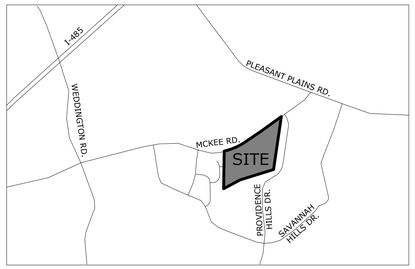
# THE POND AT MCKEE GLEN

## CONSTRUCTION DOCUMENTS

### CITY OF CHARLOTTE, MECKLENBURG COUNTY, NORTH CAROLINA




VICINITY MAP
N.T.S.


DEVELOPER:

CAMBRIDGE PROPERTIES

ANDREW MCDONALD
704-333-2393
AJM@CAMBRIDGEPROP.COM
831 E. MOREHEAD STREET
CHARLOTTE, NC 28202

DESIGN ENGINEER:

Cardno

ROBERT CASH, PE
704-927-9700
ROBERT.CASH@CARDNO.COM
9800 SOUTHERN PINE BOULEVARD
SUITE I
CHARLOTTE, NC 28273


**PROJECT DATA TABLE**

| | |
|---|---|
| OWNER: | PIRAINO BROTHERS, LLC<br>5137 S PARVIEW DR, CHARLOTTE, NC 28226 |
| DEVELOPER INFO: | CAMBRIDGE PROPERTIES<br>831 EAST MOREHEAD STREET, CHARLOTTE, NC 28202<br>TEL. (704) 333-2393 |
| CONTACT: | ANDREW MCDONALD |
| EMAIL: | AJM@CAMBRIDGEPROP.COM |
| SITE ADDRESS: | 1501 MCKEE ROAD, MATTHEWS, NC 28105 |
| GROSS SITE AREA: | 25.5 ACRES |
| P.I.D. No.: | 23121168 |
| DEED BOOK/ PAGE: | 23180/987 |
| EXISTING ZONING: | R-5 (CD) |
| EXISTING OVERLAY(S): | N/A |
| EXISTING USE: | VACANT PROPERTY |
| PROPOSED USE: | RESIDENTIAL SUBDIVISION R-5 (CD) |
| PROPOSED # OF LOTS: | 74 LOTS |
| TOTAL # OF LOTS: | 42' LOTS: 53<br>52' LOTS: 22 |
| MINIMUM LOT SIZE: | 42' LOT: 4,500 SF |
| BUILDING SETBACKS REQUIRED: | |
| FRONT | 20 FT. |
| CORNER | 13 FT. |
| SIDE | 5 FT. |
| REAR | 20 FT. INTERNAL<br>35 FT. EXTERNAL |
| MAX. BUILDING HEIGHT: | 40 FT. |
| SITE DEVELOPMENT AREA: | 25.5 ACRES<br>- 5.79 ACRES (DUKE R/W)<br>- 0.97 ACRES (EX. POND)<br>- 1.05 ACRES MCKEE ROAD DED. R/W<br>- 3.54 ACRES PROPOSED ROAD R/W<br>- 0.63 ACRES DED. UTILITY ESMTS.<br>= 13.52 ACRES |
| REQUIRED TREE SAVE AREA: | 2.03 ACRES<br>(15% OF SITE DEVELOPMENT AREA) |
| PROVIDED TREE SAVE AREA: | 2.18 ACRES |
| REQUIRED OPEN SPACE: | 2.6 ACRES<br>(10% OF GROSS SITE AREA) |
| PROVIDED OPEN SPACE: | 5.53 ACRES (21.7%) |

FLOOD ZONE

BASED ON THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP PANEL NUMBER 3710448800K, DATED FEBRUARY 19, 2014, THE HEREON DESCRIBED PROPERTY IS LOCATED IN ZONE "X".

| | |
|---|---|
| WATERSHED | TWELVE MILE CREEK |
| DRAINAGE BASIN | CATAWBA RIVER |

NOTE:
CONSTRUCTION MATERIALS QUALITY AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CITY OF CHARLOTTE, CHARLOTTE WATER, CDOT AND NCDOT SPECIFICATIONS AND STANDARDS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.


OVERALL PROJECT PLAN

0 100 200 400
1 INCH = 200 FEET

CHARLOTTE.

**FINAL APPROVAL**

PROJECT NUMBER: SDRSF-2018-00019

| | |
|---|---|
| **ENGINEERING**<br>PCSO / DETENTION / DRAINAGE PLAN | *APPROVED*<br>*By Brendan Smith at 3:30 pm, Jul 13, 2018* |
| **EROSION CONTROL** | *APPROVED* |
| **URBAN FORESTRY**<br>TREE ORDINANCE | *APPROVED*<br>*By Miriam Cattabriga at 2:50 pm, Jul 12, 2018* |
| **CDOT** | *APPROVED* |

NOTE: SCHEDULE PRE-CONSTRUCTION MEETING AT LEAST 48 HRS. PRIOR TO ANY LAND DISTURBING ACTIVITY USING THE ONLINE FORM FOUND AT http://charlottenc.gov/ld

APPROVED FOR CONSTRUCTION
CHARLOTTE-MECKLENBURG PLANNING DEPARTMENT
By: Joshua Weaver 7-13-2018

North Carolina 811
www.nc811.org

Sheet List Table



NOTE:
SEE SHEET C-200 FOR ADJACENT PROPERTY OWNER INFORMATION.

Cardno
CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com

CAMBRIDGE PROPERTIES

COVER SHEET
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
COVER SHEET

SHEET NUMBER
C-100


Plot Stamp: 7/12/2018 2:12:54 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-100 COVER SHEET.dwg, Tab: Layout1

# EXISTING CONDITIONS NOTES

1. ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL LOCAL ORDINANCES, CITY AND STATE.
2. BASED ON THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP PANEL NUMBER 3710448800K, DATED 2/19/2014 THE HEREON DESCRIBED PROPERTY IS LOCATED IN ZONE "X".
3. WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
4. ALL ITEMS NOTED TO BE REMOVED SHALL BE DONE SO AS PART OF THE CONTRACT FOR GENERAL CONSTRUCTION.
5. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK, BOTH PUBLIC AND PRIVATE. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL UNDERGROUND UTILITIES AND SHALL REPAIR ANY DAMAGE AS A RESULT OF THIS CONTRACT.
6. REMOVE ALL UTILITIES TO EXISTING STRUCTURES ON SITE WHETHER SHOWN OR NOT. CUT AND CAP ALL UNDERGROUND LINES AT THE PROPERTY LINE UNLESS OTHERWISE NOTED. CONTACT ALL UTILITY COMPANIES PRIOR TO DISCONNECTION OR DEMOLITION.
7. CONTRACTOR SHALL REMOVE ALL EXISTING TREES, CONCRETE, ASPHALT AND OTHER EXISTING STRUCTURES INDICATED ON PLAN. CONTRACTOR SHALL DISPOSE OF ALL DEBRIS TO AN APPROVED (LEGAL) OFF-SITE LOCATION.
8. FOR ALL ITEMS TO BE REMOVED - REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, INCLUDE ALL UNDERGROUND ELEMENTS AS WELL, INCLUDING, BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPE, ETC.
9. BACKFILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL DETERMINED BY A SITE SOILS ENGINEER.
10. LIMITS OF REMOVAL SHOWN ON DEMOLITION PLAN ARE APPROXIMATE ONLY. ACTUAL QUANTITIES MAY VARY DUE TO CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION, REMOVAL AND RESTORATION WORK NECESSARY TO PERMIT CONSTRUCTION OF THE PROPOSED PROJECT.
11. PROTECT ADJACENT CURB, TREES, BUILDINGS, UTILITIES AND OTHER ITEMS TO REMAIN FROM DAMAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR PAYMENT OF ANY DAMAGED ITEM TO REMAIN.
12. SURVEYOR SHALL REPORT ANY ENCROACHMENTS OR DISCREPANCIES GENERATED ON THIS CLEARING PLAN IMMEDIATELY TO ENGINEER FOR DECISION.
13. SURVEYOR SHALL VERIFY CLOSURE AND ACCURACY OF CURVE DATA PRIOR TO COMMENCEMENT OF FIELD STAKING.
14. HATCHED AREA ON THIS PLAN INDICATES HEAVILY WOODED AREAS TO BE REMOVED AND DEMOLITION ITEMS. CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE ANY SPECIMEN TREES NEAR CLEARING LIMITS.
15. CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE ADDITIONAL TREES WHEREVER POSSIBLE.
16. CLEARING LIMITS ON THE PLAN INDICATE THE EXTENT OF ALL MAJOR CLEARING REQUIRED, CONTRACTOR IS ALSO RESPONSIBLE FOR ANY INCIDENTAL CLEARING REQUIRED FOR MINOR DISCREPANCIES IN GRADE, UTILITY INSTALLATION, EROSION CONTROL MEASURES, ETC.
17. CONTRACTOR SHALL COORDINATE UTILITY REMOVAL AND RELOCATIONS WITH ALL UTILITY COMPANIES.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF TRAFFIC THROUGHOUT CONSTRUCTION TO AND FROM THE ADJOINING PROPERTIES AND SHALL INSTALL TRAFFIC CONTROL DEVICES AND SIGNAGE AS NECESSARY IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
19. THE CONTRACTOR SHALL COORDINATE WITH THE SITE CONSTRUCTION MANAGER FOR THE REMOVAL AND/OR RELOCATION OF EXISTING TREES.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL AREAS DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN EXISTING AND SHALL BE RESPONSIBLE FOR PHOTO-DOCUMENTATION OF PRE-CONSTRUCTION CONDITIONS.
21. NO DEMOLITION PRIOR TO PRE CONSTRUCTION MEETING. DEMOLITION PRIOR TO PRE CONSTRUCTION MEETING AND GRADING PERMIT WILL BE SUBJECT TO IMMEDIATE CIVIL PENALTIES.
22. CONTRACTOR SHALL COORDINATE OBTAINING ALL NECESSARY DEMOLITION PERMITS FROM THE CITY OF CHARLOTTE AS NECESSARY.
23. CONTRACTOR SHALL COORDINATE WITH THE SITE GEOTECHNICAL ENGINEER FOR EARTH DISTURBING AND SITE PREPARATION RECOMMENDATIONS. DEVELOPER SHALL PROVIDE SITE GEOTECHNICAL ENGINEER AS NECESSARY.
24. CONTRACTOR TO ENSURE THAT EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO ANY CONSTRUCTION.

# DEMOLITION GENERAL NOTES

1. PLAN APPROVAL AND COMPLETION OF PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO DEMOLITION ACTIVITIES.
2. PRIOR TO DEMOLITION ACTIVITY, THE CONTRACTOR SHALL OBTAIN PLAN APPROVAL AND COMPLETE A PRE-CONSTRUCTION MEETING.
3. ALL DEMOLISHED MATERIALS AND ITEMS SHALL BE COMPLETELY REMOVED AND PROPERLY DISPOSED OF OFFSITE. LOCATION TO BE DOCUMENTED AND REPORTED TO OWNER.
4. OWNER SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF DEMOLITION ACTIVITIES.
5. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB. IMMEDIATELY NOTIFY THE OWNER AND THE ENGINEER.
6. ALL UTILITIES SHALL BE DISCONNECTED AND CAPPED PRIOR TO DEMOLITION ACTIVITIES.
7. ANY ADJACENT INFRASTRUCTURE OR VEHICLES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT NO COST.
8. SITE SHALL BE CLEARED OF ALL DEBRIS, DUST, AND MUD UPON COMPLETION OF SITE WORK ACTIVITIES, AND SITE SHALL BE RESTORED TO ORIGINAL CONDITION UPON COMPLETION OF WORK.
9. CONTRACTOR SHALL CONTACT PRIVATE UTILITY LOCATE FIRM PRIOR TO CONSTRUCTION AND NOTIFY 811.
10. TREE REMOVAL TO BE PERFORMED ONLY AS NOTED.
11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ABANDONMENT AND REMOVAL OF ALL ONSITE AND OFFSITE UTILITIES, AS INDICATED ON THE PLANS INCLUDING BUT NOT LIMITED TO ELECTRIC AND GAS, IF NECESSARY.
12. ALL LAND DISTURBANCE TO BE STABILIZED WITH VEGETATION IMMEDIATELY UPON COMPLETION OF DEMOLITION.
13. ALL TREES TO REMAIN AND HAVE PROPER PROTECTION UNLESS APPROVED PLANS INDICATES OTHERWISE.
14. ALL DEMOLITION DEBRIS TO BE HAULED OFF SITE.
15. DUMPSTERS AND/OR TEMPORARY SANITARY FACILITIES SHALL NOT BE LOCATED IN STREET OR TREE PROTECTION AREA OR RIGHT OF WAY.

# EROSION CONTROL GENERAL NOTES

1. ALL "STD." NUMBERS REFER TO THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL. ON-SITE BURIAL PITS REQUIRE AN ON-SITE DEMOLITION LANDFILL PERMIT FROM THE ZONING ADMINISTRATOR.
2. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE CITY/COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
3. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE CITY/COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
4. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
5. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
6. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF THE CITY ENGINEERING DEPARTMENT.
7. SLOPES SHALL BE GRADED NO STEEPER THAN 2:1. FILL SLOPES GREATER THAN 10' REQUIRE ADEQUATE TERRACING [CLDSM #30.16]
8. A GRADING PLAN MUST BE SUBMITTED FOR ANY LOT GRADING EXCEEDING ONE ACRE THAT WAS NOT PREVIOUSLY APPROVED.
9. DRIVEWAY PERMIT FOR CONSTRUCTION ENTRANCES IN NCDOT RIGHT OF WAY MUST BE PRESENTED AT PRE-CONSTRUCTION MEETING.
10. CONSTRUCTION TO BEGIN AUGUST 1, 2018 AND BE COMPLETED MARCH 1, 2019.

# EROSION CONTROL PHASE 1 NOTES

1. PRIOR TO LAND DISTURBING ACTIVITY, THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE AREA SITE DEVELOPMENT INSPECTOR.
2. THE CONTRACTOR SHALL OBSERVE THE PROJECT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO ENSURE THAT LAND STRIPPED OF ITS NATURAL COVER IS EXPOSED ONLY IN SMALL QUANTITIES.
3. THE OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
4. NO STAGING AREAS, MATERIAL STORAGE, CONCRETE WASH OUT AREAS, OR DEBRIS BURNING AND BURIAL HOLES SHALL BE LOCATED ON SITE.
5. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, LIMITS OF LAND DISTURBANCE SHALL CLEARLY AND ACCURATELY BE DEMARCATED WITH STAKES, RIBBONS OR APPROPRIATE MEANS, AND SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE LIMITS INDICATED ON THE APPROVED PLANS.
7. PRIOR TO ANY CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE OR ONTO ANY PUBLIC ROADWAY.
8. THE FOLLOWING INITIAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.
   - A) THE CONSTRUCTION ENTRANCE SHALL BE PLACED AS SHOWN ON THE PLANS.
   - B) IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCE, ALL PERIMETER EROSION CONTROL AND STORMWATER MANAGEMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLANS.
9. WITHIN SEVEN (7) DAYS AFTER INSTALLATION OF INITIAL EROSION CONTROL MEASURES, THE SITE CONTRACTOR SHALL SCHEDULE AN INSPECTION BY THE PROJECT DESIGN PROFESSIONAL. NO OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE PROJECT PROFESSIONAL APPROVES THE INSTALLATION OF SAID EROSION CONTROL MEASURES. IF UNFORESEEN CONDITIONS EXIST IN THE FIELD THAT WARRANT ADDITIONAL EROSION CONTROL MEASURES, THE CONTRACTOR MUST CONSTRUCT ANY ADDITIONAL EROSION CONTROL DEVICES DEEMED NECESSARY BY THE PROJECT PROFESSIONAL DURING THE SITE INSPECTION.
10. AFTER APPROVAL OF INITIAL EROSION CONTROL INSTALLATION, THE CONTRACTOR MAY PROCEED WITH CLEARING AND GRUBBING ACTIVITIES. AS CLEARING PERMITS, THE CONTRACTOR SHALL CONSTRUCT SEDIMENT PONDS AS SHOWN ON PLANS.
11. NO BURN OR BURY PITS SHALL BE PERMITTED ON THE CONSTRUCTION SITE WITHOUT WRITTEN PERMISSION BY THE OWNER AND/OR THE ENGINEER OF RECORD.
12. ALL SILT FENCE MUST MEET THE REQUIREMENTS OF THE CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL AND SECTION 171 TEMPORARY SILT FENCE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF NORTH CAROLINA, STANDARD SPECIFICATIONS, 1983 EDITION.
13. MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN SEVEN (7) DAYS OF LAND DISTURBANCE. ALL DISTURBED AREAS LEFT MULCHED FOR MORE THAN FOURTEEN (14) DAYS SHALL BE STABILIZED WITH TEMPORARY GRASSING.
14. SEDIMENT AND EROSION CONTROL MEASURES MUST BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
15. THE CONSTRUCTION ENTRACE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING 1"-3" OF STONE, AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM A VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
16. CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE PROPER FUNCTIONING.
17. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES, WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE APPROVED EROSION CONTROL PLANS.
18. ACCESS TO DUKE POWER POLES WITHIN EASEMENT TO REMAIN THROUGHOUT CONSTRUCTION.
19. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE TO THE CITY ENGINEERING DEPARTMENT.
20. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF CHARLOTTE EROSION CONTROL ORDINANCE, THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL, THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, U.S. SOIL CONSERVATION SERVICE.
21. IN ADDITION TO NPDES INSPECTION REQUIREMENTS, EFFECTIVE OCTOBER 1, 2010, PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES MUST INSPECT THE SEDIMENT AND EROSION CONTROL MEASURES ON A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. SELF-INSPECTION REPORTS ARE REQUIRED. A SAMPLE SELF-INSEPCTION REPORT, AS WELL AS DETAILS OF THE SELF-INSPECTION PROGRAM, CAN BE FOUND ON THE LAND QUALITY WEB SITE:
    HTTP://PORTAL.NCDENR.ORG/WEB/IR/EROSION.
22. NOT EVERY PROJECT WILL HAVE ALL THE POSSIBLE PHASES, BUT A LIST OF PHASES MAY INCLUDE: INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, INSTALLATION OF SEDIMENT TRAPS/BASINS, CLEARING AND GRUBBING OF EXISTING GROUND COVER, COMPLETION OF ANY PHASE OF GRADING THAT REQUIRES PROVISION OF STABILIZATION, INSTALLATION OF MEASURES DURING ANY PHASE OF PROJECT, COMPLETION OF CONSTRUCTION OR DEVELOPMENT, INSTALLATION OF STORMWATER RETENTION MEASURES, QUARTERLY UNTIL THE ESTABLISHMENT OF PERMANENT GROUND COVER IS FULLY ESTABLISHED. CONTACT NCDENR AT 704-663-1699 WITH QUESTIONS REGARDING THE SELF-INSPECTION PROGRAM.

# CITY OF CHARLOTTE CONSTRUCTION SEQUENCE

1. OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM THE CITY OF CHARLOTTE ENGINEERING DEPARTMENT.
2. SET UP A ON-SITE PRE-CONSTRUCTION CONFERENCE WITH EROSION CONTROL INSPECTOR OF THE CITY ENGINEERING DEPARTMENT TO DISCUSS EROSION CONTROL MEASURES. FAILURE TO SCHEDULE SUCH CONFERENCE 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY IS A VIOLATION OF CHAPTER 17 OF THE CITY CODE AND IS SUBJECT TO FINE.
3. INSTALL SILT FENCE, INLET PROTECTION, TEMPORARY SKIMMER BASINS, DIVERSION DITCHES, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
4. CALL FOR ON-SITE INSPECTION BY INSPECTOR. WHEN APPROVED, INSPECTOR ISSUES THE GRADING PERMIT AND CLEARING AND GRUBBING MAY BEGIN.
5. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
6. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.
7. STABILIZE SITE AS AREAS ARE BROUGHT TO FINISHED GRADE.
8. COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURE.
9. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N. C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U. S. DEPT. OF AGRICULTURE, CITY OF CHARLOTTE EROSION CONTROL ORDINANCE, AND THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL.

# CONSTRUCTION SEQUENCE (PHASE I)

1. HOLD A PRE-CONTRUCTION MEETING AND OBTAIN GRADING PERMIT.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AND STORM PIPES UNDER ENTRANCES AS SHOWN ON PLANS. INSTALL TIRE WASH IF DIRECTED BY NCDOT OR EROSION CONTROL INSPECTOR.
3. INSTALL TEMPORARY SILT FENCE, AND TREE PROTECTION AT LOCATION SHOWN ON THE PLANS.
4. INSTALL TEMPORARY SKIMMER BASINS, BAFFLES, AND OUTLET STRUCTURES AS SHOWN ON THE PLANS. OUTLET STRUCTURES FOR BASINS 1-3 TO BE TEMPORARY STRUCTURES AS PER THE PLANS. CONTRACTOR TO CORE OPENINGS STABILIZATION OF BASINS TO BE ESTABLISHED IMMEDIATELY AFTER INSTALLATION.
5. BASIN 4 WILL BE PERMANENT OUTLET CONTROL STRUCTURE WITH TEMPORARY SKIMMER ATTACHED 1" ABOVE NORMAL POOL ELEVATION. ONCE SITE IS STABILIZED AND APPROVAL FROM INSPECTOR IS OBTAINED, ORIFICE FOR SKIMMER TO BE PLUGGED.
6. INSTALL DIVERSION DITCHES AS SEEN ON PLANS. ALONG WITH DITCHES, INSTALL ANY OTHER REMAINING EROSION CONTROL MEASURES.
7. REMOVE TREES, CLEAR AND GRUB SITE PER PLANS UPON INSPECTION APPROVAL. TEMPORARY SEED PER STABILIZATION REQUIREMENTS.
8. CLEAN SKIMMER BASINS WHEN ONE-HALF FULL.
9. ESTABLISH PERMANENT GROUND COVER WITHIN 14 CALENDAR DAYS. ALL SLOPES MUST BE STABILIZED WITHIN 7 DAYS.
10. MAINTAIN SOIL AND EROSION MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
11. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY THE OWNER, CONTRACTOR, COUNTY OR NCDENR.
12. INSPECT ALL EROSION CONTROL DEVICES AFTER EVERY RAINFALL EVENT AND AT LEAST ONCE PER WEEK. REPAIR AND CLEAN OUT AS REQUIRED.

# CONSTRUCTION SEQUENCE (PHASE II)

1. MAINTAIN PERIMETER SILT FENCE AND TREE PROTECTION FENCE. REPLACE AND/OR REPAIR AS NECESSARY.
2. MAINTAIN CULVERT, ROCK PIPE INLET PROTECTION AND TEMPORARY GRAVEL CONSTRUCTION ENTRANCE. REPLACE AND/OR REPAIR AS NECESSARY.
3. BRING SITE TO GRADE FOR ROADWAYS, SIDEWALKS, AND BUILDING PADS. FOR BUILDING PADS WITH TEMPORARY SKIMMER BASINS, BASINS ARE TO REMAIN UNTIL STORM SEWER IS 95% CONSTRUCTED AND INLET PROTECTION IS INSTALLED.
4. INSTALL ANY UNDERGROUND CABLES OR TRANSFORMERS.
5. INSTALL IMPROVEMENTS TO EXISTING POND, DRAINING POND AS REQUIRED TO INSTALL ROCK FOREBAY, OUTLET STRUCTURE, AND NEW EMBANKMENT.
6. INSTALL CURB & GUTTER, SIDEWALKS AND STORM DRAIN SYSTEM. AS STORM STRUCTURES ARE INSTALLED; INSTALL COMPOST SOCKS.
7. ONCE STORM DRAIN SYSTEM AND INLET PROTECTION IS IN PLACE, TEMPORARY SKIMMER BASINS MAY BE REMOVED, ONCE APPROVED BY COORDINATOR, AS REQUIRED FOR FINAL GRADING.
8. WHEN SITE IS READY FOR PAVING; REMOVE GRAVEL CONSTRUCTION ENTRANCE, AND BRING AREA TO GRADE PER PLAN.
9. INSPECT, CLEAN OUT AND/OR REPAIR ROCK PIPE INLET PROTECTION.
10. ONCE AN AREA OF CONSTRUCTION HAS BEEN BROUGHT UP TO GRADE APPLY PERMANENT SEED PER PLAN.
11. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY THE OWNER, CONTRACTOR, COUNTY OR NCDENR.
12. INSPECT ALL EROSION CONTROL DEVICES AFTER EVERY RAINFALL EVENT AND AL LEAST ONCE PER WEEK. REPAIR AND CLEAN OUT AS REQUIRED.
13. ONCE SITE IS STABILIZED REMOVE REMAINING SEDIMENT AND EROSION CONTROL MEASURES.
14. AREAS WHERE FILL SLOPE IS 10' OR HIGHER (OR HAS SEEN ON PLANS) HYDRO SEEDING AND MATTING REQUIRED TO BE PLACED IMMEDIATELY AFTER GRADING IS COMPLETE. ECS-1 SINGLE NET STRAW IS TO BE USED IN THESE AREAS. ALL FILL SLOPES WILL FOLLOW BENCHING REQUIREMENTS DETAILED IN THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL (PAGE 6.02.2).

# OVERALL SITE NOTES

1. ALL SITE DIMENSIONS SHOWN ARE TO THE TOP BACK OF CURB, UNLESS OTHERWISE NOTED. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS BY DETAILED INSPECTION PRIOR TO SUBMITTING BID AND STARTING CONSTRUCTION.
2. COORDINATE WORK WITH OTHER SITE RELATED DEVELOPMENT DRAWINGS.
3. SITE IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF CHARLOTTE STANDARD DETAILS AND SPECIFICATIONS AND NCDOT STANDARD DETAILS AND SPECIFICATIONS.
4. ASPHALT PAVING, CONCRETE SIDEWALK AND CONCRETE CURBING SECTIONS SHALL BE CONSTRUCTED PER THE DETAILS.
5. THE CONTRACTOR SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS.
6. ALL WORK ON STATE, COUNTY, OR CITY RIGHT-OF-WAY INCLUDING DRIVEWAY APRONS, WATER AND SEWER TAPS OR ANY OTHER WORK REQUIRES AN ENCROACHMENT PERMIT FROM THE APPROPRIATE AGENCY.
7. ANY MATERIAL DEMOLISHED AS INDICATED ON THIS PLAN IS BE HAULED OFF-SITE TO AN APPROVED LANDFILL.
8. DURING CONSTRUCTION THE PROJECT SITE SHALL COMPLY WITH FIRE DEPARTMENT GUIDELINES FOR EMERGENCY VEHICLE ACCESS.
9. SIGHT DISTANCE INFORMATION NOTE: AREAS WITHIN THE SIGHT TRIANGLE ARE TO BE CLEAR OF LANDSCAPING, SIGNS OR OTHER VISIBILITY OBSTRUCTIONS PER JURISDICTIONAL REQUIREMENTS.
10. THE CONTRACTOR IS RESPONSIBLE FOR ANY CURB & GUTTER AND PAVEMENT DAMAGE DURING CONSTRUCTION. OWNER WILL NOT PAY FOR REPAIRS DUE TO FAILURE TO PROTECT AND OBSERVE EXISTING CONCRETE CURB & GUTTER AND PAVEMENT.
11. A MINIMUM STREET WIDTH OF 20 FEET SHALL BE MAINTAINED AT ALL TIMES BOTH DURING AND AFTER CONSTRUCTION.
12. A 36 INCH CLEAR SPACE SHALL BE MAINTAINED AROUND ALL HYDRANTS AT ALL TIMES BOTH DURING AND AFTER CONSTRUCTION. WATER SHALL BE ON ALL HYDRANTS PRIOR TO ANY BUILDING CONSTRUCTION.

# GRADING AND DRAINAGE NOTES

1. TOPOGRAPHIC SURVEY & BOUNDARY VERIFICATION BY : LAWRENCE ASSOCIATES ON AUGUST 17, 2017.
2. LIMITS OF CLEARING SHOWN ON GRADING PLAN AS LIMITS OF DISTURBANCE ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
3. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THIS DEVELOPMENT AS INDICATED ON SHEETS (C-300 THRU C-301)
4. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REPRESENT THE TOP BACK OF CURB ELEVATION UNLESS OTHERWISE NOTED.
5. EXISTING AND PROPOSED CONTOURS ARE AT ONE FOOT INTERVALS.
6. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, TRENCHING, OR OTHER LAND DISTURBING ACTIVITY SHALL BE PERMITTED BEYOND LIMITS OF DISTURBANCE.
7. CONTRACTOR TO COORDINATE ALL CURB AND STREET GRADES IN INTERSECTION WITH INSPECTOR AND NCDOT.
8. OWNER SHALL EMPLOY THE SERVICES OF AN INDEPENDENT TESTING LABORATORY (ITL) TO DETERMINE THE SUITABILITY OF THE SOILS FOR INTENDED USE. CONTRACTOR SHALL SCHEDULE THESE SERVICES. UNSUITABLE SOIL SHALL BE UNDERCUT AS DIRECTED BY THE ITL, REPLACED, AND COMPACTED WITH APPROVED FILL MATERIAL.
9. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, WRITTEN PERMISSION MUST BE OBTAINED FROM AFFECTED PROPERTY OWNERS.
10. ALL CUT SLOPES ARE TO BE 2:1 MAXIMUM GRADE, UNLESS OTHERWISE NOTED IN PLANS AND DETAILS.
11. IN ORDER TO ENSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON CURB.
12. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
13. THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE, INCLUDING ANY GRADING WORK PERFORMED IN THE RIGHT-OF-WAY.
14. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.
15. THERE SHALL BE NO STANDING WATER BEFORE PERMANENT SEEDING OF PARCELS.
16. ALL BUILDING PADS ARE SLAB ON GRADE UNLESS OTHERWISE NOTED.
17. SEE CHARLOTTE WATER UTILITY PLANS FOR EASEMENT LOCATIONS.
18. DURING CONSTRUCTION THE PROJECT SITE SHALL COMPLY WITH FIRE DEPARTMENT GUIDELINES FOR EMERGENCY VEHICLE ACCESS.

## ADA ACCESSIBLE ROUTE INSTRUCTIONS TO CONTRACTOR

ALL CURB RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT OF 1990 AND REVISED ADA REGULATIONS IMPLEMENTING TITLE II AND TITLE III. ALL SIDEWALKS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS-SLOPE OF 2.0%. ALL CURB RAMPS AND SIDEWALKS WITHIN THE RIGHT OF WAY ARE TO MEET PROWAG STANDARDS.

# CITY OF CHARLOTTE GENERAL NOTES

1. COORDINATE ALL CURB AND STREET GRADES IN INTERSECTION WITH INSPECTOR.
2. DEVELOPER WILL PROVIDE STREET SIGNS PER CLDSM# 50.05 (9" SIGNS ONLY)
3. SIGHT TRIANGLES SHOWN ARE THE MINIMUM REQUIRED.
4. IN ROLLING AND HILLY TERRAINS, SWEEPING OF THE STONE BASE AND/OR APPLICATION OF A TACK COAT MAY BE REQUIRED NEAR INTERSECTIONS. THESE REQUIREMENTS WILL BE ESTABLISHED BY THE INSPECTOR AND BASED ON FIELD CONDITIONS.
5. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
6. IN ORDER TO ENSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON THE CURB.
7. SUBSURFACE DRAINAGE FACILITIES MAY BE REQUIRED IN THE STREET RIGHT-OF-WAY IF DEEMED NECESSARY BY THE INSPECTOR.
8. CURB AND GUTTER SHOWN ON PLANS ALONG MAY BE ADJUSTED BASED UPON FIELD STAKING BY CITY ENGINEERING. ASSOCIATED STORM DRAINAGE MAY ALSO REQUIRE MODIFICATION BASED UPON FIELD CONDITIONS.
9. THE PURPOSE OF THE STORM DRAINAGE EASEMENT (SDE) IS TO PROVIDE STORM WATER CONVEYANCE. BUILDINGS ARE NOT PERMITTED IN THE EASEMENT AREA. ANY OTHER OBJECTS WHICH IMPEDE STORM WATER FLOW OR SYSTEM MAINTENANCE ARE ALSO PROHIBITED.
10. HIGH-DENSITY POLYETHYLENE (HDPE) STORM DRAINAGE PIPE INSTALLED WITHIN EXISTING OR PROPOSED PUBLIC STREET RIGHT-OF-WAY MUST BE APPROVED BY THE CITY'S INSPECTOR PRIOR TO ANY BACKFILL BEING PLACED. BACKFILL MATERIAL MUST BE APPROVED BY THE CITY INSPECTOR PRIOR TO PLACEMENT OF THE MATERIAL WITHIN THE PUBLIC STREET RIGHT-OF-WAY.
11. THE DEVELOPER SHALL MAINTAIN EACH STREAM, CREEK, OR BACKWASH CHANNEL IN AN UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM ALL DEBRIS, LOGS, TIMBER, JUNK AND OTHER ACCUMULATIONS.
12. ANY BUILDING WITHIN THE 100+1 STORMWATER ELEVATION LINE IS SUBJECT TO THE RESTRICTIONS OF THE (CITY OF CHARLOTTE/MECKLENBURG COUNTY) SUBDIVISION ORDINANCE, SECTION 7.200.8.
13. ANY CONSTRUCTION OR USE WITHIN THE FUTURE CONDITIONS FLOOD FRINGE LINE IS SUBJECT TO THE RESTRICTIONS IMPOSED BY THE FLOODWAY REGULATIONS OF THE CITY OF CHARLOTTE AND MECKLENBURG COUNTY.
14. PROFESSIONAL ENGINEER SEALED SHOP DRAWINGS FOR RETAINING WALL MUST BE SUBMITTED TO CITY ENGINEER PRIOR TO CONSTRUCTION.
15. "AS-BUILT" DRAWINGS AND PLANS OF THE STORM DRAINAGE SYSTEM, INCLUDING DESIGNED DITCHES, MUST BE SUBMITTED PRIOR TO SUBDIVISION FINAL INSPECTION TO THE CITY/COUNTY ENGINEERING DEPARTMENT IN ACCORDANCE WITH THE CITY/COUNTYSUBDIVISION ORDINANCE.
16. PRIOR TO CO, SURVEYOR SEALED AS-BUILT DRAWINGS OF ALL WATER QUALITY BMP'S AND DETENTION SYSTEMS MUST BE PROVIDED.
17. PRIOR TO PLAT RECORDATION, OFFSITE R/W AND/OR CONSTRUCTION EASEMENTS ARE REQUIRED TO BE OBTAINED ACCORDING TO THE GUIDELINES OF THE "OFFSITE R/W ACQUISITION PROCESS". THESE NEEDED R/W AND CONSTRUCTION LIMITS ARE CLEARLY SHOWN ON THE ROADWAY IMPROVEMENT PLAN.
18. PER SECTION 18-175(E) OF CITY CODE AND SECTION 10.0 OF THE CITY'S POST CONSTRUCTION CONTROLS ADMINISTRATIVE MANUAL, ALL REQUIRED NATURAL AREAS AND/OR POST CONSTRUCTION CONTROLS EASEMENTS (PCCES) MUST BE RECORDED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
19. THE DEVELOPER SHALL CONTACT THE CHARLOTTE DEPARTMENT OF TRANSPORTATION (GUS JORDI, 704-336-7086) TO IDENTIFY ANY CONFLICTS WITH TRAFFIC SIGNALIZATION EQUIPMENT. 60- 90 DAYS WILL BE REQUIRED TO COORDINATE RELOCATION. DEVELOPER SHALL BE RESPONSIBLE FOR ALL RELATED RELOCATION COST AND/OR ANY REPAIR COST CAUSED BY THE CONTRACTOR/DEVELOPER.
20. DEVELOPER SHALL BE RESPONSIBLE FOR ALL RELATED RELOCATION COST AND/OR ANY REPAIR COST CAUSED BY THE CONTRACTOR/DEVELOPER.
21. CERTIFICATION AND STREET CUT PERMITS ARE REQUIRED FOR UTILITY CUTS ON CITY STREETS. ALLOW 7 DAYS PROCESSING FOR PERMIT. FOR INFORMATION CONTACT CHARLOTTE DEPARTMENT OF TRANSPORTATION (704-336-4025) OR VISIT HTTP://WWW.CHARMECK.ORG/DEPARTMENTS/TRANSPORTATION/STREET+MAINTENANCE/HOME.HTM
22. NON-STANDARD ITEMS (IE: PAVERS, IRRIGATION SYSTEMS, ETC.) IN THE RIGHT-OF-WAY REQUIRE A RIGHT-OF-WAY ENCROACHMENT AGREEMENT WITH THE CHARLOTTE DEPARTMENT OF TRANSPORTATION/NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BEFORE INSTALLATION. FOR CITY OF CHARLOTTE MAINTAINED STREETS, CONTACT CDOT AT (704) 336-3888.
23. SIDEWALK WITHIN THE CITY'S R/W THAT REQUIRES REPLACEMENT AS PART OF THE DEVELOPMENT AND/OR STREET IMPROVEMENTS SHOULD BE PHASED IN SUCH A WAY AS TO MINIMIZE THE DURATION OF THE SIDEWALK CLOSURE TO THE EXTENT FEASIBLE. THE DEVELOPER SHOULD MAKE EVERY ATTEMPT TO HAVE SIDEWALK REPAIRED AND REOPENED FOR PUBLIC USE WITHIN 30 DAYS OF REMOVAL.
24. ANY WORK WITHIN THE CITY'S R/W THAT REQUIRES CLOSURE OF THE SIDEWALK OR TRAVEL LANE MUST BE APPROVED BY CDOT AND WILL REQUIRE A R/W USE PERMIT OR R/W LEASE DEPENDING UPON THE PROPOSED DURATION OF CLOSURE. THESE APPROVALS ARE IN ADDITION TO SITE APPROVALS AND SHOULD BE COORDINATED WITH CDOT PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT CDOT AT (704) 432-1562 AT LEAST 5 BUSINESS DAYS PRIOR TO BEGINNING WORK FOR IMPACTS LESS THAN 30 DAYS. CONTRACTOR SHALL CONTACT CDOT AT (704) 336-8348 AS SOON AS POSSIBLE FOR IMPACTS GREATER THAN 30 DAYS. EVERY EFFORT SHALL BE MADE TO CONSTRUCT IMPROVEMENTS WITH MINIMAL IMPACT TO DRIVERS AND PEDESTRIANS.
25. RIGHT-OF-WAY CLOSURES LONGER THAN 30 DAYS REQUIRE A R/W LEASE AGREEMENT WHICH WILL INCLUDE THE SUBMITTAL OF A TRAFFIC CONTROL PLAN. TRAFFIC CONTROL PLANS REQUIRED THROUGH A LEASE AGREEMENT MAY BE DIFFERENT FROM THE ONE REQUIRED DURING THE LAND DEVELOPMENT PLAN REVIEW AND ARE SUBJECT TO REVISIONS. THE REVISED TRAFFIC CONTROL PLANS MUST BE SUBMITTED AS PART OF THE LEASE AGREEMENT PROCESS FOR APPROVAL PRIOR TO START OF R/W CLOSURES. CONTRACTOR SHALL CONTACT CDOT AT (704) 336-8348.
26. CONSTRUCTION STAGING WITHIN CITY R/W LASTING MORE THAN 30 DAYS REQUIRES A R/W LEASE AGREEMENT. CONTRACTOR SHALL CONTACT CDOT AT (704) 336-8348.
27. DEVELOPER TO CONTACT CDOT (ANTHONY MENDEZ: 704-336-4971) DURING SITE PLAN PREPARATION TO DISCUSS STREET LIGHTING REQUIREMENTS, IF ANY, FOR THIS PROJECT. COORDINATE WITH DUKE ENERGY AND CDOT AS NECESSARY TO DETERMINE LIGHTING LEVELS, LIGHTING LAYOUT AND REQUIREMENTS FOR INSTALLATION.

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CAMBRIDGE PROPERTIES

GENERAL NOTES SHEET
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
SEAL 033448

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
GENERAL NOTES SHEET

SHEET NUMBER
C-101

Plot Stamp: 7/12/2018 2:13:02 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-101 NOTES SHEET.dwg, Tab: Layout1


## LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- ADJACENT PARCEL
- EASEMENT
- EDGE OF PAVEMENT (EP)
- GRAVEL DRIVE
- FENCE
- SIGN
- TREELINE
- STREAM
- POND
- RIPARIAN BUFFER LIMITS
- CONTOURS
- OVERHEAD POWER
- UNDERGROUND POWER
- POWER POLE
- GUY WIRE
- LIGHT POLE
- ELECTRIC METER
- FIBER OPTIC CABLE
- SANITARY SEWER
- SANITARY SEWER MANHOLE
- MONITORING WELL
- WATER MAIN
- HYDRANT OR FDC
- WATER VALVE
- WATER METER
- GAS LINE
- GAS VALVE
- STORM PIPE
- STORM STRUCTURE
- WETLANDS
- LIMITS OF DISTURBANCE
- PROPOSED DEMOLITION - BUILDINGS, CONCRETE, AND PAVEMENT, ETC...
- PROPOSED DEMOLITION - VEGETATION TO BE CLEARED
- ITEM TO BE REMOVED

ADJACENT PROPERTY OWNERS

1. CAUTHEN, JAMES CLARKE
TAX PARCEL ID: 227-60-108
DB: 7148, PG: 743
ZONING: R-20

2. CAUTHEN, WILLIAM DAVIS
TAX PARCEL ID: 227-60-107
DB: 7148, PG: 743
ZONING: R-20

3. WINDSOR RUN, LLC
TAX PARCEL ID: 227-60-105
DB: 29150, PG: 416
ZONING: R-20

4. WALTON, ROBIN D. & GREGORY J.
TAX PARCEL ID: 231-21-162
DB: 31958, PG: 436
ZONING: R-3

5. KENNEDY, JOHN A. & CHRISTINE A.
TAX PARCEL ID: 231-21-161
DB: 27739, PG: 431
ZONING: R-3

6. SEALS, STEPHEN J. & DEBORAH A.
TAX PARCEL ID: 231-21-160
DB: 30150, PG: 366
ZONING: R-3

7. GETTYS, ROBERT W. & JULIE A.
TAX PARCEL ID: 231-21-159
DB: 22458, PG: 561
ZONING: R-3

8. SCHACKMAN, JOSEPH A. & ERIN E.
TAX PARCEL ID: 231-21-158
DB: 32215, PG: 685
ZONING: R-3

9. BOONE, DAVID L. & LAURA K. N.
TAX PARCEL ID: 231-21-157
DB: 19517, PG: 524
ZONING: R-3

10. DABROWIAK, ROBERT P. & CAROLYN M.
TAX PARCEL ID: 231-21-156
DB: 30045, PG: 46
ZONING: R-3

11. DOROTHY M. D. STEWART REVOCABLE TRUST
TAX PARCEL ID: 231-21-155
DB: 32236, PG: 190
ZONING: R-3

12. JOHNSON, LESLIE H. & MARIANNE
TAX PARCEL ID: 231-21-154
DB: 17622, PG: 766
ZONING: R-3

13. PETREA, MARIA B.
TAX PARCEL ID: 231-21-153
DB: 16393, PG: 686
ZONING: R-3

14. BEIGHTOL, MARK A. & LORELEI D.
TAX PARCEL ID: 231-21-152
DB: 28513, PG: 573
ZONING: R-3

15. BUTLER, CLARENCE T. & DEBORAH K.
TAX PARCEL ID: 231-21-151
DB: 10659, PG: 963
ZONING: R-3

16. SCHNEIDER, RICHARD L. & ANGELA J.
TAX PARCEL ID: 231-21-150
DB: 29448, PG: 60
ZONING: R-3

17. THE ALTER LIVING TRUST
TAX PARCEL ID: 231-21-149
DB: 26141, PG: 85
ZONING: R-3

18. CUSICK, THOMAS E.
TAX PARCEL ID: 231-21-209
DB: 32082, PG: 293
ZONING: R-3

19. MATTHEWS GROVE HOA, INC.
TAX PARCEL ID: 231-21-679
DB: 23240, PG: 687
ZONING: R-3

20. COLLINS, EARL B.
TAX PARCEL ID: 231-21-618
DB: 31051, PG: 894
ZONING: R-3

21. PAYAN, HOMAYOUN & RAKSHANI, MARJAN
TAX PARCEL ID: 231-21-627
DB: 28847, PG: 52
ZONING: R-3

22. BERNAL, AMILCAR & LESLIE
TAX PARCEL ID: 231-21-626
DB: 18818, PG: 476
ZONING: R-3

23. MSM PROPERTIES, LLC
TAX PARCEL ID: 231-21-625
DB: 20345, PG: 355
ZONING: R-3

24. BROWN, RICHARD W.
TAX PARCEL ID: 231-21-624
DB: 18525, PG: 461
ZONING: R-3

25. DRAKE, RORY W. & KIMBERLY F.
TAX PARCEL ID: 231-21-623
DB: 18524, PG: 871
ZONING: R-3

26. WILLIAMS, ROBERT L. & MONICA C.
TAX PARCEL ID: 231-21-622
DB: 18605, PG: 481
ZONING: R-3

N

0 50 100 200

1 INCH = 100 FEET


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CAMBRIDGE PROPERTIES

# EXISTING CONDITIONS & DEMO PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

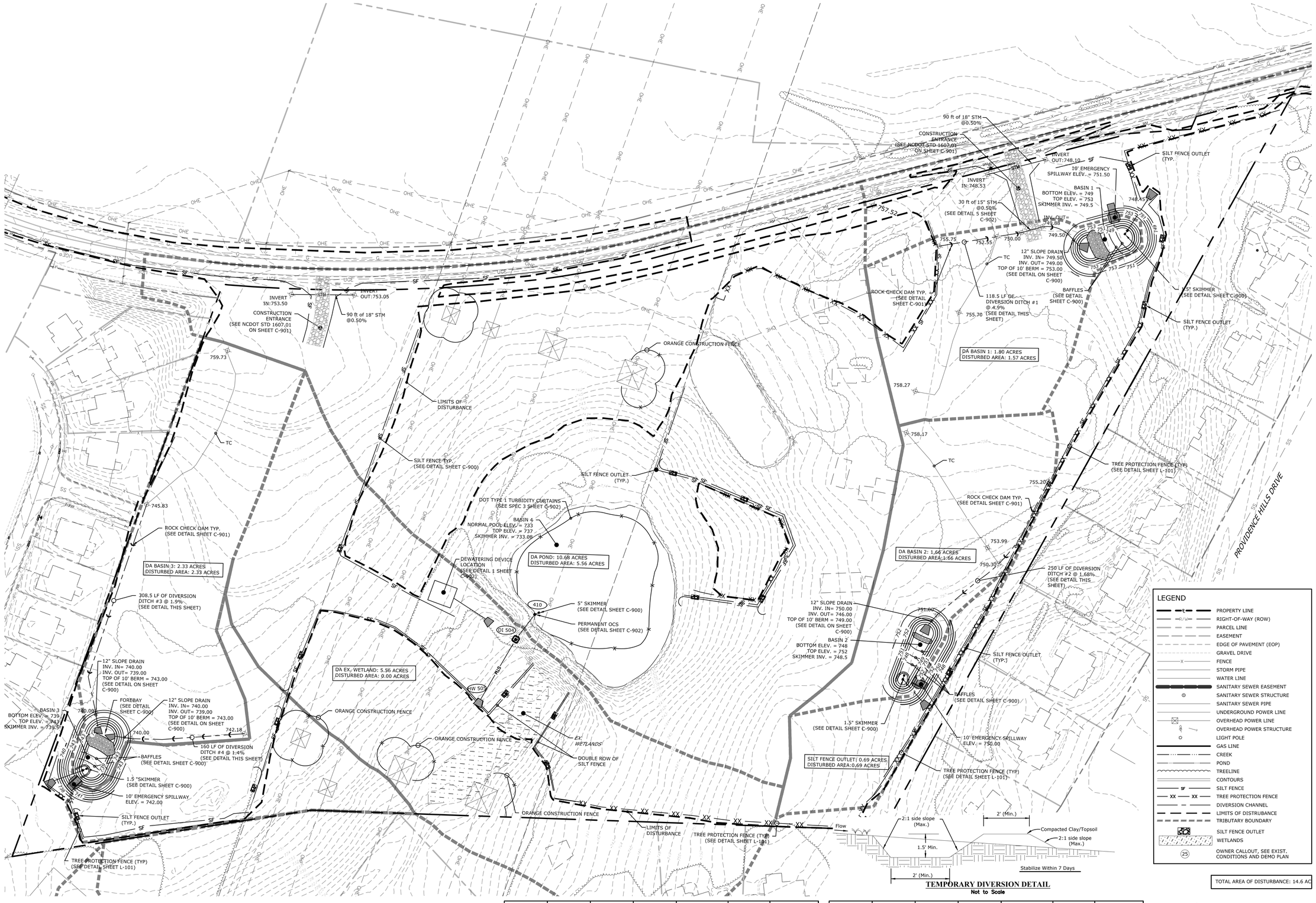
SHEET TITLE

EXISTING CONDITIONS & DEMO PLAN

SHEET NUMBER

C-200

Plot Stamp: 7/12/2018 2:13:10 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-200 EXISTING CONDITIONS & DEMO PLAN.dwg, Tab: C-200 EXISTING CONDITIONS & DEMOLITION PLAN




| DIVERSION DITCH | DRAINAGE AREA (ACRES) | 10-YR Q (CFS) | DEPTH (FT) | BOTTOM WIDTH (FT Min,) | SLOPE (%) | TEMPORARY LINING |
|---|---|---|---|---|---|---|
| 4 | 0.37 | 0.774 | 1.5 | 2 | 1.4 | Synthetic Mat |

| DIVERSION DITCH | DRAINAGE AREA (ACRES) | 10-YR Q (CFS) | DEPTH (FT) | BOTTOM WIDTH (FT Min,) | SLOPE (%) | TEMPORARY LINING |
|---|---|---|---|---|---|---|
| 3 | 1.65 | 3.11 | 1.5 | 2 | 1.9 | Synthetic Mat |
| 2 | 1.13 | 2.24 | 1.25 | 2 | 1.68 | Synthetic Mat |
| 1 | 1.80 | 2.57 | 1.0 | 2 | 4.9 | Synthetic Mat |

* ALL DIVERSION DITCHES ARE TEMPORARY. DIVERSION CHANNEL MIN. SLOPE = 0.5%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CAMBRIDGE PROPERTIES

# EROSION CONTROL PHASE 1
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
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07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

EROSION CONTROL PHASE 1

SHEET NUMBER

C-300


Plot Stamp: 7/12/2018 2:13:21 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-300 EROSION CONTROL PHASE 1.dwg, Tab: 2 C-300 EROSION CONTROL PHASE 1 - Layout1

Plot Stamp: 7/12/2018 2:13:38 PM - Shane Finn
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CAMBRIDGE PROPERTIES

# EROSION CONTROL PHASE 2
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

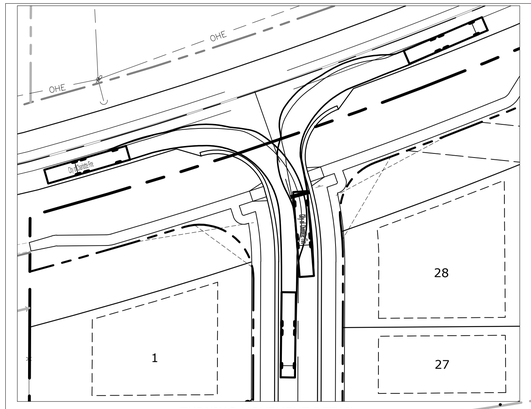
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

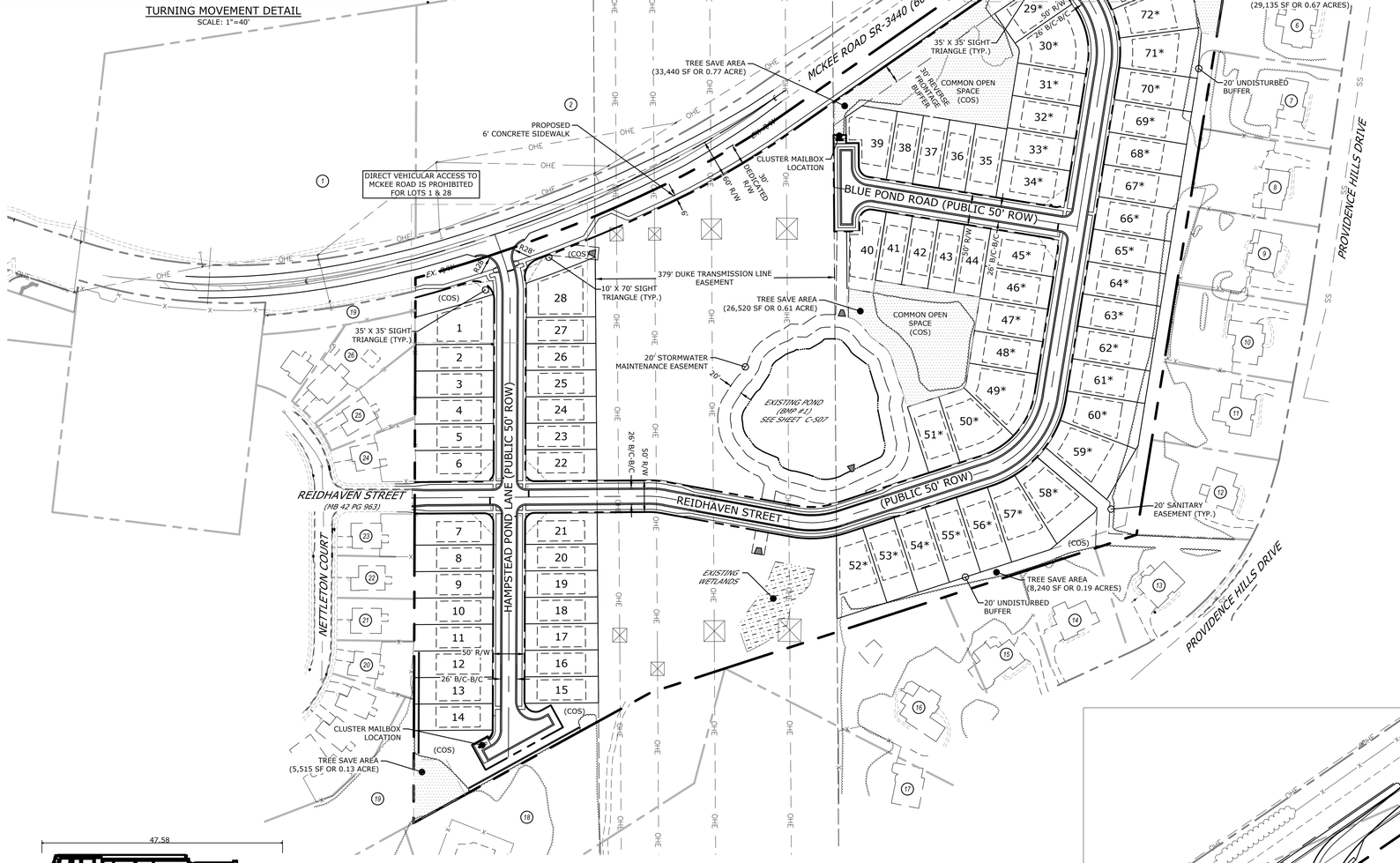
EROSION CONTROL PHASE 2

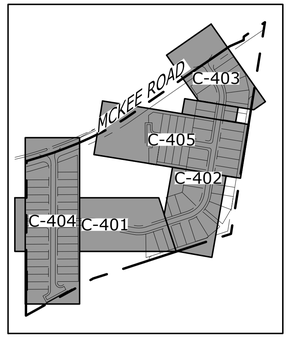
SHEET NUMBER

C-301




TURNING MOVEMENT DETAIL
SCALE: 1"=40'



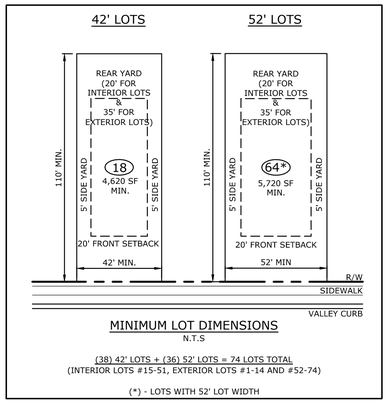

INDEX MAP
SCALE: 1"=400'

## LEGEND

- PROPERTY LINE
- ADJACENT PARCEL
- EASEMENT
- RIGHT OF WAY
- BACK OF CURB (BC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
- CONCRETE SIDEWALK
- PARCEL LINE
- SETBACK LINE
- STORMWATER EASEMENT
- SANITARY SEWER EASEMENT
- LANDSCAPE BUFFER
- TREELINE
- STREAM / CREEK
- WETLANDS
- TREE SAVE AREA

*REFER TO SHEET C-200 FOR ADJACENT PROPERTY OWNER INFORMATION.

| | | |
|---|---|---|
| COMMON OPEN SPACE REQUIRED: | 2.6 | AC. |
| COMMON OPEN SPACE PROVIDED: (168,350 SQ. FT) | 3.86 | AC. |
| COMMON OPEN SPACE WITHIN UTILITY EASEMENTS AND R/W: (290,697 *.25 = 72,674 SQ. FT.) | 1.67 | AC. |
| TOTAL COMMON OPEN SPACE PROVIDED: | 5.53 | AC. |




MINIMUM LOT DIMENSIONS
N.T.S

(38) 42' LOTS + (36) 52' LOTS = 74 LOTS TOTAL
(INTERIOR LOTS #15-51, EXTERIOR LOTS #1-14 AND #52-74)

(*) - LOTS WITH 52' LOT WIDTH

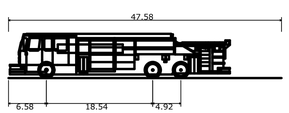
**PROJECT DATA TABLE**

| | |
|---|---|
| OWNER: | PIRAINO BROTHERS, LLC<br>5137 S PARVIEW DR, CHARLOTTE, NC 28226 |
| DEVELOPER INFO: | CAMBRIDGE PROPERTIES<br>831 EAST MOREHEAD STREET, CHARLOTTE, NC 28202<br>TEL. (704) 333-2393 |
| CONTACT: | ANDREW MCDONALD |
| EMAIL: | AJM@CAMBRIDGEPROP.COM |
| SITE ADDRESS: | 1501 MCKEE ROAD, MATTHEWS, NC 28105 |
| GROSS SITE AREA: | 25.5 ACRES |
| P.I.D. No.: | 23121168 |
| DEED BOOK/ PAGE: | 23180/987 |
| EXISTING ZONING: | R-5 (CD) |
| EXISTING OVERLAY(S): | N/A |
| EXISTING USE: | VACANT PROPERTY |
| PROPOSED USE: | RESIDENTIAL SUBDIVISION R-5 (CD) |
| PROPOSED # OF LOTS: | 74 LOTS |
| TOTAL # OF LOTS: | 42' LOTS: 53<br>52' LOTS: 22 |
| MINIMUM LOT SIZE: | 42' LOT: 4,500 SF |
| BUILDING SETBACKS REQUIRED: | |
| FRONT | 20 FT. |
| CORNER | 13 FT. |
| SIDE | 5 FT. |
| REAR | 20 FT. INTERNAL<br>35 FT. EXTERNAL |
| MAX. BUILDING HEIGHT: | 40 FT. |
| SITE DEVELOPMENT AREA: | 25.5 ACRES<br>- 5.79 ACRES (DUKE R/W)<br>- 0.97 ACRES (EX. POND)<br>- 1.05 ACRES MCKEE ROAD DED. R/W<br>- 3.54 ACRES PROPOSED ROAD R/W<br>- 0.63 ACRES DED. UTILITY ESMTS.<br>= 13.52 ACRES |
| REQUIRED TREE SAVE AREA: | 2.03 ACRES<br>(15% OF SITE DEVELOPMENT AREA) |
| PROVIDED TREE SAVE AREA: | 2.18 ACRES |
| REQUIRED OPEN SPACE: | 2.6 ACRES<br>(10% OF GROSS SITE AREA) |
| PROVIDED OPEN SPACE: | 5.53 ACRES (21.7%) |

FLOOD ZONE

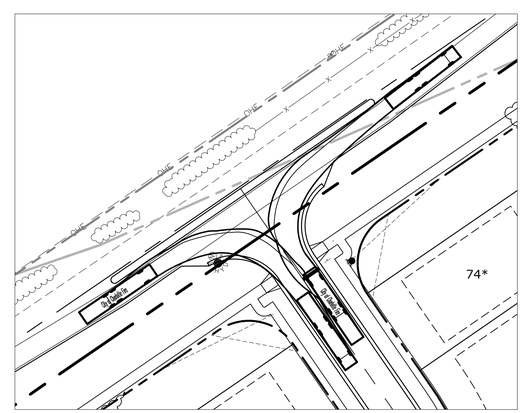
BASED ON THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP PANEL NUMBER 3710448800K, DATED FEBRUARY 19, 2014. THE HEREON DESCRIBED PROPERTY IS LOCATED IN ZONE "X".

| | |
|---|---|
| WATERSHED | TWELVE MILE CREEK |
| DRAINAGE BASIN | CATAWBA RIVER |




CITY OF CHARLOTTE FIRE

| | |
|---|---|
| Overall Length | 47.580ft |
| Overall Width | 8.000ft |
| Overall Body Height | 7.715ft |
| Min Body Ground Clearance | 0.627ft |
| Track Width | 8.000ft |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 33.30° |




TURNING MOVEMENT DETAIL
SCALE: 1"=40'

