



Public Services

Engineering
414 Chestnut St, Suite 200
Wilmington, NC 28401
910 341-7807
910 341-5881 fax
wilmingtonnc.gov
Dial 711 TTY/Voice

March 20, 2013

Dr. Stephanie Hackney
1337 Military Cutoff Rd.
Wilmington, NC 28405

**Subject: Stormwater Management Permit No. 2012032R1
Hackney Dental Clinic
Drainage Plan Revision**

Dear Dr. Hackney:

The City of Wilmington Engineering Division has received a request for a revision to the Stormwater Management Permit for The Hackney Dental Clinic. Having reviewed the application and all supporting materials, the City of Wilmington has determined that the proposed revision meets the requirements of the City of Wilmington's Comprehensive Stormwater Ordinance.

The revisions include:

- Revisions to the widening of Old MacCumber Station Rd
- Changes to the sidewalk layout
- Additional pervious concrete

Please be aware all terms and conditions of the permit 11/16/2012 remain in full force and effect. Any additional changes to the approved plans must be approved by this office prior to construction. The issuance of the plan revision does not preclude the permittee from complying with all other applicable statutes, rules, regulations or ordinances which may have jurisdiction over the proposed activity, and obtaining a permit or approval prior to construction.

The revised stamped, approved stormwater management drawings will be released for construction by the Wilmington Planning Division under separate cover. Please replace any old plan sheets from the approved set with the new, revised sheet. An electronic copy of the approved drawing set, permit, application and supplementary documents will be maintained by the Wilmington Engineering Division. If you have any questions, or need additional information, please contact Robert Gordon at (910) 341-5856 or rob.gordon@wilmingtonnc.gov

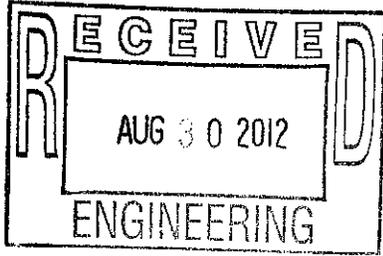
Sincerely,

A handwritten signature in black ink, appearing to read "Sterling Cheatham".

for Sterling Cheatham, City Manager
City of Wilmington

cc: Charlie Cazier, PE, Intracoastal Engineering
Jeff Walton, Wilmington Development Services/Planning

unless otherwise noted *



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STORMWATER MANAGEMENT PERMIT APPLICATION FORM
(Form SWP 2.2)

I. GENERAL INFORMATION

1. Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):

Hackney Dental Office

2. Location of Project (street address):

516 Old MacCumber Station Road

City: Wilmington County: New Hanover Zip: 28405

3. Directions to project (from nearest major intersection):

Site is located to the Southeast of the intersection of Military Cutoff Road & Old Maccumber Station Road. Corner Lot.

II. PERMIT INFORMATION

1. Specify the type of project (check one): Low Density High Density
 Drains to an Offsite Stormwater System Drainage Plan Other

If the project drains to an Offsite System, list the Stormwater Permit Number(s):

City of Wilmington: N/A State - NCDENR/DWQ: N/A

2. Is the project currently covered (whole or in part) by an existing City or State (NCDENR/DWQ) Stormwater Permit? Yes No

If yes, list all applicable Stormwater Permit Numbers:

City of Wilmington: N/A State - NCDENR/DWQ: N/A

3. Additional Project Permit Requirements (check all applicable):

CAMA Major Sedimentation/Erosion Control

NPDES Industrial Stormwater 404/401 Permit: Proposed Impacts: _____

If any of these permits have already been acquired please provide the Project Name, Project/Permit Number, issue date and the type of each permit:

III. CONTACT INFORMATION

1. Print Applicant / Signing Official's name and title (specifically the developer, property owner, lessee, designated government official, individual, etc. who owns the project):

Applicant / Organization: Dr. Stephanie Hackney

Signing Official & Title: Dr. Stephanie Hackney Owner

- a. Contact information for Applicant / Signing Official:

Street Address: 1337 Military Cutoff Road

City: Wilmington State: NC Zip: 28405

Phone: 910.256.9292 Fax: _____ Email: _____

Mailing Address (if different than physical address): -same as above-

City: _____ State: _____ Zip: _____

- b. Please check the appropriate box. The applicant listed above is:

- The property owner (Skip to item 3)
 Lessee* (Attach a copy of the lease agreement and complete items 2 and 2a below)
 Purchaser* (Attach a copy of the pending sales agreement and complete items 2 and 2a below)
 Developer* (Complete items 2 and 2a below.)

