

**RESOLUTION OF THE TOWN OF CARRBORO BOARD OF  
ALDERMEN AUTHORIZING THE GRANTING OF A 10' PRIVATE SEWER EASEMENT ON  
THE TOWN-OWNED PROPERTY AT 408 LLOYD STREET TO THE OWNER OF THE  
PROPERTY AT 307 BROAD STREET**

WHEREAS, the Town of Carrboro is the owner of the real property known as 408 Lloyd Street in Carrboro (Orange County PIN 9778974626); and

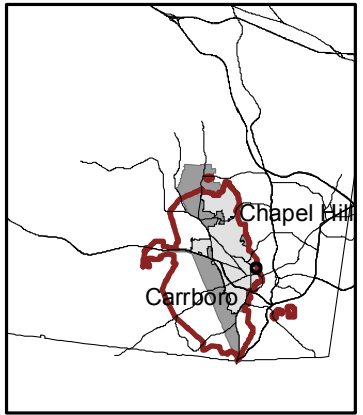
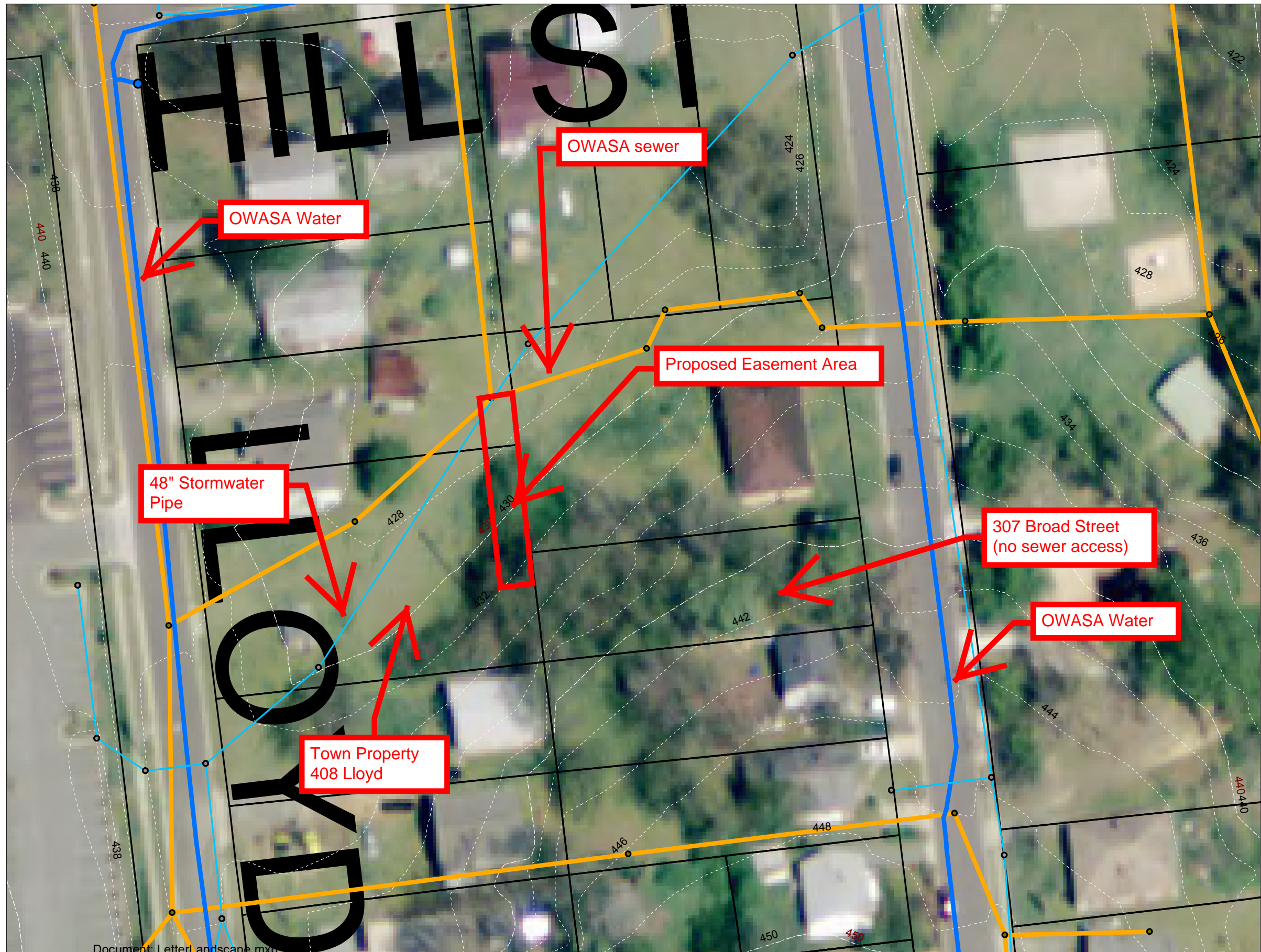
WHEREAS, the Town has become aware that a residence located on an adjoining parcel, 307 Broad Street (Orange County PIN 9778975675) does not have direct access to OWASA sewer services; and

