

Utility Notes:

- Existing water and sanitary sewer services are currently available to the site from Cape Fear Public Utility Authority public mains.
- All utility services, such as electric power, CATV, gas & telephone shall be installed underground.
- All water & sewer utilities to be installed per CPWA Technical Specifications & Standards.
- Project shall comply with CPWA Cross Connection Control requirements. Water meter(s) cannot be released until all requirements are met and N.C.D.E.N.R. has issued their "Final Approval". Call 343-3910 for information.
- Any backflow prevention devices required by the CPWA will need to be on the list of approved devices by USC202HR or ASSE.
- Water & sewer services can not be activated on new mains until the Engineer's Certification and as-built are received and "Final Approval" issued by the Public Water Supply Section of NCDENR, and "Final Engineering Certification" issued by Division of Water Quality Section of NCDENR.
- If contractor desires CPWA water for construction, he shall apply in advance for this service and must provide a reduced pressure zone (RPZ) backflow prevention device on the developer's side of the water meter box.
- When PVC water mains and services are proposed, the pipes are to be marked with No. 10 insulated, single-strand copper wire installed & staked to the pipes with duct tape. This is to be accessible in all valves and meter boxes to aid in future location of facilities.
- The contractor is responsible for the location and protection of existing utilities during construction. Call 311-800-832-4848. Contractor is responsible for the repair and replacement of any utilities, curb & gutter, pavement, etc. that may be damaged during construction. Damaged items shall be repaired to at least the quality or workmanship found in the original item.
- The BelSouth contact is Steve Daywalt, Building Industry Consultant, at 810-392-8712. Contact him prior to starting the project in order to facilitate good communication and maximum flexibility.
- The process for telephone cable placement:
 - Final grade will need to be established.
 - Power will place their cable first - approximately 3' deep.
 - BelSouth & Cable TV will then place their cable at approximately 2' deep.
- Solid waste disposal is by privately contracted dumpster pickup.

Stormwater Management Notes:

- Stormwater management will meet City & State requirements. Total limits of disturbance will be under one (1) acre. No erosion control or State stormwater permits will be required.

Traffic Notes:

- All government markings in public rights-of-way & for driveway are to be thermoplastic & meet City and/or NCOTD standards.
- Traffic control devices (including signs and pavement markings) in areas open to public traffic are to meet MUTCD (Manual on Uniform Traffic Control Devices) standards.
- Contact Traffic Engineering at 341-7888 prior to any excavation in the right of way.
- Any broken or missing sidewalk panels, driveway panels, and curbing will be replaced.
- Contact Karen Dixon at 341-7888 to discuss street lighting options. The landscaping plan will be needed to determining street light locations.
- Tactile warning mats to be installed at all wheelchair ramps.
- Once streets are ready to be open to public traffic, contact the Traffic Engineering Division to request installation of traffic and street name signs. Proposed street names must be approved prior to installation of street name signs.
- A landscaping plan, indicating the location of required street trees shall be submitted to the Traffic Engineering Division and Parks & Recreation Department for review and approval prior to the recording of the Final Plat. Plan shall adhere to SD 15-17.
- All traffic control signs and markings off the right of way are to be maintained by the property owner in accordance with MUTCD standards.
- All parking stall markings and lane arrows within the parking areas shall be white.
- A utility cut permit is required for each open cut of a City street. Contact 341-5888 for more details. In certain cases an entire resurfacing of the road being open cut may be required.

PLANT LIST

KEY	NO.	BOTANICAL NAME	COMMON NAME	MIN. SIZE	PLANTING REMARKS
AG	78	ABELIA GRANDIFLORA 'LITTLE RICHARD'	GLOSSY ABELIA	36" HGT.	SM. SHRUB
IV	44	ILEX VOMITORIA 'NANA'	DWARF YAUPOH HOLLY	12-15" HGT.	SM. SHRUB
LI	10	LAGERSTROMIA INDICA 'CAROLINA BEAUTY'	CREPE-MYRTLE	6-8' MULTI-STEM	SM. SHADE TREE
QV	7	QUERCUS VIRGINIANA	LIVE OAK	8-10' 2.5" CAL.	LG. SHADE TREE
RO	8	RHOODODENDRON OBtusUM	KURUME AZALEA	12-15" HGT.	SM. SHRUB
CF	41	CORNUS FLORIDA	DOGWOOD	8-10' 2.5" CAL.	TREE

O.C. = "ON CENTER" CAL. = "CALIPER AT 6" ABOVE GRADE" GAL. = "GALLON CONTAINER"

Landscape Calculations:

(Site Improvement: "5-20 new park'g. sp." ** 1/2 Landscape Laurel & Dog. **)

	Req'd.	Prov'd.
Cardinal Dr. Primary Streetyard 223 l.f. frontage = 48 l.f. driveway = 175 l.f. X 18 (0&1 District factor) / 2	1575 s.f.	Existing
● 1 Lg. Shade tree / 600 s.f. / 2	3	4
● 6 shrubs / 600 s.f. / 2	16	16