N

0 50 100 200

1 INCH = 100 FEET

Plot Stamp: 7/12/2018 2:13:52 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-400 SITE PLAN.dwg, Tab: C-400 SITE PLAN

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TEL: (704) 927- 9700 www.cardno.com

CAMBRIDGE PROPERTIES

# SITE PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

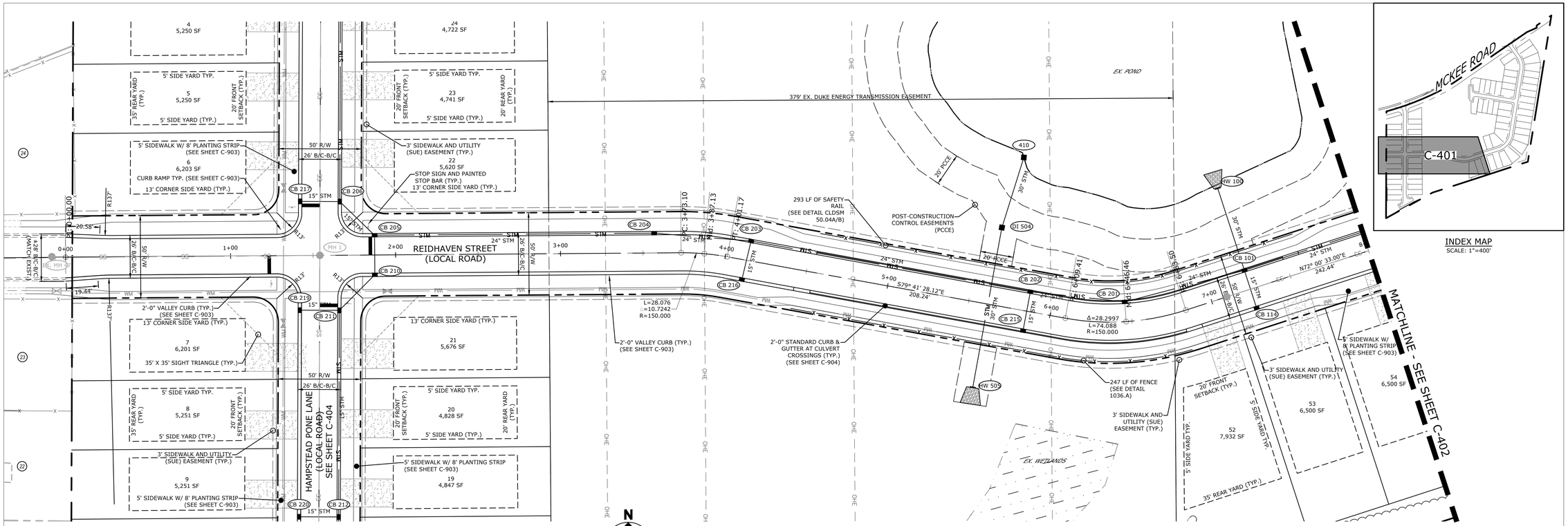
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

SITE PLAN

SHEET NUMBER

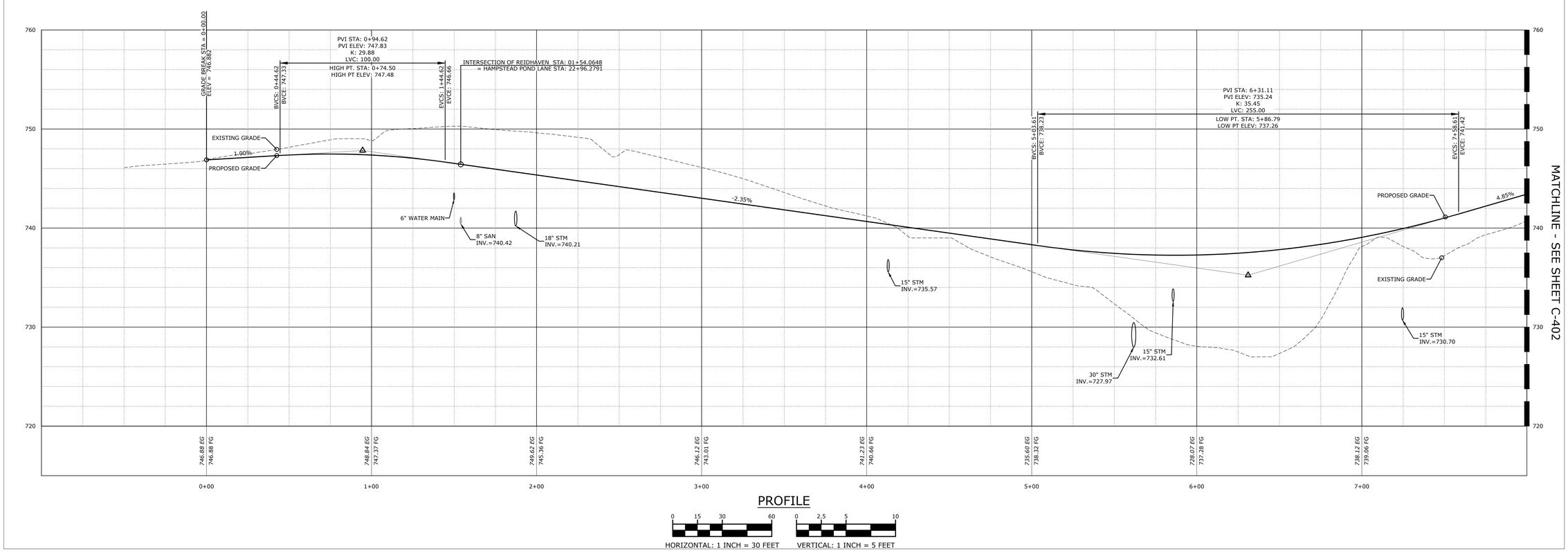
C-400







INDEX MAP
SCALE: 1"=400'





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CAMBRIDGE PROPERTIES

# REIDHAVEN ST PLAN & PROFILE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

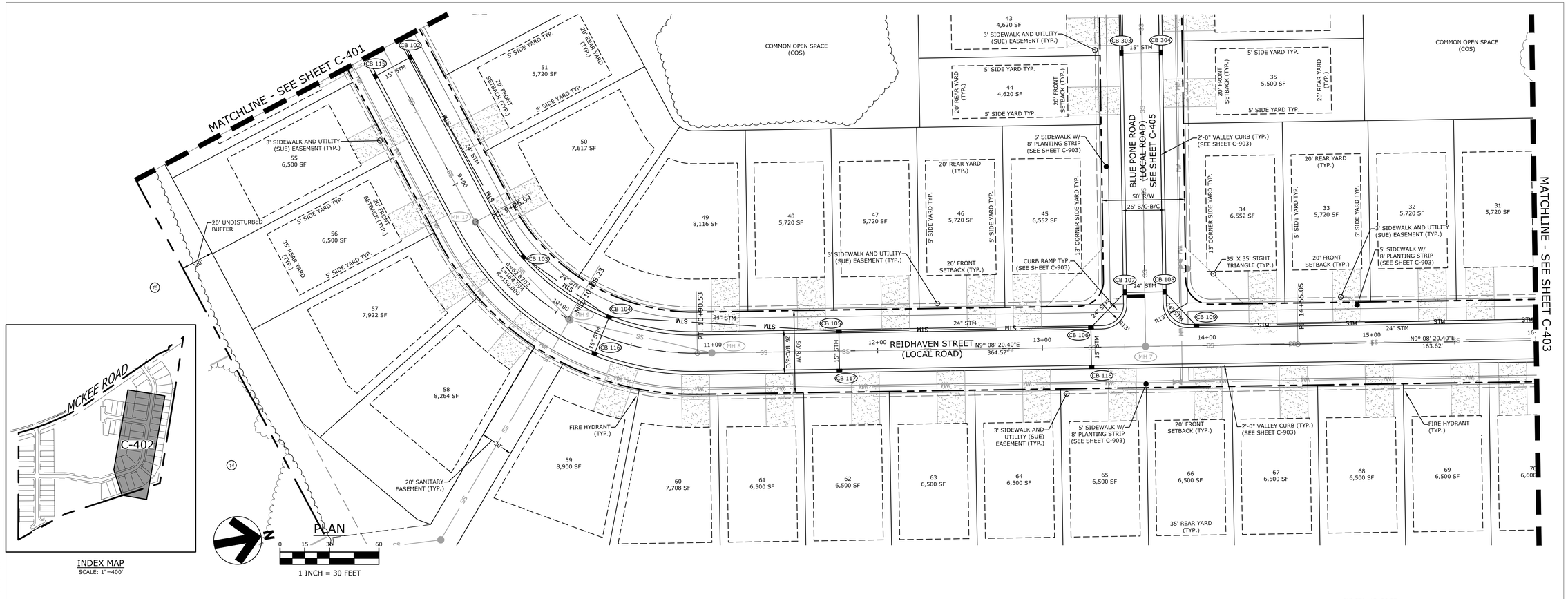
SHEET TITLE

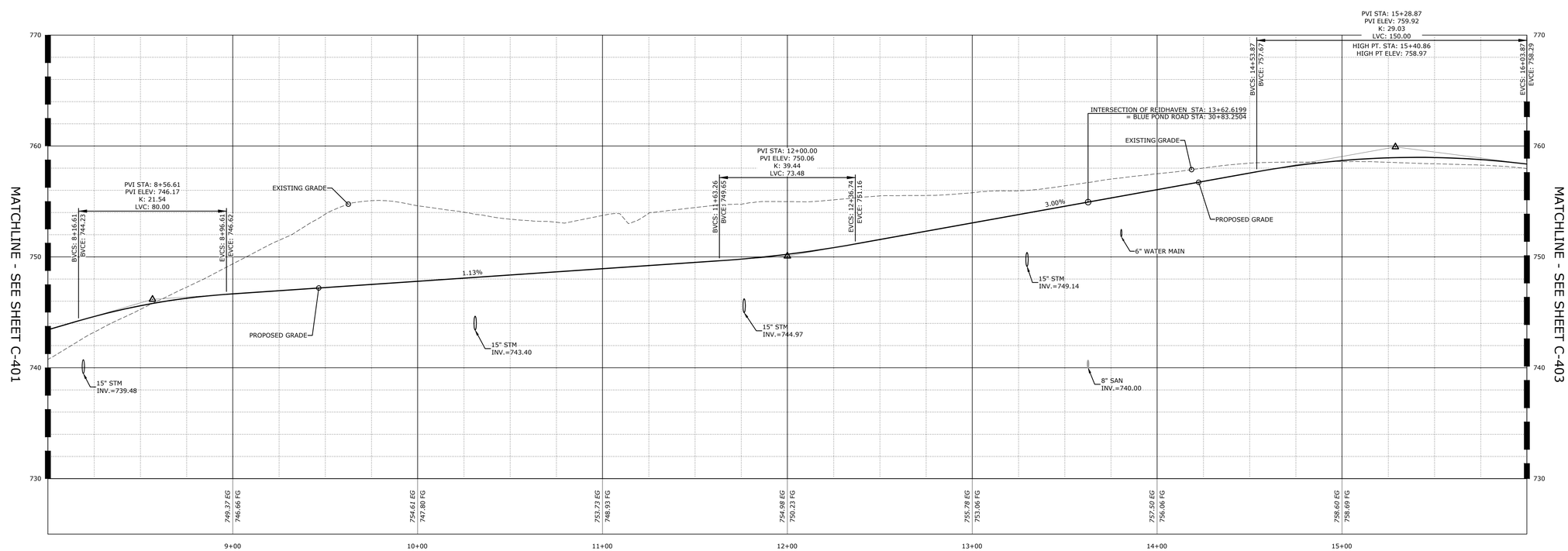
REIDHAVEN ST PLAN & PROFILE

SHEET NUMBER

C-401

Plot Stamp: 7/12/2018 2:14:09 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-401 REIDHAVEN ST PLAN AND PROFILES.dwg, Tab: C-401 REIDHAVEN ST PLAN & PROFILE

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File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-401 REIDHAVEN ST PLAN AND PROFILES.dwg, Tab: C-402 REIDHAVEN ST PLAN & PROFILE


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CAMBRIDGE PROPERTIES

# REIDHAVEN ST PLAN & PROFILE
# THE POND AT MCKEE GLEN
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## CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

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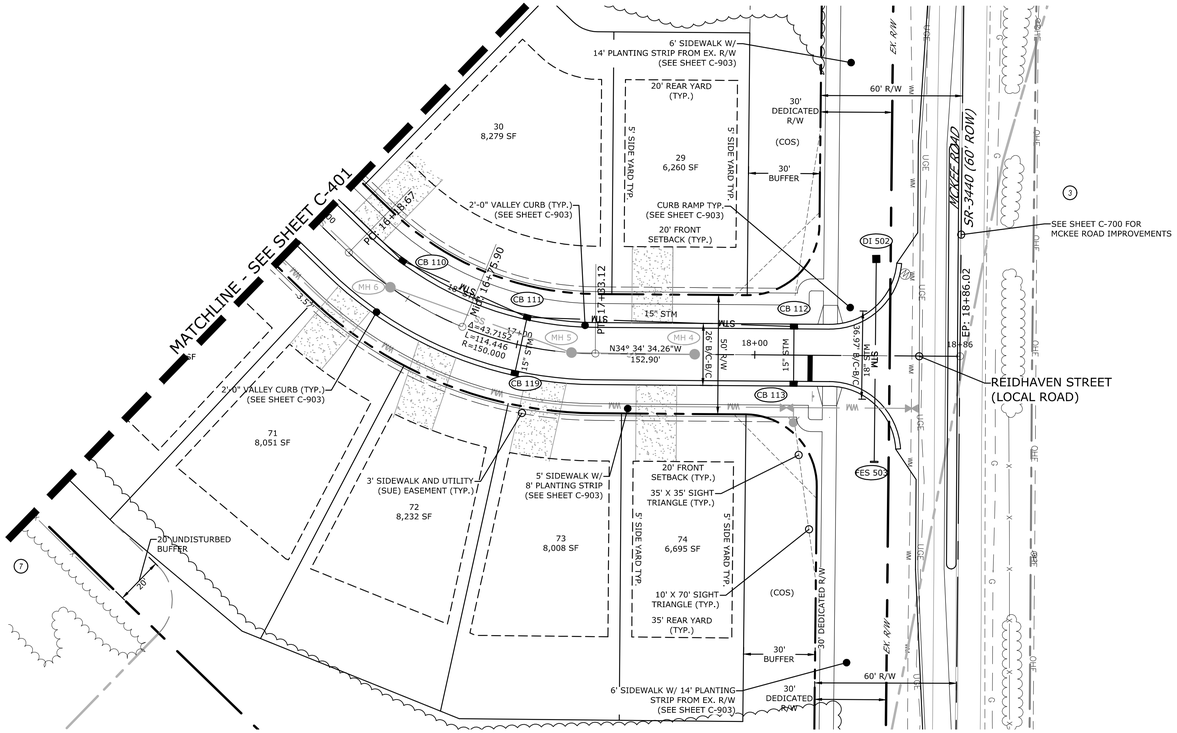
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

REIDHAVEN ST PLAN & PROFILE

SHEET NUMBER

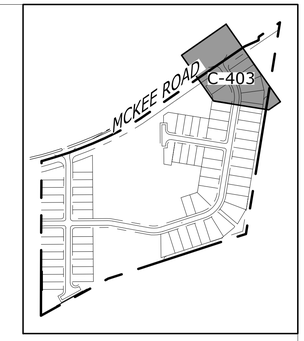
C-402




PLAN

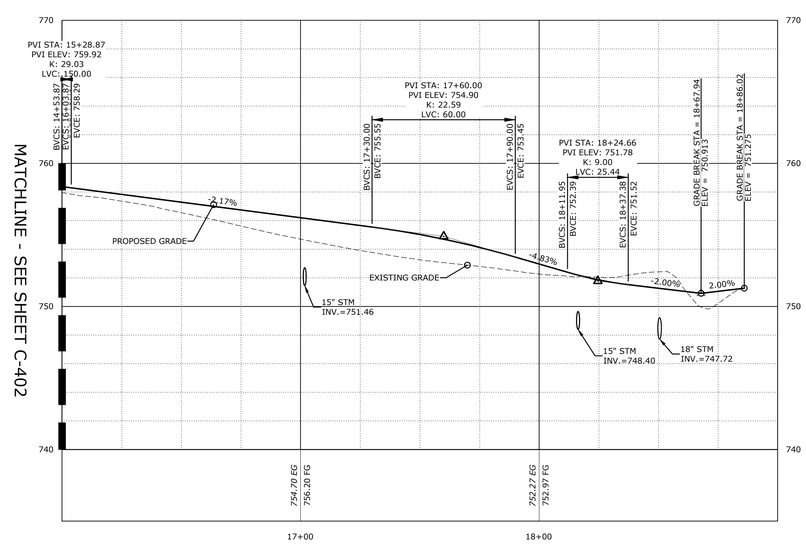
0 15 30 60

1 INCH = 30 FEET




INDEX MAP

SCALE: 1"=400'




PROFILE

0 15 30 60

HORIZONTAL: 1 INCH = 30 FEET

0 2.5 5 10

VERTICAL: 1 INCH = 5 FEET

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CAMBRIDGE PROPERTIES

REIDHAVEN ST PLAN & PROFILE
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

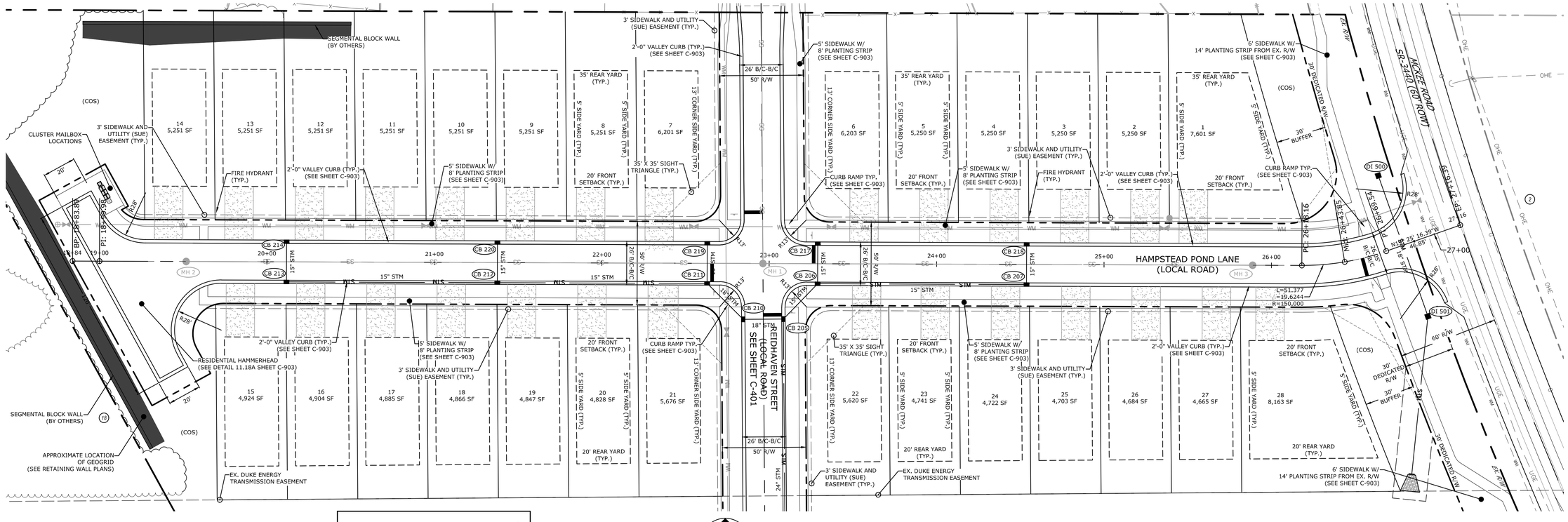
SHEET TITLE

REIDHAVEN ST PLAN & PROFILE

SHEET NUMBER

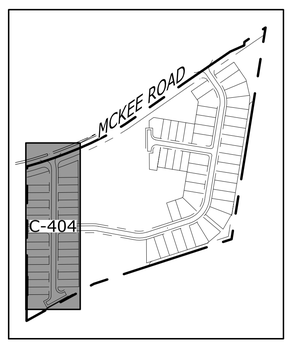
C-403

Plot Stamp: 7/12/2018 2:14:22 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-401 REIDHAVEN ST PLAN AND PROFILES.dwg, Tab: C-403 REIDHAVEN ST PLAN & PROFILE



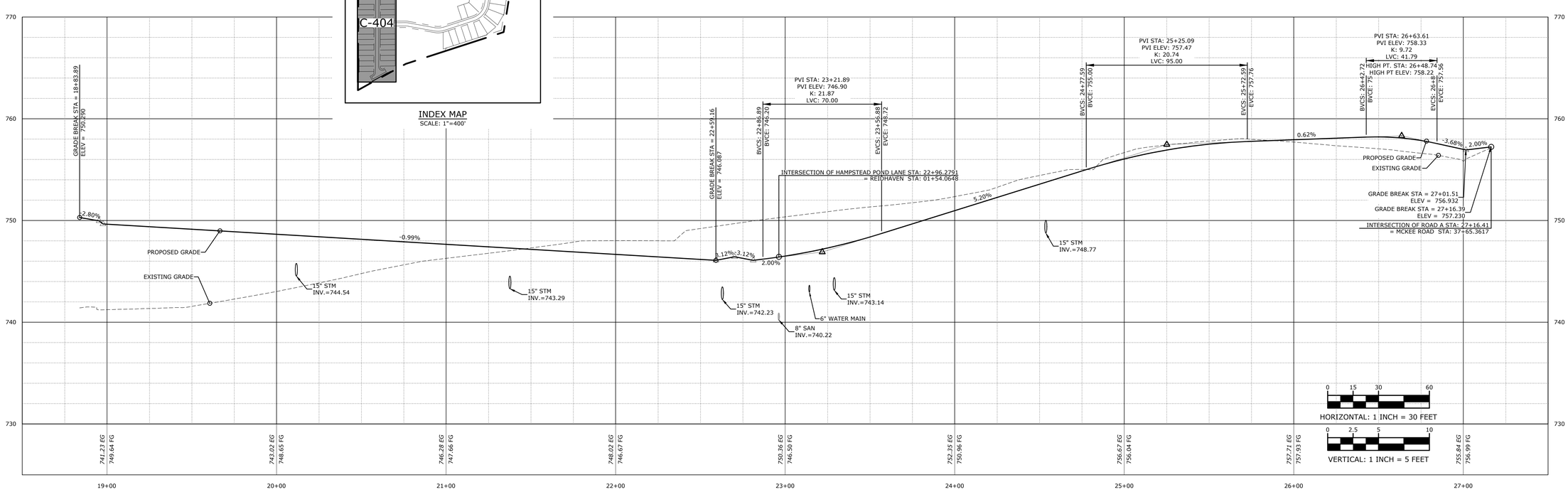

PLAN

1 INCH = 30 FEET




INDEX MAP

SCALE: 1"=400'




PROFILE

Plot Stamp: 7/12/2018 2:14:36 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-401 ROAD A PLAN AND PROFILES.dwg, Tab: C-404 HAMPSTEAD POND LANE PLAN & PROFILE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CAMBRIDGE PROPERTIES

# HAMPSTEAD POND LANE PLAN & PROFILE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

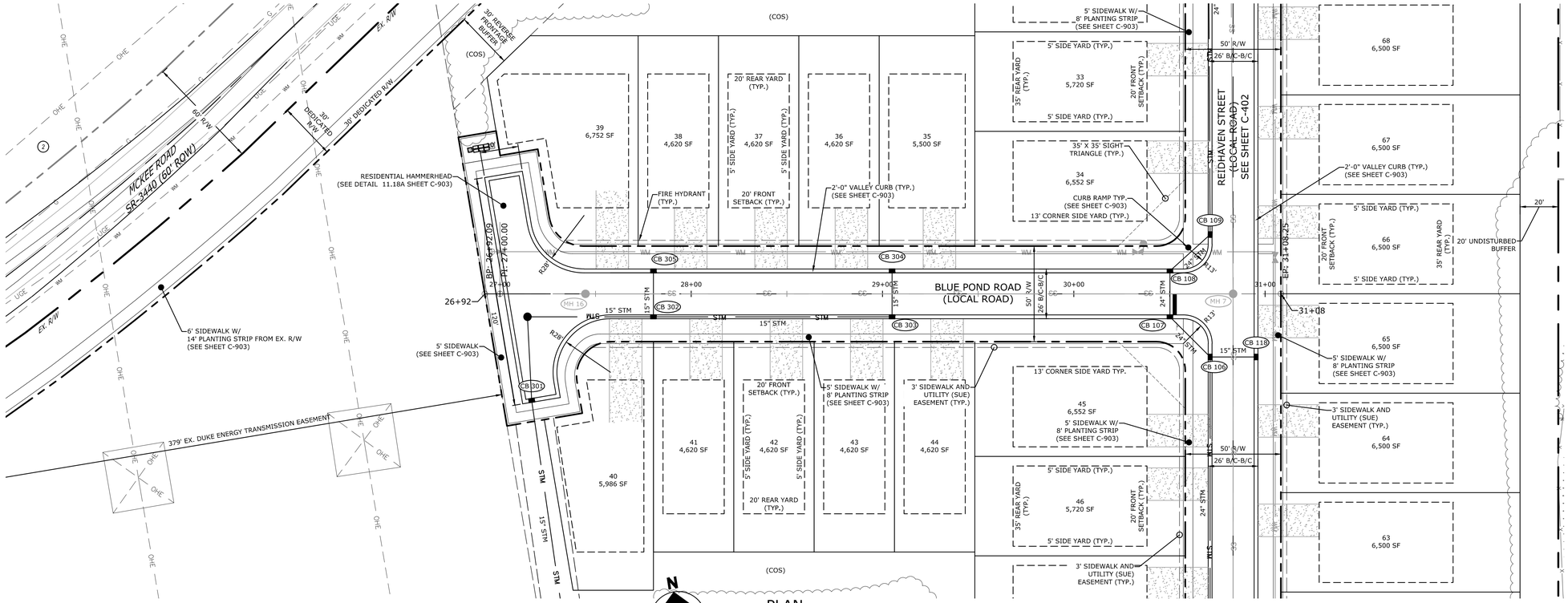
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

HAMPSTEAD POND LANE PLAN & PROFILE

SHEET NUMBER

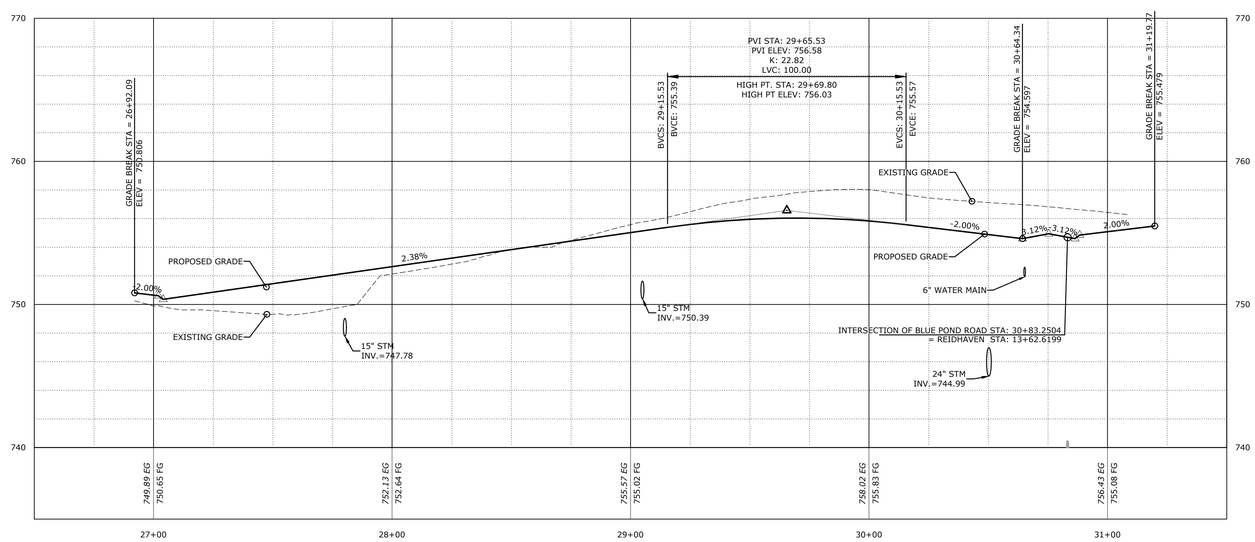
C-404




## PLAN

0 15 30 60

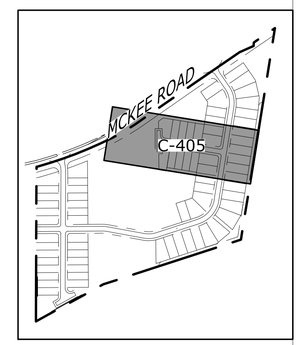
1 INCH = 30 FEET




## PROFILE

0 15 30 60 0 2.5 5 10

HORIZONTAL: 1 INCH = 30 FEET VERTICAL: 1 INCH = 5 FEET




INDEX MAP
SCALE: 1"=400'

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CAMBRIDGE PROPERTIES

# BLUE POND ROAD PLAN & PROFILE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

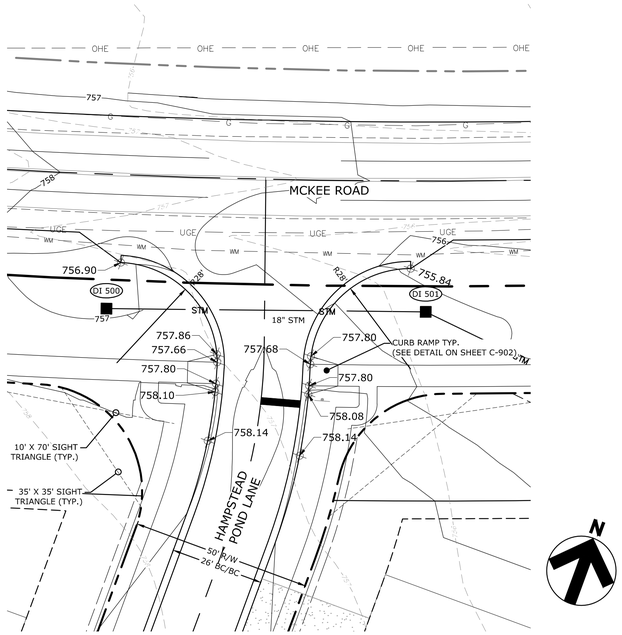
SHEET TITLE

BLUE POND ROAD PLAN & PROFILE

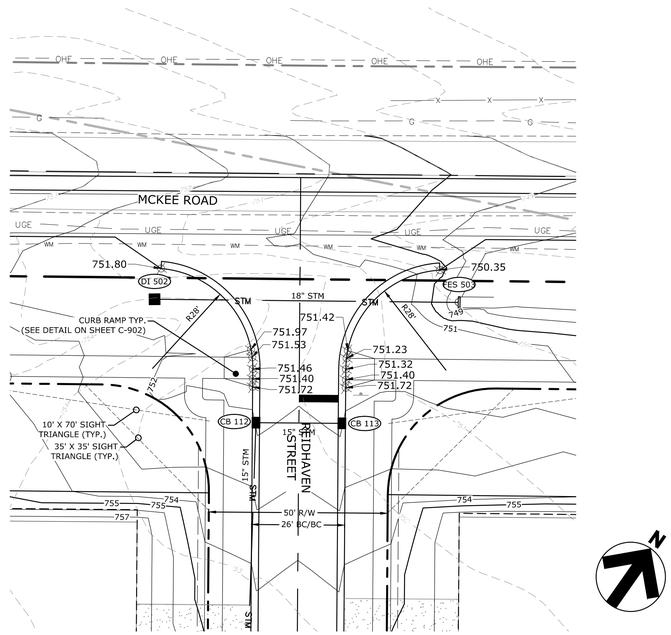
SHEET NUMBER

C-405

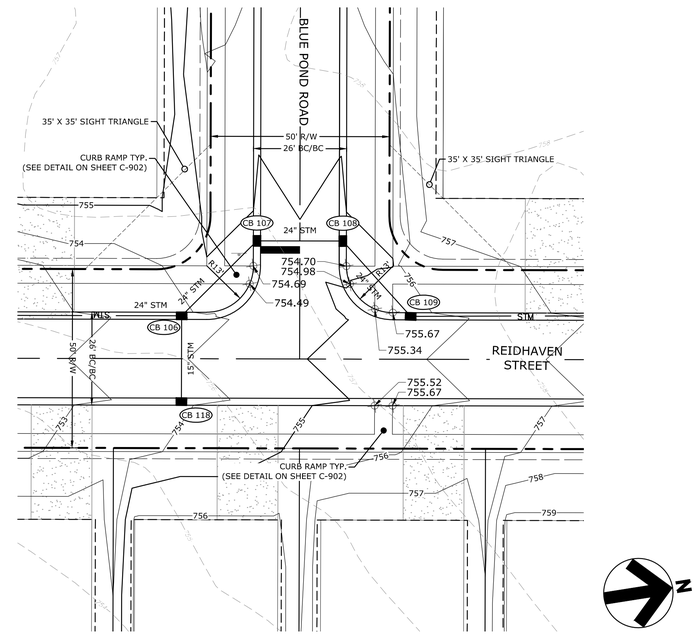
Plot Stamp: 7/12/2018 2:14:50 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-401 ROAD B PLAN AND PROFILES.dwg, Tab: C-405 BLUE POND ROAD PLAN & PROFILE



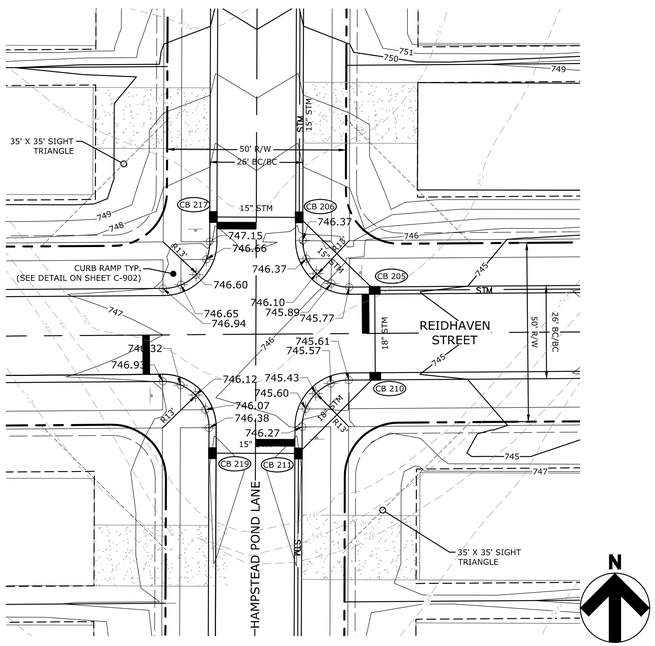

HAMPSTEAD POND LANE & MCKEE ROAD
INTERSECTION DETAIL C-406F



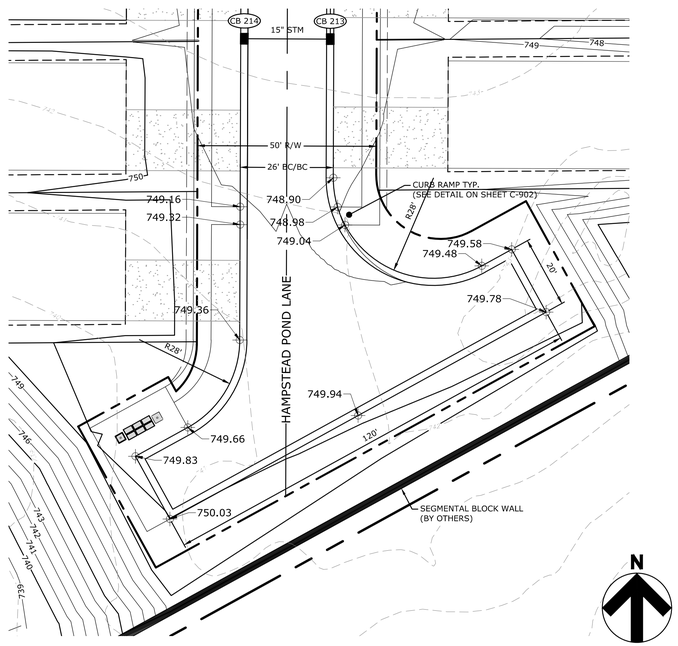

REIDHAVEN STREET & MCKEE ROAD
INTERSECTION DETAIL C-406D



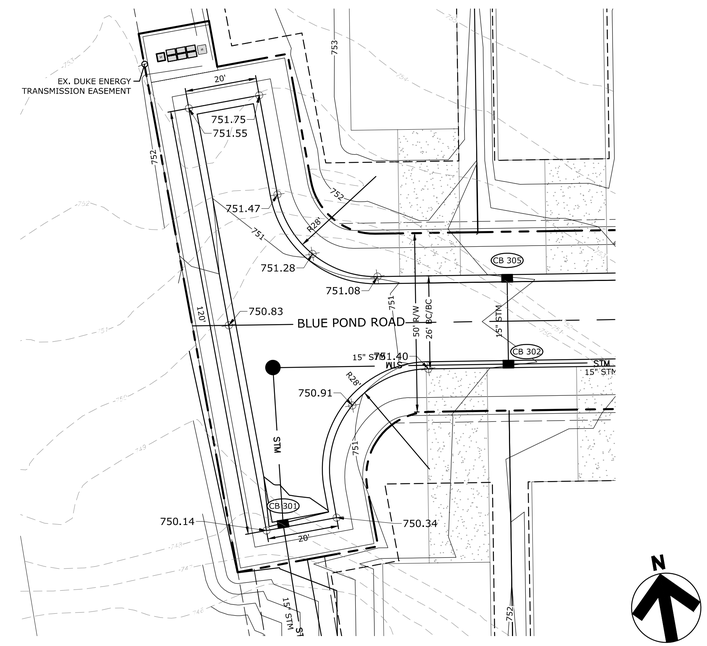

REIDHAVEN STREET & BLUE POND ROAD
INTERSECTION DETAIL C-406B




REIDHAVEN STREET & HAMPSTEAD POND LANE
INTERSECTION DETAIL C-406E




HAMPSTEAD POND LANE
HAMMERHEAD DETAIL C-406C




BLUE POND ROAD
HAMMERHEAD DETAIL C-406A

0 10 20 40
1 INCH = 20 FEET

Plot Stamp: 7/12/2018 2:15:10 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-402 INTERSECTION DETAILS.dwg, Tab: C-406 INTERSECTION DETAILS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CAMBRIDGE PROPERTIES

INTERSECTION DETAILS
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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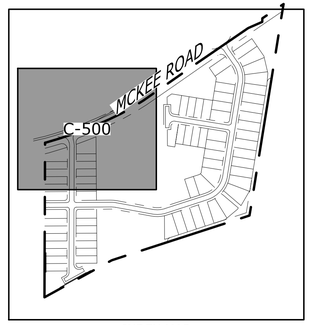
07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

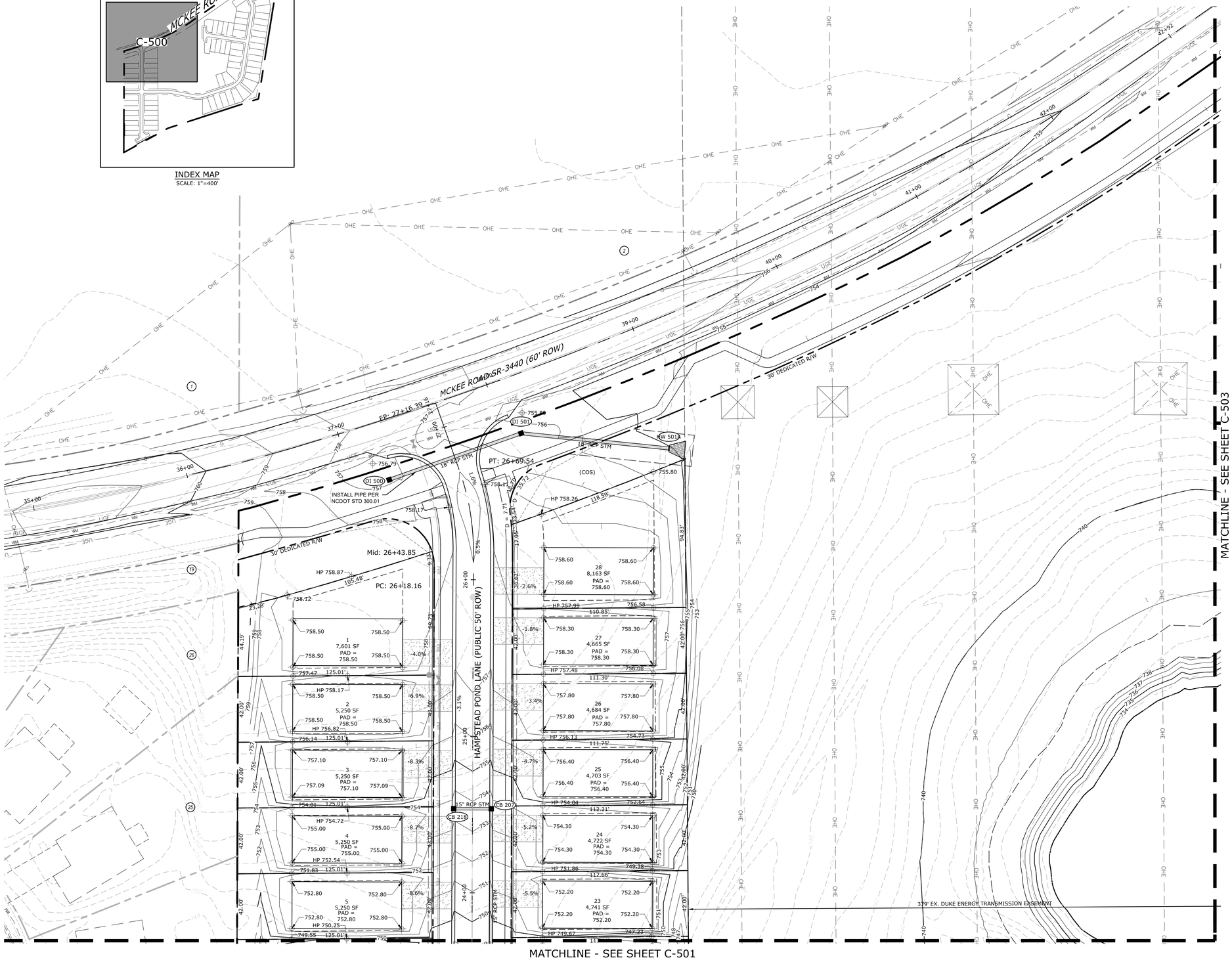
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
INTERSECTION DETAILS

SHEET NUMBER
C-406



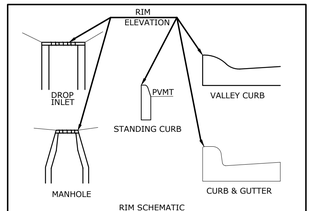

INDEX MAP
SCALE: 1"=400'




## LEGEND

- RIGHT OF WAY
- PROPERTY LINE
- ADJACENT PARCEL
- EASEMENT
- TREELINE
- STREAM
- POND
- RIPARIAN BUFFER LIMITS
- LOCAL STREET RIGHT OF WAY
- SIDEWALK
- BACK OF CURB (BC)
- EDGE OF PAVEMENT (EP)
- CENTERLINE OF ROAD
- PARCEL SETBACK
- PARCEL LINE
- OVERHEAD POWER
- GAS LINE
- SANITARY SEWER
- SANITARY SEWER FORCE MAIN
- SANITARY SEWER MANHOLE
- SANITARY CLEANOUT
- WATER MAIN
- FIRE HYDRANT
- WATER METER
- STORM PIPE
- STORM STRUCTURE
- WETLANDS
- CONTOURS

*REFER TO SHEET C-200 FOR ADJACENT PROPERTY OWNER INFORMATION.




RIM SCHEMATIC
NOTE: RIM WILL ALWAYS REFER TO THE TOP / BACK OF CONCRETE CURB REGARDLESS OF TYPE OF STORM STRUCTURE DETAIL.

N

1 INCH = 30 FEET

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CAMBRIDGE PROPERTIES

# GRADING PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
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| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

GRADING PLAN

SHEET NUMBER

C-500

Plot Stamp: 7/12/2018 2:15:32 PM - Shane Finn
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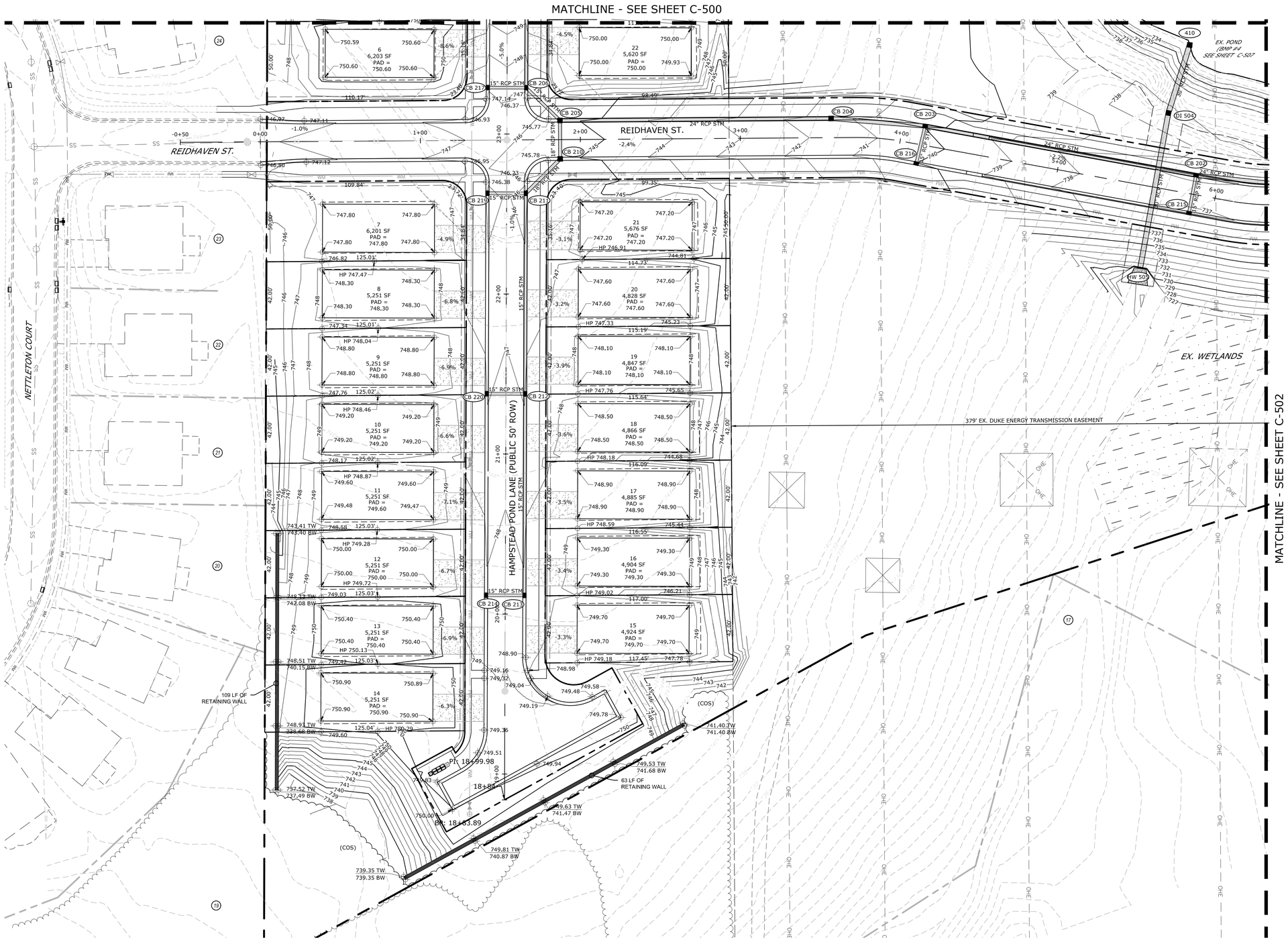


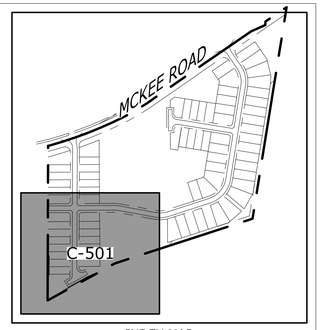


INDEX MAP
SCALE: 1"=400'

N

0 15 30 60
1 INCH = 30 FEET

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CAMBRIDGE PROPERTIES

# GRADING PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
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| PROJECT # | CAMB17001 |

SHEET TITLE

GRADING PLAN

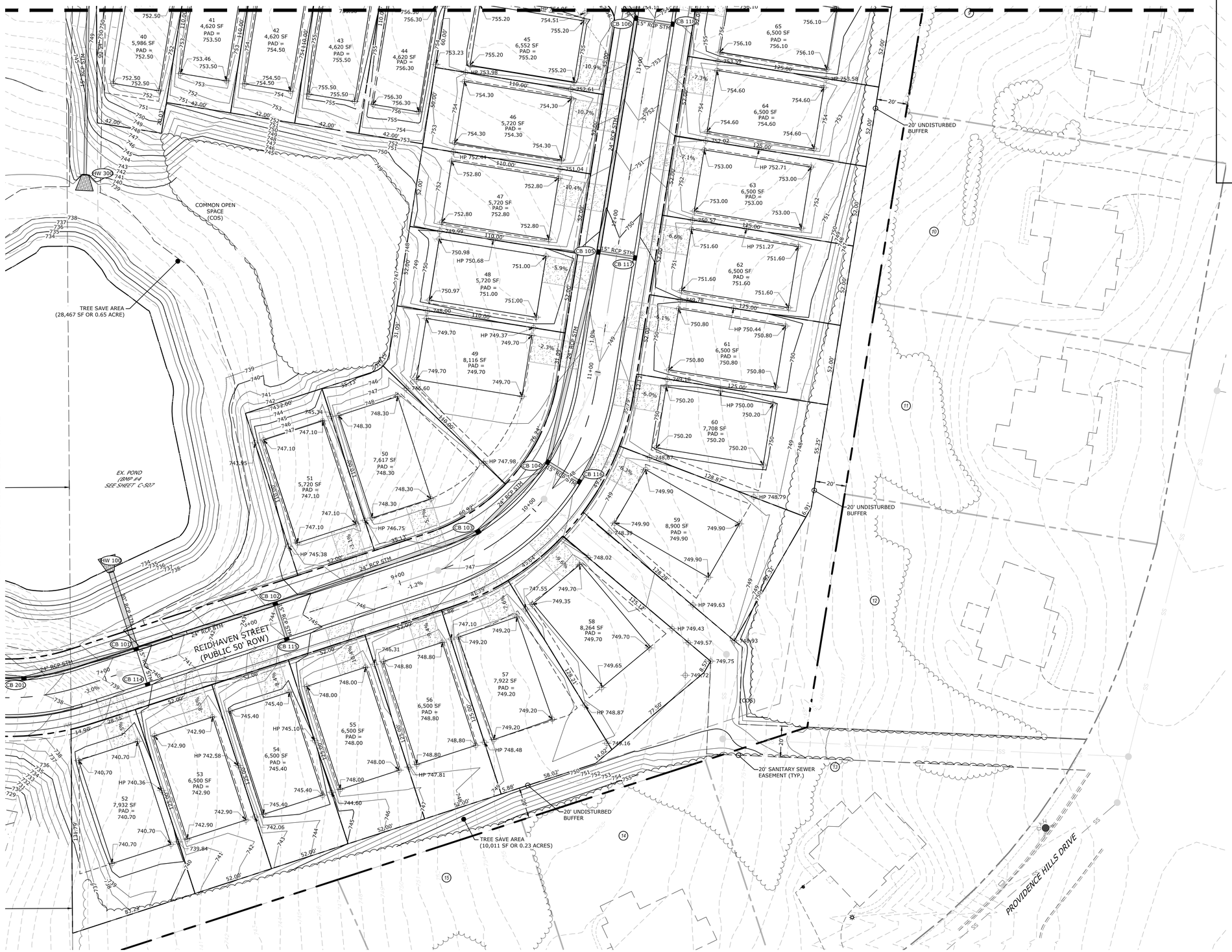
SHEET NUMBER

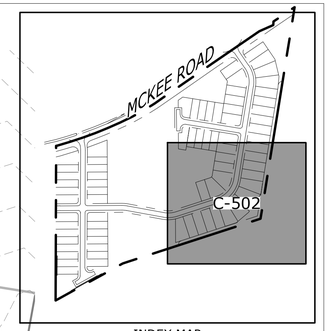
C-501

Plot Stamp: 7/12/2018 2:15:39 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-500 GRADING PLAN.dwg, Tab: C-501 GRADING PLAN

MATCHLINE - SEE SHEET C-503

MATCHLINE - SEE SHEET C-501




INDEX MAP
SCALE: 1"=400'

N

0 15 30 60

1 INCH = 30 FEET

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CAMBRIDGE PROPERTIES

# GRADING PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033448 ROBERT L. CASH

07/06/2018

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
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| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

GRADING PLAN

SHEET NUMBER

C-502

Plot Stamp: 7/12/2018 2:15:49 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-500 GRADING PLAN.dwg, Tab: C-502 GRADING PLAN

MATCHLINE - SEE SHEET C-503

MATCHLINE - SEE SHEET C-500

MATCHLINE - SEE SHEET C-502

MCKEE ROAD SR-3440 (60' ROW)

PROVIDENCE HILLS DRIVE

30' DEDICATED R/W

4' CONCRETE MEDIAN (SEE DETAIL 852.01 SHEET C-905)

INSTALL PIPE PER NCDOT STD 300.01

TREE SAVE AREA (33,440 SF OR 0.77 ACRE)

TREE SAVE AREA (48,363 SF OR 1.11 ACRES)

COMMON OPEN SPACE (COS)

20' UNDISTURBED BUFFER

REIDHAVEN STREET (PUBLIC 50' ROW)

BLUE POND ROAD (PUBLIC 50' ROW)

BP: 26+92.09

26+92

PI: 27+00.00

EP: 31+08.25

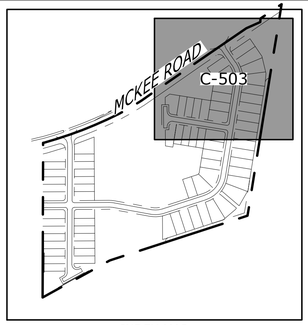
31+08

| LOT | AREA | PAD |
|---|---|---|
| 74 | 6,695 SF | 756.80 |
| 73 | 8,008 SF | 757.60 |
| 72 | 8,232 SF | 757.70 |
| 71 | 8,051 SF | 759.20 |
| 70 | 6,608 SF | 760.10 |
| 69 | 6,500 SF | 760.10 |
| 68 | 6,500 SF | 760.10 |
| 67 | 6,500 SF | 759.20 |
| 66 | 6,500 SF | 757.70 |
| 39 | 6,752 SF | 753.51 |
| 38 | 4,620 SF | 754.70 |
| 37 | 4,620 SF | 755.70 |
| 36 | 4,620 SF | 756.70 |
| 35 | 5,500 SF | 757.70 |
| 34 | 6,552 SF | 758.00 |
| 33 | 5,720 SF | 759.20 |
| 32 | 5,720 SF | 760.20 |
| 31 | 5,720 SF | 760.20 |
| 30 | 8,279 SF | 759.60 |
| 29 | 6,260 SF | 757.70 |

N

0 15 30 60

1 INCH = 30 FEET




INDEX MAP
SCALE: 1"=400'

NOTE:

CONTRACTOR TO SOFT DIG THE WATER LINE FOR EXACT LOCATION AND DEPTH BEFORE CONSTRUCTION AND GRADING OF MCKEE ROAD WIDENING AND DITCH.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CAMBRIDGE PROPERTIES

# GRADING PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
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07/06/2018

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|---|---|
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| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

GRADING PLAN

SHEET NUMBER

C-503

Plot Stamp: 7/12/2018 2:15:59 PM - Shane Finn
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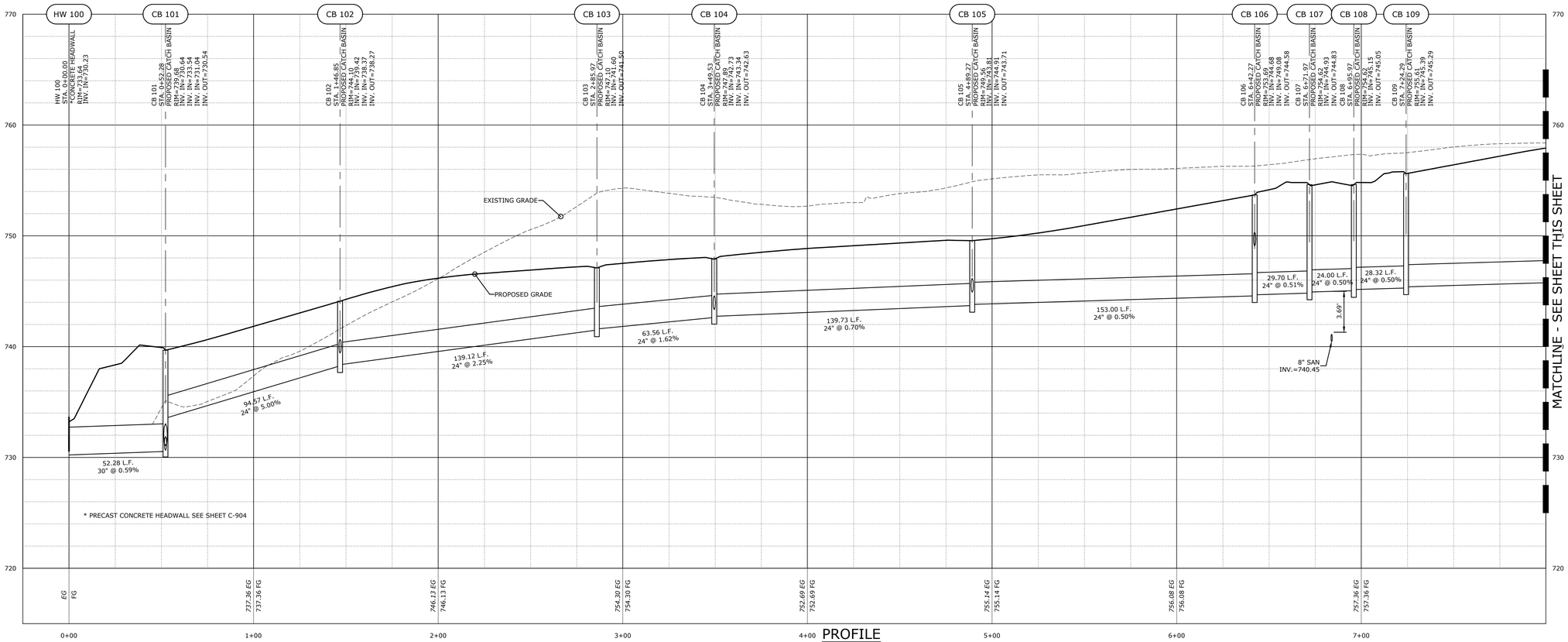
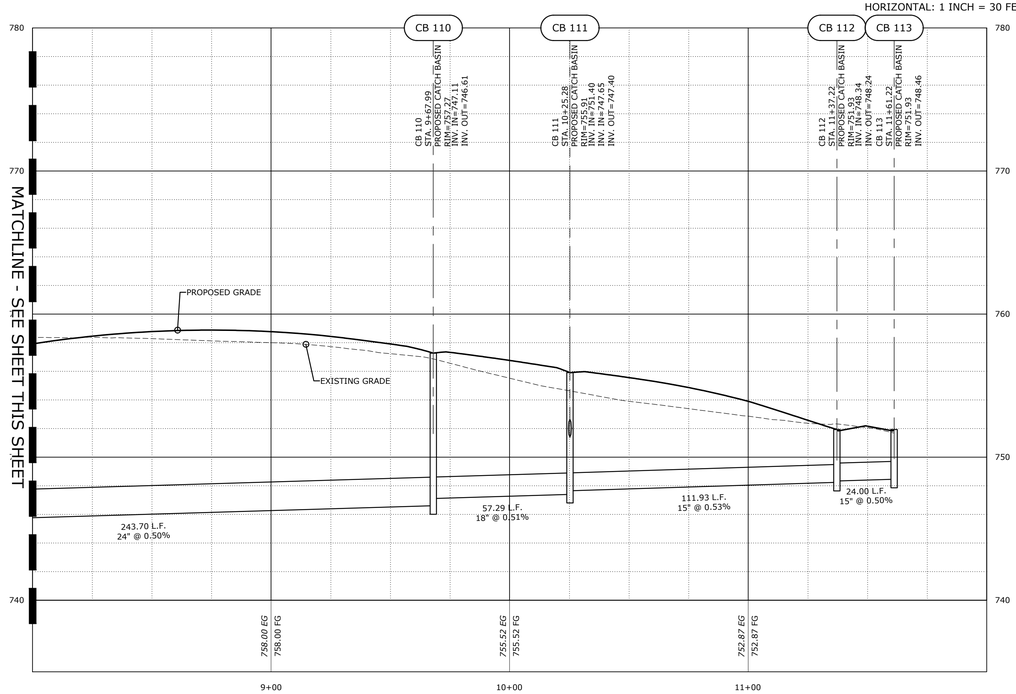
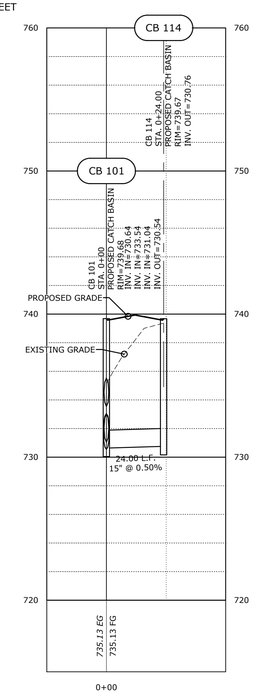


