

OGDEN MARKET PLACE

SOUTHERN QUADRANT OF MARKET STREET & MIDDLE SOUND
LOOP ROAD,

7120 MARKET STREET, WILMINGTON, NORTH CAROLINA 28411

NEW HANOVER COUNTY, NORTH CAROLINA

ZONED CB (CD) COMMUNITY BUSINESS (CONDITIONAL
DISTRICT) & CS (CD) COMMERCIAL SERVICES (CONDITIONAL
DISTRICT), REZONING CASE NUMBER CD-13-515 & ANX-2-515

TAX I.D. R04409-001-002-000; PIN 315919.61.9509.000

CAMA LAND USE CLASSIFICATION - TRANSITION

HALPERN ENTERPRISES, INC

5269 BUFORD HIGHWAY
ATLANTA, GEORGIA 30340
CONTACT: MR. CHARLES WORTHEN

PHONE NUMBER: 404-537-3462 FAX NUMBER: 770-454-8228

ROBERTSON / LOIA / ROOF ARCHITECTS & ENGINEERS

3460 PRESTON RIDGE ROAD . SUITE 275
ALPHARETTA, GEORGIA 30005
PHONE: 770-674-2600 . FAX: 678-319-0745

PROJECT NO. 13-288



CIVIL

- SV-1 EXISTING SITE CONDITIONS - SURVEY BY OTHERS
- C-0 DEMOLITION PLAN
- C-1 SITE PLAN
- C-1.1 CITY SITE LAYOUT PLAN
- C-1.2 CITY TRUCK ROUTE PLAN
- C-2 GRADING PLAN
- C-2.1 STORM SEWER PIPE INLET DRAINAGE AREA MAP
- C-3.1 UTILITY PLAN - WATER LAYOUT
- C-3.2 UTILITY PLAN - SANITARY SEWER LAYOUT
- C-4.1 EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN - PHASE I
- C-4.2 EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN - PHASE II
- C-5.1 STORM SEWER PIPE PROFILES
- C-5.2 STORM SEWER PIPE CHART & SANITARY SEWER PIPE PROFILES
- C61-C63 DETAILS
- C64-C67 EROSION & SEDIMENT CONTROL DETAILS

LANDSCAPE

- SP-1 STREET YARD PLAN
- LA-1 TREE INVENTORY PLAN
- LA-7 STORMWATER MANAGEMENT POND PLANTING

BUILDING ELEVATION

- A01 BUILDING ELEVATIONS (FOR INFORMATION ONLY)

GENERAL NOTES

1. PROJECT SITE CURRENT ZONING CB (CD) COMMUNITY BUSINESS (CONDITIONAL DISTRICT) & CS (CD) COMMERCIAL SERVICES (CONDITIONAL DISTRICT).
2. PRIMARY PERMITTEE: HALPERN ENTERPRISES, INC, 5269 BUFORD HIGHWAY, ATLANTA, GEORGIA 30340; CONTACT: MR. CHARLES WORTHEN, PHONE: 404-537-3462
3. TOTAL SITE AREA = 12.74 ACRES. TOTAL SITE AREA TO REMAIN AFTER R/W DEDICATION = 12.56 ACRES.
4. TOTAL IMPERVIOUS AREA FOR THIS SITE DEVELOPMENT = 7.5 ACRES.
5. TOTAL PERVIOUS AREA FOR THIS DEVELOPMENT = 5.06 ACRES.
6. TOTAL ON-SITE DISTURBED AREA = 12.3 ACRES. SEE PLANS BY DAVENPORT FOR OFF-SITE AREA DISTURBANCE ACREAGE.
7. PROJECT GPS COORDINATES: 34°16'15.8" N, -77°49'12.2" W.
8. A WET DETENTION POND IS PROPOSED FOR THIS SITE DEVELOPMENT TO INCLUDE A FOREBAY, A 10' WIDE AQUATIC BENCH, AND PERMANENT POOL FOR PURPOSES OF (1) WATER QUALITY, (2) CHANNEL PROTECTION, AND (3) ATTENUATION OF POST DEVELOPMENT PEAK FLOWS.
9. PER SURVEY BY PARAMOUNT ENGINEERING, INC, NO PORTION OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD ZONE PER FIRM OF NEW HANOVER COUNTY, NORTH CAROLINA PANEL NUMBER 3720315900J, DATED APRIL 3, 2006.

UTILITY CONTACTS

GAS
PIEDMONT NATURAL GAS
1821 SOUTH 10TH STREET
WILMINGTON NC 28401
CONTACT: CATHY PLEASANT
TEL: (910) 251-2627
EMAIL: cathy.pleasant@ Piedmontng.com

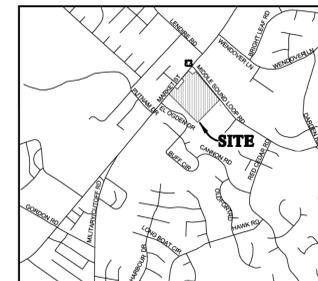
POWER
DUKE ENERGY PROGRESS
8845 TRADE STREET, NE
LELAND, NC 28451
CONTACT: JIMMY SHIVAR
TEL: (919) 506-5400

WATER & SEWER
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
CONTACT: BERNICE S. JOHNSON
TEL: (910) 799-6064
EMAIL: bernice.johnson@cfpuia.org

COMMUNICATION
AT&T NORTH CAROLINA
CONTACT: CHRISSE COSTON
EMAIL: (910) 341-7664
FAX: (910) 341-7588
EMAIL: cc6265@att.com

ACTIVITY	ANTICIPATED ACTIVITY SCHEDULE											
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
1. INSTALL SEDIMENT CONTROLS												
2. CLEARING AND GRADING												
3. STORM DRAIN INSTALLATION												
4. SANITARY SEWER INSTALLATION												
5. GRASS (TEMP.) (PERM.)												
6. UTILITY INSTALLATION												
7. MAINTAIN EROSION CONTROL												
8. BLDG. CONST. AND PAVING												
9. FINAL LANDSCAPING												
10. CLEAN UP												

NOTE: EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.



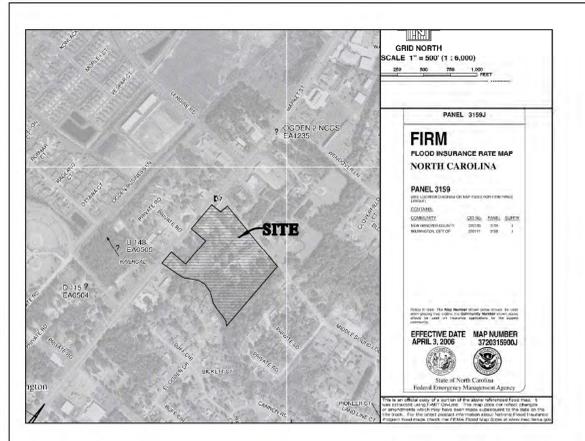
VICINITY MAP

NOT TO SCALE

Approved Construction Plan

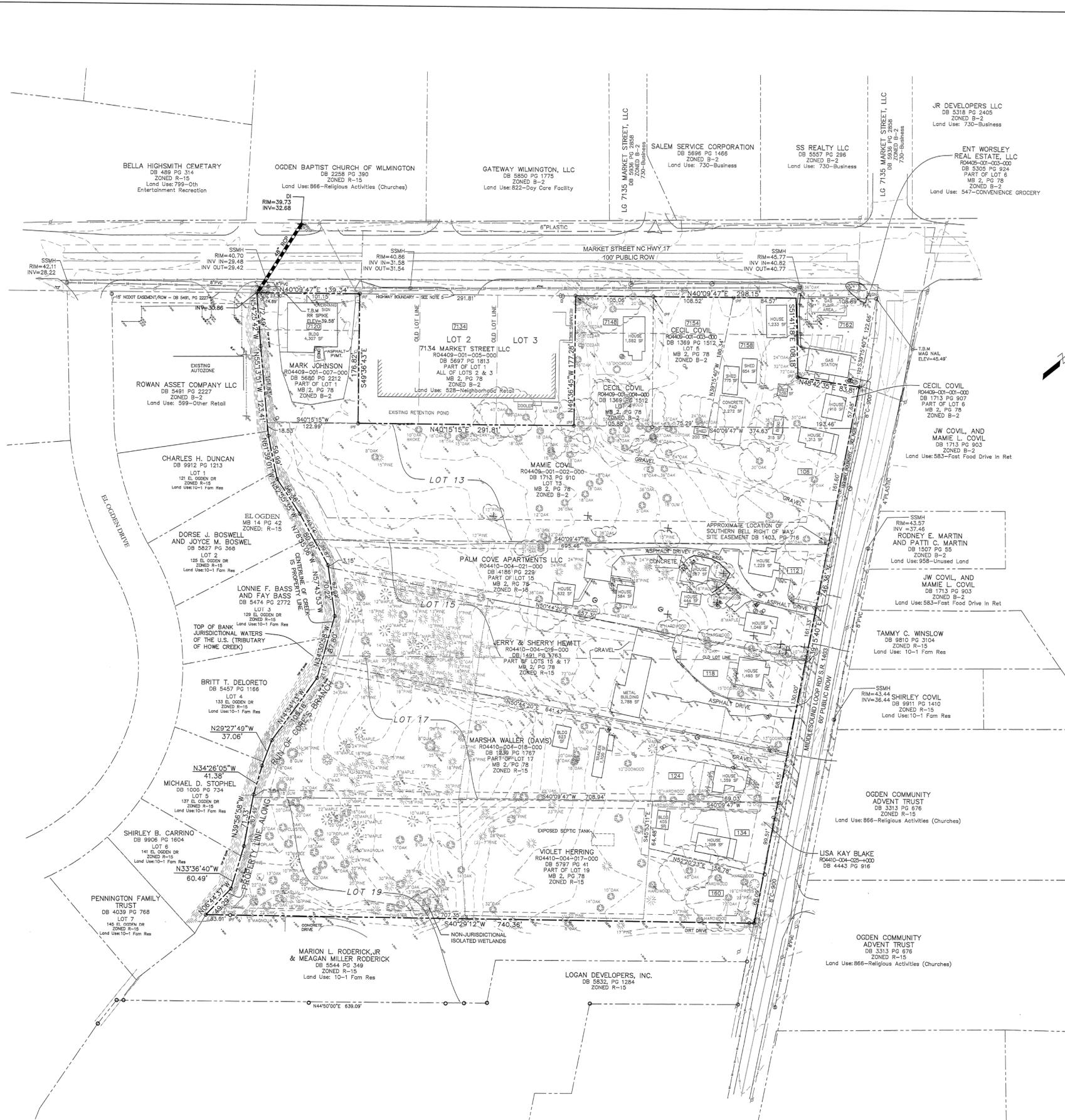
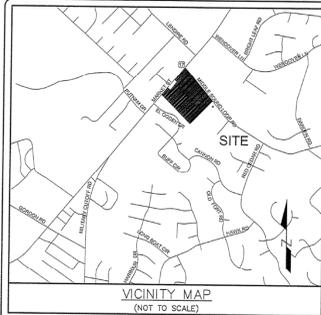
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____



PROJECT STATUS: REVIEW FILE CONSTRUCTION BID

13-288 - OGDEN MARKET PLACE



CONTACT "CAROLINA ONE CALL" AT
1-800-632-4949

CONTACT THESE UTILITIES

NEW HANOVER COUNTY PLANNING DEPARTMENT ATTN: LINDA PRATER PH: 910-788-7068	CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER) ATTN: KENT HARRELL PH: 910-332-6674
NEW HANOVER COUNTY EROSION CONTROL ATTN: BETH WETTERLIL PH: 910-788-7432	PROGRESS ENERGY ATTN: KEVIN LEATHERWOOD PH: 910-602-8584
NEW HANOVER COUNTY ENGINEERING ATTN: JIM HANUCCI PH: 910-788-7139	BELL SOUTH ATTN: STEVE DAYVAULT PH: 910-332-8712
PIEDMONT NATURAL GAS ATTN: CARL PAQUET PH: 910-330-2242	TIME WARNER CABLE PH: 910-783-4888

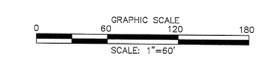
EMERGENCY DIAL 911
POLICE - FIRE - RESCUE

- LEGEND:
- | | | | |
|-------|-------------------------|---|------------------------|
| ● IRP | IRON PIPE FOUND | ⊕ | WATER VALVE |
| ● IRF | IRON ROD FOUND | ⊕ | FIRE HYDRANT |
| ● IRS | IRON ROD SET | ⊕ | CLEAN-OUT |
| ● PKP | PK NAIL FOUND | ⊕ | SANITARY SEWER MANHOLE |
| ● PMS | PK NAIL SET | ⊕ | STORM DRAINAGE MANHOLE |
| ⊕ | CONCRETE MONUMENT FOUND | ⊕ | MONITORING WELL |
| ⊕ | SIGN | ⊕ | CURB INLET |
| C&G | CONCRETE CURB & GUTTER | ⊕ | CATCH BASIN |
| EP | EDGE OF PAVEMENT | ⊕ | GAS METER |
| ⊕ | LIGHT POLE | ⊕ | MAILBOX |
| ⊕ | UTILITY POLE | ⊕ | SATELLITE DISH |
| ⊕ | GUY ANCHOR | ⊕ | TREE CANOPY |
| ⊕ | TRANSFORMER | | |
| ⊕ | TELEPHONE RISER | | |
| ⊕ | WATER METER | | |
- OVERHEAD UTILITIES
--- BURIED TELEPHONE LINE
--- WATER LINE
--- SANITARY SEWER LINE
--- CHAINLINK FENCE
--- RIGHT OF WAY/BOUNDARY

AREA
555,115± SQ. FT.
OR 12.744± ACRES

NOTES:

- HORIZONTAL (NAD83-NRS2007) AND VERTICAL (NAVD88) DATUM WERE ESTABLISHED UTILIZING A TOPCON HYPERLITE GPS RECEIVER OPERATING IN VRS MODE WITH REAL TIME OBSERVATIONS.
- AREA CALCULATED BY COORDINATES.
- PROPERTY IS LOCATED MORE THAN 2000' FROM A NCGS MONUMENT.
- SITE DOES NOT FALL WITHIN A FLOOD ZONE ACCORDING TO FEMA MAP NUMBER 3720315004H HAVING AN EFFECTIVE DATE OF APRIL 3, 2006.
- THE RIGHTS OF WAY AS SHOWN HEREON FOR MARKET STREET AND MIDDLE SOUND LOOP ROAD WERE ESTABLISHED FROM DEEDS AND MAPS REFERENCED AND MONUMENTATION LOCATED IN THE FIELD. THE WIDTH OF THESE RIGHTS OF WAY ARE NOT INDICATED ON THE MAP RECORDED IN MAP BOOK 2, PAGE 78. NCGOT CLAIMS A RIGHT OF WAY OF 100 FEET FOR MARKET STREET AND 60 FEET FOR MIDDLE SOUND LOOP ROAD.
- ORIGINAL TOPOGRAPHIC SURVEY COMPLETED APRIL 2015. REVISIONS AFTER THAT DATE ARE STRICTLY CONFINED TO NOTES REGARDING ZONING OR LAND USE CODES.