	Req'd.	Prov'd.
Hillsdale Dr. Secondary Streetyard [207 l.f. frontage (w/ low buffer) X 9 (1/2 0&1 District factor) / 2] (existing) + [(143 - 14) l.f. frontage (w/ low buffer) X 9 (1/2 0&1 District factor)] (new)	2093 s.f.	3307 s.f.
● 3 Under-story trees / 600 s.f.	10	10
● 6 shrubs / 600 s.f.	21	27

	Req'd.	Prov'd.
Parking Area Interior Median - 34,962 s.f. x 8% / 2 (existing) + 2,922 s.f. x 20% (new)	1983 s.f.	2580 s.f. (existing & proposed)

	Req'd.	Prov'd.
Parking Area Perimeter - N/A Foundation Plantings (Proposed Building) - [(62 ft x 24 ft) + (46.5 ft x 24 ft)] x 12%	312 s.f.	322 s.f. (+ existing)

	Req'd.	Prov'd.
Bufferyard - 20' width 209 l.f. x 1 tree / 30 l.f.	7	7+ (4 existing, 3 proposed oaks, & some mitigation trees)

	Req'd.	Prov'd.
Overall Site - 2.21 ac.± development area x 15 trees/ac.	33	33+ (existing & proposed)

	Req'd.	Prov'd.
Mitigation - (10+12+10+30) x 2 x (100/100) / 3	41	41

Landscape Notes:

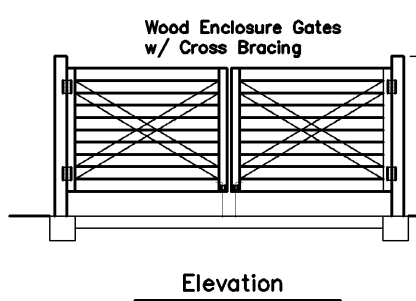
- Key letters refer to Plant List.
- All plants shall meet or exceed the minimum standards set forth in "The American Standard for Nursery Stock" by the American Association of Nurserymen.
- All planting beds shall receive a min. of 4" pine bark mulch.
- All areas disturbed and not specified as mulched planting beds will be grassed. Lawn areas may be seeded with grass.
- Contractor shall use whatever method of tree staking he deems fit. However, he will be held liable for any damages caused to trees by improper staking methods (or absence of staking) and is responsible for uprighting & replanting trees which are blown over.
- Contractor shall warranty all trees & shrubs for a period of one (1) year from the date of final acceptance of the work of the landscape plan.
- If discrepancy or lack of availability is found in the plant species and/or minimum sizes req'd., contractor shall notify Landscape Architect. Authorization will be made for substitutions, as long as the plants follow the original intended form & function.
- All proposed vegetation within sight triangles shall not interfere with clear visual sight lines from 30"-10'.

Additional City requirements:

- All plantings shall be curbed or otherwise physically protected from vehicular traffic.
- All planted and retained living material, required to meet the provisions (landscaping) of this section, shall be perpetually protected and maintained to professionally accepted standards by joint and several responsibility of the owner, occupant, tenant, and/or respective agents of the property on which the material is located.

Plant Key

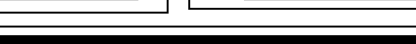
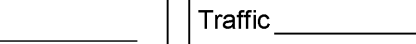
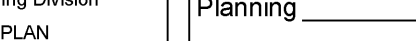
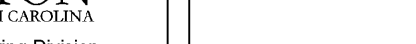
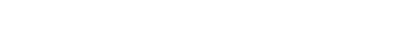
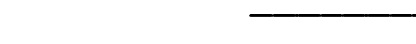
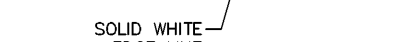
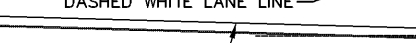
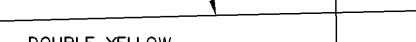
- Existing trees to be removed
- Existing trees to be protected
- CF (Dogwood)
- AG (Glossy Abelia)
- RO (Kurume Azalea)
- IV (Dwarf Yaupon Holly)
- LI (Crepe-Myrtle)
- QV (Live Oak)



Elevation

Dumpster Gate Detail

(Includes area for Recycling)

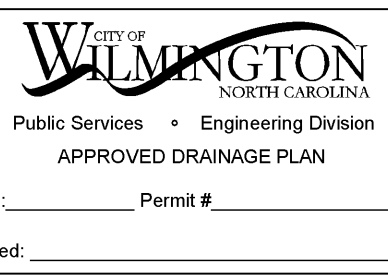


REV. NO.	DESCRIPTION	DATE
1	REVISED PER TRC COMMENTS.	11-7-14
2	REVISED PER TRC COMMENTS.	12-15-14
3	REVISED PER TRC COMMENTS.	12-18-14
4	REVISED PER CLIENT.	4-29-15
5	REVISED PER TRC COMMENTS.	6-4-15

Approved Construction Plan

Name _____ Date _____

Planning _____ Traffic _____ Fire _____



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Project No: 2014-17

Scale: 1" = 30'

Date: 09/09/14

Revisions: 10/07/14 for TRC comments

Owner:

Offices on Cardinal, L.L.C.
10 Cardinal Drive
Wilmington, NC 28403

Existing Conditions
for Parking Expansion
& Storage Building

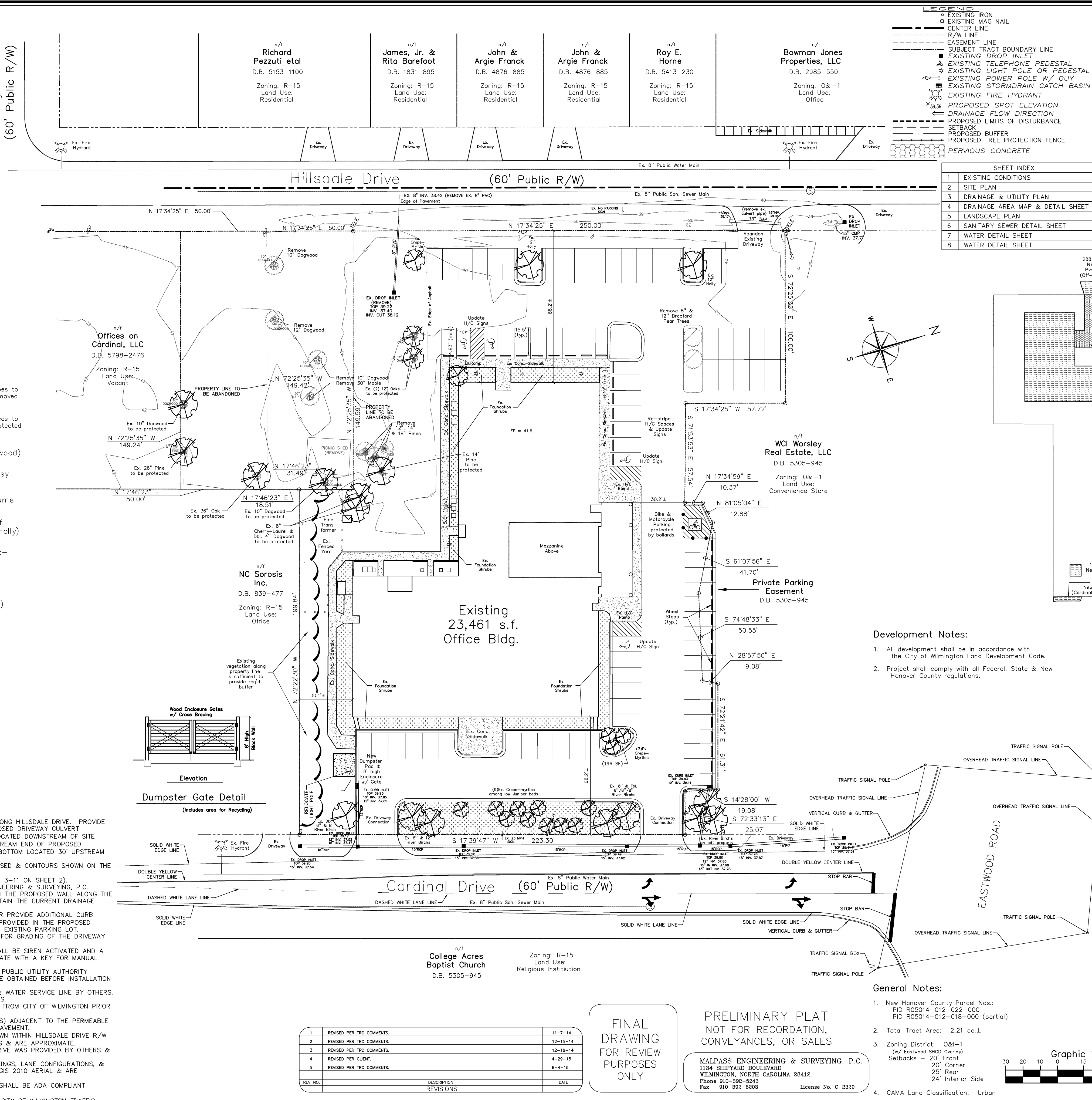
Property Addresses: 10 Cardinal Drive & 49 Hillsdale Drive (Storage Building)

Tribute Properties Office Storage Building

Wilmington Township / New Hanover County / North Carolina

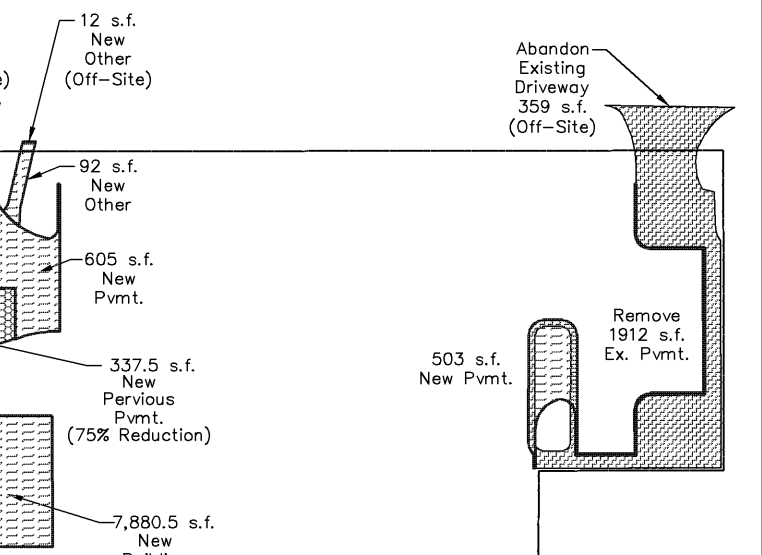
Sheet No.