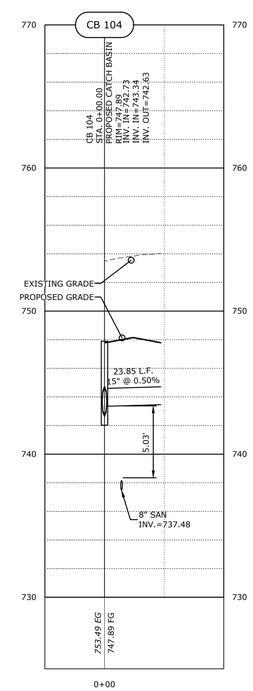

PROFILE

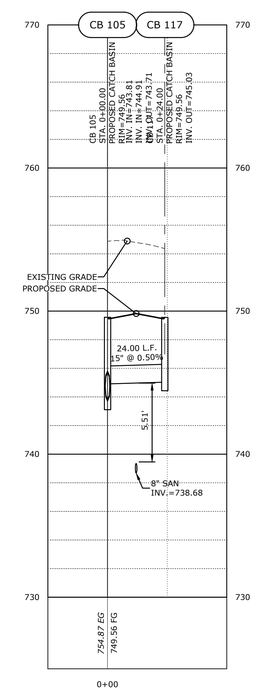
HORIZONTAL: 1 INCH = 30 FEET

VERTICAL: 1 INCH = 5 FEET




Plot Stamp: 7/12/2018 2:16:55 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-501 STORM SEWER PROFILES.dwg, Tab: C-504 STORM SEWER PROFILES

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CAMBRIDGE PROPERTIES

# STORM SEWER PROFILES
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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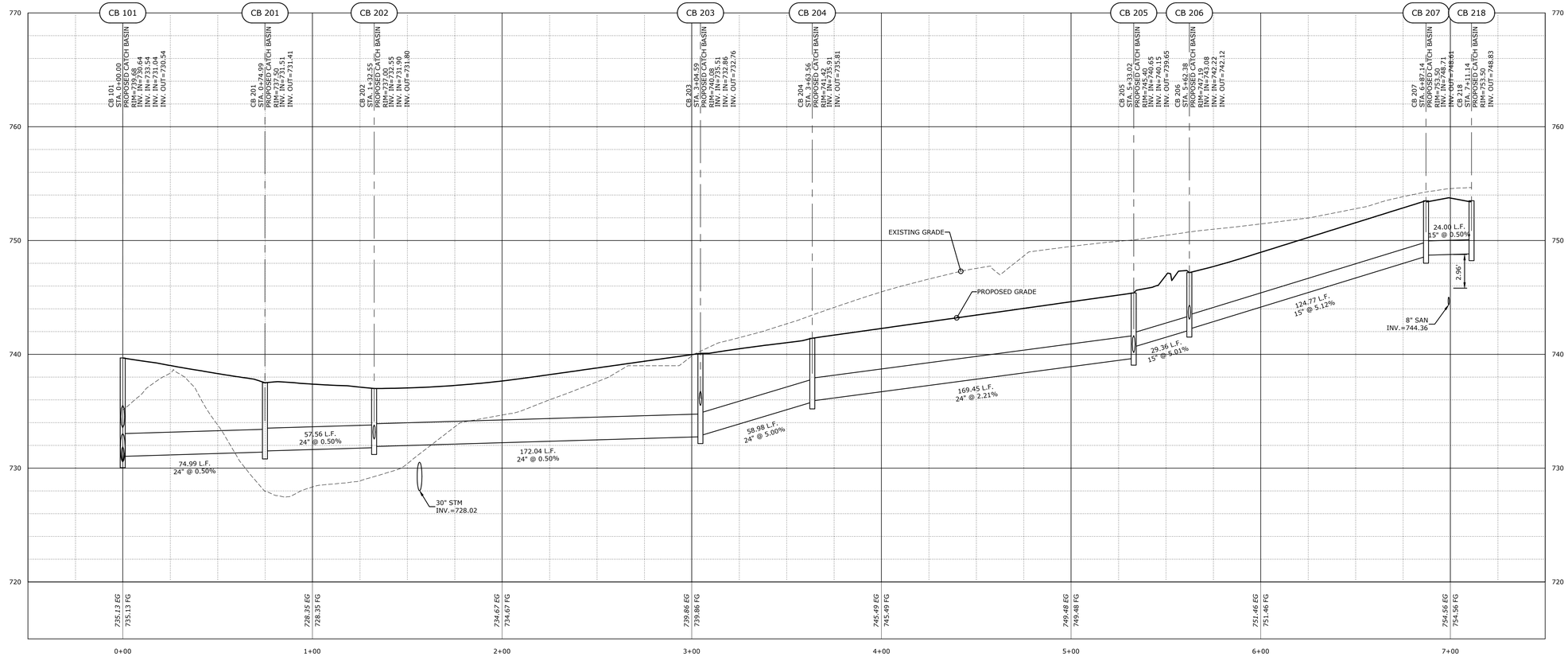
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

STORM SEWER PROFILES

SHEET NUMBER

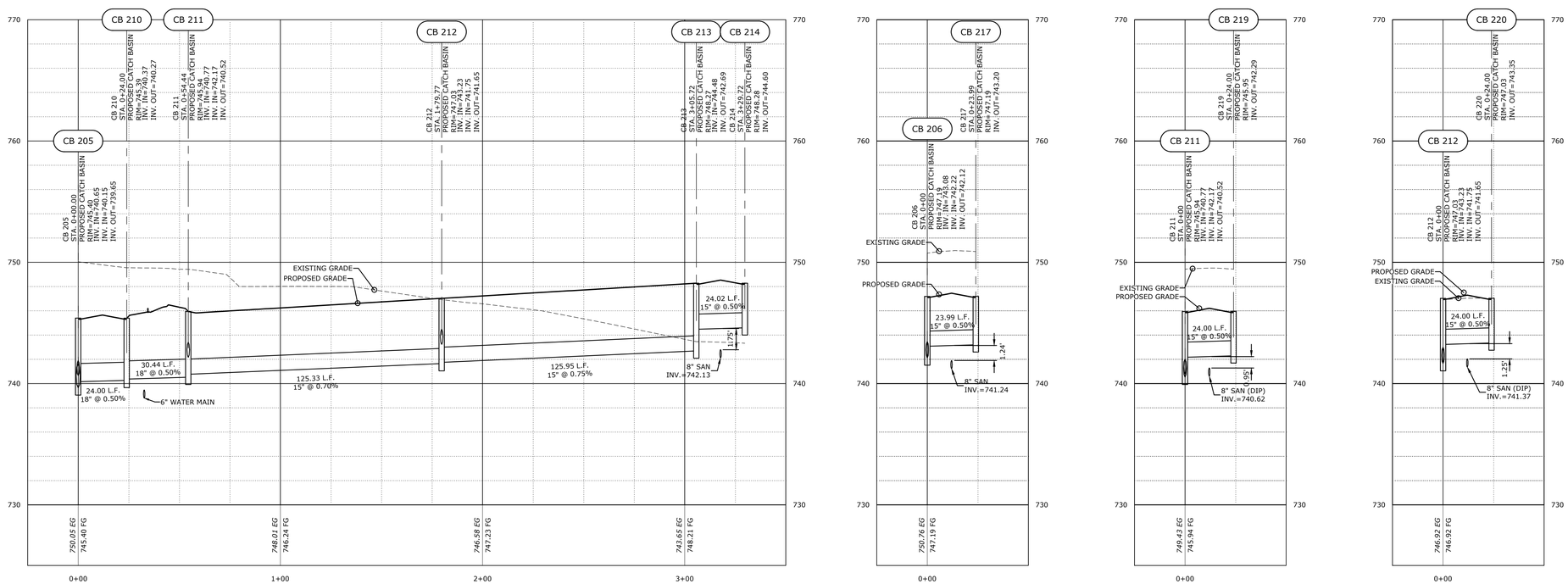
C-504




PROFILE

HORIZONTAL: 1 INCH = 30 FEET

VERTICAL: 1 INCH = 5 FEET

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File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-501 STORM SEWER PROFILES.dwg, Tab: C-505 STORM SEWER PROFILES

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CAMBRIDGE PROPERTIES

# STORM SEWER PROFILES
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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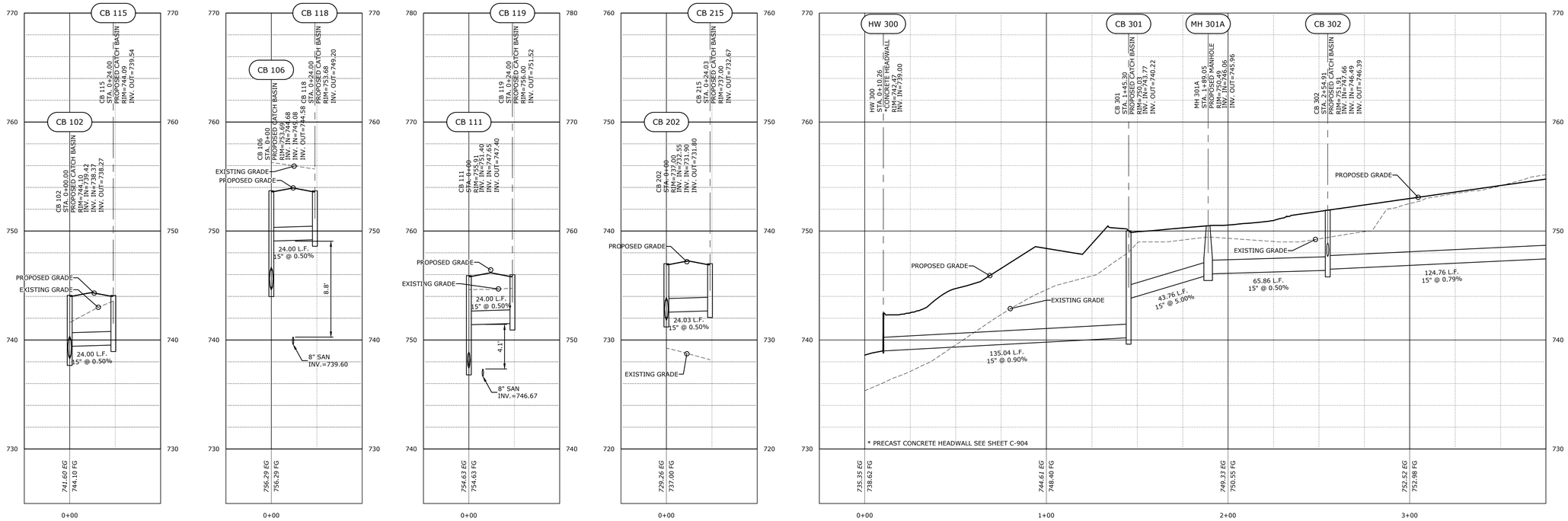
SHEET TITLE

STORM SEWER PROFILES

SHEET NUMBER

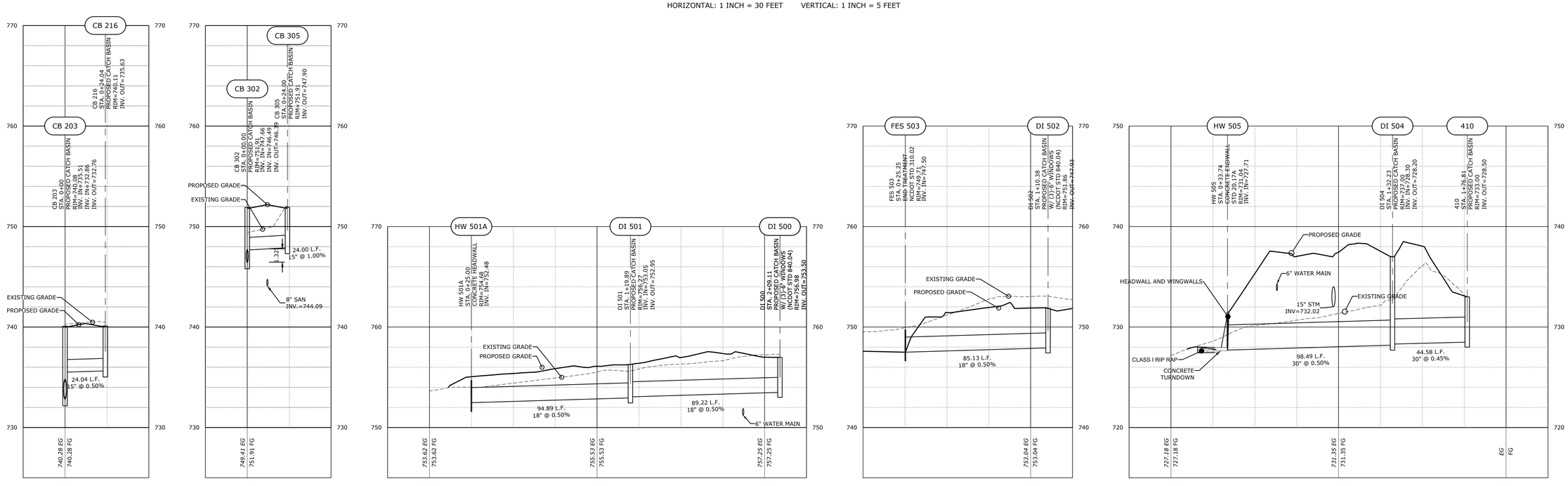
C-505




## PROFILE

HORIZONTAL: 1 INCH = 30 FEET

VERTICAL: 1 INCH = 5 FEET

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CAMBRIDGE PROPERTIES

# STORM SEWER PROFILES
# THE POND AT MCKEE GLEN
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NC LICENSE No. 033448

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|---|---|
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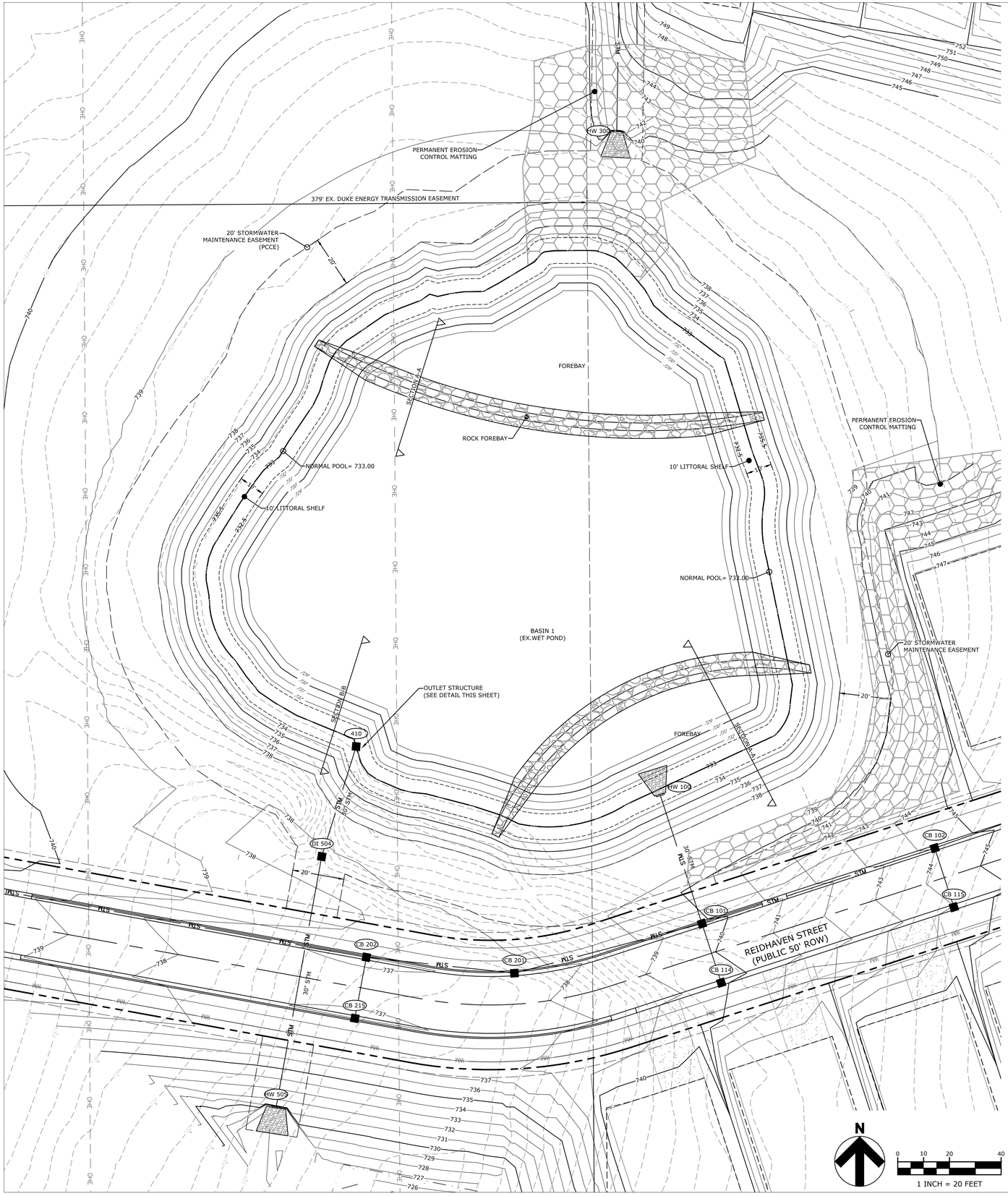
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

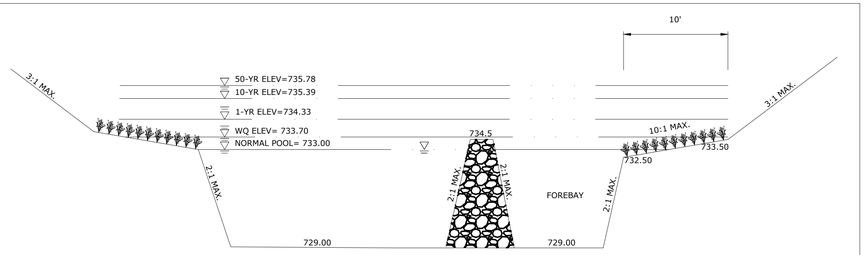
SHEET TITLE

STORM SEWER PROFILES

SHEET NUMBER

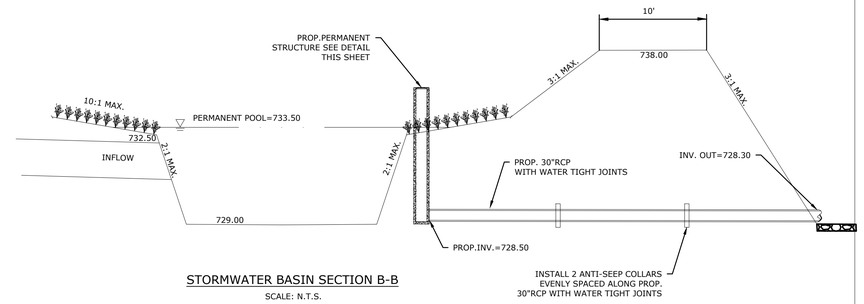
C-506




STORMWATER BASIN SECTION A-A

SCALE: N.T.S.




STORMWATER BASIN SECTION B-B

SCALE: N.T.S.

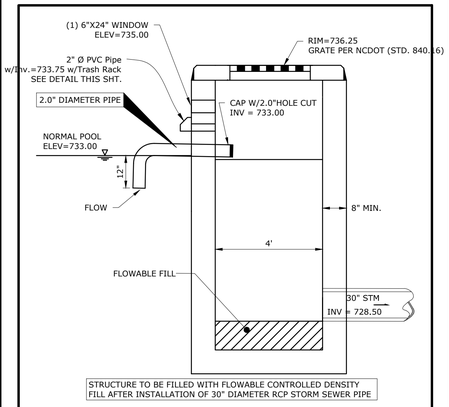
NOTE:

1. PRIOR TO FINAL BMP AS-BUILT APPROVAL AND SIGNOFF BY CITY ENGINEERING, THE POND WILL BE DEMONSTRATED TO HOLD WATER TO THE DESIGN PERMANENT POOL ELEVATION TO THE CITY CONSTRUCTION SITE INSPECTOR'S SATISFACTION.

## BMP MAINTENANCE SCHEDULE

1. AFTER EVERY SIGNIFICANT RUNOFF PRODUCING RAINFALL EVENT AND AT LEAST MONTHLY:
   A) INSPECT THE WET DETENTION BASIN SYSTEM FOR SEDIMENT ACCUMULATION, EROSION, TRASH ACCUMULATION, VEGETATED COVER, AND GENERAL CONDITION.
   B) CHECK AND CLEAR THE ORIFICE OF ANY OBSTRUCTIONS SUCH THAT THE DRAW DOWN OF THE TEMPORARY POOL OCCURS WITHIN 2 TO 5 DAYS AS DESIGNED.
2. REPAIR ERODED AREAS IMMEDIATELY. RE-SEED THE EMBANKMENT AS NECESSARY TO MAINTAIN GOOD VEGETATIVE COVER. MOW VEGETATIVE COVER ON EMBANKMENT TO MAINTAIN A MAXIMUM HEIGHT OF SIX INCHES, REMOVE TRASH AS NEEDED.
3. INSPECT AND REPAIR THE COLLECTION SYSTEM (I.E. CATCH BASINS, PIPING, SWALES, RIPRAP, ETC.) QUARTERLY TO MAINTAIN PROPER FUNCTIONING.
4. REMOVE WOODY VEGETATION NOT PART OF THE APPROVED PLAN ALONG THE DAM EMBANKMENT.
5. REMOVE INVASIVE AND DEAD VEGETATION ON THE LITTORAL SHELF AND REPLANT AS NECESSARY.
6. REMOVE ACCUMULATED SEDIMENT FROM THE WET DETENTION BASIN SYSTEM SEMIANNUALLY OR WHEN THE DEPTH IS REDUCED TO 75% OF THE ORIGINAL DESIGN DEPTH. REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER AND SHALL BE HANDLED IN A MANNER THAT WILL NOT ADVERSELY IMPACT WATER QUALITY (I.E. STOCKPILING NEAR A WET DETENTION BASIN OR STREAM, ETC.).
7. PERFORM ANNUAL INSPECTION OF THE POND (ANNUAL INSPECTION REPORTS TO BE KEPT BY THE OWNER). PRIOR TO INSPECTION NOTIFICATION MUST BE GIVEN TO STORM WATER SERVICES.

- FILL EMBANKMENTS SHALL BE FORMED OF SUITABLE MATERIAL PLACED IN SUCCESSIVE LAYERS NOT TO EXCEED MORE THAN SIX (6) INCHES IN DEPTH FOR THE FULL WIDTH OF THE CROSS-SECTION, INCLUDING THE WIDTH OF THE SLOPE AREA. NO STUMPS, TREES, BRUSH, RUBBISH OR OTHER UNSUITABLE MATERIALS OR SUBSTANCES SHALL BE PLACED IN THE EMBANKMENT. EACH SUCCESSIVE SIX (6) INCH LAYER SHALL BE THOROUGHLY COMPACTED BY THE SHEEPSFOOT TAMPING ROLLER, 10-TON POWER ROLLER, PNEUMATIC-TIRED ROLLER, OR OTHER METHODS APPROVED BY THE TOWN/COUNTY ENGINEER. EMBANKMENTS OVER AND AROUND ALL PIPE CULVERTS SHALL BE OF SELECT MATERIAL, PLACED AND THOROUGHLY TAMPED AND COMPACTED AS DIRECTED BY THE TOWN/COUNTY ENGINEER OR HIS REPRESENTATIVE.
- POND EMBANKMENTS SHALL BE INSTALLED IN THIS SAME MANNER AND SHALL BE COMPACTED TO MEET A DENSITY OF 95% STANDARD PROCTOR TEST.




PERMANENT OUTLET STRUCTURE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CAMBRIDGE PROPERTIES

# BASIN 1 DETAIL
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
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| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

BASIN 1 DETAIL

SHEET NUMBER

C-507

## LEGEND

- PROPERTY LINE
- ADJACENT PARCEL
- EASEMENT
- RIGHT OF WAY
- BACK OF CURB (BC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
- CONCRETE SIDEWALK
- PARCEL LINE
- SETBACK LINE
- STORMWATER EASEMENT
- SANITARY SEWER EASEMENT
- LANDSCAPE BUFFER
- TREELINE
- STREAM / CREEK
- WETLANDS
- STORM SEWER TRIBUTARY AREA

| DRAINAGE AREA TABLE | |
|---|---|
| STRUCTURE ID | AREA (AC) |
| CB 101 | 0.061 |
| CB 102 | 0.253 |
| CB 103 | 0.088 |
| CB 104 | 0.277 |
| CB 105 | 0.390 |
| CB 106 | 0.035 |
| CB 107 | 0.043 |
| CB 108 | 0.085 |
| CB 109 | 0.337 |
| CB 110 | 0.169 |
| CB 111 | 0.117 |
| CB 112 | 0.236 |
| CB 113 | 0.270 |
| CB 114 | 0.247 |
| CB 115 | 0.654 |
| CB 116 | 0.381 |
| CB 117 | 0.385 |
| CB 118 | 0.506 |
| CB 119 | 0.448 |
| CB 201 | 0.049 |
| CB 202 | 0.142 |
| CB 203 | 0.043 |
| CB 204 | 0.222 |
| CB 205 | 0.106 |
| CB 206 | 0.290 |
| CB 207 | 0.327 |
| CB 208 | 0.000 |
| CB 209 | 0.000 |
| CB 210 | 0.028 |
| CB 211 | 0.275 |
| CB 212 | 0.274 |
| CB 213 | 0.197 |
| CB 214 | 0.301 |
| CB 215 | 0.305 |
| CB 216 | 0.171 |
| CB 217 | 0.307 |
| CB 218 | 0.366 |
| CB 219 | 0.370 |
| CB 220 | 0.302 |
| CB 301 | 0.419 |
| CB 302 | 0.274 |
| CB 303 | 0.099 |
| CB 304 | 0.177 |
| CB 305 | 0.338 |
| DI 500 | 0.365 |
| DI 501 | 0.026 |
| FES 502 | 0.701 |
| DI 504 | 0.124 |

N

0 40 80 160

1 INCH = 80 FEET

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CAMBRIDGE PROPERTIES

# STORM SEWER MAP
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
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| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

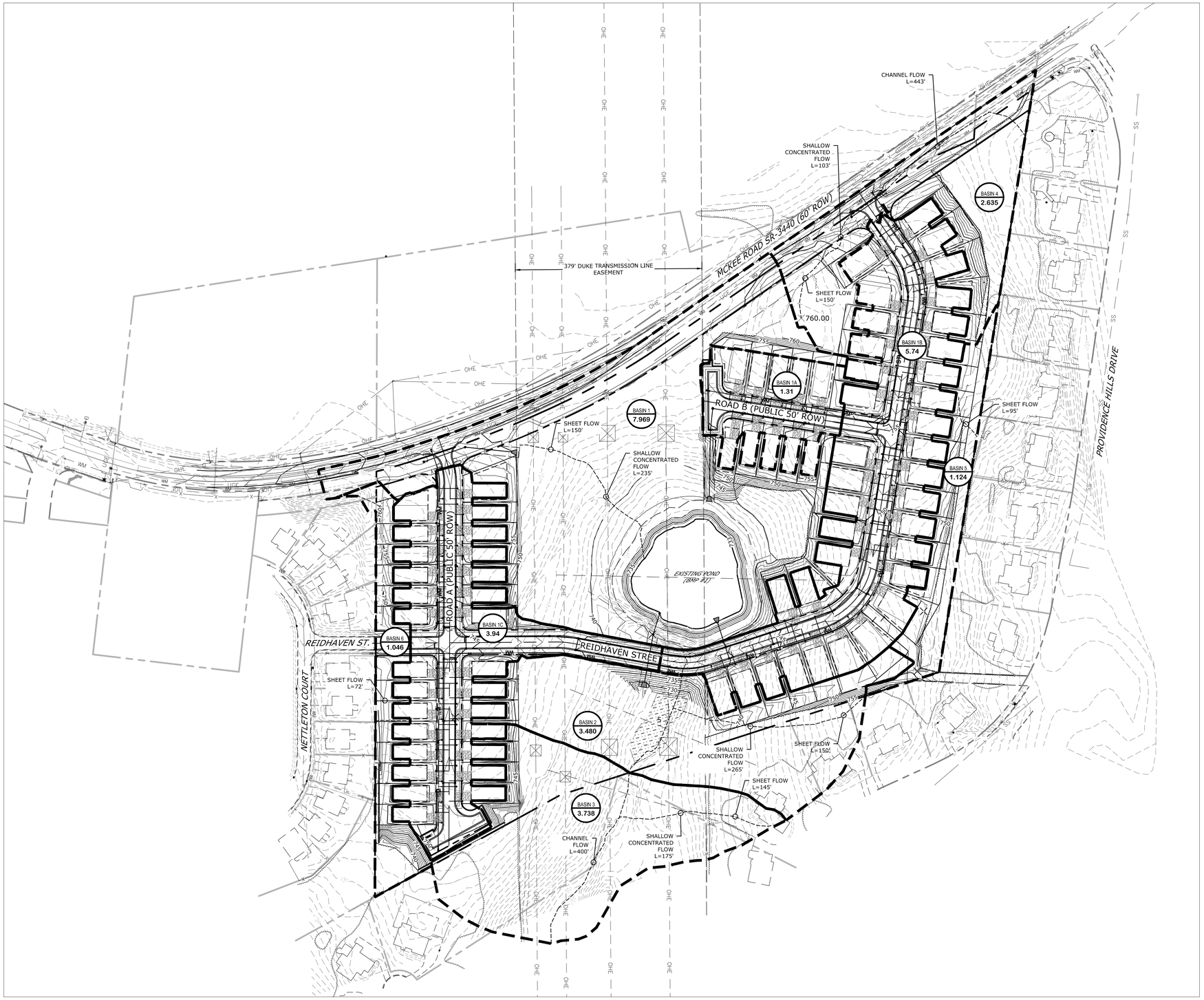
SHEET TITLE

STORM SEWER MAP

SHEET NUMBER

C-508

Plot Stamp: 7/12/2018 2:18:29 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-507 STORM SEWER MAP.dwg, Tab: STORM SEWER MAP




## LEGEND

- PROPERTY LINE
- ADJACENT PARCEL
- EASEMENT
- RIGHT OF WAY
- BACK OF CURB (BC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
- CONCRETE SIDEWALK
- PARCEL LINE
- SETBACK LINE
- STORMWATER EASEMENT
- SANITARY SEWER EASEMENT
- LANDSCAPE BUFFER
- TREELINE
- STREAM / CREEK
- WETLANDS
- BASIN X 0.000 — BASIN LABEL / DRAINAGE AREA (AC)
- DRAINAGE AREA BOUNDARY

## PCCO SUMMARY

| | | |
|---|---|---|
| Original Parcel ID Number(s): | 23121168 | |
| Development Type: | Single-Family | |
| Subject to PCCO? Y/N | Y | |
| If NO, why? | | |
| Watershed: | Central Catawba | |
| Disturbed Area (ac): | 20.3 | |
| Site Area (ac): | 25.5 | |
| | DA#1 | |
| Total on-site Drainage Area (ac): | 24.64 | |
| Existing Built-upon-area (SF): | 10589 | |
| Existing BUA to be removed (SF): | 10589 | |
| Existing BUA to remain (SF): | 0 | |
| Proposed New BUA (SF): | 355335 | |
| Proposed % BUA: | 31.99 | |
| Density (High / Low) | High | |
| Total Post-Project BUA for site: | 342858 | |
| Development or Redevelopment? | Development | |
| Natural Area Required (ac): | 4.46 | |
| Natural Area provided, total (ac): | 5.22 | |
| Undisturbed Treed Natural Area Preserved (ac): | 2.18 | |
| Total stream buffer protected on-site (ac): | N/A | |
| Transit Station Area? Y/N | N | |
| Distressed Business District? Y/N | N | |
| Mitigation Type (if applicable) | N/A | |
| Natural Area mitigation? Y/N | N/A | |
| Buffer Mitigation? Y/N | N/A | |
| Total Phosphorous Mitigation? Y/N | N/A | |

Charlotte-Mecklenburg STORM WATER Services

## BMP Inset Table
## Wet Pond

| | |
|---|---|
| Project Name: | **The Pond at McKee Glen** |
| Sequence ID: | |
| Surface Area (sq. ft.): | 35956 |
| Drainage Area (acres): | 18.959 |
| Land Use/Development Type: | <.25 Acres Residential |
| Percent Built-Upon Area: | 31.99 |
| Permanent Pool Depth (ft.): | 4 |
| Forebay Permanent Pool Depth (ft.): | 4 |
| Flow Diverter Present (Y/N): | N |
| Regulated By: | Post Construction Ordinance |
| Treatment Effectiveness: | Optimal |
| NC State Plane X (easting): | 1486468.4807' |
| NC State Plane Y (northing): | 488913.3065' |

N

0 50 100 200

1 INCH = 100 FEET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CAMBRIDGE PROPERTIES

# STORMWATER MANAGEMENT PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

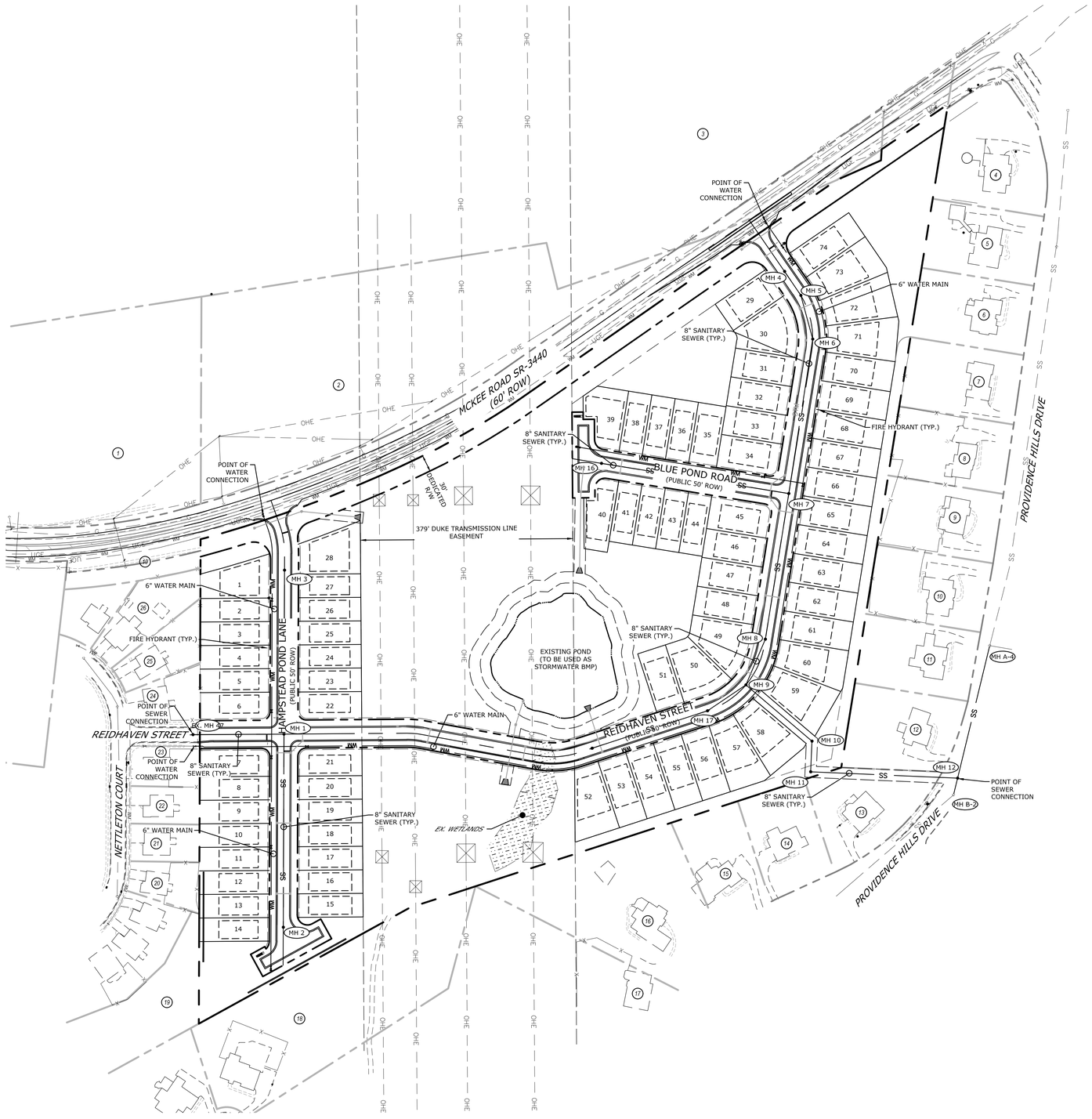
SHEET TITLE

STORMWATER MANAGEMENT PLAN

SHEET NUMBER

C-509


Plot Stamp: 7/12/2018 2:18:47 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-509 STORMWATER MANAGEMENT PLAN.dwg, Tab: STORMWATER MANAGEMENT PLAN




## LEGEND

- PROPERTY LINE
- ADJACENT PARCEL
- EASEMENT
- RIGHT OF WAY
- BACK OF CURB (BC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
- CONCRETE SIDEWALK
- PARCEL LINE
- STORMWATER EASEMENT
- SANITARY SEWER EASEMENT
- LANDSCAPE BUFFER
- TREELINE
- STREAM / CREEK
- WETLANDS
- RIPARIAN BUFFER
- WM — DOMESTIC WATER LINE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- WATER REDUCER
- WATER BLOW OFF VALVE
- SS — SANITARY SEWER LINE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- STORM SEWER LINE
- STREET TREES

## UTILITY NOTES:

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHARLOTTE WATER WATER AND SEWER STANDARDS AND SPECIFICATIONS.
2. ALL METER BOXES AND SEWER CLEANOUTS ARE REQUIRED TO BE WITHIN EASEMENT OR RIGHT OF WAY.
3. WATER METERS WILL NOT BE INSTALLED IF WATER METER BOXES, SEWER CLEAN-OUTS, VALVE BOXES OR THEIR APPURTENANCES ARE DAMAGED OR IMPROPERLY POSITIONED.
4. ALL WATER MAINS SHALL HAVE A MINIMUM OF THREE (3) FEET OF COVER.
5. FIRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF SIX (6) FEET FROM THE BACK OF CURB AND SHALL HAVE A CLEAR SPACE OF THREE (3) FEET FROM ALL PERMANENT STRUCTURES.
6. DE-WATERING: THE CONTRACTOR SHALL AT ALL TIMES PROVIDE AND MAINTAIN AMPLE MEANS AND EQUIPMENT WITH WHICH TO REMOVE AND PROPERLY DISPOSE OF ANY AND ALL WATER ENTERING THE EXCAVATION OR OTHER PARTS OF THE WORK AREA AND KEEP ALL EXCAVATIONS DRY UNTIL SUCH TIME AS PIPE LAYING AND GRADING IS COMPLETED AND STRUCTURES TO BE BUILT THEREIN ARE COMPLETED.
7. NO WATER SHALL BE ALLOWED TO RISE AROUND THE PIPE IN UNBACKFILLED TRENCHES NOR SHALL IT BE ALLOWED TO RISE OVER MASONRY UNTIL THE CONCRETE OR MOTOR HAS SET (MINIMUM 24 HOURS). ALL WATER PUMPED OR DRAINED FROM THE WORK AREA SHALL BE DISPOSED OF IN SUCH OF MANNER AS TO PREVENT SILTRATION AND EROSION TO ADJACENT PROPERTY OR OTHER CONSTRUCTION.
8. ONE (1) ROLL OF MASTIC & A SIX (6) INCH EXTERNAL WRAP SHALL BE INSTALLED ON EACH MANHOLE SECTION.
9. VERIFICATION HAS BEEN MADE BY CARDNO THAT EACH LOT IS CAPABLE OF HAVING GRAVITY SEWER SERVICE TO THE CENTER OF THE LOT AT THE FRONT SETBACK FOR THE FIRST FLOOR. BASEMENTS SHALL BE SERVICED VIA GRINDER PUMPS.
10. METER BOXES TO BE FORD STRETCH BOX NO. LYLV 241-233-NRT LESS INLET FLARE NUT WITH A LOCKING LID. A MUELLER H-15074 FL. COPPER x CTS INSTATITE COUPLING IS TO BE SCREWED ON THE INLET ANGLE VALVE. ON THE OUTLET SIDE OF THE BOX THE CONTRACTOR IS TO PROVIDE A ¾" MUELLER B-20200 BALL CURB STOP AND A D109-G 7 INCH DEEP TURF BOX.
11. REFER TO SHEET C-200 FOR ADJACENT PROPERTY OWNER INFORMATION.
12. UTILITIES ARE NOT COVERED UNDER THE DRIVEWAY PERMIT. ENCROACHMENT AGREEMENTS MUST BE OBTAINED PRIOR TO INSTALLATION OF ANY UTILITY WITHIN STATE RIGHT-OF-WAY.

## NOTICE TO CONTRACTORS:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE MOST RECENT CHARLOTTE WATER SANITARY SEWER AND WATER SPECIFICATIONS AND STANDARD DETAILS.
2. CONTRACTOR SHALL CONTACT CHARLOTTE WATER PERSONNEL AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.
3. ANY WORK OR TEST PERFORMED WITHOUT NOTIFICATION OR CONTACT WITH FIELD INSPECTORS SHALL BE INSTALLED AT THE CONTRACTORS RISK.
4. TREES SHALL BE PLANTED A MIN OF FIVE (5) FEET FROM WATER METER BOXES AND SANITARY SEWER CLEANOUTS.

N

0 50 100 200

1 INCH = 100 FEET

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CAMBRIDGE PROPERTIES

# UTILITY PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

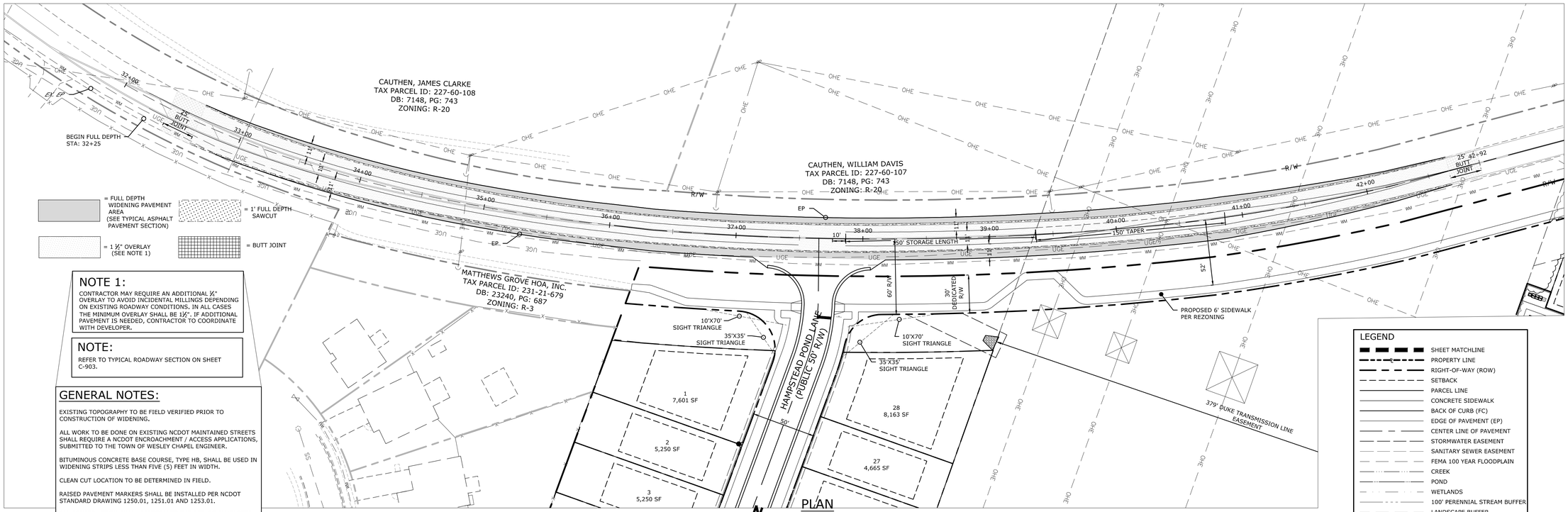
SHEET TITLE

UTILITY PLAN

SHEET NUMBER

C-600

Plot Stamp: 7/12/2018 2:19:03 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-600 UTILITY PLAN.dwg, Tab: UTILITY PLAN




## NOTE 1:

CONTRACTOR MAY REQUIRE AN ADDITIONAL ½" OVERLAY TO AVOID INCIDENTAL MILLINGS DEPENDING ON EXISTING ROADWAY CONDITIONS. IN ALL CASES THE MINIMUM OVERLAY SHALL BE 1½". IF ADDITIONAL PAVEMENT IS NEEDED, CONTRACTOR TO COORDINATE WITH DEVELOPER.

## NOTE:

REFER TO TYPICAL ROADWAY SECTION ON SHEET C-903.

## GENERAL NOTES:

EXISTING TOPOGRAPHY TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION OF WIDENING.

ALL WORK TO BE DONE ON EXISTING NCDOT MAINTAINED STREETS SHALL REQUIRE A NCDOT ENCROACHMENT / ACCESS APPLICATIONS, SUBMITTED TO THE TOWN OF WESLEY CHAPEL ENGINEER.

BITUMINOUS CONCRETE BASE COURSE, TYPE HB, SHALL BE USED IN WIDENING STRIPS LESS THAN FIVE (5) FEET IN WIDTH.

CLEAN CUT LOCATION TO BE DETERMINED IN FIELD.

RAISED PAVEMENT MARKERS SHALL BE INSTALLED PER NCDOT STANDARD DRAWING 1250.01, 1251.01 AND 1253.01.

ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF CHARLOTTE AND NCDOT STANDARDS (ROAD WIDENING) AND SPECIFICATIONS

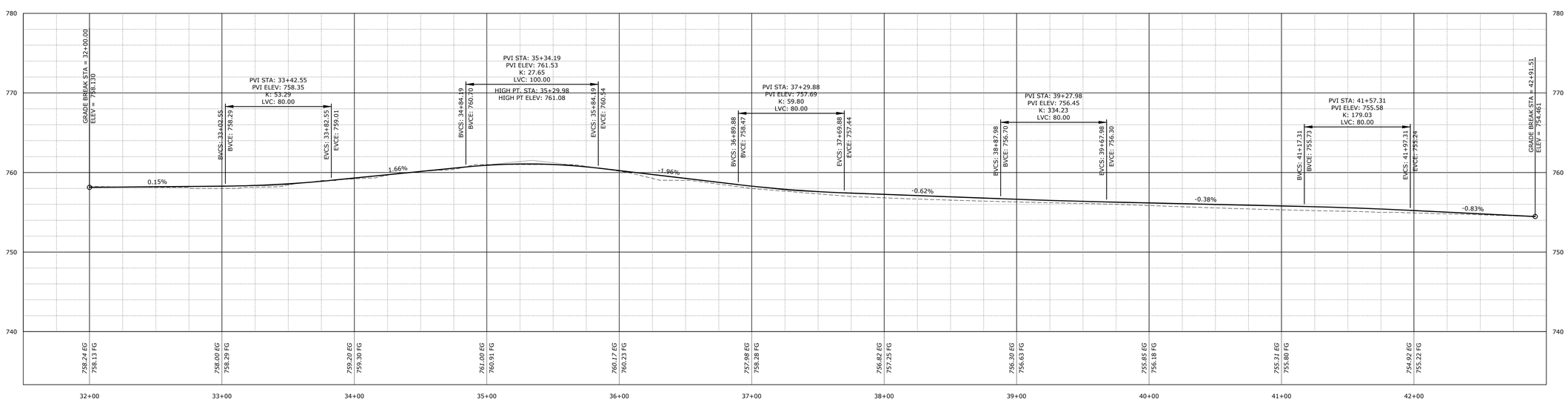
PATCHING AND LEVELING MAY BE REQUIRED PRIOR TO RESURFACING THE ROAD.

ALL FIXED OBJECTS THAT ARE NOT CONSIDERED BREAKAWAY MUST BE REMOVED FROM CLEAR RECOVER ZONE (18'-20' FROM EDGE OF FUTURE PAVEMENT)

PLAN

## LEGEND

- SHEET MATCHLINE
- PROPERTY LINE
- RIGHT-OF-WAY (ROW)
- SETBACK
- PARCEL LINE
- CONCRETE SIDEWALK
- BACK OF CURB (FC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
- STORMWATER EASEMENT
- SANITARY SEWER EASEMENT
- FEMA 100 YEAR FLOODPLAIN
- CREEK
- POND
- WETLANDS
- 100' PERENNIAL STREAM BUFFER
- LANDSCAPE BUFFER
- 13 / 40,087 SF — LOT NUMBER AND SIZE




Plot Stamp: 7/12/2018 2:19:18 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-700 MCKEE ROAD PLAN AND PROFILE.dwg, Tab: C-700 MCKEE ROAD PLAN AND PROFILE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CAMBRIDGE PROPERTIES

# MCKEE ROAD PLAN AND PROFILE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

MCKEE ROAD PLAN AND PROFILE

SHEET NUMBER

C-700

= 1 ½" MILL AND OVERLAY

= FULL DEPTH WIDENING PAVEMENT AREA (SEE TYPICAL ASPHALT PAVEMENT SECTION)

= 1' FULL DEPTH SAWCUT

= 1 ½" OVERLAY (SEE NOTE 1)

= BUTT JOINT

## NOTE 1:

CONTRACTOR MAY REQUIRE AN ADDITIONAL ½" OVERLAY TO AVOID INCIDENTAL MILLINGS DEPENDING ON EXISTING ROADWAY CONDITIONS. IN ALL CASES THE MINIMUM OVERLAY SHALL BE 1½". IF ADDITIONAL PAVEMENT IS NEEDED, CONTRACTOR TO COORDINATE WITH DEVELOPER.

## NOTE:

REFER TO TYPICAL ROADWAY SECTION ON SHEET C-903.

## GENERAL NOTES:

EXISTING TOPOGRAPHY TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION OF WIDENING.

ALL WORK TO BE DONE ON EXISTING NCDOT MAINTAINED STREETS SHALL REQUIRE A NCDOT ENCROACHMENT / ACCESS APPLICATIONS, SUBMITTED TO THE TOWN OF WESLEY CHAPEL ENGINEER.

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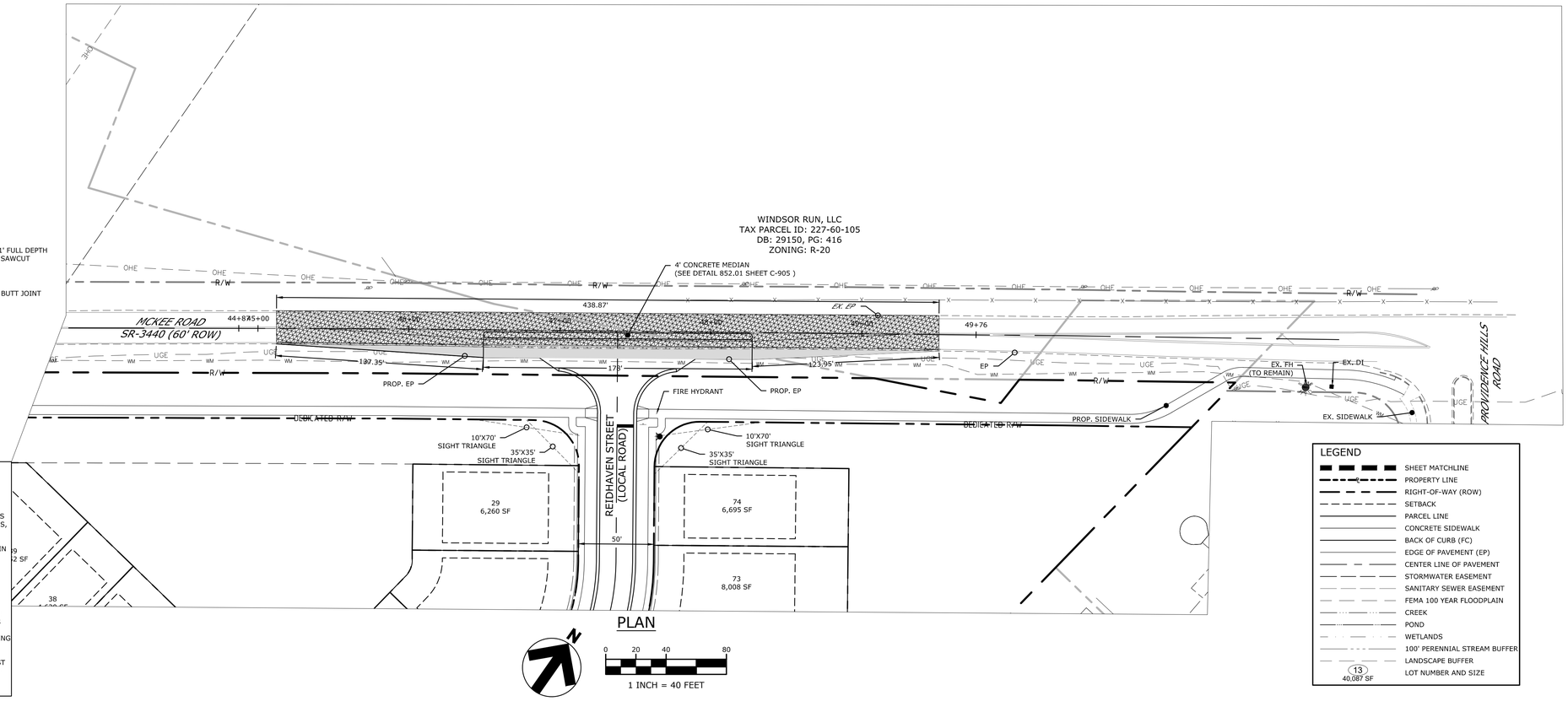
ALL FIXED OBJECTS THAT ARE NOT CONSIDERED BREAKAWAY MUST BE REMOVED FROM CLEAR RECOVER ZONE (18'-20' FROM EDGE OF FUTURE PAVEMENT)




PLAN

1 INCH = 40 FEET

LEGEND

- SHEET MATCHLINE
- PROPERTY LINE
- RIGHT-OF-WAY (ROW)
- SETBACK
- PARCEL LINE
- CONCRETE SIDEWALK
- BACK OF CURB (FC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
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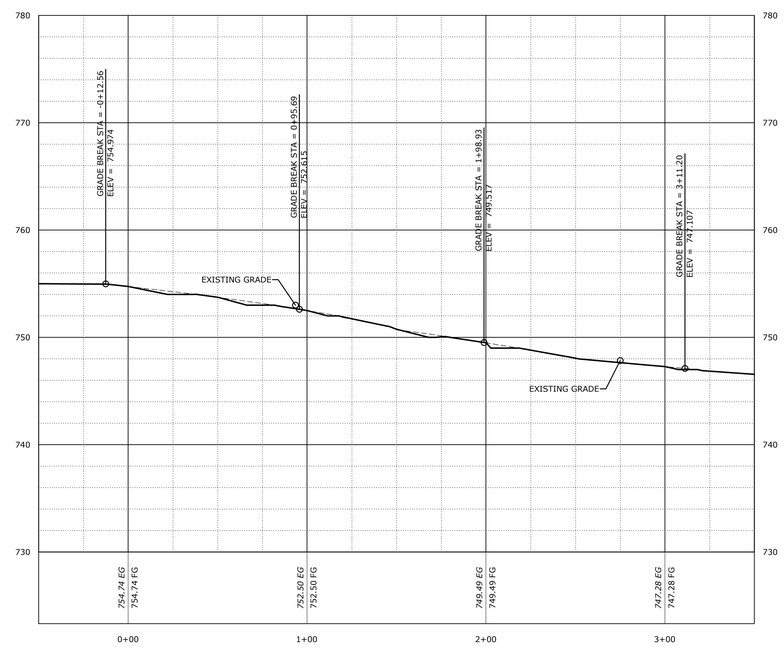
- SANITARY SEWER EASEMENT
- FEMA 100 YEAR FLOODPLAIN
- CREEK
- POND
- WETLANDS
- 100' PERENNIAL STREAM BUFFER
- LANDSCAPE BUFFER
- 13 / 40,087 SF — LOT NUMBER AND SIZE





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CAMBRIDGE PROPERTIES

# MCKEE ROAD PLAN AND PROFILE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

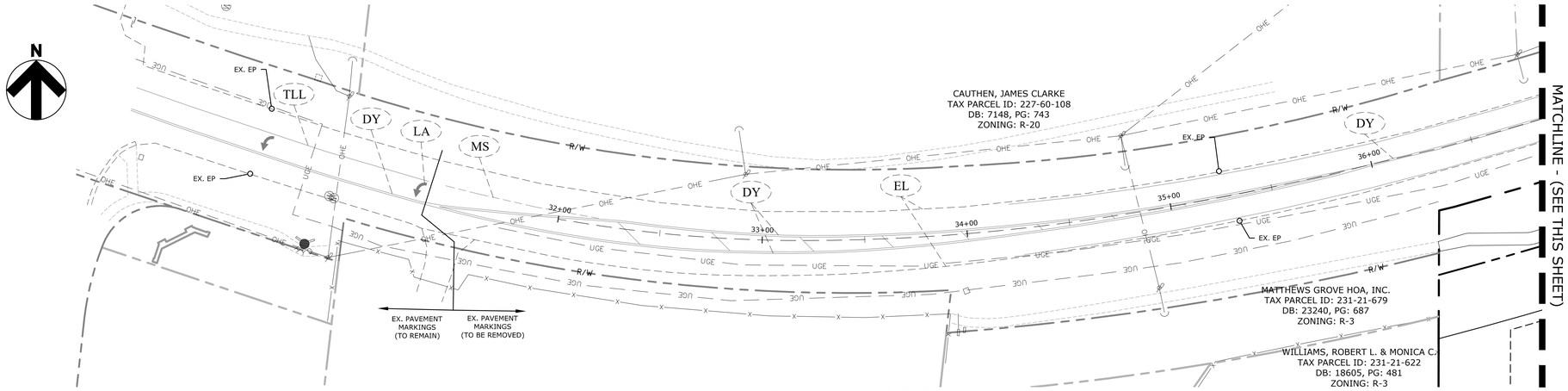
SHEET TITLE

MCKEE ROAD PLAN AND PROFILE

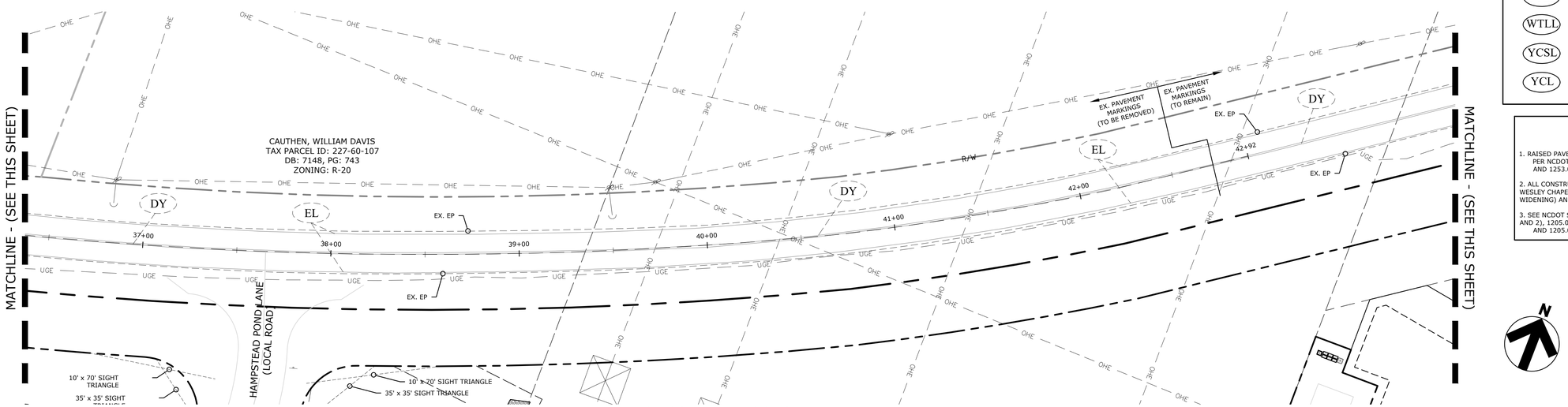
SHEET NUMBER

C-701

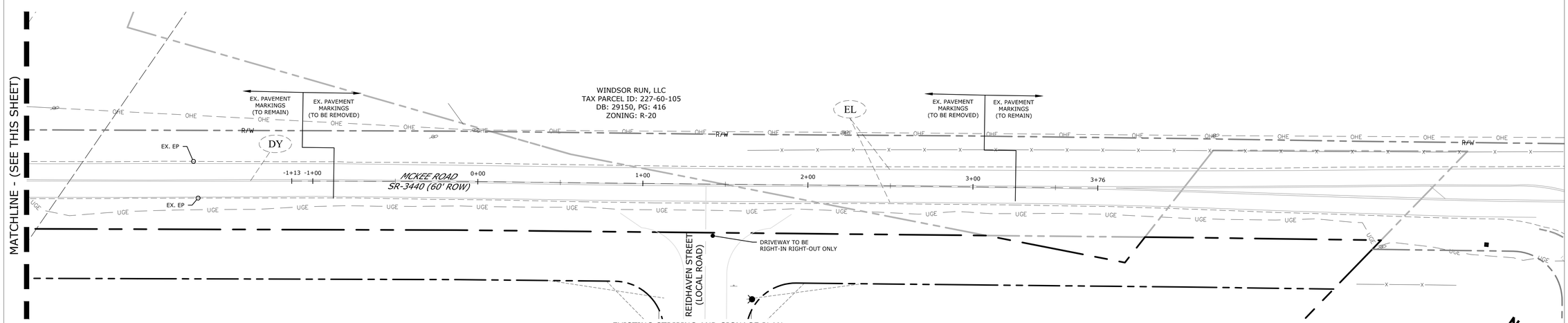

Plot Stamp: 7/12/2018 2:19:20 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-700 MCKEE ROAD PLAN AND PROFILE.dwg, Tab: C-701 MCKEE ROAD PLAN AND PROFILE