2. Print Property Owner's name and title below, if you are the lessee, purchaser, or developer. (This is the person who owns the property that the project is on.)

Property Owner / Organization: _____

Signing Official & Title: _____

- a. Contact information for Property Owner:

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

Mailing Address (if different than physical address): _____

City: _____ State: _____ Zip: _____

3. (Optional) Print the name and title of another contact such as the project's construction supervisor or another person who can answer questions about the project:

Other Contact Person / Organization: _____

Signing Official & Title: _____

a. Contact information for person listed in item 3 above:

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

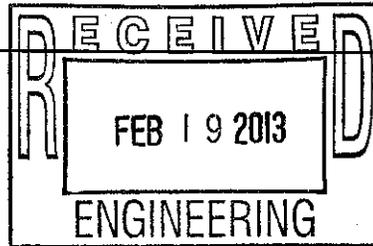
Mailing Address (if different than physical address): _____

City: _____ State: _____ Zip: _____

IV. PROJECT INFORMATION

1. In the space provided below, briefly summarize how the stormwater runoff will be treated.

This application is for a Drainage Plan.



2. Total Property Area: 32,143 square feet

3. Total Coastal Wetlands Area: 0 square feet

4. Total Surface Water Area: 0 square feet

5. Total Property Area (2) – Total Coastal Wetlands Area (3) – Total Surface Water Area (4) = Total Project Area: 32,143 square feet.

6. Existing Impervious Surface within Property Area: 0 square feet

7. Existing Impervious Surface to be Removed/Demolished: 0 square feet

8. Existing Impervious Surface to Remain: 0 square feet

9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (in square feet):

| | |
|--|--------------|
| Buildings/Lots | 2,325 |
| Impervious Pavement | 1,978 |
| Pervious Pavement (adj. total, with 75% credit applied) | 1,192 |
| Impervious Sidewalks | 1,518 |
| Pervious Sidewalks (adj. total, with % credit applied) | 0 |
| Other (describe) | 0 |
| Future Development | 0 |
| Total Onsite Newly Constructed Impervious Surface | 7,013 |

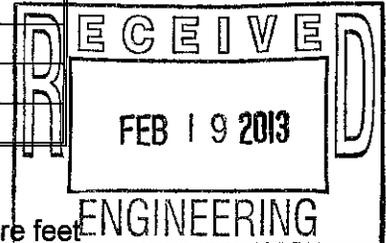
10. Total Onsite Impervious Surface

(Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 7,013 square feet

11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 22 %

12. Total Offsite Newly Constructed Impervious Area (improvements made outside of property boundary, in square feet):

| | |
|---|--------------|
| Impervious Pavement | 2,079 |
| Pervious Pavement (adj. total, with % credit applied) | 0 |
| Impervious Sidewalks | 651 |
| Pervious Sidewalks (adj. total, with % credit applied) | 0 |
| Other (describe) | 0 |
| Total Offsite Newly Constructed Impervious Surface | 2,730 |



13. Total Newly Constructed Impervious Surface
(Total Onsite + Offsite Newly Constructed Impervious Surface) = 9743 square feet

14. Complete the following information for each Stormwater BMP drainage area. If there are more than three drainage areas in the project, attach an additional sheet with the information for each area provided in the same format as below. Low Density projects may omit this section and skip to Section V.

| Basin Information | (Type of BMP) BMP # 1 | (Type of BMP) BMP # | (Type of BMP) BMP # |
|------------------------------------|--------------------------|------------------------|------------------------|
| Receiving Stream Name | | | |
| Receiving Stream Index Number | | | |
| Stream Classification | | | |
| Total Drainage Area (sf) | 0 | 0 | 0 |
| On-Site Drainage Area (sf) | | | |
| Off-Site Drainage Area (sf) | | | |
| Total Impervious Area (sf) | 0 | 0 | 0 |
| Buildings/Lots (sf) | | | |
| Impervious Pavement (sf) | | | |
| Pervious Pavement, % credit (sf) | | | |
| Impervious Sidewalks (sf) | | | |
| Pervious Sidewalks, % credit (sf) | | | |
| Other (sf) | | | |
| Future Development (sf) | | | |
| Existing Impervious to remain (sf) | | | |
| Offsite (sf) | | | |
| Percent Impervious Area (%) | | | |