1 of 8



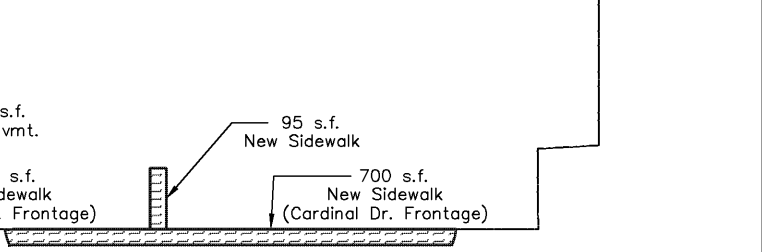
SHEET INDEX	
1	EXISTING CONDITIONS
2	SITE PLAN
3	DRAINAGE & UTILITY PLAN
4	DRAINAGE AREA MAP & DETAIL SHEET
5	LANDSCAPE PLAN
6	SANITARY SEWER DETAIL SHEET
7	WATER DETAIL SHEET
8	WATER DETAIL SHEET

Vicinity Map
(No Scale)



Site Modifications

(Scale: 1" = 60')



Development Data:

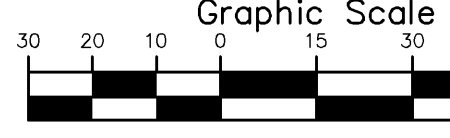
Total Lot Area - 96,395 s.f. (2.21 ac.)
Expansion Area (additional lots) - 14,944 s.f. (0.34 ac.)
Proposed Land Use: Professional Offices / Storage
Req'd Setback for New Structures (Min.): Front=20' & Interior Side=24'
Prop'd Setbacks for New Structures: Front=20.5' & Interior Side=25.86'
Total Ex. Bldg. Area - 23,461 s.f. GFA
1st Floor Area - 20,754 s.f. GFA
2nd Floor Area - 2,707 s.f. GFA
Total New Bldg. Area - 12,165 s.f. GFA
1st Floor Storage - 4,284.5 s.f. GFA
2nd Floor Storage - 4,284.5 s.f. GFA
Garage - 3,596 s.f. GFA
Total Bldg. Coverage - 29,664.5 s.f. (30.77%)
Ex. Bldg. Coverage - 21,784 s.f.
New Bldg. Coverage - 7,880.5 s.f.
New Bldg. Hgt. - 2-Story / 24'
Parking:
Offices - 23,461 s.f.
Min. Req'd. @ 1 sp./300 s.f. GFA = 78
Max. Allowed @ 1 sp./200 s.f. GFA = 117
Storage - 8,569 s.f.
Min. Req'd. @ 1 sp./1,000 s.f. = 9
Max. Allowed @ 150% Min. Req'd = 13
Total Min. Spaces Req'd = 87
Max. Spaces Allowed = 130
4 H/O spaces req'd. & prov'd.
5 Bike spaces req'd. & prov'd.
Impervious Surfaces -
Existing - 21,784 s.f.
Roof - 32,684 s.f.
Pavement - 4,190 s.f.
Subtotal - 58,658 s.f. (60.85%)
Existing to be Removed - Pavement - 1,912 s.f.
New (On-site) -
Building - 7,880.5 s.f.
Pavement - 1,284 s.f.
Pervious Pavement (75% Reduction) - 337.5 s.f.
Sidewalk - 95 s.f.
Other - 92 s.f.
Subtotal - 9,689 s.f.
Total - 66,435 s.f. (68.92%)
New (Off-site) -
Pavement - 288 s.f.
Other - 160 s.f.
Cardinal Drive Frontage Sidewalk - 860 s.f.
Subtotal - 1,308 s.f.
Total New (On-site & Off-site, excluding Cardinal Dr. Frontage Sidewalk Required by City) - 9,989 s.f.
Sewer & Water Capacity -
Ex. Sewer Usage - 1950 GPD (78 x 25 GPD/employee)
Ex. Water Usage - 2438 GPD (125% Sewer Usage)
** No Changes **

Development Notes:

- All development shall be in accordance with the City of Wilmington Land Development Code.
- Project shall comply with all Federal, State & New Hanover County regulations.