EXISTING STRIPING AND SIGNAGE PLAN
SCALE: 1"=30'




EXISTING STRIPING AND SIGNAGE PLAN
SCALE: 1"=30'




EXISTING STRIPING AND SIGNAGE PLAN
SCALE: 1"=30'

LEGEND

| | |
|---|---|
| EL | EX. WHITE EDGE LINE |
| YT | EX. YELLOW TRANSVERSE LINE |
| DY | EX. DOUBLE YELLOW LINE |
| SYS | EX. SOLID YELLOW WITH SKIP LINE |
| MS | EX. MINI SKIP LINE |
| SL | EX. SKIP LINES |
| LA | EX. LANE ARROW |
| TLL | EX. TURN LANE LINE |
| EL | WHITE EDGE LINE (4" / 6") |
| YT | YELLOW TRANSVERSE LINES (24") |
| DY | DOUBLE YELLOW LINE (4" / 6") |
| SYS | SOLID YELLOW WITH YELLOW CENTER SKIP LINES (10'-30'/SP) |
| MS | MINI SKIP LINE (3'-9'/SP) |
| SL | SKIP LINES (4" / 6") |
| LA | LANE ARROW |
| YTLL | YELLOW TURN LANE LINE (4" / 6") |
| WTLL | WHITE TURN LANE LINE (4" / 6") |
| YCSL | YELLOW CENTER SKIP LINES (10'-30'/SP) |
| YCL | YELLOW CENTER LINES (4"/6") |

NOTES

1. RAISED PAVEMENT MARKERS SHALL BE INSTALLED PER NCDOT STANDARD DRAWING 1250.01, 1251.01, AND 1253.01.
2. ALL CONSTRUCTION SHALL CONFORM TO VILLAGE OF WESLEY CHAPEL AND NCDOT STANDARDS (ROAD WIDENING) AND SPECIFICATIONS.
3. SEE NCDOT STANDARD DETAILS #1205.01 (SHEETS 1 AND 2), 1205.02 (SHEETS 1 AND 2), 1205.04, 1205.05, AND 1205.09.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CAMBRIDGE PROPERTIES

EXISTING MCKEE ROAD SIGNAGE AND STRIPING PLAN
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

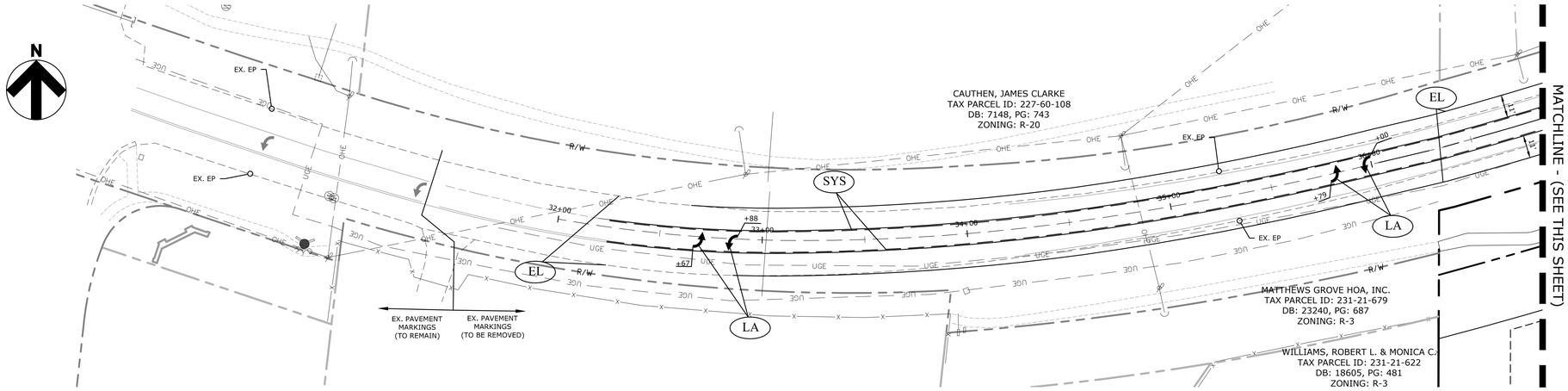
ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
EXISTING MCKEE ROAD SIGNAGE AND STRIPING PLAN

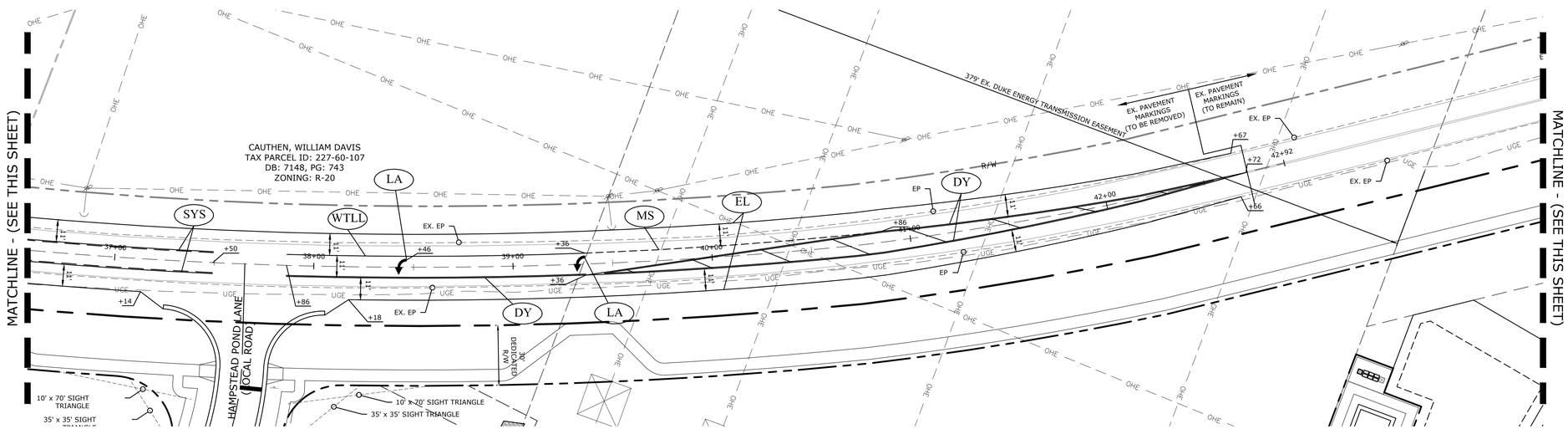
SHEET NUMBER
C-702


Plot Stamp: 7/12/2018 2:19:30 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-701 MCKEE ROAD SIGNAGE AND STRIPING PLAN.dwg, Tab: C-702 EXISTING MCKEE ROAD SIGNAGE AND STRIPING PLAN



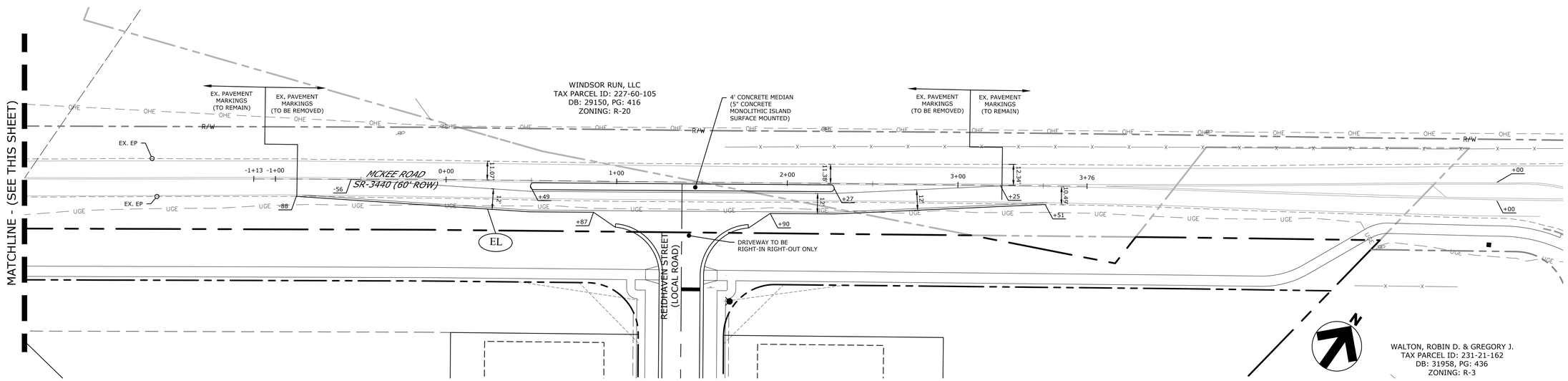

PROPOSED STRIPING AND SIGNAGE PLAN

SCALE: 1"=30'




PROPOSED STRIPING AND SIGNAGE PLAN

SCALE: 1"=30'




PROPOSED STRIPING AND SIGNAGE PLAN

SCALE: 1"=30'

## LEGEND

| | |
|---|---|
| EL | EX. WHITE EDGE LINE |
| YT | EX. YELLOW TRANSVERSE LINE |
| DY | EX. DOUBLE YELLOW LINE |
| SYS | EX. SOLID YELLOW WITH SKIP LINE |
| MS | EX. MINI SKIP LINE |
| SL | EX. SKIP LINES |
| LA | EX. LANE ARROW |
| TLL | EX. TURN LANE LINE |
| EL | WHITE EDGE LINE (4" / 6") |
| YT | YELLOW TRANSVERSE LINES (24") |
| DY | DOUBLE YELLOW LINE (4" / 6") |
| SYS | SOLID YELLOW WITH YELLOW CENTER SKIP LINES (10'-30'/SP) |
| MS | MINI SKIP LINE (3'-9'/SP) |
| SL | SKIP LINES (4" / 6") |
| LA | LANE ARROW |
| YTLL | YELLOW TURN LANE LINE (4" / 6") |
| WTLL | WHITE TURN LANE LINE (4" / 6") |
| YCSL | YELLOW CENTER SKIP LINES (10'-30'/SP) |
| YCL | YELLOW CENTER LINES (4"/6") |

## NOTES

1. RAISED PAVEMENT MARKERS SHALL BE INSTALLED PER NCDOT STANDARD DRAWING 1250.01, 1251.01, AND 1253.01.
2. ALL CONSTRUCTION SHALL CONFORM TO VILLAGE OF WESLEY CHAPEL AND NCDOT STANDARDS (ROAD WIDENING) AND SPECIFICATIONS.
3. SEE NCDOT STANDARD DETAILS #1205.01 (SHEETS 1 AND 2), 1205.02 (SHEETS 1 AND 2), 1205.04, 1205.05, AND 1205.09.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CAMBRIDGE PROPERTIES

PROPOSED MCKEE ROAD SIGNAGE AND STRIPING PLAN

# THE POND AT MCKEE GLEN

CAMBRIDGE PROPERTIES

CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

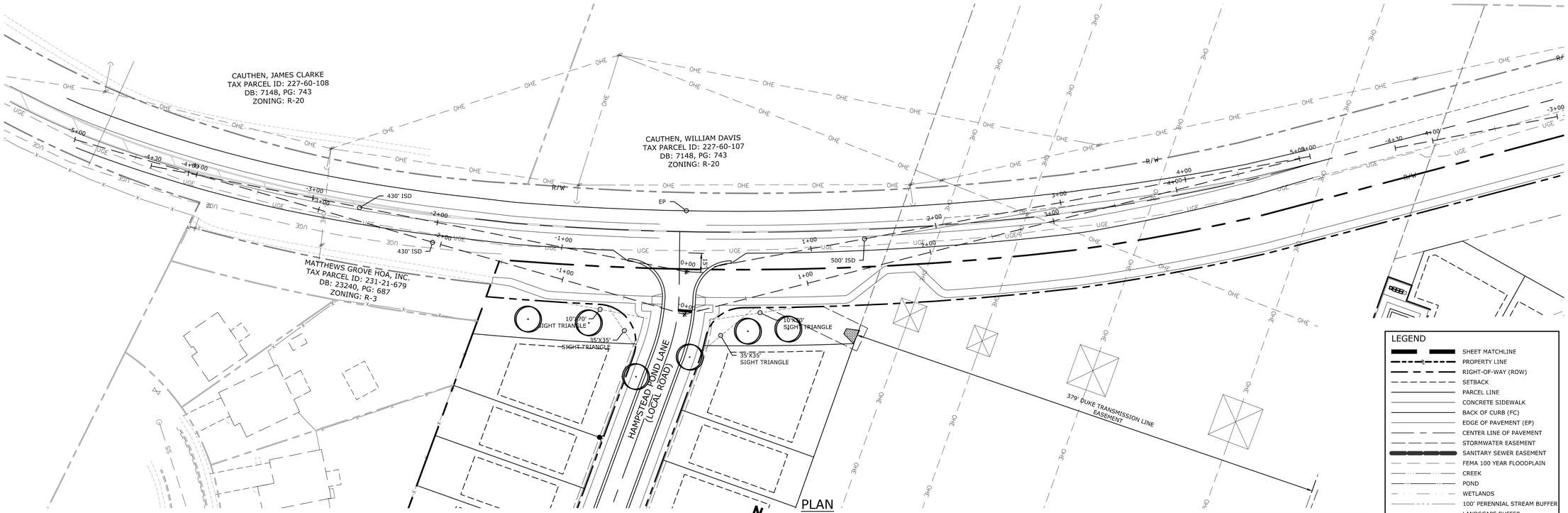
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
PROPOSED MCKEE ROAD SIGNAGE AND STRIPING PLAN

SHEET NUMBER

C-703


Plot Stamp: 7/12/2018 2:19:35 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-701 MCKEE ROAD SIGNAGE AND STRIPING PLAN.dwg, Tab: C-703 PROPOSED MCKEE ROAD SIGNAGE AND STRIPING PLAN




## PLAN

N

0 20 40 80

1 INCH = 40 FEET

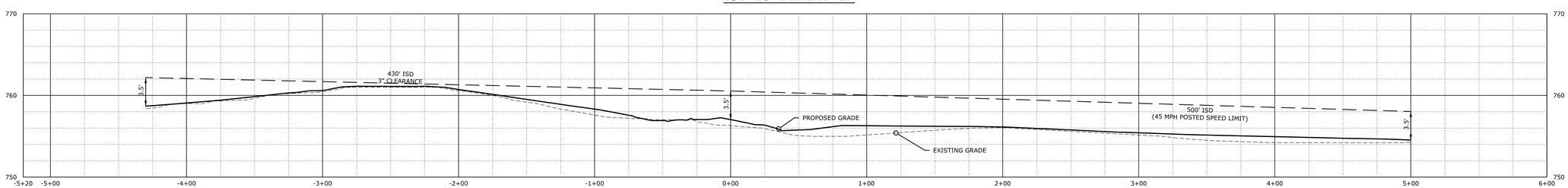
### LEGEND

- SHEET MATCHLINE
- PROPERTY LINE
- RIGHT-OF-WAY (ROW)
- SETBACK
- PARCEL LINE
- CONCRETE SIDEWALK
- BACK OF CURB (FC)
- EDGE OF PAVEMENT (EP)
- CENTER LINE OF PAVEMENT
- STORMWATER EASEMENT
- SANITARY SEWER EASEMENT
- FEMA 100 YEAR FLOODPLAIN
- CREEK
- POND
- WETLANDS
- 100' PERENNIAL STREAM BUFFER
- LANDSCAPE BUFFER
- 13 / 40,087 SF — LOT NUMBER AND SIZE

### NOTE:

OWNER IS RESPONSIBLE TO REMOVE EXISTING TREES LOCATED WITHIN SIGHT LINE. PERMISSION FROM ADJACENT PROPERTY OWNER IS REQUIRED PRIOR TO TREE REMOVAL FROM ADJACENT PROPERTY. IF TREES ARE ONLY TRIMMED AND NOT FULLY REMOVED AN EASEMENT WILL BE REQUIRED IN ORDER TO MAINTAIN CLEAR SIGHT DISTANCE.

## ISD 15' BEHIND EP

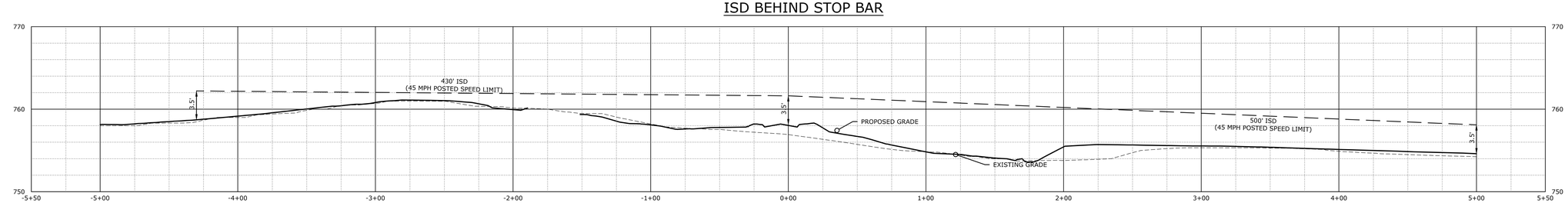



## PROFILE

0 20 40 80 — HORIZONTAL: 1 INCH = 40 FEET

0 2.5 5 10 — VERTICAL: 1 INCH = 5 FEET

## ISD BEHIND STOP BAR




## PROFILE

0 20 40 80 — 1 INCH = 40 FEET

0 2.5 5 10 — VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:19:44 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-702 MCKEE ROAD INTERSECTION SIGHT DISTANCE.dwg, Tab: C-704 INTERSECTION SIGHT DISTANCE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CAMBRIDGE PROPERTIES

# INTERSECTION SIGHT DISTANCE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

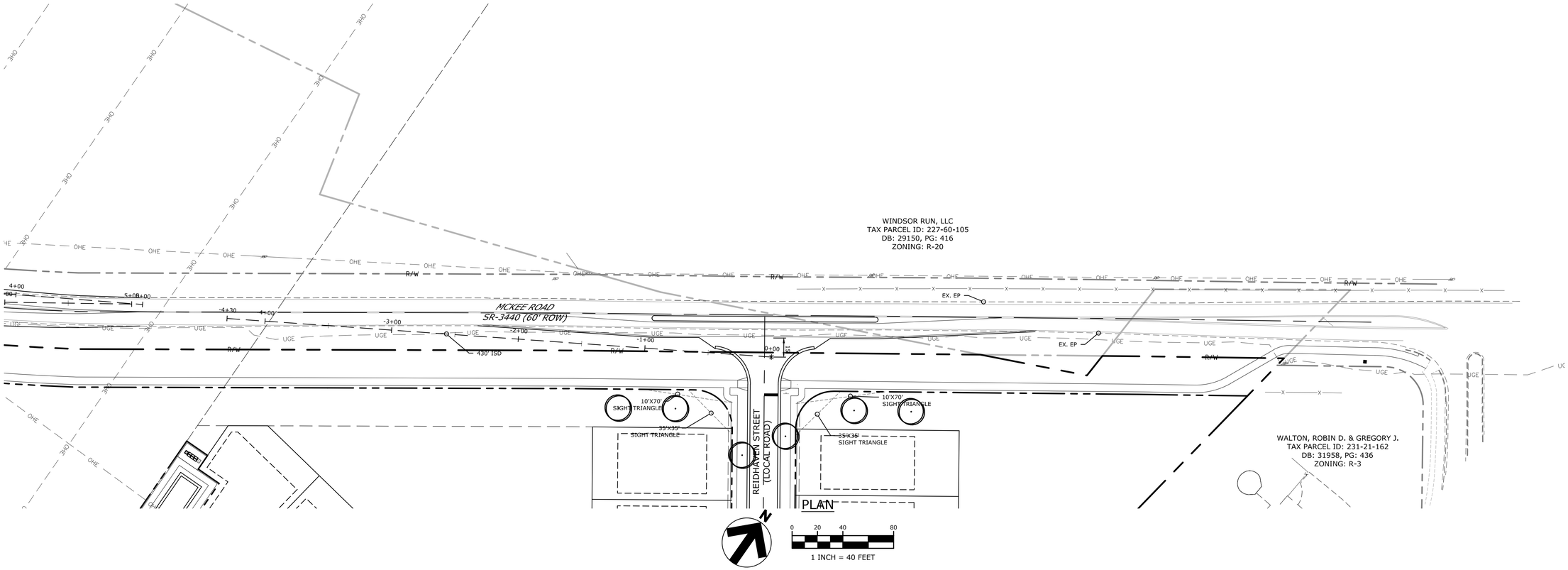
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

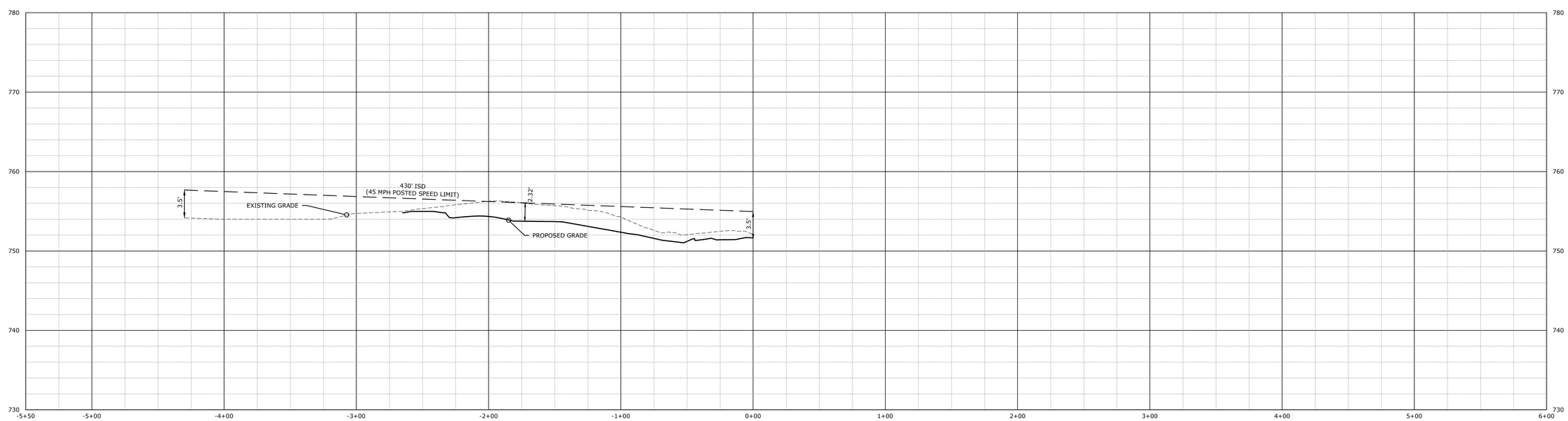
INTERSECTION SIGHT DISTANCE

SHEET NUMBER

C-704




PLAN




PROFILE

0 20 40 80
HORIZONTAL: 1 INCH = 40 FEET

0 2.5 5 10
VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:19:50 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-702 MCKEE ROAD INTERSECTION SIGHT DISTANCE.dwg, Tab: C-705 INTERSECTION SIGHT DISTANCE

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CAMBRIDGE PROPERTIES

# INTERSECTION SIGHT DISTANCE
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
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| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

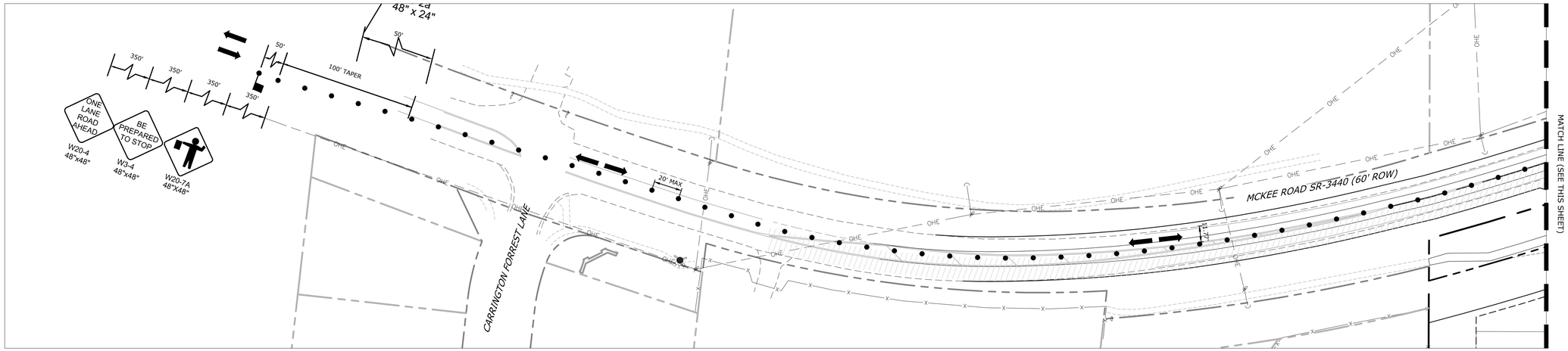
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

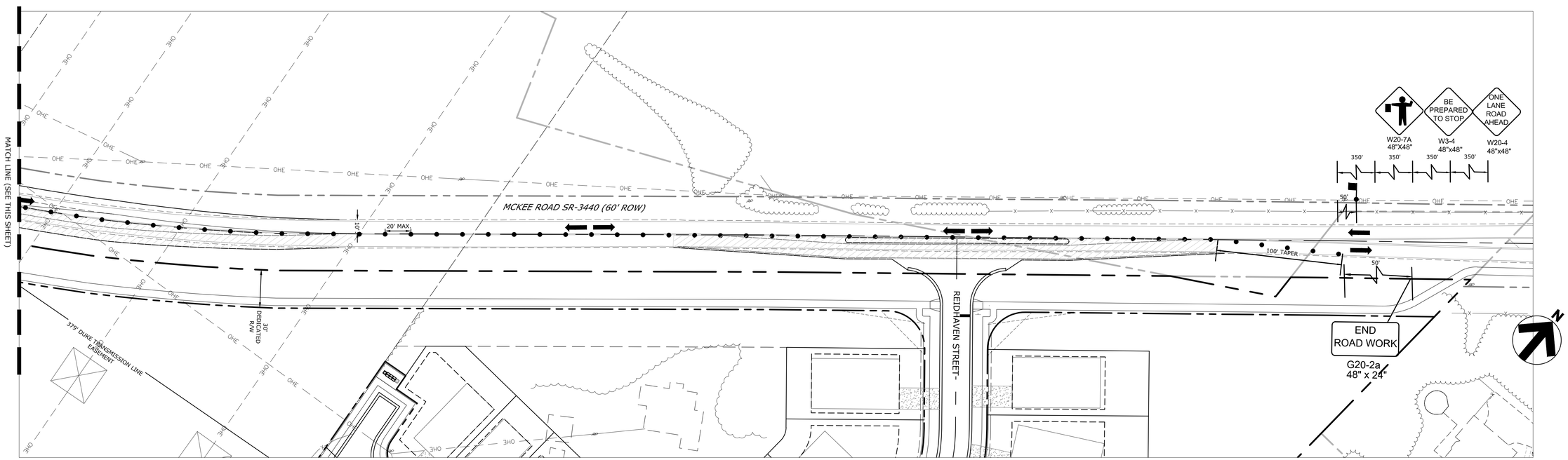
SHEET TITLE

INTERSECTION SIGHT DISTANCE

SHEET NUMBER

C-705




## GENERAL MAINTENANCE OF TRAFFIC NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATIONS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)" (CURRENT EDITION), AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD (NCSMUTCD) (CURRENT EDITION).
2. THE ROADWAY SHALL NOT BE RE-OPENED TO TRAFFIC UNTIL PERMANENT TRAFFIC CONTROLS ARE IN PLACE, OR UNTIL TEMPORARY TRAFFIC CONTROLS, APPROVED BY THE ENGINEER, ARE INSTALLED. THE CONTRACTOR ASSUMES ALL LIABILITY FOR THE PREMATURE REMOVAL OF TEMPORARY TRAFFIC CONTROLS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REINSTALLATION AND/OR REPLACEMENT OF ALL PERMANENT TRAFFIC CONTROL DEVICES DAMAGED OR REMOVED DURING THE CONSTRUCTION. PERMANENT TRAFFIC CONTROL THAT IS NO LONGER IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE REPLACED IMMEDIATELY. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, AND IMPROPERLY PLACED TRAFFIC CONTROL DEVICES.
4. THE CONTRACTOR SHALL PROVIDE A 24 HOUR CONTACT WHO WILL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC FOR THE DURATION OF THE PROJECT.
5. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER AND THE INSPECTOR.
6. ACCESS TO ALL ADJOINING PROPERTIES TO BE MAINTAINED AT ALL TIMES.
7. MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES INCLUDING DRUMS, SIGNS, BARRICADES, MESSAGE BOARDS, DETOUR SIGNAGE, ETC., SHALL BE THE CONTRACTORS RESPONSIBILITY.

## NOTES:

1. WORK SHALL ONLY BE CONDUCTED DURING NON-PEAK HOURS. DURING CONTRACTOR'S NON-WORKING HOURS ALL LANES SHALL BE OPEN TO TRAFFIC. DURING CONTRACTOR'S NON-WORKING HOURS THE DROP-OFF WITHIN THE WORK ZONE SHALL BE BACKFILLED OR SECURELY PLATTED TO ACCOMPLISH THIS. CONTRACTOR SHALL CONTACT NCDOT PRIOR TO CONSTRUCTION FOR EXTENTS OF GRINDING OF EX. STRIPPING AND PLACEMENT OF TEMPORARY YELLOW LANE LINES. ONCE TEMPORARY YELLOW LANE LINES ARE IN, TEMPORARY LANE CLOSURE, CONCRETE MEDIAN AND ADDITIONAL PAVEMENT WORK MAY BEGIN. CONTRACTOR TO ONLY GRIND THE AMOUNT OF STRIPPING AND PLACE TEMPORARY YELLOW LANE LINES THAT CAN BE COMPLETELY FINISHED DURING WORKING HOURS. WORK SHALL BEGIN AND END WHERE STRIPPING IS TO BE GRINDED AND REPLACED. WORK COMPLETED IN ONE PHASE SHALL BE COMPLETED WITH 1-WAY TRAFFIC WITH WORK ZONE AS DEPICTED ON THIS PLAN. THIS SECTION SHALL BE AS PER NCDOT STD 1101.02 SHEET 1 OF 15.
2. ADVANCED WARNING SIGNS SHALL BE PLACED IN A VISIBLE LOCATION NOT IN CONFLICT WITH ANY EXISTING SIGN, DRIVE OR INTERSECTION.
3. EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED.
4. ALL CONSTRUCTION SHALL CONFORM TO VILLAGE OF WESLEY CHAPEL AND NCDOT STANDARDS AND SPECIFICATIONS.
5. CONTRACTOR SHALL COORDINATE WITH NCDOT INSPECTOR FOR ALL TRAFFIC CONTROL. FIELD MODIFICATIONS MAY BE REQUIRED.

## LEGEND

- DRUM (NCDOT 1130.01)
- FLAGGER
- AREA OF CONCRETE
- WORK AREA
- TRAFFIC FLOW ARROW
- EXISTING RIGHT-OF-WAY
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT

0 20 40 80

1 INCH = 40 FEET

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CAMBRIDGE PROPERTIES

# TRAFFIC CONTROL PHASE 1
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033448 ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

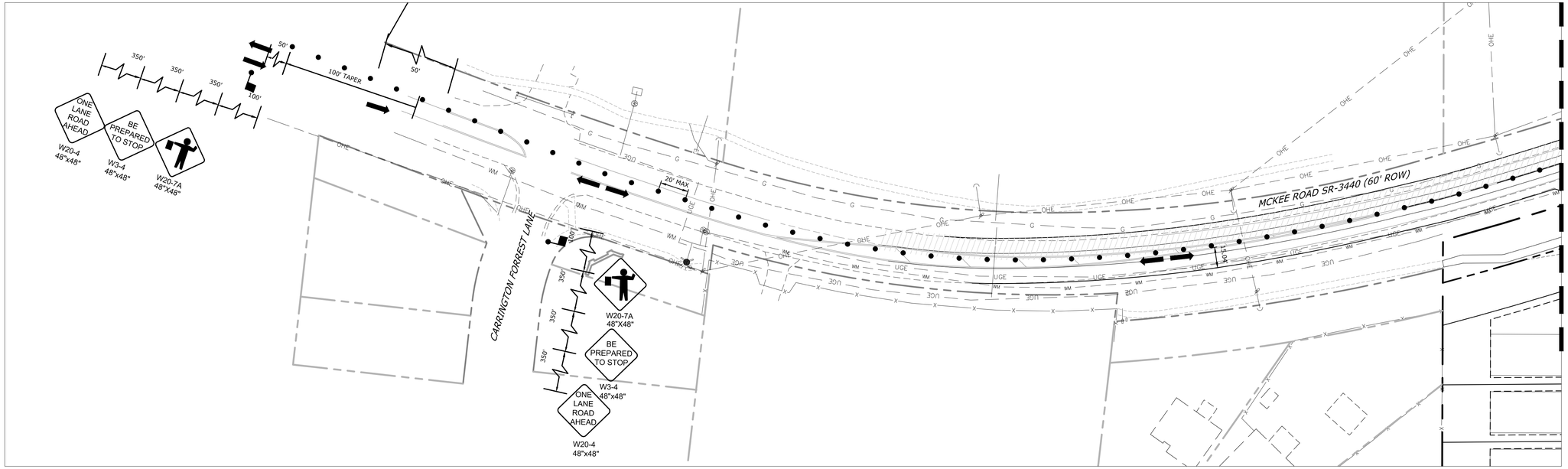
SHEET TITLE

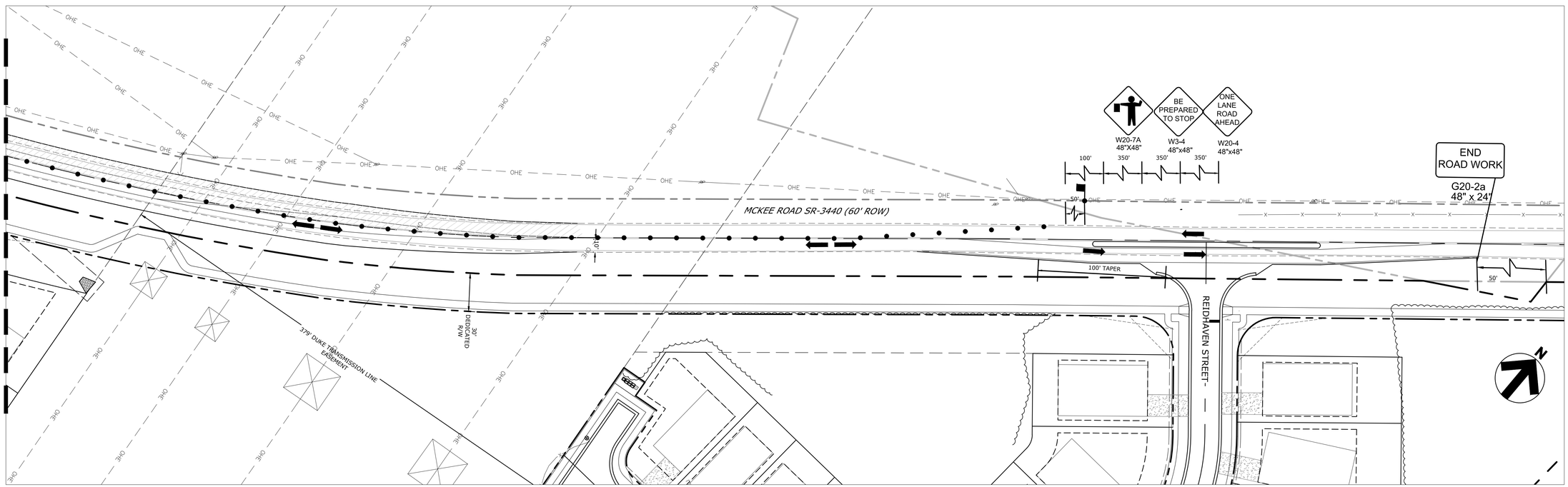
TRAFFIC CONTROL PHASE 1

SHEET NUMBER

C-706


Plot Stamp: 7/12/2018 2:20:00 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-703 TRAFFIC CONTROL PHASE 1.dwg, Tab: C-706 TRAFFIC CONTROL PHASE 1

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## NOTES:

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3. EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED.
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## LEGEND

- DRUM (NCDOT 1130.01)
- FLAGGER
- AREA OF CONCRETE
- WORK AREA
- TRAFFIC FLOW ARROW
- EXISTING RIGHT-OF-WAY
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT

0 20 40 80

1 INCH = 40 FEET

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CAMBRIDGE PROPERTIES

# TRAFFIC CONTROL PHASE 2
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033448 ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

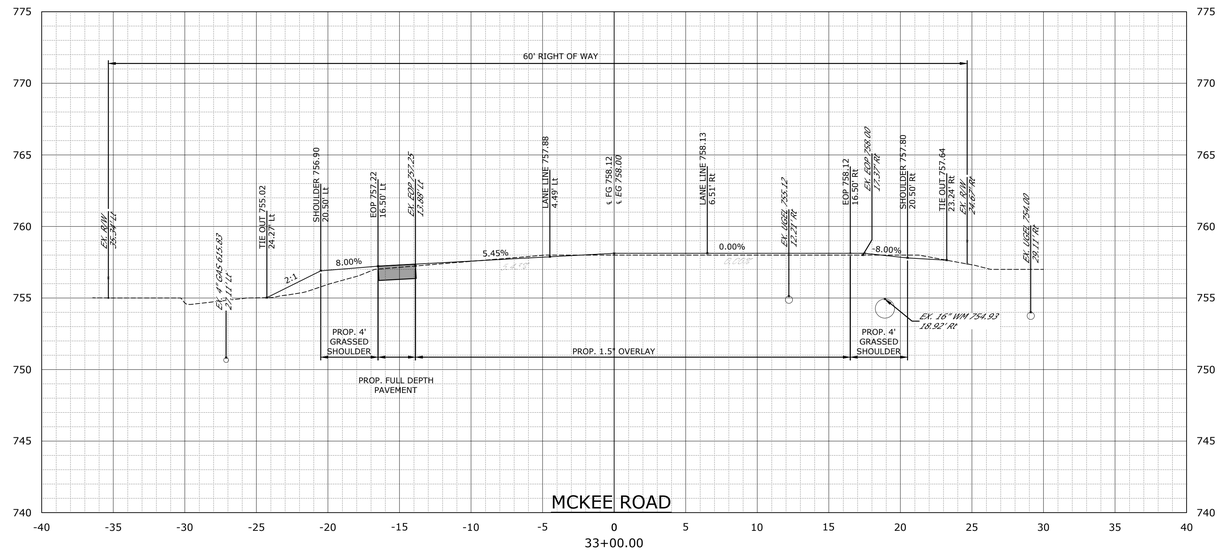
SHEET TITLE

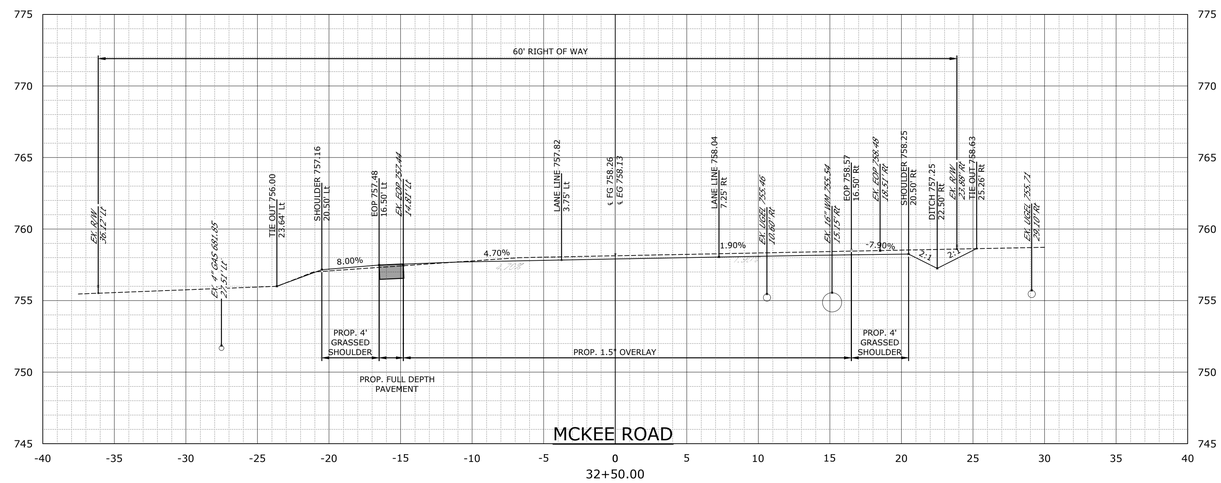
TRAFFIC CONTROL PHASE 2

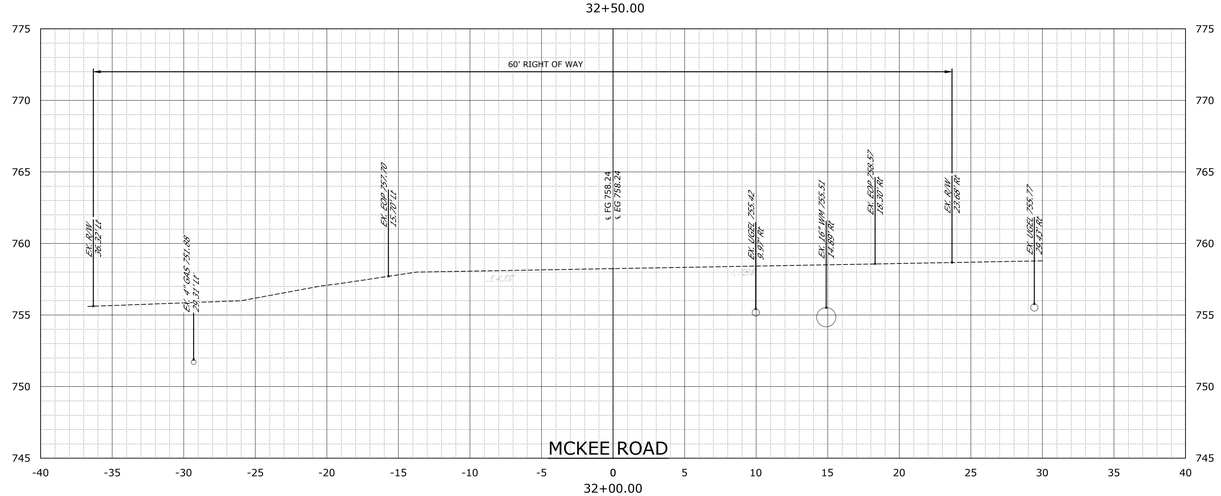
SHEET NUMBER

C-707


Plot Stamp: 7/12/2018 2:20:10 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-703 TRAFFIC CONTROL PHASE 2.dwg, Tab: C-707 TRAFFIC CONTROL PHASE 2




0 2.5 5 10
HORIZONTAL: 1 INCH = 5 FEET

0 2.5 5 10
VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:21:05 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-708 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

MCKEE ROAD CROSS SECTIONS
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
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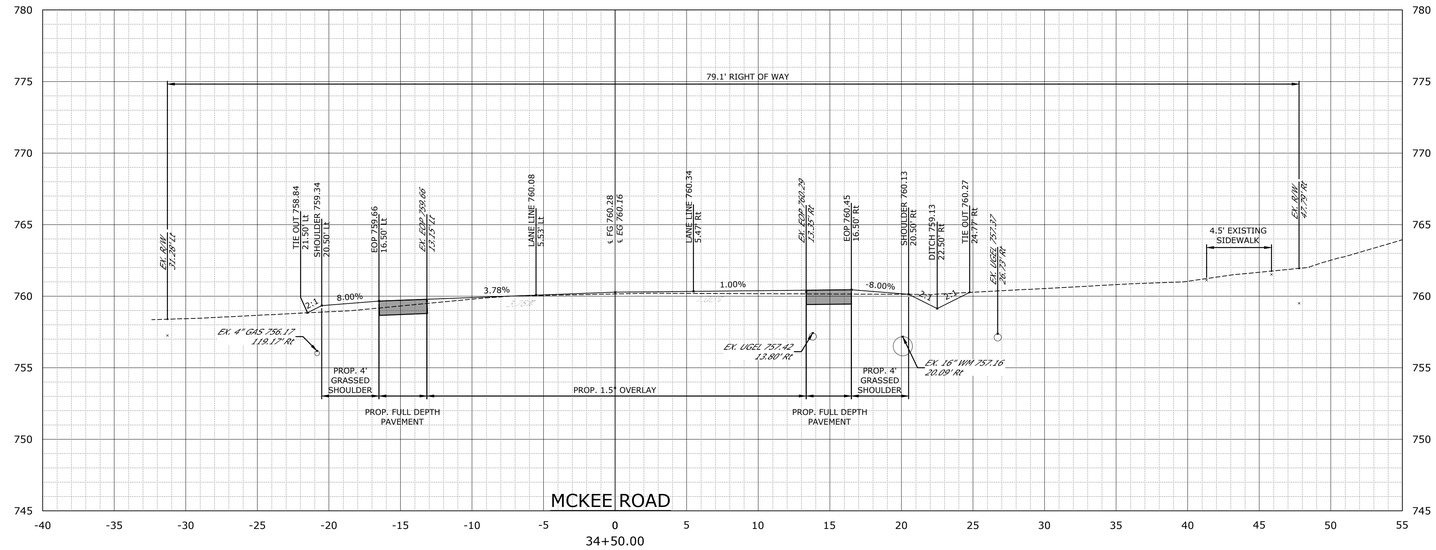
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

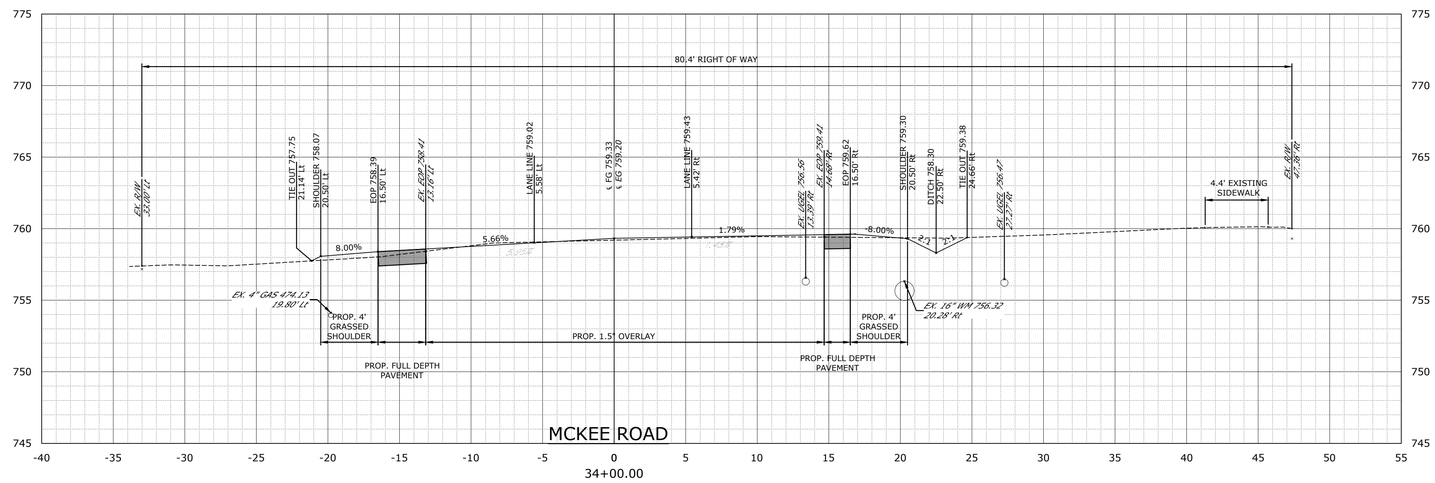
SHEET TITLE

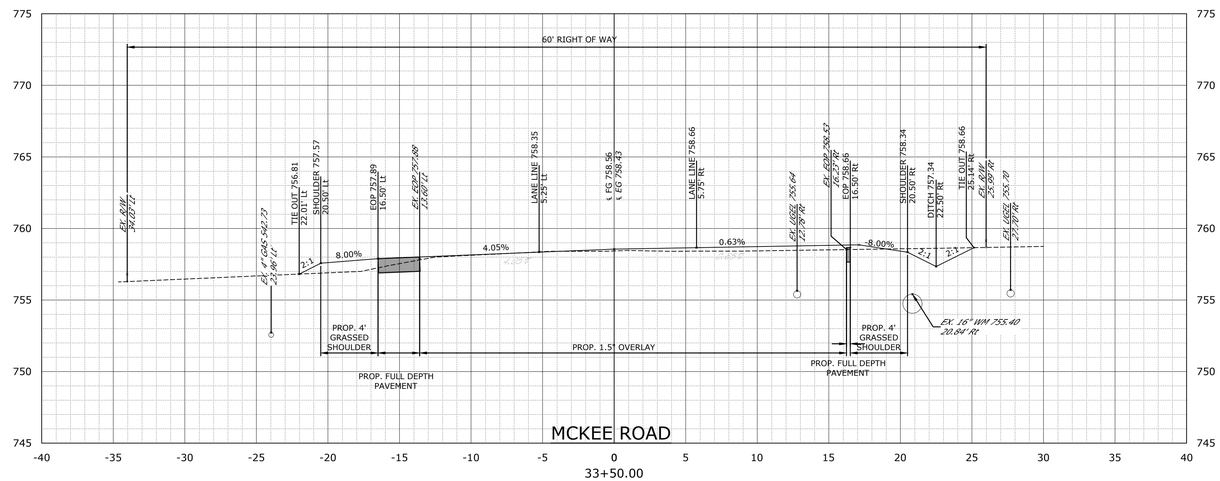
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-708




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:21:33 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-709 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

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| | |
|---|---|
| DATE | 07/06/2018 |
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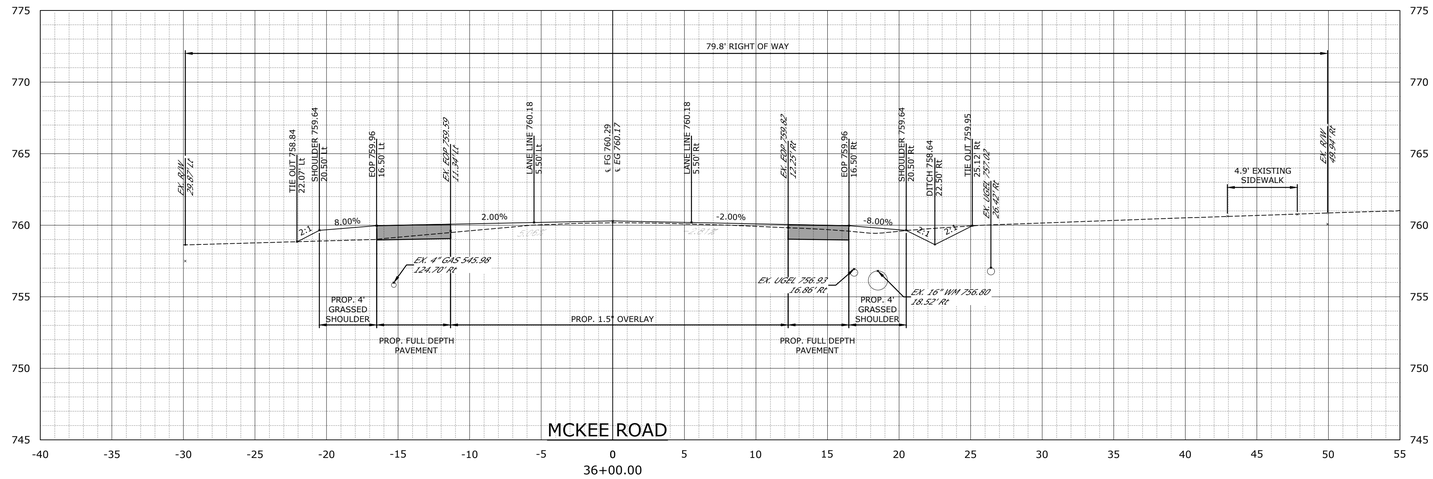
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

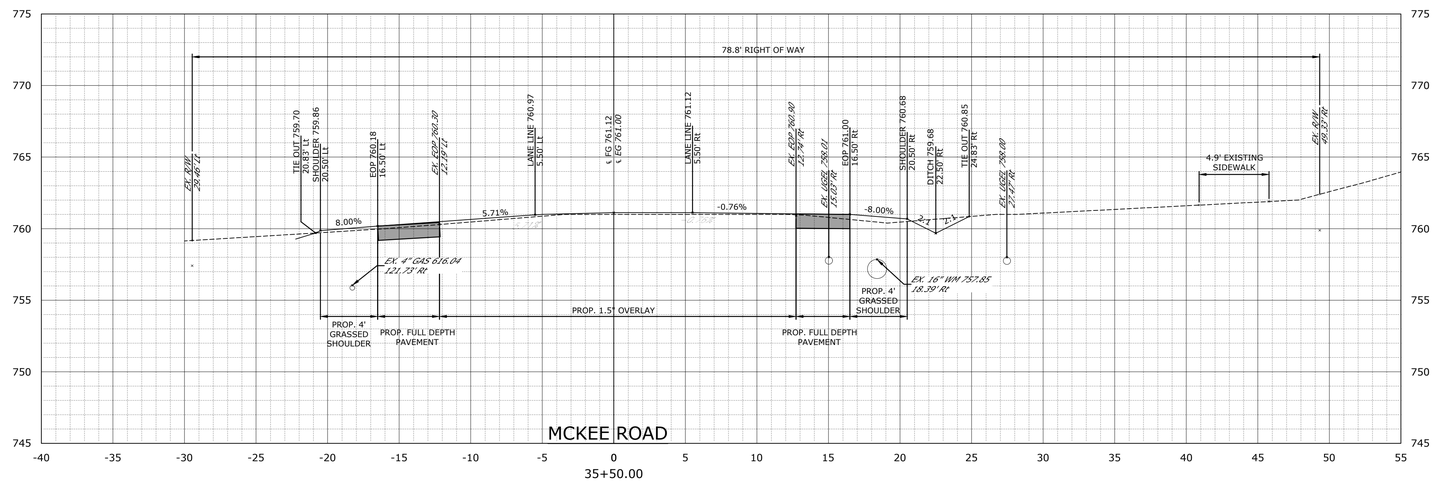
SHEET TITLE

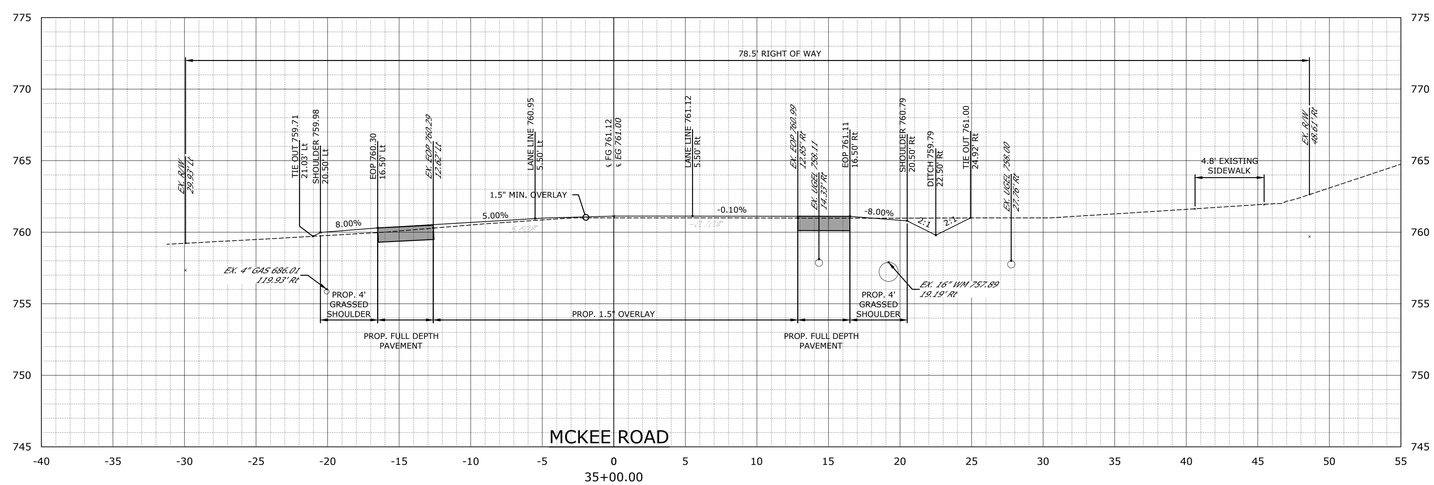
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-709




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:21:49 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-710 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

MCKEE ROAD CROSS SECTIONS
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

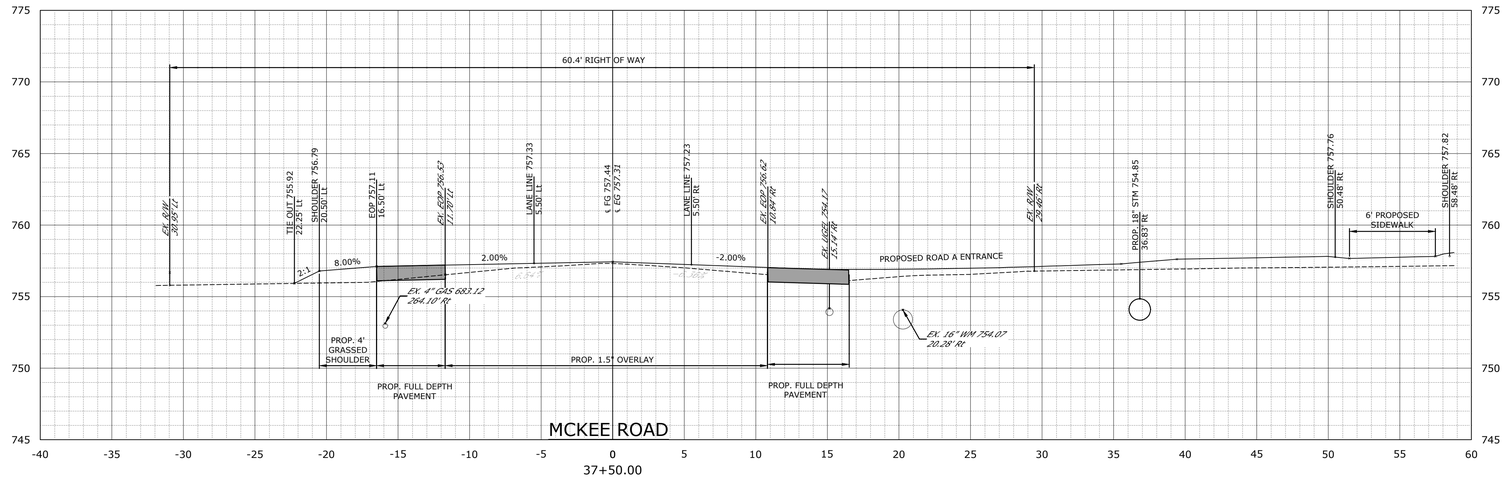
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