15. How was the off-site impervious area listed above determined? Provide documentation:

N/A

V. SUBMITTAL REQUIREMENTS

1. Supplemental and Operation & Maintenance Forms - One applicable City of Wilmington Stormwater BMP supplement form and checklist must be submitted for **each** BMP specified for this project. One applicable proposed operation and maintenance (O&M) form must be submitted for **each type** of stormwater BMP. Once approved, the operation and maintenance forms must be referenced on the final plat and recorded with the register of deeds office.
2. Deed Restrictions and Restrictive Covenants - For all subdivisions, outparcels, and future development, the appropriate property restrictions and protective covenants are required to be recorded prior to the sale of any lot. Due to variability in lot sizes or the proposed BUA allocations, a table listing each lot number, lot size, and the allowable built-upon area must be provided as an attachment to the completed and notarized deed restriction form. The appropriate deed restrictions and protective covenants forms can be downloaded at the link listed in section V (3). Download the latest versions for each submittal.

In instances where the applicant is different than the property owner, it is the responsibility of the property owner to sign the deed restrictions and protective covenants form while the applicant is responsible for ensuring that the deed restrictions are recorded.

By the notarized signature(s) below, the permit holder(s) certify that the recorded property restrictions and protective covenants for this project, if required, shall include all the items required in the permit and listed on the forms available on the website, that the covenants will be binding on all parties and persons claiming under them, that they will run with the land, that the required covenants cannot be changed or deleted without concurrence from the City of Wilmington, and that they will be recorded prior to the sale of any lot.

3. Only complete application packages will be accepted and reviewed by the City. A complete package includes all of the items listed on the City Engineering Plan Review Checklist, including the fee. Copies of the Engineering Plan Review Checklist, all Forms, Deed Restrictions as well as detailed instructions on how to complete this application form may be downloaded from:

<http://www.wilmingtonnc.gov/PublicServices/Engineering/PlanReview/StormwaterPermits.aspx>

The complete application package should be submitted to the following address:

City of Wilmington – Engineering
Plan Review Section
414 Chestnut Street, Suite 200
Wilmington, NC 28402

VI. CONSULTANT INFORMATION AND AUTHORIZATION

1. Applicant: Complete this section if you wish to designate authority to another individual and/or firm (such as a consulting engineer and /or firm) so that they may provide information on your behalf for this project (such as addressing requests for additional information).

Consulting Engineer: Charles Cazier, P.E.

Consulting Firm: Intracoastal Engineering, PLLC

a. Contact information for consultant listed above:

Mailing Address: 91 Pelican Point Road

City: Wilmington State: NC Zip: 28409

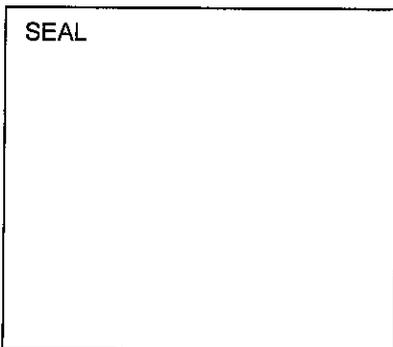
Phone: 910.409.3567 Fax: Please Call Email: Charlie@intracoastalengineering.com

VII. PROPERTY OWNER AUTHORIZATION (If Section III(2) has been filled out, complete this section)

I, (print or type name of person listed in Contact Information, item 2) _____, certify that I own the property identified in this permit application, and thus give permission to (print or type name of person listed in Contact Information, item 1) _____ with (print or type name of organization listed in Contact Information, item 1) _____ to develop the project as currently proposed. A copy of the lease agreement or pending property sales contract has been provided with the submittal, which indicates the party responsible for the operation and maintenance of the stormwater system.

As the legal property owner I acknowledge, understand, and agree by my signature below, that if my designated agent (entity listed in Contact Information, item 1) dissolves their company and/or cancels or defaults on their lease agreement, or pending sale, responsibility for compliance with the City of Wilmington Stormwater Permit reverts back to me, the property owner. As the property owner, it is my responsibility to notify the City of Wilmington immediately and submit a completed Name/Ownership Change Form within 30 days; otherwise I will be operating a stormwater treatment facility without a valid permit. I understand that the operation of a stormwater treatment facility without a valid permit is a violation of the City of Wilmington Municipal Code of Ordinances and may result in appropriate enforcement including the assessment of civil penalties.