CERTIFICATE OF ACCURACY AND MAPPING

I, TIMOTHY G. CLINKSCALES, CERTIFY THAT THIS PLAN WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTIONS RECORDED IN THE REFERENCES NOTED ON THIS DRAWING). THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN AS DASHED LINES AS DRAWN FROM INFORMATION NOTED. THAT THE RATIO OF PRECISION IS 1:10,000; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600). THIS DAY OF APRIL, 2015 A.D.

I, TIMOTHY G. CLINKSCALES, CERTIFY THAT THIS SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

Timothy G. Clinkscases
TIMOTHY G. CLINKSCALES, PLS LICENSE NO. L-4953

REVISIONS:

NO.	DATE	DESCRIPTION

CLIENT INFORMATION:

HALPERN PROPERTIES, LLC
HALPERN OGDEN, LLC
5269 BUFORD HWY, NE
DORAVILLE, GA 30340

PROJECT STATUS:
CONCEPT/LAYOUT: _____
FINAL DESIGN: _____
READY FOR CONSTRUCTION: _____

DRAWING INFORMATION:
DATE: _____
SCALE: _____
REVISIONS: _____
CHECKED: _____

SEAL:
TIMOTHY G. CLINKSCALES
REGISTERED PROFESSIONAL SURVEYOR
STATE OF NORTH CAROLINA
LICENSE NO. L-4953

TOPOGRAPHIC SURVEY
OGDEN MARKET PLACE
7120 MARKET STREET
WILMINGTON, NC 28411
NEW HANOVER COUNTY, NC

SV-1
PEI JOB#: 14230.PE

PAVING SYMBOLS LEGEND

	ASPHALT PAVEMENT STANDARD DUTY 1" ASPHALTIC CONCRETE TOPPING OR SURFACE COURSE 2" ASPHALTIC CONCRETE BINDER OR INTERMEDIATE COURSE 6" GRADED AGGREGATE BASE (ABC)
	ASPHALT PAVEMENT HEAVY DUTY 1" ASPHALTIC CONCRETE TOPPING OR SURFACE COURSE 2" ASPHALTIC CONCRETE BINDER OR INTERMEDIATE COURSE 6" GRADED AGGREGATE BASE (ABC)
	HEAVY DUTY CONCRETE PAVEMENT 6" PORTLAND CEMENT CONCRETE, AIR ENTRAINED PAVEMENT SHALL BE 4,000 PSI (28-DAY COMPRESSIVE STRENGTH) W/ 6"x6" W2 XW2.5 W.W.F. M. & JOINTS PER ACI 4" GRADED AGGREGATE SUBBASE
	CONCRETE STANDARD DUTY & SIDEWALK 5" PORTLAND CEMENT CONCRETE, AIR ENTRAINED PAVEMENT SHALL BE 3,000 PSI (28-DAY COMPRESSIVE STRENGTH) W/ 6"x6" W2 XW2.5 W.W.F. M. & JOINTS PER ACI 4" GRADED AGGREGATE SUBBASE

- NOTES:**
- GRADED AGGREGATE BASE COURSE (ABC) SHALL BE COMPACTED TO 100% OF MAXIMUM DRY DENSITY PER STANDARD PROCTOR ASTM D698.
 - ALL FILL BENEATH PAVEMENTS TO BE COMPACTED TO 98% OF MAX DRY DENSITY PER STANDARD PROCTOR D698.
 - GRADED AGGREGATE BASE PER NCDOT 520/1005/1010.
 - ASPHALTIC CONCRETE PER NCDOT 610/611/1012/1020.
 - PORTLAND CEMENT CONCRETE PER NCDOT 700/1100/1004/1014/1024.
 - REQUIREMENTS PROVIDED IN THE GEOTECHNICAL REPORT BY SEA, INC. DATED SEPTEMBER 11, 2014. SEA JOB #1411-13. SHALL SUPERSEDE THE REQUIREMENTS SHOWN ABOVE.

CITY OF WILMINGTON FIRE AND LIFE SAFETY NOTES

- FIRE HYDRANTS CANNOT BE FURTHER THAN 8' FROM THE CURBS.
- PARKING AND LANDSCAPING CANNOT BLOCK FIRE HYDRANTS OR FDC's.
- FDC's CAN BE NO FURTHER THAN 40' FROM - FIRE DEPARTMENT VEHICLE APPROACH POINTS.
- FDC's CAN BE NO FURTHER THAN 150' FROM A FIRE HYDRANT.
- ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND CONSTRUCTION SITE AT ALL TIMES.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
- TYPE OF CONSTRUCTION: TYPE I-B NON-COMBUSTIBLE.
- PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE UNDERGROUND FIRE LINE PERMIT FROM THE WILMINGTON FIRE AND LIFE SAFETY DIVISION 910-343-9886.
- ANY DEVIATION FROM STANDARD COMMENTS REQUIRE APPROVAL FROM THE FIRE CODE OFFICIAL.

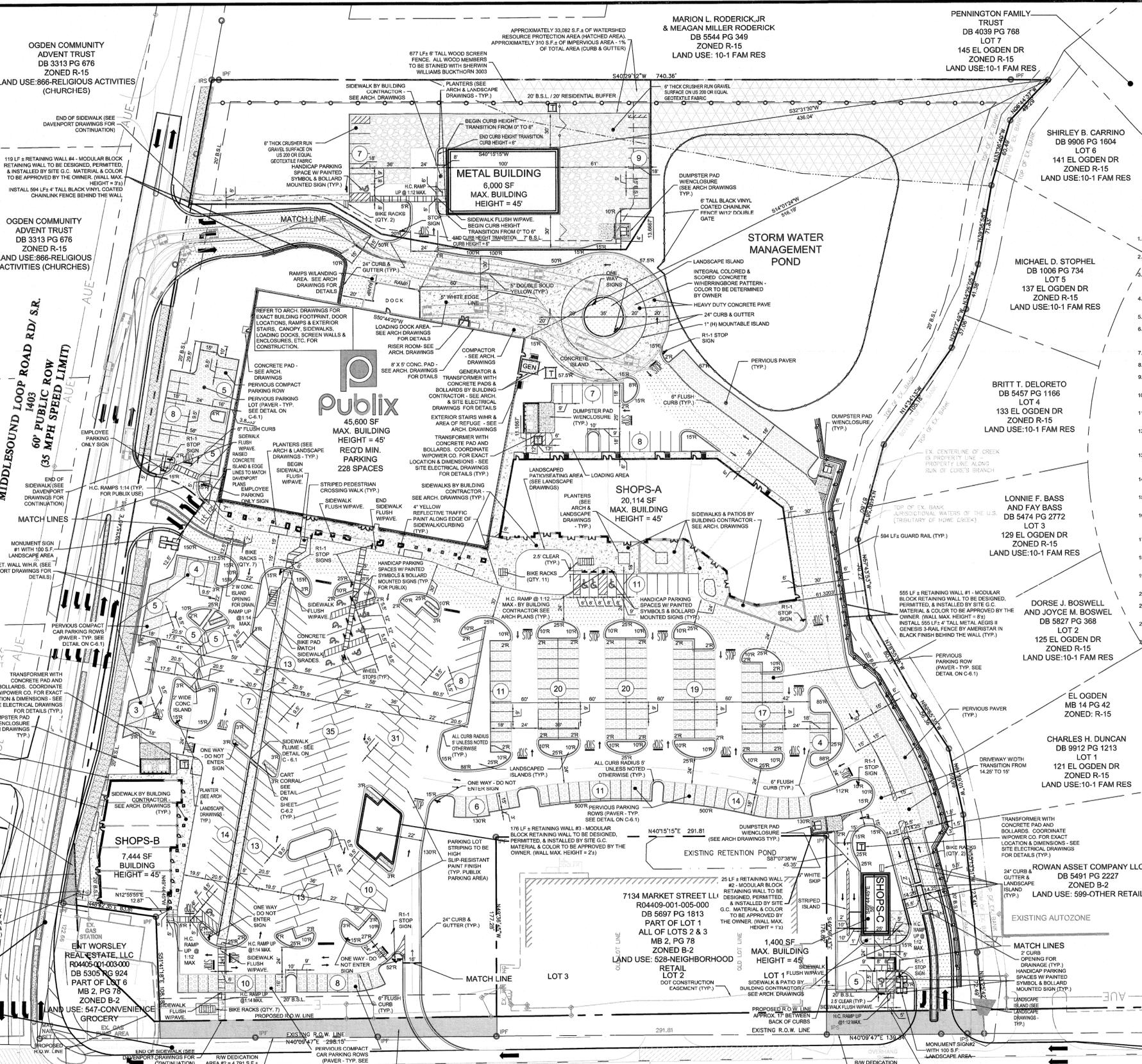
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

ALL ROAD IMPROVEMENTS TO BE DESIGNED AND PERMITTED BY DAVENPORT. REFER TO DAVENPORT CONSTRUCTION DRAWINGS FOR ALL ROADWAY IMPROVEMENTS INCLUDING DRIVEWAYS, SIDEWALKS, GRADING & DRAINAGE, STORM WATER SYSTEMS & HYDROLOGY STUDY, DEMOLITION, EROSION CONTROLS, EXISTING UTILITIES PROTECTION/REMOVAL/RELOCATION, LANDSCAPING, DETAILS, PAVEMENTS, RIGHT OF WAY DEDICATION, AND LIMITS OF IMPROVEMENTS IN RIGHT OF WAYS & UP TO PROPERTY LINES/MATCH LINES. ROADWAY IMPROVEMENTS SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY (TYP. IN RW's & UP TO MATCH LINES).

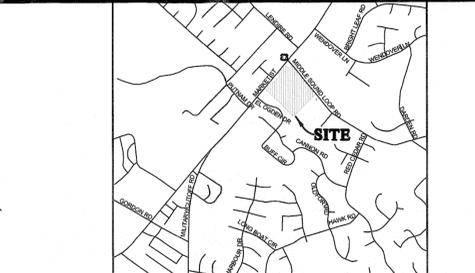
WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____



MARKET STREET NC HWY 17 100' PUBLIC ROW (45 MPH SPEED LIMIT)

JR DEVELOPERS LLC DB 5318 PG 2405 LAND USE: 730-BUSINESS	LG 7135 MARKET STREET, LLC DB 5936 PG 2858 ZONED B-2 LAND USE: 730-BUSINESS	SS REALTY LLC DB 5557 PG 296 ZONED B-2 LAND USE: 730-BUSINESS	SALEM SERVICE CORPORATION DB 5696 PG 1466 ZONED B-2 LAND USE: 730-BUSINESS	LG 7135 MARKET STREET, LLC DB 5936 PG 2858 ZONED B-2 LAND USE: 730-BUSINESS	GATEWAY WILMINGTON, LLC DB 5850 PG 1775 ZONED B-2 LAND USE: 622-DAY CARE FACILITY	OGDEN BAPTIST CHURCH OF WILMINGTON DB 2258 PG 390 ZONED R-15 LAND USE: 866-RELIGIOUS ACTIVITIES (CHURCHES)	BELLA HIGSMITH CEMETARY DB 489 PG 314 ZONED R-15 LAND USE: 799-OTH ENTERTAINMENT RECREATION
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SITE LAYOUT GENERAL NOTES

- ALL WORK AND MATERIALS SHALL COMPLY WITH THE CITY OF WILMINGTON, NEW HANOVER COUNTY, STATE OF NORTH CAROLINA REGULATIONS AND CODES, AS WELL AS ALL O.S.H.A. STANDARDS.
- SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY DRAWING BY PARAMOUNT ENGINEERING, INC. 3911 OLANDER DRIVE, SUITE 201, WILMINGTON, NORTH CAROLINA 28403. LAST REVISED 09-28-2015. NO PORTION OF THIS PROJECT WITHIN A SPECIAL FLOOD HAZARD AREA, PER COMMUNITY PANEL NUMBER 3729319001, DATED APRIL 3, 2006.
- BUILDING DIMENSIONS SHOWN ON THIS SET OF PLANS ARE "LEASE" DIMENSIONS. FOR ACTUAL BUILDING FOOTPRINTS AND DIMENSIONS, SEE ARCHITECTURAL PLANS. DIMENSIONS TO CONCRETE CURB & GUTTER ARE TO "FACE OF CURB".
- SITE WORK CONTRACTOR IS RESPONSIBLE FOR WORK TO WITHIN 5'-0" OF THE BUILDING.
- EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED, OR RELOCATED AS INDICATED ON THE PLANS AND IN THE SPECIFICATIONS. SEE DAVENPORT PLANS FOR ALL WORK IN THE RIGHT OF WAYS OF MARKET STREET & MIDDLE SOUTH LOOP ROAD.
- CONTRACTOR IS TO NOTIFY CITY/COUNTY INSPECTORS 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL OBTAIN ALL PERMITS BEFORE CONSTRUCTION BEGINS. A SEPARATE SIGN PERMIT IS REQUIRED.
- CONSTRUCTION TRAILER USED ON-SITE SHALL BE PERMITTED THROUGH THE CITY OF WILMINGTON PLANNING AND ZONING DEPARTMENT.
- CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IN REQUIRED RIGHT-OF-WAY, AND MUST BE STORED WITHIN SITE. CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IN AREAS WHICH RESTRICT SIGHT DISTANCE.
- THE EXACT LOCATION OF HANDICAP RAMPS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND SHALL BE PROVIDED AT THE INTERSECTIONS OF EACH APPLICABLE SIDEWALK, ACCESSIBLE ROUTE, AND ENTRANCE DRIVE.
- ALL SIDEWALKS AND PEDESTRIAN PATHS ARE TO BE INSTALLED PER ADA STANDARDS. SIDEWALKS AND PEDESTRIAN PATHS NOT TO EXCEED MAX LONGITUDINAL SLOPE OF 5% AND CROSS SLOPE OF 2%. CURB RAMPS 1:14 (7.14% FOR PUBLIC) AND 1:12 (8.33% FOR SHOPS).
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER IMMEDIATELY IF THERE ARE ANY DISCREPANCIES BETWEEN THESE CIVIL PLANS AND THE FIELD DATA.
- CONTRACTOR SHALL FURNISH "AS-BUILT" DRAWINGS INDICATING ALL CHANGES AND DEVIATIONS IF REQUIRED BY CITY OF WILMINGTON PRIOR TO C.C.O.
- PROJECT LOCATION: SOUTHERN QUADRANT OF MARKET STREET & MIDDLE SOUTH LOOP ROAD, WILMINGTON, NORTH CAROLINA 28411. THE SITE IS LOCATED IN THE CITY OF WILMINGTON, NEW HANOVER COUNTY, STATE OF NORTH CAROLINA.
- OWNERS INFORMATION: HALPERN ENTERPRISES, INC. 5269 BUFORD HIGHWAY, ATLANTA, GEORGIA 30340; PHONE: 404-537-3462; CONTACT: MR. CHARLES WORTHEN.
- ENGINEER: ROBERTSON DAIROOF P.C. 3460 PRESTON RIDGE ROAD, SUITE 275 ALPHARETTA, GA 30005; PHONE (770) 674-2800; CONTACT: PAUL HARRELL.
- BUILDING LOCATION IS TO THE SOUTH FACE OF THE BUILDING UNLESS INDICATED OTHERWISE. CONTRACTOR TO COORDINATE AND VERIFY EXIST BUILDING LOCATION & DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- ANY RETAINING WALLS ARE DESIGNED AND PERMITTED BY THE GENERAL CONTRACTOR.
- ALL BUFFERS AND TREE SAVE AREAS SHALL BE CLEARLY IDENTIFIED BY FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
- ANY FREE-STANDING SIGNS ON THE SITE SHALL BE MONUMENT STYLE WITH LANDSCAPING AROUND THE BASE OF THE SIGN. NO POLE SIGNS SHALL BE PERMITTED.
- ALL SIGNS IN THE PROPOSED C.B. COMMERCIAL SERVICES DISTRICT SHALL COMPLY WITH C.B. COMMERCIAL BUSINESS DISTRICT STANDARDS.