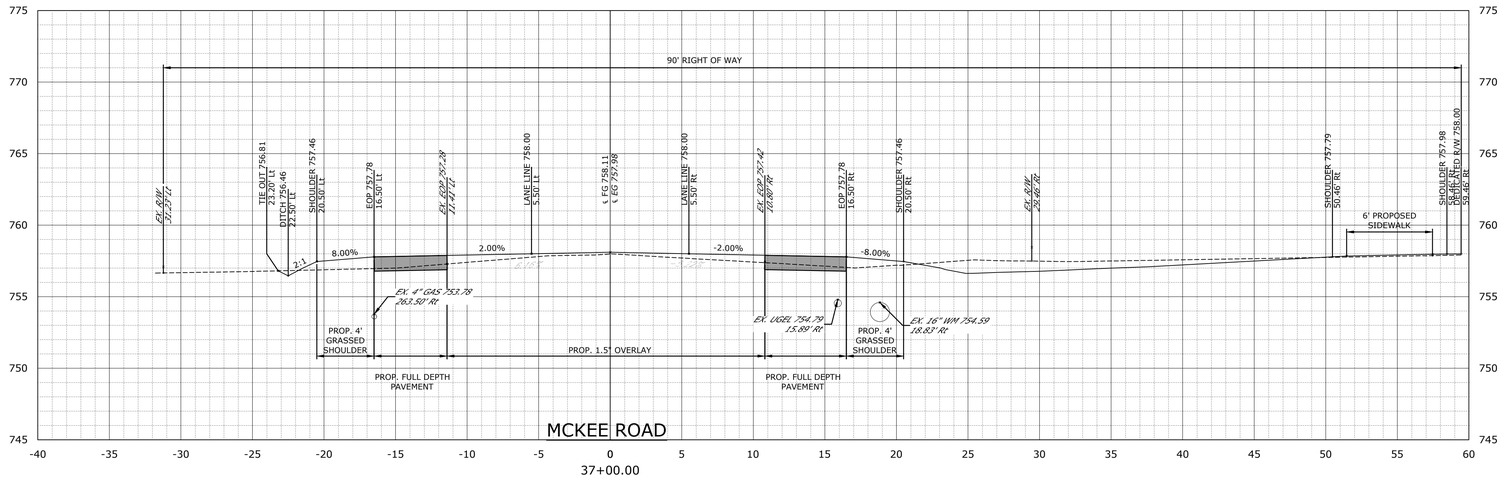
SHEET TITLE

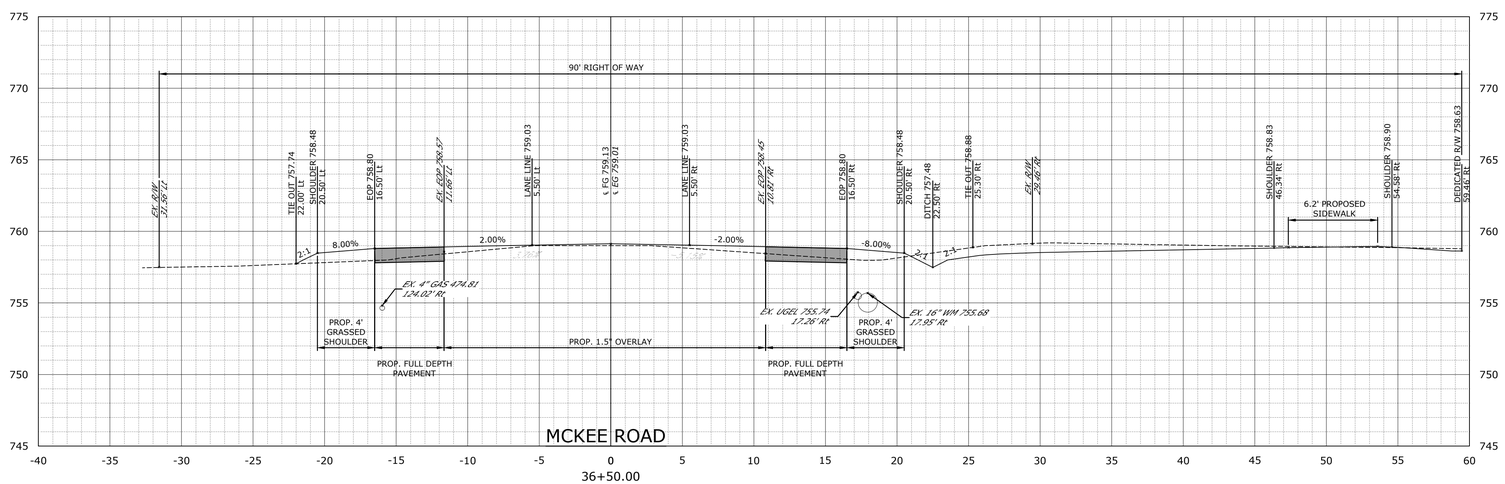
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-710




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:22:08 PM - Shane Finn
File: W:\Cambridge Properties\Mckee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-711 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE PONDS AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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|---|---|---|---|
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| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

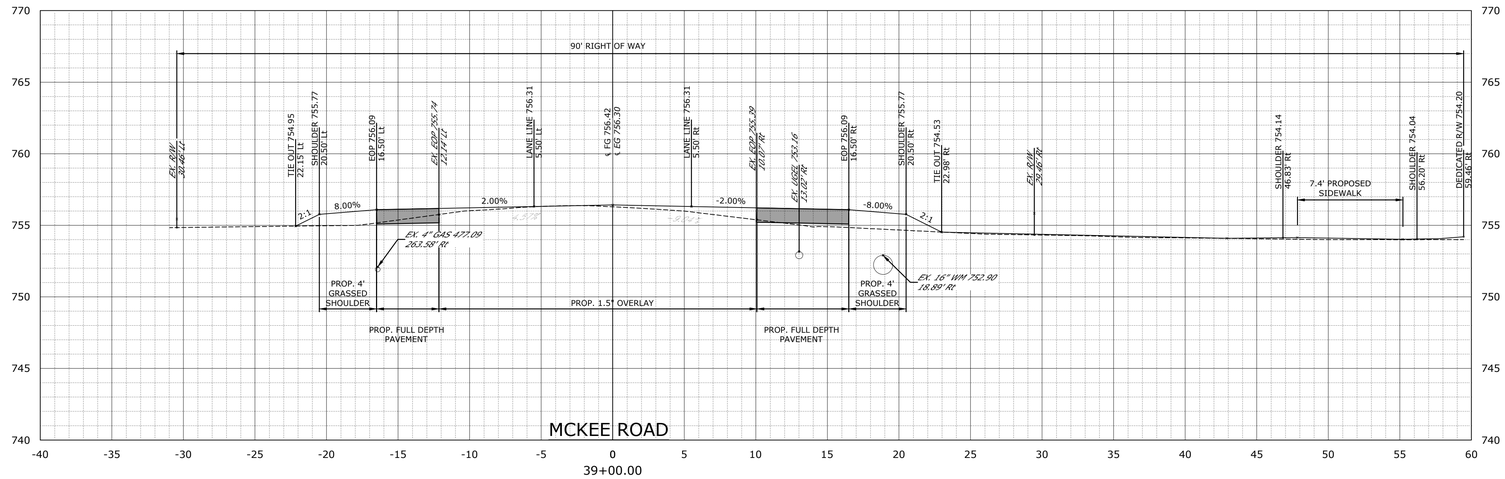
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

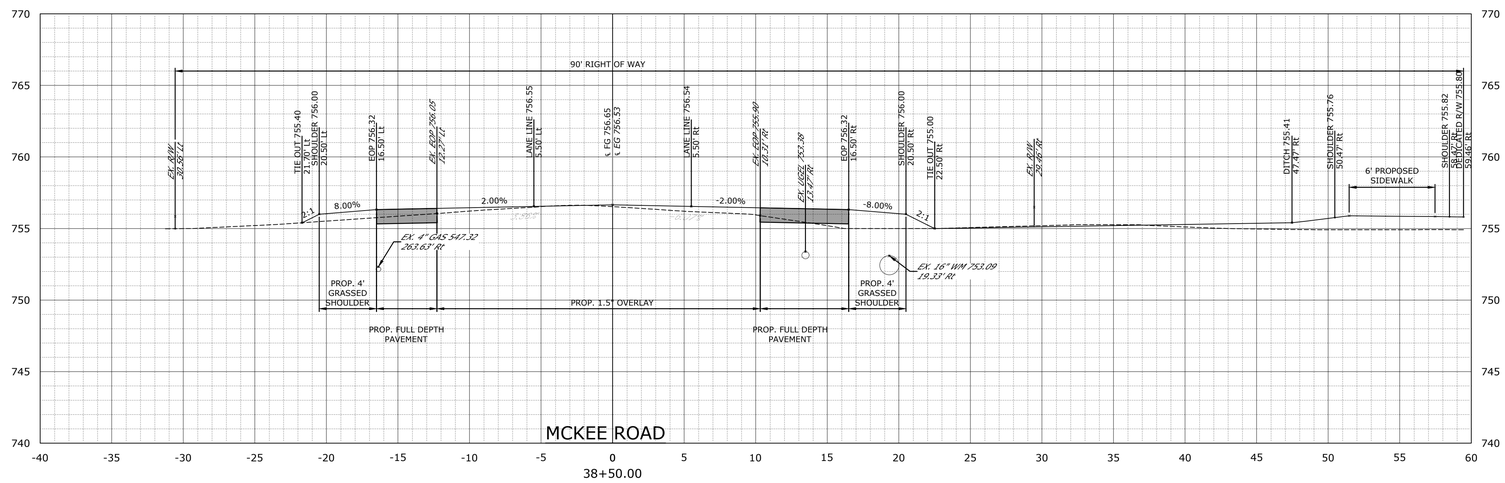
SHEET TITLE

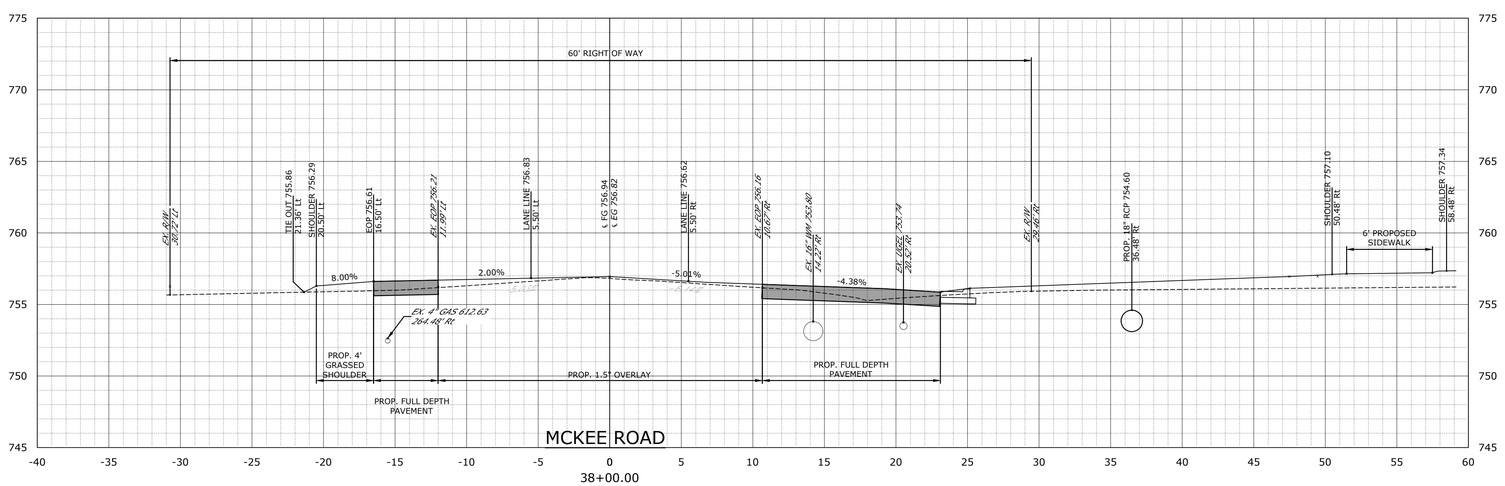
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-711




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:22:29 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-712 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

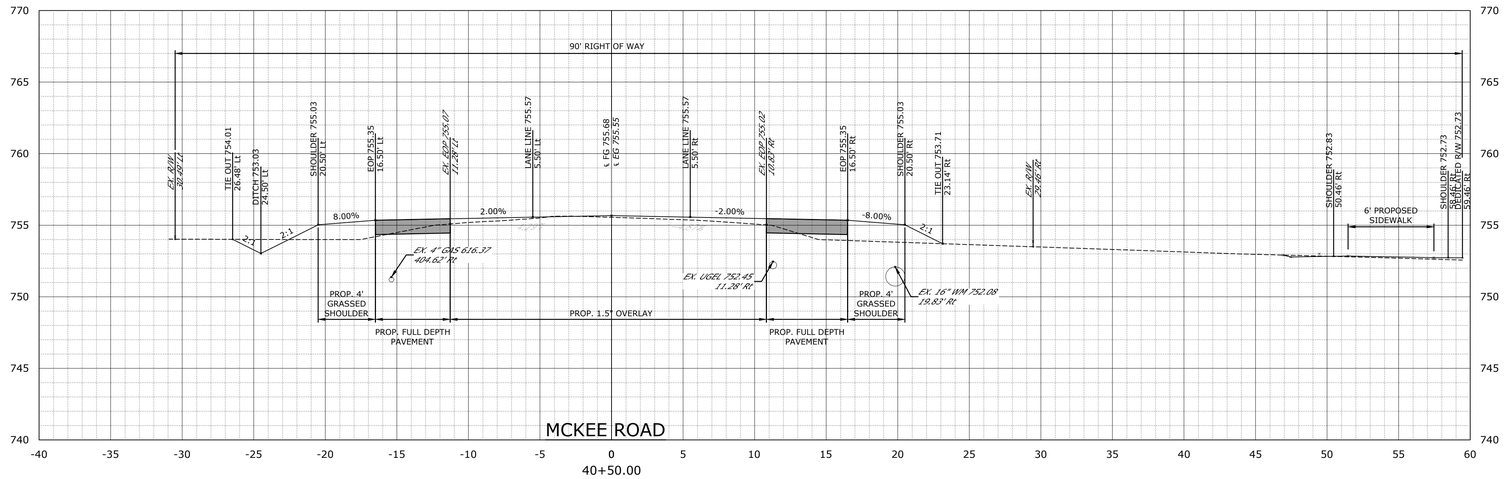
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

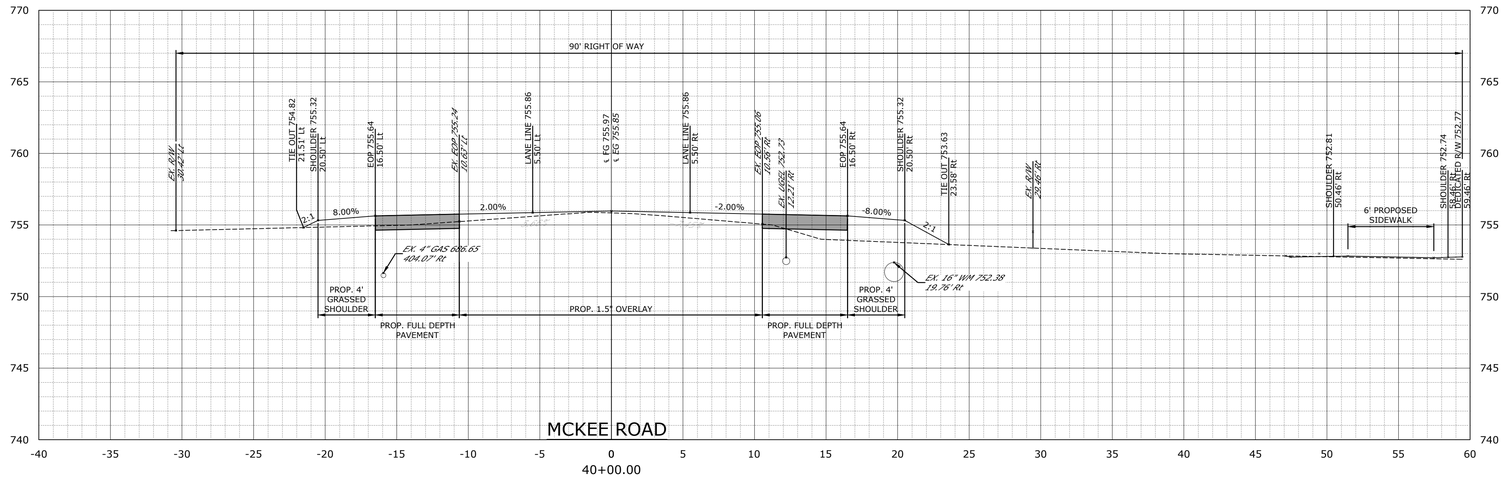
SHEET TITLE

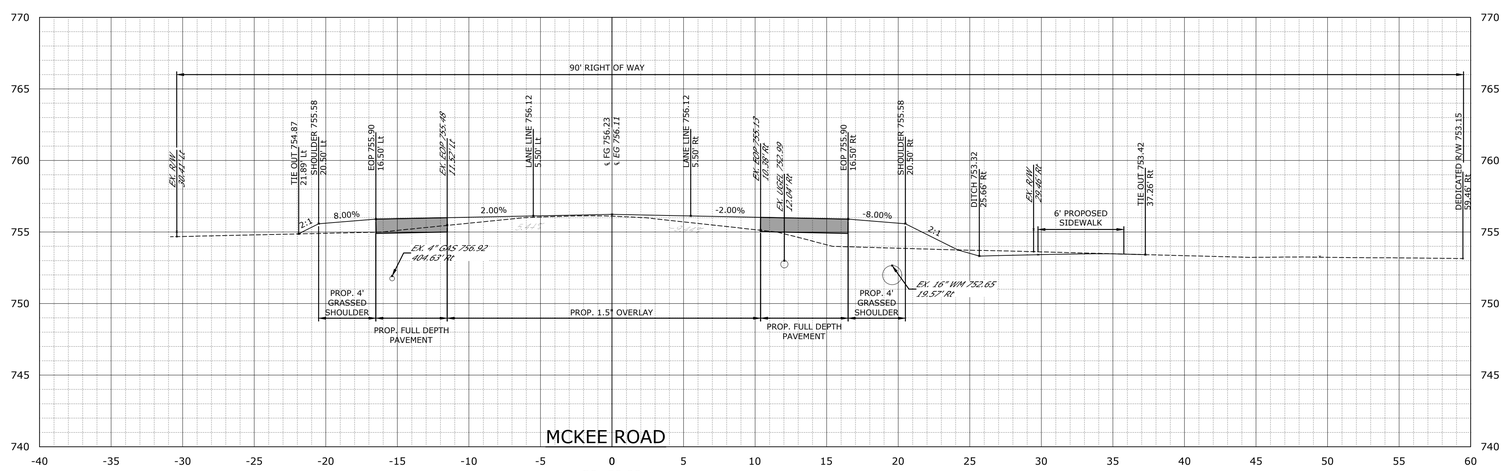
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-712




0 2.5 5 10
HORIZONTAL: 1 INCH = 5 FEET

0 2.5 5 10
VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:22:53 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-713 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

MCKEE ROAD CROSS SECTIONS
THE PONDS AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
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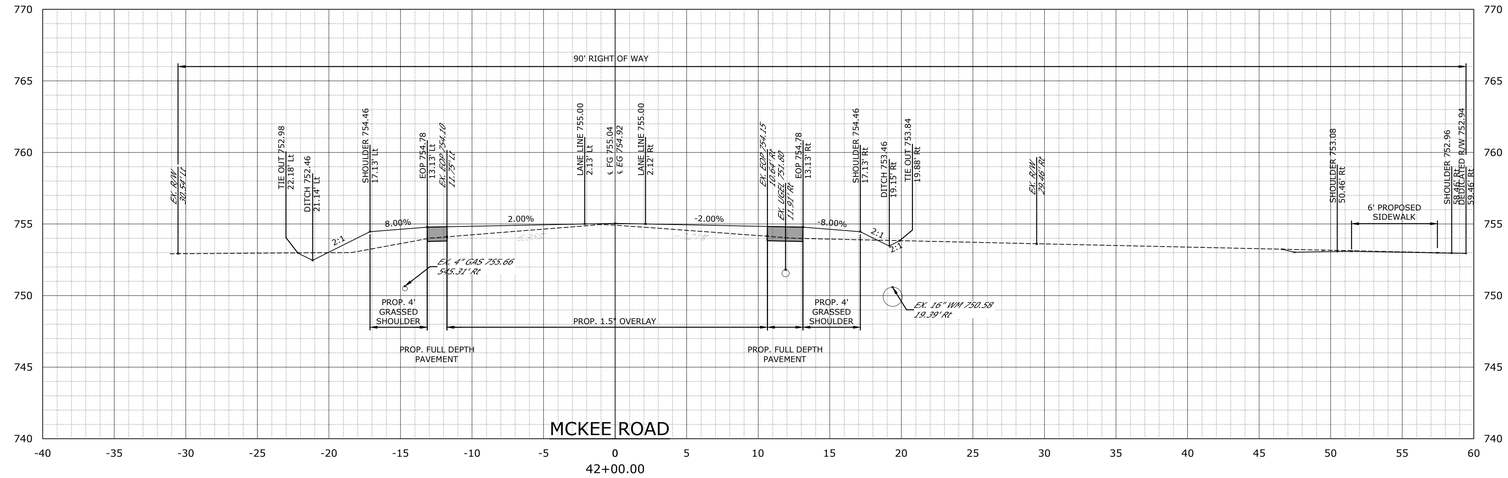
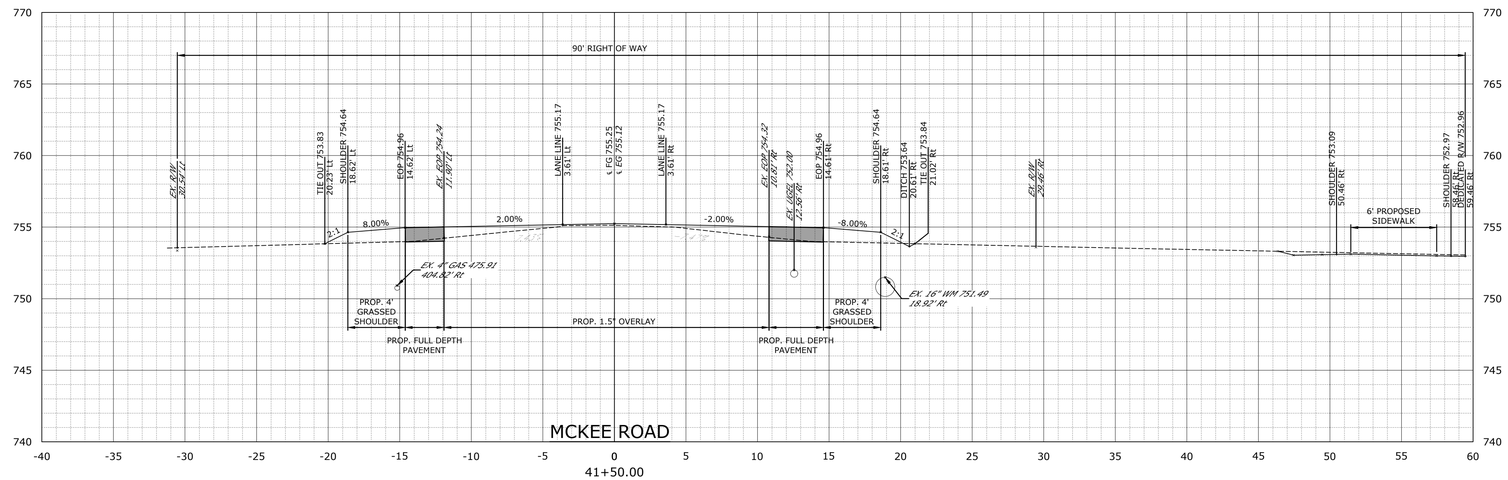
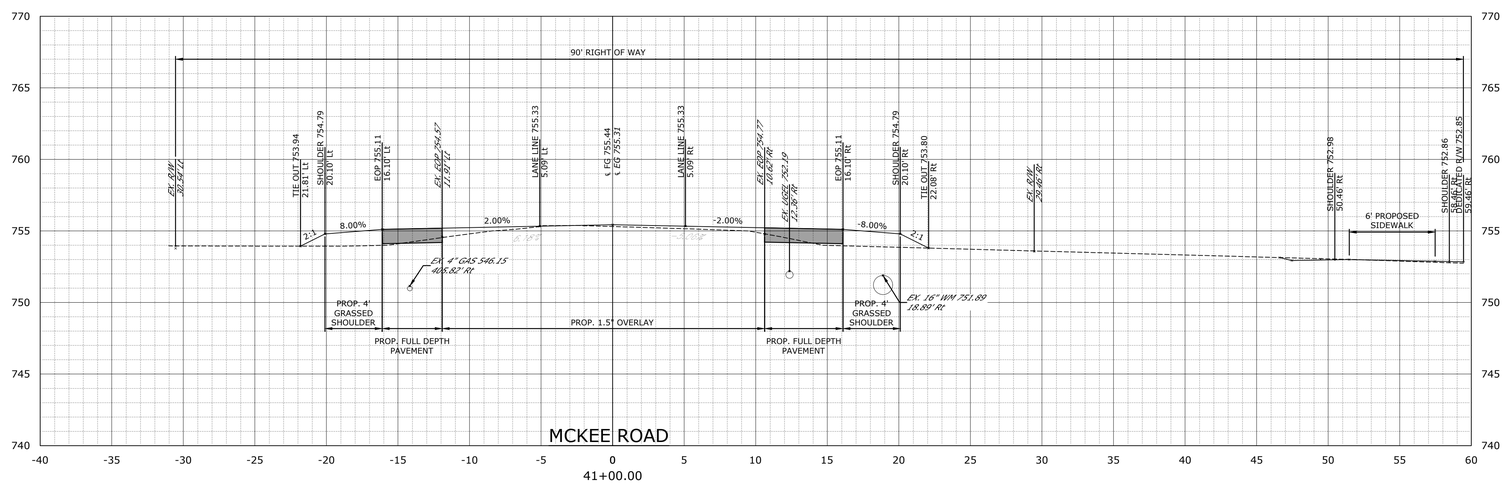
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER
C-713




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

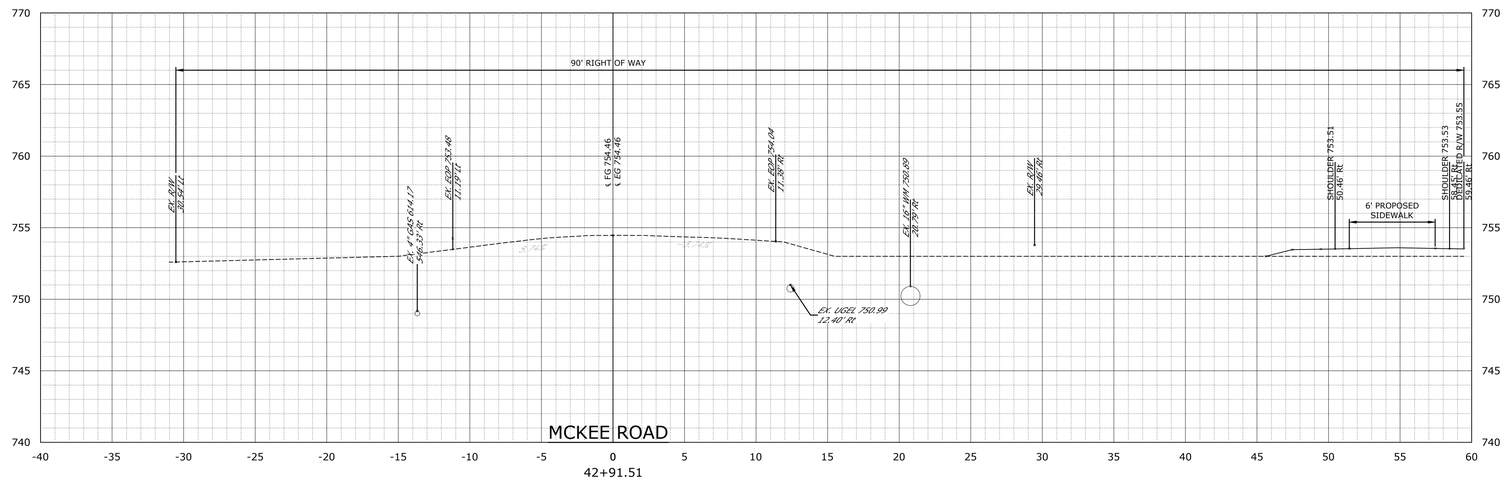
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

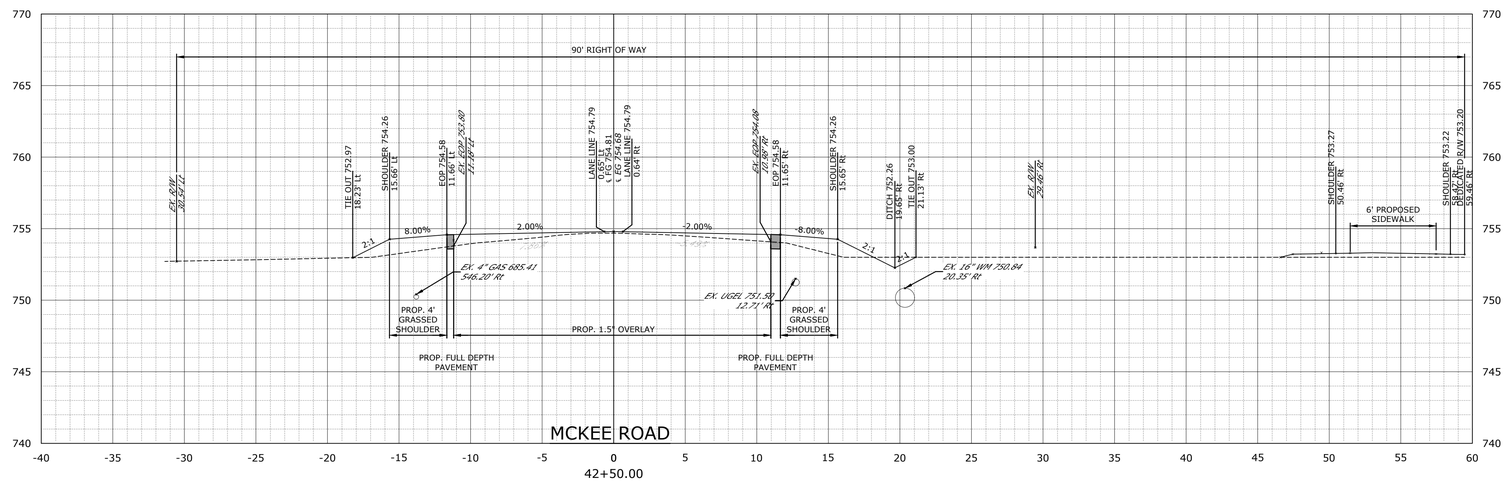
SHEET TITLE

MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-714




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:23:35 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-715 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

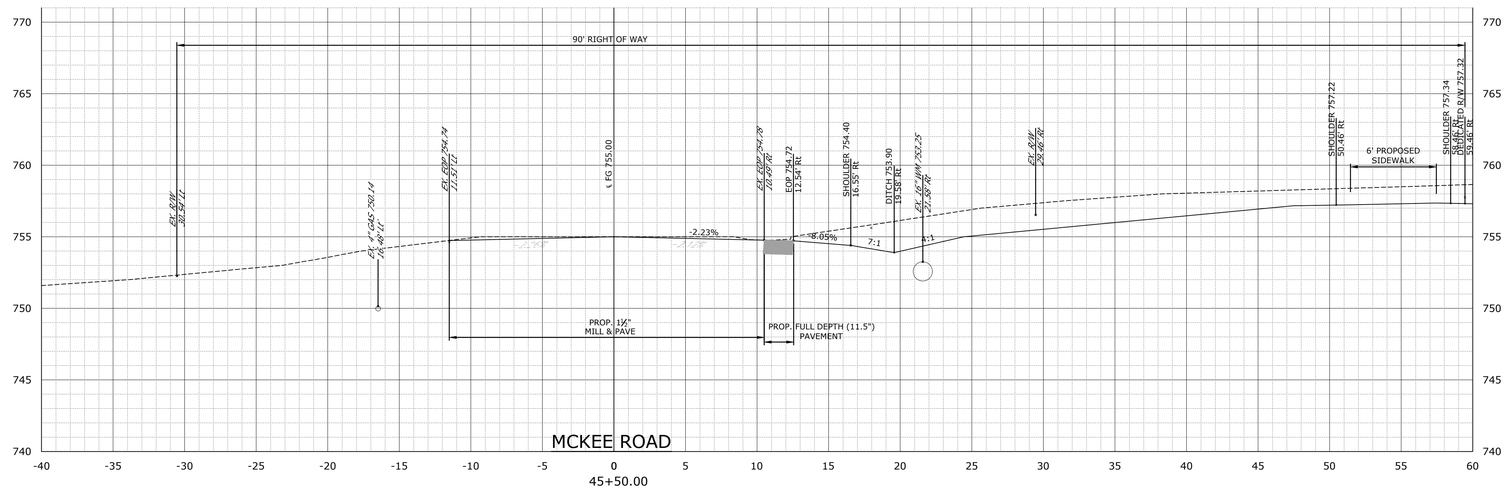
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

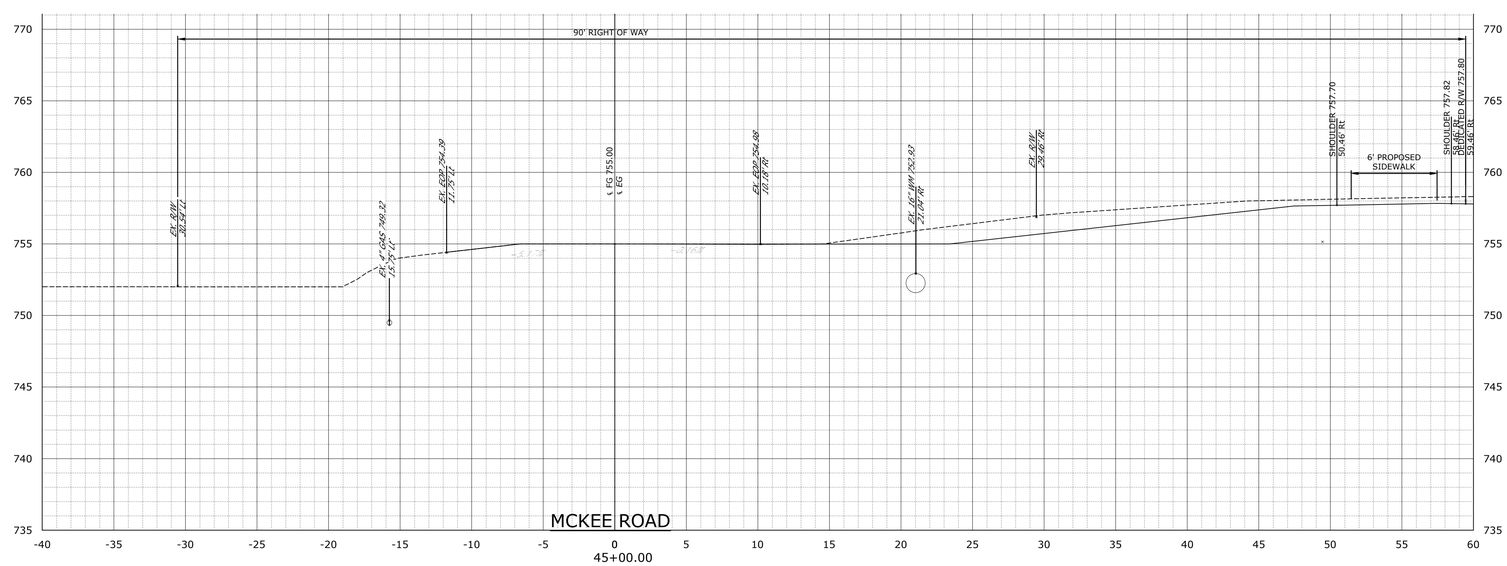
SHEET TITLE

MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-715




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:24:00 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-716(2)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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

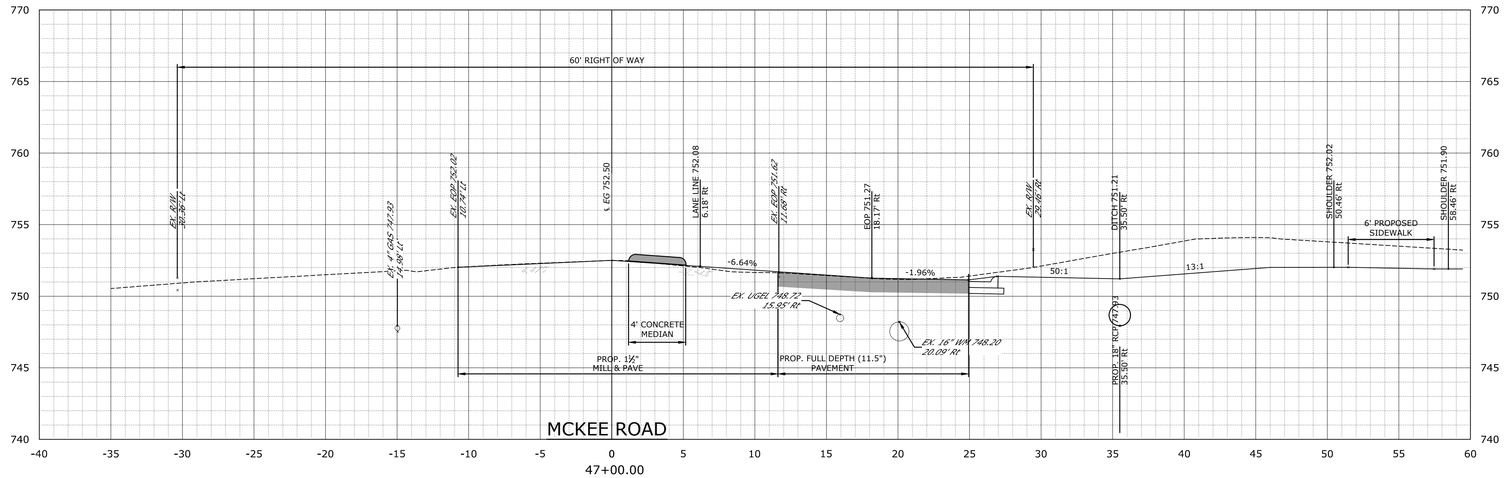
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

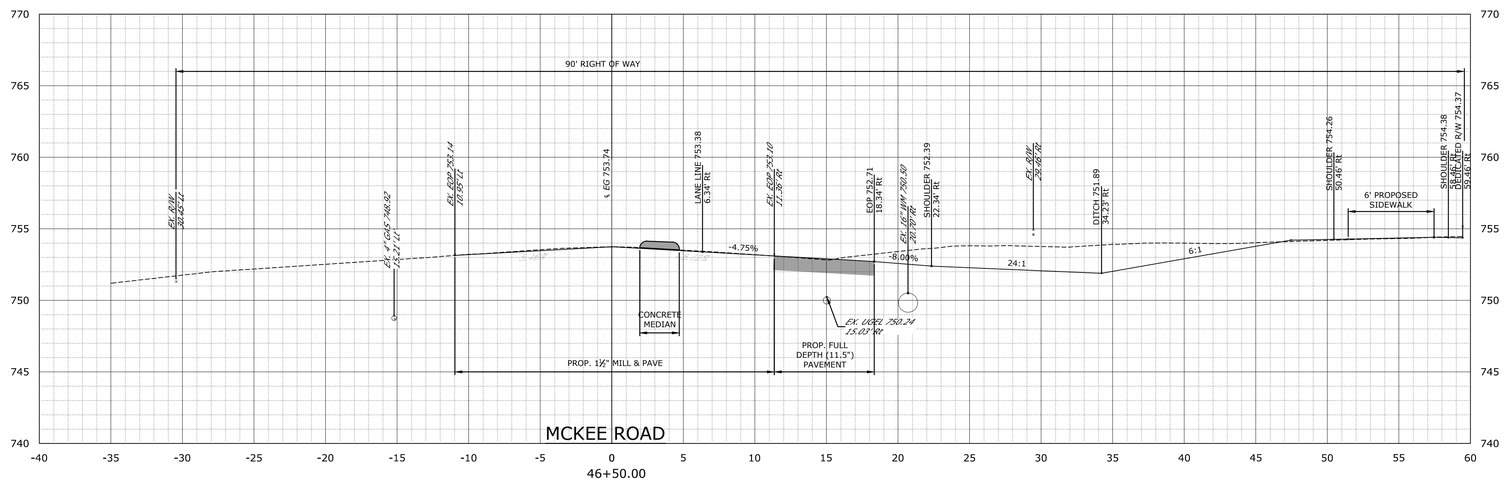
SHEET TITLE

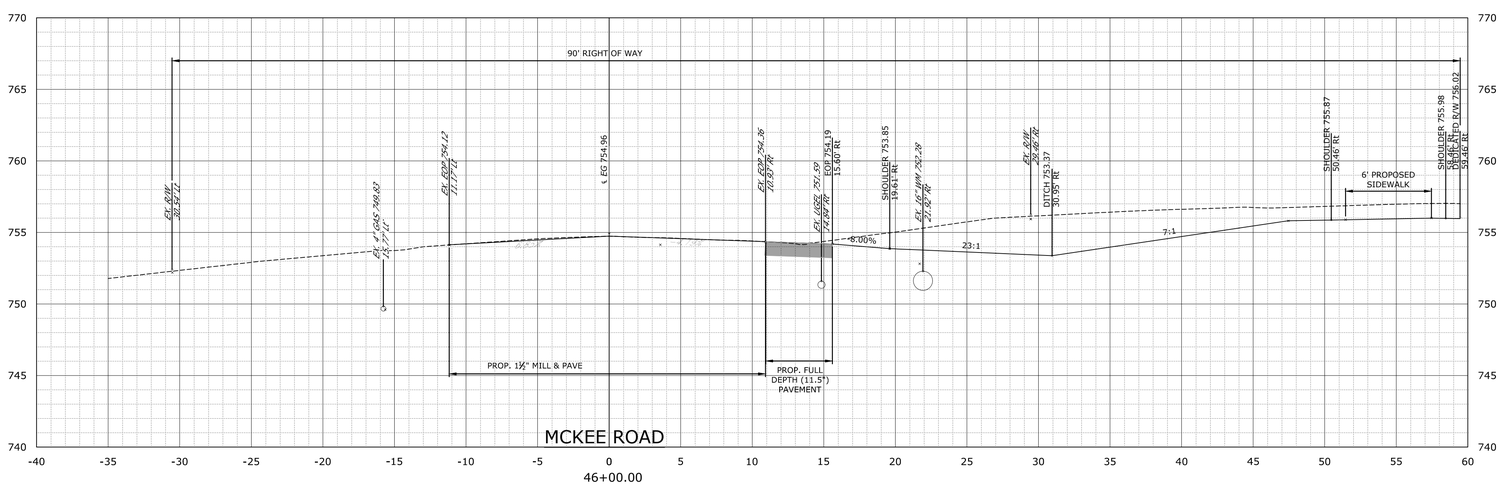
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-716




0 2.5 5 10
HORIZONTAL: 1 INCH = 5 FEET

0 2.5 5 10
VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:24:23 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-716 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

MCKEE ROAD CROSS SECTIONS
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

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NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

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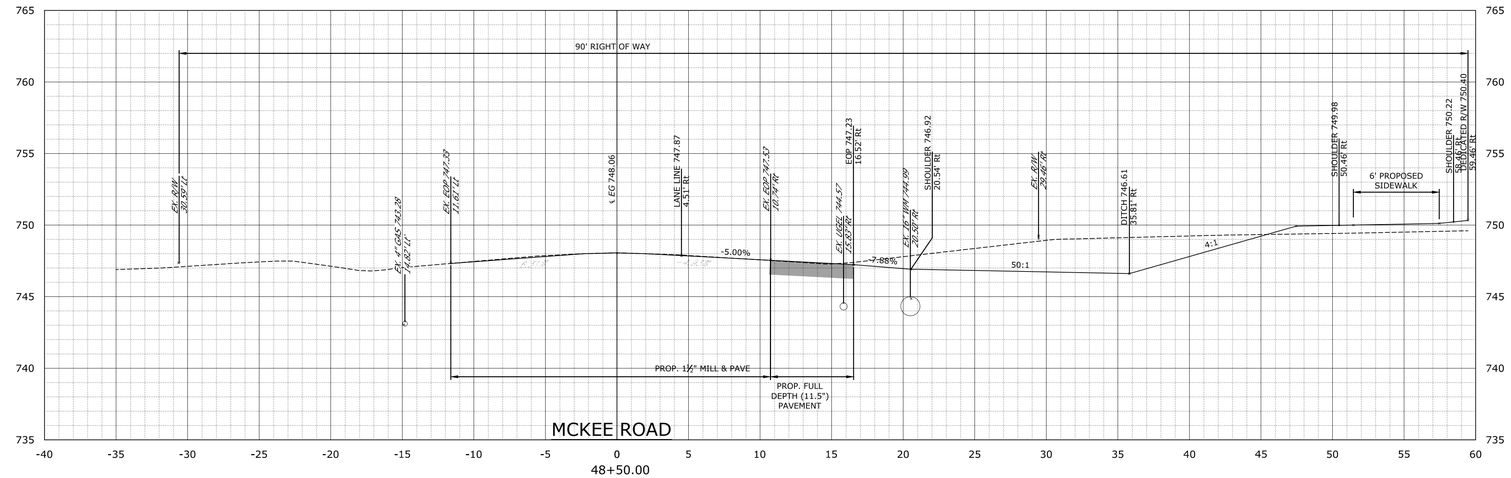
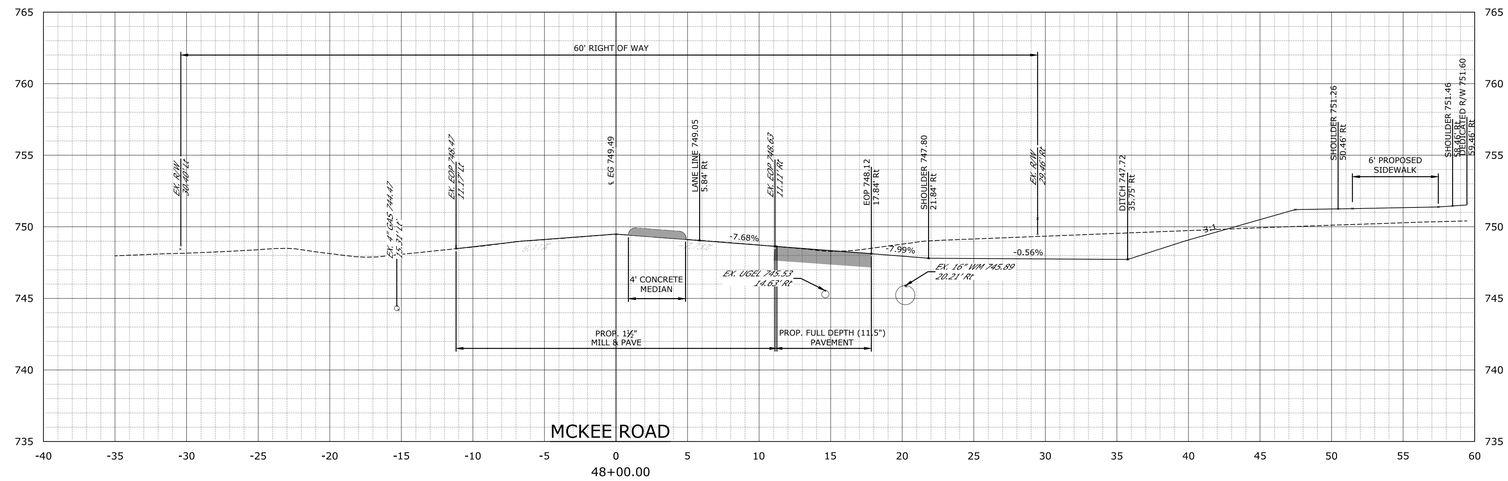
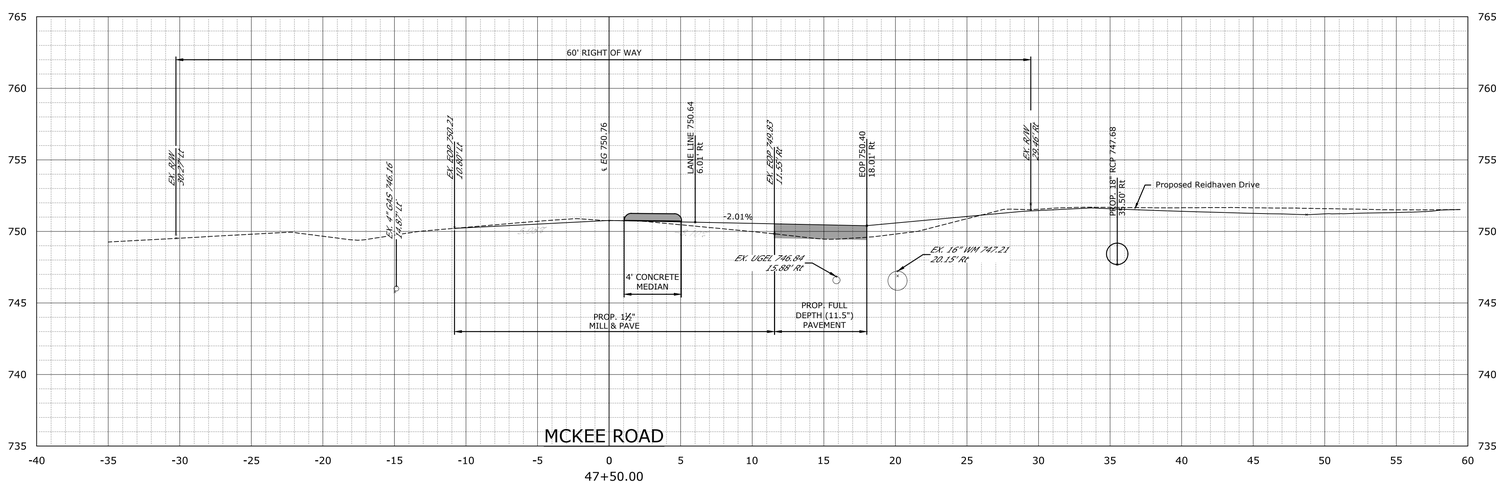
| PROJECT # | CAMB17001 |

SHEET TITLE
MCKEE ROAD CROSS SECTIONS

SHEET NUMBER
C-717




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:24:53 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-717 MCKEE ROAD CROSS SECTIONS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CAMBRIDGE PROPERTIES

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THE POND AT MCKEE GLEN
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CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

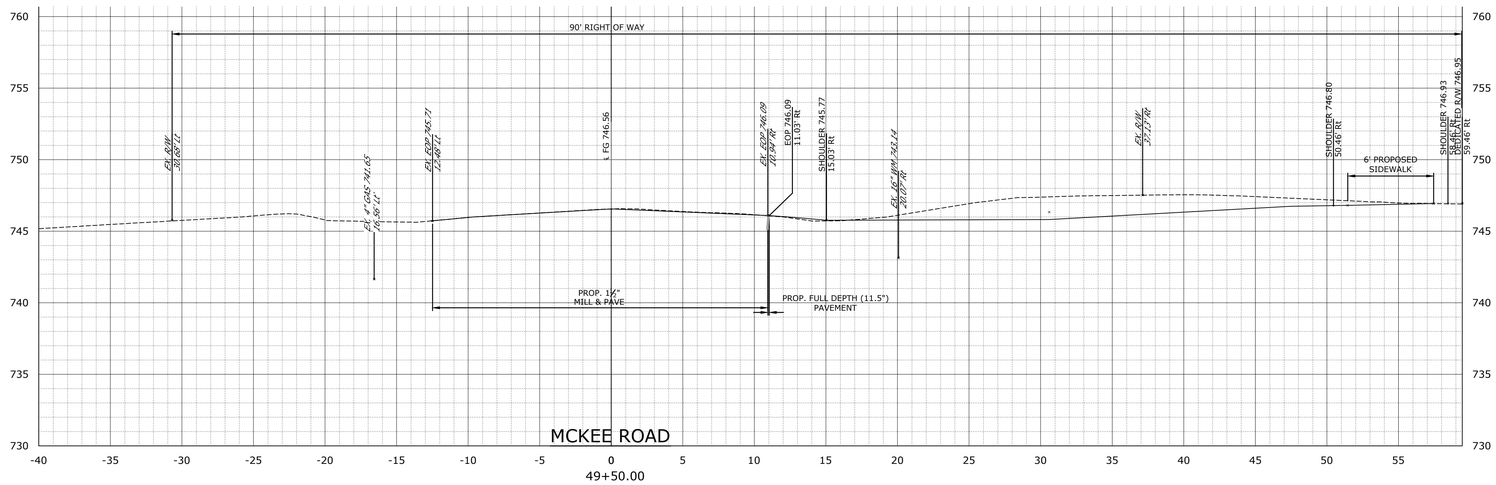
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

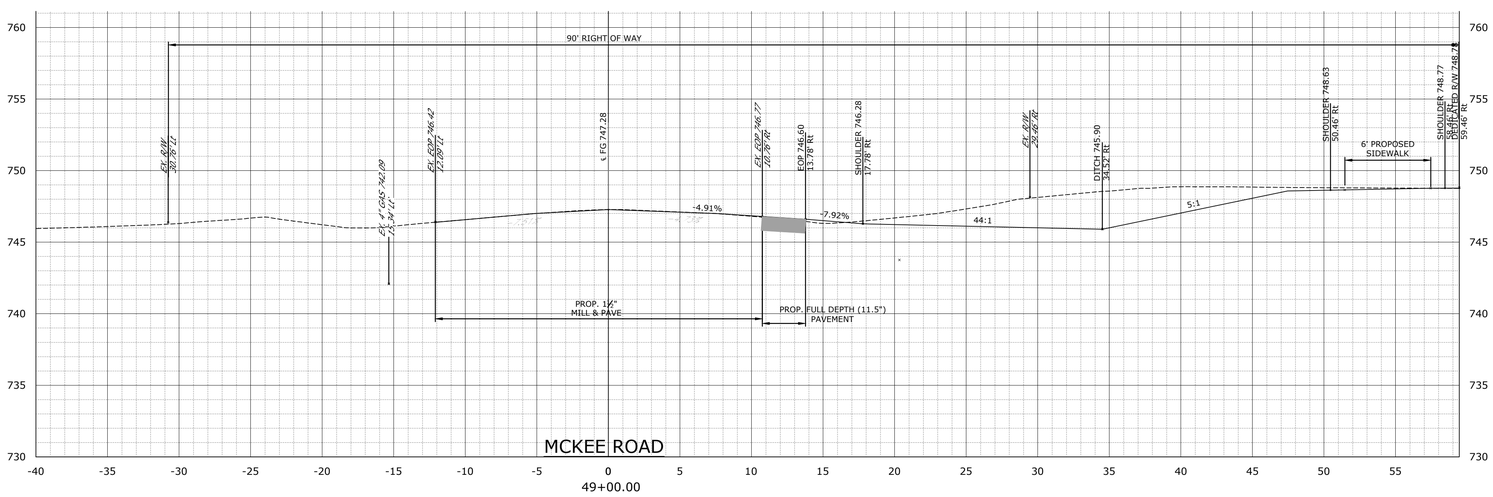
SHEET TITLE

MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-718




HORIZONTAL: 1 INCH = 5 FEET

VERTICAL: 1 INCH = 5 FEET

Plot Stamp: 7/12/2018 2:25:20 PM - Shane Finn
File: W:\Cambridge Properties\Mckee Road Subdivision\Civil\DWG\04_Sheets\C-706 MCKEE ROAD CROSS SECTIONS.dwg, Tab: C-718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CAMBRIDGE PROPERTIES

# MCKEE ROAD CROSS SECTIONS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

MCKEE ROAD CROSS SECTIONS

SHEET NUMBER

C-719

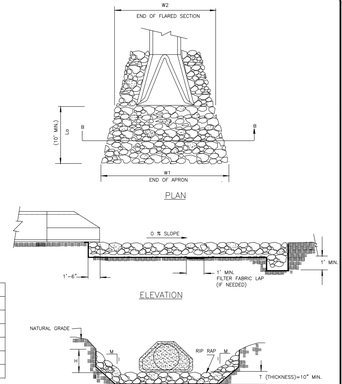
NOTES:

1. CLASS OR MEDIAN SIZE OF RIPRAP AND LENGTH, WIDTH AND DEPTH OF APRON TO BE DESIGNED BY THE ENGINEER.
2. REFER TO THE CHARLOTTE MECKLENBURG STORM WATER DESIGN MANUAL FOR RIPRAP APRON DESIGN STANDARDS.
3. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
4. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSTREAM END.
5. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1
6. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
7. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
8. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
9. FILTER FABRIC SHALL BE INSTALLED ON COMPACTED SUBGRADE PRIOR TO PLACEMENT OF RIP RAP.
10. ANY DISTURBED AREA FROM END OF APRON TO RECIEVING CHANNEL MUST BE STABILIZED.

USE USDA NOMOGRAPH FROM NC SEDIMENT AND EROSION CONTROL MANUAL OR CHARLOTTE MECKLENBURG STORM WATER DESIGN MANUAL FOR DESIGN DATA.

| OUTLET | Lo | W1 | W2 | *T | H |
|---|---|---|---|---|---|
| BMP 1 | 10' | 12.5' | 7.5' | 1.8' | 1.667' |
| TEMP BASIN 1 | 10' | 11.5' | 4.5' | 1.125' | 1' |
| TEMP BASIN 2 | 10' | 11.5' | 4.5' | 1.125' | 1' |
| TEMP BASIN 3 | 10' | 11.5' | 4.5' | 1.125' | 1' |
| 501A | 10' | 11.5' | 4.5' | 1.125' | 1' |
| | | | | | |

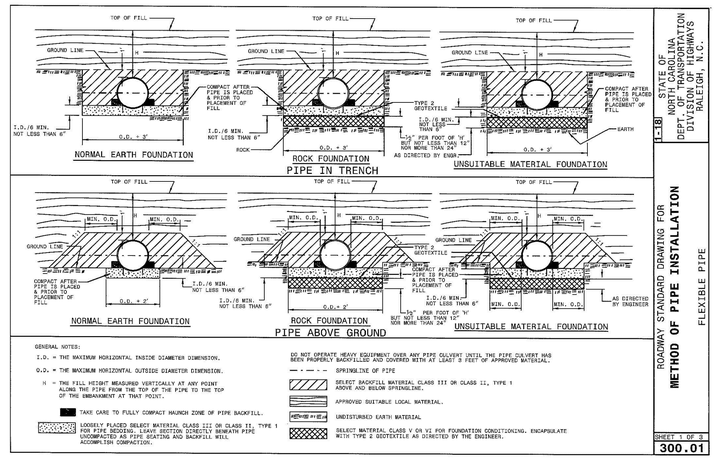
* d50 (see fig 8.06 ddb "NC SEDIMENT AND EROSION CONTROL MANUAL"
dmax = 1.5 x d50
T = 1.5 X dmax.
T(min.)=10"




CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

RIPRAP APRON AT PIPE OUTFALLS
OTHER THAN AT SWIM

STD. NO. 20.23 REV. 7

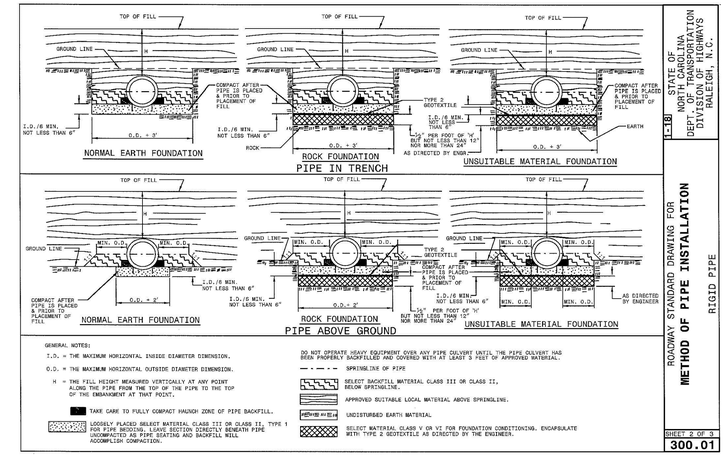



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
**METHOD OF PIPE INSTALLATION**
FLEXIBLE PIPE

SHEET 1 OF 3
**300.01**

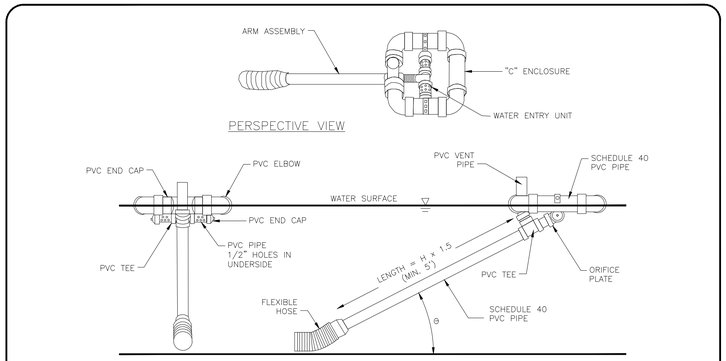



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
**METHOD OF PIPE INSTALLATION**
RIGID PIPE

SHEET 2 OF 3
**300.01**




SCHEMATIC OF SKIMMER TAKEN FROM PENNSYLVANIA EROSION AND SEDIMENT POLLUTION CONTROL MANUAL, MARCH 2000.