General Notes:

- New Hanover County Parcel Nos: PID R05014-012-022-000 PID R05014-012-018-000 (partial)
- Total Tract Area: 2.21 ac.±
- Zoning District: 0&1-1 (w/ Eastwood SHOD Overlay) Setbacks - 20' Front 20' Corner 25' Rear 24' Interior Side
- CAMA Land Classification: Urban

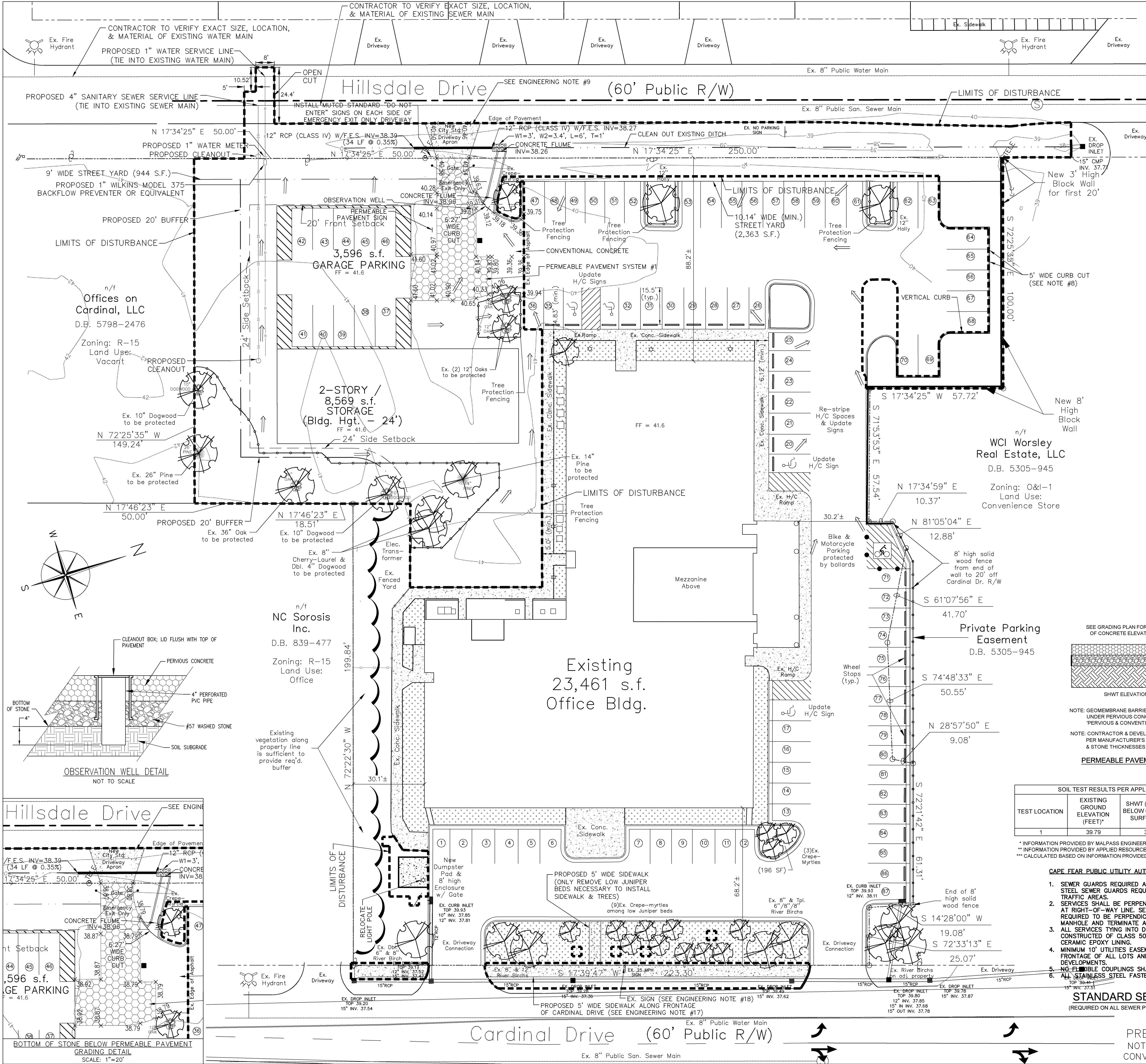


Boundary & existing conditions data compiled from an actual field survey by:
Arnold W. Carson PLS, P.C.
406 North Third Street
Wilmington, NC 28401
Tel. (910) 772-8113

