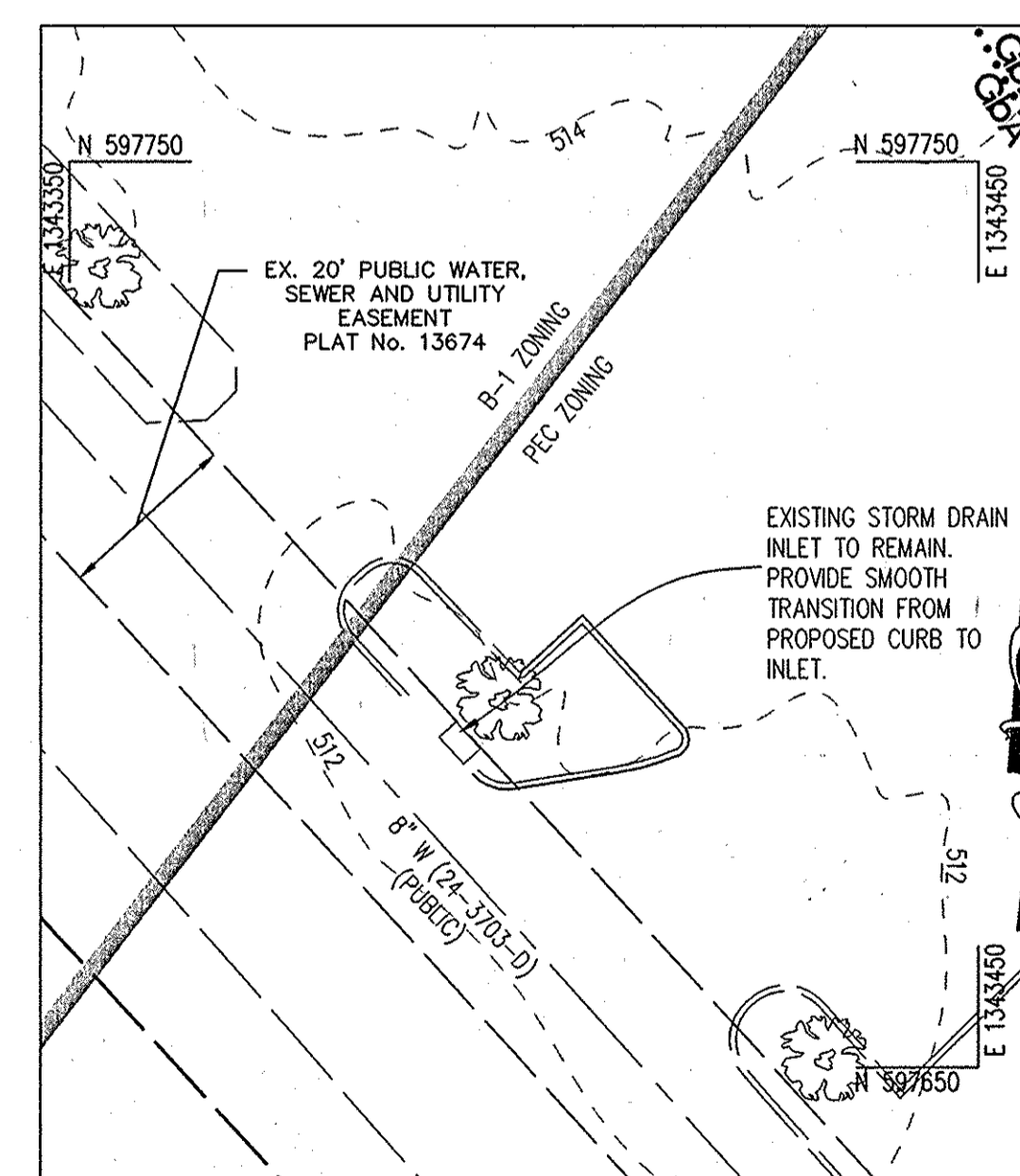


UTILITY PLAN  
SCALE: 1"=20'

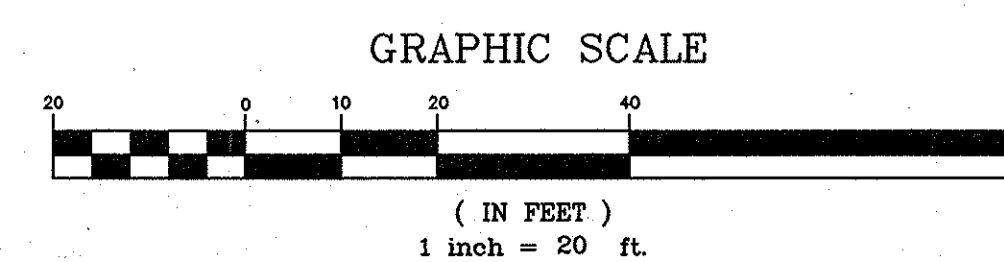
MATCHLINE - SEE THIS SHEET



UTILITY PLAN  
SCALE: 1"=20'



SCALE: 1"=20'



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Michael J. ...* 4/20/10 DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Keith ...* 5/05/10 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Dorothy ...* 5/5/10 DATE  
DIRECTOR

12/10/14 | SERVICE BAY EXPANSION AND REVISE SEWER LINE  
DATE NO. REVISION

OWNER  
OEKOS MANAGEMENT CORPORATION  
ATTN: SID ROROS  
5565 STERRETT PLACE, SUITE 404  
COLUMBIA, MD 21044  
T: 410.740.5057

DEVELOPER  
CONVENIENCE RETAILING, LLC  
ATTN: RICK LEVITAN  
10704 CLOVERBROOK DRIVE  
POTOMAC, MARYLAND 20854  
T: 301.370.4055

PROJECT **GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2**  
AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13572, 20984-20985  
HOWARD COUNTY, MARYLAND SERVICE STATION

TITLE **PRIVATE UTILITY PLAN**

**Patton Harris Rust & Associates, Inc.**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
AT  
**1-800-257-7777**  
AT LEAST 48 HOURS PRIOR TO EXCAVATION

DESIGNED BY : RSJ  
DRAWN BY : RSJ  
PROJECT NO : 15823-1-0  
DATE : MARCH 29, 2010  
SCALE : 1" = 20'  
DRAWING NO. 6 OF 15

CONSTRUCTION SPECIFICATIONS

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

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

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

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

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

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

etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags,

etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

Pipe Conduits - All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- 1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted

with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

Helicly corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

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

Plastic Pipe - The following criteria shall apply for plastic pipe:

- 1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

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

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 902.10, Mix No. 3.

Rock Riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class SE (Non-Woven).

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water pumps from which the water shall be pumped.

Stabilization - All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-542) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needed to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

Stabilization - All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-542) or as shown on the accompanying drawings.

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Erosion and Sediment Control

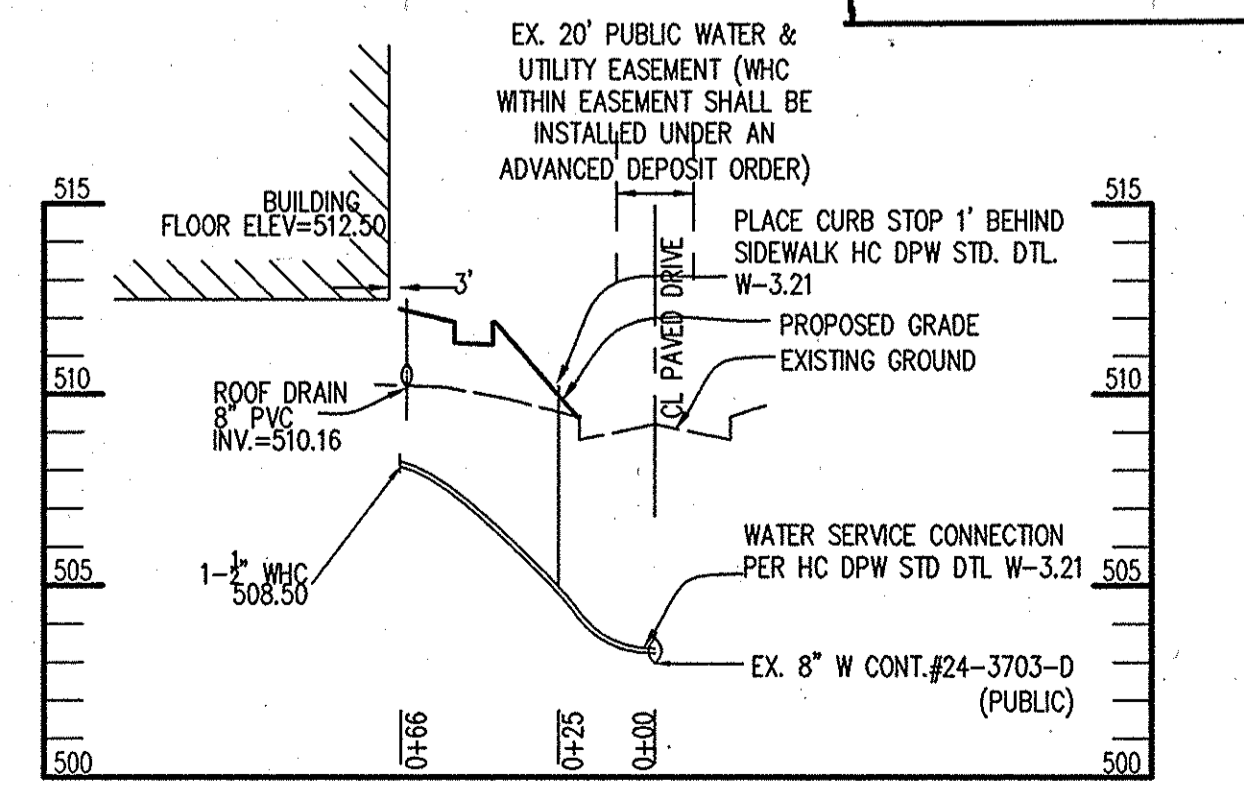
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

Table with 7 columns: CO-3, CLEANOUT, N 597749.8973, E 134363.1615, 511.57, 504.62, 504.62, S-2.22

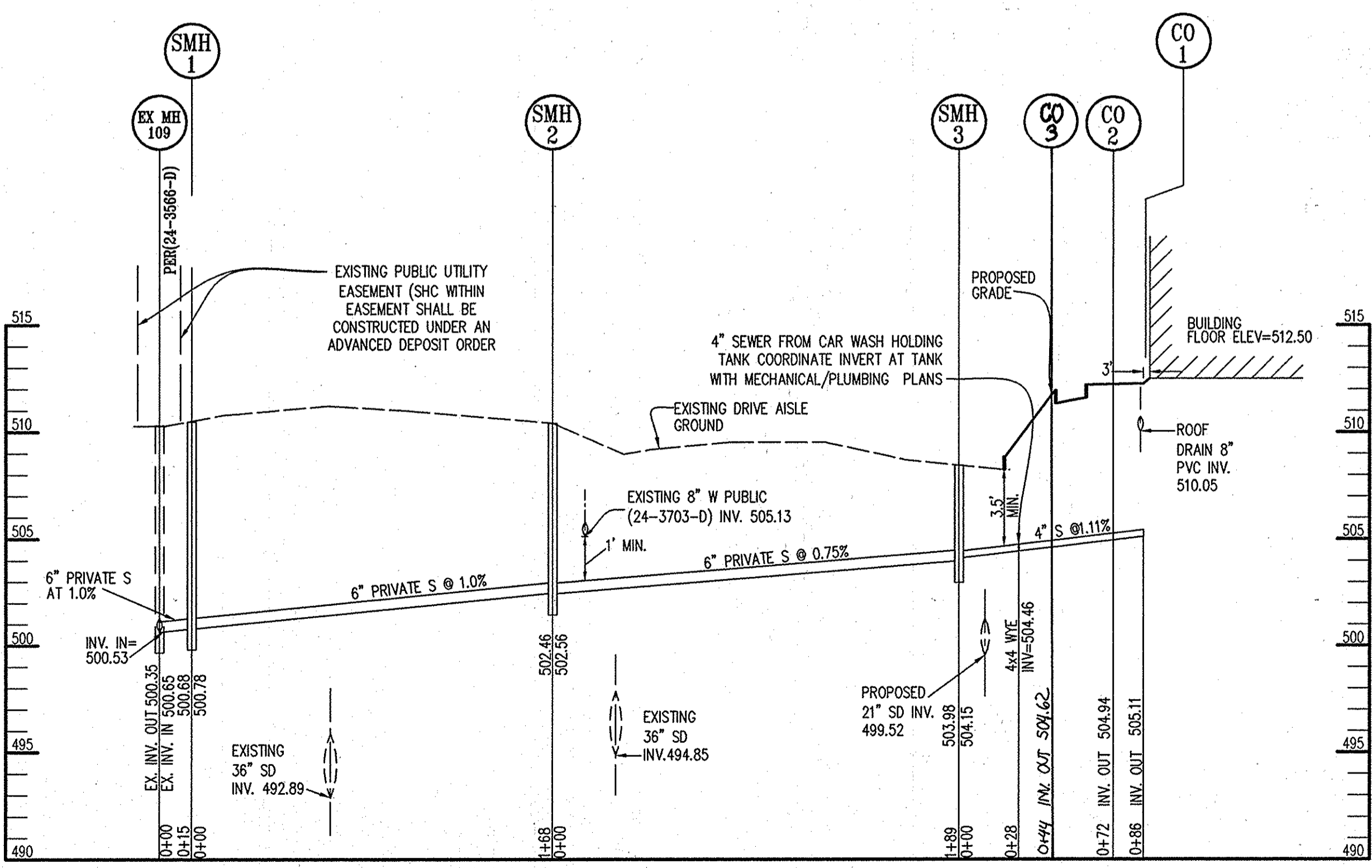
STRUCTURE SCHEDULE FOR PRIVATE SEWER table with columns: NUMBER, TYPE, LOCATION (NORTHING, EASTING), TOP ELEVATION, PIPE INVERTS (INV. IN, INV. OUT), REMARKS

- NOTES: 1) ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED. 2) LOCATIONS ARE GIVEN TO CENTER OF STRUCTURE FOR ALL STRUCTURES. 3) ELEVATIONS ARE GIVEN TO TOP OF LID FOR MANHOLES. CONTRACTOR SHALL ADJUST LID ELEVATIONS IN THE FIELD TO MATCH EXISTING PAVING ELEVATIONS. 4) PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.

