BIORETENTION CELL SUMMARY

Bioretention Cell I:
Total Development Area: 82,376 CF
Drainage Area: 73,076 SF
Impervious Area: 46,404 SF
Bio Cell Storage Volume Provided: 6,975 CF
Bio Cell Storage Volume Required for 1" Rainfall: 3,780 CF
Total Nitrogen Loading: 3.28 lb/ac/yr
Total Phosphorus Loading: 0.39 lb/ac/yr
Pre-Development Peak: 1.41 cfs
Post-Development Peak: 7.23 cfs
Bioretention Cell Peak: 0.432 cfs

Bioretention Cell II:
Total Development Area: 17,805 SF
Drainage Area: 16,185 SF
Impervious Area: 7,704 SF
Bio Cell Storage Volume Provided: 1,215 CF
Bio Cell Storage Volume Required for 1" Rainfall: 646 CF
Total Nitrogen Loading: 2.55 lb/ac/yr
Total Phosphorus Loading: 0.31 lb/ac/yr
Pre-Development Peak: 0.31 cfs
Post-Development Peak: 1.36 cfs
Bioretention Cell Peak: 0.076 cfs

Bioretention Cell III:
Total Development Area: 25,949 SF
Drainage Area: 23,549 SF
Impervious Area: 14,220 SF
Bio Cell Storage Volume Provided: 1,800 CF
Bio Cell Storage Volume Required for 1" Rainfall: 1,162 CF
Total Nitrogen Loading: 3.71 lb/ac/yr
Total Phosphorus Loading: 0.44 lb/ac/yr
Pre-Development Peak: 0.44 cfs
Post-Development Peak: 2.25 cfs
Bioretention Cell Peak: 0.113 cfs

Bioretention Cell IV:
Total Development Area: 65,586 SF
Drainage Area: 60,711 SF
Impervious Area: 31,080 SF
Bio Cell Storage Volume Provided: 3,656 CF
Bio Cell Storage Volume Required for 1" Rainfall: 2,579 CF
Total Nitrogen Loading: 3.50 lb/ac/yr
Total Phosphorus Loading: 0.42 lb/ac/yr
Pre-Development Peak: 1.12 cfs
Post-Development Peak: 5.27 cfs
Bioretention Cell Peak: 0.245 cfs

Bioretention Cell V:
Total Development Area: 24,143 SF
Drainage Area: 21,863 SF
Impervious Area: 10,980 SF
Bio Cell Storage Volume Provided: 1,710 CF
Bio Cell Storage Volume Required for 1" Rainfall: 914 CF
Total Nitrogen Loading: 2.73 lb/ad/yr
Total Phosphorus Loading: 0.33 lb/ac/yr
Pre-Development Peak: 0.41 cfs
Post-Development Peak: 1.88 cfs
Bioretention Cell Peak: 0.116 cfs