FINAL
DRAWING
FOR REVIEW
PURPOSES
ONLY

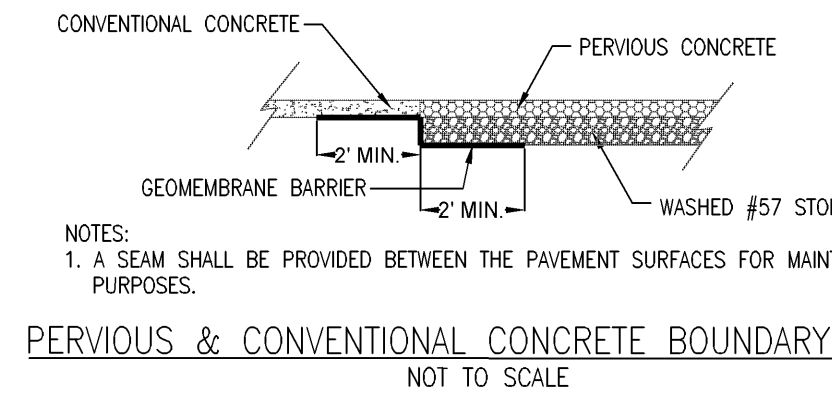
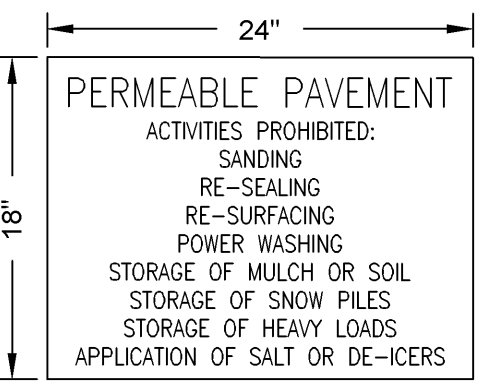
PRELIMINARY PLAT
NOT FOR RECORDATION,
CONVEYANCES, OR SALES

MALPASS ENGINEERING & SURVEYING, P.C.
1134 SHIPYARD BOULEVARD
WILMINGTON, NORTH CAROLINA 28412
Phone 910-392-5243
Fax 910-392-6203
License No. C-2320



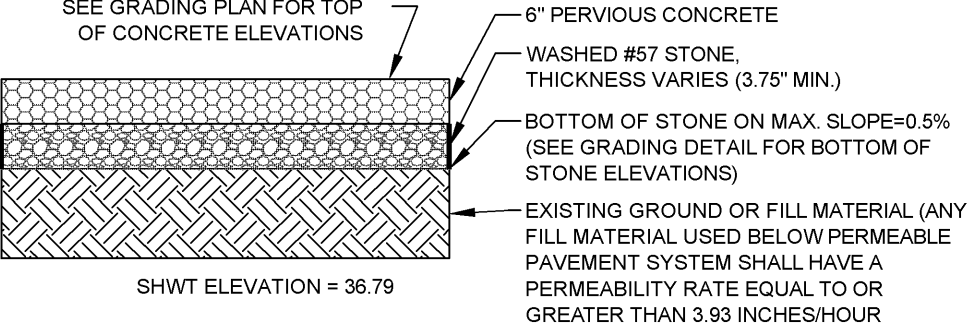
CONSTRUCTION SEQUENCE FOR INSTALLATION OF PERMEABLE PAVEMENT (NCDNR STORMWATER BMP MANUAL CHAPTER 18)