WATER AND SEWER PIPE SCHEDULE table with columns: SIZE, TYPE, LINEAR FOOTAGE

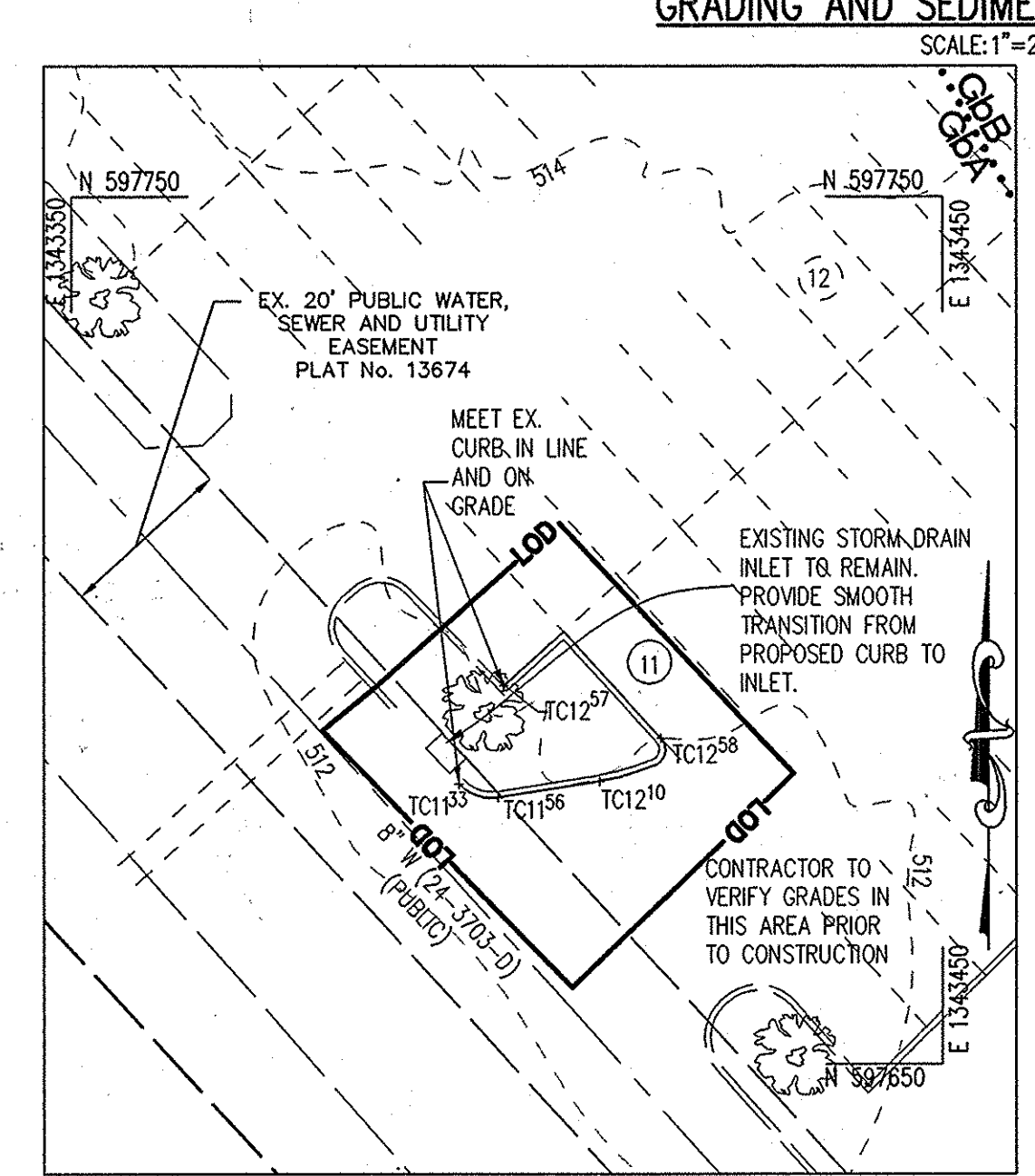
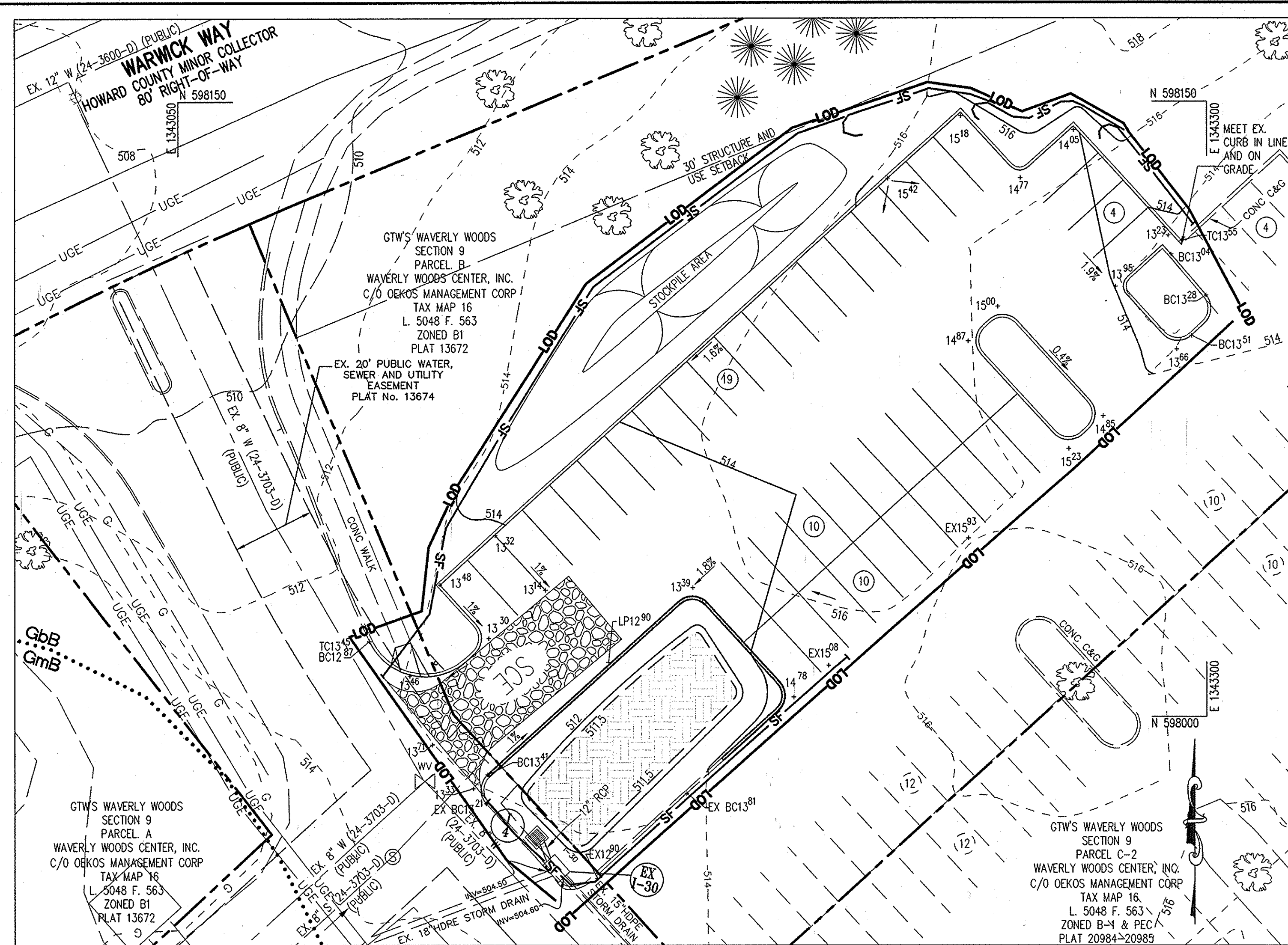
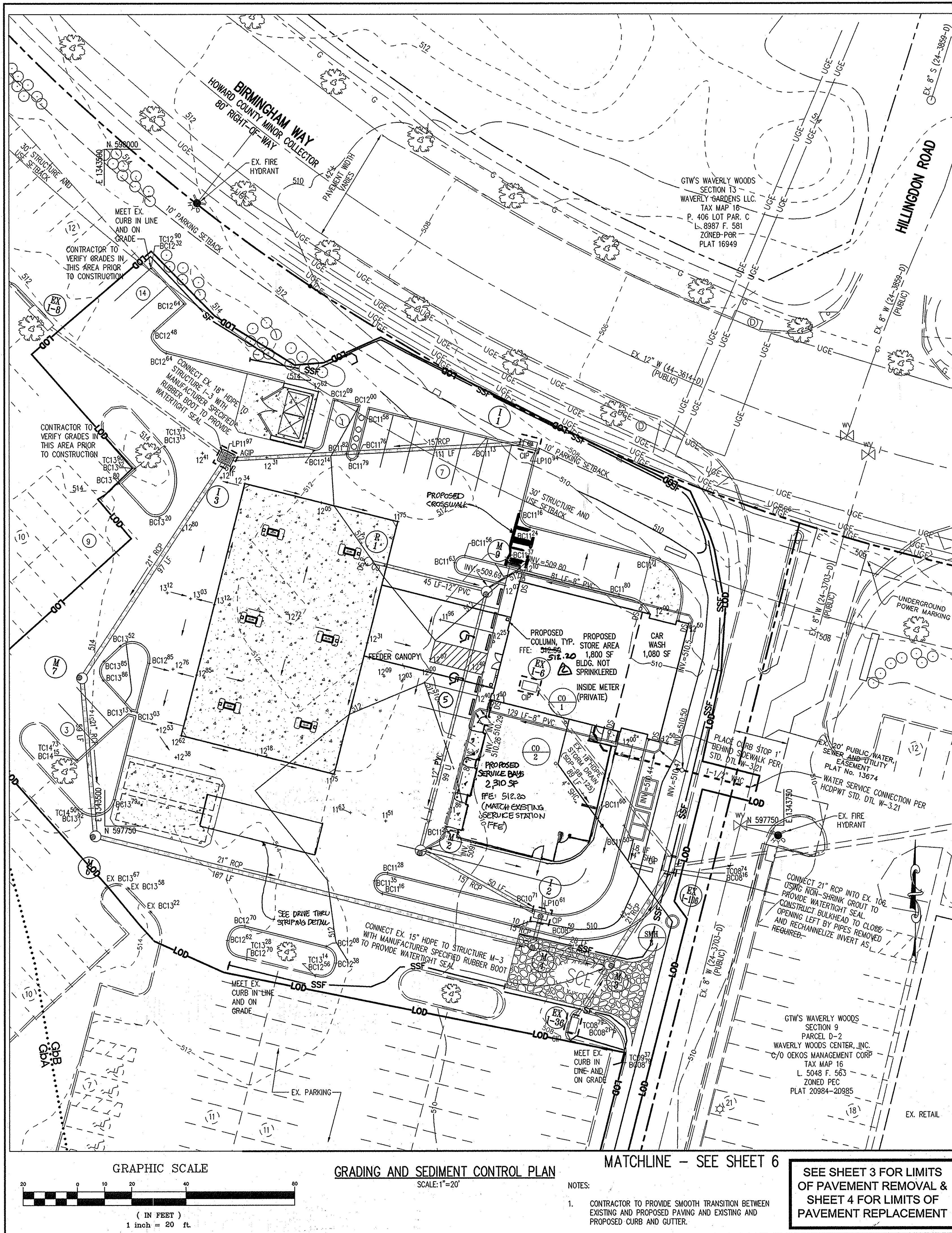


WATER LINE PROFILE - PRIVATE SCALE: HOR: 1"=50' VERT: 1"=5'



SEWER LINE PROFILE - PRIVATE SCALE: HOR: 1"=50' VERT: 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures, dates, and project details for GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2.



**STANDARD SYMBOLS**

|                                  |      |
|----------------------------------|------|
| LIMIT OF DISTURBANCE             | LOD  |
| SILT FENCE                       | SF   |
| SUPER SILT FENCE                 | SSF  |
| STANDARD INLET PROTECTION        | SIP  |
| AT GRADE INLET PROTECTION        | AGIP |
| CURB INLET PROTECTION            | CIP  |
| STABILIZED CONSTRUCTION ENTRANCE | SCE  |

BEFORE BEGINNING CONSTRUCTION CONTACT  
**'MISS UTILITY'**  
 AT  
**1-800-257-7777**  
 AT LEAST 48 HOURS PRIOR TO EXCAVATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 24715  
 Expiration Date: 11/17/15

**SEAL**

**FOR REVISIONS 1-2**

**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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."

DATE: 4/6/2010  
 SIGNATURE OF ENGINEER: JOHN W. CLARKE

**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 ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

DATE: 3/29/10  
 SIGNATURE OF DEVELOPER: Richard J. Levitan

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

DATE: 4/15/10  
 SIGNATURE: John K. Wooten  
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DATE: 4/20/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature]

DATE: 5/05/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature]

DATE: 5/15/10  
 DIRECTOR: [Signature]

REVISIONS:  
 3-31-10 2 CORRECT PFE FOR EX. BLDG  
 12/10/14 1 SERVICE BAY EXPANSION

OWNER: OEKOS MANAGEMENT CORPORATION  
 ATTN: SID ROROS  
 5565 STERRETT PLACE, SUITE 404  
 COLUMBIA, MD 21044  
 T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
 ATTN: RICK LEVITAN  
 10704 CLOVERBROOK DRIVE  
 POTOMAC, MARYLAND 20854  
 T: 301.370.4055

PROJECT: GTW'S WAVERLY WOODS  
 SECTION 9, PARCELS B, C-2, AND D-2  
 AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
 ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20984-20985  
 HOWARD COUNTY, MARYLAND  
 SERVICE STATION

TITLE: **GRADING AND SEDIMENT CONTROL PLAN**

Engineers, Surveyors, Planners, Landscape Architects.  
**PHRA**  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PHRA  
 DRAWN BY: ALC  
 PROJECT NO.: 15823-1-0  
 DATE: MARCH 29, 2010  
 SCALE: 1" = 20'  
 DRAWING NO. 8 OF 15

SDP-10-024



### 21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

**DEFINITION**  
 PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

**PURPOSE**  
 TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**  
 I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:  
 --a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.  
 --b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLY OF MOISTURE AND PLANT NUTRIENTS.  
 --c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.  
 --d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**  
 I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTATION STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:  
 --I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1-1/2" IN DIAMETER.  
 --II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, KICKSCREW, NUTSCREW, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.  
 --III. WHERE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:  
 --I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:  
 --I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:  
 --a. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.  
 --b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.  
 --c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.  
 --d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES TO AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY MAY BE USED IN LIEU OF NATURAL TOPSOIL.

--II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION  
 --I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.  
 --II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALIBIT 4" - 8" HIGHER IN ELEVATION.  
 --III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN BE MAINTAINED WITHIN THE MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.  
 --IV. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW.  
 --I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:  
 --a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.  
 --b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.5 TO 8.0. IF COMPOST THESE REQUIREMENTS, THE APPROPRIATE AMENDMENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.  
 --c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.  
 --d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB./1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-YA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTE, REVISED 1973.

### SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL PERIMETER CONTROLS, STABILIZED CONSTRUCTION ENTRANCES, SUPER SILT FENCES AND SILT FENCES. (3 DAYS)
- INSTALL BYPASS STORM DRAIN FROM I-3 TO EX. INLET 106. IMMEDIATELY PROVIDE INLET PROTECTION ON INLETS AS INDICATED ON PLANS INCLUDING EXISTING INLET 1-6. REMOVE PIPE FROM I-3 TO EXISTING INLET 1-6 (SDP-98-125). BLOCK OPENING LEFT AT EXISTING INLET 1-6 AFTER REMOVAL OF PIPE. INSTALL TEMP. BLOCKING INSIDE OF STRUCTURES I-3 AND M-4 FOR FUTURE PIPE CONNECTIONS. (1 WEEK)
- RETAIN INLET 1-6 AND EXISTING PIPE CONVEYING RUNOFF TO EXISTING INLET 106 UNTIL ROUGH GRADING OF SITE IS COMPLETED. (0 DAY)
- BEGIN ROUGH GRADING. (3 DAYS)
- AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL WATER AND SEWER. (3 WEEKS).
- BEGIN INSTALLATION OF REMAINING STORM DRAIN SYSTEM (FROM R-1 TO M-4 AND FROM I-1 TO I-3). REMOVE EXISTING INLET I-6 AND PIPE TO EX. 106 AND ALL TEMPORARY BLOCKING INSIDE STRUCTURES I-3 AND M-4. PROVIDE PERMANENT BULKHEAD INSIDE OF STRUCTURE 106 AFTER PIPE IS REMOVED. (3 WEEKS).
- UPON COMPLETION OF ALL STORM DRAIN AND UTILITY SYSTEMS, OBTAIN APPROVALS FROM INSPECTORS.
- UPON COMPLETION OF FINE GRADING, INSTALL CURB, GUTTER AND BASE PAVING. (3 WEEKS)
- INSTALL BITUMINOUS PAVEMENT. (3 DAYS)
- BEGIN BUILDING CONSTRUCTION. (6 MONTHS)
- UPON COMPLETION OF BUILDING EROSION, PERFORM FINE GRADING AROUND BUILDING AND INSTALL LANDSCAPING. (2 WEEKS)
- APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)

### 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 (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1. B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:  

|  |                 |
|--|-----------------|
| TOTAL AREA OF SITE   | 12.87 ACRES     |
| AREA DISTURBED   | 2.0 ACRES       |
| AREA TO BE ROOFED OR PAVED (WITHIN DISTURBED AREA)         | 1.4 ACRES       |
| AREA TO BE VEGETATIVELY STABILIZED (WITHIN DISTURBED AREA) | 0.6 ACRES       |
| TOTAL CUT  | 1,170 CU. YARDS |
| TOTAL FILL   | 1,500 CU. YARDS |

 OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

### PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

**SEEDBED PREPARATION** - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

**SOIL AMENDMENTS** - IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS. PER 1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

**SEEDING** - FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS. PER 1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS:

- 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- USE SOD.
- SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