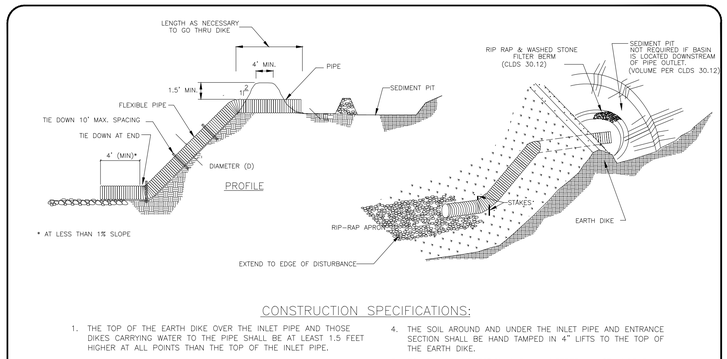
"H" REFERS TO THE HEIGHT FROM INVERT OF FLEXIBLE HOSE ON SKIMMER TO THE INVERT OF THE PRIMARY SPILLWAY.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

SKIMMER

STD. NO. 30.02B REV. 12




CONSTRUCTION SPECIFICATIONS:

1. THE TOP OF THE EARTH DIKE OVER THE INLET PIPE AND THOSE DIKES CARRYING WATER TO THE PIPE SHALL BE AT LEAST 1.5 FEET HIGHER AT ALL POINTS THAN THE TOP OF THE INLET PIPE.
2. THE PIPE SHALL BE FLEXIBLE WITH WATER TIGHT CONNECTING BANDS. FLEXIBLE PIPE SHOULD BE STAKED ON EITHER SIDE.
3. A RIP RAP APRON SHALL BE PROVIDED AT THE OUTLET, IF EMPTYING INTO A DISTURBED AREA.
4. THE SOIL AROUND AND UNDER THE INLET PIPE AND ENTRANCE SECTION SHALL BE HAND TAMPED IN 4" LIFTS TO THE TOP OF THE EARTH DIKE.
5. FOLLOW-UP INSPECTION AND ANY NEEDED MAINTENANCE SHALL BE PERFORMED AFTER EACH STORM BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT.
6. OUTLET PIPE SHOULD BE TAKEN OVER OR THROUGH ANY SILT FENCE, TAKING CARE NOT TO VOID THE EFFECTIVENESS OF THE SILT FENCE.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

FLEXIBLE PIPE SLOPE DRAIN

STD. NO. 30.04

## FLEXIBLE PIPE

Round Corrugated Steel Pipe
2 2/3 x 5½ corrugation **

| Diameter (inches) | Minimum cover (inches) | (Ga) | Maximum Height of Cover (feet) 16 | 14 | 12 | 10 | 8 |
|---|---|---|---|---|---|---|---|
| 12 | 12 | | 204 | 256 | | | |
| 15 | 12 | | 162 | 204 | | | |
| 18 | 12 | | 135 | 169 | 239 | | |
| 21 | 12 | | 115 | 145 | 204 | | |
| 24 | 12 | | 100 | 126 | 178 | | |
| 30 | 12 | | 79 | 100 | 142 | | |
| 36 | 12 | | 65 | 83 | 117 | 152 | |
| 42 | 12 | | 55 | 70 | 100 | 130 | 160 |
| 48 | 12 | | 48 | 61 | 87 | 113 | 139 |
| 54 | 12 | | | 54 | 77 | 100 | 123 |
| 60 | 12 | | | | 69 | 90 | 111 |
| 66 | 12 | | | | | 81 | 100 |
| 72 | 12 | | | | | 74 | 91 |
| 78 | 12 | | | | | | 81 |
| 84 | 12 | | | | | | 69 |

Round Corrugated Aluminum Pipe
2 2/3 x 5½ corrugation **

| Diameter (inches) | Minimum cover (inches) | (Ga) | Maximum Height of Cover (feet) 16 | 14 | 12 | 10 | 8 |
|---|---|---|---|---|---|---|---|
| 12 | 12 | | 123 | 155 | 218 | 281 | 344 |
| 15 | 12 | | 98 | 133 | 174 | 224 | 275 |
| 18 | 12 | | 81 | 102 | 144 | 187 | 229 |
| 21 | 12 | | 69 | 87 | 123 | 160 | 195 |
| 24 | 12 | | 60 | 76 | 108 | 139 | 171 |
| 27 | 12 | | | 67 | 95 | 123 | 151 |
| 30 | 12 | | | 60 | 85 | 111 | 136 |
| 36 | 12 | | | 60 | 71 | 92 | 113 |
| 42 | 12 | | | | 60 | 78 | 96 |
| 48 | 12 | | | | 52 | 68 | 84 |
| 54 | 12 | | | | 46 | 50 | 74 |
| 60 | 12 | | | | | 50 | 62 |
| 66 | 12 | | | | | | 51 |
| 72 | 12 | | | | | | 41 |

** FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

HDPE - * (Minimum fill) 2' for pipe diameters ≥ 12" and ≤ 60"
* (Maximum fill) 20' for pipe diameters ≤ 24"
17' for pipe diameters ≥ 30" and ≤ 60"

PVC - * (Minimum fill) 2' for pipe diameters ≥ 12" and ≤ 36"
* (Maximum fill) 30' for pipe diameters ≥ 12" and ≤ 36"

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

CSP - AASHTO M36
CAAP - AASHTO M196
HDPE - AASHTO M294
PVC - ASTM F949 or AASHTO M304

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

## RIGID PIPE

RCP - * (Minimum fill) 1' for Class IV & CLASS V
2' for Class III & Class II

* (Maximum fill) 10' - Class II pipe
20' - Class III pipe
30' - Class IV pipe
40' - Class V pipe

(For fills > 40' & < 80' use LRFD Direct Design Method)

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

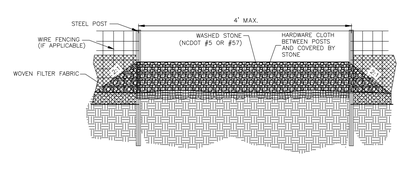
1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

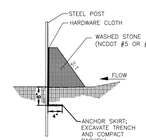
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
**METHOD OF PIPE INSTALLATION**
FILL HEIGHT TABLES

SHEET 3 OF 3
**300.01**




GENERAL NOTES:

1. SEDIMENT FILTER OUTLET AND HARDWARE CLOTH SHALL BE 16 INCHES HIGH BUT NO TALLER THAN 18 INCHES.
2. HARDWARE CLOTH SHALL BE ANCHORED TO THE STEEL POSTS SECURELY USING APPROPRIATE ANCHORS. HARDWARE CLOTH SHALL BE KEYED IN A MINIMUM OF 12 INCHES IN LENGTH AND BACKFILLED PROPERLY AS SHOWN IN ABOVE DETAIL. HARDWARE CLOTH TO BE SAME AS STD. #30.09 (19 GAUGE, 1/4" SPACING).
3. POSTS SHALL BE NO MORE THAN 4 FEET APART.
4. SITE OUTLETS AT ANY POINT SMALL CONCENTRATED FLOWS ARE ANTICIPATED AND AT THE DIRECTION OF THE INSPECTOR.

MAINTENANCE NOTES:

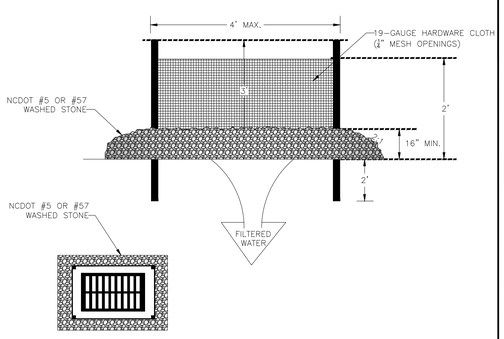
1. FILTER OUTLETS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. THE STONE SHALL BE REPLACED PROMPTLY AFTER ANY EVENT THAT HAS CLOGGED OR REMOVED IT.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OUTLET IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

SILT FENCE OUTLET

STD. NO. 30.06C REV. 15




GENERAL NOTES:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NC DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUNDCOVER.

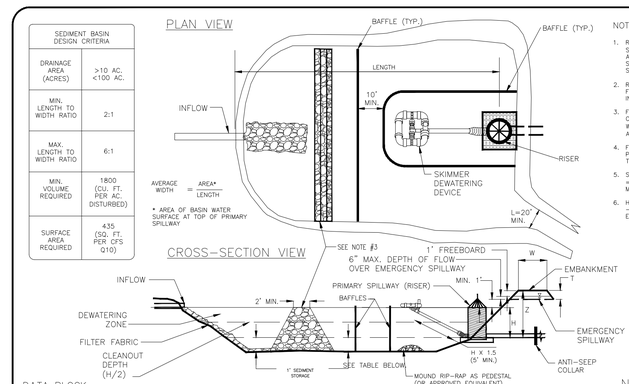
NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

HARDWARE CLOTH AND GRAVEL INLET PROTECTION

STD. NO. 30.09 REV. 1

| SEDIMENT BASIN DESIGN CRITERIA | |
|---|---|
| DRAINAGE AREA (ACRES) | >10 AC. <100 AC. |
| MIN. LENGTH TO WIDTH RATIO | 2:1 |
| MAX. LENGTH TO WIDTH RATIO | 6:1 |
| MIN. VOLUME REQUIRED | 1800 (CU. FT. PER AC. DISTURBED) |
| SURFACE AREA REQUIRED | 435 (SQ. FT. PER CFS Q10) |




NOTES:

1. REFER TO NCESCPDM SECTION #6.61 FOR ADDITIONAL DESIGN SPECIFICATIONS REGARDING SEDIMENT BASINS.
2. REFER TO STD. #30.19 FOR BAFFLE SPACING AND INSTALLATION.
3. FIRST BAFFLE IS TO BE CONSTRUCTED OF RIP-RAP, WITH A MIN. HEIGHT OF 3' AND MIN. TOPWIDTH OF 2'.
4. FLASHBOARD RISER NOT PERMITTED FOR USE IN THE CITY OF CHARLOTTE
5. SKIMMER INVERT ELEVATION = BASIN BOTTOM + 1' MIN.
6. H = SPILLWAY ELEVATION - SKIMMER INVERT ELEVATION

DATA BLOCK

| | BASIN | DRAINAGE AREA (ACRES) | DENUDED AREA (ACRES) | $Q_{10}$ | BASIN VOLUME REQUIRED (CUBIC FT.) | BASIN VOLUME PROVIDED (CUBIC FT.) | BASIN SURFACE AREA REQUIRED (SQ. FT.) | BASIN SURFACE AREA PROVIDED (SQ. FT.) | CLEANOUT DEPTH (FT.) H/2 | H (FEET) | Z (FEET) | L (FEET) | T (FEET) | W (FEET) | SKIMMER INPUT DIAMETER | SKIMMER ORIFICE DIAMETER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHASE 1 | BASIN 1 | 1.80 | 1.57 | 5.43 | 2826 | 5459 | 2363 | 3367 | 1.25 | 2.5 | 4 | 20 | 1.5 | 10 | 1.5" | 1.2" |
| | BASIN 2 | 1.66 | 1.66 | 5.01 | 2988 | 3479 | 2179 | 3130 | 1.25 | 2.5 | 4 | 20 | 1.5 | 10 | 1.5" | 1.1" |
| | BASIN 3 | 2.33 | 2.33 | 7.03 | 3672 | 2678 | 5459 | 3367 | 1.25 | 2.5 | 4 | 20 | 1.5 | 10 | 1.5" | 1.3" |
| | EX. POND | 10.68 | 5.56 | 32.23 | 10008 | 75715 | 14021 | 54491 | 1.25 | 2.5 | 4 | 20 | 1.5 | 10 | 5" | 4.6" |

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

SEDIMENT BASIN

STD. NO. 30.03A REV. 15


Cardno
CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

# EROSION CONTROL DETAILS
# THE PONDS AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
EROSION CONTROL DETAILS

SHEET NUMBER
C-900

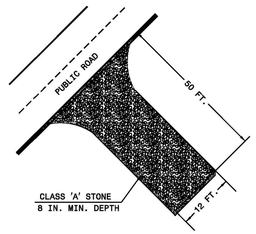
Plot Stamp: 7/12/2018 2:25:32 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: EROSION CONTROL DETAILS

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

## GRAVEL CONSTRUCTION ENTRANCE




NOTES

1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE FILTRATION GEOTEXTILE BENEATH STONE

SHEET 1 OF 1
1607.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

## GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1
1607.01

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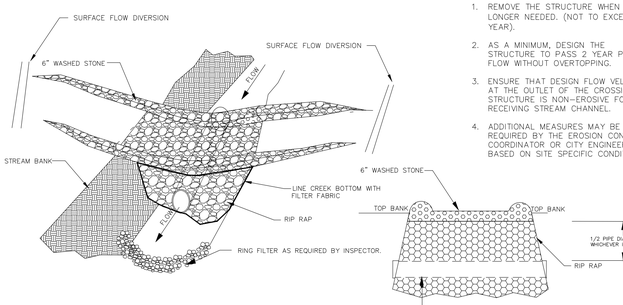


NOTES:

1. REMOVE THE STRUCTURE WHEN NO LONGER NEEDED. (NOT TO EXCEED 1 YEAR).
2. AS A MINIMUM, DESIGN THE STRUCTURE TO PASS 2 YEAR PEAK FLOW WITHOUT OVERTOPPING.
3. ENSURE THAT DESIGN FLOW VELOCITY AT THE OUTLET OF THE CROSSING STRUCTURE IS NON-EROSIVE FOR THE RECEIVING STREAM CHANNEL.
4. ADDITIONAL MEASURES MAY BE REQUIRED BY THE EROSION CONTROL COORDINATOR OR CITY ENGINEER BASED ON SITE SPECIFIC CONDITIONS.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TEMPORARY STREAM CROSSING

STD. NO. 30.14 | REV. 15

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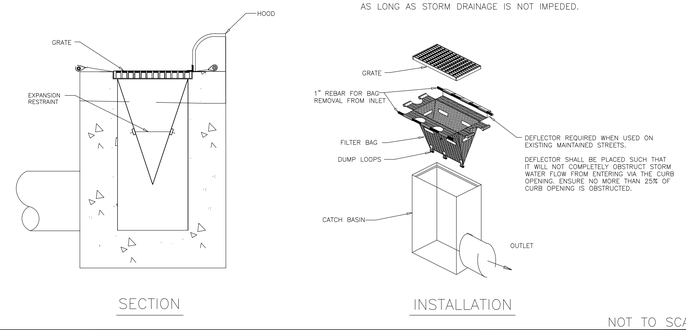
NOTES:

1. INLET MAINTENANCE SHALL BE DOCUMENTED IN PROJECT LOG BOOK.
2. FILTER TYPES SHALL BE APPROVED BY THE CITY INSPECTOR PRIOR TO INSTALLATION.
3. FILTER BAGS MAY BE REMOVED WHEN SITE IS STABILIZED AT THE DIRECTION OF THE ENGINEER.
4. FILTER BAGS SHALL BE REMOVED PRIOR TO STREET ACCEPTANCE AND/OR CLOSE OUT OF GRADING PERMIT.
5. FILTER BAGS SHALL BE CLEANED OR REPLACED ON A REGULAR BASIS (NOT BE MORE THAN HALF FULL AT ANY TIME).
6. FILTER BAGS MAY BE INSTALLED IN EXISTING CITY OR NCDOT ROADS AS LONG AS STORM DRAINAGE IS NOT IMPEDED.




SECTION

INSTALLATION

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## CATCH BASIN INLET PROTECTION

STD. NO. 30.15 | REV. 13

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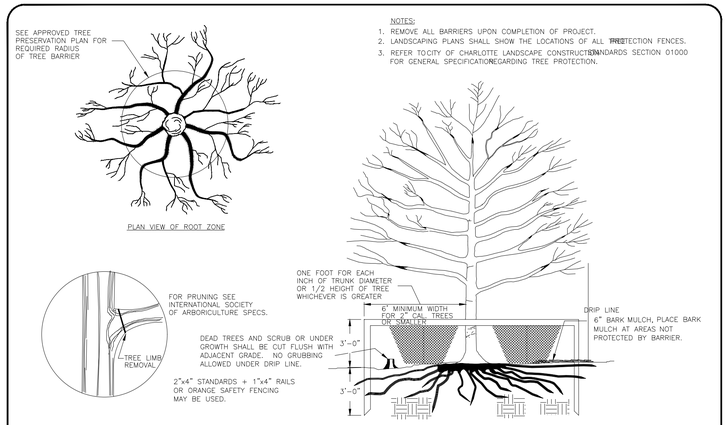


NOTES:

1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
2. LANDSCAPING PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
3. REFER TO CITY OF CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS SECTION 01000 FOR GENERAL SPECIFICATIONS REGARDING TREE PROTECTION.

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TREE PROTECTION DETAIL

STD. NO. 40.02 | REV.

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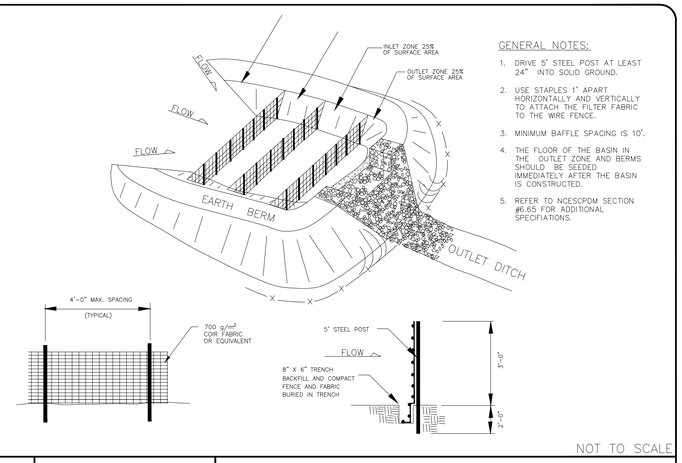


GENERAL NOTES:

1. DRIVE 5' STEEL POST AT LEAST 24" INTO SOLID GROUND.
2. USE STAPLES 1" APART HORIZONTALLY AND VERTICALLY TO ATTACH THE FILTER FABRIC TO THE WIRE FENCE.
3. MINIMUM BAFFLE SPACING IS 10'.
4. THE FLOOR OF THE BASIN IN THE OUTLET ZONE AND BERMS SHOULD BE SEEDED IMMEDIATELY AFTER THE BASIN IS CONSTRUCTED.
5. REFER TO NCESCPDM SECTION #6.65 FOR ADDITIONAL SPECIFIATIONS.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## BAFFLE INSTALLATION

STD. NO. 30.19 | REV. 15

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### FOR LATE WINTER AND EARLY SPRING:

SEEDING MIXTURE:
RYE (GRAIN) – 120 LB/ACRE
ANNUAL LESPEDEZA (KOBE) – 50 LB/ACRE
(OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE)

SEEDING DATES:
JAN. 1 – MAY 1

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE:
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE

### FOR SUMMER:

SEEDING MIXTURE:
GERMAN MILLET – 40 LB/ACRE
(A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE)

SEEDING DATES:
MAY 1 – AUG. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL

MAINTENANCE:
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE

### FOR FALL:

SEEDING MIXTURE:
RYE (GRAIN) – 120 LB/ACRE

SEEDING DATES:
AUG. 15 – DEC 30

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL

MAINTENANCE:
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

FOR ADDITIONAL INFORMATION, REFER TO NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL (ESCPDM), SECTION 6.10.
FOR PERMANENT SEEDING SPECIFICATIONS, INCLUDING SEED BED PREP, SEASONAL LIMITATIONS FOR SEEDING OPERATIONS, THE KINDS OF GRADES OF FERTILIZERS, THE KINDS OF SEED, AND THE RATES OF APPLICATION OF LIMESTONE, FERTILIZER, AND SEED, REFER TO NCDENR ESCPDM SECTION 6.11 AND THE CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS SECTION 04200 SEEDING AND SODDING OF TURFGRASS.

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TEMPORARY SEEDING SCHEDULE

STD. NO. 30.17 | REV. 9

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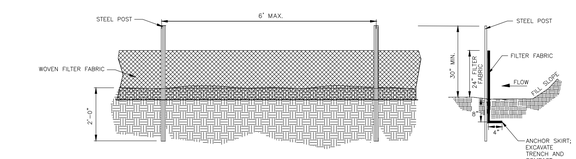


GENERAL NOTES:

1. WOVEN FILTER FABRIC BE USED WHERE SILT FENCE IS TO REMAIN FOR A PERIOD OF MORE THAN 30 DAYS.
2. STEEL POSTS SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
3. TURN SILT FENCE UP SLOPE AT ENDS.
4. ORANGE SAFETY FENCE IS REQUIRED AT BACK OF SILT FENCE WHEN GRADING IS ADJACENT TO SWIM BUFFERS, STREAMS OR WETLANDS (REFER TO SWIM BUFFER GUIDELINES). THE COLOR ORANGE IS RESERVED FOR VISUAL IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS.
5. DRAINAGE AREA CAN NOT BE GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
6. SLOPE LENGTHS CAN NOT EXCEED CRITERIA SHOWN IN TABLE 6.62A NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
7. DO NOT INSTALL SEDIMENT FENCE ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.

MAINTENANCE NOTES:

1. FILTER BARRIERS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROX. HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TEMPORARY SILT FENCE

STD. NO. 30.06A | REV. 15

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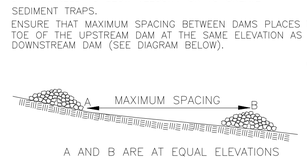
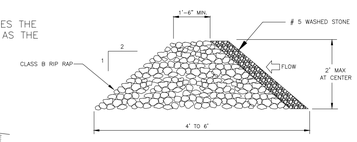
GENERAL NOTES:

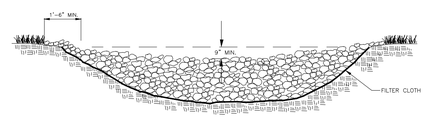
1. RIPRAP SIZE TO BE DESIGNED BY ENGINEER.
2. CHECK DAMS MAY BE USED IN SLOPING DITCHES OR CHANNELS TO SLOW VELOCITY OR TO CREATE SEDIMENT TRAPS.
3. ENSURE THAT MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE DOWNSTREAM DAM (SEE DIAGRAM BELOW).




A AND B ARE AT EQUAL ELEVATIONS




CROSS SECTION




PLAN

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TEMPORARY ROCK CHECK DAM

STD. NO. 30.10A | REV. 15

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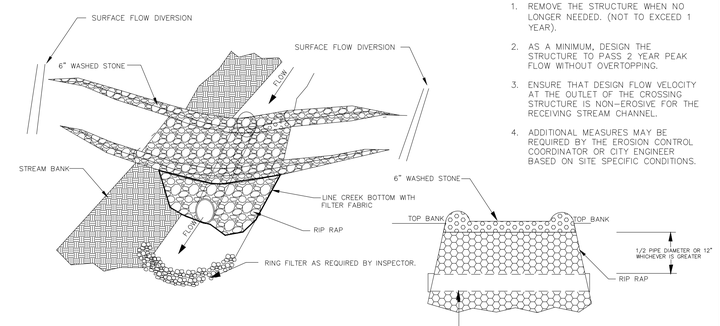


NOTES:

1. REMOVE THE STRUCTURE WHEN NO LONGER NEEDED. (NOT TO EXCEED 1 YEAR).
2. AS A MINIMUM, DESIGN THE STRUCTURE TO PASS 2 YEAR PEAK FLOW WITHOUT OVERTOPPING.
3. ENSURE THAT DESIGN FLOW VELOCITY AT THE OUTLET OF THE CROSSING STRUCTURE IS NON-EROSIVE FOR THE RECEIVING STREAM CHANNEL.
4. ADDITIONAL MEASURES MAY BE REQUIRED BY THE EROSION CONTROL COORDINATOR OR CITY ENGINEER BASED ON SITE SPECIFIC CONDITIONS.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TEMPORARY STREAM CROSSING

STD. NO. 30.14 | REV. 15

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9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

# EROSION CONTROL DETAILS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

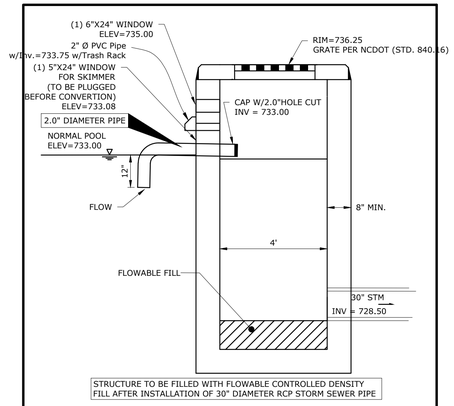
ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

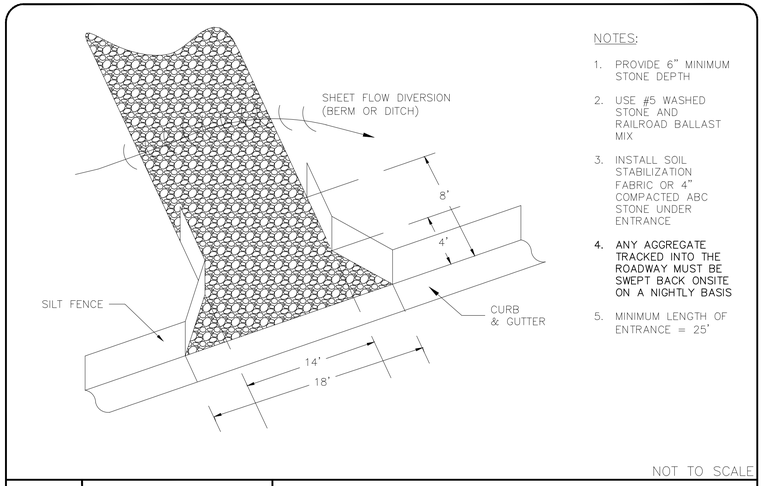
SHEET TITLE
EROSION CONTROL DETAILS

SHEET NUMBER
C-901


Plot Stamp: 7/12/2018 2:25:40 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: C-901 EROSION CONTROL DETAILS




PERMANENT OUTLET STRUCTURE




NOTES:

1. PROVIDE 6" MINIMUM STONE DEPTH
2. USE #5 WASHED STONE AND RAILROAD BALLAST MIX
3. INSTALL SOIL STABILIZATION FABRIC OR 4" COMPACTED ABC STONE UNDER ENTRANCE
4. ANY AGGREGATE TRACKED INTO THE ROADWAY MUST BE SWEPT BACK ONSITE ON A NIGHTLY BASIS
5. MINIMUM LENGTH OF ENTRANCE = 25'

NOT TO SCALE

CHARLOTTE. | CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS INCLUDES CHARLOTTE ETJ | CONSTRUCTION ENTRANCE SINGLE FAMILY LOT | STD. NO. 30.11C | REV. 12

4 C-902 CONSTRUCTION ENTRANCE SINGLE FAMILY LOT
SCALE: NTS

| LOT # | OPTION TYPE |
|---|---|
| 1 | B / C / D |
| 2 | B / C / D |
| 3 | B / C / D |
| 4 | B / C / D |
| 5 | B / C / D |
| 6 | B / C / D |
| 7 | C / D / E |
| 8 | C / D / E |
| 9 | C / D / E |
| 10 | C / D / E |
| 11 | C / D / E |
| 12 | C / D / E |
| 13 | C / D / E |
| 14 | C / D / E |
| 15 | C / D / E |
| 16 | C / D / E |
| 17 | C / D / E |
| 18 | C / D / E |
| 19 | C / D / E |
| 20 | C / D / E |
| 21 | C / D / E |
| 22 | C / D / E |
| 23 | C / D / E |
| 24 | C / D / E |
| 25 | C / D / E |
| 26 | C / D / E |
| 27 | C / D / E |
| 28 | C / D / E |
| 29 | C / D / E |
| 30 | C / D / E |
| 31 | C / D / E |
| 32 | C / D / E |
| 33 | C / D / E |
| 34 | C / D / E |
| 35 | B / C / D |
| 36 | B / C / D |
| 37 | B / C / D |
| 38 | B / C / D |
| 39 | B / C / D |
| 40 | C / D / E |

| LOT # | OPTION TYPE |
|---|---|
| 41 | C / D / E |
| 42 | C / D / E |
| 43 | C / D / E |
| 44 | C / D / E |
| 45 | C / D / E |
| 46 | C / D / E |
| 47 | C / D / E |
| 48 | C / D / E |
| 49 | C / D / E |
| 50 | C / D / E |
| 51 | C / D / E |
| 52 | B / C / D |
| 53 | B / C / D |
| 54 | B / C / D |
| 55 | B / C / D |
| 56 | B / C / D |
| 57 | B / C / D |
| 58 | B / C / D |
| 59 | B / C / D |
| 60 | C / D / E |
| 61 | C / D / E |
| 62 | C / D / E |
| 63 | C / D / E |
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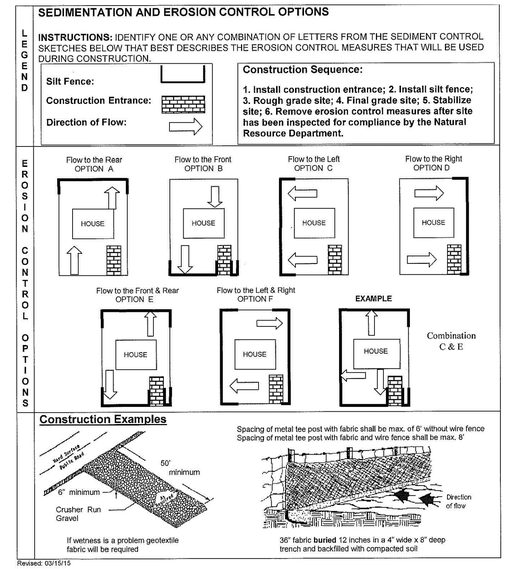
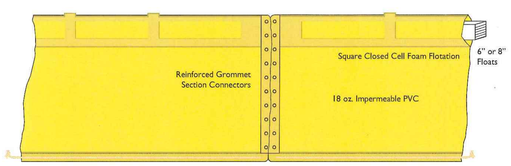
| 66 | C / D / E |
| 67 | C / D / E |
| 68 | C / D / E |
| 69 | C / D / E |
| 70 | C / D / E |
| 71 | C / D / E |
| 72 | C / D / E |
| 73 | C / D / E |
| 74 | C / D / E |




2 C-902 LOT EROSION CONTROL MEASURES
SCALE: NTS

## Triton Type I DOT
Silt and Turbidity Barrier




### SPECIFICATIONS

| | |
|---|---|
| **Length** | 50' or 100' |
| **Depth** | 5' (3' - 20' Available on Request) |
| **Fabric** | 18 oz. PVC |
| **Flotation** | Square Foam Filled Flotation (A) |
| **Flotations Size** | 6" or 8" |
| **Bottom Ballast Chain** | 1/4" Galvanized Chain (C) |
| **Section Connectors** | Grommets (B) |
| **Color** | Yellow |
| **Anchor Points** | Reinforced Grommets located at the waterline at each end of the curtain |

GEI Works is dedicated to developing innovative turbidity curtain solutions that provide superior performance and achieve the desired results for our customers. We work closely with our client team to design a deployment layout that takes into consideration all of your project requirements including water conditions, project progress, budget and water quality goals.

Our goal is to work with our clients to develop the best solution for their specific project and help them come in under budget and on time.

For more complete information on GEI Works products and solutions, visit us on the Web at www.geiworks.com.

Phone: (+1) 772-646-0597 | info@geiworks.com



All photos are representative only. Actual products may differ.

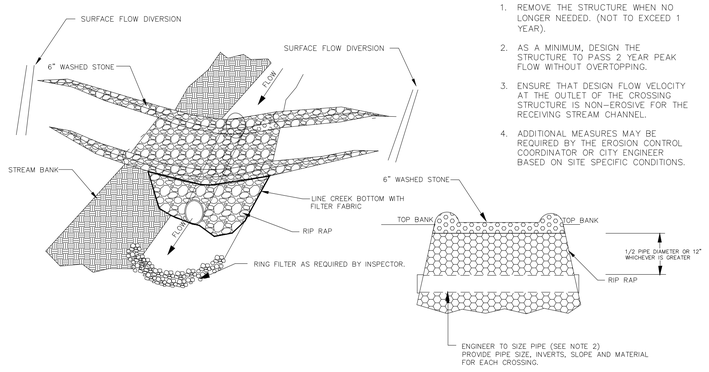
Materials and specifications are subject to change without notice. Featured products in photos may include additional equipment or accessories.



GEI WORKS

CONTRACTOR SHALL INSTALL GEI WORKS TURBIDITY CURTAIN OR APPROVED EQUAL.

3 C-902 TURBIDITY CURTAIN
SCALE: NTS



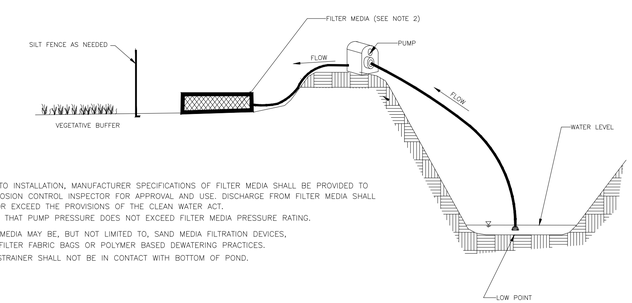

NOTES:

1. REMOVE THE STRUCTURE WHEN NO LONGER NEEDED. (NOT TO EXCEED 1 YEAR).
2. AS A MINIMUM, DESIGN THE STRUCTURE TO PASS 2 YEAR PEAK FLOW WITHOUT OVERTOPPING.
3. ENSURE THAT DESIGN FLOW VELOCITY AT THE OUTLET OF THE CROSSING STRUCTURE IS NON-EROSIVE FOR THE RECEIVING STREAM CHANNEL.
4. ADDITIONAL MEASURES MAY BE REQUIRED BY THE EROSION CONTROL COORDINATOR OR CITY ENGINEER BASED ON SITE SPECIFIC CONDITIONS.

NOT TO SCALE

CHARLOTTE. | CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS INCLUDES CHARLOTTE ETJ | MODIFIED DITCH CROSSING | STD. NO. 30.14 | REV. 15

5 C-902 MODIFIED DITCH CROSSING
SCALE: NTS




NOTE:

1. PRIOR TO INSTALLATION, MANUFACTURER SPECIFICATIONS OF FILTER MEDIA SHALL BE PROVIDED TO THE EROSION CONTROL INSPECTOR FOR APPROVAL AND USE. DISCHARGE FROM FILTER MEDIA SHALL MEET OR EXCEED THE PROVISIONS OF THE CLEAN WATER ACT.
2. ENSURE THAT PUMP PRESSURE DOES NOT EXCEED FILTER MEDIA PRESSURE RATING.
3. FILTER MEDIA MAY BE, BUT NOT LIMITED TO, SAND MEDIA FILTRATION DEVICES, RATED FILTER FABRIC BAGS OR POLYMER BASED DEWATERING PRACTICES.
4. PUMP STRAINER SHALL NOT BE IN CONTACT WITH BOTTOM OF POND.

NOT TO SCALE

CHARLOTTE. | CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS INCLUDES CHARLOTTE ETJ | EROSION CONTROL DEWATERING | STD. NO. 30.13 | REV.

1 C-902 EROSION CONTROL DEWATERING
SCALE: NTS

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CAMBRIDGE PROPERTIES

EROSION CONTROL DETAILS
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

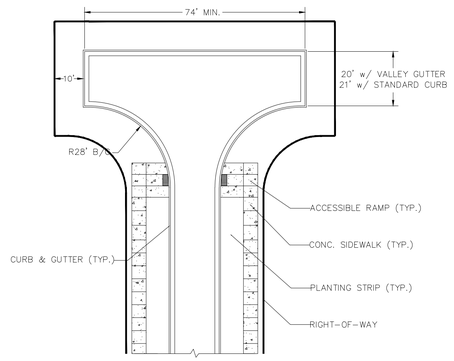
ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
EROSION CONTROL DETAILS

SHEET NUMBER
C-902

Plot Stamp: 7/12/2018 2:25:44 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: C-902 EROSION CONTROL DETAILS




NOTES

1. THIS DESIGN ACCOMMODATES SINGLE-UNIT TRUCK BUT NOT A CHARLOTTE FIRE DEPARTMENT LADDER TRUCK. TO DESIGN FOR A LADDER TRUCK REQUIRES A HAMMERHEAD OF 120 FEET IN LENGTH.
2. VARIATIONS ON THIS DESIGN (E.G., WYES, TURNAROUNDS IN THE STEM, ROTATION OF ENTRY POINT, ETC.) CAN BE SUBMITTED TO CDOT FOR REVIEW AND APPROVAL ON A CASE-BY-CASE BASIS.
3. SIDEWALK MAY BE REQUIRED TO EXTEND AROUND THE HAMMERHEAD WHERE PARKS OR SCHOOLS HAVE FRONTAGE TO THE END OF THE HAMMERHEAD.

NOTE: THIS DETAIL IS NOT FOR USE IN ETJ, OR ON NCDOT-MAINTAINED STREETS. REFER TO NCDOT SUBDIVISION ROADS MINIMUM CONSTRUCTION STANDARDS MANUAL.

NOT TO SCALE

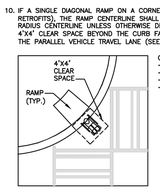
CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS

## RESIDENTIAL HAMMERHEAD DETAIL

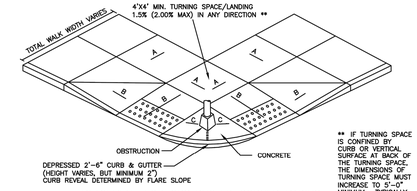
STD. NO. 11.18A | REV. 13

NOTES:

1. MAINTAIN A MINIMUM OF 0.5% SLOPE ON ALL CONCRETE SURFACES TO PROMOTE SURFACE DRAINAGE TOWARD CURB.
2. GUTTER FLOW LINE AND PLAN PROFILE SHALL BE MAINTAINED THROUGH THE RAMP AREA.
3. THE SURFACE OF THE RAMP SHALL BE FLUSH WITH THE FLOWLINE OF THE CURB AND GUTTER.
4. THE WING AND RAMP SURFACES SHALL BE 3600 PSI CONCRETE WITH A SIDEWALK FINISH IN ACCORDANCE WITH CURRENT EDITION NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. DRAINAGE STRUCTURES, MAST ARMS, LIGHT POLES AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN LINE WITH RAMPS. LOCATION OF THE RAMP SHALL TAKE PRECEDENCE OVER LOCATION OF OBSTRUCTIONS EXCEPT WHERE EXISTING OBSTRUCTIONS ARE BEING UTILIZED IN THE NEW CONSTRUCTION.
6. SEE STANDARD DRAWING 10.35B FOR DETECTABLE WARNING INSTALLATION.
7. SEE USDG INTERSECTION DIAGRAMS I-1 THROUGH I-3 FOR TYPICAL RAMP PLACEMENT AND INTERSECTION LAYOUTS.
8. CURB RAMPS SHALL HAVE A SEGMENT OF STRAIGHT CURB AT LEAST 24 INCHES LONG LOCATED ON EACH SIDE OF THE WING SLOPE AND WITHIN THE CROSSWALK MARKINGS.
9. FOR ALL RAMPS AT MARKED CROSSWALKS THE RAMP OPENING (AT THE FULLY DEPRESSED CURB) SHALL BE LOCATED WITHIN THE PARALLEL BOUNDARIES OF CROSSWALK MARKINGS.
10. IF A SINGLE DIAGONAL RAMP ON A CORNER IS USED (TYP. ONLY IN RETROFITS), THE RAMP CENTERLINE SHALL BE LOCATED AT THE CORNER RADIUS CENTERLINE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. A MIN. 4'X4' CLEAR SPACE BEYOND THE CURB FACE MUST BE WHOLLY OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE (SEE DIAGRAM BELOW):

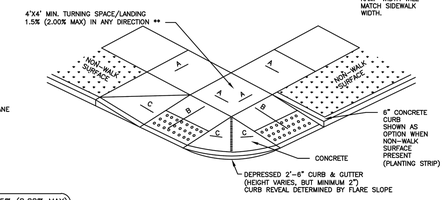



CLEAR SPACE:
- 4' X 4' MINIMUM
- BEYOND BOTTOM GRADE BREAK
- WITHIN PEDESTRIAN STREET CROSSING
- OUTSIDE PARALLEL VEHICLE TRAVEL LANE




** IF TURNING SPACE IS CONFINED BY CURB OR VERTICAL SURFACE AT BACK OF THE TURNING SPACE, THE DIMENSIONS OF TURNING SPACE MUST INCREASE TO 5'-0" MINIMUM. TYPICALLY, TURNING SPACE DIMENSIONS AND RAMP WIDTH WILL MATCH SIDEWALK WIDTH.

PLACEMENT FOR OBSTRUCTED CORNER RADIUS




| | |
|---|---|
| SLOPE "A" | 1.5% (2.00% MAX) |
| SLOPE "B" | 7.5% (8.33% MAX) |
| SLOPE "C" | 10% MAX |

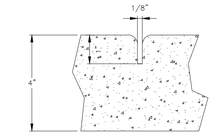
PLACEMENT FOR SMALL CORNER RADIUS

NOT TO SCALE

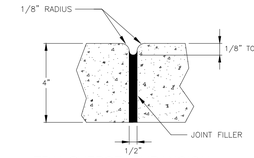
CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## STANDARD PLACEMENT OF CURB RAMP AND GENERAL NOTES

STD. NO. 10.35A | REV. 15




GROOVE JOINT IN SIDEWALK



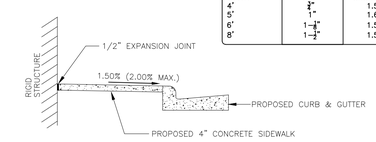

TRANSVERSE EXPANSION JOINT IN SIDEWALK

GENERAL NOTES:

1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT INTERVALS OF NOT MORE THAN 45' AND MATCHING EXPANSION/CONSTRUCTION JOINT IN ADJACENT CURB. A SEALED 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
2. SIDEWALK AT DRIVEWAY ENTRANCES TO BE 6" THICK.
3. WIDTH OF SIDEWALK ON THOROUGHFARE STREETS SHALL BE A MINIMUM OF 6'. WIDTH OF SIDEWALKS IN THE CENTRAL BUSINESS DISTRICT WILL BE DETERMINED BY THE CDOT.
4. WIDTH OF SIDEWALKS ON NON-THOROUGHFARE STREETS SHALL BE BASED ON TYPICAL STREET SECTION, A MINIMUM OF 5'. SIDEWALK TO BE POURED TO END OF RADIUS AT INTERSECTING STREETS.
5. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 PSI. IN 28 DAYS.
6. ZONING CONDITIONS MAY REQUIRE ADDITIONAL WIDTH SIDEWALKS WHICH SHALL SUPERSEDE THESE STANDARD DIMENSIONS SHOWN.
7. LIDS FOR JUNCTION BOXES AND UTILITY VAULTS SHALL BE NON-SKID AS SPECIFIED BY ENGINEER.
8. JOINT MATERIALS SHALL LIMIT SHRINK/SWELL SO POST CONSTRUCTION INSTALLATION RESULTS IN A MAXIMUM OF 1/4" FROM FLUSH.

EXAMPLE SIDEWALK CONSTRUCTION DIMENSIONS:

| WIDTH | RISE | CROSS-SLOPE |
|---|---|---|
| 4' | 3/4" | 1.56% |
| 5' | 1" | 1.67% |
| 6' | 1-1/4" | 1.56% |
| 8' | 1-1/2" | 1.56% |



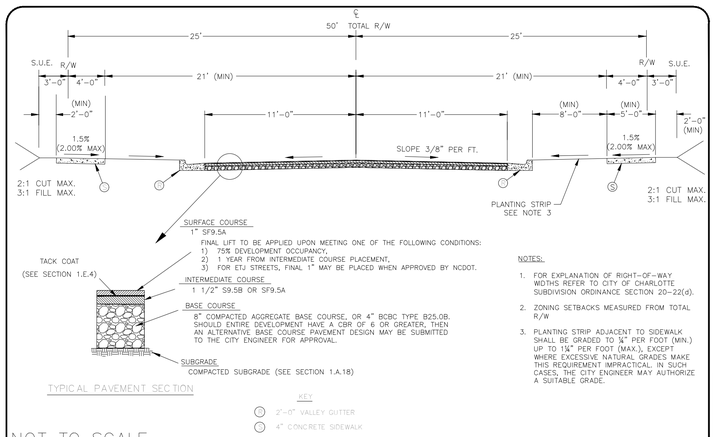

DETAILS SHOWING EXPANSION JOINTS IN CONCRETE SIDEWALK

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## CONCRETE SIDEWALKS

STD. NO. 10.22 | REV. 15




TYPICAL PAVEMENT SECTION

KEY
- 2'-0" VALLEY GUTTER
- 4" CONCRETE SIDEWALK

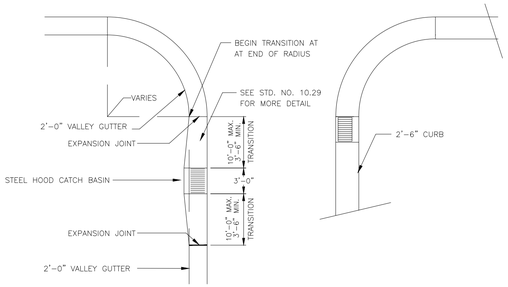
NOTES:

1. FOR EXPLANATION OF RIGHT-OF-WAY WIDTHS REFER TO CITY OF CHARLOTTE SUBDIVISION ORDINANCE SECTION 20-22(d).
2. ZONING SETBACKS MEASURED FROM TOTAL R/W
3. PLANTING STRIP ADJACENT TO SIDEWALK SHALL BE GRADED TO ¾" PER FOOT (MIN.) UP TO 1¾" PER FOOT (MAX.), EXCEPT WHERE EXCESSIVE NATURAL GRADES MAKE THIS REQUIREMENT IMPRACTICAL. IN SUCH CASES, THE CITY ENGINEER MAY AUTHORIZE A SUITABLE GRADE.

NOT TO SCALE

## MODIFIED LOCAL RESIDENTIAL MEDIUM STREET TYPICAL SECTION

STD. NO. | REV.




NOTE:

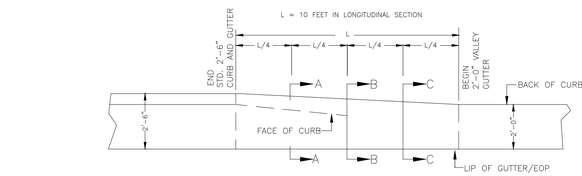
1. WHERE 2'-6" CURB AND GUTTER IS USED, CATCH BASINS MAY BE LOCATED AT END OF RADIUS.
2. RADIUS AT INTERSECTION MAY VARY.

NOT TO SCALE

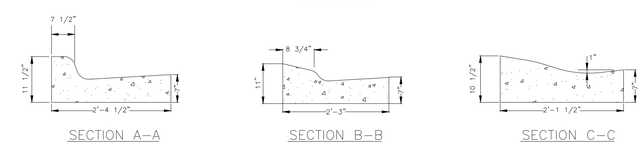
CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## CATCH BASIN PLACEMENT AT INTERSECTIONS

STD. NO. 10.30 | REV.




PLAN VIEW




SECTION A-A | SECTION B-B | SECTION C-C

NOTES:

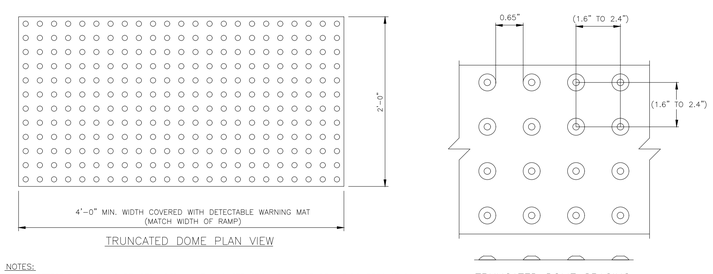
1. TRANSITION IS NOT TO BE LOCATED WITHIN THE CURB RADIUS.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

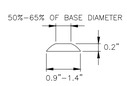
## CURB TRANSITION
2'6" CURB AND GUTTER TO 2'-0" VALLEY GUTTER

STD. NO. 10.19 | REV.




TRUNCATED DOME PLAN VIEW

TRUNCATED DOME SPACING




TRUNCATED DOME SECTION

NOTES:

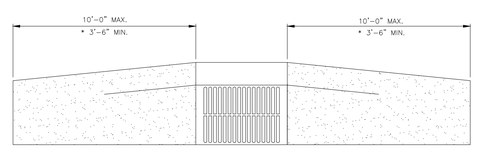
1. ALL DETECTABLE WARNING DEVICES USED IN NEW CONSTRUCTION SHALL BE OF A RIGID PRECAST OR EMBEDDED PRODUCT APPROVED BY THE CITY ENGINEER. RETROFIT MATS WILL ONLY BE ALLOWED ON EXISTING RAMPS WITH PRIOR APPROVAL OF THE CITY ENGINEER FOR MATERIAL TYPE AND INSTALLATION (IE. RESURFACING).
2. RAMP AND DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET IN WIDTH, BUT NOT LESS THAN THE WIDTH OF SIDEWALK LEADING TO BACK OF RAMP.
3. DETECTABLE WARNING SURFACES SHALL EXTEND 2.0 FT MINIMUM IN THE DIRECTION OF PEDESTRIAN TRAVEL.
4. DETECTABLE WARNING AREA CAN BE PLACED SQUARE WHERE USED IN A CURB RADIUS.
5. THE ROWS OF TRUNCATED DOMES IN DETECTABLE WARNING SURFACES SHOULD BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. WHERE DETECTABLE WARNING SURFACES ARE PROVIDED ON A SURFACE WITH A SLOPE THAT IS LESS THAN 5 PERCENT, DOME ORIENTATION IS LESS CRITICAL.
6. DECTECTABLE WARNING AREA SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, STREET OR HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE; EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. ON THE TRYON STREET MALL, FRENCH GRAY IS TO BE USED.
7. IF PAVERS ARE TO BE USED, PAVERS SHALL BE MINIMUM 8000 PSI CONCRETE WITH A 2-INCH MINIMUM THICKNESS, SET ON A THIN-SET MORTAR ON TOP OF 4" THICK 3600 PSI CONCRETE BASE.
8. MATS ARE TO BE RIGID WITH TURNED-DOWN EDGES EMBEDDED IN CONCRETE TO ELIMINATE TRIP HAZARD.
9. DIMENSIONS PER NCDOT 848.06

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## TRUNCATED DOMES PLAN AND CROSS-SECTION

STD. NO. 10.35B | REV. 15




PLAN

NOTE:

* TRANSITION FROM 2'-6" STANDARD CURB TO VALLEY CURB AT A DRAINAGE INLET ONLY.
SEE STANDARD 10.19 FOR CROSS SECTION GEOMETRY.

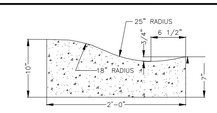
NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## CATCH BASIN FRAME IN VALLEY GUTTER

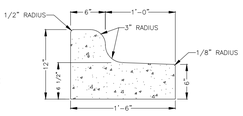
STD. NO. 10.29 | REV.

2'-0" VALLEY GUTTER



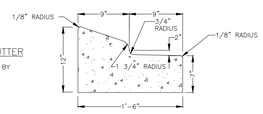

1'-6" MEDIAN CURB AND GUTTER

TO BE USED IN MEDIANS WHEN LANES ARE SLOPED FROM ISLAND OR AS SPECIFIED BY THE APPROPRIATE CITY ENGINEERING DEPT.




1'-6" MOUNTABLE CURB AND GUTTER

TO BE USED IN MEDIANS ONLY; WHEN SPECIFIED BY THE APPROPRIATE CITY ENGINEERING DEPT.




NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

## CURB AND GUTTER

STD. NO. 10.17B | REV.


Cardno
CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com

CAMBRIDGE PROPERTIES


| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

# SITE DETAILS
# THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
SITE DETAILS

SHEET NUMBER
C-903


Plot Stamp: 7/12/2018 2:25:50 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: C-902 SITE DETAILS

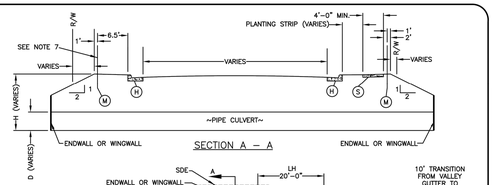
(H) 2'-6" OR 2'-0" STANDARD CURB AND GUTTER, STD. PER 10.17A

(M) SAFETY RAIL, STD. 50.04A & 50.04B

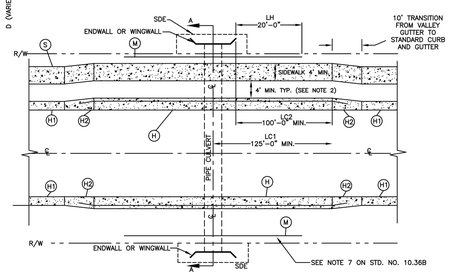
(S) 4'-0" (MIN.) SIDEWALK, STD. 10.22

(H1) 2'-0" VALLEY GUTTER. STD. 10.17B

(H2) CURB TRANSITION STANDARD CURB AND GUTTER TO 2'-0" VALLEY GUTTER, STD. 10.19




SECTION A – A




LH = DISTANCE FROM END OF WINGWALL TO END OF SAFETY RAIL.

LC1 = DISTANCE FROM ℄ OF CULVERT TO END OF 2'-6" CURB AND GUTTER GUTTER.

LC2 = DISTANCE FROM END OF WINGWALL TO END OF 2'-6" CURB AND GUTTER.

NOTES:

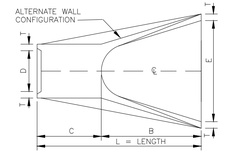
1. SEE STD. NO. 10.36B FOR GENERAL NOTES AND CLEAR ZONE DISTANCES.
2. AN ALTERNATIVE FOR STREETS WITH WIDER PLANTING STRIPS AND SIDEWALKS: IN LIEU OF A PLANTING STRIP ALONG THE CULVERT CROSSING, PROVIDE A MINIMUM 8-FOOT WIDE SIDEWALK LOCATED AT THE BACK OF CURB, FOR LENGTH "LC1" ON EITHER SIDE OF THE CULVERT CENTERLINE.

NOT TO SCALE

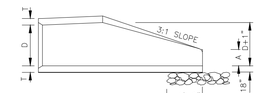
CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

CULVERT CROSSINGS ON RESIDENTIAL AND COMMERCIAL STREETS

STD. NO. 10.36A REV. 11

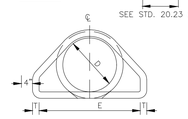



PLAN




SECTION

SEE STD. 20.23 AND 20.24




END VIEW

| TABLE OF DIMENSIONS | | | | | | | |
|---|---|---|---|---|---|---|---|
| D | T | A | B | C | E | L | WT. |
| 12" | 2-1/4" | 4" | 2'-0" | 4'-0" | 2'-0" | 6'-1" | 730 |
| 15" | 2-1/4" | 6" | 2'-3" | 3'-10" | 2'-0" | 6'-1" | 730 |
| 18" | 2-1/2" | 9" | 2'-3" | 3'-10" | 3'-0" | 6'-1" | 1190 |
| 24" | 3" | 10" | 3'-8" | 2'-6" | 4'-0" | 6'-2" | 1770 |
| 30" | 3-1/2" | 1'-0" | 4'-6" | 1'-8" | 5'-0" | 6'-2" | 2380 |
| 36" | 4" | 1'-3" | 5'-3" | 2'-11" | 6'-0" | 8'-2" | 5320 |
| 42" | 4-1/2" | 1'-9" | 5'-3" | 2'-11" | 6'-6" | 8'-2" | 5920 |
| 48" | 5" | 2'-0" | 6'-0" | 2'-2" | 7'-0" | 8'-2" | 7470 |
| 54" | 5-1/2" | 2'-3" | 5'-6" | 2'-10" | 7'-6" | 8'-4" | 8810 |
| 60" | 6" | 2'-6" | 5'-0" | 3'-3" | 8'-0" | 8'-3" | 11180 |
| 66" | 6-1/2" | 3'-0" | 6'-0" | 2'-3" | 8'-6" | 8'-3" | 12530 |
| 72" | 7" | 3'-0" | 6'-6" | 1'-9" | 9'-0" | 8'-3" | 13980 |

GENERAL NOTES:

1. SEE FORMER NCDOT STANDARD 310.01 FOR DETAILS.
2. REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M170, TABLE 2, WALL B.
3. ALL CONCRETE TO BE 3600 P.S.I COMPRESSIVE STRENGTH.
4. PROVIDE TONGUE OR SPIGOT JOINT AT INLET END SECTION.
5. PROVIDE GROOVE OR BELL JOINT AT OUTLET END SECTION.
6. THE DIMENSIONS FOR END SECTIONS SHALL SUBSTANTIALLY AGREE WITH THE TABLE. MINOR VARIATIONS WILL BE PERMITTED BASED ON THE MANUFACTURER'S STANDARD FORMS AND TEMPLATES.
7. NOT TO BE USED IN NCDOT MAINTAINED RIGHT OF WAY.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

FLARED END SECTION 12" THRU 72" PIPE

STD. NO. 20.22 REV. 1

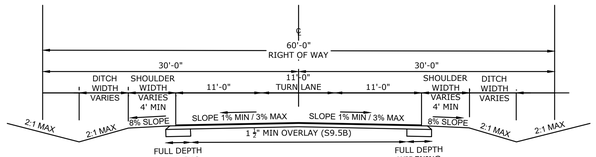
| DWG | SHEET TITLE | SPECIAL REQUIREMENTS AND NOTES |
|---|---|---|
| 840.31 | CONCRETE JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE | NOTE 1; OPTIONAL MANHOLE IS REQUIRED |
| 840.32 | BRICK JUNCTION BOX 12" THRU 66" PIPE | NOTE 1; OPTIONAL MANHOLE IS REQUIRED |
| 840.34 | TRAFFIC BEARING JUNCTION BOX FOR USE WITH PIPES 42" AND UNDER | NOTE 1; OPTIONAL MANHOLE IS REQUIRED; AS MEASURED FROM BOTTOM OF TOP SLAB -- FOR JUNCTION BOX HEIGHT 0'-4'8" USE 8" THICK WALL, FROM 4'8" HEIGHT TO 10' HEIGHT, USE 12" THICK WALL. IF PROPOSED STRUCTURE EXCEEDS 12'-0" HEIGHT A SPECIAL DESIGN WILL BE REQUIRED |
| 840.35 | TRAFFIC BEARING DROP INLET FOR CAST IRON DOUBLE FRAME AND GRATES | |
| 840.36 | TRAFFIC BEARING DROP INLET FOR STEEL (840.37) DOUBLE FRAME AND GRATES | NOT FOR USE IN PEDESTRIAN AREAS |
| 840.37 | STEEL GRATE AND FRAME | NOT FOR USE IN PEDESTRIAN AREAS |
| 840.41 | SPRING BOX CONCRETE OR BRICK | |
| 840.45 | PRECAST DRAINAGE STRUCTURE (SOLID AND WAFFLE WALL) | WAFFLE WALL IS NOT PERMITTED IN ROADWAY, PLANTING STRIPS, OR MEDIANS. ALL OPENINGS SHALL BE PRE-CAST |
| 840.46 | TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE | |
| 840.51 | BRICK MANHOLE 12" 36" PIPE | |
| 840.52 | PRECAST MANHOLE 4', 5' AND 6' DIAMETER 12" THRU 42" PIPE | |
| 840.53 | PRECAST MANHOLE WITH MASONRY BASE 12" THRU 42" PIPE | |
| 840.54 | MANHOLE FRAME AND COVER | |
| 840.60 | DRAINAGE STRUCTURE STEPS | |
| 840.71 | CONCRETE PAVED DITCHES | |
| 840.72 | PIPE COLLAR | |
| 850.01 | CONCRETE PAVED DITCHES | |
| 852.04 | METHODS FOR PLACEMENT OF DROP INLETS IN GRASSED MEDIAN (USING 1'-6" CURB AND GUTTER) | |
| 852.05 | MEDIAN CURB FOR CATCH BASIN (FOR USE WITH 1'-6" CURB AND GUTTER) | |
| 852.06 | METHOD OF PLACEMENT OF DROP INLETS IN CONCRETE ISLANDS | |
| 876.01 | RIP RAP IN CHANNELS | |
| 876.03 | DRAINAGE DITCHES WITH CLASS "A" RIP RAP | |
| 876.04 | DRAINAGE DITCHES WITH CLASS "B" RIP RAP | |
| 310.01 | 1998 DRAWINGS CONCRETE FLARED END SECTION | |

NOTE 1: FOR ALL STRUCTURES – NCDOT REQUIRES CLASS B CONCRETE (2500PSI). THE CITY REQUIRES 3600 PSI CONCRETE STRENGTH @ 28 DAYS. 3600 PSI CONCRETE SHALL BE USED IN ALL CITY AND ETJ PROJECTS.

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

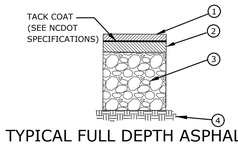
NCDOT STANDARDS APPROVED FOR USE IN THE CITY OF CHARLOTTE AND CHARLOTTE ETJ

STD. NO. 20.00C REV. 10




MCKEE ROAD TYPICAL SECTION

N.T.S




TYPICAL FULL DEPTH ASPHALT PAVEMENT SECTION MCKEE ROAD ONLY

1. SURFACE COURSE
   3.0" S9.5C IN 1.50" TWO LIFTS
2. INTERMEDIATE COURSE
   4" I19.0C IN ONE LIFT
3. BASE COURSE
   8" B25.0C IN TWO 4.0" LIFTS
4. SUBGRADE
   100% COMPACTED SUBGRADE (SEE NCDOT REQUIREMENTS)
   ALL CURB AND GUTTER MUST BE SET ON 6" OF ASPHALT BASE COURSE

GENERAL NOTES:

1. ALL CORNERS TO BE CHAMFERED 1" IF CONCRETE.
2. THE CONTRACTOR WILL BE REQUIRED TO PLACE 2-#6 BARS "Y" IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL.
3. FORMS ARE TO BE USED FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
4. WALL THICKNESS (T) SHOWN IS NOT TO BE INTERPRETED TO MEAN THE THICKNESS ACCEPTABLE, BUT IS USED ONLY IN COMPUTING ENDWALL QUANTITIES.
5. IF CONTRACTOR ELECTS TO USE CONSTRUCTION JOINT AT BOTTOM OF PIPE, AND POURS BASE SEPARATELY, THE TOP OF BASE SHALL BE LEFT ROUGH.
6. ALL CONCRETE TO BE 3600 P.S.I COMPRESSIVE STRENGTH.