WHEREAS, the owner of the adjoining parcel has requested that the Town grant them an easement to access the OWASA sewer service located on the Town property; and

NOW, THEREFORE, be it resolved by the Town of Carrboro Board of Aldermen that:  
The Town Board of Aldermen authorizes the granting of a sewer service easement per the intent of the plat and profile prepared by Freehold Land Surveys, Inc. and dated October 23, 2012 subject to the following condition;

- That prior to recording of the easement plat that the previously approved recombination of the 408 and 410 Lloyd Street properties is recorded.

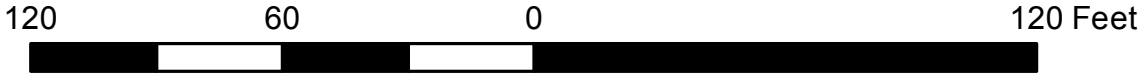
Adopted this the 5<sup>th</sup> day of March, 2013.



**THIS MAP IS NOT A CERTIFIED SURVEY  
NO RELIANCE MAY BE PLACED IN ITS  
ACCURACY**

The Town of Carrboro assumes no liability for damages caused by inaccuracies in this map or supporting data and makes no warranty, expressed or implied, as to the accuracy of the information presented. The fact of distribution does not constitute such a warranty.

**TOWN OF CARRBORO**  
301 W. Main St.  
Carrboro, NC 27510  
Printed Jan 3, 2012



**BEEMER, HADLER & WILLETT, P. A.**  
ATTORNEYS AT LAW

---

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SUITE 800-B, FRANKLIN SQUARE  
CHAPEL HILL, NORTH CAROLINA 27514  
TELEPHONE: (919) 929-0391  
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CHRISTOPHER M. WILLETT

CHARLES G. BEEMER  
RETIRED  
REX T. SAVERY, JR.  
RETIRED

MAILING ADDRESS:  
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CHAPEL HILL, NC 27515

PARALEGALS:  
SCOTT BARROW-WEST, CR, NCCP  
PAM LINK-BETTS  
JENNIFER C. HARMS

February 27, 2013

Mr. Jeff Kleaveland  
Planning/Zoning Development Specialist  
Town of Carrboro  
301 W. Main Street  
Carrboro, NC 27510  
**By Hand-Delivery**

re: Request for Town of Carrboro 10' Private Sewer Service Line Easement  
Property Owner: Clarence E. Payne (307 Broad Street property)

Dear Jeff:

Enclosed please find a copy of a proposed 10' Private Sewer Service Line Easement with attached Easement Exhibit Map and Profile Map of Proposed Sanitary Sewer Service Lateral. Charles Billings at Freehold Land Surveys complete the necessary Easement Exhibit Map and Profile Map. The maps have been revised per your most recent comments.

I know we have talked previously about the Town providing Mr. Payne a 10' Easement for a 4" lateral sewer line. I also believe you have had a number of contacts with Mr. Tom Wiltberger who has a client under contract to purchase Mr. Payne's unimproved lot at 307 Broad Street. I also spoke with Bob Hornik, Esq. and asked him to review the easement I drafted. I believe he also spoke with you previously about the easement request.

Please note that the proposed 10' easement location along the eastern property line of the Town should have no impact on the Town's use and enjoyment of its property. The terms of the enclosed Private Sewer Service Line Easement require Mr. Payne or the subsequent owner to construct, install and maintain a 4" lateral sewer line that will be required to have .96' clearance over the top of the 48" storm drainage pipe. The Profile document attached to the



February 27, 2013  
Page Two  
Mr. Jeff Kleaveland

proposed Easement shows the clearance and I also had Charles Billings note the clearance requirement on the Easement Exhibit Map. Mr. Billings has informed me that the proposed easement location for the 4" lateral sewer line will have more than adequate clearance over the 48" storm pipe. In fact he reported the clearance is greater than where the OWASA sewer main currently clears the 48" storm line on the adjacent lot to the west owned by Mr. Jason T. James. You can see that crossing location on the proposed Easement Exhibit provided.