**MULCHING** - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

**MAINTENANCE** - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

### TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

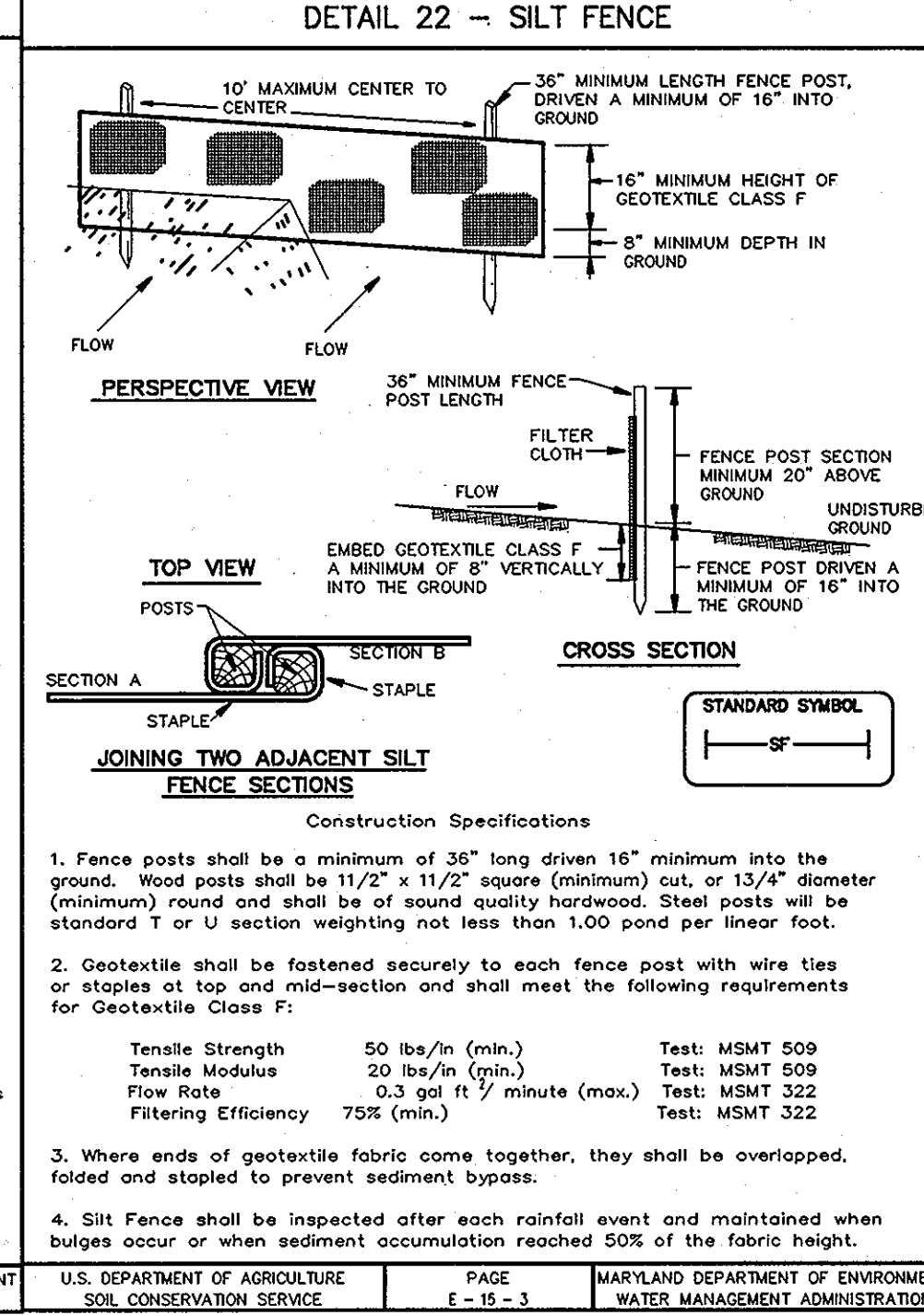
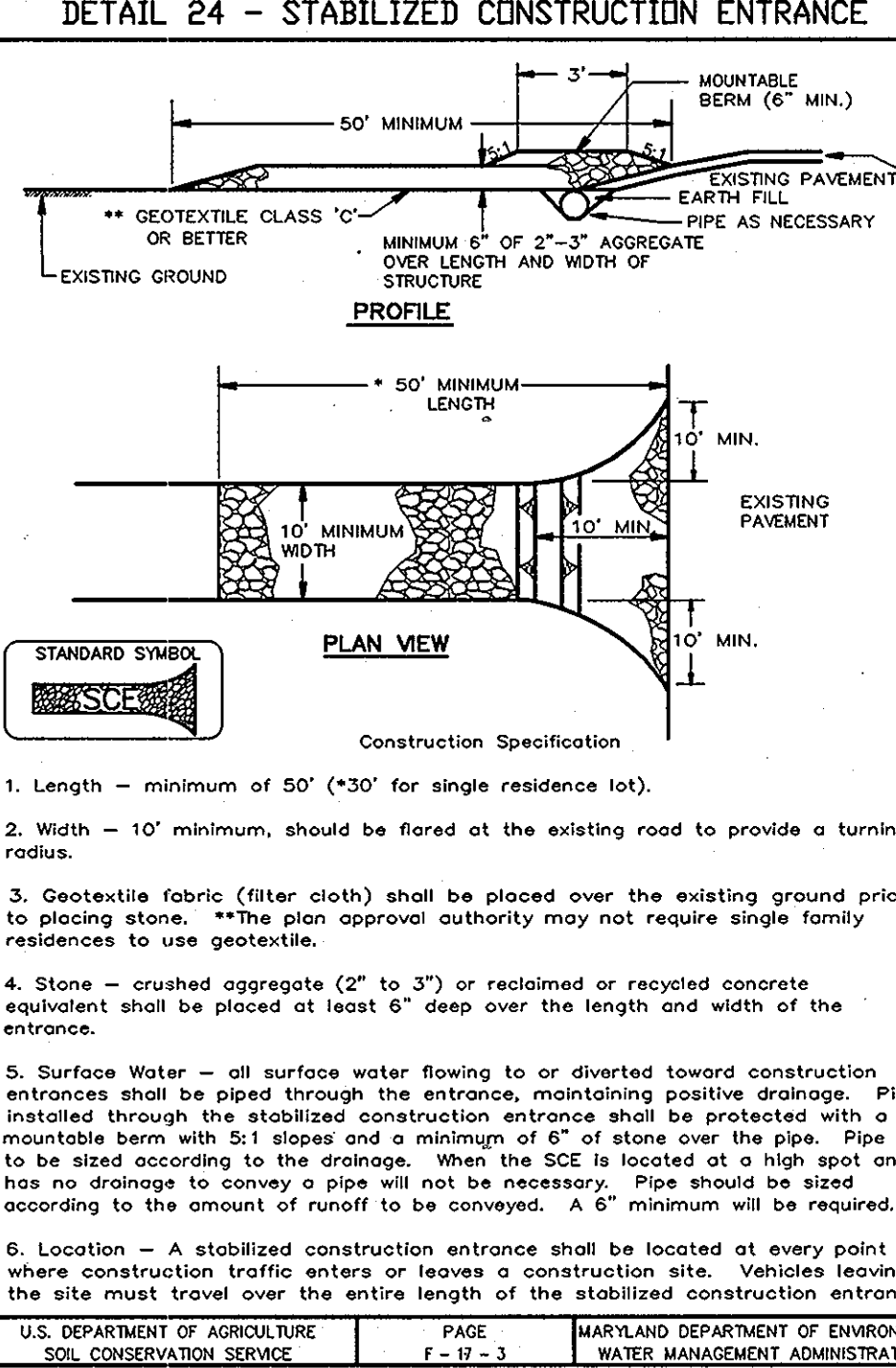
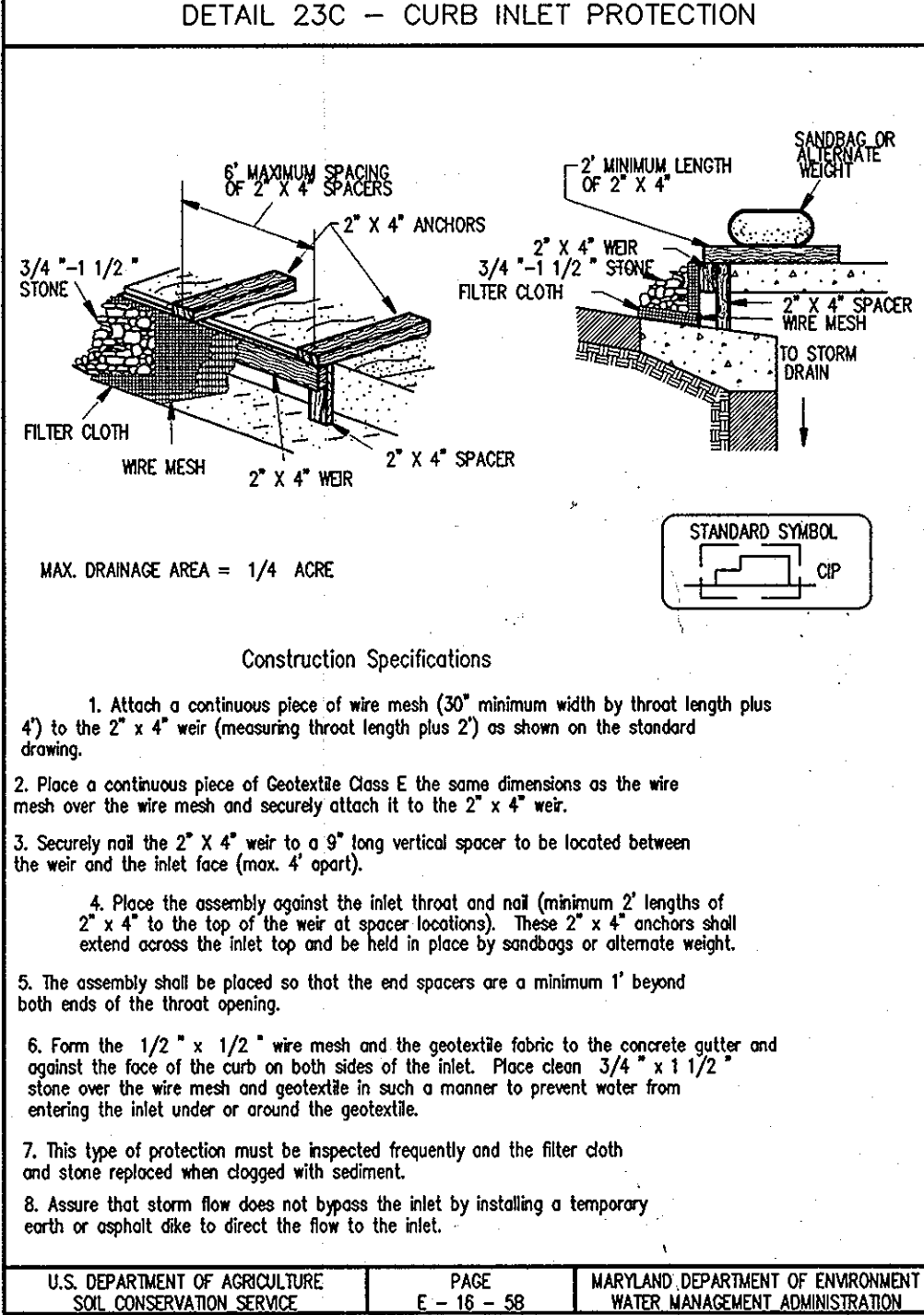
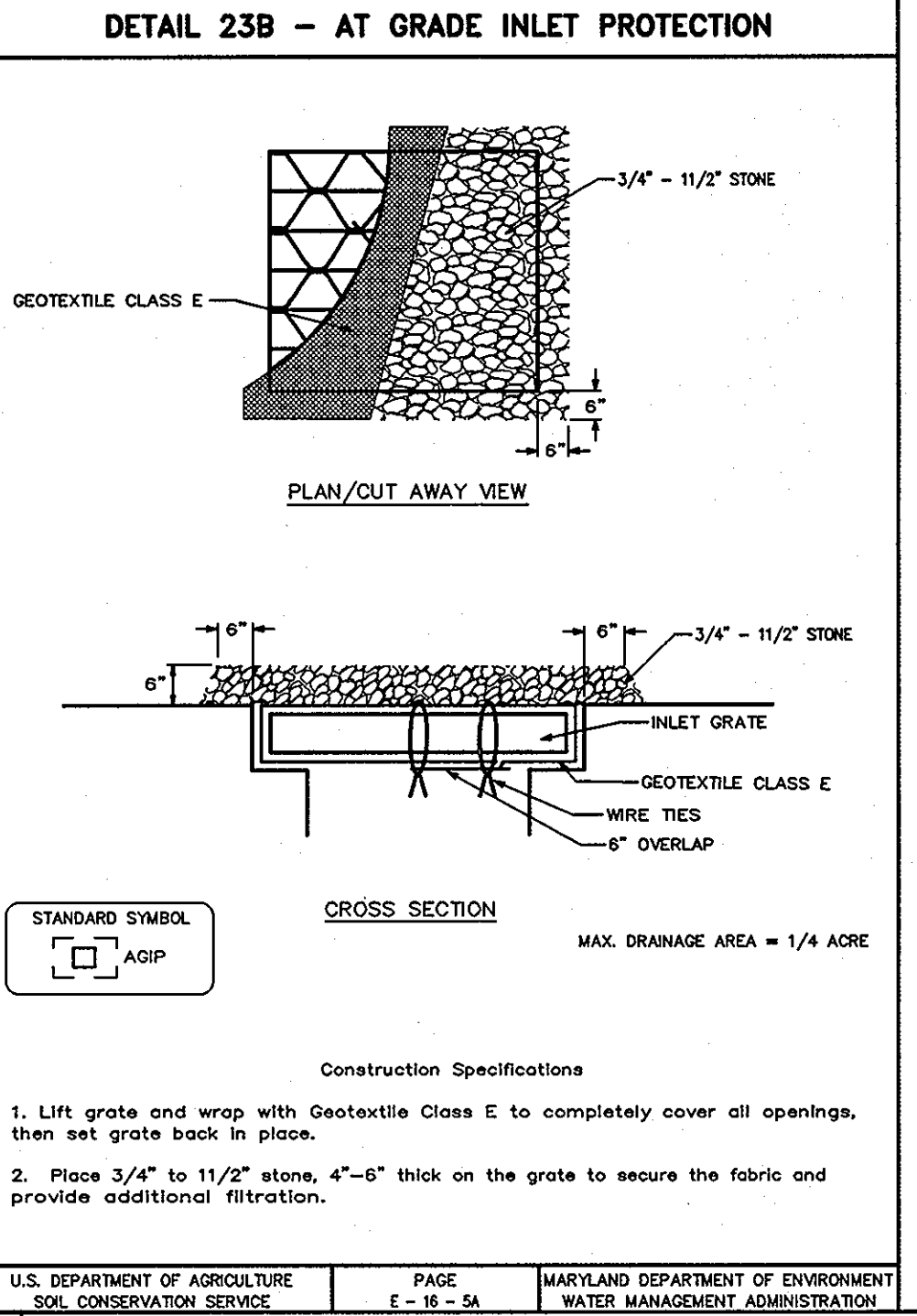
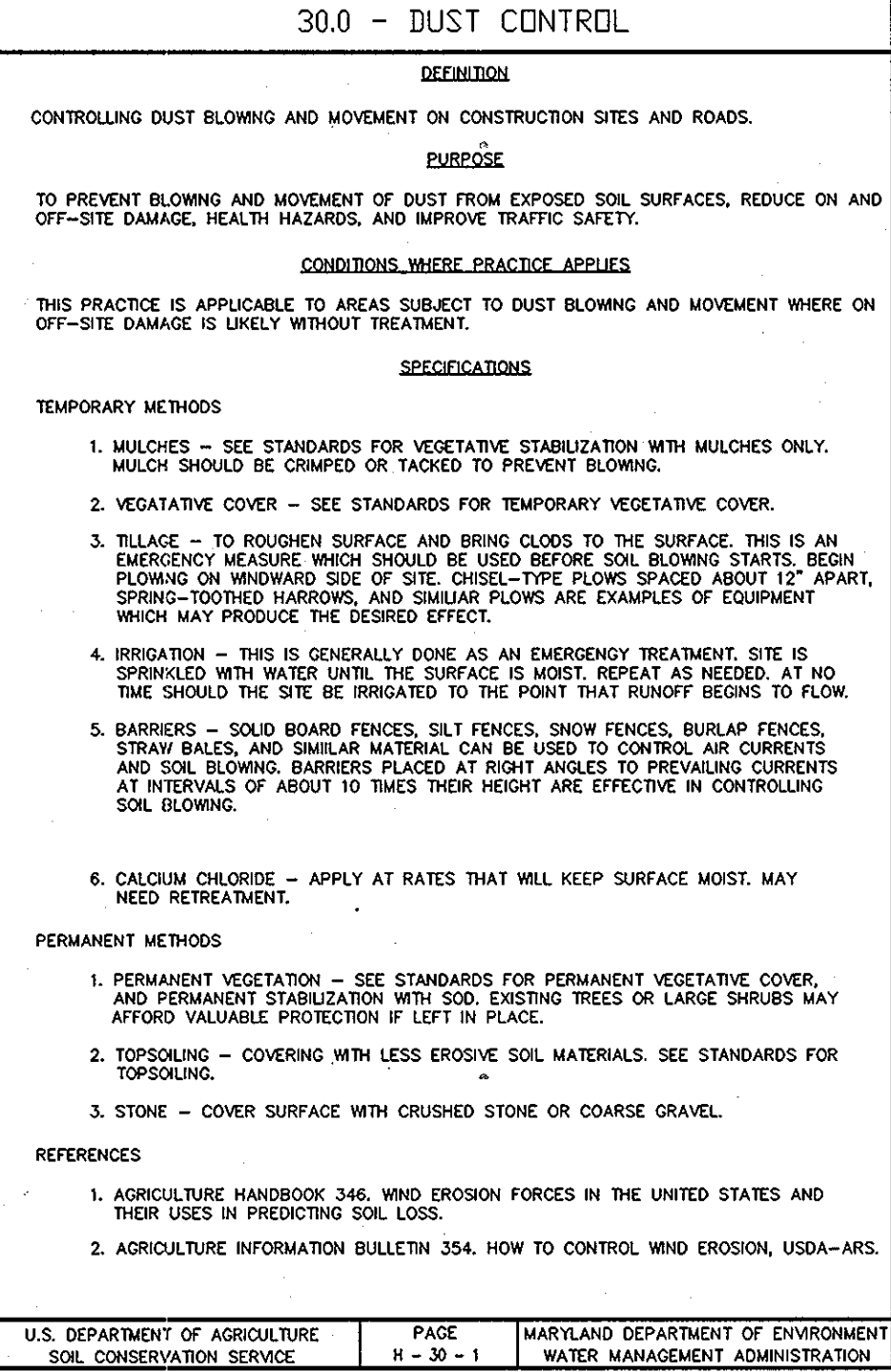
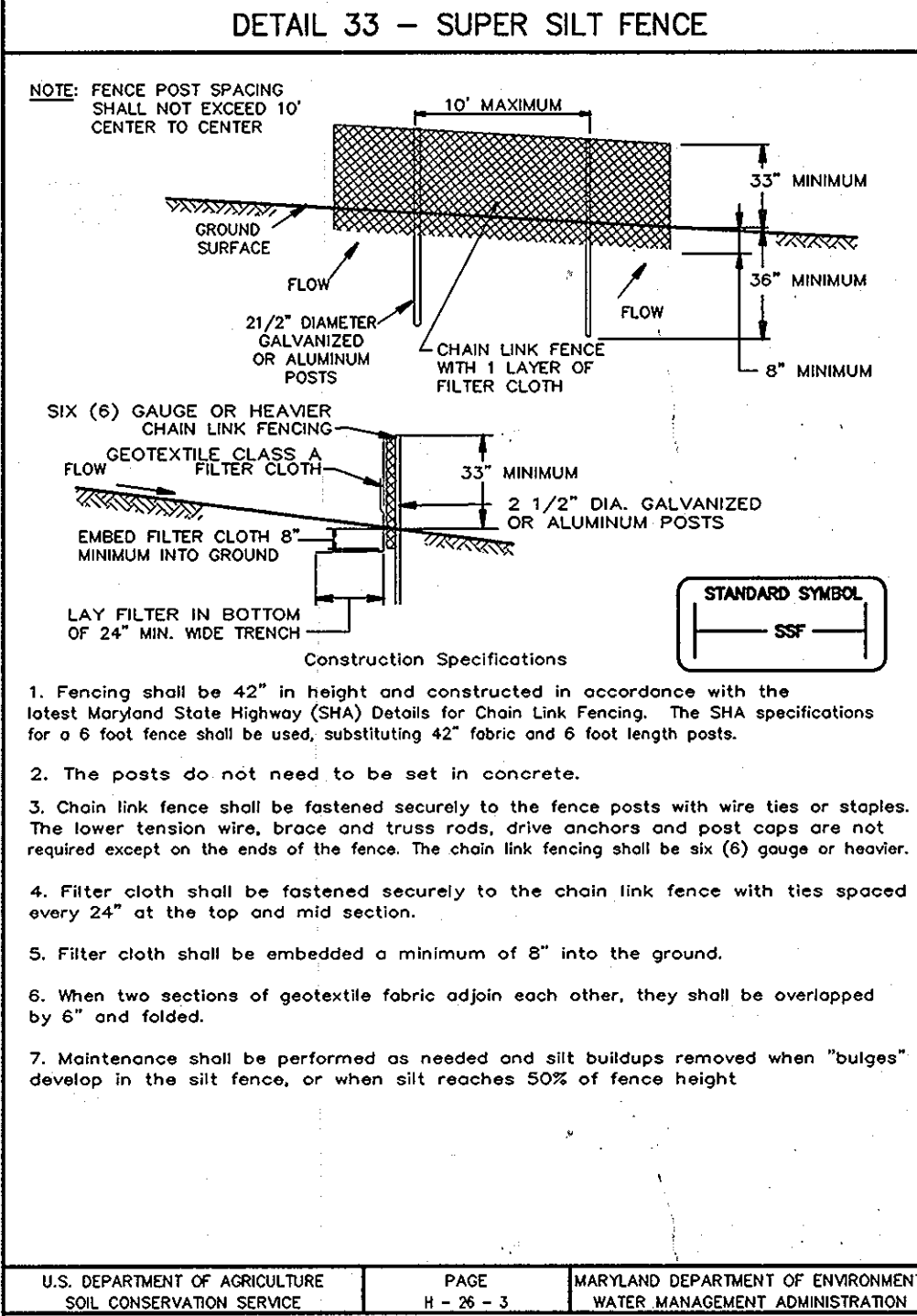
**SEEDBED PREPARATION** - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