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

CONCRETE WINGWALL WITH SPLASH PAD

STD. NO. 20.17B REV.

| DWG | SHEET TITLE | SPECIAL REQUIREMENTS AND NOTES |
|---|---|---|
| 838.45 | NOTES FOR REINFORCED CONCRETE ENDWALL STANDARD DRAWINGS 838.21 THRU 838.40 | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.51 | REINFORCED BRICK ENDWALL FOR SINGLE 54" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.52 | REINFORCED BRICK ENDWALL FOR DOUBLE & TRIPLE 54" PIPE 90°SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.57 | REINFORCED BRICK ENDWALL FOR SINGLE 60" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.58 | REINFORCED BRICK ENDWALL FOR DOUBLE & TRIPLE 60" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.63 | REINFORCED BRICK ENDWALL FOR SINGLE 66" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.64 | REINFORCED BRICK ENDWALL FOR DOUBLE & TRIPLE 66" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.69 | REINFORCED BRICK ENDWALL FOR SINGLE 72" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.70 | REINFORCED BRICK ENDWALL FOR DOUBLE & TRIPLE 72" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.75 | NOTES FOR REINFORCED BRICK ENDWALL STANDARD DRAWINGS 838.51 THRU 838.70 | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.80 | PRECAST CONCRETE ENDWALL FOR SINGLE 12" THRU 72" PIPE 90° SKEW | |
| 840.00 | CONCRETE BASE PAD FOR DRAINAGE STRUCTURES | |
| 840.01 | BRICK CATCH BASIN 15" THRU 54" PIPE | |
| 840.02 | CONCRETE CATCH BASIN 12" THRU 54" PIPE | |
| 840.03 | FRAME, GRATE BASIN 12" THRU 54" PIPE | TYPE F AND G GRATES ARE OPTIONAL WITHIN THE CITY LIMITS |
| 840.04 | CONCRETE OPEN THROAT CATCH BASIN 12" THRU 48" PIPE | NOTE 1; OPENINGS PERMITTED IN 4 SIDES OUTSIDE OF STREET R/W MANHOLE RING AND COVER REQUIRED IN TOP SLAB SEE CLDS 20.05 A&B |
| 840.05 | BRICK OPEN THROAT CATCH BASIN 15" THRU 48" PIPE | NOTE 1; OPENINGS PERMITTED IN 4 SIDES OUTSIDE OF STREET R/W MANHOLE RING AND COVER REQUIRED IN TOP SLAB SEE CLDS 20.05 A&B |
| 840.14 | CONCRETE DROP INLET 12" THRU 30" PIPE | NOTE 1 |
| 840.15 | BRICK DROP INLET 12" THRU 30" PIPE | NOTE 1 |
| 840.16 | DROP INLET FRAME AND GRATE FOR USE WITH DWGS. 840.14 & 840.15 | NOTE 1 |
| 840.17 | CONCRETE GRATED DROP INLET TYPE "A" 12" THRU 72" PIPE | NOTE 1 |
| 840.18 | CONCRETE GRATED DROP INLET TYPE "B" 12" THRU 36" PIPE | NOTE 1 |
| 840.19 | CONCRETE GRATED DROP INLET TYPE "D" 12" THRU 36" PIPE | NOTE 1 |
| 840.20 | FRAMES AND WIDE SLOT FLAT GRATES | NOT FOR USE IN PEDESTRIAN AREAS |
| 840.22 | FRAMES AND WIDE SLOT SAG GRATES | NOT FOR USE IN PEDESTRIAN AREAS |
| 840.24 | FRAMES AND NARROW SLOT SAG GRATES | |
| 840.25 | ANCHORAGE FOR FRAMES BRICK OR CONCRETE | |
| 840.26 | BRICK GRATED DROP INLET TYPE "A" 12" THRU 72" PIPE | |
| 840.27 | BRICK GRATED DROP INLET TYPE "B" 12" THRU 36" PIPE | |
| 840.28 | BRICK GRATED DROP INLET TYPE "D" 12" THRU 36" PIPE | |
| 840.29 | FRAMES AND NARROW SLOT FLAT GRATES | |
| 840.30 | DRIVEWAY DROP INLET | |

NOTE 1: FOR ALL STRUCTURES – NCDOT REQUIRES CLASS B CONCRETE (2500PSI). THE CITY REQUIRES 3600 PSI CONCRETE STRENGTH @ 28 DAYS. 3600 PSI CONCRETE SHALL BE USED IN ALL CITY AND ETJ PROJECTS.

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

NCDOT STANDARDS APPROVED FOR USE IN THE CITY OF CHARLOTTE AND CHARLOTTE ETJ

STD. NO. 20.00B REV. 5

GENERAL NOTES:

1. FOR STREAMS CARRYING 500 ACRES OR MORE OF SURFACE RUNOFF, THE EASEMENT REQUIREMENT IS TO BE THE WIDTH OF THE STREAM FROM TOP OF BANK TO TOP OF BANK, PLUS (+) 10' ON EACH SIDE OF STREAM. ( 40' MINIMUM WIDTH )
2. FOR OPEN CHANNELS THE MINIMUM EASEMENT MUST CONTAIN THE WIDTH OF THE STREAM FROM TOP OF BANK TO TOP BANK.
3. WIDER EASEMENT WIDTHS MAY BE REQUIRED FOR PIPE DEPTHS GREATER THAN TEN FEET.
4. PIPE SYSTEMS AND OPEN CHANNELS ON PRIVATE PROPERTY SHALL BE PLACED IN A STORM DRAINAGE EASEMENT.

Easement Requirements for Open Storm Drainage Channels

| Area in Acreage | Easement Requirement |
|---|---|
| 0–45 ac. | 20' |
| 45–120 ac. | 30' |
| 120–500 ac. | 40' |
| 500 ac.+ | see note |

Easement Requirements for Storm Drain Pipe

| Pipe Size | Easement Requirement |
|---|---|
| 15" | 15' |
| 18" | 15' |
| 24" | 15' |
| 30" | 20' |
| 36" | 20' |
| 42" | 25' |
| 48" | 25' |
| 54"+ | 30'MIN (VARIES) |

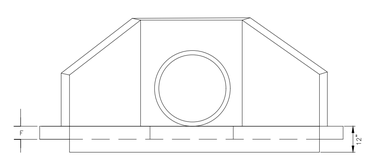
NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

MINIMUM DRAINAGE EASEMENT REQUIREMENTS FOR STORM DRAIN PIPES AND OPEN CHANNELS

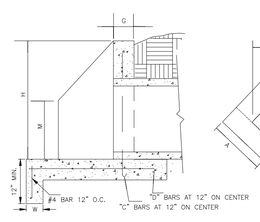
STD. NO. 20.30

| CONCRETE PIPE | | | DIMENSIONS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WALL THK. | OUT DIA. | IN DIA. | H | A | B | C | E | F | G | W | K | M | |
| 2 1/4" | 19 1/2" | 15" | 27 1/2" | 20" | 24" | 8" | 7 1/2" | 4" | 4" | 8" | 17" | 10" | |
| 2 1/2" | 23" | 18" | 31" | 20" | 24" | 8" | 9" | 4" | 4" | 8" | 17" | 12" | |
| 3" | 30" | 24" | 38" | 20" | 30" | 8" | 12" | 4" | 4" | 8" | 21" | 15" | |
| 3 1/2" | 37" | 30" | 45" | 20" | 44" | 12" | 15" | 6" | 8" | 8" | 31" | 18" | |
| 4" | 44" | 36" | 52" | 32" | 44" | 12" | 18" | 6" | 8" | 8" | 31" | 22" | |
| 4 1/2" | 51" | 42" | 59" | 32" | 48" | 12" | 21" | 6" | 8" | 8" | 34" | 26" | |
| 5" | 58" | 48" | 66" | 32" | 48" | 12" | 24" | 6" | 8" | 8" | 34" | 29" | |
| 5 1/2" | 65" | 54" | 73" | 32" | 54" | 12" | 27" | 6" | 8" | 8" | 38" | 33" | |
| 6" | 72" | 60" | 80" | 36" | 66" | 12" | 30" | 8" | 12" | 12" | 48" | 36" | |
| 6 1/2" | 79" | 66" | 87" | 36" | 72" | 12" | 33" | 8" | 12" | 12" | 51" | 40" | |
| 7" | 86" | 72" | 94" | 36" | 78" | 12" | 36" | 8" | 12" | 12" | 56" | 43" | |

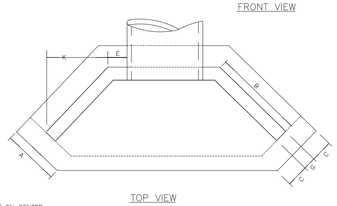



FRONT VIEW

| REINFORCING | | | | |
|---|---|---|---|---|
| | "C" BAR | | "D" BAR | |
| DIA. | NO. | LGT. | NO. | LGT. |
| 15" | 4 | 2'-0" | 4 | 1'-11" |
| 18" | 4 | 2'-3" | 4 | 2'-2" |
| 24" | 4 | 2'-9" | 4 | 2'-8" |
| 30" | 4 | 3'-3" | 4 | 3'-2" |
| 36" | 4 | 3'-9" | 4 | 3'-8" |
| 42" | 4 | 4'-3" | 4 | 4'-2" |
| 48" | 4 | 4'-9" | 4 | 4'-8" |
| 54" | 4 | 5'-3" | 4 | 5'-2" |
| 60" | 4 | 5'-9" | 4 | 5'-8" |
| 66" | 4 | 6'-3" | 4 | 6'-2" |
| 72" | 4 | 6'-9" | 4 | 6'-8" |




SIDE VIEW




TOP VIEW

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

CONCRETE WINGWALL WITH SPLASH PAD

STD. NO. 20.17A REV. 8

| DWG | SHEET TITLE | SPECIAL REQUIREMENTS AND NOTES |
|---|---|---|
| 300.01 | METHOD OF PIPE INSTALLATION | |
| 310.02 | PARALLEL PIPE END SECTION-PRECAST CONCRETE FOR 15" TO 24" PIPE | REQUIRED IN RIGHT OF WAY WITHIN THE ETJ |
| 310.03 | CROSS PIPE END SECTION-PRECAST CONCRETE FOR 18" TO 30" PIPE | REQUIRED IN RIGHT OF WAY WITHIN THE ETJ |
| 310.10 | DRIVEWAY PIPE CONSTRUCTION USING NO SPECIAL END SECTIONS | ONLY AT LOCATIONS APPROVED BY THE CITY ENGINEER |
| 815.03 | PIPE UNDERDRAIN AND BLIND DRAIN | |
| 816.03 | GEOCOMPOSITE SHOULDER DRAIN | |
| 838.01 | CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE 90° SKEW | NOTE 1 |
| 838.02 | CONCRETE ENDWALL AND SLUICE GATE 15" THRU 36" PIPE-90° SKEW | NOTE 1 |
| 838.04 | CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 17"X13"THRU 71"X47" PIPE ARCH 90° SKEW | NOTE 1 |
| 838.05 | CONCRETE "L" ENDWALL FOR SINGLE PIPE CULVERTS 15" THRU 48" PIPE | NOTE 1 |
| 838.06 | CONCRETE "L" ENDWALL FOR SINGLE PIPE CULVERTS 17"X13" THRU 71"X47" 71"X47" ARCH PIPE | NOTE 1 |
| 838.07 | CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 40"X31" THRU 66"X51" PIPE ARCH 90°SKEW | NOTE 1 |
| 838.08 | CONCRETE "L" ENDWALL FOR SINGLE PIPE CULVERTS 40"X32" THRU 66"X51" PIPE ARCH | NOTE 1 |
| 838.10 | CONCRETE ENDWALL FOR OUTFALL 4'-6" OR 8" PIPE | NOTE 1 |
| 838.11 | BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" 90° SKEW | NOTE 1 |
| 838.14 | BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 17"X31" THRU 71"X47" 90° SKEW | NOTE 1 |
| 838.15 | BRICK "L" ENDWALL FOR SINGLE PIPE CULVERTS 15" THRU 48" PIPE | NOTE 1 |
| 838.16 | BRICK "L" ENDWALL FOR SINGLE PIPE CULVERTS 17"X13" THRU 71"X47" PIPE ARCH | NOTE 1 |
| 838.17 | BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 40"X31" THRU 66"X51" PIPE ARCH 90°SKEW | NOTE 1 |
| 838.18 | BRICK ENDWALL FOR SINGLE PIPE CULVERTS 40"X31" THRU 66"X51" PIPE ARCH 90° SKEW | NOTE 1 |
| 838.20 | BRICK ENDWALL FOR OUTFALL 4", 6" AND 8" PIPE | NOTE 1 |
| 838.21 | REINFORCED CONCRETE ENDWALL FOR SINGLE 54" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.22 | REINFORCED CONCRETE ENDWALL FOR DOUBLE & TRIPLE 54" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.27 | REINFORCED CONCRETE ENDWALL FOR SINGLE 60" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.28 | REINFORCED CONCRETE ENDWALL FOR DOUBLE & TRIPLE 60" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.33 | REINFORCED CONCRETE ENDWALL FOR SINGLE 66" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.34 | REINFORCED CONCRETE ENDWALL FOR DOUBLE & TRIPLE 66" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.39 | REINFORCED CONCRETE ENDWALL FOR SINGLE 72" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |
| 838.40 | REINFORCED CONCRETE ENDWALL FOR DOUBLE & TRIPLE 72" PIPE 90° SKEW | NOTE 1 SEE CLDS 20.17 FOR SPLASH PAD |

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CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

NCDOT STANDARDS APPROVED FOR USE IN THE CITY OF CHARLOTTE AND CHARLOTTE ETJ

STD. NO. 20.00A REV. 11


Cardno
CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

SITE DETAILS
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

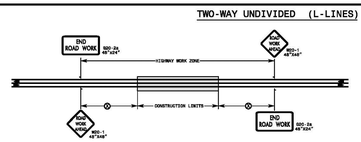
SHEET TITLE

SITE DETAILS

SHEET NUMBER

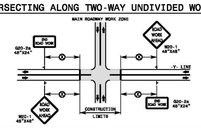
C-904

## TWO-WAY UNDIVIDED (L-LINES)




| POSTED SPEED LIMIT (MPH) | RECOMMENDED MINIMUM SIGN SPACING Ⓐ |
|---|---|
| ≤ 50 | 500' |
| 55 | 1000' |

## ROADWAYS INTERSECTING ALONG TWO-WAY UNDIVIDED WORK ZONE (Y-LINES)




NO STATIONARY Y LINE ADVANCE WARNING SIGNAGE SHALL BE PLACED WITHIN 1000' OF THE TWO 1000' OF CONSTRUCTION ALONG THE Y LINE.

### GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

6- DO NOT BACK BRACE SIGN SUPPORTS.

**LEGEND**

|- STATIONARY SIGN

⇐ DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**WORK ZONE ADVANCE WARNING SIGNS FOR TWO-WAY UNDIVIDED FACILITIES**

SHEET 3 OF 3

**1101.01**

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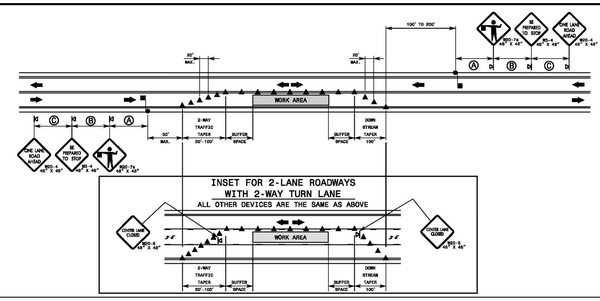


### GENERAL NOTES FOR FLAGGING OPERATIONS

1- REFER TO RSD. 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.

3- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

4- PLACE CONES INTO THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD. 1101.11, SHEET 2).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- DRUMS OR SKINNY DRUMS MAY BE USED IN LIEU OF CONES. REFER TO RSD. 1180.01 FOR SKINNY DRUM REQUIREMENTS.

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS WHERE LANE CLOSURE SIGNS [R20-5(a)] ARE NOT VISIBLE TO ALL APPROACHES WITH FLAGGER AHEAD SIGNS [W20-7b] PLACED APPROXIMATELY 250 FT. IN ADVANCE OF THE FLAGGER. FOR SIGNALIZED INTERSECTIONS PLACE SIGNALS IN THE FLASH MODE AND USE LAW ENFORCEMENT.

9- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

11- IF VEHICLE QUEUES WILL REACH WITHIN 15' OF EITHER SIDE OF ACTIVE RAILROAD TRACKS, CONTACT A DUTYSHIFT LAW ENFORCEMENT OFFICER OR FLAGGER TO PREVENT VEHICLES FROM STOPPING WITHIN THE GRADE CROSSING. PROVIDE OFFICER OR FLAGGER EVEN IF AUTOMATIC WARNING MEASURES ALREADY EXIST.

### GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ROADWAY WIDTH IS LESS THAN 22 FEET (EDP TO EDP), CONES MAY NOT BE REQUIRED ALONG WORK AREA, AND AT THE DISCRETION OF THE ENGINEER, CONES MAY BE OMITTED ALONG THE WORK AREA IF USING A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN R20-4 "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- ADVISE RESIDENTS AND BUSINESSES WITHIN THE LANE CLOSURE TO MOVE VEHICLES TO ALTERNATE PARKING AREAS TO PREVENT THEM INADVERTENTLY BLOCKING PILOT CAR OPERATIONS.

**LEGEND**

FLAGGER

CONE

PORTABLE SIGN

DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**TEMPORARY LANE CLOSURES**

2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 14

**1101.02**

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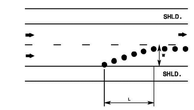
## EXAMPLE OF "L" & "W" DESIGNATIONS




## TAPER LENGTH CRITERIA FOR CHANNELIZING DEVICES IN WORK ZONES

| TYPES OF TAPERS | TAPER LENGTH |
|---|---|
| **UPSTREAM TAPER** | |
| MERGING TAPER | L MINIMUM |
| SHIFTING TAPER | ½ L MINIMUM |
| SHOULDER TAPER | ⅓ L MINIMUM |
| TWO-WAY TRAFFIC TAPER | 50 - 100 FEET MAXIMUM |
| **DOWNSTREAM TAPER** | 100 FEET MAXIMUM |

DO NOT INTRODUCE A MERGING OR SHIFTING TAPER WITHIN A CURVE OF THE ROADWAY

**QUICK REFERENCE - "L" DISTANCE TABLE**

MINIMUM LONGITUDINAL DISTANCE "L" (FEET) (ROUNDED VALUES)

| POSTED SPEED LIMIT (MPH) | LATERAL WIDTH "W" (FEET) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 10 | 15 | 20 | 30 | 35 | 40 | 50 | 55 | 60 | 70 | 75 | 80 |
| 25 | 15 | 25 | 35 | 45 | 55 | 65 | 75 | 85 | 95 | 105 | 115 | 125 |
| 30 | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 |
| 35 | 25 | 45 | 65 | 85 | 105 | 125 | 145 | 165 | 185 | 205 | 225 | 245 |
| 40 | 30 | 55 | 80 | 110 | 135 | 160 | 190 | 215 | 240 | 270 | 295 | 320 |
| 45 | 45 | 90 | 135 | 180 | 225 | 270 | 315 | 360 | 405 | 450 | 495 | 540 |
| 50 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
| 55 | 55 | 110 | 165 | 220 | 275 | 330 | 385 | 440 | 495 | 550 | 605 | 660 |
| 60 | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 480 | 540 | 600 | 660 | 720 |
| 65 | 65 | 130 | 195 | 260 | 325 | 390 | 455 | 520 | 585 | 650 | 715 | 780 |
| 70 | 70 | 140 | 210 | 280 | 350 | 420 | 490 | 560 | 630 | 700 | 770 | 840 |

### GENERAL NOTES

1- TABLE FOR "L" DISTANCE IS BASED ON CHANNELIZATION TAPER FORMULA FROM THE MUTCD.
WHERE:

| SPEED LIMIT | FORMULA |
|---|---|
| 40 MPH OR LESS | $L_{MIN} = \frac{W \times S^2}{60}$ |
| 45 MPH OR GREATER | $L_{MIN} = W \times S$ |

L = MINIMUM TAPER LENGTH IN FEET (LONGITUDINAL DISTANCE)
W = WIDTH OF OFFSET IN FEET (LATERAL DISTANCE)
S = POSTED SPEED LIMIT, OR OFF-PEAK 85 PERCENTILE SPEED IN MPH PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

2- "L" DISTANCE IS FOR APPLICATION WITH CHANNELIZING DEVICE AND PAVEMENT MARKING TAPERS AND TRANSITIONS. CHANNELIZING DEVICES INCLUDE DRUMS, CONES, TUBULAR MARKERS, BARRICADES, RAISED ASPHALT ISLANDS, AND VERTICAL PANELS.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**TRAFFIC CONTROL DESIGN TABLES**

"L" DISTANCE AND CHANNELIZING DEVICE TAPER CRITERIA

SHEET 1 OF 4

**1101.11**

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| DESIGN SPEED (MPH) | MINIMUM SIGHT DISTANCE: STOPPING SIGHT DISTANCE (FEET) | MINIMUM SIGHT DISTANCE: PASSING SIGHT DISTANCE (FEET) | MINIMUM LONGITUDINAL BUFFER SPACE (FEET) |
|---|---|---|---|
| 30 | 200 | 1090 | 65 |
| 35 | 250 | 1290 | 120 |
| 40 | 305 | 1470 | 155 |
| 45 | 360 | 1625 | 195 |
| 50 | 425 | 1835 | 240 |
| 55 | 485 | 1985 | 290 |
| 60 | 570 | 2135 | 345 |
| 65 | 645 | 2285 | 405 |
| 70 | 730 | 2440 | 470 |
| 75 | 820 | 2590 | 540 |
| 80 | 910 | 2680 | 615 |

### GENERAL NOTES

1- TABLES ARE BASED ON THE AASHTO GREEN BOOK "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". MINIMUM SIGHT DISTANCE VALUES ARE FOR PASSENGER CAR VEHICLES ON WET AND LEVEL ROADWAYS. CONSULT THE AASHTO GREEN BOOK TO MAKE FINAL DETERMINATION OF STOPPING SIGHT DISTANCE REQUIREMENTS.

2- BUFFER SPACE TABLE IS BASED ON THE BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS.

3- USE OF STOPPING SIGHT DISTANCE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE FOR TRAFFIC APPROACHING A LANE CLOSURE. PROVIDE 2-LANE, 2-WAY ROADWAYS STOPPING SIGHT DISTANCE TO THE FLAGGER. FOR LANE CLOSURES ON MULTILANE ROADWAYS PROVIDE STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE MERGE TAPER, OR FLASHING ARROW BOARD. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED.

4- USE OF MINIMUM PASSING SIGHT DISTANCE TABLE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE REQUIREMENTS FOR PLACEMENT OF PAVEMENT MARKING PASSING/NO-PASSING ZONES FOR 2-LANE, 2-WAY ROADWAYS.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**TRAFFIC CONTROL DESIGN TABLES**

BUFFER SPACE & SIGHT DISTANCE

SHEET 2 OF 4

**1101.11**

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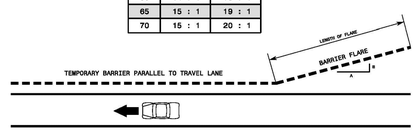
**TEMPORARY BARRIER FLARE RATES**

| POSTED SPEED LIMIT (MPH) | UNANCHORED (A:B) | ANCHORED (A:B) |
|---|---|---|
| ≤ 30 | 7 : 1 | 8 : 1 |
| 35 | 8 : 1 | 9 : 1 |
| 40 | 8 : 1 | 10 : 1 |
| 45 | 10 : 1 | 12 : 1 |
| 50 | 11 : 1 | 14 : 1 |
| 55 | 12 : 1 | 16 : 1 |
| 60 | 14 : 1 | 18 : 1 |
| 65 | 15 : 1 | 19 : 1 |
| 70 | 15 : 1 | 20 : 1 |




### GENERAL NOTES

1- REFER TO THE 2011 ROADSIDE DESIGN GUIDE OR THE LATEST EDITION.

2- A BARRIER IS CONSIDERED FLARED WHEN IT IS NOT PARALLEL TO THE EDGE OF THE TRAVELWAY.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**TRAFFIC CONTROL DESIGN TABLES**

TEMPORARY BARRIER FLARE RATES

SHEET 3 OF 4

**1101.11**

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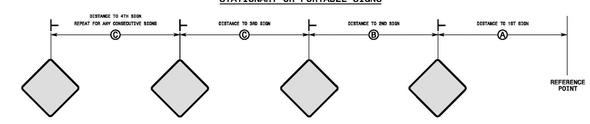
**ADVANCE WARNING SIGN SPACING CHART**

| POSTED SPEED LIMIT (MPH) | RECOMMENDED DISTANCE BETWEEN SIGNS (FEET): Ⓐ | Ⓑ | Ⓒ |
|---|---|---|---|
| ≤ 35 | 200 | 200 | 200 |
| 40-50 | 350 | 350 | 350 |
| 55 | 500 | 500 | 500 |
| CONTROLLED ACCESS ROADS (≥ 55) | 1000 | 1500 | 2700 |

## STATIONARY OR PORTABLE SIGNS




### GENERAL NOTES

1- REFER TO 2009 MUTCD OR THE LATEST EDITION.

2- USE THIS STANDARD DRAWING IN CONJUNCTION WITH OTHER TRAFFIC CONTROL ROADWAY STANDARD DRAWINGS WHERE SIGN SPACING DISTANCES A, B, C, ARE SPECIFIED.

3- APPLY THE ADVANCE WARNING SIGN SPACING CHART WHERE A SERIES OF 2 OR MORE SIGNS ARE USED. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS VARIOUS CONDITIONS OCCUR, SUCH AS LIMITED SIGHT DISTANCE, OBSTRUCTION INTERFERENCE, ETC.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**TRAFFIC CONTROL DESIGN TABLES**

SPACING OF TEMPORARY SIGNS IN SERIES

SHEET 4 OF 4

**1101.11**

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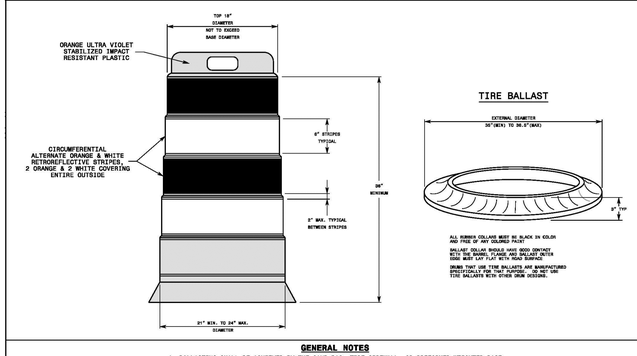


## TIRE BALLAST




ALL RUBBER COLLARS MUST BE BLACK IN COLOR AND FREE OF ANY COLORED PAINT.

BALLAST COLLAR MODELS HAVE WOOD CONTACT BETW THE BRAKED PLANKS AND BALLAST INTER SIDE MUST LAY FLAT WITH ROAD SURFACE.

DRUMS THAT USE TIRE BALLASTS ARE MANUFACTURED WITH THE BALLAST COLLAR. DO NOT MIX THE TIRE BALLASTS WITH OTHER DRUM DESIGNS.

### GENERAL NOTES

1- BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE-SIDEWALL, OR PREFORMED WEIGHTED BASE METHODS. USE THE TIRE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.

2- IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.

3- ALL DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCT LIST.

4- REFER TO THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR ADDITIONAL INFORMATION.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**DRUMS**

SHEET 1 OF 1

**1130.01**

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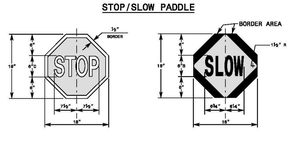
## STOP/SLOW PADDLE

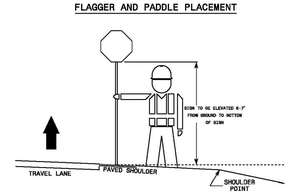



STOP:
LEGEND:WHITE REFLECTORIZED
BORDER:WHITE REFLECTORIZED
BACKGROUND:RED REFLECTORIZED

SLOW:
LEGEND:BLACK NON REFLECTORIZED
BORDER AREA:BLACK NON REFLECTORIZED
BACKGROUND:ORANGE REFLECTORIZED

NOTE: FOR OPERATIONS THAT ARE RESTRICTED FROM DUSK TO DAWN ONLY, USE REFLECTORIZED LEGEND, BORDERS AND BACKGROUND.

## FLAGGER AND PADDLE PLACEMENT




### GENERAL NOTES

1- USE HAND SIGNALING DEVICES SUCH AS STOP-SLOW PADDLES, FLASHLIGHTS TO CONTROL TRAFFIC. USE STOP-SLOW PADDLES AS THE PRIMARY DEVICE.

2- FABRICATE STOP-SLOW PADDLES FROM SHEET METAL OR OTHER LIGHT SEMI RIGID MATERIAL. PROVIDE A RIGID HANDLE OF SUFFICIENT LENGTH SO THE PADDLE IS HELD AT 6-7' ABOVE GROUND LEVEL.

3- PROVIDE STOPPING SIGHT DISTANCE TO EACH FLAGGER STATION. REFER TO RSD. 1101.11, SHEET 2.

4- ILLUMINATE FLAGGER STATIONS DURING NIGHT OPERATIONS.

5- FOLLOW FLAGGER QUALIFICATIONS AND METHODS OF HAND-SIGNALING PROCEDURES IN ACCORDANCE WITH PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

6- ALL FLAGGERS MUST BE CERTIFIED BY AN NCDOT APPROVED TRAINING RESOURCE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**FLAGGERS**

SHEET 1 OF 1

**1150.01**

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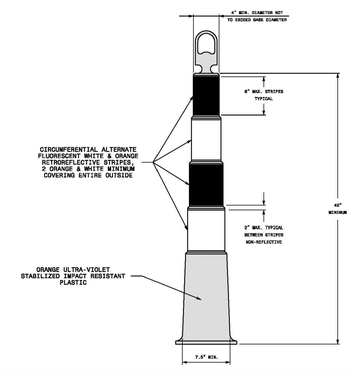
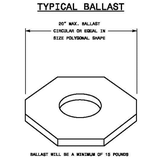



## TYPICAL BALLAST




### GENERAL NOTES

1- USE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.

2- IF NECESSARY, PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.

4- REFER TO STANDARD SPECIFICATIONS FOR ROADS AND INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.

5- ALL SKINNY DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR

**SKINNY DRUMS**

SHEET 1 OF 1

**1180.01**

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CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com

CAMBRIDGE PROPERTIES


# TRAFFIC CONTROL DETAILS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH


ROBERT L. CASH, P.E.
NC LICENSE No. 033448


| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

TRAFFIC CONTROL DETAILS

SHEET NUMBER

C-905


Plot Stamp: 7/12/2018 2:25:59 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: C-904 TRAFFIC CONTROL DETAILS

## CONTINUOUS LINES

EDGE LINE — YELLOW OR WHITE — 4"/6"

LANE LINE — WHITE — 4"/6"

CENTER LINE — YELLOW — 4"/6"

GORE LINE — WHITE — 8"/12"

DIAGONAL LINE — YELLOW OR WHITE — 12" 45 MPH OR HIGHER; 8" LESS THAN 45 MPH

CROSSWALK LINE — WHITE — 8" TRANSVERSE; 24" LONGITUDINAL

RxR LINE — WHITE — 16"

STOP OR TRANSVERSE BAR — WHITE — 24"

### 10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.


### 2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS. EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND MINI-SKIPS USED FOR BICYCLE LANE LINES.




### 3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.


### 3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.




GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

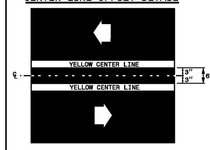
ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

SHEET 1 OF 2

**1205.01**

## EDGE LINE OFFSET DETAIL


## CENTER LINE OFFSET DETAIL




## LANE LINE OFFSET DETAIL

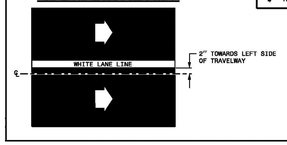



TABLE 1

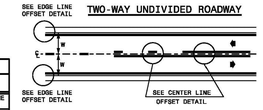
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

| WIDTH (W) OF TRAVEL PAVEMENT | MAX. EDGE LINE OFFSET FROM E.O.T. | MINIMUM LANE WIDTH (W) |
|---|---|---|
| 16' - 18' | 2" | 8' - 9' |
| 19' | 4" | 9' |
| 20' | 6" | 9.5' |
| 21' | 8" | 10' |
| 22' | 10" | 10' |
| 23' | 10" | 10.5' |
| 24' | 1' | 11' |
| 26' | 2' | 11' |
| 28' | 2' | 12' |
| 30' | 3' | 12' |
| 32' | 4' | 12' |

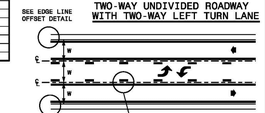
LEGEND

W = WIDTH OF TRAVEL LANE
E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW

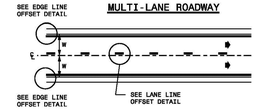
## TWO-WAY UNDIVIDED ROADWAY




## TWO-WAY UNDIVIDED ROADWAY WITH TWO-WAY LEFT TURN LANE




## MULTI-LANE ROADWAY




STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

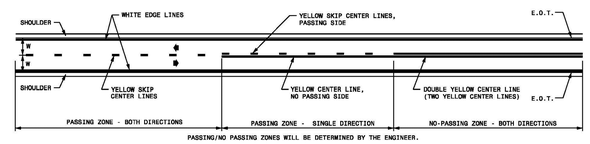
1-18

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

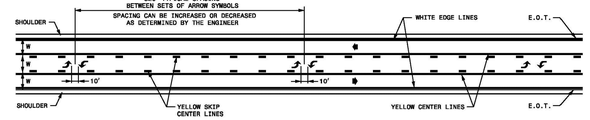
SHEET 2 OF 2

**1205.01**

## TWO-LANE, TWO-WAY ROADWAY




## TWO-LANE, TWO-WAY ROADWAY WITH TWO-WAY LEFT TURN LANE




GENERAL NOTES:

1- EDGE LINES ARE NOT REQUIRED ALONG CURB AND GUTTER LOCATIONS.

2- CONTINUE EDGE LINES THROUGH MINOR DRIVEWAYS. DO NOT CONTINUE EDGE LINES AT INTERSECTIONS AND MAJOR DRIVEWAYS, SEE ROADWAY STANDARD DRAWING 1205.05 FOR ADDITIONAL GUIDANCE.

3- REFER TO ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.08 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

W = WIDTH OF TRAVEL LANE
E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW
PAVEMENT MARKING SYMBOLS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

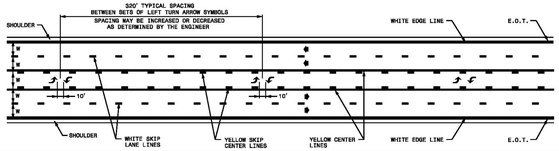
1-18

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** TWO-LANE AND MULTI-LANE ROADWAYS

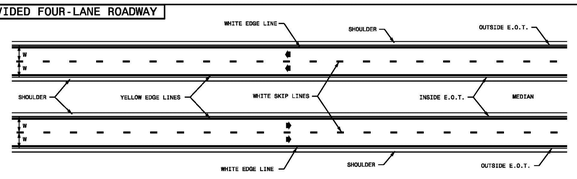
SHEET 1 OF 2

**1205.02**

## UNDIVIDED MULTI-LANE ROADWAY WITH TWO-WAY LEFT TURN LANE




## DIVIDED FOUR-LANE ROADWAY




GENERAL NOTES:

1- EDGE LINES ARE NOT REQUIRED ALONG CURB AND GUTTER LOCATIONS.

2- CONTINUE EDGE LINES THROUGH MINOR DRIVEWAYS. DO NOT CONTINUE EDGE LINES AT INTERSECTIONS AND MAJOR DRIVEWAYS, SEE ROADWAY STANDARD DRAWING 1205.05 FOR ADDITIONAL GUIDANCE.

3- REFER TO ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.08 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

W = WIDTH OF TRAVEL LANE
E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW
PAVEMENT MARKING SYMBOLS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

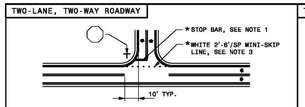
1-18

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** TWO-LANE AND MULTI-LANE ROADWAYS

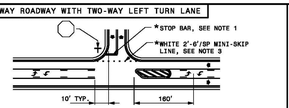
SHEET 2 OF 2

**1205.02**

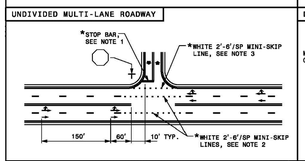
## TWO-LANE, TWO-WAY ROADWAY



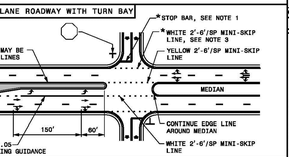

## TWO-LANE, TWO-WAY ROADWAY WITH TWO-WAY LEFT TURN LANE



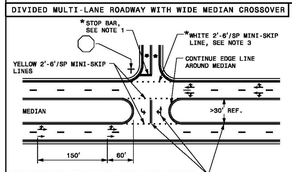

## UNDIVIDED MULTI-LANE ROADWAY




## DIVIDED MULTI-LANE ROADWAY WITH TURN BAY




## DIVIDED MULTI-LANE ROADWAY WITH WIDE MEDIAN CROSSOVER




USE DOUBLE YELLOW CENTER LINE AND ARROW SYMBOLS IN MEDIAN CROSSOVER WHEN WIDTH OF MEDIAN EXCEEDS 30 FT, OTHERWISE THEY ARE NOT REQUIRED.

GENERAL NOTES:

1- PLACEMENT OF STOP BARS AT NON-SIGNALIZED INTERSECTIONS IS OPTIONAL AND USED WHERE IT IS IMPORTANT TO INDICATE THE POINT WHICH VEHICLES ARE REQUIRED TO STOP. PLACE STOP BARS NO LESS THAN 4 FEET AND NO MORE THAN 30 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. USE 10 FEET AS THE TYPICAL SETBACK DISTANCE OR AS DIRECTED BY THE ENGINEER.

2- MINI-SKIP LANE LINE EXTENSIONS SHOULD BE USED AT INTERSECTIONS THAT HAVE REDUCED VISIBILITY CONDITIONS SUCH AS OFFSET, SKEWED, OR CURVED ROADWAYS.

3- MINI-SKIP EDGE LINE EXTENSIONS MAY BE PLACED THROUGH INTERSECTIONS AND MAJOR DRIVEWAYS.

4- REFER TO ROADWAY STANDARD DRAWINGS 1205.01, 1205.02, 1205.05, 1205.08 AND 1205.09 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

STOP SIGN
STATIONARY SIGN
DIRECTION OF TRAFFIC FLOW
PAVEMENT MARKING SYMBOLS
OPTIONAL

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

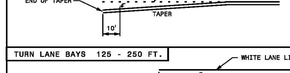
1-18

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** INTERSECTIONS

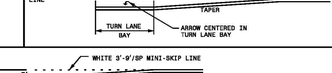
SHEET 2 OF 2

**1205.04**

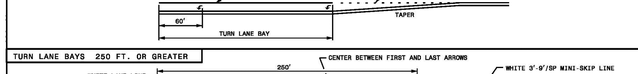
## DIRECT TAPER TURN LANE



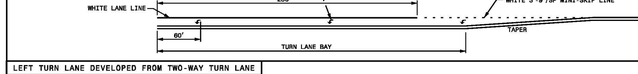

## TURN LANE BAYS < 125 FT.



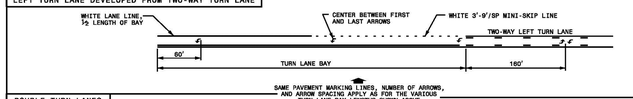

## TURN LANE BAYS 125 - 250 FT.



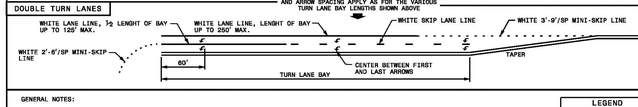

## TURN LANE BAYS 250 FT. OR GREATER




## LEFT TURN LANE DEVELOPED FROM TWO-WAY TURN LANE




## DOUBLE TURN LANES




GENERAL NOTES:

1- USE THE GUIDANCE SHOWN ABOVE IN CONJUNCTION WITH THE INTERSECTION GUIDANCE SHOWN ON ROADWAY STANDARD DRAWING 1205.04.

2- THE NUMBER OF ARROWS SHOWN IS THE MINIMUM REQUIRED. USE ADDITIONAL ARROWS AS DIRECTED BY THE ENGINEER.

LEGEND

PAVEMENT MARKING SYMBOL

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

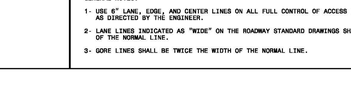
ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** TURN LANES

SHEET 1 OF 1

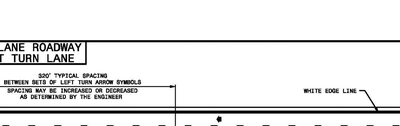
**1205.05**

## CHANNELIZING ISLAND SEPARATING TRAFFIC IN SAME DIRECTION


## MEDIAN ISLAND SEPARATING TRAFFIC IN OPPOSING DIRECTIONS




## EDGE OF PAVEMENT OR SHOULDER ISLAND




GENERAL NOTES:

1- "D" = SPACING OF DIAGONAL LINES (TYPICALLY EQUAL IN FEET TO THE POSTED SPEED LIMIT).

2- INCREASE SPACING OF DIAGONALS TO 200' OR MORE ON INTERSTATE ROADWAYS.

3- ADJUST SPACING OF DIAGONALS DEPENDING ON THE LENGTH OF THE ISLAND. SPACING MAY BE ADJUSTED AS DETERMINED BY THE ENGINEER.

LEGEND

E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

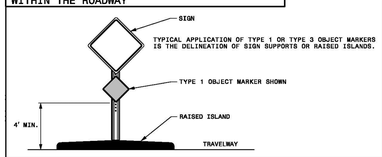
1-18

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** PAINTED ISLANDS

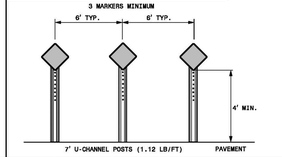
SHEET 1 OF 1

**1205.09**

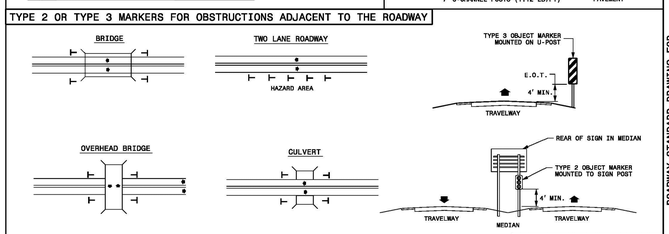
## TYPE 1 OR TYPE 3 MARKERS FOR OBSTRUCTIONS WITHIN THE ROADWAY




## TYPE 4 MARKERS FOR END OF ROADWAY




## TYPE 2 OR TYPE 3 MARKERS FOR OBSTRUCTIONS ADJACENT TO THE ROADWAY




TYPICAL APPLICATIONS OF TYPE 2 OR TYPE 3 OBJECT MARKERS INCLUDES DELINEATION OF BRIDGE PIERS, ABUTMENTS, HANDRAILS, CULVERT HEADWALLS, NARROW SHOULDERS, DROP-OFFS, OR OTHER UNDESIRABLE CONDITIONS WHEN GUARDRAIL OR OTHER ROADSIDE PROTECTION IS NOT IN PLACE.

LEGEND

OBJECT MARKER
DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR **OBJECT MARKERS** INSTALLATION

SHEET 1 OF 1

**1264.02**

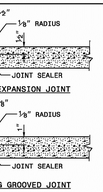
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR **CONCRETE ISLANDS**

SHEET 1 OF 1

**852.01**




### PARTIAL LONGITUDINAL SECTIONS OF PAVED ISLANDS

NOTE:

WHEN MONOLITHIC CONCRETE ISLAND IS ON TOP OF SURFACE COURSE, DRIVE 40d SPIKES INTO SURFACE UNDER MONOLITHIC CONCRETE ISLAND. STAGGER SPIKES ON 2' CENTERS EACH WAY.

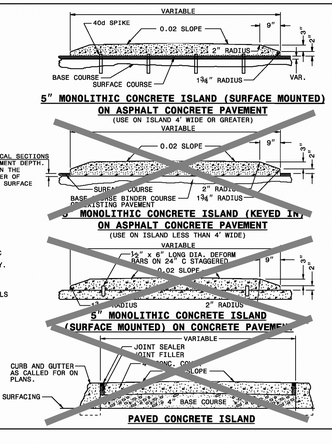
IN THE CONCRETE PAVEMENT (ISLAND) AND CONCRETE ISLAND (MONOLITHIC) PLACE ½" EXPANSION JOINTS AT 30' INTERVALS AND GROOVED JOINTS 1" DEEP AT 10' INTERVALS BETWEEN EXPANSION JOINTS.

LINE UP THE JOINTS IN THE CONCRETE PAVEMENT (ISLAND) WITH THE JOINTS IN THE CURB OR CURB AND GUTTER.

FILL AND SEAL THE TOP ½" OF THE EXPANSION JOINTS AND THE ENTIRE DEPTH OF GROOVED JOINTS WITH JOINT SEALER.

FOR JOINTS IN THE CURB AND/OR CURB AND GUTTER, SEE STANDARD NO. 846.01

SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH. KEY IN ON THE LAST LAYER OF PAVEMENT SURFACE COURSE




PAVED CONCRETE ISLAND

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR **CONCRETE ISLANDS**

SHEET 1 OF 1

**852.01**

Plot Stamp: 7/12/2018 2:26:04 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: C-905 TRAFFIC CONTROL DETAILS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CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
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TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

TRAFFIC CONTROL DETAILS
THE PONDOND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH
ROBERT L. CASH, P.E.
NC LICENSE No. 033448

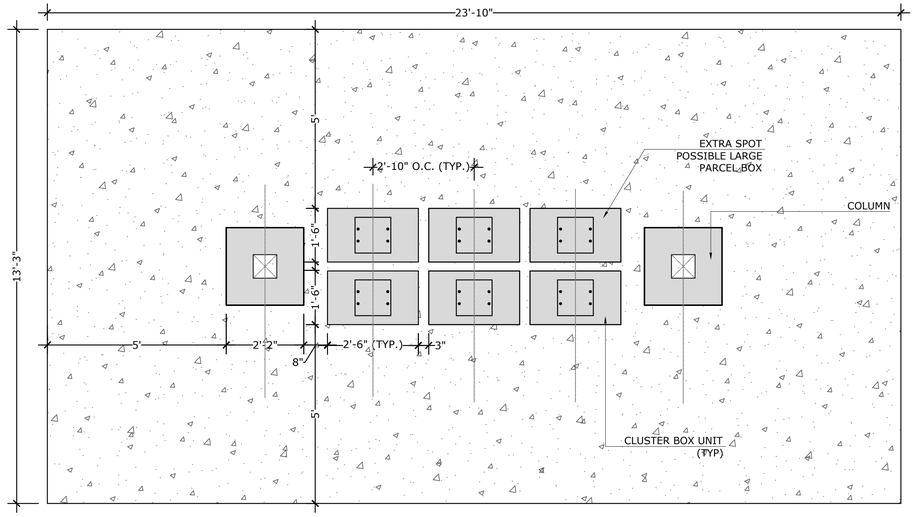
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE

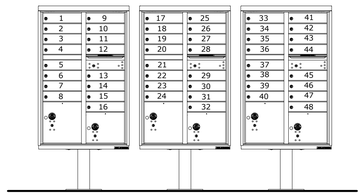
TRAFFIC CONTROL DETAILS

SHEET NUMBER

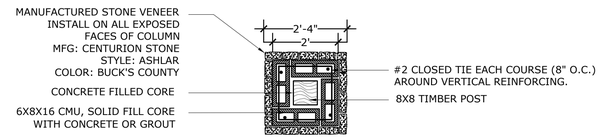
C-906



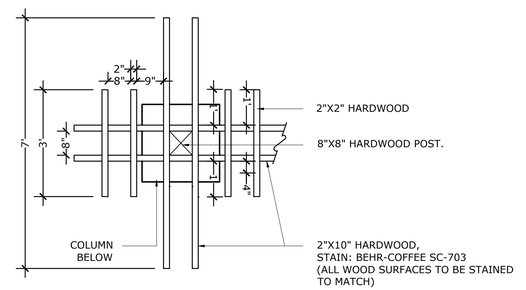

1 C-903 PLAN: CLUSTER BOX UNIT CONCRETE PAD
SCALE: 1"-2'



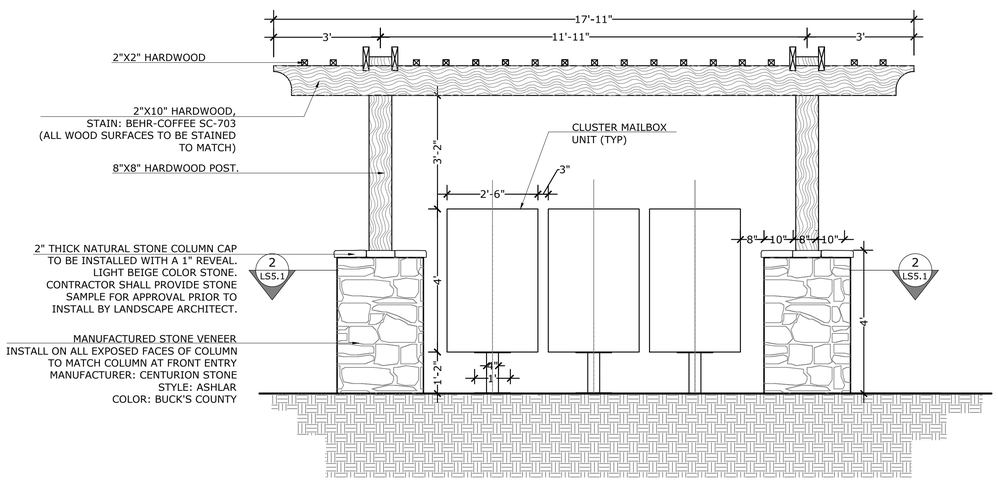

1 C-903 ELEVATION: CLUSTER BOX UNIT CONCRETE PAD
SCALE: 1"-2'



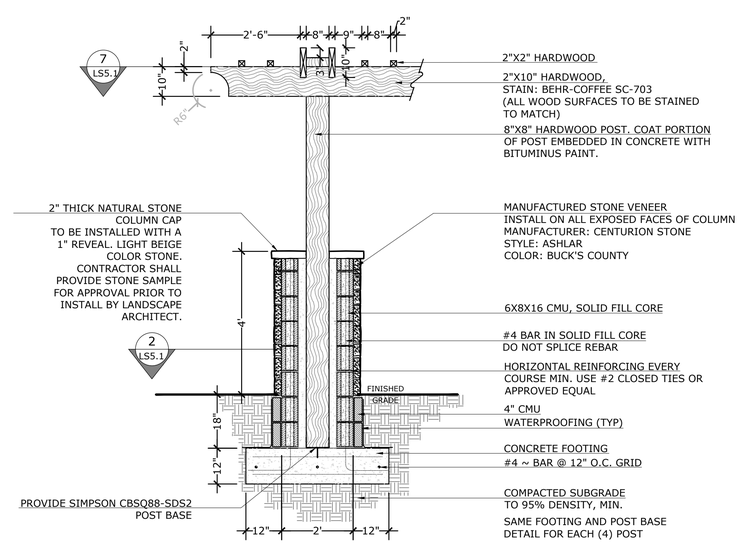

6 C-903 CLUSTER BOX UNIT COLUMN
SCALE: 1"-2'



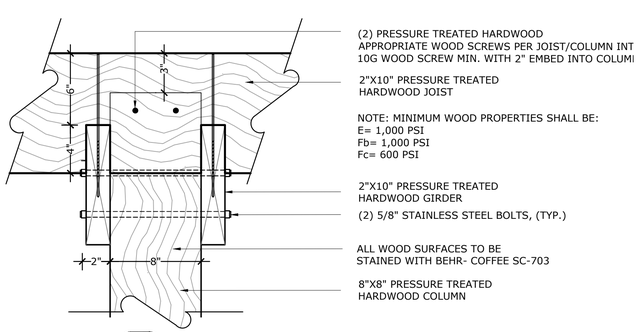

7 C-903 PLAN: CLUSTER BOX UNIT ARBOR
SCALE: 1"-2'



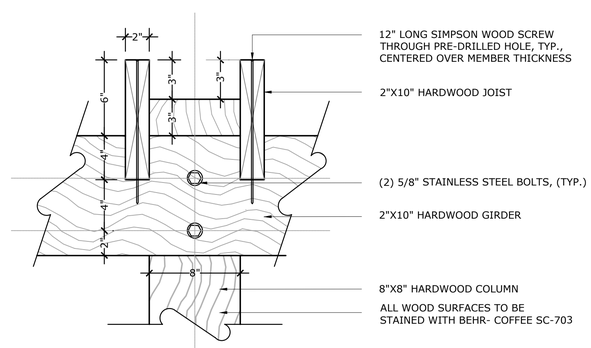

2 C-903 ELEVATION: CLUSTER BOX UNIT COLUMN AND ARBOR
SCALE: 1"-2'




8 C-903 SECTION: CLUSTER BOX UNIT COLUMN AND ARBOR
SCALE: 1"-2'




4 C-903 ARBOR DETAIL: JOIST TO COLUMN
SCALE: 1"-1/2'




5 C-903 ARBOR DETAIL: GIRDER TO COLUMN
SCALE: 1"-1/2'

Plot Stamp: 7/12/2018 2:26:13 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\C-900 DETAILS.dwg, Tab: C-906 CLUSTER MAILBOX DETAILS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TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

# CLUSTER MAILBOX DETAILS
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
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07/06/2018

NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
CLUSTER MAILBOX DETAILS

SHEET NUMBER
C-907

# CHARLOTTE URBAN FORESTRY - TREE PLANTING AND PRESERVATION REQUIREMENTS (UPDATED 10/10/16)

PLANT MATERIAL

1. MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER AND 8' TALL FOR SINGLE-STEM TREES. ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 10' TALL. WHERE 3" SINGLE-STEM CALIPER TREES ARE SPECIFIED/REQUIRED THE MINIMUM HEIGHT SHALL BE 10' TALL, IF MULTI-STEM TREES ARE SPECIFIED THEN THEY SHALL BE A MINIMUM OF 12' TALL.

2. ALL NEW TREES MUST HAVE STRAIGHT TRUNKS WITH STRONG CENTRAL LEADERS INTACT TO THE TOP OF THE CROWN UNLESS MULTI-STEM TREES ARE SPECIFIED. ALL REQUIRED TREES SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, HAVE WELL-DEVELOPED BRANCHES, BE VIGOROUS AND HAVE FIBROUS ROOT SYSTEMS. TREES WITH MAJOR GIRDLING ROOTS WILL NOT BE ACCEPTED. TREES WITH CO-DOMINANT BRANCHING WILL NOT BE ACCEPTED. TREES THAT HAVE BEEN SHEARED, TOPPED OR CUT BACK TO MULTIPLY THE BRANCHING STRUCTURE WILL NOT BE ACCEPTED. TREES SHALL BE FREE OF ABRASIONS, DAMAGE, DISEASE, PESTS AND CRACKS. ALL PRUNING CUTS GREATER THAN ½ INCH DIAMETER SHALL HAVE CALLUS TISSUE FORMED PRIOR TO PLANTING. NO PRUNING CUT ON THE TRUNK SHALL BE MORE THAN ONE-HALF THE DIAMETER OF THE CENTRAL LEADER AT THE HEIGHT WHERE THE CUT WAS MADE. ROOT FLARES SHALL BE LOCATED AT GRADE. TREES WITH MORE THAN 2" OF SOIL COVERING THE ROOT BALL/FLARE FROM WILL NOT BE ACCEPTED (CLDS.40.09).

3. SIZE OF REQUIRED PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (LATEST EDITION) AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, EXCEPT WHERE SPECIFIED/AUTHORIZED BY URBAN FORESTRY.

4. ALL REQUIRED TREES OF A PARTICULAR SPECIES AND VARIETY SHALL BE UNIFORM IN SIZE AND CONFIGURATION.

5. PERIMETER TREES IN URBAN ZONES SHALL BE 3" IN CALIPER AND BE FREE OF BRANCHES UP TO 6' FROM THE TOP OF ROOT CROWN (BALL).

6. A MINIMUM OF 50% OF NEW TREES MUST BE NATIVE SPECIES, AND SITES WITH MORE THAN 20 TREES REQUIRED WILL HAVE TO INSTALL MULTIPLE (3 OR MORE) SPECIES PURSUANT TO THE TREE ORDINANCE GUIDELINES.

7. 75% OF REQUIRED TREES MUST BE LARGE MATURE SPECIES EXCEPT IN SITUATIONS WITH OVERHEAD POWER LINE CONFLICTS.

PLANTING REQUIREMENTS

8. SEE CLDS 40.01 & 40.09 (ON PLAN) FOR DETAILED TREE PLANTING REQUIREMENTS.

9. PLASTIC HOSE PARTS WILL NOT BE ACCEPTED FOR TREE STAKING. SEE CLDS 40.01 FOR APPROVED STAKING METHOD/MATERIALS.

10. ALL STRAPPING, AND TOP 1/3 OF WIRE BASKET AND BURLAP MUST BE CUT AWAY AND REMOVED FROM ROOT BALL WHEN PLANTING.

11. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES (WITHIN ENTIRE MINIMUM AREA OF 274 SQUARE FEET).

12. TREES PLANTED ON PUBLIC PROPERTY WILL NEED APPROVAL FROM THE CITY ARBORIST AND/OR NCDOT.

13. REVIEW SOIL REQUIREMENTS IN THE TREE ORDINANCE GUIDELINES AT: HTTP://CHARLOTTENC.GOV/LD THEN CLICK TREES.

UTILITY ISSUES

14. IF ANY UTILITY IS BEING INSTALLED IN OR NEAR ANY REQUIRED TREE(S) OR TREE SAVE AREA(S), CALL URBAN FORESTRY SPECIALIST TO RESOLVE PRIOR TO UTILITY INSTALLATION.

15. LARGE MATURING TREES MAY NOT BE PLANTED WITHIN 25' OF OVERHEAD POWER DISTRIBUTION OR TRANSMISSION LINES.

16. IF TREES CONFLICT WITH ANY UTILITIES OR SIGNS; CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.

17. ADJUST TREE PLANTING LOCATIONS TO AVOID EXISTING UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES.

18. NO LIGHT POLES, UTILITIES OR TRANSFORMERS CAN BE INSTALLED IN TREE ISLANDS.

19. COMMERCIAL SCALE LIGHTING (> 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 30' FROM A TREE. PEDESTRIAN SCALE LIGHTING (≤ 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 15' FROM A TREE. SHOW SITE LIGHTING ON LANDSCAPE PLAN.

TREE SAVE AND PRESERVATION

20. TREE PROTECTION MUST BE INSTALLED AND VERIFIED BY URBAN FORESTRY PRIOR TO STARTING ANY CONSTRUCTION ACTIVITY.

21. SHOW TREE PROTECTION AND TREES SAVE AREAS ON EROSION CONTROL, GRADING AND LANDSCAPE PLAN SHEETS.

22. COMMERCIAL TREE SAVE AREAS MUST BE RECORDED ON A FINAL PLAT WITH THE MECKLENBURG COUNTY REGISTER OF DEEDS BEFORE URBAN FORESTRY HOLDS CAN BE RELEASED. A 10' NO BUILD ZONE AROUND TREE SAVE AREAS MUST BE REFERENCED ON THE PLAT.

23. TREE SAVE AREAS SHALL BE FREE OF INVASIVE PLANT SPECIES. IF AN AREA PROPOSED FOR TREE SAVE CONTAINS INVASIVE PLANT SPECIES AT TIME OF PROPOSAL, SUCH INVASIVE PLANT SPECIES SHALL BE REMOVED PRIOR TO FINAL CO.