Signature: _____ Date: _____



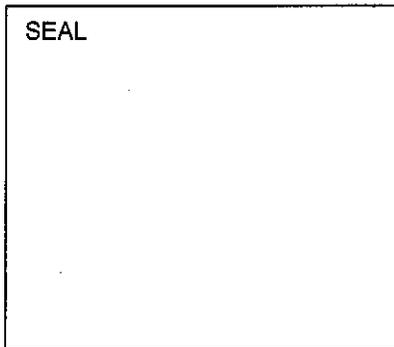
I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

My commission expires: _____

VIII. APPLICANT'S CERTIFICATION

I, (print or type name of person listed in Contact Information, item 1) Dr. Stephanie Hackney certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans, that the required deed restrictions and protective covenants will be recorded, and that the proposed project complies with the requirements of the applicable stormwater rules under.

Signature: *Stephanie Hackney* Date: 8-30-12



I, Deborah M. White, a Notary Public for the State of North Carolina, County of New Hanover do hereby certify that Stephanie Gray Hackney personally appeared before me this day of August 30, 2012 and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,
Deborah M. White
My commission expires: August 1, 2016



STORMWATER MANAGEMENT PERMIT APPLICATION FORM
401 CERTIFICATION APPLICATION FORM
PERMEABLE PAVEMENT SUPPLEMENT



This form must be filled out, printed and submitted.

The Required Items Checklist (Part III) must be printed, filled out and submitted along with all of the required information.

I. PROJECT INFORMATION

Project Name: Hackney Dental Office
 Contact Person: Charles Cazier, PE
 Phone Number: 910-409-3567
 Date: 8/28/2012
 Drainage Area / Lot Number: 1
 Lot Owner's Signature: *Stephanie H. Hackney*

II. DESIGN INFORMATION

Soils Report Summary

Soil type: Sandy
 Infiltration rate: 14.80 in/hr OK
 SHWT elevation: 21.30 fmsl

Credit Calculation- Enter an "x" in the appropriate cell below

Permeable concrete without a gravel base: _____
 Permeable concrete with at least 6" gravel base: X
 Flexible pavements with at least 4" gravel base: _____
 Flexible pavements with at least 7" gravel base: _____

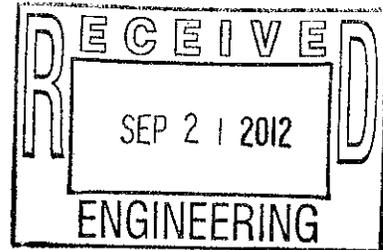
| | |
|-----------------------|-----|
| Managed Grass Factor: | |
| | 0.6 |
| | |
| | |

Bottom elevation of the permeable pavement cross-section: 23.70 fmsl OK

SA of permeable pavement being proposed: ~~4,262~~ 4,766 ft²
 Resulting BUA counted as impervious: ~~1,066~~ 1,192 ft² *RA 3/20/13*

Additional Information

Slope of soil subgrade at bottom of permeable pavement: 0.50 % OK
 Slope of the permeable pavement surface: 0.50 % OK
 Construction sequence minimizes compaction to soils? Y Y/N OK
 Traffic volume (vehicles per day): 80.00 v/day OK
 Washed stone is specified for the gravel layer (if used)? Y Y/N OK
 Concentrated flow from roofs & other surfaces directed away? Y Y/N OK



Additional Information for Residential Lots Only

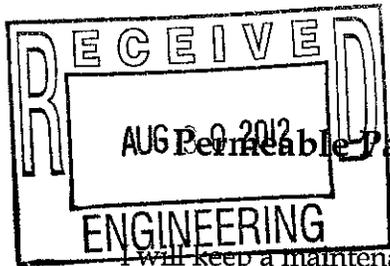
Total BUA allocated to this lot: _____ ft²
 Remaining lot BUA available: _____ ft²

To be completed by permittee / HOA:

Application Approved:
 Application Rejected:

Reason for rejecting application: _____

Signature of permittee / HOA: *Stephanie H. Hackney*
 Date: 9-20-12



Permit Number: _____
 (to be provided by DWQ)

Drainage Area / Lot Number: _____

Permeable Pavement Operation and Maintenance Agreement

I will keep a maintenance record on this BMP. This maintenance record will be kept in a log in a known set location. Any deficient BMP elements noted in the inspection will be corrected, repaired or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the removal efficiency of the BMP.