**SOIL AMENDMENTS** - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.).

**SEEDING** - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.07 LBS. PER 1000 SQ.FT.). FOR THE PERIOD NOVEMBER 15 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

**MULCHING** - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE  
 JOHN W. CLARBOLE 4/6/10

**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 ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE  
 RICHARD J. LEVITAN 3/29/10

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 JOHN L. ROBERTSON 4/15/10  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 4/20/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT 5/5/10  
 DIRECTOR 5/5/10 DATE

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

OWNER: OEKOS MANAGEMENT CORPORATION  
 ATTN: SID ROROS  
 5565 STANFETT PLACE, SUITE 404  
 COLUMBIA, MD 21044  
 T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
 ATTN: RICHARD J. LEVITAN  
 10704 CLOVERBROOK DRIVE  
 POTOMAC, MARYLAND 20854  
 T: 301.370.4055

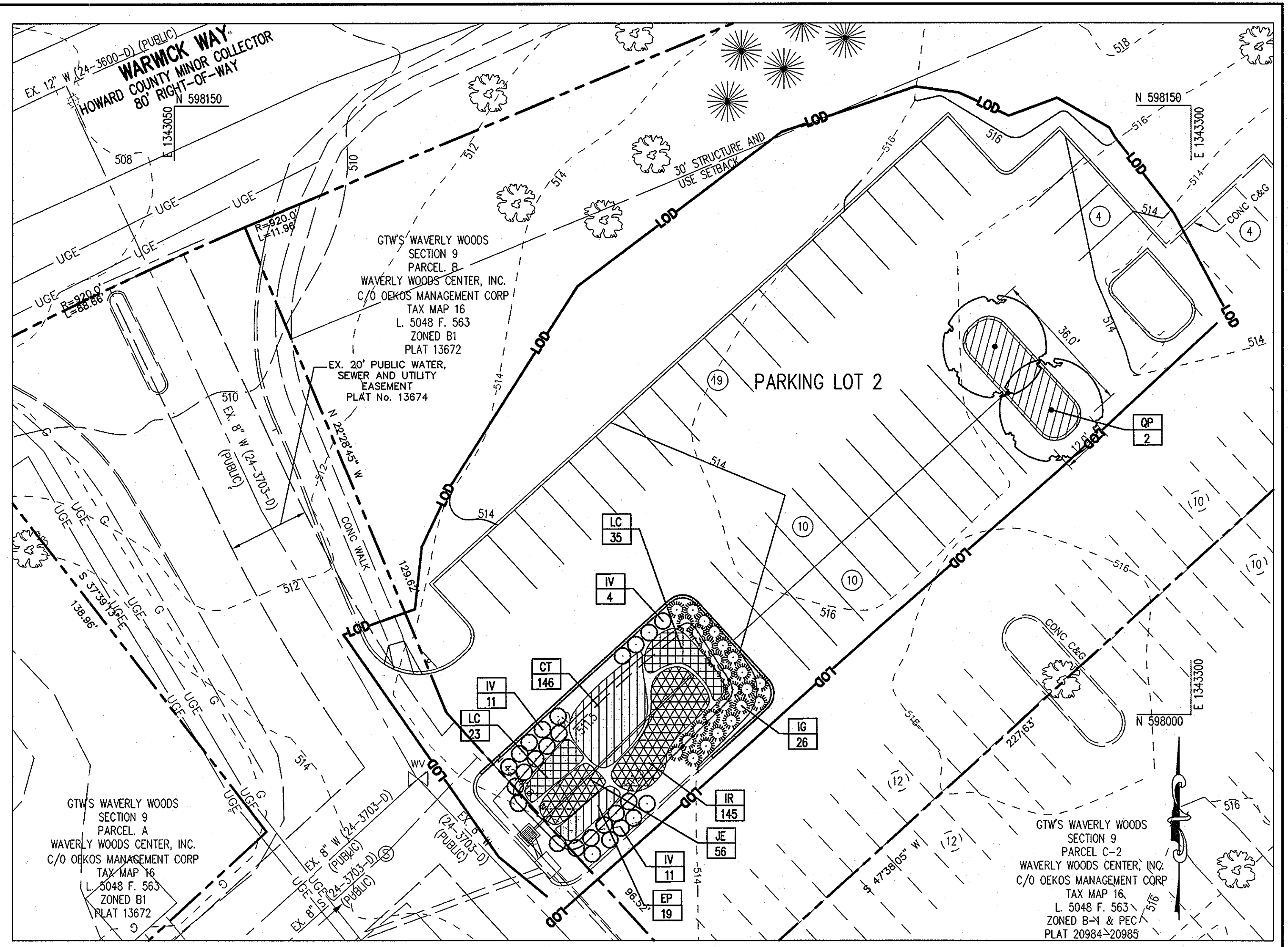
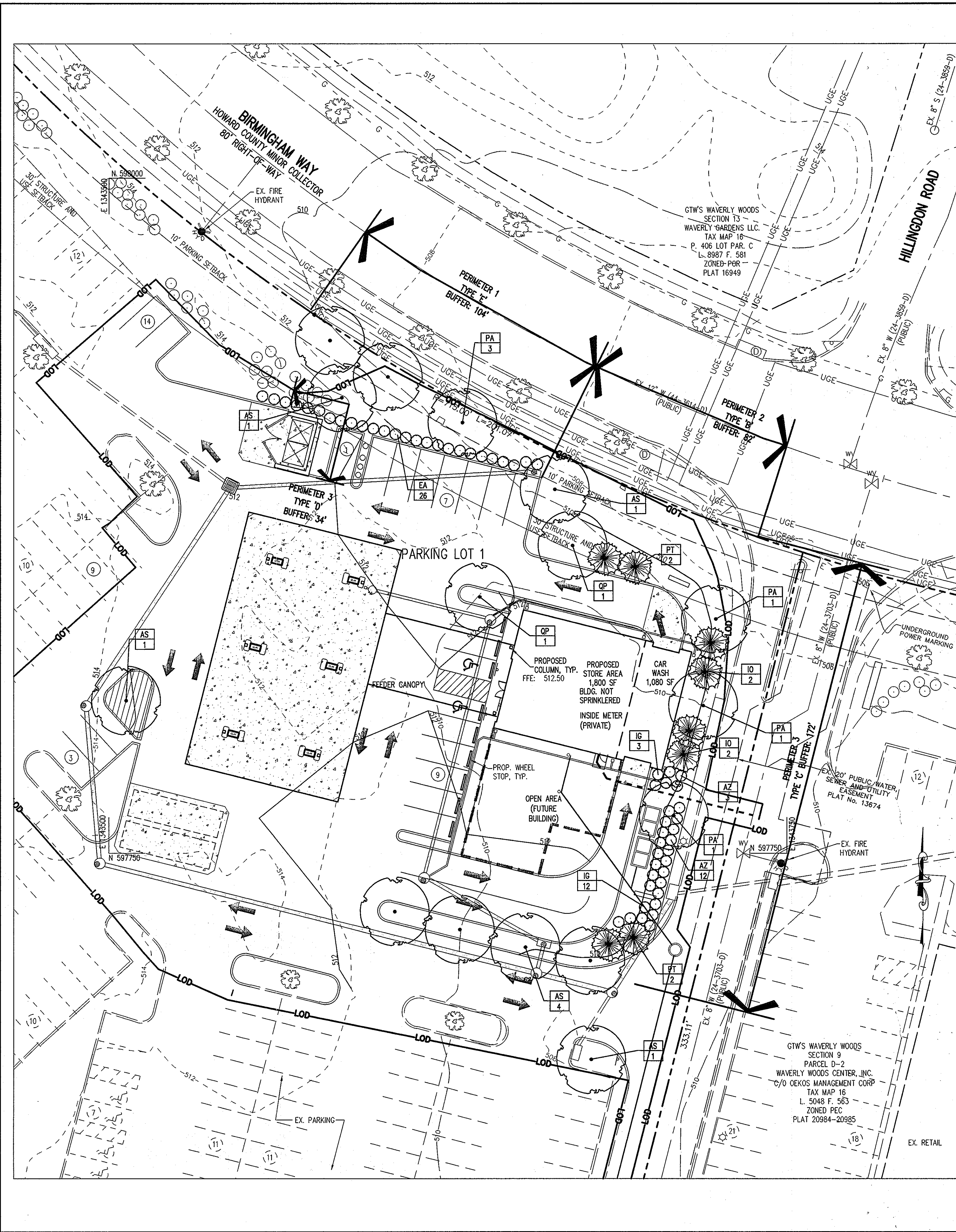
PROJECT: GTW'S WAVERLY WOODS  
 SECTION 9, PARCELS B, C-2, AND D-2  
 AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
 ZONING: B-1 & RES. 3RD ELECTION DISTRICT PLATS 13572, 20984-20985  
 HOWARD COUNTY, MARYLAND  
 SERVICE STATION

TITLE: SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates, Inc.  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: :RSJ  
 DRAWN BY: RSJ  
 PROJECT NO.: 15823-1-0  
 DATE: MARCH 29, 2010  
 SCALE: AS SHOWN  
 DRAWING NO. 9 OF 15

SDP-10-024



**LEGEND**

- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- CREDITED LANDSCAPE ISLAND
- PROPOSED PERENNIALS

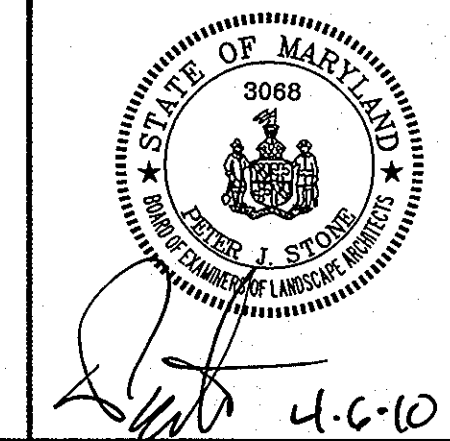
**GRAPHIC SCALE**  
 0 10 20 30 40 50 60 70 80  
 (IN FEET)  
 1 inch = 20 ft.

**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY THAT THE FACILITIES SHOWN ON THESE PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
 JOHN W. CLAPSADOLE #16956 DATE 1/10/2011

**STATE OF MARYLAND**  
**JOHN W. CLAPSADOLE**  
 PROFESSIONAL ENGINEER

BEFORE BEGINNING CONSTRUCTION CONTACT  
**"MISS UTILITY"**  
 AT  
**1-800-257-7777**  
 AT LEAST 48 HOURS PRIOR TO EXCAVATION

|  |  |
|--|--|
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.   |  |
| <i>John W. Clapsadole</i>  | 4/20/10 DATE   |
| <i>V. S. ...</i>   | 5/10/10 DATE   |
| <i>M. ...</i>  | 5/15/10 DATE   |
| DATE NO.   | REVISION   |
| OWNER  | OEKOS MANAGEMENT CORPORATION<br>ATTN: SID ROROS<br>5565 STERRETT PLACE, SUITE 404<br>COLUMBIA, MD 21044<br>T: 410.740.5057 |
| DEVELOPER  | CONVENIENCE RETAILING, LLC<br>ATTN: RICK LEVITAN<br>10704 CLOVERBROOK DRIVE<br>POTOMAC, MARYLAND 20854<br>T: 301.370.4055  |
| PROJECT  | <b>GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2</b>  |
| AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1 ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20984-20985 HOWARD COUNTY, MARYLAND SERVICE STATION |  |
| TITLE  | <b>LANDSCAPE PLAN</b>  |
| DESIGNED BY  | ALC  |
| DRAWN BY   | ALC  |
| PROJECT NO.  | 15823-1-0  |
| DATE   | MARCH 29, 2010   |
| SCALE  | 1" = 20'   |
| DRAWING NO.  | 10 OF 15   |



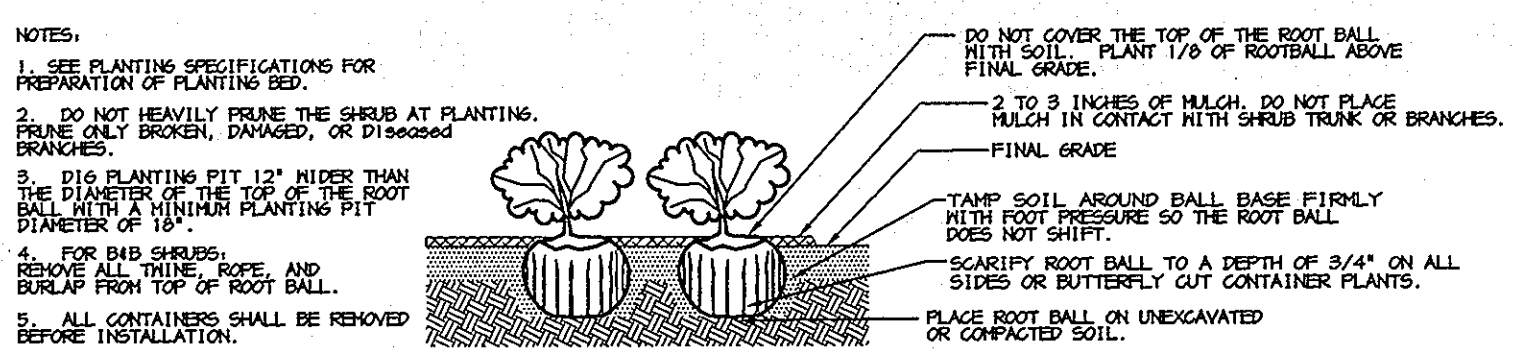
SCHEDULE A - PERIMETER LANDSCAPE EDGE

Table with columns: ADJACENT TO ROADWAYS, ADJACENT TO ROADWAYS, DUMPSTER ADJACENT TO ROADWAY. Rows include PERIMETER, LANDSCAPE TYPE, LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER, CREDIT FOR EXISTING VEGETATION, CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE, LINEAR FEET REMAINING, NUMBER OF PLANTS REQUIRED, NUMBER OF PLANTS PROVIDED.

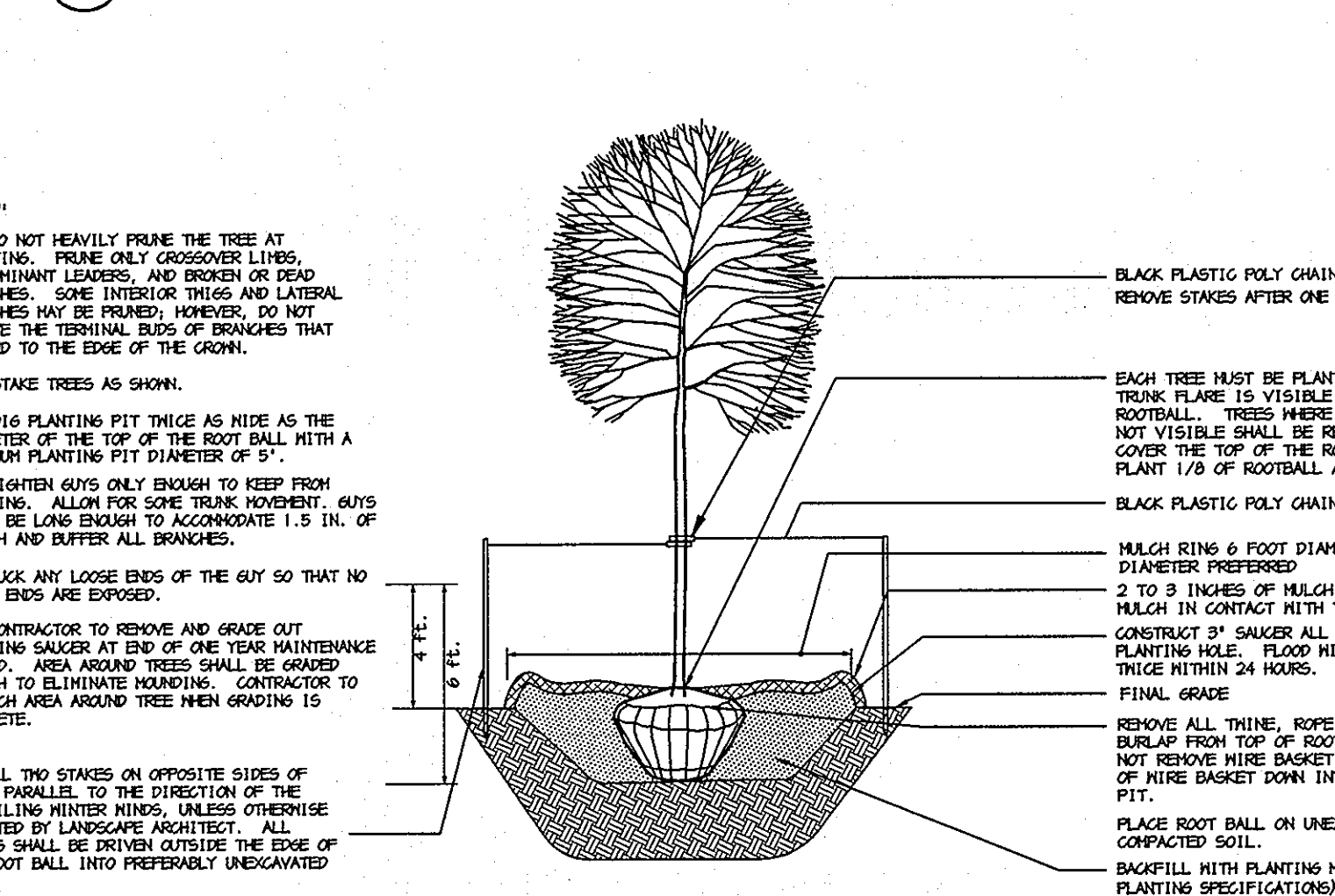
SCHEDULE 'A' NOTES: REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT. EXPANSION TO EXISTING DEVELOPMENT OF LESS THAN 50% SHALL BE REQUIRED TO PROVIDE LANDSCAPING FOR THE ADDITIONAL DEVELOPMENT ONLY.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING

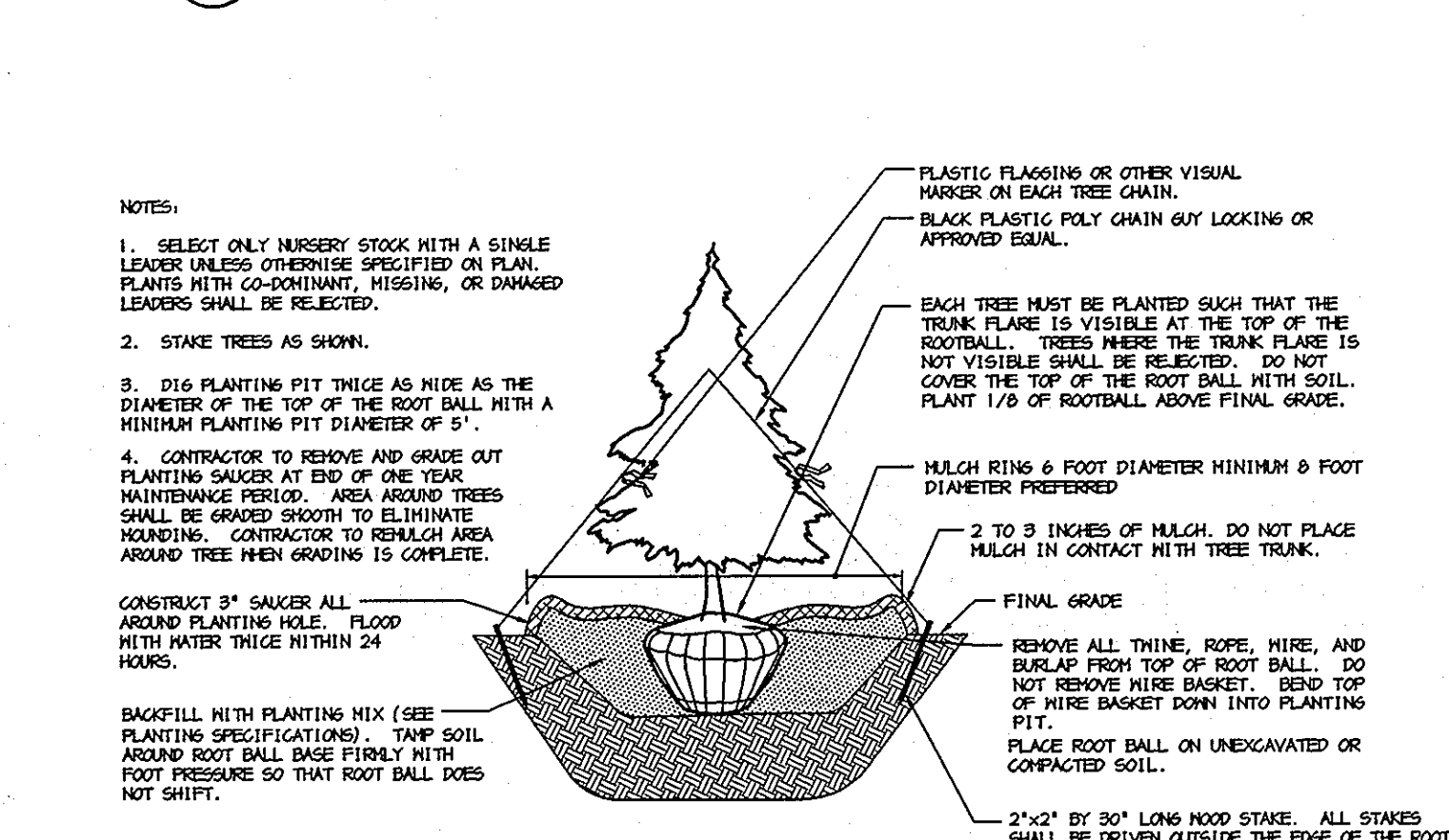
Table with columns: PARKING LOT, NUMBER OF PARKING SPACES, NUMBER OF SHADE TREES REQUIRED, NUMBER OF TREES PROVIDED, NUMBER OF ISLANDS PROVIDED.



SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS



DECIDUOUS B&B TREE PLANTING DETAIL (TREES 3' GAL. OR SMALLER)



EVERGREEN B&B TREE PLANTING DETAIL



PLANTING SPECIFICATIONS

- 1. Plants, related material, and operations shall meet the detailed description... 2. All plant material, unless otherwise specified, that is not nursery grown... 3. Unless otherwise specified, all general conditions, planting operations... 4. Contractor shall guarantee all plant material for a period of one year... 5. Contractor shall be responsible for notifying all relevant and appropriate utility companies...

PLANT SCHEDULE

Table with columns: SYMBOL, QTY, SCIENTIFIC/COMMON NAME, SIZE, ROOT, REMARKS. Rows include SHADE TREES (AS, QP, PA) and EVERGREEN TREES (IO, PT).

BIORETENTION PLANT SCHEDULE

Table with columns: SYMBOL, QTY, SCIENTIFIC/COMMON NAME, SIZE, ROOT, REMARKS. Rows include IG, IV, CT, EP, JE, LC, IR.

GENERAL NOTES:

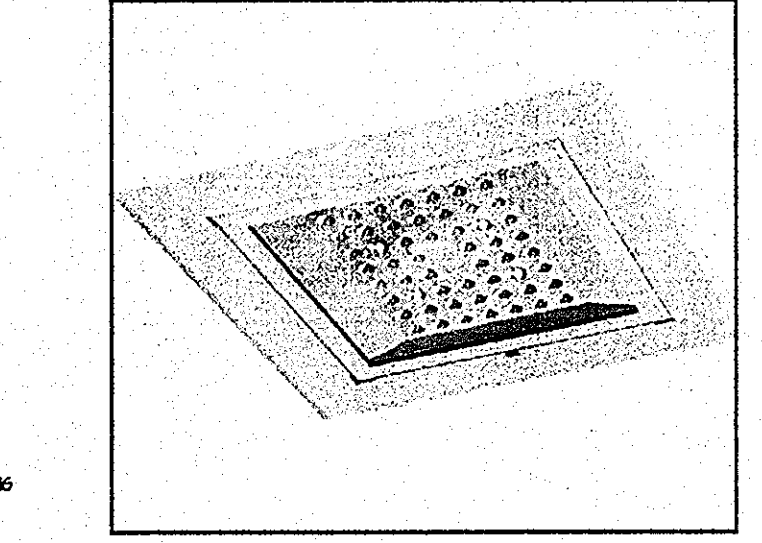
- 1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE... 2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT... 3. THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY... 4. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS...

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL...

SIGNATURE: Kim J. Moore 3/24/10 DATE

LED SOFFIT LIGHT (XSL)



Lighting facts table showing Light Output (Lumens), Color Accuracy, and Light Color. Includes 'Lighting Facts Label' image and 'Light Output' table.

U.S. Patent D574994 and other U.S. and international patents pending. EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location... DISTRIBUTION/PERFORMANCE - Types 5 and S. Excellent uniformity with full cutoff... HOUSING/OPTICAL UNIT - Housing is die-formed aluminum with a gasketed clear tempered glass lens... DRIVER - State-of-the-art driver technology designed specifically for LSI LED light sources... FINISH - Each fixture is finished with LSI's Duragrip® polyester powder coat finishing process... WARRANTY - LSI LED fixtures carry a limited 5-year warranty... LISTING - Listed to U.S. and Canadian safety standards. Suitable for wet or damp locations.

Product ordering information for XSL S LED 50 CW 120 WHT CMT. Includes table with columns: Prefix, Distribution, Light Source, Qty LEDs, Color Temp., Line Voltage, Finish, Options. Also includes dimensions and shipping weight information.

AS-BUILT CERTIFICATION: I HEREBY CERTIFY THAT THE FACILITIES SHOWN ON THESE PLANS WERE CONSTRUCTED AS SHOWN ON THE 'AS-BUILT' PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS. Includes signature of John W. Clapsdole.

Lighting Facts Label: This 'Lighting Facts Label' represents LSI's commitment, through participation in the Department of Energy's SSL Quality Advocates program... Includes American Innovation and American Made logos.

LSI logo and company information: LSI INDUSTRIES INC., Catalog #, Project Name, Fixture Type.

UNDER CANOPY LIGHTING DETAIL: NOT TO SCALE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Includes signatures and dates for Chief, Development Engineering Division and Chief, Division of Land Development. Also includes owner and developer information and project details: GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2.

Vertical text on the far right edge: P:\Project\16293\16293-VL\PLANS-C\4085017.DWG

| DRAINAGE AREA TABULATION |                    |          |
|--------------------------|--------------------|----------|
| INLET NUMBER             | DRAINAGE AREA (AC) | C FACTOR |
| EX I-10                  | 0.56 AC.           | 0.72     |
| EX I-9                   | 0.40 AC.           | 0.72     |
| EX I-8                   | 0.51 AC.           | 0.72     |
| EX I-106                 | 1.44 AC.           | 0.72     |
| I-1                      | 0.18 AC.           | 0.72     |
| I-2                      | 0.51 AC.           | 0.72     |
| I-3                      | 0.12 AC.           | 0.72     |
| R-1 ROOF DRAIN           | 0.13 AC.           | 0.72     |

**LEGEND**

STORM DRAIN DRAINAGE AREA DIVIDE

PROPOSED STORM DRAIN SYSTEM

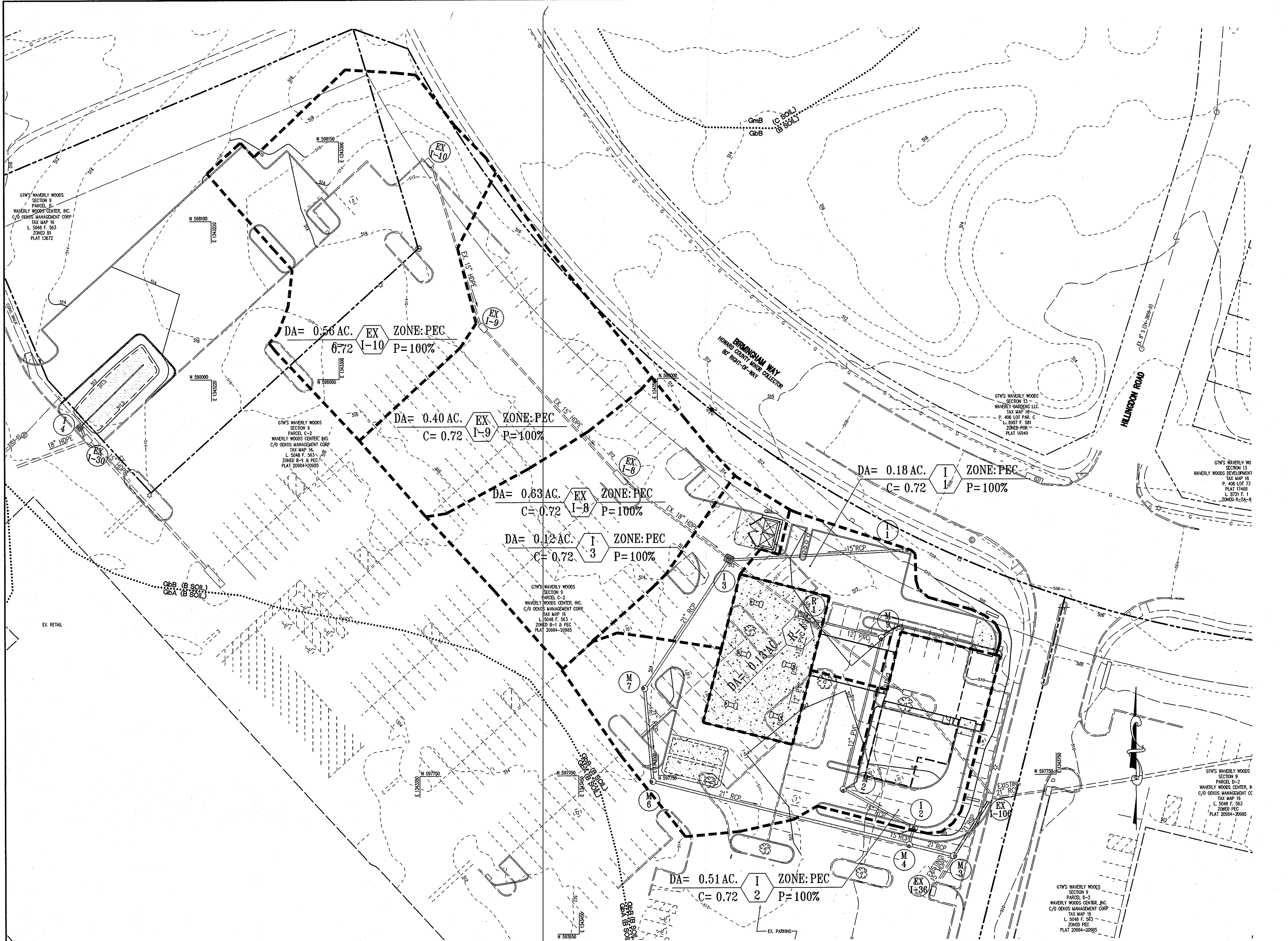
STORM DRAIN STRUCTURE NUMBER

FLOW PATH

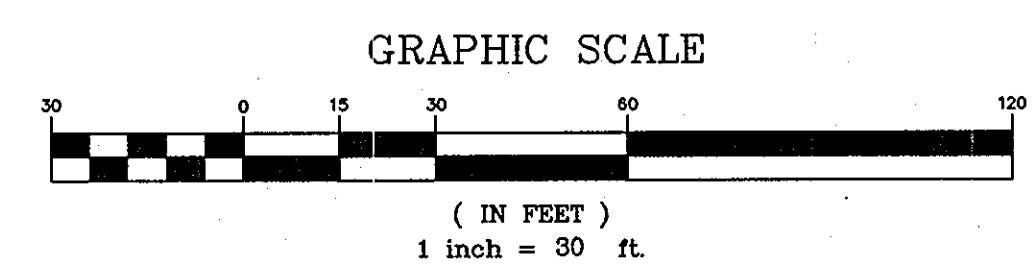
STORM DRAIN AREA IDENTIFIER

30' HOPE

DA= 1.23 AC. ZONE: PEC  
C= 0.72 P=100%



STORM DRAIN DRAINAGE AREA MAP  
SCALE: 1"=30'



| SOILS CHART |                     |                                       |                |           |           |          |                  |
|-------------|---------------------|---------------------------------------|----------------|-----------|-----------|----------|------------------|
| MAP SYMBOL  | NAME                | STRUCTURAL LIMITATIONS                | EROSION HAZARD | HYDRIC    | SLOPE (%) | K FACTOR | HYDROLOGIC GROUP |
| GbA         | Gladstone Loom      | Dwellings w/ Basements<br>Not limited | Slight         | No        | 0-3       | .20      | B                |
| GbB         | Gladstone Loom      | Not limited                           | Moderate       | No        | 3-8       | .20      | B                |
| GmB         | Glenville Silt Loom | Very limited                          | Moderate       | Partially | 3-8       | .37      | C                |

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Sid Roros* 4/20/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Kevin Shadlock* 5/10/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Thomas E. Butler* 5/15/10  
DIRECTOR DATE

DATE NO. REVISION

OWNER  
OEKOS MANAGEMENT CORPORATION  
ATTN: SID ROROS  
5565 STERRETT PLACE, SUITE 404  
COLUMBIA, MD 21044  
T: 410.740.5057

DEVELOPER  
CONVENIENCE RETAILING, LLC  
ATTN: RICK LEVITAN  
10704 CLOVERBROOK DRIVE  
POTOMAC, MARYLAND 20854  
T: 301.370.4055

PROJECT GTW'S WAVERLY WOODS  
SECTION 9, PARCELS B, C-2, AND D-2

AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
ZONING: B-1 & PEC .3RD ELECTION DISTRICT PLATS 13672, 20984-20985  
HOWARD COUNTY, MARYLAND  
SERVICE STATION

TITLE  
STORM DRAIN  
DRAINAGE AREA MAP

Patton Harris Rust & Associates, Inc.  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY : RSJ  
DRAWN BY: RSJ  
PROJECT NO : 15823-1-0  
DATE : MARCH 29, 2010  
SCALE : 1" = 30'  
DRAWING NO. 12 OF 15

STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
4/6/10

### STORM DRAIN STRUCTURE SCHEDULE

| NUMBER | TYPE               | LOCATION      |                | TOP ELEVATION               | PIPE INVERTS                    |              | REMARKS<br>HOWARD COUNTY<br>DPW<br>STANDARD DETAILS |
|--------|--------------------|---------------|----------------|-----------------------------|---------------------------------|--------------|---|
|        |                    | NORTHING      | EASTING        |                             | INV. IN                         | INV. OUT     |   |
| I-1    | TYPE A-5 INLET     | N 597889.1456 | E 1343656.2115 | 511.54<br>THROAT ELE=510.94 | -                               | 507.00       | D-4.22  |
| I-2    | TYPE A-5 INLET     | N 597718.2006 | E 1343660.8122 | 511.27<br>THROAT ELE=510.67 | 506.39                          | 503.00       | D-4.22  |
| I-3    | TYPE "S" INLET     | N 597886.1158 | E 1343544.8790 | TOP OF GRATE<br>512.50      | 502.75(18")<br>502.75(EX.18")   | 502.50       | D-4.92(VANE GRATE)<br>D-4.23                        |
| I-4    | TYPE "S" INLET     | N 597970.5562 | E 1343137.0980 | TOP OF GRATE<br>512.50      | 505.41                          | 505.34       | D-4.92(VANE GRATE)<br>D-4.23                        |
| M-2    | 4' PRECAST MANHOLE | N 597740.8110 | E 1343616.1865 | 511.23                      | 507.89 (12")<br>507.39 (15")    | 507.00 (18") | G-5.12  |
| M-3    | 4' PRECAST MANHOLE | N 597698.5432 | E 1343685.5453 | 508.40                      | 499.91 (EX.15")<br>499.77 (21") | 499.67 (21") | G-5.12  |
| M-4    | 4' PRECAST MANHOLE | N 597721.4710 | E 1343594.7975 | 508.60                      | 500.20 (21")<br>501.00 (15")    | 499.93       | G-5.12  |
| M-6    | 4' PRECAST MANHOLE | N 597746.2859 | E 1343496.5808 | 513.80                      | 501.41                          | 501.11       | G-5.12  |
| M-7    | 4' PRECAST MANHOLE | N 597804.6384 | E 1343491.5940 | 514.00                      | 502.01                          | 501.71       | G-5.12  |
| M-9    | 4' PRECAST MANHOLE | N 597836.3826 | E 1343640.5934 | 512.03                      | 508.59                          | 508.39       | G-5.12  |

#### NOTES

- ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.
- STATIONS ARE GIVEN TO CENTER OF STRUCTURE AT FACE OF CURB FOR CURB INLETS AND TO CENTER OF STRUCTURE FOR ALL OTHER STRUCTURES.
- ELEVATIONS ARE GIVEN TO TOP OF CURB FOR CURB INLETS, TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.
- PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.