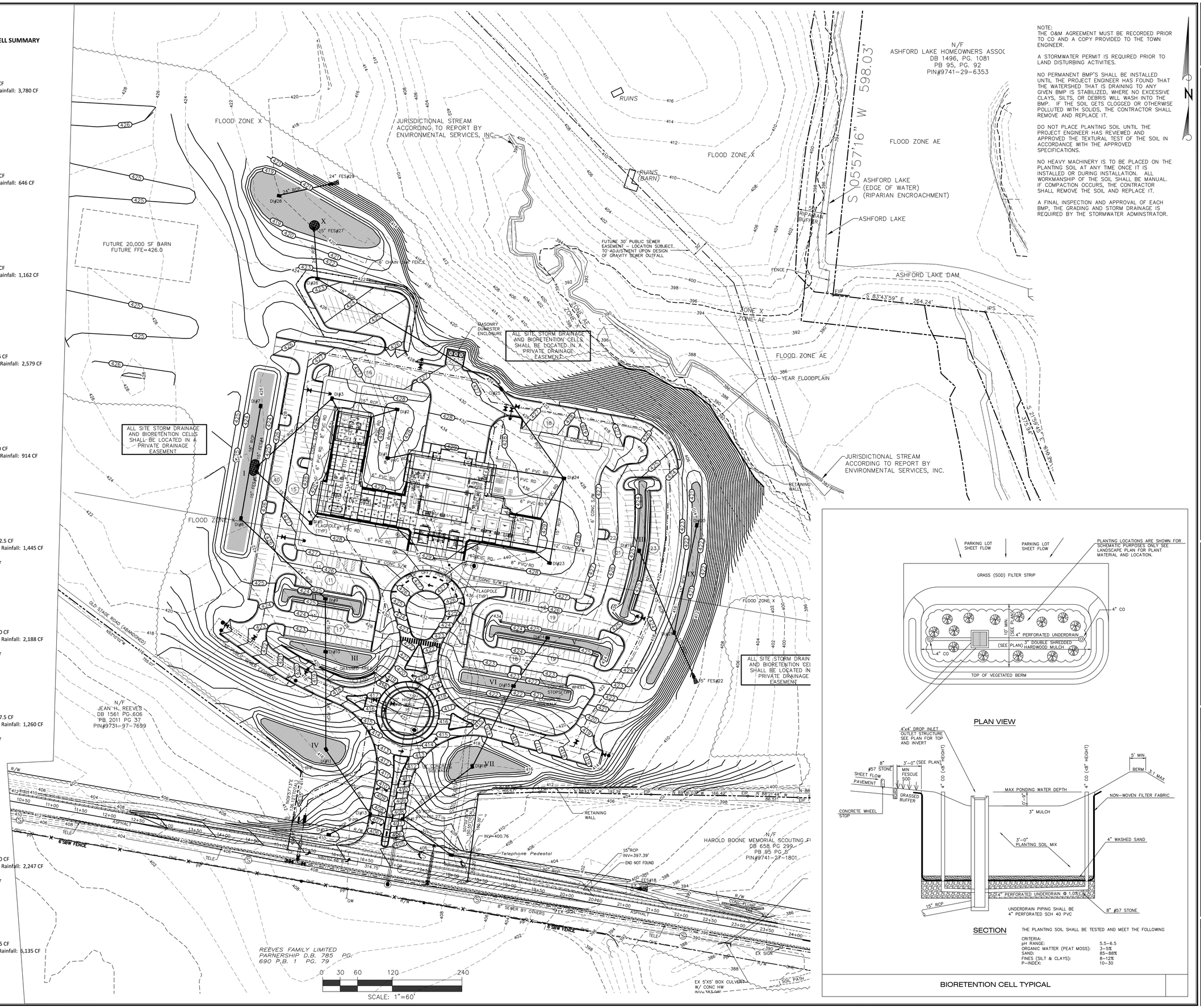
Bioretention Cell VI:
Total Development Area: 30,500 SF
Drainage Area: 27,270 SF
Impervious Area: 17,784 SF
Bio Cell Storage Volume Provided: 2,422.5 CF
Bio Cell Storage Volume Required for 1" Rainfall: 1,445 CF
Total Nitrogen Loading: 3.66 lb/ac/yr
Total Phosphorus Loading: 0.44 lb/ac/yr
Pre-Development Peak: 0.52 cfs
Post-Development Peak: 2.75 cfs
Bioretention Cell Peak: 0.150 cfs

Bioretention Cell VII:
Total Development Area: 55,065 SF
Drainage Area: 50,505 SF
Impervious Area: 26,424 SF
Bio Cell Storage Volume Provided: 3,420 CF
Bio Cell Storage Volume Required for 1" Rainfall: 2,188 CF
Total Nitrogen Loading: 3.25 lb/ac/yr
Total Phosphorus Loading: 0.39 lb/ac/yr
Pre-Development Peak: 0.94 cfs
Post-Development Peak: 4.44 cfs
Bioretention Cell Peak: 0.212 cfs