- ### CITY NOTES
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
 - ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
 - IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
 - TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
 - CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN. CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
 - ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
 - CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
 - PROJECT SHALL COMPLY WITH CITY OF WILMINGTON CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
 - IF THE CONTRACTOR DESIRES CITY WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOLD.
 - ANY IRRIGATION SYSTEM SUPPLIED BY CITY WATER SHALL COMPLY WITH THE CITY'S CROSS CONNECTION CONTROL REGULATIONS. CALL 3433910 FOR INFORMATION.
 - ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CITY WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCOHR OR ASSE.

PARKING CALCULATIONS

A. MINIMUM PARKING REQUIRED:

- RESTAURANT MINIMUM REQUIRED = 1 SPACE/80 S.F. (EXCLUSIVE OF KITCHEN & RESTROOMS)
1 SPACE/80 S.F. * 2,828 S.F. (EXCLUSIVE OF KITCHEN & RESTROOMS) = 37 SPACES
- SHOPPING CENTER RETAIL SALES ESTABLISHMENT MINIMUM REQUIRED = 1 SPACE/400 S.F.
1 SPACE/400 S.F. * 70,857 S.F. = 177 SPACES
- METAL BUILDING RETAIL SALES ESTABLISHMENT MINIMUM REQUIRED = 1 SPACE/400 S.F.
1 SPACE/400 S.F. * 6,000 S.F. = 15 SPACES

TOTAL MINIMUM PARKING REQUIRED = 229 SPACES

B. MAXIMUM PARKING ALLOWED:

- RESTAURANT MAXIMUM ALLOWED = 1 SPACE/65 S.F. (EXCLUSIVE OF KITCHEN & RESTROOMS)
1 SPACE/65 S.F. * 2,828 S.F. (EXCLUSIVE OF KITCHEN & RESTROOMS) = 43 SPACES
- SHOPPING CENTER RETAIL SALES ESTABLISHMENT MAXIMUM ALLOWED = 1 SPACE/200 S.F.
1 SPACE/200 S.F. * 70,857 S.F. = 354 SPACES
- METAL BUILDING RETAIL SALES ESTABLISHMENT MAXIMUM ALLOWED = 1 SPACE/200 S.F.
1 SPACE/200 S.F. * 6,000 S.F. = 30 SPACES

TOTAL MAXIMUM PARKING ALLOWED = 428 SPACES

C. TOTAL PARKING PROVIDED = 371 SPACES INCLUDING 186 PEROUVIOUS PARKING SPACES.

D. TOTAL H.C. PARKING SPACES REQUIRED = B. TOTAL H.C. PARKING SPACES PROVIDED = 13.

SITE ANALYSIS

PUBLIX	45,600 S.F.
SHOPS (A - C)	28,958 S.F.
TOTAL GROCERY & SHOPS (SHOPPING CENTER)	74,558 S.F.
TOTAL GROCERY & SHOPS PARKING PROPOSED	355 SPACES
PROPOSED PARKING RATIO (SHOPPING CENTER)	4.76 SP/M.S.F.
PERVIOUS PARKING PROVIDED (SHOPPING CENTER)	170 SPACES
METAL BUILDING	6,000 S.F.
TOTAL METAL BUILDING PARKING PROVIDED	16 SPACES
PERVIOUS PARKING PROVIDED (METAL BUILDING)	15 SPACES
PROPOSED SPARKING RATIO (METAL BUILDING)	2.67 SP/M.S.F.
TOTAL SITE AREA	12,742 AC
TOTAL RW DEDICATION	0.182 AC
TOTAL SITE AREA TO REMAIN	12,560 AC

BUILDING LOT COVERAGE

EXISTING	PROPOSED
1,976 S.F. ACRES (4.5%)	6,414 S.F. ACRES (14.7%)
25,174 S.F. TOTAL BLDG. AREA	80,558 S.F. TOTAL BLDG. AREA
63.29	21.00
60.43	

REQUIRED BUILDING SETBACKS

FRONT (FT)	SIDE (FT)	REAR (FT)
20'	20'	20'

PROPOSED BUILDING SETBACKS

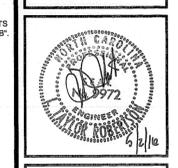
FRONT (FT)	SIDE (FT)	REAR (FT)
63.29	21.00	60.43

SITE PLAN

SCALE: 1" = 40'



ROBERTSON LOIA ROOF
ARCHITECTS & ENGINEERS
3460 Preston Ridge Road • Suite 275 • Alpharetta, Georgia 30005
770-674-2600 • Fax 678-319-0745



OGDEN MARKET PLACE
7100 MARKET STREET, WILMINGTON, NORTH CAROLINA 28411.
ZONING: C-2 (COMMERCIAL BUSINESS) (CONDITIONAL DISTRICT) & C-2 (COMMERCIAL SERVICES) (CONDITIONAL DISTRICT)
FOR
HALPERN ENTERPRISES, INC.
5269 BUFORD HIGHWAY, ATLANTA, GEORGIA 30340
TELEPHONE: 404-537-3462 FAX: 770-454-5228

SHEET TITLE
SITE PLAN

DATE
05-02-16

PROJECT NUMBER
13-288

SHEET NUMBER
C-1

SEDIMENT TRAP VOLUME CALCULATIONS #1						SEDIMENT TRAP VOLUME CALCULATIONS #2																																																																																																													
Project Name: Ogden Market Place Date: 4/29/2015 By: SZ Drainage Area: 0.70 AC 10yr Intensity: 7.23 in/hr Runoff Coefficient: 0.80 10 yr Peak Runoff: 4.0 cfs Weir Coefficient (C): 3.32 Sideslope "TRU" of Rip-Rap Weir (Z): 2.0 Top of Basin Elevation: 35.0 ft Invert of Weir: 33.5 ft Height of Weir: 1.5 ft Desired Depth of Flow Through Weir (H): 0.5 ft Calculated Width of Weir (B): 2.6 ft Actual Width Weir: 5.0 ft						Project Name: Ogden Market Place Date: 4/29/2015 By: SZ Drainage Area: 0.78 AC 10yr Intensity: 7.23 in/hr Runoff Coefficient: 0.40 10 yr Peak Runoff: 2.3 cfs Weir Coefficient (C): 3.32 Sideslope "TRU" of Rip-Rap Weir (Z): 2.0 Top of Basin Elevation: 34.4 ft Invert of Weir: 32.9 ft Height of Weir: 1.5 ft Desired Depth of Flow Through Weir (H): 0.5 ft Calculated Width of Weir (B): 1.1 ft Actual Width Weir: 5.0 ft																																																																																																													
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SEDIMENT TRAP VOLUME CALCULATIONS #3						SEDIMENT TRAP VOLUME CALCULATIONS #4																																																																																																																					
Project Name: Ogden Market Place Date: 4/29/2015 By: SZ Drainage Area: 0.96 AC 10yr Intensity: 7.23 in/hr Runoff Coefficient: 0.40 10 yr Peak Runoff: 2.8 cfs Weir Coefficient (C): 3.32 Sideslope "TRU" of Rip-Rap Weir (Z): 2.0 Top of Basin Elevation: 32.0 ft Invert of Weir: 30.5 ft Height of Weir: 1.5 ft Desired Depth of Flow Through Weir (H): 0.5 ft Calculated Width of Weir (B): 1.8 ft Actual Width Weir: 5.0 ft						Project Name: Ogden Market Place Date: 4/29/2015 By: SZ Drainage Area: 0.96 AC 10yr Intensity: 7.23 in/hr Runoff Coefficient: 0.40 10 yr Peak Runoff: 2.8 cfs Weir Coefficient (C): 3.32 Sideslope "TRU" of Rip-Rap Weir (Z): 2.0 Top of Basin Elevation: 32.0 ft Invert of Weir: 30.5 ft Height of Weir: 1.5 ft Desired Depth of Flow Through Weir (H): 0.5 ft Calculated Width of Weir (B): 1.8 ft Actual Width Weir: 5.0 ft																																																																																																																					
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Channel Report	Channel Report	Channel Report	Channel Report
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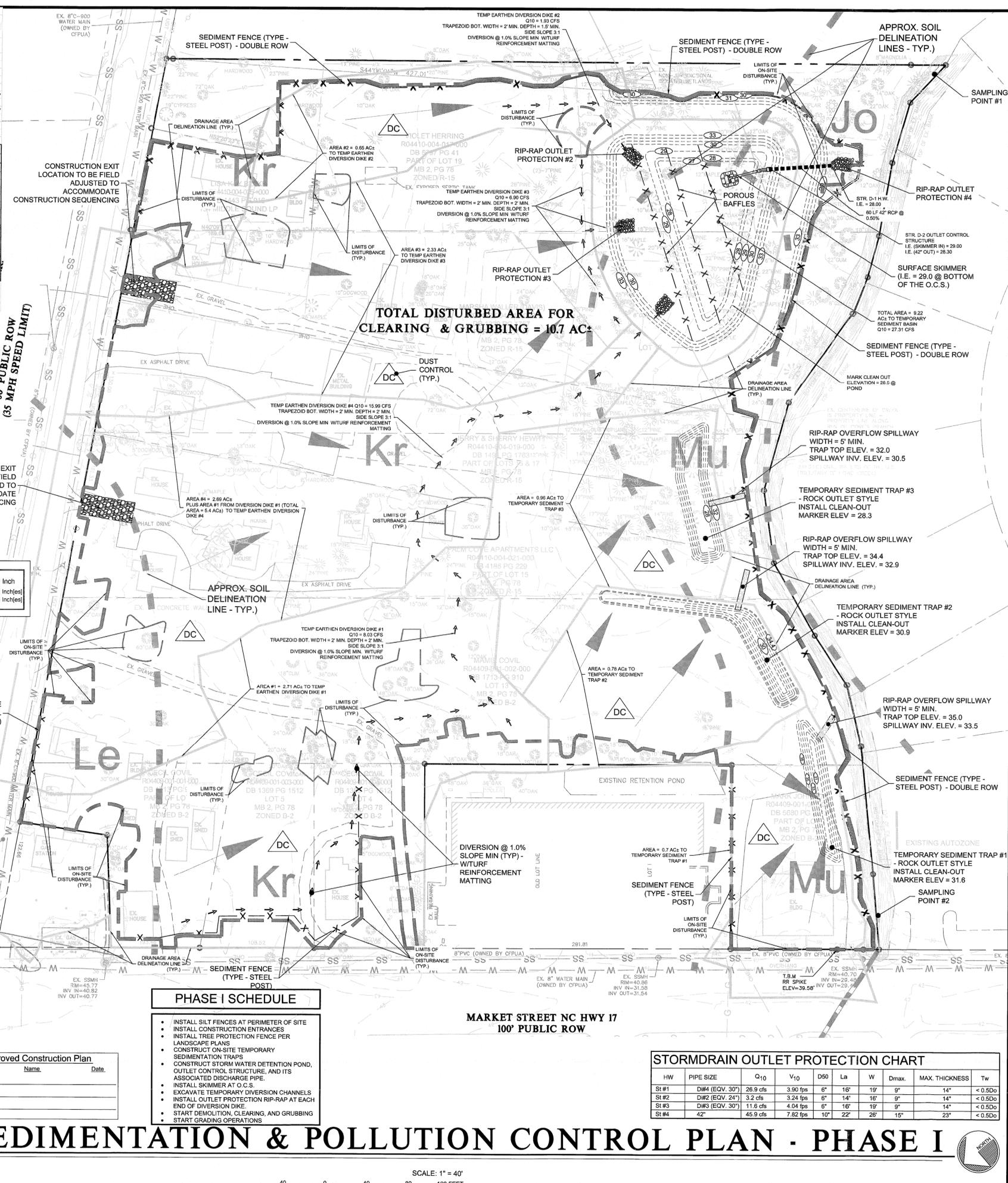
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24 HR EMERGENCY CONTACT
MR. CHARLES WORTHEN
PHONE: 404-537-3462

SEE SHEET C-4.2 FOR EROSION CONTROL GENERAL NOTES

CONTRACTOR SHALL NOTIFY ENGINEER BY WRITTEN EMAIL AND BY PHONE (770) 674-2600 - WITHIN TWENTY-FOUR (24) HOURS AFTER INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs.

WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit #: _____
Signed: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

- PHASE I SCHEDULE**
- INSTALL SILT FENCES AT PERIMETER OF SITE
 - INSTALL CONSTRUCTION ENTRANCES
 - INSTALL TREE PROTECTION FENCE PER LANDSCAPE PLANS
 - CONSTRUCT ON-SITE TEMPORARY SEDIMENTATION TRAPS
 - CONSTRUCT STORM WATER DETENTION POND, OUTLET CONTROL STRUCTURE, AND ITS ASSOCIATED DISCHARGE PIPE.
 - INSTALL SKIMMER AT O.C.S.
 - EXCAVATE TEMPORARY DIVERSION CHANNELS
 - INSTALL OUTLET PROTECTION RIP-RAP AT EACH END OF DIVERSION DIKE.
 - START DEMOLITION, CLEARING, AND GRUBBING
 - START GRADING OPERATIONS

SOIL TYPES

SOIL DESCRIPTIONS OBTAINED FROM A SOIL SURVEY OF NEW HANOVER COUNTY, NORTH CAROLINA.