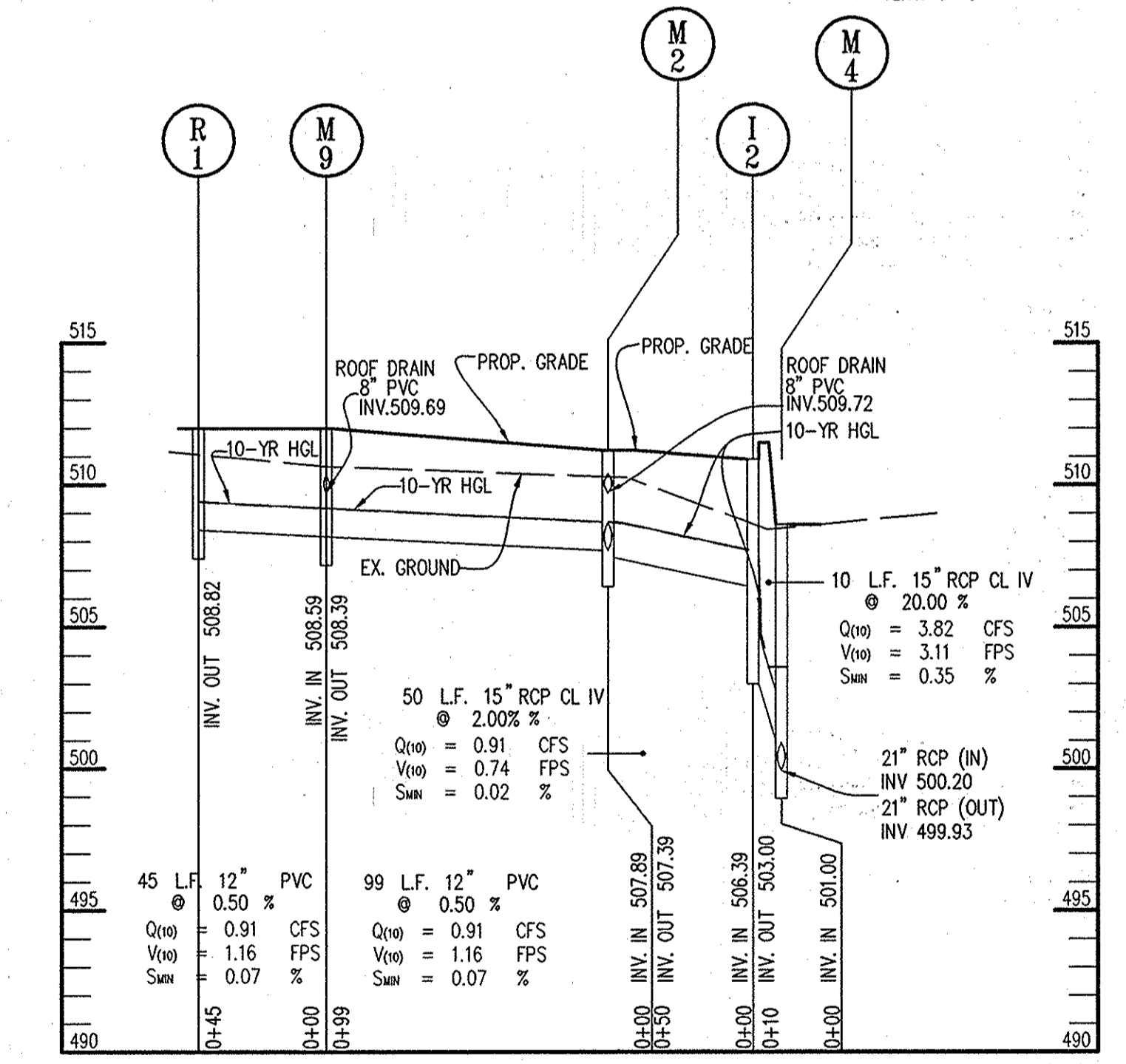
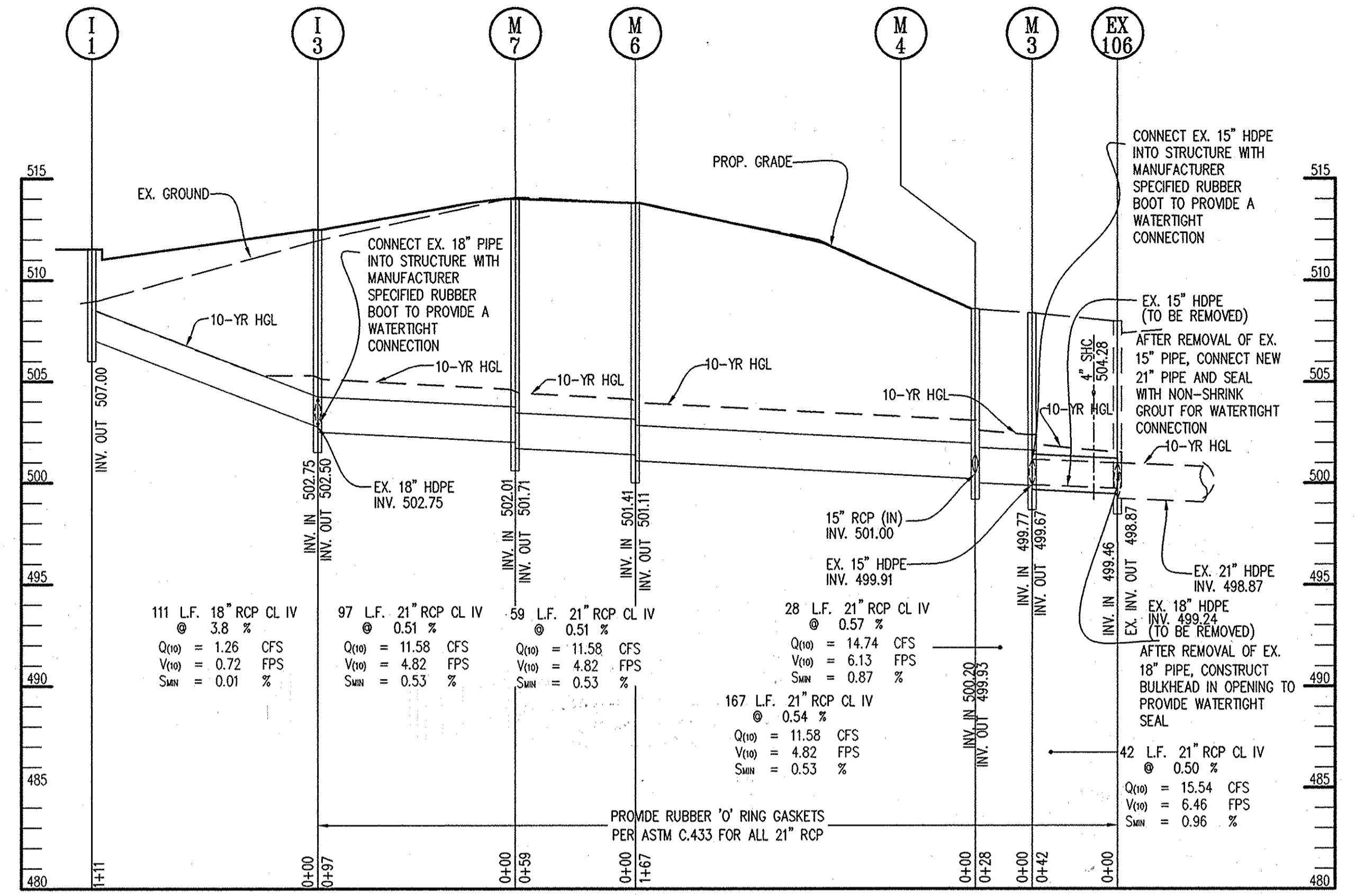
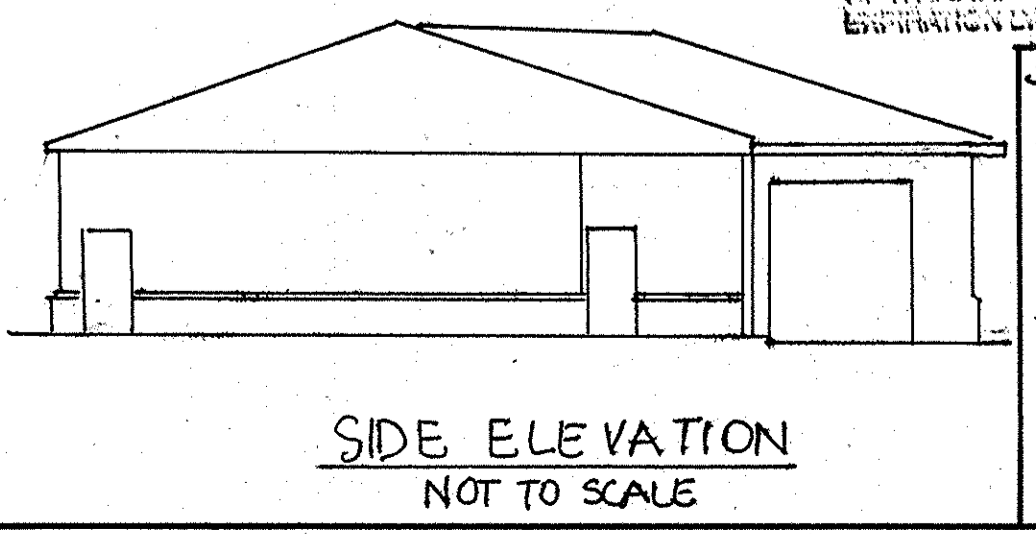
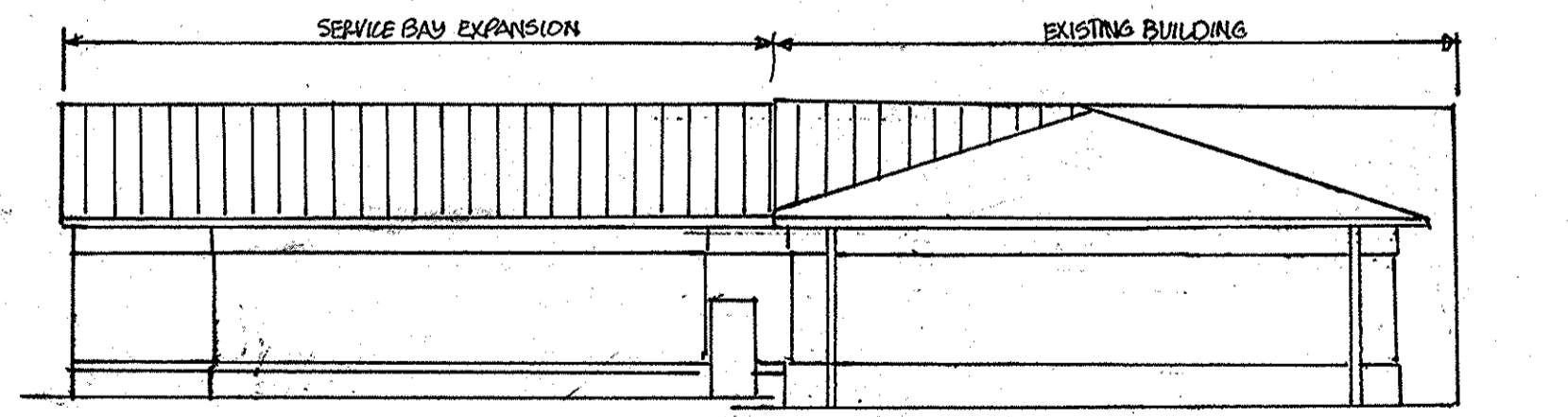
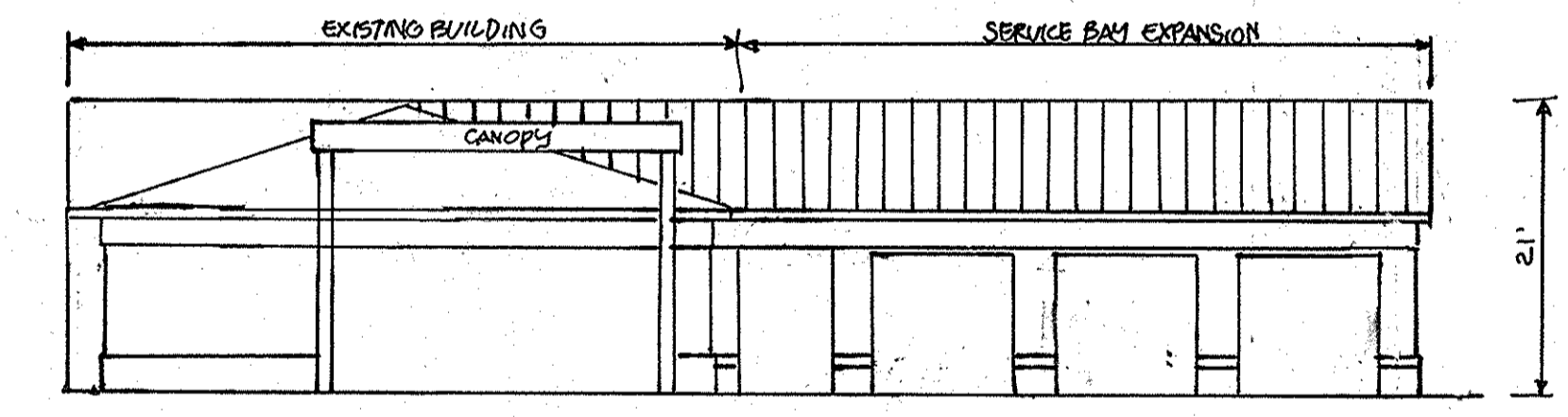
### STORM DRAIN PIPE SCHEDULE

| SIZE | TYPE                             | LINEAR FOOTAGE |
|------|----------------------------------|----------------|
| 8"   | PVC (ROOF DRAIN @ BLDG.)         | 214            |
| 12"  | PVC SCH 40 (ROOF DRAIN @ CANOPY) | 144            |
| 12"  | RCP CL IV                        | 24             |
| 15"  | RCP CL IV                        | 60             |
| 18"  | RCP CL IV                        | 111            |
| 21"  | RCP CL IV PER ASTM C.443         | 393            |

### Waverly Woods Shopping Center

| Use             | SF             | Standard Parking Ratio Required | Standard Parking Spaces Required | Shared Parking Requirements |                 |                   |                 |                 |                 |           |      |     |     |     |    |
|-----------------|----------------|---------------------------------|----------------------------------|-----------------------------|-----------------|-------------------|-----------------|-----------------|-----------------|-----------|------|-----|-----|-----|----|
|                 |                |                                 |                                  | Weekday                     | Weekday         | Weekday           | Weekday         | Weekend         | Weekend         | Nighttime |      |     |     |     |    |
|                 |                |                                 |                                  | Morning 6am-8am             | Mid Day 8am-3pm | Afternoon 3pm-5pm | Evening 5pm-mid | Daytime 6am-6pm | Evening 6pm-mid | mid-6am   |      |     |     |     |    |
| Shopping Center | 99,570         | 5sp/1,000sf                     | 498                              | 100%                        | 29%             | 21%               | 60%             | 44%             | 90%             | 4%        | 100% | 34% | 70% | 25% | 5% |
| Service Station | 1,800          | See note 2                      | 8                                | 100%                        | 6               | 70%               | 8               | 100%            | 6               | 70%       | 4    | 50% | 1   | 10% | 0% |
| Service Bays    | 3 bays         | See note 3                      | 9                                | 100%                        | 9               | 100%              | 9               | 100%            | 1               | 10%       | 6    | 70% | 0   | 0%  | 0  |
| <b>Total</b>    | <b>101,370</b> |                                 | <b>515</b>                       | <b>109</b>                  | <b>34</b>       | <b>316</b>        | <b>455</b>      | <b>510</b>      | <b>353</b>      | <b>76</b> |      |     |     |     |    |

- Notes:
- Shopping center parking is provided at 5sp/1,000sf based on the approved SDP (SDP-98-125). Shared parking for shopping center is provided based on the retail rates in the Howard County Zoning Regulations.
  - Gasoline Service Stations with a car wash require 4 spaces. A convenience store associated with a gas station requires 2 spaces/1,000sf. The existing convenience store is 1,800sf. Shared parking for the service station is based on peak usage during the morning and evening weekday rush hours, and reduced usage at other times. The service station is open from 5 AM to 12 AM 7 days a week.
  - Service bays require three parking spaces per bay. Shared parking for the service bays is based on service bay hours of 8 AM to 5 PM 6 days a week. Service bays are closed on Sundays. Cars that are not picked up by customers are left in the service bays overnight. Some surface parking is used after 5 PM.