1. ENSURE ACCEPTABLE CONDITIONS FOR CONSTRUCTION.
 - PERVIOUS SURFACES MUST BE GRADED TO DRAIN AWAY FROM THE PERMEABLE PAVEMENT, EXCEPT WHERE THIS IS UNAVOIDABLE, SUCH AS PARKING LOT ISLANDS, AND AREA BETWEEN BUILDINGS & PARKING LOT.
 - IMPERVIOUS AREAS THAT WILL DRAIN TO THE PERMEABLE PAVEMENT ARE COMPLETED.
 - AREAS ADJACENT TO THE PERMEABLE PAVEMENT ARE STABILIZED (VEGETATION, MULCH, STRAW, FIBER BLANKETS, ETC.) IN ORDER TO PREVENT EROSION & POSSIBLE CONTAMINATION WITH SEDIMENTS.
 - CONSTRUCTION ACCESS TO OTHER PORTIONS OF THE SITE IS ESTABLISHED SO THAT NO CONSTRUCTION TRAFFIC PASSES THROUGH THE PERMEABLE PAVEMENT SITE DURING INSTALLATION. INSTALL BARRIERS/FENCES AS NEEDED.
 - WEATHER FORECAST CALLS FOR A WINDOW OF DRY WEATHER TO PREVENT EXCESS COMPACTION OR SMEARING OF THE SOIL SUBGRADE WHILE IT IS EXPOSED.
2. EXCAVATE PERMEABLE PAVEMENT AREA & PREPARE SUBGRADE SURFACE.
 - EXCAVATE IS DRY SUBGRADE CONDITIONS & AVOID EXCAVATING IMMEDIATELY AFTER STORMS WITHOUT A SUFFICIENT DRYING PERIOD.
 - DO NOT ALLOW EQUIPMENT TO CROSS THE PAVEMENT AREA AFTER EXCAVATION HAS BEGUN.
 - OPERATE EXCAVATION EQUIPMENT FROM OUTSIDE THE EXCAVATION AREA OR FROM UNEXCAVATED PORTIONS OF THE AREA USING AN EXCAVATION STAGING PLAN.
 - USE EQUIPMENT WITH TRACKS RATHER THAN TIRES TO MINIMIZE SOIL COMPACTION WHEN EQUIPMENT ON THE SUBGRADE SURFACE IS UNAVOIDABLE.
 - DIG THE FINAL 9 TO 12 INCHES BY USING THE TEETH OF THE EXCAVATOR BUCKET TO LOOSEN SOIL & DO NOT SMEAR THE SUBGRADE SOIL SURFACE. FINAL GRADING OR SMOOTHING OF SUBGRADE SHOULD BE DONE BY HAND IF POSSIBLE.
 - THE FINAL SUBGRADE SLOPE SHALL NOT EXCEED 0.5%. THE FINAL SUBGRADE SHALL BE SURVEYED BEFORE PROCEEDING WITH INSTALLATION.
 - MINIMIZE THE TIME BETWEEN EXCAVATION AND PLACEMENT OF THE AGGREGATE.
 - AFTER THE SUBGRADE SLOPE IS VERIFIED, SCARIFY THE SOIL SUBGRADE SURFACE TO MAINTAIN THE SOILS PRE-DISTURBANCE INFILTRATION RATE.
 - TO SCARIFY THE PAVEMENT, USE THE EXCAVATOR BUCKETS TEETH TO RAKE THE SURFACE OF THE SUBGRADE.
3. TEST THE SUBGRADE SOIL INFILTRATION RATE (INFILTRATION SYSTEMS ONLY).
 - IMMEDIATELY AFTER EXCAVATION & BEFORE THE AGGREGATE IS PLACED, CONDUCT A DIRECT MEASUREMENT OF THE SOIL'S INFILTRATION RATE. INFILTRATION TESTING SHALL BE PERFORMED BY AN APPROPRIATELY QUALIFIED PROFESSIONAL.
 - RESULTS OF THE INFILTRATION TESTING SHALL BE PROVIDED TO THE ENGINEER.
 - IF THE SOIL TEST SHOWS INFILTRATION RATE(S) THAT ARE LOWER THAN THE RATE(S) USED IN THE DESIGN, THEN ADDITIONAL SCARIFICATION, RIPPING, OR TRENCHING OF THE SOIL WILL BE NEEDED.
 - CONTRACTOR SHALL CONTACT & RECEIVE APPROVAL FROM ENGINEER OF RECORD TO CONTINUE INSTALLATION OF PERMEABLE PAVEMENT.
4. PLACE GEOTEXTILES AND GEOMEMBRANE (IF APPLICABLE).
 - FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR THE APPROPRIATE OVERLAP BETWEEN ROLLS OF MATERIAL. SECURE THE MATERIAL TO ENSURE IT DOES NOT MOVE OR WRINKLE WHEN PLACING AGGREGATE.
5. PLACE OBSERVATION WELL(S).
 - PLACE OBSERVATION WELL(S) ACCORDING TO THE PLAN AND VERIFY THAT THE ELEVATIONS ARE CORRECT.
6. PLACE & COMPACT AGGREGATE BASE.
 - INSPECT ALL AGGREGATES TO ENSURE THEY ARE CLEAN, FREE OF FINES, AND CONFORM TO THE PLANS.
 - IF AGGREGATE DELIVERED TO THE SITE CANNOT BE IMMEDIATELY PLACED INTO THE EXCAVATION, THEY SHOULD BE STOCKPILED ON AN IMPERVIOUS SURFACE, GEOTEXTILE, OR ON AN IMPERVIOUS MATERIAL TO KEEP THE AGGREGATE FREE OF SEDIMENT.
 - IF AGGREGATE BECOMES CONTAMINATED WITH SEDIMENT, THEN IT SHALL BE REPLACED WITH CLEAN AGGREGATE.
 - BEFORE PLACING THE AGGREGATE BASE, REMOVE ANY ACCUMULATION OF SEDIMENTS ON THE FINISHED SOIL SUBGRADE.
 - IF THE EXPOSED SUBGRADE HAS BEEN SUBJECTED TO RAINFALL BEFORE PLACEMENT OF THE AGGREGATE, THEN THE SUBGRADE SURFACE MUST BE SCARIFIED TO BREAK UP THE RESULTING SURFACE CRUST.
 - SLOPES & ELEVATIONS SHALL BE CHECKED ON THE SOIL SUBGRADE AND THE FINISHED ELEVATION OF BASE (AFTER COMPACTION) OR BEDDING MATERIALS TO ASSURE THEY CONFORM TO THE PLANS AND SPECIFICATIONS.
 - THE AGGREGATE SHALL BE SPREAD (NOT DUMPED) BY A FRONT-END LOADER OR FROM DUMP TRUCKS DEPOSITING FROM NEAR THE EDGE OF THE EXCAVATED AREA OR DIRECTLY ON DEPOSITED AGGREGATE PILES. MOISTEN AND DRY THE WASHED STONE WITHOUT DRIVING ON THE SOIL SUBGRADE. BE CAREFUL NOT TO DAMAGE THE OBSERVATION WELLS DURING COMPACTION.
 - FOLLOW COMPACTION RECOMMENDATIONS BY THE PERMEABLE PAVEMENT MANUFACTURER OR THAT FROM INDUSTRY GUIDELINES. BE SURE THAT CORNERS, AREAS AROUND UTILITY STRUCTURES AND OBSERVATION WELLS, & TRANSITION AREAS TO OTHER PAVEMENTS ARE ADEQUATELY COMPACTED.
 - DO NOT CRUSH AGGREGATES DURING COMPACTION.
7. INSTALL CURB RESTRAINTS AND BARRIERS BETWEEN PERMEABLE IMPERVIOUS PAVEMENT SHALL BE INSTALLED PER THE PLAN.
 - BEFORE MOVING ON TO CONSTRUCTION STEP 8, BE CERTAIN THE DESIGN AND INSTALLATION ARE CONSISTENT.
8. INSTALL PAVEMENT COURSE.
 - PERVIOUS CONCRETE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST VERSION OF ACI 522.1 SPECIFICATION FOR PERVIOUS CONCRETE.
 - INSTALLATION OF THE PERVIOUS CONCRETE MAY BE ACCOMPLISHED USING EITHER THE ONE-STEP OR THE TWO-STEP METHOD.
9. PROTECT THE PAVEMENT THROUGH PROJECT COMPLETION.
 - IF IT IS NOT POSSIBLE TO INSTALL THE PERMEABLE PAVEMENT AT THE END OF THE SITE CONSTRUCTION TIMELINE, THEN PROTECT THE PAVEMENT UNTIL PROJECT COMPLETION. THIS SHALL BE DONE BY:
 - A) ROUTING CONSTRUCTION ACCESS THROUGH OTHER PORTIONS OF THE SITE SO THAT NO CONSTRUCTION TRAFFIC PASSES THROUGH THE PERMEABLE PAVEMENT SITE (INSTALL BARRIERS/FENCES AS NEEDED).
 - B) IF THIS IS NOT POSSIBLE, PROTECT THE PAVEMENT PER THE CONSTRUCTION DOCUMENTS. PROTECTION TECHNIQUES THAT MAY BE USED INCLUDE MATS, PLASTIC SHEETING, BARRIERS TO LIMIT ACCESS, OR MOVING THE STABILIZED CONSTRUCTION ENTRANCE.
 - C) SCHEDULE STREET SWEEPING DURING AND AFTER CONSTRUCTION TO PREVENT SEDIMENT FROM ACCUMULATING ON THE PAVEMENT.