MAP SYMBOL - DESCRIPTION - SLOPES

Jo - JOHNSTON SOILS.
Kr - KUREB SAND, 1 TO 8 PERCENT SLOPES
Lc - LEON SAND
Mu - MURVILLE FINE SAND

STORMDRAIN OUTLET PROTECTION CHART

HW	PIPE SIZE	Q ₁₀	V ₁₀	D50	La	W	Dmax.	MAX. THICKNESS	Tw
St #1	D14 (EQV. 30")	26.9 cfs	3.90 fps	6"	16'	19'	9"	14"	< 0.5D ₅₀
St #2	D12 (EQV. 24")	3.2 cfs	3.24 fps	6"	14'	16'	9"	14"	< 0.5D ₅₀
St #3	D13 (EQV. 30")	11.6 cfs	4.04 fps	6"	16'	19'	9"	14"	< 0.5D ₅₀
St #4	42"	45.9 cfs	7.82 fps	10"	22'	26'	15"	23"	< 0.5D ₅₀



ROBERSON LOIA ROOF
ARCHITECTS & ENGINEERS
3460 Preston Ridge Road - Suite 276 - Alpharetta, Georgia 30005
770-674-2600 - Fax 678-319-0745

OGDEN MARKET PLACE
7120 MARKET STREET, WILMINGTON, NORTH CAROLINA 28411,
NEW HANOVER COUNTY, NORTH CAROLINA (CONDOMINIUM DISTRICT)
& C/S (CD) COMMERCIAL SERVICES (CONDOMINIUM DISTRICT)
FOR
HALPERN ENTERPRISES, INC.
5269 BUFORD HIGHWAY, ATLANTA, GEORGIA 30340
TELEPHONE: 404-537-3462 FAX: 770-451-6228

REVISIONS

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN - PHASE I

DATE: 05-02-16
PROJECT NUMBER: 13-288
SHEET NUMBER: C-4.1

VEGETATIVE MEASURES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Ds1	Disturbance Limit	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.
Ds2	Disturbance Limit	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.
Ds3	Disturbance Limit	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.
Ds4	Disturbance Limit	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.
DC	Disturbance Control	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.
Sb	Stabilization	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.
Ss	Stabilization	Final On-Site Landscape Only (TYP.)	[Symbol]	Establish temporary protective measures to prevent erosion and sedimentation during construction.

MULCH/ SEED RATES

CODE	PLANTING DATE	SPECIES	APPLICATION RATE
Ds1	ANYTIME	HAY OR DRY STRAW	2" - 4"
Ds1	ANYTIME	WOOD CHIPS BARK SAWDUST	2" - 3"
Ds2	SEP 1 - JAN 15	WINTER RYE GRASS (SCALE CEREAL)	80 LB/AC
Ds2	FEB 15 - MAR 15	ANNUAL RYE (SCALE TRITICALE)	80 LB/AC
Ds2	MAR 15 - JUN 15	PERENNIAL COVERGRASS (BROTCHUS CURTAN)	80 LB/AC
Ds2	JUN 15 - SEP 1	FESTUCUE (10-15-50)	500-1000 LB/AC
Ds2	ANYTIME	MULCH (W/ HAY STRAW)	2.0 TON/AC
Ds3	MAR 1 - MAR 31	COMMON BERBERIS (HILLED BEES)	40 LB/AC
Ds3	OCT 1 - FEB 28	COMMON BERBERIS (HILLED BEES)	40 LB/AC
Ds3	ANYTIME	MULCH (W/ HAY STRAW)	2.0 TON/AC

GENERAL EROSION CONTROL NOTES

- CONTRACTOR IS TO ADHERE TO THE CITY OF WILMINGTON, NEW HAMPSHIRE COUNTY, AND NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS AND REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM ANY LAND DISTURBING ACTIVITY, AND SHALL KEEP COPIES OF SUCH PERMITS ON-SITE AT ALL TIMES IN THE CONSTRUCTION TRAILER. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PERMITS AND REGULATIONS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OWNER TO ENSURE IMPLEMENTATION OF ANY MONITORING PROGRAM IN ACCORDANCE WITH STATE SPECIFIC REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE DURING CONSTRUCTION FOR THE CONTINUOUS MAINTENANCE OF ALL EROSION CONTROL MEASURES AS CALLED FOR ON THE APPROVED PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL CERTIFY THAT ALL FILL AREAS HAVE BEEN COMPACTED TO A MINIMUM 95% COMPACTION OR AS REQUIRED IN THE SOIL REPORT.
- CONTRACTOR SHALL PROVIDE NECESSARY MEANS TO PREVENT AIRBORNE EROSION INCLUDING MULCHES, SPRAY-ON ADHESIVES, OR SURFACE IRRIGATION.
- CONTRACTOR SHALL REMOVE TEMPORARY BMPs AT THE END OF THE PROJECT AFTER THE SITE IS FULLY STABILIZED AND A NOTICE OF TERMINATION HAS BEEN FILED.
- CONTRACTOR SHALL SELECT TEMPORARY STOCKPILE LOCATION FOR SEDIMENT POND SOIL TO BE HELD TEMPORARILY IF NECESSARY AND TO ENSURE PROPER EROSION CONTROL FOR STOCKPILE.
- EROSION CONTROL PRACTICES SUCH AS SILT FENCE, SEDIMENTATION BASINS, AND CONSTRUCTION EXITS SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ON-SITE.
- ALL GRADED AREAS SHALL BE STABILIZED IMMEDIATELY WITH A TEMPORARY COVER OF MULCH.
- ALL OPEN DRAINAGE SWALES SHALL BE GRASSED AND RIP RAP SHALL BE PLACED AS REQUIRED TO CONTROL EROSION.
- A MINIMUM OF 18 SQUARE YARDS OF 50 POUND STONE SHALL BE PLACED AT ALL DOWNSTREAM HEADQUARTERS DURING CONSTRUCTION OR AS INDICATED ON THE PLANS.
- SILT FENCE SHALL BE LOCATED ON-SITE TO PREVENT SEDIMENT AND EROSION FROM LEAVING THE PROPERTY LIMITS. ALL SILT FENCE SHALL BE MAINTAINED CONTINUOUSLY BY THE CONTRACTOR DURING CONSTRUCTION.
- SILT FENCE SHALL BE CLEANED OR REPLACED WHEN SILT BUILDS UP TO WITHIN ONE FOOT OF TOP OF SILT FENCE.
- ALL CUT AND FILL SLOPES MUST BE SURFACE ROUGHENED AND VEGETATED WITHIN SEVEN (7) DAYS OF THEIR CONSTRUCTION.
- ALL SLOPES MUST BE PROTECTED WITH EROSION CONTROL MATS OR EROSION CONTROL MATS SHALL BE STABILIZED BY THE CONTRACTOR WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO GRASS/MULCH/STABILIZATION.
- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION AND A NOTICE OF TERMINATION HAS BEEN FILED.
- EROSION CONTROL DEVICES SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETE AND FINAL PERMANENT GROUND COVER HAS BEEN ESTABLISHED AND A NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE APPROPRIATE AUTHORITY.
- MAXIMUM EMBANKMENT OF SLOPES SHALL BE AS FOLLOWS: (UNLESS SPECIFICALLY APPROVED BY SOILS ENGINEER)
 - CUT AREA: 2:1 (OTHER CONSTRUCTION ON-SITE)
 - MAXIMUM EMBANKMENT OF SLOPES SHALL BE AS FOLLOWS: (UNLESS SPECIFICALLY APPROVED BY SOILS ENGINEER)
- SEEDS FOR GRASSED SLOPES AREAS USE BOTH TALL FESCUE GRASS AT 30-40 POUNDS PER ACRE AND CLEAR, COMBINE-RUN VIGATA OR SERICEA LEPPLOEA AT 60-75 POUNDS PER ACRE.
- STABILIZATION MEASURES SHALL BE IMPLEMENTED AS SOON AS IS PRACTICAL IN PORTIONS OF THE CUT FACE OF EXCAVATIONS OR CONSTRUCTION ACTIVITIES ARE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY WITHIN THAT PORTION OF THE SITE WILL RESUME WITHIN THIRTY (30) DAYS.
- CONTRACTOR SHALL TAKE ALL MEANS TO DIRECT RUNOFF TO SEDIMENT TRAP/BASINS PRIOR TO LEAVING THE SITE.
- STRIPPING OF VEGETATION, GRADING, AND OTHER DEVELOPMENT ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO MINIMIZE EROSION. A DETENTION POND WILL BE INSTALLED DURING CONSTRUCTION AND WILL SERVICE TO CONTROL POLLUTANTS IN STORM WATER THAT MAY OCCUR AFTER CONSTRUCTION HAS BEEN COMPLETED.
- A DETENTION POND WILL BE INSTALLED DURING CONSTRUCTION AND WILL SERVICE TO CONTROL POLLUTANTS IN STORM WATER THAT MAY OCCUR AFTER CONSTRUCTION HAS BEEN COMPLETED.
- ADAPTED PROVISION SHALL BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACE OF FILLS. ALL GRADED AREAS SHALL BE STABILIZED IMMEDIATELY WITH A TEMPORARY COVER OF MULCH.
- CONTRACTOR SHALL TAKE NECESSARY PRECAUTION SO THAT CUTS AND FILLS SHALL NOT ENDANGER ADJOINING PROPERTY.
- FILLS SHALL NOT ENCRUMB UPON NATURAL WATERWAYS OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER DOWNSTREAM PROPERTY OWNERS.
- ALL GRADING AND EROSION CONTROL SHALL CROSS FLOWING STREAMS BY THE MEANS OF APPROVED AND PERMITTED STREAM CROSSINGS UTILIZING BRIDGES OR CULVERTS. ALL SUCH CROSSINGS SHALL BE KEPT TO A MINIMUM.
- PROVISIONS SHALL BE MADE FOR TREATMENT OR CONTROL OF ANY SOURCE OF SEDIMENTS AND ADEQUATE SEDIMENTATION CONTROL FACILITIES TO RETAIN SEDIMENTS ON-SITE OR PRECLUDE SEDIMENTATION OF ADJACENT WATERS.
- CONTRACTOR SHALL NOT BE PERMITTED TO PLACE ANY FILL MATERIAL INTO AREAS DESIGNATED AS WETLAND BY THE U.S. ARMY CORPS OF ENGINEERS UNLESS SPECIFIC PERMITS FOR SUCH FILL HAVE BEEN OBTAINED.

Pond Volume	Elevation	Area	Height	Sub Volume	Volume	Volume (ac-ft)
24.00	4493.50	0.00	0.00	0.00	0.00	0.000
25.00	5557.20	1.00	5015.95	5015.95	5015.95	0.115
26.00	7434.51	1.00	6473.13	11489.08	11489.08	0.264
27.00	9364.37	1.00	8380.90	19869.98	19869.98	0.456
28.00	11760.60	1.00	10539.76	30409.74	30409.74	0.698
29.00	15913.75	1.00	13784.94	44194.68	44194.68	1.015

Pond Volume	Elevation	Area	Height	Sub Volume	Volume	Volume (ac-ft)
29.00	15914	0.00	0.00	0.00	0.00	0.000
29.50	19948	0.50	8946.53	8946.53	8946.53	0.205
30.00	21862	0.50	10448.79	19395.32	19395.32	0.445
31.00	23526	1.00	22688.60	42083.92	42083.92	0.966
32.00	25296	1.00	24405.76	66489.68	66489.68	1.526
33.00	27153	1.00	26219.04	92708.72	92708.72	2.128
34.00	29067	1.00	28104.32	120813.04	120813.04	2.773
35.00	31038	1.00	30046.79	150859.82	150859.82	3.463
36.00	33065	1.00	32045.80	182905.62	182905.62	4.199

STORM WATER DETENTION POND

- REQUIRED SEDIMENT STORAGE (87 CYAC) = 87 CYAC * 11.73 AC = 786 CY (21,222 CF) = 21,222 CF PROVIDED @ (8', 2'-2")
- AVAILABLE STORAGE = 8411 CY (23,707 CF @ 8'-0")
- IS 2 GREATER THAN 1? YES
- CLEAR-OUT ELEVATION (22 CYAC) = 22 CYAC * 11.73 AC = 258 CY (2,966 CF (258 CY) PROVIDED @ 24.6) = 73.61' X 436' X 32,020 S.F.
- SURFACE AREA = 33,968 @ EL. 36.0
- IS 6 GREATER THAN 5? YES

- PHASE II SCHEDULE**
- CONTINUE GRADING OPERATIONS AND INSTALL NEW SILT FENCES AS NEEDED
 - EXCAVATE AND COMPLETE INSTALLATION OF STORM WATER DETENTION POND.
 - CONTINUE GRADING OPERATIONS
 - STABILIZE DISTURBED AREAS WITHIN 7 DAYS OF LAND DISTURBANCE WITH MULCH OR SEEDING
 - BEGIN INSTALLATION OF STORM DRAINAGE SYSTEMS
 - INSTALL TEMPORARY HARDWARE CLOTH & GRAVEL INLET PROTECTION AS NEW STORM STRUCTURES BASES ARE COMPLETED
 - INSTALL EROSION CONTROL MATTING AND BLANKETS IN ALL CRITICAL WORK ZONES AND AREAS INDICATED
 - INSTALL OUTLET PROTECTION RIP-RAP AT EACH PIPE OUTLET
 - COMPLETE INSTALLATION OF THE STORM SYSTEMS
 - INSTALL AGGREGATE BASE COURSE IN PAVING AREAS ONCE GRADING IS COMPLETED
 - INSTALL PERVIOUS PAVEMENT IN AREAS AS INDICATED AFTER ALL CURB & GUTTER, FLUSH CURBS, AND ASPHALT PAVEMENT INSTALLATION ARE COMPLETED.
 - CONVERT HARDWARE CLOTH INLET PROTECTION TO BLOCK & GRAVEL TYPE INLET PROTECTION AT ALL INLET STRUCTURES
 - PLANT TEMPORARY OR PERMANENT GRASSING AS GRADING IS COMPLETED IN NON-PAVED AREAS
 - INSTALL PERMANENT VEGETATION AFTER ALL DISTURBED AREA IS STABILIZED. SEE LANDSCAPE PLANS FOR ALL PERMANENT VEGETATION REQUIREMENTS.
 - REMOVE SEDIMENT BUILD UP FROM DETENTION POND AND THE STORM SYSTEM AFTER PAVING IS COMPLETE AND ALL NON-PAVED AREAS ARE STABILIZED.
 - REMOVE ALL TEMPORARY BMPs ONCE FINAL STABILIZATION IS ACHIEVED

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

STORMDRAIN OUTLET PROTECTION CHART

HW	PIPE SIZE	Q ₁₀	V ₁₀	D50	La	W	Dmax	MAX. THICKNESS	Tw
S.O.P. #1 (A-1)	36"	31.6 cfs	4.52 fps	8"	20'	12"	12"	14"	< 0.5D ₅₀
S.O.P. #2 (B-1)	18"	4.53 cfs	2.7 fps	6"	10'	12"	9"	14"	< 0.5D ₅₀
S.O.P. #3 (C-1)	24"	15.98 cfs	5.31 fps	6"	14'	16"	9"	14"	< 0.5D ₅₀
S.O.P. #4 (D-1)	42"	39.0 cfs	4.11 fps	9"	22'	26'	14"	21"	< 0.5D ₅₀

NOTE: FOR STORM OUTLET PROTECTION #4 20' (La) X 26' (W) IS REQUIRED. 30' (La) X 34' (W) IS PROVIDED.