Bioretention Cell VIII:
Total Development Area: 31,217 SF
Drainage Area: 28,767 SF
Impervious Area: 15,228 SF
Bio Cell Storage Volume Provided: 1,837.5 CF
Bio Cell Storage Volume Required for 1" Rainfall: 1,260 CF
Total Nitrogen Loading: 3.46 lb/ac/yr
Total Phosphorus Loading: 0.41 lb/ac/yr
Pre-Development Peak: 0.53 cfs
Post-Development Peak: 2.54 cfs
Bioretention Cell Peak: 0.114 cfs

Bioretention Cell IX:
Total Development Area: 51,480 SF
Drainage Area: 46,080 SF
Impervious Area: 27,396 SF
Bio Cell Storage Volume Provided: 4,050 CF
Bio Cell Storage Volume Required for 1" Rainfall: 2,247 CF
Total Nitrogen Loading: 3.18 lb/ac/yr
Total Phosphorus Loading: 0.38 lb/ac/yr
Pre-Development Peak: 0.88 cfs
Post-Development Peak: 4.40 cfs
Bioretention Cell Peak: 0.250 cfs

Bioretention Cell X:
Total Development Area: 160,842 SF
Drainage Area: 147,342 SF
Impervious Area: 73,441 SF
Bio Cell Storage Volume Provided: 10,125 CF
Bio Cell Storage Volume Required for 1" Rainfall: 6,135 CF
Total Nitrogen Loading: 2.98 lb/ac/yr
Total Phosphorus Loading: 0.36 lb/ac/yr
Pre-Development Peak: 2.73 cfs
Post-Development Peak: 12.65 cfs
Bioretention Cell Peak: 0.652 cfs



NOTE:
THE O&M AGREEMENT MUST BE RECORDED PRIOR TO CO AND A COPY PROVIDED TO THE TOWN ENGINEER.

A STORMWATER PERMIT IS REQUIRED PRIOR TO LAND DISTURBING ACTIVITIES.

NO PERMANENT BMP'S SHALL BE INSTALLED UNTIL THE PROJECT ENGINEER HAS FOUND THAT THE WATERSHED THAT IS DRAINING TO ANY GIVEN BMP IS STABILIZED, WHERE NO EXCESSIVE CLAYS, SILTS, OR DEBRIS WILL WASH INTO THE BMP. IF THE SOIL GETS CLOGGED OR OTHERWISE POLLUTED WITH SOLIDS, THE CONTRACTOR SHALL REMOVE AND REPLACE IT.

DO NOT PLACE PLANTING SOIL UNTIL THE PROJECT ENGINEER HAS REVIEWED AND APPROVED THE TEXTURAL TEST OF THE SOIL IN ACCORDANCE WITH THE APPROVED SPECIFICATIONS.

NO HEAVY MACHINERY IS TO BE PLACED ON THE PLANTING SOIL AT ANY TIME ONCE IT IS INSTALLED OR DURING INSTALLATION. ALL WORKMANSHIP OF THE SOIL SHALL BE MANUAL. IF COMPACTION OCCURS, THE CONTRACTOR SHALL REMOVE THE SOIL AND REPLACE IT.

A FINAL INSPECTION AND APPROVAL OF EACH BMP, THE GRADING AND STORM DRAINAGE IS REQUIRED BY THE STORMWATER ADMINSTRATOR.

PLAN VIEW

SECTION

THE PLANTING SOIL SHALL BE TESTED AND MEET THE FOLLOWING

CRITERIA:

pH RANGE:	5.5–6.5
ORGANIC MATTER (PEAT MOSS):	3–5%
SAND:	85–88%
FINES (SILT & CLAYS):	8–12%
P–INDEX:	10–30

BIORETENTION CELL TYPICAL

CONSTRUCTION DRAWING STORMWATER PLAN

THE CHATHAM COUNTY AGRICULTURE & CONFERENCE CENTER

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CONSTRUCTION DRAWING SET

DATE
04-09-14

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