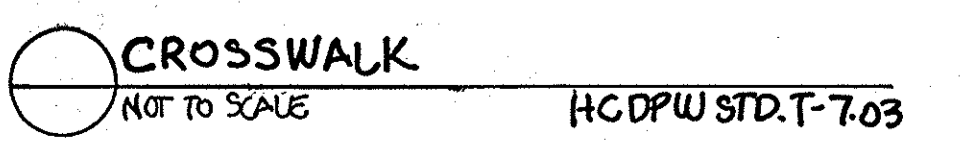
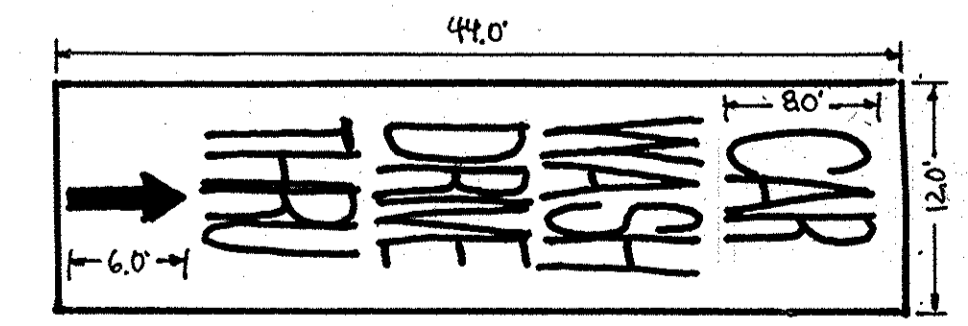


#### GENERAL NOTES CONTINUED FROM SHEET 1:

- THE CONDITIONAL USE SHALL BE CONDUCTED IN CONFORMANCE WITH AND SHALL APPLY ONLY TO THE THREE SERVICE BAY EXPANSION OF THE EXISTING GASOLINE SERVICE STATION, CONVENIENCE STORE AND CAR WASH AS DESCRIBED IN THE PETITION AND CONDITIONAL USE PLAN AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS ON THE SITE OR PROPERTY.
  - THERE SHALL BE NO KEY DROP-OFF BOX OR SIMILAR METHOD FOR LEAVING KEYS WHEN THE VEHICLE SERVICE USE IS NOT OPERATING. NO VEHICLE KEYS SHALL BE LEFT WITH CONVENIENCE STORE EMPLOYEES.
  - THERE SHALL BE NO OVERNIGHT, ON- OR OFF-SITE OUTDOOR STORAGE OF VEHICLES DROPPED OFF OR BROUGHT IN FOR MAINTENANCE. IF A VEHICLE BROUGHT IN FOR MAINTENANCE MUST BE KEPT OVERNIGHT, IT SHALL BE STORED WITHIN THE BAY SERVICE BUILDING.
  - ALL EMPLOYEES SHALL PARK IN THE OFF-SITE SHARED PARKING SPACES.
  - PETITIONER SHALL PROVIDE HIGHLY VISIBLE PEDESTRIAN WALKWAY STRIPS BETWEEN THE SPACES PERPENDICULAR TO BIRMINGHAM WAY AND THE CONVENIENCE STORE.
44. PARKING FACILLATION CHART:
- |                          |   |
|--------------------------|---|
| CLEARALL SHOPPING CENTER | 506 SPACES (498 PUBLIC SPACES + 13 EMPLOYEE SPACES)     |
| TOTAL EXISTING PARKING:  | 498 SPACES (SHOPPING CENTER PER SDP-98-125)             |
| TOTAL REQUIRED PARKING:  | 515 TOTAL SPACES PER ZONING                             |
|                          | 502 TOTAL SPACES PER PARKING NEEDS STUDY DATED 10/31/14 |
- TOTAL PROPOSED PARKING: 502 SPACES (INCLUDING 18 HC SPACES) \*
- SERVICE STATION SITE  
REQUIRED PARKING: 8 SPACES (4 SPACES FOR SERVICE STATION AND 4 SPACES FOR CONVENIENCE STORE - 1,800 SF / 1,000 X 2 SPACES = 4 SPACES) + 9 SPACES SERVICE BAYS (3 SPACES PER BAY X 3 BAYS)
- PROPOSED PARKING: 17 SPACES (INCLUDES 2 HC SPACES)
42. THE OWNER IS RESPONSIBLE FOR ADDRESSING ANY PARKING ISSUES THAT ARISE ON-SITE.
43. ANY FUTURE CHANGE OF USE OR ADDITIONAL DEVELOPMENT WILL REQUIRE RE-REVIEW OF PARKING NEEDS.

\* BASED ON A PARKING NEEDS STUDY AND SHARED PARKING ANALYSIS PREPARED BY PENNONI ASSOCIATES IN DECEMBER OF 2013, IT WAS DETERMINED THAT SUFFICIENT PARKING EXISTS ON-SITE TO ACCOMMODATE THE EXISTING USES AND PROPOSED EXPANSION. SEE SHARED PARKING ANALYSIS THIS SHEET.

HOWARD COUNTY DESIGN MANUAL VOLUME 11 - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWINGS T-7.03)



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chief, Development Engineering Division: *[Signature]* 4/20/10 DATE

Chief, Division of Land Development: *[Signature]* 5/5/10 DATE

Director: *[Signature]* 5/5/10 DATE

12/10/14 (1) ADDING SERVICE BAY EXPANSION ELEVATIONS, PARKING TABLE AND DATE NO. REVISION GENERAL NOTES.

OWNER: OEKOS MANAGEMENT CORPORATION  
ATTN: SID ROROS  
5565 STERRETT PLACE, SUITE 404  
COLUMBIA, MD 21044  
T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
ATTN: RICK LEVITAN  
10704 CLOVERBROOK DRIVE  
POTOMAC, MARYLAND 20854  
T: 301.370.4055

PROJECT: GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2

AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1 ZONING: B-1 & P-C 3RD ELECTION DISTRICT PLATS 13672, 20984-20985 HOWARD COUNTY, MARYLAND SERVICE STATION

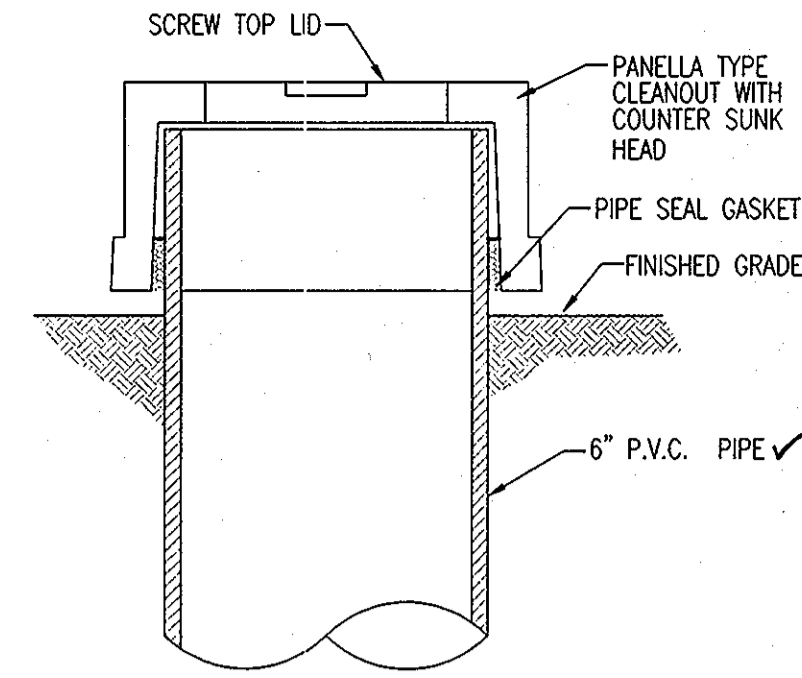
TITLE: STORM DRAIN PROFILES & DETAILS

Patton Harris Rust & Associates, Inc.  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T: 410.997.8900  
F: 410.997.9282

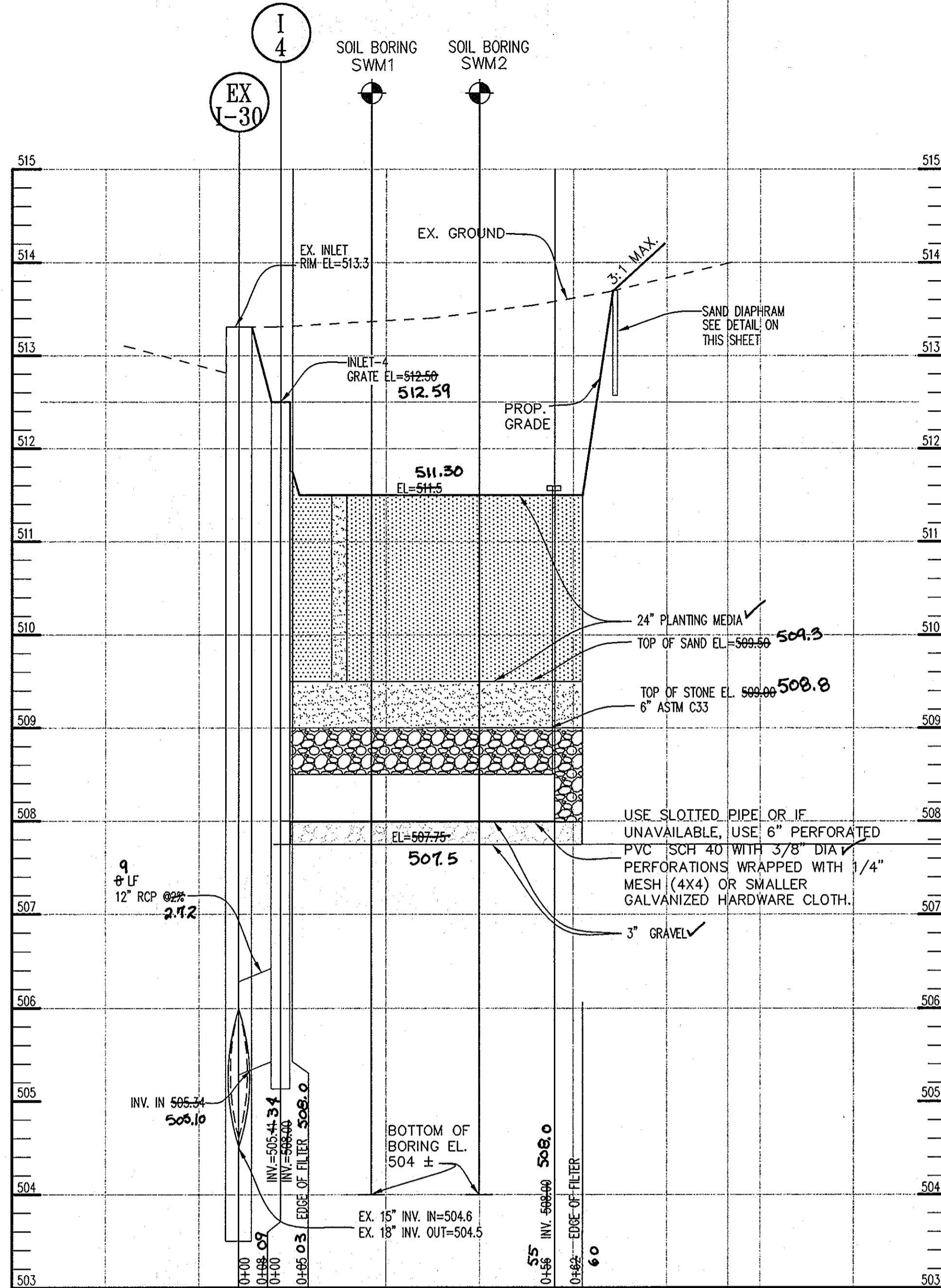
DESIGNED BY: RSJ  
DRAWN BY: RSJ  
PROJECT NO.: 15823-1-0  
DATE: MARCH 29, 2010  
SCALE: AS SHOWN  
DRAWING NO. 13 OF 15

**OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION FACILITY**

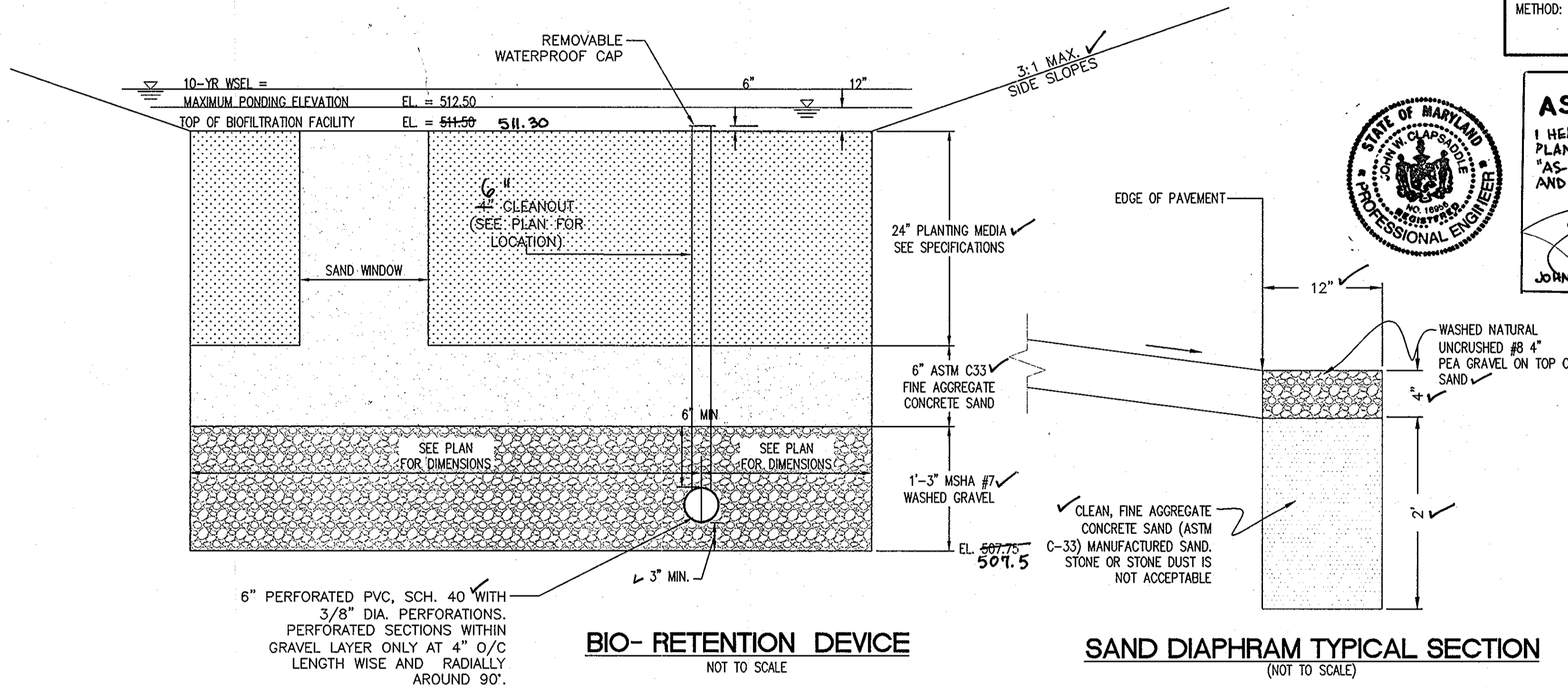
1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL 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 CONSIDERED BEYOND TREATMENT, TREATMENT 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 WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



**CLEAN OUT CAP**  
(NOT TO SCALE)



**PROFILE**  
**BIO-RETENTION FACILITY (STORMWATER FILTERING SYSTEM F-6)**  
SCALE: HOR: 1"=20'  
VERT: 1"=1'



**BIO-RETENTION DEVICE**  
NOT TO SCALE

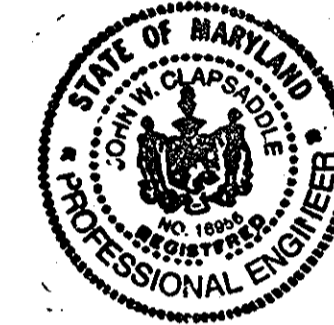
**SAND DIAPHRAM TYPICAL SECTION**  
(NOT TO SCALE)

**STORMWATER POND SUMMARY TABLE**

|                                 |                      |
|---------------------------------|----------------------|
| DRAINAGE AREA                   | = 0.35 Ac            |
| RECHARGE VOLUME (Rev)           | = 0 CU. FT.          |
| REQUIRED:                       | = 0 CU. FT.          |
| PROVIDED:                       | = 0 CU. FT.          |
| METHOD:                         | = N/A                |
| WATER QUALITY VOLUME (WqV)      | = 1,094 CU. FT.      |
| REQUIRED:                       | = 1,409 CU. FT.      |
| PROVIDED:                       | = 1,409 CU. FT.      |
| METHOD:                         | = BIORETENTION (F-6) |
| CHANNEL PROTECTION VOLUME (CpV) | = 0 CU. FT.          |
| REQUIRED:                       | = 0 CU. FT.          |
| PROVIDED:                       | = 0 CU. FT.          |
| METHOD:                         | = N/A                |
| OVERBANK PROTECTION VOLUME (Op) | = 0 CU. FT.          |
| REQUIRED:                       | = 0 CU. FT.          |
| PROVIDED:                       | = 0 CU. FT.          |
| METHOD:                         | = N/A                |
| EXTREME FLOOD VOLUME (Of)       | = 0 CU. FT.          |
| REQUIRED:                       | = 0 CU. FT.          |
| PROVIDED:                       | = 0 CU. FT.          |
| METHOD:                         | = N/A                |

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITIES SHOWN ON THESE PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.