MIDDLESOUND LOOP ROAD RD/ S.R. 1403
 60' PUBLIC ROW
 (35 MPH SPEED LIMIT)

MARKET STREET NC HWY 17
 100' PUBLIC ROW
 (45 MPH SPEED LIMIT)

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN - PHASE II

24 HR EMERGENCY CONTACT
 MR. CHARLES WORTHEN
 PHONE: 404-537-3462

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 770-674-2600 • Fax 678-319-0745

OGDEN MARKET PLACE
 7120 MARKET STREET, WILMINGTON, NORTH CAROLINA 28411,
 ZONING (CU) COMMUNITY BUSINESS (CONDITIONAL DISTRICT)
 & CS (CD) COMMERCIAL SERVICES (CONDITIONAL DISTRICT)
 FOR
HALPERN ENTERPRISES, INC
 5269 BUFORD HIGHWAY, ATLANTA, GEORGIA 30340
 TELEPHONE: 404-537-3462 FAX: 770-454-8228

REVISIONS

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN - PHASE II

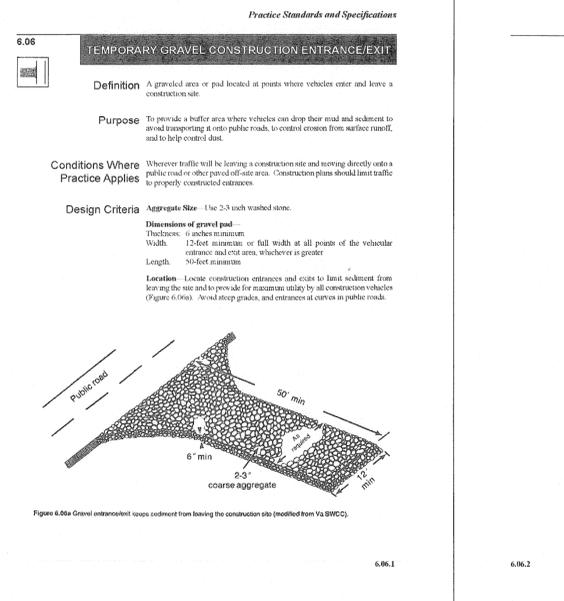
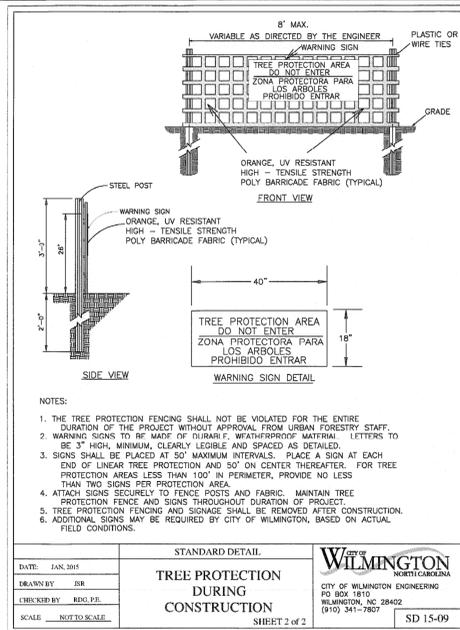
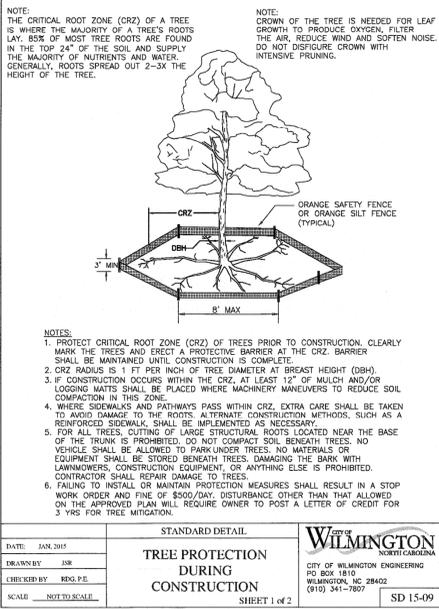
DATE: 05-02-16
 PROJECT NUMBER: 13-288
 SHEET NUMBER: C-4.2

PIPE CHART BASED ON 10-YEAR STORM ***

Line	ToLine	Line Length (ft)	Incr. Area (sq ft)	Total Area (sq ft)	Runoff Coeff. (C)	Incr C x A	Total C x A	Inlet Time (min)	Time Conc (min)	Retail Int (in/hr)	Total Runoff (cfs)	Adm Flow (cfs)	Total Flow (cfs)	Capac Full (cfs)	Veloc (ft/s)	Pipe Size (in)	Pipe Slope (%)	Inn Elev Dn (ft)	Inn Elev Up (ft)	HGL Dn (ft)	HGL Up (ft)	Grnd/Rim Dn (ft)	Grnd/Rim Up (ft)	Line ID	Velocity Pipe Flowing Full (ft/s)
1	Outfall	52.371	0.64	7.55	0.92	0.59	6.36	5	25.7	4.6	29	0	31.6	46.99	4.52	36	0.5	28	28.26	31	31.1	31.83	35.3	A-1 TO A-2	
2	1	118.771	0	6.52	0	0	5.42	5	25.3	4.6	24.86	0	27.46	55.75	3.95	36	0.7	28.26	29.09	31.7	31.87	35.3	37.39	A-2 TO A-3	
3	2	193.112	0	6.52	0	0	5.42	5	24.7	4.6	25.13	0	27.73	55.76	5.32	36	0.7	29.09	30.44	32.05	32.14	37.39	38.6	A-3 TO A-4	
4	3	67.855	0.27	4.2	0.9	0.24	3.53	5	22.3	4.8	17.08	0	18.08	42.07	5.72	36	0.4	31.7	32.97	34.07	34.35	38.6	37.3	A-4 TO A-5	
5	4	93.817	0.54	3.99	0.91	0.49	3.28	5	21.9	4.9	16.04	0.4*	17.04	37.06	2.63	27 X 44	0.41	32.97	33.35	35.55	35.6	37.3	37.3	A-5 TO A-6	
6	5	93.589	0.99	3.39	0.77	0.76	2.79	5	21.3	4.9	13.77	0	14.37	36.61	2.26	27 X 44	0.4	33.35	33.72	35.76	35.79	37.3	37.3	A-6 TO A-7	5.97
7	6	133.797	0.43	2.4	0.81	0.35	2.03	5	20.6	5	10.14	0.3*	10.74	23.99	2.57	22 X 36	0.5	33.72	34.39	35.91	36	37.3	38.4	A-7 TO A-8	
8	7	59.195	0.88	1.97	0.93	0.82	1.68	5	20.4	5	8.45	0	8.75	16.1	4.17	24	0.51	34.39	34.69	36.06	36.74	38.4	38.35	A-8 TO A-9	
9	8	130.304	0.76	1.09	0.85	0.65	0.86	5	19.3	5.1	4.43	0.3*	4.73	15.97	3.55	24	0.5	34.69	35.34	35.74	36.1	38.35	38.8	A-9 TO A-10	
10	9	63.007	0	0.33	0	0	0.22	5	17.1	5.4	1.16	0	1.16	16.12	1.97	24	0.51	35.34	35.66	36.1	36.03	38.8	39.8	A-10 TO A-11	5.09
11	10	148.447	0	0.33	0	0	0.22	5	14.2	5.7	1.24	0	1.24	7.41	3.1	18	0.5	35.66	36.4	36.07	36.82	39.8	40	A-11 TO A-12	
12	11	87.13	0.08	0.12	0.41	0.03	0.05	5	11	6.2	0.3	0	0.3	2.53	1.62	12	0.5	36.4	36.84	36.82	37.07	40	39.6	A-12 TO A-13	3.21
13	12	52.571	0.04	0.04	0.4	0.02	0.02	5	5	7.2	0.12	0	0.12	2.5	1.3	12	0.49	36.84	37.1	37.07	37.24	39.6	39.9	A-13 TO A-14	3.21
14	1	106.227	0.39	0.39	0.91	0.35	0.35	5	5	7.2	2.57	0	2.57	6.45	2.79	15	1	30.09	31.15	31.7	31.87	35.3	35.4	A-2 TO A-2.1	
15	11	16.934	0.21	0.21	0.8	0.17	0.17	5	5	7.2	1.21	0	1.21	2.74	3.38	12	0.59	36.4	36.5	36.87	36.97	40	39.5	A-12 TO A-12.1	
16	3	56.471	0	2.32	0	0	1.89	5	24.5	4.7	8.81	0	10.41	22.92	4.48	24	1.03	30.29	30.87	32.14	32.02	38.6	37.94	A-4 TO A-4.1	
17	16	37.1	0.36	0.71	0.86	0.22	0.61	5	8.1	6.6	4.07	0	4.07	6.45	5.18	15	1	31.95	32.32	32.67	33.14	37.94	37.3	A-4.1 TO A-4.2	
18	17	76.865	0.07	0.21	0.8	0.06	0.17	5	7.2	6.8	1.18	0	1.18	2.98	2.55	12	0.7	32.32	32.86	33.14	33.32	37.3	38.3	A-4.2 TO A-4.3	
19	18	65	0.05	0.14	0.95	0.05	0.12	5	6.2	7	0.83	0	0.83	2.76	2.69	12	0.6	32.86	33.25	33.32	33.63	38.3	38.3	A-4.3 TO A-4.4	
20	19	48.993	0.09	0.09	0.79	0.07	0.07	5	5	7.2	0.51	0	0.51	2.54	2.24	12	0.51	33.25	33.5	33.63	33.8	38.3	37.5	A-4.4 TO A-4.5	3.21
21	17	90.97	0.24	0.24	0.9	0.22	0.22	5	5	7.2	1.56	0	1.56	3.56	4.04	12	1	32.79	33.7	33.25	34.23	37.3	37.7	A-4.2 TO A-4.2A	
22	16	60	0	1.61	0	0	1.28	5	24.3	4.7	5.97	0	7.57	10.5	6.05	18	1	32.4	33	33.34	34.06	37.94	37.9	A-4.1 TO A-4.1A	
23	22	144	0	1.56	0	0	1.26	5	23.9	4.7	5.92	0	7.52	8.79	5.59	18	0.7	33	34.01	34.07	35.08	37.9	38.3	A-4.1A TO A-4.1B	
24	23	196	0	1.47	0	0	1.22	5	23.3	4.8	5.81	0	7.41	8.78	4.73	18	0.7	34.01	35.38	35.56	36.49	38.3	40.21	A-4.1B TO A-4.1C	
25	24	250	0	0.61	0	0	0.53	5	21.4	4.9	2.61	0	2.61	8.79	2.66	18	0.7	35.38	37.13	36.92	37.74	40.21	41.8	A-4.1C TO A-4.1D	
26	25	36.89	0	0.59	0	0	0.52	5	5.4	7.1	3.71	0	3.71	10.52	4.87	18	1	37.13	37.5	37.75	38.24	41.8	41.74	A-4.1D TO A-4.1E	
27	26	48.851	0.59	0.59	0.88	0.52	0.52	5	5	7.2	3.75	0	3.75	20.16	4.34	18	3.68	37.5	39.3	38.24	40.04	41.74	43.72	A-4.1E TO A-4.1F	
28	22	58.263	0.05	0.05	0.4	0.02	0.02	5	5	7.2	0.14	0	0.14	1.31	2.23	8	1	33.92	34.5	34.07	34.67	37.9	37.5	A-4.1A TO A-4.1A1	4.1
29	23	35.884	0.09	0.09	0.4	0.04	0.04	5	5	7.2	0.26	0	0.26	3.86	0.4	12	1	34.54	34.9	35.56	35.56	38.3	37.9	A-4.1B TO A-4.1B1	4.53
30	24	116.487	0.62	0.86	0.83	0.51	0.69	5	10.8	6.2	4.38	0	5.88	7.41	4.66	18	0.5	36.28	36.86	37.29	37.87	40.21	41.5	A-4.1C TO A-4.1C1	
31	30	154.173	0.14	0.24	0.9	0.13	0.18	5	9.7	6.4	1.13	1.6*	2.73	6.45	3.18	15	1	36.86	38.4	38.37	39.06	41.5	44.3	A-4.1C1 TO A-4.1C2	
32	31	56.267	0	0.1	0	0	0.05	5	8.8	6.5	0.34	0	0.34	1.85	1.76	8	2.01	38.4	39.53	39.06	39.8	44.3	45	A-4.1C2 TO A-4.1C3	5.79
33	32	19.669	0.01	0.1	0.4	0	0.05	5	8.5	6.6	0.34	0	0.34	4.24	2.57	8	10.52	39.53	41.6	39.8	41.87	45	45	A-4.1C3 TO A-4.1C4	
34	33	10	0.01	0.09	0.4	0	0.05	5	8.3	6.6	0.32	0	0.32	1.31	2.44	8	1	41.6	41.7	41.87	41.96	45	45	A-4.1C4 TO A-4.1C5	4.1
35	34	10.008	0.01	0.08	0.4	0	0.04	5	8.1	6.6	0.29	0	0.29	1.31	2.37	8	1	41.7	41.8	41.96	42.05	45	45	A-4.1C5 TO A-4.1C6	4.1
36	35	9.992	0.01	0.07	0.4	0	0.04	5	7.9	6.7	0.27	0	0.27	1.31	2.31	8	1	41.8	41.9	42.05	42.14	45	45	A-4.1C6 TO A-4.1C7	4.1
37	36	10	0.01	0.06	0.4	0	0.04	5	7.7	6.7	0.24	0	0.24	1.31	2.23	8	1	41.9	42	42.14	42.23	45	45	A-4.1C7 TO A-4.1C8	4.1
38	37	10	0.01	0.05	0.45	0	0.03	5	7.5	6.7	0.22	0	0.22	1.31	2.15	8	1	42	42.1	42.23	42.31	45	45	A-4.1C8 TO A-4.1C9	4.1
39	38	10	0.01	0.04	0.48	0	0.03	5	7.2	6.8	0.19	0	0.19	1.31	2.04	8	1	42.1	42.2	42.31	42.4	45	45	A-4.1C9 TO A-4.1C10	4.1
40	39	10	0.01	0.01	0.78	0.01	0.01	5	5	7.2	0.06	0	0.06	1.31	1.1	8	1	42.2	42.3	42.4	42.41	45	45	A-4.1C10 TO A-4.1C11	4.1
41	39	25.004	0.01	0.02	0.68	0.01	0.01	5	6.4	6.9	0.1	0	0.1	0.61	1.68	6	1	42.2	42.45	42.4	42.61	45	44.7	A-4.1C10A TO A-4.1C10B	3.09
42	41	25.001	0.01	0.01	0.81	0.01	0.01	5	5	7.2	0.06	0	0.06	0.61	1.37	6	1	42.45	42.7	42.61	42.82	44.7	45.2	A-4.1C10B TO A-4.1C10C	3.09
43	25	88.482	0.02	0.49	0.01	0.01	0.01	5	5	7.2	0.07	0	0.07	5.85	1.35	12	2.7	37.61	40	37.74	40.11	41.8	43.5	A-4.1D TO A-4.1D1	7.45
44	Outfall	40.5	0.26	1	0.63	0.16	0.72	5	10.3	6.3	4.53	0	4.53	8.73	2.7	18	0.69	28	28.28	29.5	29.55	30.21	35.5	B-1 TO B-2	
45	44	90.801	0	0.66	0	0	0.48	5	6.6	6.9	3.34	0	3.34	10.51	4.46	18	1	29.12	30.03	29.75	30.75	35.5	37	B-2 TO B-3	
46	45	42.427	0.21	0.66	0.77	0.16	0.48	5	6.2	7	3.37	0	3.37	10.45	4.19	18	0.99	30.03	30.45	30.73	31.15	37	36.6	B-3 TO B-4	
47	46	81	0.18	0.45	0.69	0.12	0.32	5	5.5	7.1	2.29	0	2.29	6.46	4.35	15	1	30.7	31.51	31.21	32.11	36.6	36.6	B-4 TO B-5	
48	47	54.233	0.27	0.27	0.																				