Important operation and maintenance procedures:

- Stable groundcover will be maintained in the drainage area to reduce the sediment load to the permeable pavement.
- The area around the perimeter of the permeable pavement will be stabilized and mowed, with clippings removed.
- Any weeds that grow in the permeable pavement will be sprayed with pesticide immediately. Weeds will not be pulled, since this could damage the fill media.
- Once a year, the permeable pavement surface will be vacuum swept.
- At no time shall wet sweeping (moistening followed by sweeping) be allowed as a means of maintenance.
- There shall be no repair or treatment of Permeable Pavement surfaces with other types of pavement surfaces. All repairs to Permeable Pavement surfaces must be accomplished utilizing permeable pavement which meets the original pavement specifications.
- Concentrated runoff from roof drains, piping, swales or other point sources, directly onto the permeable pavement surface shall not be allowed. These areas must be diverted away from the permeable pavement.

Initial Inspection: Permeable Pavements shall be inspected monthly for the first three months for the following:

| BMP element: | Potential problem: | How to remediate the problem: |
|--|--|---|
| The perimeter of the permeable pavement | Areas of bare soil and/or erosive gullies have formed. | In the event that rutting or failure of the groundcover occurs, the eroded area shall be repaired immediately and permanent groundcover re-established. Appropriate temporary Erosion Control measures (such as silt fence) shall be installed in the affected area during the establishment of permanent groundcover, and any impacted area of permeable pavement is to be cleaned via vacuum sweeping. |
| The surface of the permeable pavement | Rutting / uneven settlement | This indicates inadequate compaction of the pavement base / sub-base. If rutting or uneven settlement on the order of 1/2 inch or greater occurs, permeable pavement shall be removed and base / sub-base re-compacted, smoothed, and permeable pavement shall then be re-installed. Base and sub-base compaction shall be monitored by a licensed geotechnical engineer to ensure that infiltration capacity of base and sub-base are not compromised by compaction and smoothing processes. |
| | The pavement does not dewater between storms, or water is running off. | Vacuum sweep the pavement. If the pavement still does not dewater, consult a professional. |

Permit Number: _____
(to be provided by DWQ)
 Drainage Area / Lot Number: _____

The permeable pavement will be inspected **once a quarter and within 24 hours after every storm event greater than 1.0 inches (or 1.5 inches if in a Coastal County)**. Records of operation and maintenance will be kept in a known set location and will be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

| BMP element: | Potential problem: | How to remediate the problem: |
|--|---|---|
| The perimeter of the permeable pavement | Areas of bare soil and/or erosive gullies have formed. | Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application. |
| | Vegetation is too short or too long. | Maintain vegetation at a height of 3 to 6 inches (remove clippings). |
| The surface of the permeable pavement | Trash/debris is present. | Remove the trash/debris. |
| | Weeds are growing on the surface of the permeable pavement. | Do not pull the weeds (may pull out media as well). Spray them with pesticide. |
| | Sediment is present on the surface. | Vacuum sweep the pavement. |
| | The structure is deteriorating or damaged. | Consult an appropriate professional. Damaged areas of the pavement shall be removed and repaired. |
| | The pavement does not dewater between storms. | Vacuum sweep the pavement. If the pavement still does not dewater, consult a professional. Permanently clogged pavement shall be removed and repaired. |

Permit Number: _____
(to be provided by DWQ)

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify DWQ of any problems with the system or prior to any changes to the system or responsible party.

Project name: Hackney Dental Office

BMP drainage area or lot number: 1

Print name: Dr. Stephanie Hackney

Title: Owner

Address: 1337 Military Cutoff Road Wilmington, NC 28405

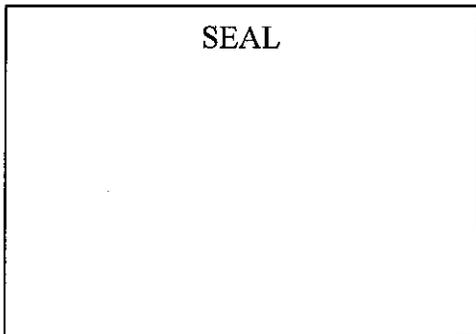
Phone: (910) 256-9292

Signature: Stephanie Hackney

Date: 8-30-12

Note: The legally responsible party should not be a homeowners association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.

I, Deborah M White, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Stephanie G. Hackney personally appeared before me this 30th day of August, 2012, and acknowledge the due execution of the forgoing permeable pavement maintenance requirements. Witness my hand and official seal,



My commission expires August 1, 2016