John W. Clapsaddle #16956  
DATE: 1/10/2011

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

|   |         |      |
|---|---------|------|
| Chief, Development Engineering Division | 4/20/10 | DATE |
| Chief, Division of Land Development     | 5/05/10 | DATE |
| Director                                | 5/15/10 | DATE |

DATE NO. REVISION

OWNER: OEKOS MANAGEMENT CORPORATION  
ATTN: SID ROROS  
5565 STERRETT PLACE, SUITE 404  
COLUMBIA, MD 21044  
T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
ATTN: RICK LEVITAN  
10704 CLOVERBROOK DRIVE  
POTOMAC, MARYLAND 20854  
T: 301.370.4055

PROJECT: GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2

AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20984-20985  
HOWARD COUNTY, MARYLAND SERVICE STATION

TITLE: **BIO-RETENTION FACILITY DETAILS (STORMWATER FILTERING SYSTEM F-6)**

Patton Harris Rust & Associates, Inc.  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

|                        |
|------------------------|
| DESIGNED BY: RSJ       |
| DRAWN BY: RSJ          |
| PROJECT NO.: 15823-1-0 |
| DATE: MARCH 29, 2010   |
| SCALE: AS SHOWN        |
| DRAWING NO. 14 OF 15   |

SDP-10-024

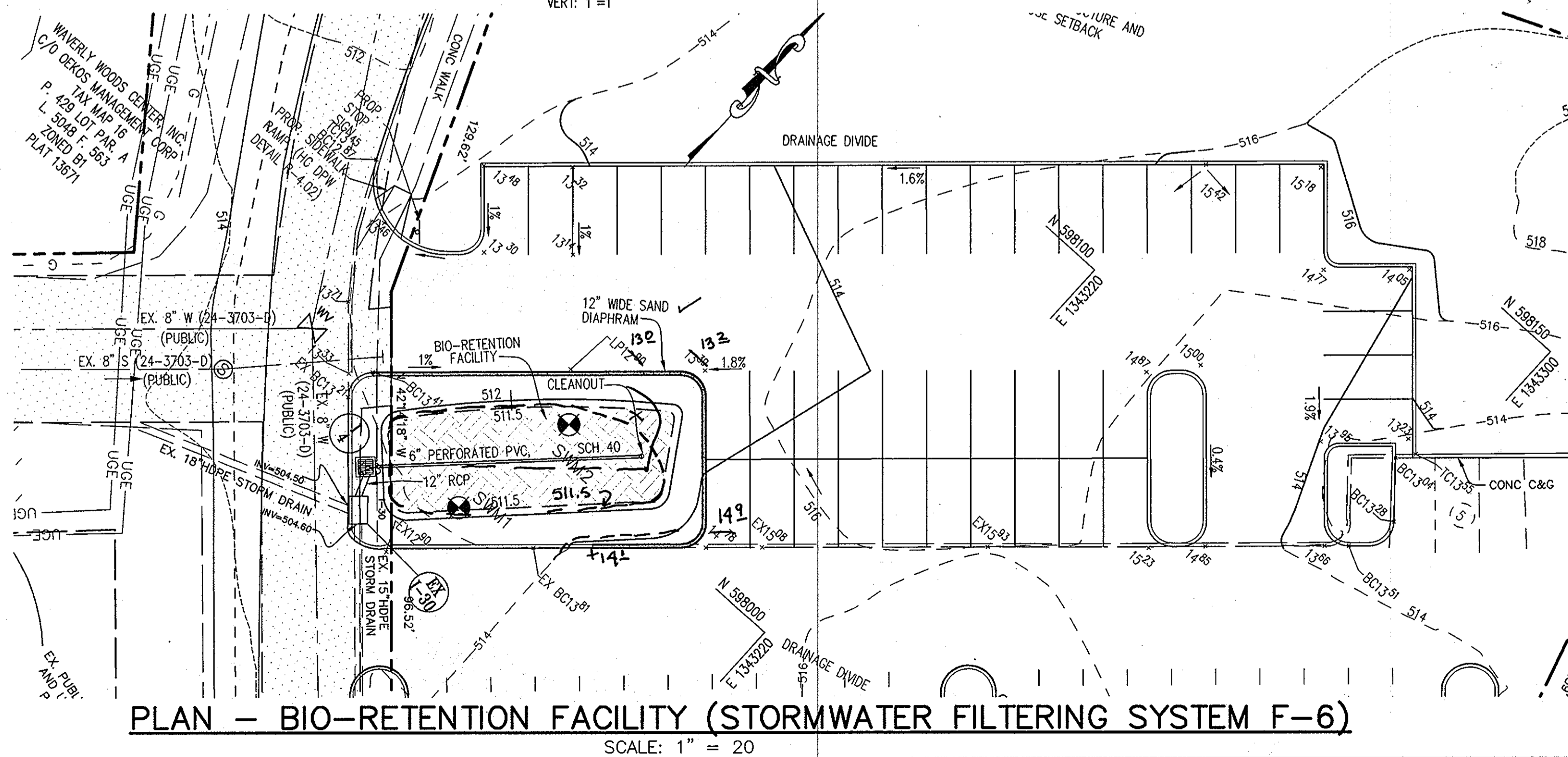
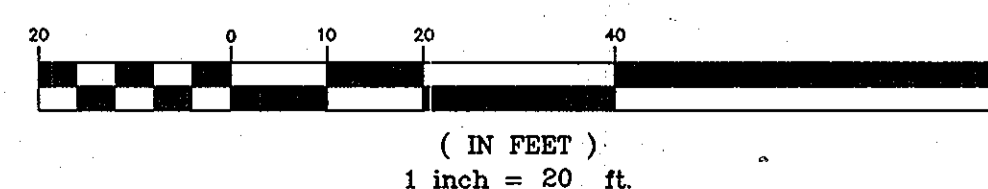
**BIOFILTRATION SPECIFICATIONS**

1. THE UNDERDRAIN PIPE MUST BE SLOTTED PIPE OR IF NOT AVAILABLE, 6-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.008 SLOPE WRAPPED WITH 1/4" MESH (4X4) OR SMALLER GALVANIZED HARDWARE CLOTH. THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5 FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.
2. 4" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 6 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP.
3. THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).
4. A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE SOIL FILTER/PLANTING MEDIA. A SAND WINDOW SHALL EXTEND FROM THE SAND FILTER TO THE SURFACE OF THE PLANTING MEDIA. THE SAND WINDOW MUST BE ASTM C33 FINE AGGREGATE CONCRETE SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.
5. THE PLANTING MEDIA SHALL CONSIST OF 1/3 PERLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: CONTAIN NO MORE THAN 10% CLAY, 30-55% SILT AND 35-60% SAND. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE FIRST LAYER OF THE PLANTING MEDIA SHALL BE LIGHTLY TILLED TO MIX IT INTO THE SAND LAYER, SO NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
6. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 2 TO 3 INCHES. YEARLY REPLISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

**SAND SPECIFICATIONS**

- WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS. IN ADDITION TO THE ASTM C-33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS.
1. SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C-33 FINE AGGREGATE CONCRETE SAND. AASHTO M-6 GRADATION IS ALSO ACCEPTABLE.
  2. SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
  3. SAND MUST BE CLEAN. NATURAL UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
  4. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.

**GRAPHIC SCALE**



**PLAN - BIO-RETENTION FACILITY (STORMWATER FILTERING SYSTEM F-6)**

SCALE: 1" = 20'

**TEST BORING LOG** SHEET 1 OF 1

PROJECT NAME: Waverly Woods Service Station  
 PROJECT NUMBER: 090578901  
 CLIENT: JPC Architects

BORING NO.: SWM-1  
 TOP OF GROUND: ±514.00 ft  
 GROUNDWATER DATA: Dry  
 Depth: Not Encountered  
 Time: Completion

LOCATION: See Subsurface Investigation Location Plan (090578901-B-100)

FIELD SURVEYED  TOPO ESTIMATE

| DEPTH (feet) | SAMPLE NUMBER | SAMPLE DEPTH (ft) | BLOWS PER 6" | SOIL DESCRIPTION                                   | REMARKS   |
|--------------|---------------|-------------------|--------------|--|-----------|
|              |               |                   |              | 0.0' - 0.58' 3" Asphalt - 4" Stone Sub-base        | Pavement  |
|              |               |                   |              | 0.58' - 10.0'                                      |           |
|              | S-1           | 1.0'-2.5'         | 5-4-6        | Stiff red-brown sandy silt and clay                |           |
|              | S-2           | 2.5'-4.0'         | 3-6-7        | Dense red-brown silty sand                         |           |
| 5.0          |               |                   |              |  |           |
|              | S-3           | 5.0'-6.5'         | 4-5-6        | Medium dense orange-brown silty sand               |           |
| 10.0         | S-4           | 8.5'-10.0'        | 3-4-6        | Medium dense brown to tan to black silty fine sand | Stratum I |
|              |               |                   |              | -End of Test Boring at 10.0 Feet-                  |           |
| 15.0         |               |                   |              |  |           |
| 20.0         |               |                   |              |  |           |
| 25.0         |               |                   |              |  |           |

**CMX**  
 910 Century Drive, Mechanicsburg, PA 17055  
 (717) 458-0800 FAX: (717) 458-0801  
 www.cmengineering.com

RIG TYPE: Truck Mounted CME-75  
 DRILLING METHOD: Hollow Stem Auger & Automatic Hammer  
 CMX REP: B. Hilsaback  
 DRAWN/COMPILED BY: B. Hilsaback  
 DATE DRILLED: 10-13-2009

**TEST BORING LOG** SHEET 1 OF 1

PROJECT NAME: Waverly Woods Service Station  
 PROJECT NUMBER: 090578901  
 CLIENT: JPC Architects

BORING NO.: SWM-2  
 TOP OF GROUND: ±514.00 ft  
 GROUNDWATER DATA: Dry  
 Depth: Not Encountered  
 Time: Completion

LOCATION: See Subsurface Investigation Location Plan (090578901-B-100)

FIELD SURVEYED  TOPO ESTIMATE

| DEPTH (feet) | SAMPLE NUMBER | SAMPLE DEPTH (ft) | BLOWS PER 6" | SOIL DESCRIPTION   | REMARKS   |
|--------------|---------------|-------------------|--------------|--|-----------|
|              |               |                   |              | 0.0' - 0.9' 5" Asphalt - 6" Stone Sub-base                           | Pavement  |
|              |               |                   |              | 0.9' - 10.0' Red-brown sandy silt; isolated cobbles; augered to 4.0' |           |
|              | S-2           | 2.5'-4.0'         | 4-4-4        | Medium dense red to orange-brown silty sand                          |           |
| 5.0          |               |                   |              |  |           |
|              | S-3           | 5.0'-6.5'         | 3-4-4        | Medium dense red to orange-brown silty sand                          |           |
| 10.0         | S-4           | 8.5'-10.0'        | 3-4-6        | Medium dense red to orange-brown silty sand                          | Stratum I |
|              |               |                   |              | -End of Test Boring at 10.0 Feet-                                    |           |
| 15.0         |               |                   |              |  |           |
| 20.0         |               |                   |              |  |           |
| 25.0         |               |                   |              |  |           |

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 910 Century Drive, Mechanicsburg, PA 17055  
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RIG TYPE: Truck Mounted CME-75  
 DRILLING METHOD: Hollow Stem Auger & Automatic Hammer  
 CMX REP: B. Hilsaback  
 DRAWN/COMPILED BY: B. Hilsaback  
 DATE DRILLED: 10-13-2009

**TEST BORING LOG** SHEET 1 OF 1

PROJECT NAME: Waverly Woods Service Station  
 PROJECT NUMBER: 090578901  
 CLIENT: JPC Architects

BORING NO.: SWM-3  
 TOP OF GROUND: ±512.00 ft  
 GROUNDWATER DATA: Dry  
 Depth: Not Encountered  
 Time: Completion

LOCATION: See Subsurface Investigation Location Plan (090578901-B-100)

FIELD SURVEYED  TOPO ESTIMATE

| DEPTH (feet) | SAMPLE NUMBER | SAMPLE DEPTH (ft) | BLOWS PER 6" | SOIL DESCRIPTION                                     | REMARKS   |
|--------------|---------------|-------------------|--------------|--|-----------|
|              |               |                   |              | 0.0' - 0.75' 5" Asphalt - 4" Stone Sub-base          | Pavement  |
|              |               |                   |              | 0.75' - 15.0'  |           |
|              | S-1           | 1.0'-2.5'         | 2-3-4        | Medium dense brown silty sand                        |           |
|              | S-2           | 2.5'-4.0'         | 4-5-8        | Dense orange-brown silty sand; trace gravel          |           |
| 5.0          |               |                   |              |  |           |
|              | S-3           | 5.0'-6.5'         | 3-4-6        | Medium dense dark brown silty sand; trace gravel     |           |
| 10.0         | S-4           | 8.5'-10.0'        | 6-6-7        | Medium dense brown silty sand                        |           |
| 15.0         | S-5           | 13.5'-15.0'       | 4-4-5        | Medium dense brown to orange-brown to tan sandy silt | Stratum I |
|              |               |                   |              | -End of Test Boring at 15.0 Feet-                    |           |
| 20.0         |               |                   |              |  |           |
| 25.0         |               |                   |              |  |           |

**CMX**  
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 www.cmengineering.com

RIG TYPE: Truck Mounted CME-75  
 DRILLING METHOD: Hollow Stem Auger & Automatic Hammer  
 CMX REP: B. Hilsaback  
 DRAWN/COMPILED BY: B. Hilsaback  
 DATE DRILLED: 10-13-2009

**TEST BORING LOG** SHEET 1 OF 1

PROJECT NAME: Waverly Woods Service Station  
 PROJECT NUMBER: 090578901  
 CLIENT: JPC Architects

BORING NO.: SWM-4  
 TOP OF GROUND: ±512.00 ft  
 GROUNDWATER DATA: Dry  
 Depth: Not Encountered  
 Time: Completion

LOCATION: See Subsurface Investigation Location Plan (090578901-B-100)

FIELD SURVEYED  TOPO ESTIMATE

| DEPTH (feet) | SAMPLE NUMBER | SAMPLE DEPTH (ft) | BLOWS PER 6" | SOIL DESCRIPTION                            | REMARKS   |
|--------------|---------------|-------------------|--------------|---|-----------|
|              |               |                   |              | 0.0' - 0.83' 4" Asphalt - 6" Stone Sub-base | Pavement  |
|              |               |                   |              | 0.83' - 15.0'                               |           |
|              | S-1           | 1.0'-2.5'         | 2-4-4        | Medium dense brown silty sand               |           |
|              | S-2           | 2.5'-4.0'         | 2-3-4        | Medium dense orange-brown silty sand        |           |
| 5.0          |               |                   |              |   |           |
|              | S-3           | 5.0'-6.5'         | 5-6-7        | Medium dense brown silty sand               |           |
| 10.0         | S-4           | 8.5'-10.0'        | 5-8-10       | Dense brown silty sand                      |           |
| 15.0         | S-5           | 13.5'-15.0'       | 3-4-5        | Medium dense tan silty medium to fine sand  | Stratum I |
|              |               |                   |              | -End of Test Boring at 15.0 Feet-           |           |
| 20.0         |               |                   |              |   |           |
| 25.0         |               |                   |              |   |           |

**CMX**  
 910 Century Drive, Mechanicsburg, PA 17055  
 (717) 458-0800 FAX: (717) 458-0801  
 www.cmengineering.com

RIG TYPE: Truck Mounted CME-75  
 DRILLING METHOD: Hollow Stem Auger & Automatic Hammer  
 CMX REP: B. Hilsaback  
 DRAWN/COMPILED BY: B. Hilsaback  
 DATE DRILLED: 10-13-2009

**TEST BORING LOG** SHEET 1 OF 1

PROJECT NAME: Waverly Woods Service Station  
 PROJECT NUMBER: 090578901  
 CLIENT: JPC Architects

BORING NO.: SWM-5  
 TOP OF GROUND: ±510.00 ft  
 GROUNDWATER DATA: Dry  
 Depth: Not Encountered  
 Time: Completion

LOCATION: See Subsurface Investigation Location Plan (090578901-B-100)

FIELD SURVEYED  TOPO ESTIMATE

| DEPTH (feet) | SAMPLE NUMBER | SAMPLE DEPTH (ft) | BLOWS PER 6" | SOIL DESCRIPTION                                      | REMARKS   |
|--------------|---------------|-------------------|--------------|---|-----------|
|              |               |                   |              | 0.0' - 0.83' 4" Asphalt - 6" Stone Sub-base           | Pavement  |
|              |               |                   |              | 0.83' - 15.0'   |           |
|              | S-1           | 1.0'-2.5'         | 3-6-5        | Dense brown silty sand; quartz gravel in tip of spoon |           |
|              | S-2           | 2.5'-4.0'         | 4-6-6        | Dense orange-brown sandy silt                         |           |
| 5.0          |               |                   |              |   |           |
|              | S-3           | 5.0'-6.5'         | 4-8-5        | Dense dark brown silty sand; trace gravel             |           |
| 10.0         | S-4           | 8.5'-10.0'        | 5-5-8        | Very stiff red-brown sandy silt and clay              |           |
| 15.0         | S-5           | 13.5'-15.0'       | 5-7-8        | Medium dense tan to white silty medium to fine sand   | Stratum I |
|              |               |                   |              | -End of Test Boring at 15.0 Feet-                     |           |
| 20.0         |               |                   |              |   |           |
| 25.0         |               |                   |              |   |           |

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RIG TYPE: Truck Mounted CME-75  
 DRILLING METHOD: Hollow Stem Auger & Automatic Hammer  
 CMX REP: B. Hilsaback  
 DRAWN/COMPILED BY: B. Hilsaback  
 DATE DRILLED: 10-13-2009

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Howard County* 4/20/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Keith Sheehy* 5/05/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Diana E. Butler* 5/5/10  
 DIRECTOR DATE

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

OWNER: OEKOS MANAGEMENT CORPORATION  
 ATTN: SID ROROS  
 5565 STERRETT PLACE, SUITE 404  
 COLUMBIA, MD 21044  
 T: 410.740.5057

DEVELOPER: CONVENIENCE RETAILING, LLC  
 ATTN: RICK LEVITAN  
 10704 CLOVERBROOK DRIVE  
 POTOMAC, MARYLAND 20854  
 T: 301.370.4055

PROJECT: **GTW'S WAVERLY WOODS SECTION 9, PARCELS B, C-2, AND D-2**

AREA TAX MAP 16 GRID 5 PARCEL 429 LOTS B, C-1 & D-1  
 ZONING: B-1 & PEC 3RD ELECTION DISTRICT PLATS 13672, 20994-20995  
 HOWARD COUNTY, MARYLAND  
 SERVICE STATION

TITLE: **SOIL BORING LOGS**

**Patton Harris Rust & Associates, Inc.**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY: PHRA  
 DRAWN BY: PHRA  
 PROJECT NO: 15823-1-0  
 DATE: MARCH 29, 2010  
 SCALE: NO SCALE  
 DRAWING NO. 15 OF 15

STATE OF MARYLAND PROFESSIONAL ENGINEER  
 4660

BY: [Signature]  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18906, EXPIRATION DATE 6-30-2010