Maintenance Plan

- All erosion and sediment control measures will be checked for stability and operation following every runoff-producing rainfall, but in no case, less than once every week and within 24 hours of every half-inch rainfall.
- All points of egress will have construction entrances that will be periodically top-dressed with an additional 2 inches of #4 stone to maintain proper depth. They will be maintained in a condition to prevent mud or sediment from leaving the site. Immediately remove objectionable material spilled washed or tracked onto the construction entrance or roadways.
- Sediment will be removed from hardware cloth and gravel inlet protection, black and gravel inlet protection, rock doughnut inlet protection and rock pipe inlet protection when the designed storage capacity has been half filled with sediment. Rock will be cleaned or replaced when the sediment pool no longer drains as designed. Debris will be removed from the rock and hardware cloth to allow proper drainage. Silt socks will be emptied once a week and after every rain event. Sediment will be removed from around beaver dams, dandy socks and socks once a week and after every rain event. Diversion ditches will be cleaned out immediately to remove sediment or obstructions from the flow area. The diversion ridges will be repaired. Swales must be temporarily stabilized within 21 calendar days of cease of any phase of activity associated with a swale.
- Sediment will be removed from behind the sediment fence when it becomes half filled. The sediment fence will be repaired as necessary to maintain a barrier. Stakes must be steel. Stakes spacing will be 6 feet max. with the use of extra strength fabric, without wire backing. Stakes spacing will be 8 feet max. when standard strength fabric and wire backing are used. If rock filters are designed at low points in the sediment fence the rock will be repaired or replaced if it becomes half full of sediment, no longer drains as designed or is damaged.
- Sediment will be removed from sediment traps when the designed storage capacity has been half filled with sediment. The rock will be cleaned or replaced when the sediment pool no longer drains or when the rock is dislodged. Baffles will be repaired or replaced if they collapse, tear, decompose or become ineffective. They will be replaced promptly. Sediment will be removed from baffles when deposits reach half the height of the 1st baffle. Floating disnomers will be inspected weekly and will be replaced as necessary and matched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover. All slopes will be stabilized within 21 calendar days. All other areas will be stabilized within 15 working days.
- Flocculants will be used to address turbidity issues. The pumps, tanks, hoses and injection systems will be checked for problems or turbid basins daily.



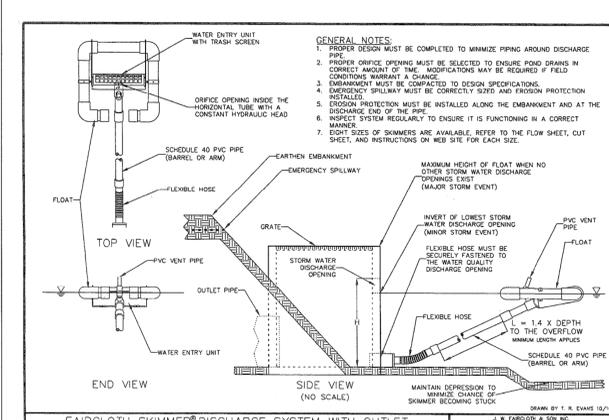
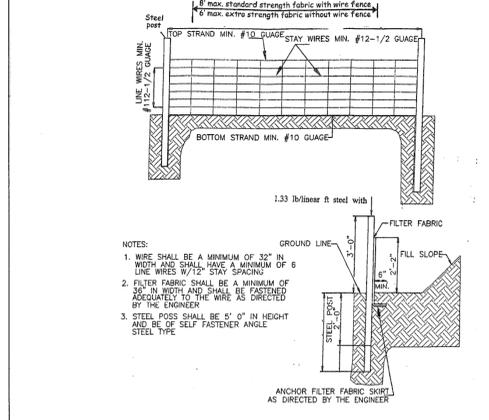
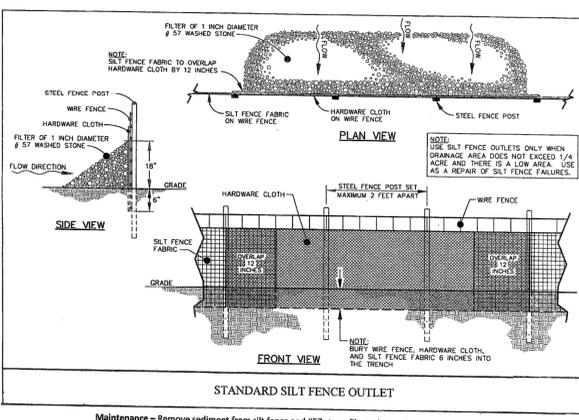
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Washing - If excavators at the site are such that most of the mud and sediment are not removed by vehicles traveling over the gravel, the site should be washed. Washing should be done on its own stabilized with crushed stone that drains into a sediment trap or other suitable disposal area. A wash rack may also be used to make washing more convenient and effective.

ROBERSON LOJA ROOF ARCHITECTS & ENGINEERS
3460 Preston Ridge Road - Suite 275 - Alpharetta, Georgia 30005
770-674-2600 - Fax: 678-319-0745

OGDEN MARKET PLACE
7120 MARKET STREET, WILMINGTON, NORTH CAROLINA 28411
ZONING: COMMERCIAL BUSINESS (CONDITIONAL DISTRICT)
& CS (COMMERCIAL SERVICES (CONDITIONAL DISTRICT))

HALPERN ENTERPRISES, INC
5265 BIRFORD HIGHWAY, ATLANTA, GEORGIA 30340
TELEPHONE: 404-557-3462 FAX: 770-554-8528



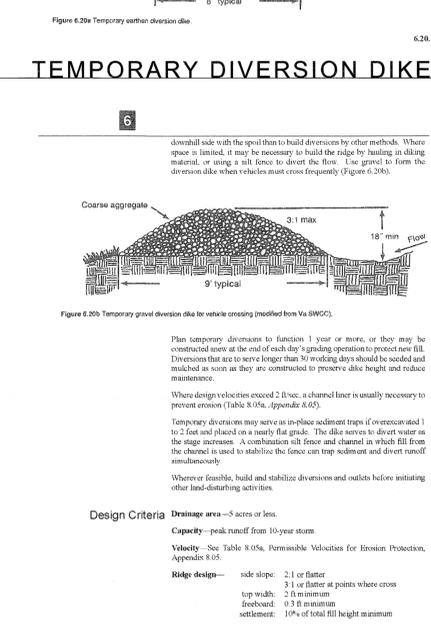
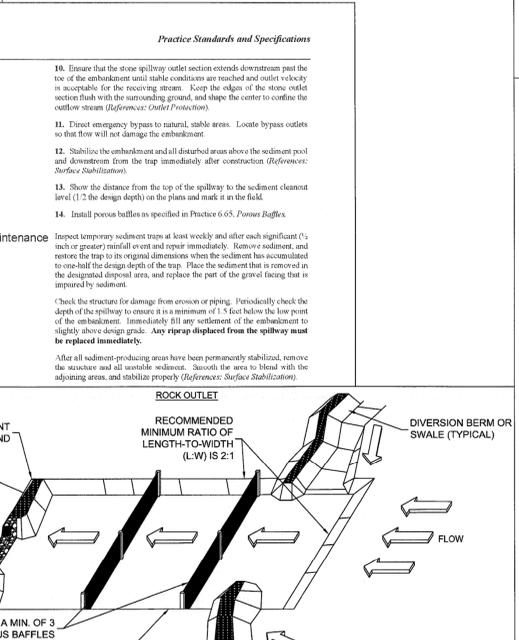
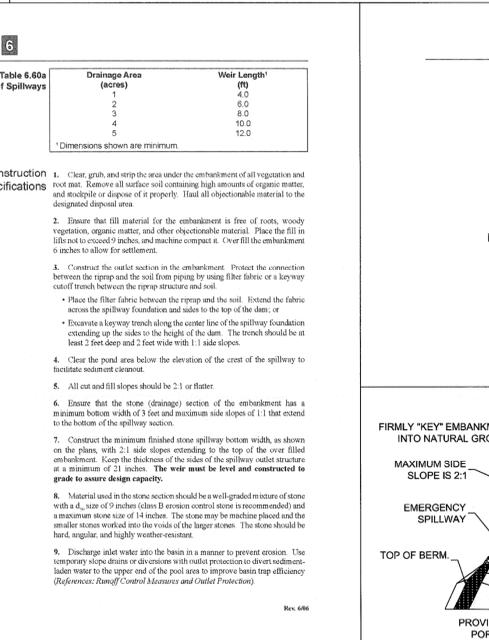
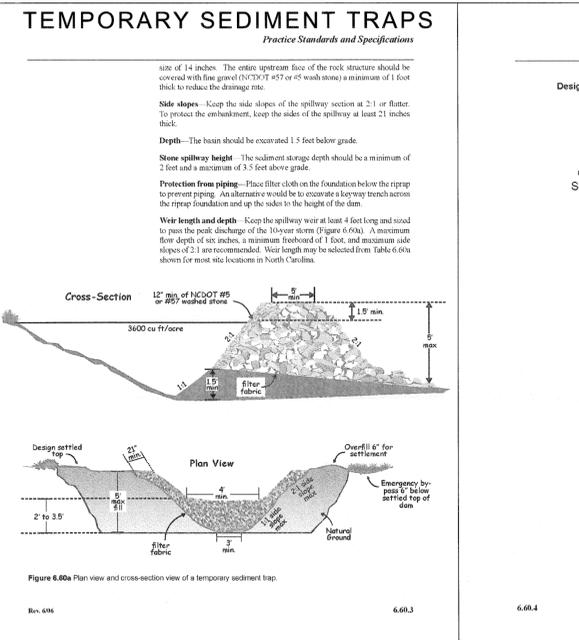
Maintenance
Inspect skimmer sediment basin at least weekly and after each significant (one-half inch or greater) rainfall event and repair immediately. Remove sediment and restore the basin to its original dimensions when sediment accumulation is equal to the height of the first baffle. Pull the skimmer on one side so that the sediment underneath it can be excavated. Excavate the sediment from the entire basin, not just around the skimmer or the first cell. Make sure vegetation growing in the bottom of the basin does not hold down the skimmer.
Repair the baffles if they are damaged. Re-anchor the baffles if water is flowing underneath or around them.
If the skimmer is clogged with trash and there is water in the basin, usually jacking on the rope will make the skimmer bob up and down and dislodge the debris and restore flow. If this does not work, pull the skimmer over to the side of the basin and remove the debris. Also check the entire inside the skimmer to see if it is clogged or if sediment has built up.
If the skimmer arm or basket pipe is clogged, the office can be removed and the observation closed with a plunger's snake or by flushing with water. Be sure and replace the office before repositioning the skimmer.
Check the fabric lining regularly for damage and make any required repairs with fabric that spans the full width of the spillway. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Make all necessary repairs immediately. Remove all other debris from the skimmer and pool areas.
Freezing weather can result in ice forming in the basin. Some special provisions should be taken in the winter to prevent the skimmer from plugging with ice.

GROUND STABILIZATION CRITERIA

SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE TO FT OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

NPDES PERMIT NCG 010000 PLAN NOTES:

- ACCORDING TO NPDES NCG 010000 EFFECTIVE AUGUST 3, 2011 THE PLANS SHALL CONFORM TO GROUND STABILIZATION REQUIREMENTS OF SECTION 8.8.2 GROUND STABILIZATION.
- ACCORDING TO NPDES NCG 010000 EFFECTIVE AUGUST 3, 2011 THE SEDIMENT BASIN SHALL CONFORM TO SURFACE WITHDRAWAL REQUIREMENTS OF SECTION 8.8.4 SEDIMENT BASINS.



Channel design - shape: parabolic, trapezoidal, or V-shaped; side slope: 2:1 or flatter; 3:1 or flatter where vehicles cross.

Grades - Either a uniform or a gradually increasing grade is preferred. Sudden decreases in grade accumulate sediment and should be avoided to cause overtopping. A large increase in grade may erode.

Outlet - Design the outlet to accept flow from the diversion plus any other contributing areas. Divert sediment-laden runoff by hauling in diking material, or using a silt fence to divert the flow. Use gravel to form the diversion dike when vehicles must cross frequently (Figure 6.06b).

Small diversions - Where the diversion channel grade is between 0.2 and 2%, a permanent vegetative cover is required: 1) parabolic channel and ridge 1.5 feet deep and 12 feet wide may be used for diversions with flows up to 5 cfs. This depth does not include freeboard or settlement. Side slopes should be 3:1 or flatter, and the top of the dike must be at least 2 feet wide.

Construction Specifications

- Remove and properly dispose of all trees, brush, stumps, and other objectionable material.
- Ensure that the minimum constructed cross section meets all design requirements.
- Ensure that the top of the dike is not lower at any point than the design elevation plus the specified settlement.
- Provide sufficient room around diversions to permit machine grading and cleanout.
- Vegetate the ridge immediately after construction, unless it will remain in place less than 30 working days.

Maintenance
Inspect temporary diversions once a week and after every rainfall. Immediately remove sediment from the flow area and repair the diversion ridge. Carefully check outlets and make timely repairs as needed. When the area protected is permanently stabilized, remove the ridge and the channel to blend with the natural ground level and appropriately stabilize it.

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

APPROVED STORMWATER MANAGEMENT PLAN

City of Wilmington
Public Services • Engineering Division

Date: _____ Permit #: _____
Signed: _____

EROSION & SEDIMENT CONTROL DETAILS

REVISIONS

NO.	DATE	DESCRIPTION

DATE: 05-02-16
PROJECT NUMBER: 13-288
SHEET NUMBER: C-6.4

DS3

HERBACEOUS PLANTS-Seeding recommendations for immediate stabilization/nurse crops (2 to 5 weeks for development; effectiveness goal: 6 months to 1 year stabilization) Table 6.11.a

Table 6.11.a: HERBACEOUS PLANTS-Seeding recommendations for immediate stabilization/nurse crops. Columns include Common Name, Botanical Name, Inoculation, Fertilizer, Planting Date, and other details.

- NOTES: 1. Seeding rates are for bulk seed unless otherwise noted. 2. Fertilizer & Limestone rates to be applied in absence of soil tests. 3. NR means Species not recommended for this region or application area.

DS3

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization Successful development depends on planting date (effectiveness goal: 6 mo. - 3 yrs. without an ongoing maintenance program) Table 6.11.c

Table 6.11.c: HERBACEOUS PLANTS-Seeding recommendations for primary stabilization. Columns include Common Name, Botanical Name, Inoculation, Fertilizer, Planting Date, and other details.

Table 6.12b Characteristics of the Principal Lawn Grasses Grown as Sod in North Carolina

Table 6.12b: Characteristics of the Principal Lawn Grasses Grown as Sod in North Carolina. Columns include Species or Mixture, Adaptation (Shade, Heat, Cold, Drought, Wear), and Maintenance (Annual Fertilizer, Mowing Height, Mowing Frequency).

3. After rolling or tamping to create a firm contact, peg or staple individual sod strips to resist washout during establishment. 4. After the first growing season, established sod requires fertilization, and may also require lime.