24. THE AREA OF ANY EASEMENTS (WATER, SEWER, UTILITY, ETC.) CAN NOT BE COUNTED TOWARD THE TREE SAVE REQUIREMENT.

25. ANY ALTERATIONS TO TREE SAVE AREAS MUST BE ACCOMPLISHED WITHOUT MECHANIZED EQUIPMENT.

26. NO STRUCTURE WILL BE ALLOWED WITHIN 10' OF TREE SAVE AREAS UNLESS APPROVED BY URBAN FORESTRY.

27. ALL TREES ON PUBLIC PROPERTY ARE PROTECTED AND REMOVAL MUST BE PERMITTED BY THE CITY ARBORIST (704)336-4262.

28. CONTACT URBAN FORESTRY SPECIALIST PRIOR TO ANY CRANE SET-UP, MACHINERY OPERATION OR TEMPORARY BUILDING ERECTION THAT MAY IMPACT CHARLOTTE TREE ORDINANCE PROTECTED TREES OR TREE SAVE AREAS, INCLUDING TREES LOCATED IN STREET RIGHT OF WAY. IMPACTS MAY INCLUDE BUT ARE NOT LIMITED TO: ENCROACHING WITHIN TREE DRIP-LINES, EXCAVATION, SOIL COMPACTION, TREE TRIMMING, ERECTING AND DISMANTLING OF CONSTRUCTION CRANES.

GENERAL

29. SUBMIT REQUIRED CO/HOLD RELEASE FORM AT HTTP://CHARLOTTENC.GOV/LD FOR AN INSPECTION OF TREE PROTECTION/PLANTING AREAS, A MINIMUM OF 5 DAYS BEFORE THE CO/HOLD RELEASE IS NEEDED.

30. VISIT CITY OF CHARLOTTE'S LAND DEVELOPMENT WEBSITE FOR ADDITIONAL INFORMATION AND URBAN FORESTRY REQUIREMENTS: HTTP://CHARLOTTENC.GOV/LD THEN CLICK TREES.

PERIMETER TREE REQUIREMENTS

SHOW LINEAR FEET OF ROAD FRONTAGE ALONG PUBLIC MAINTAINED RIGHT-OF-WAY, INCLUDING DRIVEWAYS. CALCULATE ONE LARGE MATURING TREE EVERY 40 LINEAR FEET OR FRACTION THEREOF, OR IF OVERHEAD POWER IS PRESENT, ONE SMALL MATURING TREES EVERY 30 FEET OR FACTION THEREOF.

- STREET: MCKEE ROAD / 905 LFT = 23 TREES REQUIRED
  (MCKEE ROAD 1542 LFT - DUKE TRANSMISSION LINE EASEMENT 379 LF - INTERSECTION OF BLUE POND ROAD 120 LF - INTERSECTION OF REIDHAVEN 120 LF = 905 LFT.)
  12 TREES PROVIDED + EXISTING TREES TO SATISFY STREET TREE REQUIREMENTS
- STREET: HAMPSTEAD POND LANE/ 607 LFT = 30 TREES REQUIRED
  (HAMPSTEAD POND LANE 727 LFT - INTERSECTION OF REIDHAVEN 120 LF) = 607 LF
  30 TREES PROVIDED
- STREET: BLUE POND ROAD/ 325 LFT = 16 TREES REQUIRED/ 16 TREES PROVIDED
- STREET: REIDHAVEN STREET / 1203 LFT = 60 TREES REQUIRED
  (REIDHAVEN ST. 1822 LFT - INTERSECTION OF HAMSTEAD POND LAND 120 LF - DUKE TRANSMISSION LINE EASEMENT 379 LF - INTERSECTION OF BLUE POND ROAD 120 LF) = 1203 LFT
  61 TREES PROVIDED.

IF OVERHEAD DISTRIBUTION POWER LINES EXIST, ONLY SMALL MATURING TREES ARE ALLOWED WITHIN 25FT. OF LINES.

TREE SAVE AREA (TSA) REQUIREMENTS

A MINIMUM 15 PERCENT OF THE OVERALL COMMERCIAL SITE MUST BE PRESERVED AS TREE SAVE AREA (UNLESS THE SITE FALLS UNDER ONE OF THE EXCEPTIONS).

SITE ZONING: R-5 (CD) ; WEDGE, CORRIDOR (TRANSIT), CENTER: N/A WEDGE N/A

CALCULATIONS:

| | | |
|---|---|---|
| TOTAL SITE AREA (ENTIRE SITE) = | 25.50 | AC. |
| EXISTING DUKE R/W: | 5.79 | AC. |
| EXISTING POND: | 0.97 | AC. |
| DEDICATED MCKEE ROAD R/W: | 1.05 | AC. |
| DEDICATED ROAD R/W: | 3.54 | AC. |
| DEDICATED UTILITY EASEMENTS (SUE AND SANITARY): | 0.63 | AC. |
| SITE DEVELOPMENT AREA = | 13.52 | AC. |
| TREE SAVE AREA REQUIRED: (15% OF SITE DEVELOPMENT AREA) | 2.03 | AC. |
| TOTAL TREE SAVE AREA PROVIDED = (94,609 SQ.FT.) | 2.18 | AC. |
| TREE SAVE AREA (UNDISTURBED)= (65,638 SQ.FT.) | 1.50 | AC. |
| TREE SAVE AREA (REPLANTED)= (28,971 SQ.FT.) | .67 | AC. |
| NEW TREES TO BE PLANTED TO MEET TSA REQUIREMENTS: (.67 ACRES X 150% = 1.005 ACRES) | 18 | TREES |
| PERCENTAGE TREE SAVE AREA = | 17.0% | |

| | | |
|---|---|---|
| COMMON OPEN SPACE REQUIRED: | 2.60 | AC. |
| COMMON OPEN SPACE PROVIDED: (168,350 SQ. FT) | 3.86 | AC. |
| COMMON OPEN SPACE WITHIN UTILITY EASEMENTS AND R/W: (290,697 *.25 = 72,674 SQ. FT.) | 1.67 | AC. |
| TOTAL COMMON OPEN SPACE PROVIDED: | 5.53 | AC. |

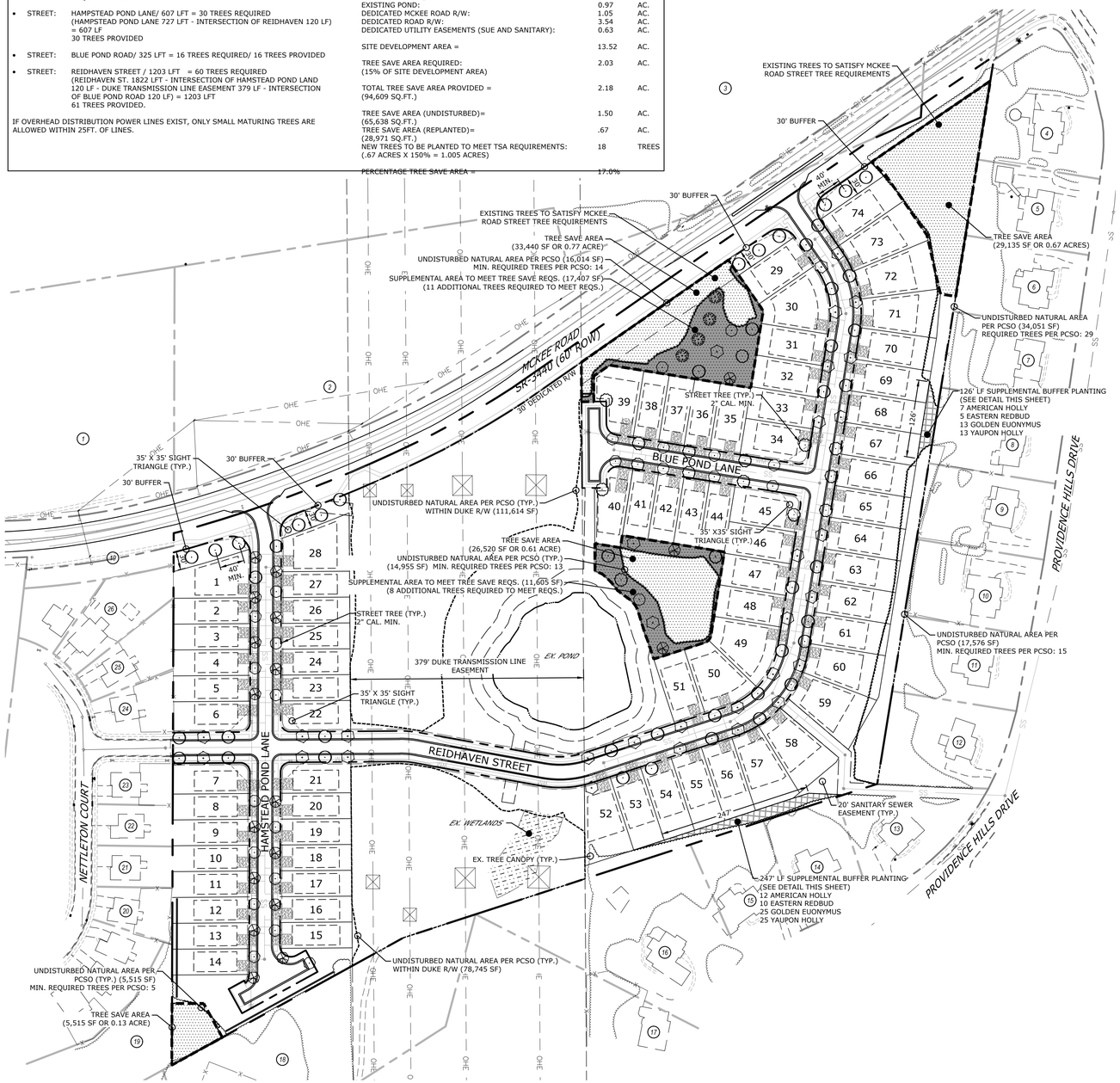
| | | |
|---|---|---|
| PCSO NATURAL AREA REQUIRED: | 4.46 | AC. |
| UNDISTURBED NATURAL AREA (TREED): (2.18 AC. X 100%=) | 2.18 | AC. |
| UNDISTURBED NATURAL AREA (DUKE R/W): (3.57 AC. X 25%=) | 0.89 | AC. |
| NATURAL AREAS WITH STREET R/W: (1.66 AC. X 25%=) | 0.42 | AC. |
| NATURAL AREAS WITHIN UTILITY ESMTS.: (1.97 AC. X 25%=) | 0.49 | AC. |
| NATURAL AREAS: (1.24 AC. X 100%) | 1.24 | AC. |
| TOTAL PCSO NATURAL AREA PROVIDED: | 5.22 | AC. |

## LEGEND

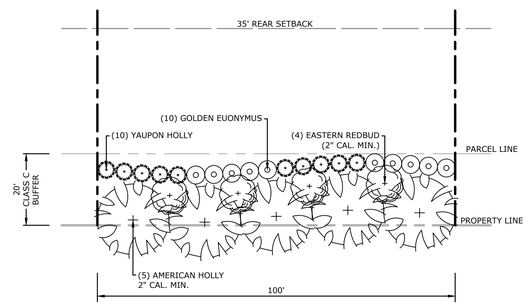
- RIGHT-OF-WAY (ROW)
- PROPERTY LINE
- SETBACK
- PARCEL LINE
- EDGE OF PAVEMENT
- FENCE
- LANDSCAPE BUFFER
- EXISTING TREE CANOPY LINE
- SUPPLEMENTAL BUFFER PLANTING
- TREE SAVE AREA (2.88 ACRES)
- SUPPLEMENTAL TREE SAVE AREA
- UNDISTURBED NATURAL AREA PER PCSO (6.39 ACRES - 25.05%)

## LANDSCAPE GENERAL NOTES:

1. PLEASE CALL (704) 517-5664 FOR AN INSPECTION OF TREE PROTECTION AND/OR TREE PLANTING AREAS, 1 TO 2 DAYS BEFORE THE TEMPORARY OR FINAL CERTIFICATE OF OCCUPANCY IS NEEDED.
2. ALL TREES ON PUBLIC PROPERTY ARE PROTECTED BY ORDINANCE AND REMOVAL MUST BE APPROVED BY THE CITY ARBORIST (704) 336-4262.
3. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES.)
4. ATTENTION LANDSCAPER: NOTIFY URBAN FORESTER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.
5. IN ORDER TO PLANT VEGETATION, INCLUDING TREES, SHRUBS AND UNDERBRUSH, WITHIN THE EXISTING OR PROPOSED NCDOT RIGHT-OF-WAY, AN APPROVED NCDOT PLANTING PERMIT IS REQUIRED. THIS PERMIT IS ISSUED BY THE NCDOT ROADSIDE ENVIRONMENTAL UNIT.
6. THE APPROVED NCDOT DRIVEWAY PERMIT DOES NOT COVER ANY PLANTING WITHIN STATE RIGHT OF WAY. A NCDOT PLANTING PERMIT IS A SEPARATE PERMITTING PROCESS AND WILL NEED TO BE APPLIED FOR AN OBTAINED PRIOR TO ANY PLANTING WITHIN THE NCDOT RIGHT-OF-WAY.
7. A COPY OF THE APPROVED NCDOT PLANTING PERMIT MUST BE PROVIDED PRIOR TO ISSUANCE OF ANY $CO_s$ BOND RELEASE, AND STREET ACCEPTANCE.




APPROVED
By Miriam Cattabriga at 2:49 pm, Jul 12, 2018




## SUPPLEMENTAL BUFFER PLANTING

PER 100' LINEAR FEET
SCALE 1"=20'

## PLANT SCHEDULE

| QUANTITY | COMMON NAME | BOTANICAL NAME | CALIPER / CONTAINER | SIZE | TYPE | SPACING |
|---|---|---|---|---|---|---|
| 24 | AUTUMN SPLENDOR MAPLE | ACER SACCHARUM 'AUTUMN SPLENDOR' | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 16 | HERITAGE RIVER BIRCH® | BETULA NIGRA 'CULLY' | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 15 | EASTERN REDBUD | CERCIS CANADENSIS | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 23 | AMERICAN HOLLY | ILEX OPACA | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 45 | WILLOW OAK | QUERCUS PHELLOS | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 31 | SHUMARD RED OAK | QUERCUS SHUMARDII | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 18 | LACEBARK ELM | ULMUS PARVIFOLIA 'ALLEE' | 2" CAL. | 12'-14' HT. MIN. | B&B | AS SHOWN |
| 38 | GOLDEN EUNOYMUS | EUONYMUS JAPONICUS 'AUREO-MARGINATUS' | 3 GAL. MIN. | 18" HT. MIN. | CONTAINER | 5'-0" O.C. |
| 38 | YAUPON HOLLY | ILEX VOMITORIA | 3 GAL. MIN. | 18" HT. MIN. | CONTAINER | 5'-0" O.C. |

*SUBSTITUTIONS SHALL BE PERMITTED ONLY WITH NOTIFICATION AND WRITTEN APPROVAL FROM THE CITY OF CHARLOTTE URBAN FORESTER DEPARTMENT. LANDSCAPE CONTRACTOR OR GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM THE TOWN PLANNING & ZONING DEPARTMENT. SUBSTITUTED MATERIAL SHALL BE EQUIVALENT OR GREATER IN SIZE THAN THE SPECIFIED PLANT. SUBSTITUTED PLANTS SHALL HAVE THE SAME ESSENTIAL CHARACTERISTICS AND GROWTH HABIT OF THE SPECIFIED PLANT. SUBSTITUTED SHRUBS AND TREES SHALL BE FROM THE APPROVED PLANT SPECIES LIST IN THE "APPROVED PLANT SPECIES" MATRIX IN THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL.

N

0 50 100 200
1 INCH = 100 FEET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CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

# LANDSCAPE PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH
ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

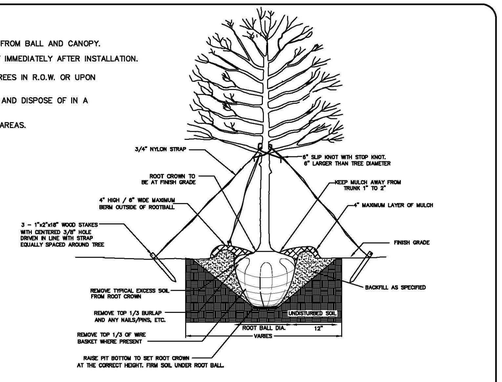
SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L-100


Plot Stamp: 7/12/2018 2:26:21 PM - Shane Finn
File: W:\Cambridge Properties\Mckee Road Subdivision\Civil\DWG\04_Sheets\L-100 LANDSCAPE PLAN.dwg, Tab: L-100 LANDSCAPE PLAN

NOTES:

1. REMOVE WIRE AND NYLON TWINE FROM BALL AND CANOPY.
2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.
3. STAKING IS REQUIRED FOR ALL TREES IN R.O.W. OR UPON REQUEST OF ARBORIST.
4. REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
5. RESEED UNMULCHED, DISTURBED AREAS.




ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1–2004)

| FOR EXAMPLE: | CALIPER | HEIGHT (RANGE) | MAX. HEIGHT | MIN. ROOT BALL DIA. | MIN. ROOT BALL DEPTH |
|---|---|---|---|---|---|
| | 2" | 12–14' | 16' | 24" | 18" |
| | 3" | 14–16' | 18' | 32" | 21" |

NOT TO SCALE

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS — INCLUDES CHARLOTTE ETJ

## TREE PLANTING
(FOR SINGLE AND MULTI–STEM TREES)

STD. NO. 40.01 | REV.

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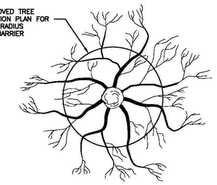
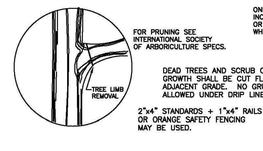
SEE APPROVED TREE PRESERVATION PLAN FOR REQUIRED RADIUS OF TREE BARRIER

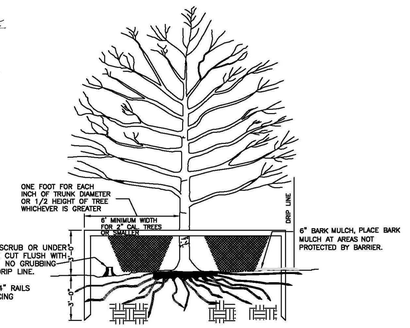


PLAN VIEW OF ROOT ZONE

NOTES:

1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
2. LANDSCAPING PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
3. REFER TO CITY OF CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS SECTION 01000 FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION.




CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS — INCLUDES CHARLOTTE ETJ

## TREE PROTECTION DETAIL

STD. NO. 40.02 | REV.

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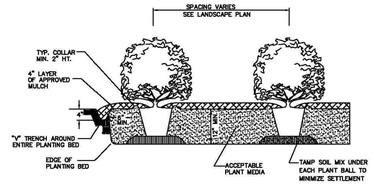
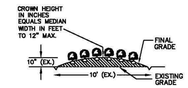
NOTES:

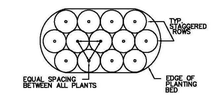
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINISHED GRADE
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.




TYPICAL PLANTING BED DETAIL




TYPICAL BED CROWNING




TYPICAL PLANTING BED PLAN

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS — INCLUDES CHARLOTTE ETJ

## SHRUB PLANTING BED

STD. NO. 40.05A | REV. 9

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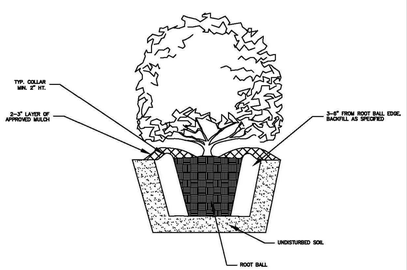
NOTES:

1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINISHED GRADE
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.




CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS — INCLUDES CHARLOTTE ETJ

## INDIVIDUAL SMALL SHRUB/TREE PLANTING

STD. NO. 40.05B | REV. 9

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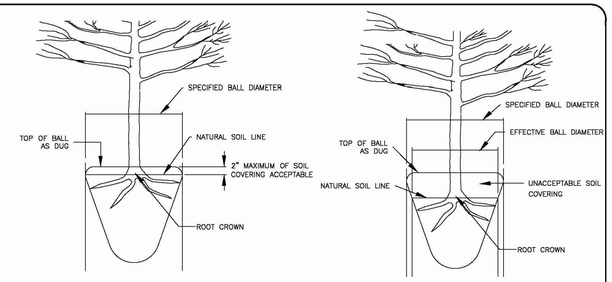


ACCEPTABLE CONDITION (AS DELIVERED)

UNACCEPTABLE CONDITION (AS DELIVERED)

NOTE:
A ROOT FLARE EXCAVATION FOR ALL TREES SPECIFIED WILL BE DONE BY THE CITY ARBORIST TO ENSURE THAT TREES WERE NOT PLANTED/GROWN TOO DEEPLY AT SOURCE (NURSERY). LANDSCAPE CONTRACTOR SHALL HAVE SUPPLIER MARK GROUND LEVEL LINE ABOVE ROOT BALL. IF CITY ARBORIST DETERMINES THAT THERE IS EXCESSIVE SOIL OVER THE ROOT CROWN, THESE TREES WILL BE REJECTED.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS — INCLUDES CHARLOTTE ETJ

## ROOT FLARE DEPTHS
(TREE ROOT BALL CONDITION ON TREES FROM SUPPLIERS)

STD. NO. 40.09 | REV. 9

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PLANTINGS IN STREET RIGHT–OF–WAY

GENERAL NOTES

1. TREE GRATES AND ASSOCIATED IRRIGATION SYSTEMS ARE REQUIRED AT VARIOUS LOCATIONS IN THE UPTOWN AREAS TO COMPLY WITH THE UPTOWN STREETSCAPE GUIDELINES AND OTHER ZONING REQUIREMENTS. ALL OTHER INSTALLATIONS OF IRRIGATION SYSTEMS WITHIN THE RIGHT–OF–WAY OF CITY OR STATE MAINTAINED STREETS REQUIRE AN ENCROACHMENT AGREEMENT EXECUTED THROUGH CDOT OR NCDOT. THE CITY'S ENCROACHMENT AGREEMENT REVIEW/APPROVAL PROCESS MAY INCLUDE ADDITIONAL REQUIREMENTS. CONTACT CDOT OR NCDOT FOR ADDITIONAL INFORMATION REGARDING COST, SUBMITTAL, AND LIABILITY INSURANCE COVERAGE REQUIREMENTS.
2. A DRAINAGE SYSTEM IS REQUIRED AS SHOWN FOR ALL IRRIGATED PLANTING AREAS LOCATED ADJACENT TO STREETS. ALL IRRIGATION/DRAINAGE SYSTEMS NOT REQUIRED BY THE UPTOWN STREET GUIDELINES REQUIRE AN ENCROACHMENT AGREEMENT EXECUTED BY CDOT OR NCDOT FOR CITY OR STATE–MAINTAINED ROADS, RESPECTIVELY. CONTACT CDOT OR NCDOT FOR ADDITIONAL INFORMATION REGARDING COST, SUBMITTAL AND LIABILITY INSURANCE COVERAGE REQUIREMENTS.
3. AN INSPECTION SCHEDULE IS NEEDED FOR TREES THAT WILL BE PLANTED IN THE STREET RIGHT OF WAY DUE TO ZONING OR OTHER REQUIREMENTS. LANDSCAPE INSPECTION INCLUDE THE FOLLOWING:

   SUBDRAINAGE INSPECTION
   TREE PIT/WELL OR PLANTING STRIP INSPECTION
   SOIL MIX APPROVALS/INSPECTIONS
   TREE APPROVALS/INSPECTIONS – PRIOR TO PURCHASING THE TREES, TO BE MADE BY THE CITY ARBORIST OR ASSISTANT CITY ARBORIST – 336–4262. THIS MAY INCLUDE PHOTO APPROVAL OR PARTICIPATION IN TAGGING THE TREES.
   TREE PLANTING INSPECTION
   IRRIGATION INSPECTION
   FINAL WALK THROUGH

ALL OF THE ABOVE INSPECTIONS WILL BE PERFORMED BY THE CITY LAND DEVELOPMENT DIV. (URBAN FORESTRY SECTION) EXCEPT FOR THE TREE APPROVALS AS NOTED.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS — INCLUDES CHARLOTTE ETJ

## TREE PLANTING–NOTES
(DRAINAGE AND INSPECTION)

STD. NO. 40.10 | REV.

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**APPROVED**
*By Miriam Cattabriga at 2:49 pm, Jul 12, 2018*

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## LANDSCAPE NOTES

1. PROVIDE TREE PROTECTION FENCE AS INDICATED AND NOTED ON THE PLAN (IF REQUIRED). TREE PROTECTION FENCE MUST MEET OR EXCEED CITY STANDARD 40.02 AND TREE ORDINANCE GUIDELINES STANDARDS.
2. TREES SHOWN ON PLAN ARE FOR COMPLIANCE WITH THE CITY OF CHARLOTTE TREE ORDINANCE. ADDITIONAL TREES MAY BE PLANTED, AT THE DEVELOPER'S DISCRETION, WITHOUT RESTRICTION TO SIZE OR TYPE.
3. BEFORE ANY DEMOLITION, GRADING, OR CONSTRUCTION BEGINS, CALL CITY OF CHARLOTTE URBAN FORESTER (704-336-4330) FOR INSPECTION OF TREE PROTECTION BARRICADES BY AN URBAN FORESTRY SPECIALIST (IF TREE PROTECTION IS PROVIDED.)
4. TREE PLANTING SHALL BE DONE IN ACCORDANCE WITH CHARLOTTE LAND DEVELOPMENT STANDARDS NO. 40.01.
5. ANY ALTERATIONS TO TREE SAVE AREAS MUST BE ACCOMPLISHED WITHOUT MECHANIZED EQUIPMENT.
6. NO STRUCTURE WILL BE ALLOWED WITHIN 10' OF TREE SAVE AREAS UNLESS APPROVED BY CITY OF CHARLOTTE URBAN FORESTER 704-336-4330.
7. ALL TREES ON PUBLIC PROPERTY ARE PROTECTED AND REMOVAL MUST BE PERMITTED BY THE CITY OF CHARLOTTE ARBORIST (704)336-4262.
8. TREE SAVE AREAS MUST BE RECORDED ON A FINAL PLAT WITH THE MECKLENBURG COUNTY REGISTER OF DEEDS BEFORE URBAN FORESTRY HOLDS CAN BE RELEASED. A 10' NO BUILD ZONE AROUND TREE SAVE AREAS MUST BE REFERENCED ON THE PLAT. PLEASE CALL CITY OF CHARLOTTE URBAN FORESTER (704-336-4330) FOR AN INSPECTION OF TREE PROTECTION AND/OR TREE PLANTING AREAS, 5 DAYS BEFORE THE TEMPORARY OR FINAL CERTIFICATE OF OCCUPANCY IS NEEDED.
9. VIOLATION OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO FINES AND/OR IMMEDIATE CORRECTIVE ACTION/MITIGATION.
10. LARGE-MATURING TREES MAY NOT BE PLANTED WHERE OVERHEAD DISTRIBUTION OF TRANSMISSION LINES EXIST. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL CITY OF CHARLOTTE URBAN FORESTER (704-336-4330) TO RESOLVE BEFORE PLANTING.
11. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING, OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION BY CITY OF CHARLOTTE URBAN FORESTER 704-336-4330.
12. TREE PROTECTION BARRICADES MUST MEET OR EXCEED TREE ORDINANCE STANDARDS.
13. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES.)
14. ATTENTION LANDSCAPE CONTRACTOR: NOTIFY CITY OF CHARLOTTE URBAN FORESTER (704-336-4330) OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.
15. PRIOR TO INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE GENERAL SITE CONDITIONS AND VERIFY THE SUBGRADE, ELEVATIONS, UTILITY LOCATIONS AND TOPSOIL PROVIDED BY GENERAL CONTRACTOR. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.
16. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITIES LOCATED AND CLEARLY PAINTED WITHIN 10 DAYS OF ANY GROUND DISTURBING ACTIVITY. OWNER WILL NOT PAY FOR UTILITY REPAIRS DUE TO FAILURE TO MARK AND OBSERVE UTILITY LOCATIONS.
17. LARGE MATURING TREES MAY NOT BE PLANTED WITHIN 25' OF OVERHEAD POWER DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
18. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES.
19. NO LIGHT POLES, UTILITY POLES OR TRANSFORMERS CAN BE INSTALLED IN TREE ISLANDS.
20. COMMERCIAL SCALE LIGHTING (> 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 30' FROM A TREE. PEDESTRIAN SCALE LIGHTING (≤ 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 15' FROM A TREE. SHOW SITE LIGHTING ON LANDSCAPE PLAN.
21. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUANTITY OF PLANTS SHOWN ON PLAN. ANY DISCREPANCIES BETWEEN QUANTITIES ON THE PLAN AND THE PLANT SCHEDULE SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND ANY FIELD ADJUSTMENTS OR QUANTITY ADJUSTMENTS MUST BE AUTHORIZED PRIOR TO PLANTING.
22. ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1, 2004. ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS AND SIZES SPECIFIED IN THE SCHEDULE.
23. ALL PLANTING OPERATIONS SHALL ADHERE TO AMERICAN NURSERY & LANDSCAPE ASSOCIATION STANDARDS UNLESS NOTED OTHERWISE. MINIMUM TREE SIZE AT TIME OF PLANTING IS 2" CALIPER AND 8' TALL FOR SINGLE-STEM TREES. ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 10' TALL. WHERE 3" SINGLE-STEM CALIPER TREES ARE SPECIFIED/REQUIRED THE MINIMUM HEIGHT SHALL BE 10' TALL, IF MULTI-STEM TREES ARE SPECIFIED THEN THEY SHALL BE A MINIMUM OF 12' TALL.
24. ALL NEW TREES MUST HAVE STRAIGHT TRUNKS WITH STRONG CENTRAL LEADERS INTACT TO THE TOP OF THE CROWN UNLESS MULTI-STEM TREES ARE SPECIFIED. ALL REQUIRED TREES SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, HAVE WELL-DEVELOPED BRANCHES, BE VIGOROUS AND HAVE FIBROUS ROOT SYSTEMS. TREES WITH CO-DOMINANT BRANCHING WILL NOT BE ACCEPTED. TREES THAT HAVE BEEN SHEARED, TOPPED OR CUT BACK TO MULTIPLY THE BRANCHING STRUCTURE WILL NOT BE ACCEPTED. TREES SHALL BE FREE OF ABRASIONS, DAMAGE, DISEASE, PESTS AND CRACKS. ALL PRUNING CUTS GREATER THAN ½ INCH DIAMETER SHALL HAVE CALLUS TISSUE FORMED PRIOR TO PLANTING. NO PRUNING CUT ON THE TRUNK SHALL BE MORE THAN ONE-HALF THE DIAMETER OF THE CENTRAL LEADER AT THE HEIGHT WHERE THE CUT WAS MADE. ROOT FLARES SHALL BE LOCATED AT GRADE. TREES WITH MORE THAN 2" OF SOIL COVERING THE ROOT BALL/FLARE FROM WILL NOT BE ACCEPTED (CLDS.40.09).
25. SUBSTITUTIONS SHALL BE PERMITTED ONLY WITH NOTIFICATION AND WRITTEN APPROVAL FROM THE CITY OF CHARLOTTE URBAN FORESTER DEPARTMENT. LANDSCAPE CONTRACTOR OR GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM THE TOWN PLANNING & ZONING DEPARTMENT. SUBSTITUTED MATERIAL SHALL BE EQUIVALENT OR GREATER IN SIZE THAN THE SPECIFIED PLANT. SUBSTITUTED PLANTS SHALL HAVE THE SAME ESSENTIAL CHARACTERISTICS AND GROWTH HABIT OF THE SPECIFIED PLANT. SUBSTITUTED SHRUBS AND TREES SHALL BE FROM THE APPROVED PLANT SPECIES LIST IN THE "APPROVED PLANT SPECIES" MATRIX IN THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL
26. THE LANDSCAPE CONTRACTOR MAY SLIGHTLY FIELD ADJUST PLANT LOCATIONS AS NECESSARY TO AVOID UTILITIES.
27. ALL FINISHED PLANTING BEDS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE.
28. PLASTIC HOSE PARTS WILL NOT BE ACCEPTED FOR TREE STAKING. SEE CLDS 40.01 FOR APPROVED STAKING METHODS AND MATERIALS.
29. INSTALL ALL PLANTS IN ACCORDANCE WITH PLANTING DETAILS AND SPECIFICATIONS IN THE CHARLOTTE LAND DEVELOPMENT STANDARDS.
30. STREET TREES SHALL BE 3" IN CALIPER AND BE FREE OF BRANCHES UP TO 6' FROM THE TOP OF THE ROOT BALL.
31. TREE TRUNKS SHALL BE PLACED A MINIMUM OF 5' FROM SIDEWALKS AND CURBS AND 8' FROM LIGHT POSTS.
32. ALL PLANTING BEDS TO BE TILLED AND BACKFILLED WITH PREPARED PLANTING MIX TO A MINIMUM DEPTH OF 12 INCHES. ALL INDIVIDUALLY PLANTED TREES AND SHRUBS TO BE BACKFILLED WITH PREPARED PLANTING MIX. PREPARED PLANTING MIX SHALL BE MIXED ON SITE AND CONSIST OF ONE PART TOPSOIL, ONE PART SOIL AMENDMENT, ONE PART SOIL FROM EXCAVATION. TOPSOIL: ASTM D5268, PH RANGE OF 5.5 TO 7, MIN. 4 PERCENT ORGANIC MATERIAL, FREE OF STONES 1 INCH AND LARGER. SOIL AMENDMENT: SOURCE SEPARATED YARD WASTE COMPOST FROM COMPOST FACILITY MEETING THE REQUIREMENTS OF NORTH CAROLINA ADMINISTRATIVE CODE, TITLE 15A, PROVISIONS FOR SOLID WASTE COMPOST FACILITIES. CALL CITY OF CHARLOTTE URBAN FORESTER (704-336-4330) FOR AN INSPECTION OF SOIL BEFORE PLANTING.
33. THE LANDSCAPE CONTRACTOR SHALL REMOVE THE TOP 2/3 OF WIRE BASKETS, TOP 1/3 OF BURLAP AND ASSOCIATED TWINE AND STRAPPING FROM TREE ROOT BALLS PRIOR TO FINAL ACCEPTANCE OF PLANTS.
34. MULCH A MINIMUM 4 FOOT AREA AROUND EACH TREE AND PLANTING BEDS WITH SHREDDED BARK MULCH OF UNIFORM, UN-DYED, NATURAL COLOR. IT SHALL BE FREE OF TWIGS, LEAVES, DISEASE, PEST OR OTHER MATERIAL UNSIGHTLY OR INJURIOUS TO PLANTS. AVERAGE APPLIED THICKNESS SHALL BE 3" DEPTH. MULCH HEDGES IN A CONTINUOUS BED.
35. LANDSCAPE CONTRACTOR SHALL REPAIR ALL LAWN AREAS DISTURBED DURING CONSTRUCTION WITH SEED OR SOD AND WARRANT A HEALTHY, WEED FREE LAWN PRIOR TO PROJECT ACCEPTANCE.
36. BED EDGE SHALL BE SMOOTH, CONSISTENT, HAND TRENCHED 6" DEEP AND "V" SHAPED UNLESS OTHERWISE NOTED. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE BED EDGE AND PLANTING BED.
37. ALL PLANTING BED EDGES TO BE SMOOTH FLOWING ARCS OR STRAIGHT LINES AS SHOWN ON PLAN. PLANT LOCATIONS AND LAYOUT OF BEDS SHALL BE LOCATED BY LANDSCAPE CONTRACTOR AND APPROVED BY OWNER PRIOR TO PLANTING.
38. PLANTING BEDS SHALL BE COVERED WITH PRE-EMERGENT HERBICIDE APPLIED AT PRODUCT SPECIFIED RATE UNLESS OTHERWISE NOTED.
39. ALL TREES, SHRUBS, GROUNDCOVER, AND LAWNS TO BE FERTILIZED WITH A COMMERCIAL GRADE FERTILIZER CONSISTING OF FAST AND SLOW RELEASE NITROGEN.
40. COMPOSITION AND APPLICATION RATE OF FERTILIZER SHALL BE SUFFICIENT TO AMEND SOIL ACCORDING TO RECOMMENDATIONS OF A QUALIFIED SOIL TESTING AGENCY. SUBMIT TEST RESULTS AND AMENDMENT RECOMMENDATIONS TO OWNER. FERTILIZER SHALL BE IN A DRY GRANULAR FORM FOR LAWNS AND GRANULAR OR TABLET FORM FOR PLANTS.
41. ANY ITEM OR AREAS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR EXPENSE.
42. THE LANDSCAPE CONTRACTOR SHALL THOROUGHLY WATER ALL PLANTS AT TIME OF INSTALLATION AND AS NEEDED UNTIL PROJECT ACCEPTANCE BY OWNER. LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS INSTALLED FOR ONE (1) FULL YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. ALL PLANTS SHALL BE ALIVE AND AT A VIGOROUS RATE OF GROWTH AT THE END OF THE GUARANTEE PERIOD.


Cardno
CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

LANDSCAPE DETAILS AND NOTES
THE POND AT MCKEE GLEN
CAMBRIDGE PROPERTIES
CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

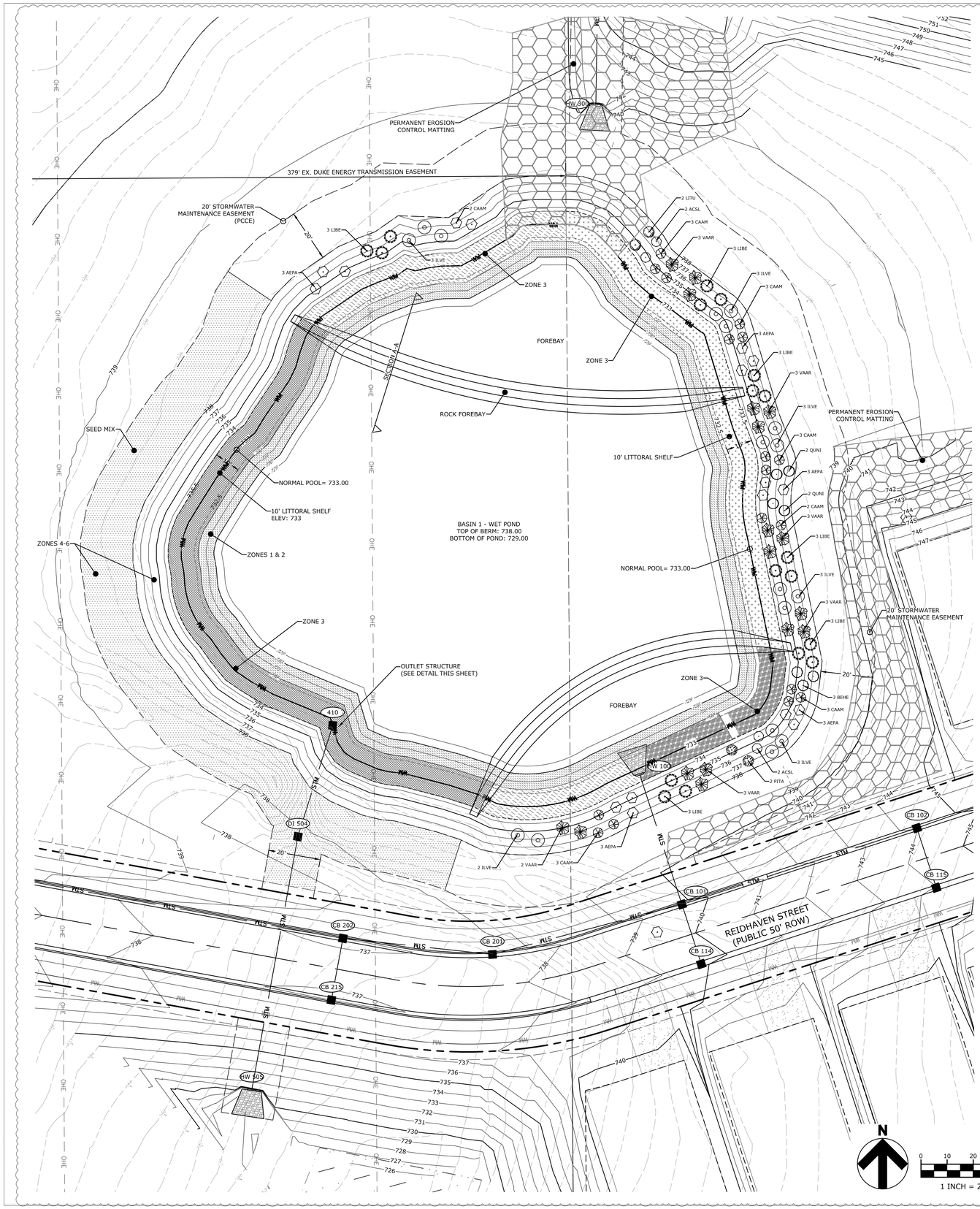
07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
LANDSCAPE DETAILS AND NOTES

SHEET NUMBER
L-101




## WETPOND PLANT SCHEDULE-ZONES 1,2,3

| GROUND COVERS | QTY | CODE | BOTANICAL NAME | COMMON NAME | CONT | SIZE | TYPE |
|---|---|---|---|---|---|---|---|
| | 651 | ACOC | ACORUS CALAMUS | SWEET FLAG | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 401 | BIAR | BIDENS ARISTOSA | TICKSEED SUNFLOWER | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 271 | EUPE | EUPATORIUM PERFOLIATUM | BONESET | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 550 | HIMO | HIBISCUS MOSCHEUTOS | MARSH MALLOW | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 1302 | NULU | NUPHAR LUTEUM | SPATTERDOCK | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 620 | PELV | PELTANDRA VIRGINICA | ARROW ARUM | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 430 | SALA | SAGITTARIA LATIFOLIA | DUCK POTATO | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 703 | SACE | SAURURUS CERNUUS | LIZARD'S TAIL | 3 GAL. MIN. | 18" HT. MIN. | B&B |
| | 1039 | SCVA | SCIRPUS VALIDUS | GREAT BULRUSH | 3 GAL. MIN. | 18" HT. MIN. | B&B |

## WETPOND PLANT SCHEDULE-ZONES 4,5,6

| TREES | QTY | CODE | BOTANICAL NAME | COMMON NAME | CALIPER | SIZE | TYPE |
|---|---|---|---|---|---|---|---|
| | 4 | ACSL | ACER SACCHARUM 'LEGACY' | LEGACY SUGAR MAPLE | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 3 | BEHE | BETULA NIGRA 'HERITAGE' | HERITAGE RIVER BIRCH | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 2 | LITU | LIRIODENDRON TULIPIFERA 'EMERALD CITY' TM | EMERALD CITY TULIP TREE | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 2 | PITA | PINUS TAEDA | LOBLOLLY PINE | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 4 | QUNI | QUERCUS NIGRA | WATER OAK | 2" CAL. | 12'-14' HT. MIN. | B&B |
| SHRUBS | QTY | QTY | BOTANICAL NAME | COMMON NAME | CALIPER | SIZE | TYPE |
| | 17 | AEPA | AESCULUS PAVIA | RED BUCKEYE | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 17 | CAAM | CALLICARPA AMERICANA | AMERICAN BEAUTYBERRY | 2" CAL. | 12'-14' HT. MIN. | B&B |
| | 17 | ILVE | ILEX VERTICILLATA | GOLDEN EUNOYMUS | 3 GAL. MIN. | 18" HT. MIN. | B&B |
| | 18 | LIBE | LINDERA BENZOIN | YAUPON HOLLY | 3 GAL. MIN. | 18" HT. MIN. | B&B |
| | 17 | VAAR | VACCINIUM ARBOREUM | YAUPON HOLLY | 3 GAL. MIN. | 18" HT. MIN. | B&B |

## WET POND PLANTING CALCULATOR

ZONES 1-3 — 11,933 SF (.27 AC)

0.5 PLANTS PER SF REQUIRED — 5,967 PLANTS

ZONES 4-6 — 10,534 SF (.24 AC)

| | |
|---|---|
| 400 STEMS PER ACRE | 96 STEMS |
| 10% LARGE MATURING TREES | 10 TREES |
| 90% OTHER STEMS | 86 STEMS |

*OTHER STEMS INCLUDE:
SMALL MATURING DECIDUOUS TREES
EVERGREEN TREES
DECIDUOUS SHRUBS
EVERGREEN SHRUBS

ADDITIONAL
20 LARGE MATURING TREES/ACRE — 0.24AC*20 = 5 TREES

ZONES 4,5, AND 6 SEED MIX - +/-36,531 SF (0.24 AC.)
+/-4.0 LBS MIX FROM TABLE ABOVE
APPENDIX C-CHARLOTTE/MECKLENBURG SEED MIX LIST

SEED MIX

NOTE:
NO TREES LOCATED ON OUTFALL DAM, AND NO WOODY STEMS LOCATED WITHIN THE EASEMENT ACCESS.

**APPROVED**
*By Miriam Cattabriga at 2:49 pm, Jul 12, 2018*

3


Cardno
CHARLOTTE
9800 SOUTHERN PINE BLVD., SUITE I
CHARLOTTE, NORTH CAROLINA 28273
TEL: (704) 927- 9700 www.cardno.com


CAMBRIDGE PROPERTIES

# PLANTING PLAN
# THE POND AT MCKEE GLEN
## CAMBRIDGE PROPERTIES
## CITY OF CHARLOTTE, NORTH CAROLINA

| # | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/27/18 | 1ST COMMENTS CITY OF CHARLOTTE | |
| 2 | 06/08/18 | 2ND COMMENTS CITY OF CHARLOTTE | |
| 3 | 07/03/18 | 3RD COMMENTS CITY OF CHARLOTTE | |

07/06/2018
NORTH CAROLINA PROFESSIONAL SEAL 033448 ENGINEER ROBERT L. CASH

ROBERT L. CASH, P.E.
NC LICENSE No. 033448

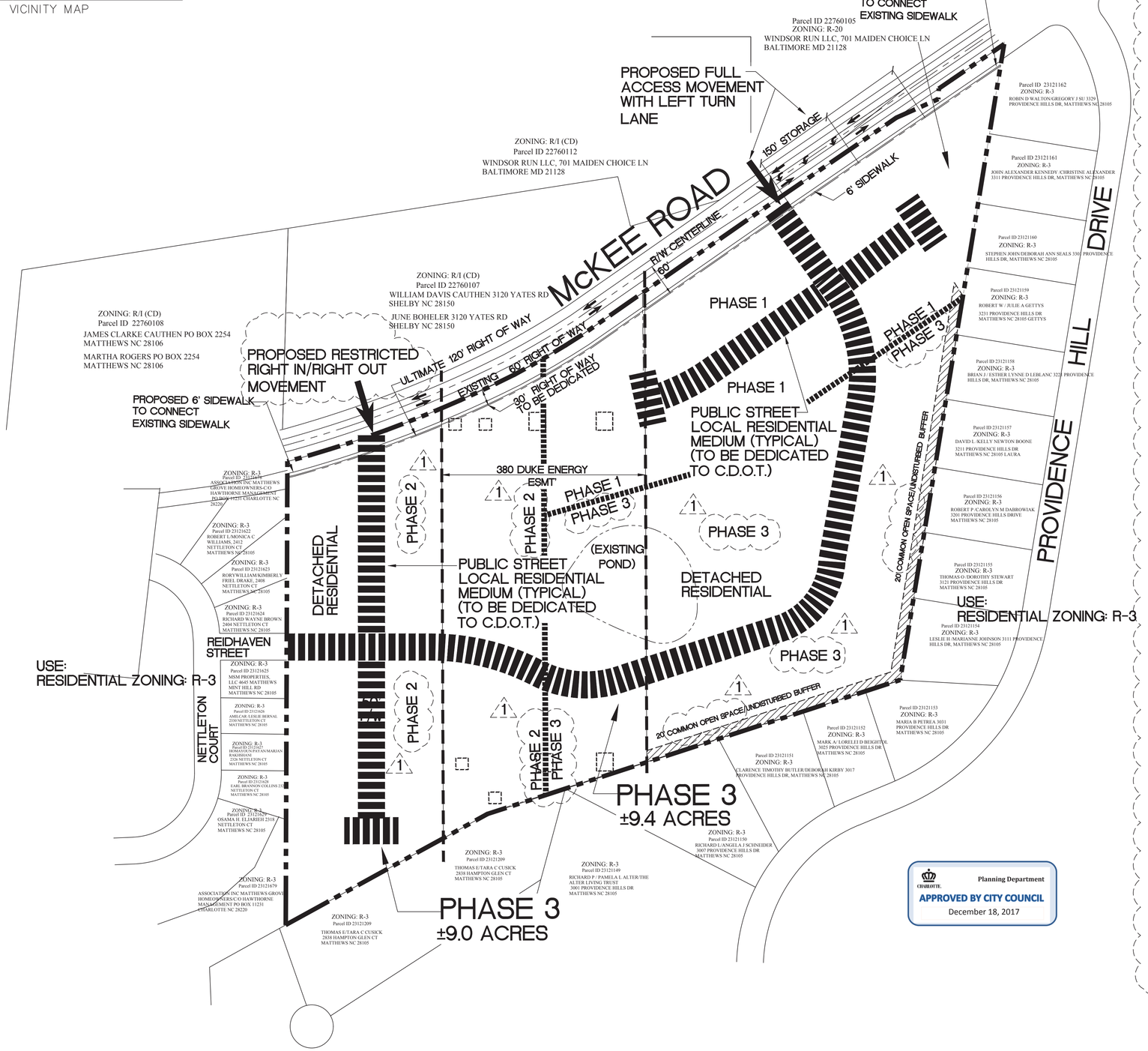
| | |
|---|---|
| DATE | 07/06/2018 |
| DRAWN | MAH |
| DESIGNED | ANB |
| CHECKED | RLC |
| PROJECT # | CAMB17001 |

SHEET TITLE
PLANTING PLAN

SHEET NUMBER
L-102


Plot Stamp: 7/12/2018 2:26:41 PM - Shane Finn
File: W:\Cambridge Properties\McKee Road Subdivision\Civil\DWG\04_Sheets\L-101 PLANTING PLAN.dwg, Tab: C-507 BASIN 1 DETAIL


VICINITY MAP




McKee Road Single Family Development Standards

1. Development Data Table:

a. Gross Site Area: 25.5 AC; Existing Duke Power Easement Area: 7.2 AC; Site Development Area: 18.3 AC

b. Tax Parcel: 23121168

c. Existing Zoning: R-3

d. Proposed Zoning: R-5 (CD)

1. Lot Standards shall meet R-5 standards. Petitioner elects to use Cluster Development as outlined in Section 9.205 of the Ordinance to achieve R-5 Cluster Lot Standards except as provided for below and as depicted on the Schematic Site Plan.
2. Min. Rear yard:
   a. 35 FT measured from the internal boundary of 20 FT Common Open Space/Undisturbed Buffer where shown, for Lots abutting parcels along Providence Hills Drive as depicted on the Schematic Site Plan
   b. 35 FT for Lots abutting parcels along Nettleton Ct. measured from the property line.
   c. 20 FT for Interior Lots

e. Maximum Number of SF Residential Lots: 80; Overall Site Density: 3.13 DU/ AC

f. Open Space Area: Minimum of 10% of Gross Site Area

g. Tree Save Area: Minimum of 15% of Site Development Area or 2.75 AC (Site Development Area: 18.3 AC * 15% = 2.75 AC)

2. General Provisions:

a. Development of the Site will be controlled by the standards depicted on this Technical Data Sheet and by the standards of the Charlotte Zoning Ordinance. The development depicted on this Sheet is intended to reflect the arrangement of proposed uses on the Site, but the exact configuration, placement, and size of individual Site elements may be altered or modified within the limits prescribed by the Zoning Ordinance during the design development and construction phases as allowed under the provisions of Section 6.2 of the Zoning Ordinance.

b. The Petitioner acknowledges that other standard development requirements imposed by other city ordinances, such as those that regulate streets, sidewalks, trees, and site development, may apply to the development of this Site. These are not zoning regulations, are not administered by the Zoning Administrator, and are not separate zoning conditions imposed by this Technical Data Sheet. Unless specifically noted in the conditions for this Technical Data Sheet, these other standard development requirements will be applied to the development of this Site as defined by those other City ordinances.

c. Throughout this Rezoning Petition, the terms "Owner", "Owners", "Petitioner" or "Petitioners", shall, with respect to the Site, be deemed to include the heirs, devisees, personal representatives, successors in interest and assignees of the owner or owners of the Site who may be involved in the development from time to time

3. Purpose:

a. The purpose of this Rezoning Petition is to allow for the development of a single family residential community comprised of up to 80 detached single family dwelling units. To achieve this purpose, the Rezoning Petition is to change the Site from R-3 to the R-5 (CD) District.

b. A Schematic Site Plan (RZ-2) is included only to depict a potential plan for developing the Site with up to 80 single family homes with minimum lot widths of 40'.

4. Permitted Use:

Uses allowed on the Site included in this Rezoning Petition will be detached single family dwelling units and related accessory uses as are permitted in the R-5 District. Petitioner may include potential accessory amenities such as, but not limited to, a gazebo, dock, fire pit and exercise trails as generally depicted on the Schematic Site plan.

5. Transportation:

a. Petitioner agrees to dedicate fee simple conveyances of all rights-of-way for internal streets to the City. The internal Public Streets shall be local residential medium with a 50 FT ROW dedication and a 3 FT sidewalk easement on both sides of the ROW. Petitioner shall construct such internal Public Street improvements as generally depicted on the Technical Data Sheet.

b. Petitioner shall allow for a minimum of 20 FT from the back of sidewalk to the face of garage where parking is allowed on a driveway pad.

c. Petitioner agrees to dedicate fee simple conveyance of additional Right-of Way along the Site frontage with McKee Road of 60 FT from the center line of McKee Road.

d. Petitioner shall install a 6 FT sidewalk along the Site frontage on McKee Road connecting to existing sidewalks at the Eastern and Western edges of the Site. The sidewalk will be located 52 FT from the center line of McKee Road.

e. Petitioner shall install a West bound left turn lane with 150 FT of storage from McKee Road at the Eastern entrance to the Site. Petitioner will discuss need for an additional West bound left turn lane at the Western entrance with CDOT as part of its driveway and encroachment application process.

f. Petitioner shall dedicate through fee simple conveyance all rights of way for internal streets to CDOT as each Phase is developed prior to issuance of the first Certificate of Occupancy within such Phase area on the Site. All transportation improvements shall be approved and constructed for each Phase (3) as shown on the Site plan prior to issuance of the first Certificate of Occupancy within such Phase area on the Site.

6. Architectural standards:

a. The development of the Site will be governed by the District Regulations of the Zoning Ordinance for the R-5 District and by the conditions included as part of this Technical Data Sheet and as generally depicted on the Schematic Site Plan.

b. No vinyl siding will be used for siding materials; however, vinyl may be used for soffit and trim including window and door trim.

7. Streetscape and Landscaping:

The Petitioner reserves the right to install entrance features at the two (2) proposed driveway connections to McKee Road, subject to all sight distance restrictions.

8. Features:

a. The location, size and type of storm water management systems are subject to review and approval as part of the full development plan submittal and are not implicitly approved with this Rezoning Petition. Adjustments may be necessary in order to accommodate actual storm water treatment requirements and natural discharge points.

b. Site development shall comply with City of Charlotte Tree Ordinance.

c. For adjoining parcels receiving storm water discharge from proposed BMP's on the Site, the Petitioner shall analyze adequacy of the existing Stormwater conveyance on the adjoining parcels. If the existing Stormwater conveyance on the adjoining parcels is found to be inadequate, the Petitioner shall make a good faith effort with the property owner(s) to improve the Stormwater conveyance or otherwise mitigate the Stormwater discharge into the adjoining parcels.

d. A 20 FT Undisturbed Buffer will be maintained within Common Open Space (COS) in the area depicted on the Technical Data Sheet. This Undisturbed Buffer is not included in the Lots and will be established as Common Open Space as part of the subdivision plat. Minimal grubbing, cleaning and clearing of dead trees is allowed. Clearing for utility easements that cross the Undisturbed Buffer in the Common Open Space is allowed.

e. All Lots that adjoin the Providence Hills subdivision along the Eastern edge of the Site shall have a minimum 35 FT Rear Yard Setback measured, where applicable, from the internal COS boundary (i.e., 55FT from the adjoining property line). All Lots that adjoin the Matthews Grove subdivision along the western edge of the Site shall have a minimum 35 FT Rear Yard Setback measured from the adjoining property line.

9. Fire Protection:

No on-street parking on roads less than 26 FT clear width.

# FOR PUBLIC HEARING
# REZONING PETITION: #2017-104

CAMBRIDGE PROPERTIES
831 East Morehead Street • Suite 245
Charlotte, North Carolina 28202
704/333-2393
cambridgeprop.com

# McKEE ROAD PROPERTY
CITY OF CHARLOTTE, NC

TECHNICAL DATA SHEET

REVISIONS

| # | DATE | ITEM |
|---|---|---|
| 1 | 10/16/2014 | Staff Comments |

DATE 8/31/17

SCALE 1"=100'

DRAWN BY D.T.

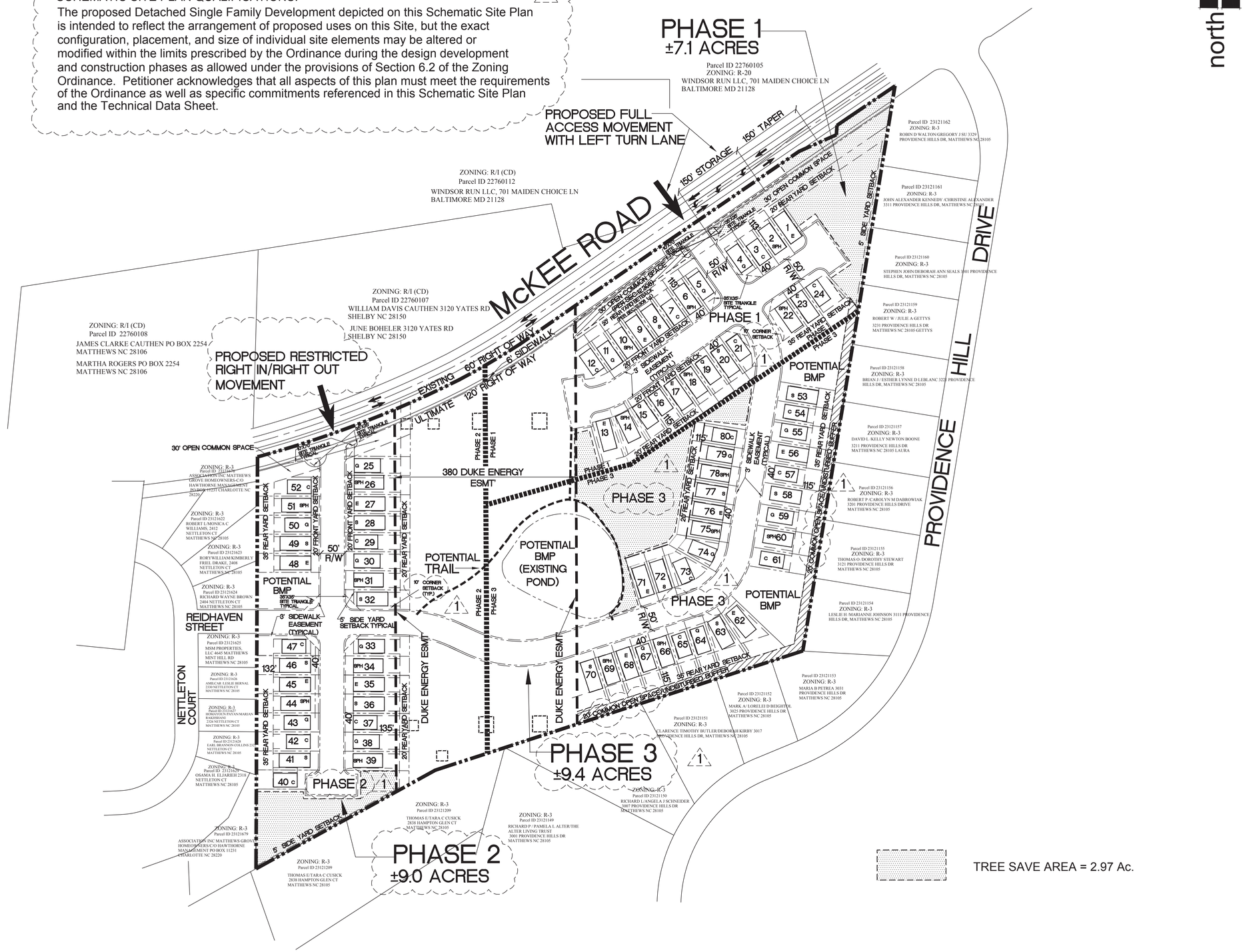
CHECKED BY CPI

SHEET # RZ-1


VICINITY MAP

SCHEMATIC SITE PLAN QUALIFICATIONS:

The proposed Detached Single Family Development depicted on this Schematic Site Plan is intended to reflect the arrangement of proposed uses on this Site, but the exact configuration, placement, and size of individual site elements may be altered or modified within the limits prescribed by the Ordinance during the design development and construction phases as allowed under the provisions of Section 6.2 of the Zoning Ordinance. Petitioner acknowledges that all aspects of this plan must meet the requirements of the Ordinance as well as specific commitments referenced in this Schematic Site Plan and the Technical Data Sheet.




north

FOR PUBLIC HEARING
REZONING PETITION: #2017-104

CAMBRIDGE PROPERTIES
831 East Morehead Street • Suite 245
Charlotte, North Carolina 28202
704/333-2393
cambridgeprop.com

McKEE ROAD PROPERTY
CITY OF CHARLOTTE, NC

SCHEMATIC SITE PLAN

REVISIONS

| # | DATE | ITEM |
|---|---|---|
| 1 | 10/16/2014 | Staff Comments |

DATE 8/31/17
SCALE 1"=100'
DRAWN BY D.T.
CHECKED BY CPI
SHEET # RZ-2