PERMEABLE PAVEMENT SIGN DETAIL

NOT TO SCALE



NOTE: GEOMEMBRANE BARRIER SHALL BE PROVIDED AROUND PERIMETER OF #57 STONE UNLESS OTHERWISE NOTED. PERVIOUS & CONVENTIONAL CONCRETE BOUNDARY DETAIL APPLIES.

NOTE: CONTRACTOR & DEVELOPER SHALL CONSULT WITH & INSTALL PERVIOUS CONCRETE PER MANUFACTURER'S RECOMMENDATIONS/SPECIFICATIONS (INCLUDING CONCRETE & STONE THICKNESSES IF GREATER THAN SHOWN).

PERMEABLE PAVEMENT SYSTEM #1 CROSS SECTION DETAIL

NOT TO SCALE

SOIL TEST RESULTS PER APPLIED RESOURCE MANAGEMENT, PC				
TEST LOCATION	EXISTING GROUND ELEVATION (FEET)*	SHWT (INCHES BELOW GROUND SURFACE)**	SHWT ELEVATION (FEET)**	HYDRAULIC CONDUCTIVITY RATE (INCHES PER HOUR)**
1	39.79	36	36.79	3.93

* INFORMATION PROVIDED BY MALPASS ENGINEERING & SURVEYING, P.C.
** INFORMATION PROVIDED BY APPLIED RESOURCE MANAGEMENT, P.C.
*** CALCULATED BASED ON INFORMATION PROVIDED BY OTHERS.

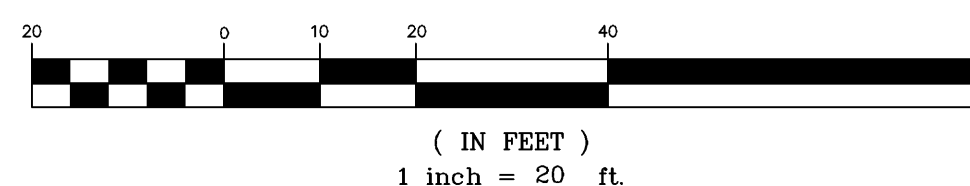
CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.

STANDARD SEWER NOTES

(REQUIRED ON ALL SEWER PLAN AND PROFILE SHEETS)

GRAPHIC SCALE



REV. NO.	DESCRIPTION	DATE

DRAINAGE & UTILITY PLAN

TRIBUTE PROPERTIES OFFICE STORAGE BUILDING

WILMINGTON TOWNSHIP NEW HANOVER COUNTY NORTH CAROLINA

FINAL DRAWING FOR REVIEW PURPOSES ONLY

MALPASS ENGINEERING & SURVEYING, P.C.
1134 SHIPYARD BOULEVARD
WILMINGTON, NORTH CAROLINA 28412
Phone 910-392-5843
Fax 910-392-5203 License No. C-2380

Owner: OFFICES ON CARDINAL, LLC
10 CARDINAL DRIVE
WILMINGTON, NC 28403

DATE: 6-4-15
SCALE: 1"=20'
DRAWN: JCB
CHECKED: JBM
PROJECT NO: 251
SHEET NO: 3
OF: 8