DS4

Major Elements of DWQ Construction General Permit

This document contains the major elements of the recently-revised North Carolina Division of Water Quality (DWQ) Construction General Permit (CGP1) with emphasis placed on those elements that differ from the previous permit (expiration on August 2, 2011).

Table 1) Ground Stabilization: Site Area Description, Stabilization Time Frame, and Stabilization Time Frame Exceptions.

The major change in the Permit from the previous one is the shorter times to apply ground stabilization such as mulch, wheat straw, or grasses.

- 2) Building Wastes Handling: No paint or liquid wastes in stream or storm drains. 3) Discharges to Federally-listed Waters: Requirements are the same as in previous permit.

August 4, 2011

DS3

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization Successful development depends on planting date (effectiveness goal: 6 mo. - 3 yrs. without an ongoing maintenance program) Table 6.11.b

Table 6.11.b: HERBACEOUS PLANTS-Seeding recommendations for primary stabilization. Columns include Common Name, Botanical Name, Inoculation, Fertilizer, Planting Date, and other details.

DS3

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization Successful development depends on planting date (effectiveness goal: 6 mo. - 3 yrs. without an ongoing maintenance program) Table 6.11.c (cont)

Table 6.11.c (cont): HERBACEOUS PLANTS-Seeding recommendations for primary stabilization. Columns include Common Name, Botanical Name, Inoculation, Fertilizer, Planting Date, and other details.

Major Elements of DWQ Construction General Permit - Continued

Table 4) Inspections: Same weekly inspection requirements, Same rain gauge & inspections after 0.5" rain event, Inspection reports must be available on-site during business hours.

- 6) Conditions in Erosion & Sedimentation Control Plans: Designation on the plans where the 7 and 14-day ground stabilization requirements of the NPDES permit apply. 7) Building Wastes Handling: No paint or liquid wastes in stream or storm drains.

August 4, 2011

* In order for the E&S Plan to satisfy the conditions of the Construction General permit, it must identify areas where the ground stabilization requirements apply and the location of the basins where the surface-withdrawal requirements apply.

Document prepared by the Division of Water Quality

2

DS3

HERBACEOUS PLANTS-Seeding recommendations for primary stabilization Successful development depends on planting date (effectiveness goal: 6 mo. - 3 yrs. without an ongoing maintenance program) Table 6.11.c (cont)

Table 6.11.c (cont): HERBACEOUS PLANTS-Seeding recommendations for primary stabilization. Columns include Common Name, Botanical Name, Inoculation, Fertilizer, Planting Date, and other details.

DS3

Practice Standards and Specifications

Seed Mixes for Native Species (lbs/ac) When Mixed with 3, 4, or 5 Other Native Species (See Table 6.11.a for nurse crop species to be added to these mixes)

Table 6.11.d: Seed Mixes for Native Species. Columns include Species Name and Seed Mix (3 Other, 4 Other, 5 Other).

NOTE: With the native varieties, the seed mix should be in the range of 15 pounds per acre. Depending on availability of native seeds available to North Carolina, the percentage of a particular variety used may be reduced or increased accordingly.

Approved Construction Plan Name, Date, Planning, Traffic, Fire.

WILMINGTON NORTH CAROLINA Public Services • Engineering Division APPROVED STORMWATER MANAGEMENT PLAN Date, Permit #, Signed.

ROBERSON LOJA ROOF ARCHITECTS & ENGINEERS 3460 Preston Ridge Road - Suite 275 - Alpharetta, Georgia 30005 770-674-2600 - Fax 678-319-0745

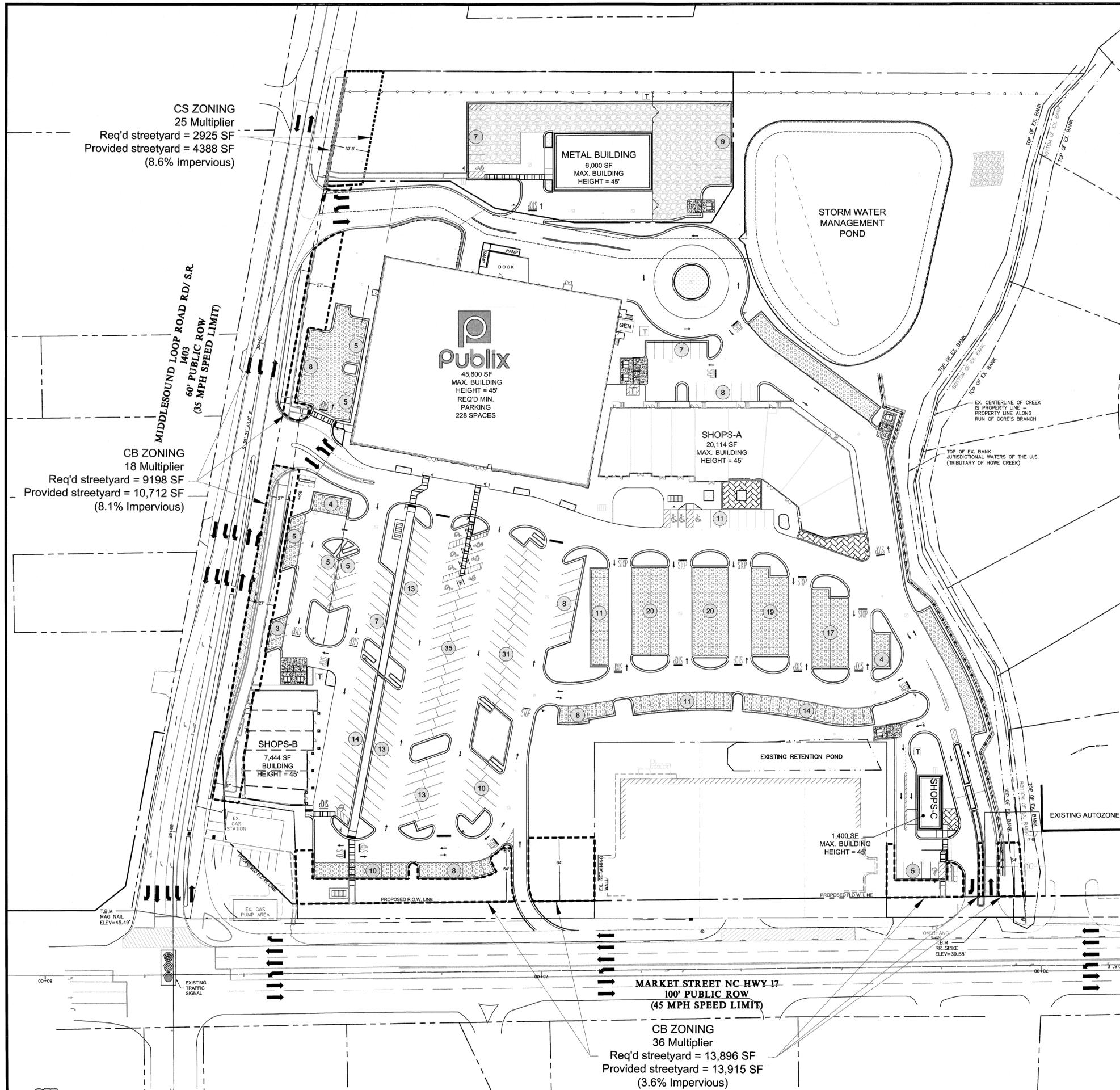


OGDEN MARKET PLACE 7120 MARKET STREET, WILMINGTON, NORTH CAROLINA 28411. FOR COMMERCIAL SERVICES (CONDITIONAL DISTRICT) HALPERN ENTERPRISES, INC. 5245 BIFORD HIGHWAY, ATLANTA, GEORGIA 30340

REVISIONS table with columns for No., Description, and Date.

EROSION & SEDIMENT CONTROL DETAILS SHEET TITLE, DATE 05-02-16, PROJECT NUMBER 13-288, SHEET NUMBER C-6.7

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STREETYARD CALCULATIONS:

MARKET STREET:
386 LF of frontage exclusive of driveways
CB District Factor = 18 x 2 (Large scale retail dev't) = 36 Multiplier
54' maximum width and 18' minimum width required
*64' maximum width requested for portions of streetyard.

REQUIRED streetyard square footage = 13,896 SF
PROVIDED streetyard square footage = 13,915 SF
Impervious area within provided streetyard: 507 SF or 3.6%

MIDDLE SOUND LOOP ROAD, CB ZONED PROPERTY (Publix/Shops):
511 LF of frontage exclusive of driveways
CB District Factor = 18 Multiplier
27' maximum width and 9' minimum width

REQUIRED streetyard square footage = 9198 SF
PROVIDED streetyard square footage = 12,587 SF - 1875 SF (decel lane encroachment) = 10,712 SF
Impervious area within provided streetyard: 869 SF or 8.1%

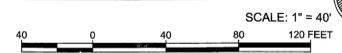
MIDDLE SOUND LOOP ROAD, CS ZONED PROPERTY (Metal Building):
117 LF of frontage
CS District Factor = 25 Multiplier
37.5' maximum width and 12.5' minimum width

REQUIRED streetyard square footage = 2925 SF
PROVIDED streetyard square footage = 4388 SF
Impervious area within provided streetyard: 378 SF or 8.6%

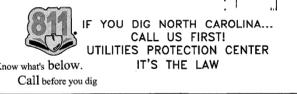


REVISIONS

STREETYARD PLAN



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24 HR EMERGENCY CONTACT
MR. CHARLES WORTHEN
PHONE: 404-537-3462

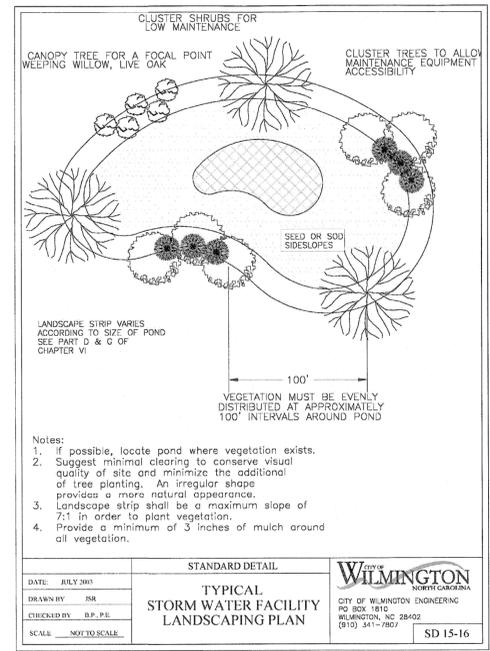
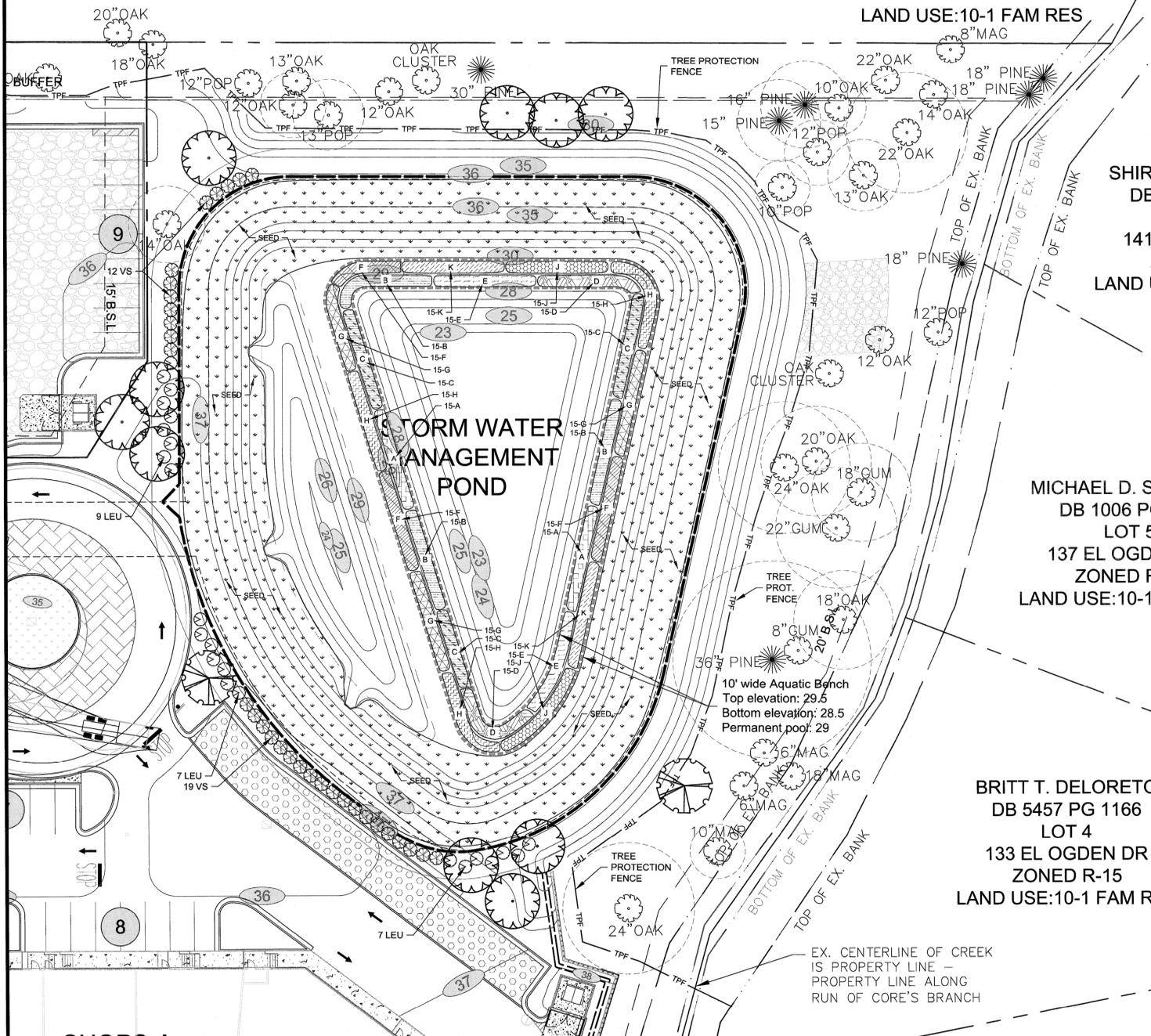
MARION L. RODERICK, JR
& MEAGAN MILLER RODERICK
DB 5544 PG 349
ZONED R-15
LAND USE: 10-1 FAM RES

PENNINGTON FAMILY
TRUST
DB 4039 PG 768
LOT 7
145 EL OGDEN DR
ZONED R-15
LAND USE: 10-1 FAM RES

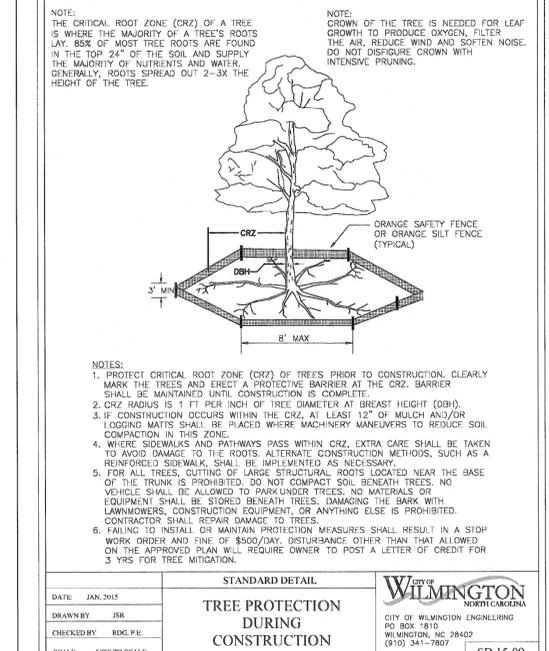
SHIRLI
DB 9
141 E
Z
LAND USE

MICHAEL D. ST
DB 1006 PG
LOT 5
137 EL OGDEN
ZONED R-
LAND USE: 10-1 F

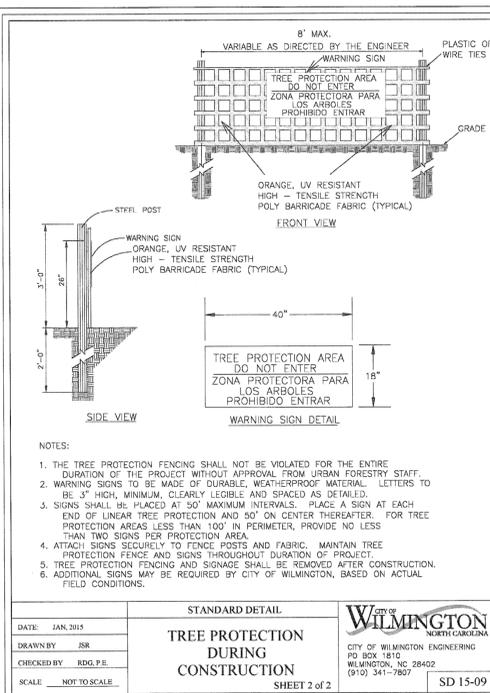
BRITT T. DELORETO
DB 5457 PG 1166
LOT 4
133 EL OGDEN DR
ZONED R-15
LAND USE: 10-1 FAM RES



STANDARD DETAIL
TYPICAL
STORM WATER FACILITY
LANDSCAPING PLAN
DATE: JULY 2015
DRAWN BY: JSR
CHECKED BY: RDG, P.E.
SCALE: NOT TO SCALE
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-16



STANDARD DETAIL
TREE PROTECTION
DURING
CONSTRUCTION
DATE: JAN 2015
DRAWN BY: JSR
CHECKED BY: RDG, P.E.
SCALE: NOT TO SCALE
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-09



STANDARD DETAIL
TREE PROTECTION
DURING
CONSTRUCTION
DATE: JAN 2015
DRAWN BY: JSR
CHECKED BY: RDG, P.E.
SCALE: NOT TO SCALE
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-09

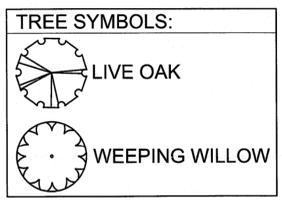
Table 7-2
Vegetation Maintenance for BMPs

Maintenance Activity	Instructions
Replacement of Dead Plants	All dead plants should be removed and disposal of before vegetation that has faded on a large scale is replaced, the cause of such failure should be investigated. If the cause can be determined it should be eliminated before any reinstallation.
Fertilization	The objective of fertilizing at a BMP is to secure optimum vegetative growth rather than yield other objectives such as increasing the soil's nutrient content. Fertilizers should be applied periodically. Fertilizers can be composed of mineral, organic matter (manure), compost, green crops, or other materials.
Irrigation/Watering	Watering of the vegetation can often be required during the germination and establishment of the vegetation as well as occasionally to preserve the vegetation through drought conditions. This can typically be accomplished by pumping water retained in the BMP or from the stream, installing a permanent irrigation system or frost-proof hose bib, or using portable water trucks.
Mulching	Mulching should be used to maintain soil temperature and moisture, as well as soil structure. A half-inch layer is typically adequate. Ideally, mulch should be removed before winter to prevent an infestation of rodents.
Weeding	Weeding is often necessary in the first growing season, particularly if herbaceous grasses are out-competing the young woody vegetation growth. The need for weeding may be largely eliminated by minimizing the amount of seed used in temporary erosion control. Weeding may also be required if over time invasive or undesirable species are entering the site and out-competing plants that are specifically involved in the treatment of the stormwater.
Cultivating/ Hoing	Hoing is often required to loosen overly compacted soil and eliminate weeds that compete with the desirable vegetation.
Pruning	Pruning is used to trim and remove dead wood. It can force single-shoot shrubs and trees to assume a bushier configuration.
Thinning	Thinning dense brush may be necessary for particular species to thrive and increase the ability of maintenance staff to access the entire BMP. Tall maturing trees, for the most part, have no place in a BMP (except for buffers) and should be removed as soon as possible.
Staking	Saplings of tall trees planted in or near the BMP may require staking. Care should be taken not to damage the tree roots with stakes. Stakes should be kept in place for 1 to 18 months, and the condition of stakes and ties should be checked periodically.
Wound Dressing	The wounds on any trees found broken off or damaged should be dressed following recommendations from a trained arborist.
Disease Control	Based on monitoring observations, either insecticides or (preferably) organic means of pest and fungal control should be used.
Protection from Animals and Human Foot Traffic	Fencing and signage should be installed to warn pedestrians and to prevent damage due to trampling. These measures are often most necessary during the early phases of installation but may be required at any time. Measures for controlling human foot traffic include signs, fencing, floating log barriers, impassable bushes, ditches, paths and jaded brush. Wildlife damage is caused by the animals browsing, grazing, and rubbing the plants. The use of chemical wildlife repellents should be avoided. Fences and meshes can be used to deter entry to the BMP. Tree tubes can be used to prevent damage to individual specimens.
Mowing	Mowing of perennial herbaceous grasses and wildflowers, especially once seed heads have set, promotes redistribution of seed for their self-sustaining system. Mowing should be carefully controlled, however, especially when performed for aesthetics. As adjacent property owners and customers in general learn more about BMPs, their vision of what is aesthetically pleasing can change. Grasses in healthy herbaceous stands should never be mown more than once per year.

PLANT SCHEDULE FOR STORMWATER MANAGEMENT POND PLANTINGS

SYMBOL	COMMON NAME	BOTANICAL NAME	ZONE	SIZE	SPACING	QUANTITY
A	SOUTHERN BLUE FLAG	IRIS VIRGINICA	2	PLUG	3.0' O.C.	30
B	DUCK POTATO	SAGITTARIA LATIFOLIA	2	PLUG	3.0' O.C.	45
C	PICKERELWEED	PONTEDERIA CORDATA	2	PLUG	3.0' O.C.	45
D	WILD RICE	ZIZANIA AQUATICA	2	PLUG	3.0' O.C.	30
E	SOFTTUSH	JUNCUS EFFUSUS	2	PLUG	3.0' O.C.	30
F	CARDINAL FLOWER	LOBELIA CARDINALIS	3	PLUG	3.0' O.C.	45
G	ROSE MALLOW	HIBISCUS MOCHLOIDES	3	PLUG	3.0' O.C.	45
H	SWAMP SUNFLOWER	HELIANTHUS ANGUSTRIFOLIUS	3	PLUG	3.0' O.C.	45
J	SEDGE	CAREX SPP.	3	PLUG	3.0' O.C.	30
K	JOE PYE WEED	EUPATORIUM FISTULOSUM	3	PLUG	3.0' O.C.	30

ZONE 2: SHALLOW WATER: 1" TO 6" DEEP (ALSO REFERRED TO AS "LOW MARSH")
ZONE 3: SHALLOW LAND: 1" TO 12" ABOVE NORMAL POOL (ALSO REFERRED TO AS "HIGH MARSH")



TREE SCHEDULE - STORMWATER MANAGEMENT POND

BOTANICAL NAME	COMMON NAME	QUAN.	HT.	SIZE	SPACING	REMARKS
QUERCUS VIRGINIANA	LIVE OAK	2	10' MIN.	3" CAL.	AS SHOWN	BBB, FWF
SALIX BABINGTONIA	WEeping WILLOW	10	10' MIN.	3" CAL.	AS SHOWN	BBB, FWF

TREE SCHEDULE NOTES:
CONTRACTOR TO VERIFY ALL TREE QUANTITIES. IF TREE QUANTITIES ON PLAN DIFFER FROM PLANT LIST QUANTITIES, THEN QUANTITIES ILLUSTRATED ON PLAN SHALL GOVERN.
ALL TREES SHALL BE MEASURED ACCORDING TO LOCAL JURISDICTIONAL ORDINANCE REQUIREMENTS.
CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL APPLICABLE LOCAL, STATE & FEDERAL RULES & GUIDELINES.

PLANT SCHEDULE - STORMWATER MANAGEMENT PLAN

CODE	BOTANICAL NAME	COMMON NAME	QUAN.	SIZE	SPACING	REMARKS
LEU	LEUCOTHOE FONTANESIANA	DROoping LEUCOTHOE	23	3 GAL.	5' O.C.	evergreen hedge
VIS	ITEA VIRGINICA	VIRGINIA SWEETSPRINE	31	3 GAL.	5' O.C.	
SEED	FRENCHCLOVER	HYDRASEED				

PLANT SCHEDULE NOTES:
CONTRACTOR TO VERIFY ALL PLANT QUANTITIES. IF PLANT QUANTITIES ON PLAN DIFFER FROM PLANT LIST QUANTITIES, THEN QUANTITIES ILLUSTRATED ON PLAN SHALL GOVERN.
CONTRACTOR TO CALCULATE SEED SQUARE FOOTAGES.
PLANTINGS SHALL BE INSTALLED AS SHOWN ON THE PLANS.
CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL APPLICABLE LOCAL, STATE & FEDERAL RULES & GUIDELINES.

PER THE NCDENR STORMWATER BMP MANUAL

- SOIL ANALYSIS, 6.5.1:
IF USING ON-SITE TOPSOIL RATHER THAN IMPORTED TOPSOIL, THEN A SOIL ANALYSIS MUST BE CONDUCTED.
- THE ANALYSIS SHALL DETERMINE WHETHER ON-SITE SOILS WILL BE SUITABLE FOR THE PARTICULAR BMPs BEING UTILIZED. WHAT TYPES AND QUANTITIES OF AMENDMENTS WILL BE REQUIRED, AND IF ANY ENGINEERED SOIL MEDIA WILL BE NECESSARY.
- SOIL ANALYSIS SHALL BE PERFORMED BY A QUALIFIED, LICENSED PROFESSIONAL.
- SOIL ANALYSIS SHALL INCLUDE THE FOLLOWING:
-SOIL PH
-SOIL TEXTURE
-SOIL TEST NDKCA & C5 (NUTRIENT CONTENT)
-CONTENT (PERCENT CLAY, ORGANIC MATERIAL, ETC.)
- SOIL SAMPLES MUST BE ANALYZED BY EXPERIENCED AND QUALIFIED INDIVIDUALS, SUCH AS THE LOCAL COOPERATIVE EXTENSION OR NRCS OFFICE, WHO WILL EXPLAIN IN WRITING THE RESULTS, WHAT THEY MEAN, AS WELL AS WHAT SOIL AMENDMENTS WOULD BE REQUIRED TO CORRECT THEM.
- ANALYZING SOILS FOR HYDRAULIC CONDUCTIVITY AND INFILTRATION RATE IS HIGHLY RECOMMENDED.
- FOR SOIL AMENDMENT INFORMATION, SEE 6.5.2.

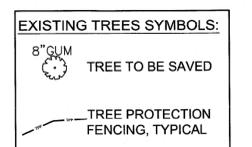
- SOIL SPECIFICATIONS, 6.5.3:
SOILS USED WITHIN A STORMWATER BMP MUST ADHERE TO THE FOLLOWING REQUIREMENTS.
-THE SOIL MIX MUST BE UNIFORM AND FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR MATERIAL, GREATER THAN 2 INCHES.
-SOIL TEXTURE OF THE MIX USED FOR STORMWATER WETLANDS SHOULD BE LOAMY SAND, WITH NO MORE THAN 10% CLAY (USDA SOIL TEXTURAL CLASSIFICATION).
-A MINIMUM ORGANIC CONTENT OF 10% BY DRY WEIGHT FOR AREAS PLANTED WITH WOODY SPECIES AND 5% FOR TURF AREAS.
-THE PH SHOULD BE BETWEEN 5.5 AND 7.0. IF THE PH FALLS OUTSIDE OF THIS RANGE, IT MAY BE MODIFIED WITH LIME TO INCREASE THE PH OR IRON SULFATE AND SULFUR TO LOWER THE PH. THE LIME OR IRON SULFATE MUST BE MIXED UNIFORMLY INTO THE SOIL PRIOR TO USE.
-TOPSOIL STOCKPILE LOCATION (IF USING ON-SITE SOILS) OR SOURCE OF TOPSOIL, IF IMPORTED TO THE SITE. SOIL ANALYSIS FOR ALL TOPSOIL TO BE USED WITHIN A BMP FACILITY.
• FOR SITE PREPARATION, GRADING AND INSTALLATION, SEE 6.6.
• PLANTING AND AFTER CARE, 6.6.2.

SOIL AMENDMENTS SHOULD BE INCORPORATED AT THE END OF THE SITE DEVELOPMENT PROCESS TO PREVENT SEDIMENT FROM ENTERING THE BMP FACILITY. THE BMP SHOULD BE PLANTED AND MULCHED IMMEDIATELY AFTER AMENDING THE SOIL TO STABILIZE THE SITE AS SOON AS POSSIBLE.

NEWLY INSTALLED PLANT MATERIAL MUST BE WATERED IMMEDIATELY AFTER PLANTING.

FALL AND WINTER ARE OPTIMAL PLANTING TIMES FOR NORTH CAROLINA. HOWEVER, SHALLOW WATER PLANTS SHOULD BE INSTALLED BETWEEN APRIL 1 AND JULY 15 IN NORTH CAROLINA, IF POSSIBLE. WINTER PLANTING IS DIFFICULT WITH SHALLOW WATER PLANTS.

MINIMIZE OR ELIMINATE THE USE OF PESTICIDES AND FERTILIZERS. A ONE-TIME APPLICATION OF FERTILIZER IS ALLOWED TO HELP ESTABLISHMENT. LANDSCAPE MANAGEMENT PERSONNEL SHOULD BE TRAINED TO ADJUST CHEMICAL INPUTS ACCORDINGLY AND MANAGE TO RECOGNIZE PLANT HEALTH PROBLEMS.



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PHONE: 404-537-3462

STORMWATER MGMT POND PLANTINGS

IF YOU DIG NORTH CAROLINA...
CALL US FIRST!
UTILITIES PROTECTION CENTER
IT'S THE LAW
Know what's below.
Call before you dig.

SCALE: 1" = 20'
0 20 40 60 FEET

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REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE
STORMWATER
MGMT POND
PLANTINGS

DATE
04-23-16

PROJECT NUMBER
13-288

SHEET NUMBER
LA-7