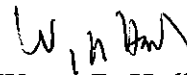
Please note, I had previously contacted Mr. James about running the easement along his property line. He has not agreed to the request, but at one point asked for a very high sum to consider granting the easement (25% of the lot value). In light of the minor nature of running a 4" inch lateral line, I believe all will be best served to have the easement area run along the Town's eastern line as drafted in the attached easement.

We are hoping that the easement can be finalized in the next couple of weeks and approved by the Board on a consent agenda.

Please let me know if you require anything further.

Thank you.

Sincerely,



Wayne R. Hadler

cc: Mr. Robert E. Hornik, Jr., Esq.  
Mr. and Mrs. Clarence Payne  
Mr. Tom Wiltberger

STATE OF NORTH CAROLINA

PIN: 9778975675 & 9778974626

COUNTY OF ORANGE

**PRIVATE SEWER SERVICE  
LINE EASEMENT**

THIS PRIVATE SEWER LINE EASEMENT, made and entered into this the \_\_ day of March, 2013, by TOWN OF CARRBORO, a North Carolina Municipal Corporation, whose address is 301 W. Main Street, Carrboro, NC 27510, party of the first part, hereinafter "TOWN" to CLARENCE E. PAYNE and PATRICIA PAYNE, whose address is 500 Hassel Street, Hillsborough, NC 27278, party of the second part, hereinafter "PAYNE".

**WITNESSETH**

WHEREAS, the TOWN is the record owner of a lot or tract of land in the Chapel Hill Township, Town of Carrboro, Orange County, lying east and south of Lloyd Street and identified in Orange County Land Records as Parcel Identification Number (PIN) 9778974626; and

WHEREAS, PAYNE is the record owner of a lot or tract of land in the Chapel Hill Township, Town of Carrboro, Orange County, conveyed to PAYNE DB 598, Page 185, Orange County Registry, said tract of land's western line being adjacent to a portion of the TOWN'S eastern line, and identified in Orange County Land Records as Parcel Identification Number (PIN) 9778975675; and

WHEREAS, PAYNE desires to gain access to the Orange Water and Sewer Authority public sanitary sewer main line located on the TOWN'S Property, as shown in Exhibit "A" attached hereto ( Easement Exhibit Map), by constructing and installing a four inch (4") service lateral line along the eastern property line of the TOWN as shown on Exhibit "A", and the Town is hereby willing to grant this ten foot (10') private sanitary sewer line service easement along its eastern property line upon the following terms and conditions.

NOW, THEREFORE, in consideration of the premises and for other good and sufficient consideration, the receipt of which is mutually acknowledged, the parties hereto covenant and agree as follows:

- (1) TOWN, its successors and assigns, herein bargain and give, grant and convey to PAYNE, their successors and assigns, a perpetual right and easement over, across, under and through the 10' private sanitary sewer line service Easement Area Tract, as shown on the Easement Exhibit Map, prepared by Freehold Land Surveys and attached hereto as Exhibit "A" and incorporated herein by reference, for the purpose of constructing, installing and maintaining thereon a sanitary sewer line hook-up running from the PAYNE property tract, over and through the 10' private sanitary sewer Easement Area Tract located on the TOWN property to the aforementioned Orange Water and Sewer Authority public sewer main as shown on Exhibit "A", with a perpetual right and easement to go upon the land hereinafter described whenever the same is reasonable necessary for the purpose of constructing, maintaining and repairing said lateral service connector line. NOTWITHSTANDING the above, PAYNE, its heirs, successors and assigns covenant with the Town, and shall be materially bound, to construct and install the four inch (4") sanitary sewer service line within the Easement Area Tract in conformity with the Profile of Proposed Sanitary Sewer Service Lateral attached as Exhibit "A1", and incorporated herein by reference. It being the intent of the easement granted herein by the TOWN that PAYNE shall install the four inch (4") sanitary sewer service line at a depth that crosses the existing TOWN 48" storm pipe to provide a minimum clearance of ninety-six hundredths feet ( .96'), all as shown on Exhibit "A1"
- (2) The TOWN shall have the exclusive right to unilaterally relocate the Sanitary Sewer Service Lateral serving PAYNE'S property, should the TOWN'S future development plans for its property require re-alignment of the Sewer Service Lateral. The TOWN shall have no limitation in determining the easement location for the Sanitary Sewer Service lateral on the TOWN'S property, including the right for an aerial line if this was necessary due to the TOWN'S re-grading or other development revision of its property site. In the event the TOWN relocates the Sanitary Sewer Service Lateral, the Town shall bear the costs of the relocation, however, upon the TOWN'S satisfactory completion and approval of the relocation, PAYNE shall bear all continued maintenance and repair costs as set forth in Paragraph 3 below.
- (3) PAYNE, for themselves, their heirs and assigns, covenant with the TOWN, its successors and assigns, that following any such entry over the Easement Area Tract it shall restore the hereinafter described land and vegetation as nearly as possible to the same condition as in which it existed prior to the entry, and PAYNE further covenants with the TOWN that PAYNE shall bear all costs and expenses related to the construction, installation and maintenance of the private four inch (4") sanitary sewer line and all costs related to the restoration of the TOWN'S property as described hereinabove.
- (4) The land over which this easement shall exist will be 10 feet in width all as shown on the Easement Exhibit map attached hereto as Exhibit "A", offset and parallel to the centerline on either side of the sanitary sewer service pipe. That is to say, the

private sanitary sewer service line shall be centered within the 10 foot private easement. This easement shall be appurtenant to and run with the land. The material used for the service line shall be ductile iron pipe.

TO HAVE AND TO HOLD the aforesaid easement rights, conditions and obligations herein set forth to PAYNE and TOWN their successors and assigns, forever.

IN WITNESS WHEREOF, the parties of the first part have set their hands and seal the day and year first written.

SIGNATURE PAGES TO FOLLOW  
TOWN OF CARRBORO, Grantor

BY: \_\_\_\_\_ (SEAL)  
Town Manager

ATTEST:

\_\_\_\_\_  
Town Clerk

STATE OF NORTH CAROLINA

COUNTY OF ORANGE

I, a Notary Public in and for the county and state aforesaid, do certify that \_\_\_\_\_ personally appeared before me this day, each acknowledging to me that she is the Town Clerk of the Town of Carrboro, North Carolina, a North Carolina Municipal Corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Town Manager, sealed with its corporate seal and attested by her as the Town Clerk.

Witness my hand and official stamp or seal, this the \_\_\_\_\_ day of March, 2013.

\_\_\_\_\_  
Notary Public  
My Commission Expires:

\_\_\_\_\_  
Clarence E. Payne, Grantee

(SEAL)

\_\_\_\_\_  
Patricia Payne, Grantee

(SEAL)

STATE OF NORTH CAROLINA

COUNTY OF ORANGE

I, certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated: Clarence E. Payne, Grantee; and Patricia Payne. Witness my hand and official stamp or seal, this the \_\_\_\_ day of March, 2013.

\_\_\_\_\_  
Notary Public

My Commission Expires:



See profile to  
assess potential  
conflict in this  
area

## EXHIBIT "A"

TO ALL PARTIES INTERESTED IN TITLE TO PREMISES

**SURVEYED:**

I CERTIFY THAT THIS MAP WAS DRAWN FROM AN ACTUAL  
FIELD SURVEY PERFORMED UNDER MY DIRECTION AND  
SUPERVISION (REFERENCE OF RECORD: P.B. 598-185  
ORANGE COUNTY REGISTRY).



**NOTE:**

- SEE THE ATTACHED PROFILE SHOWING THE EXACT HORIZONTAL LOCATION OF THE PROPOSED SANITARY SEWER SERVICE LINE & THE EXISTING STORM WATER PIPE.
- GRANTEE OF THE EASEMENT SHALL BE REQUIRED TO INSTALL A 4" SANITARY SEWER SERVICE LINE AT THE LOCATION & HEIGHT SHOWN ON THE PROPOSED SANITARY SEWER SERVICE LINE PROFILE.

## EXHIBIT EASEMENT PLAT

PROPERTY OF  
CLARENCE E. PAYNE

307 BROAD STREET  
PIN: 9778-97-5675  
CHAPEL HILL TWP. ORANGE CO.  
NORTH CAROLINA

### PROPOSED EASEMENT

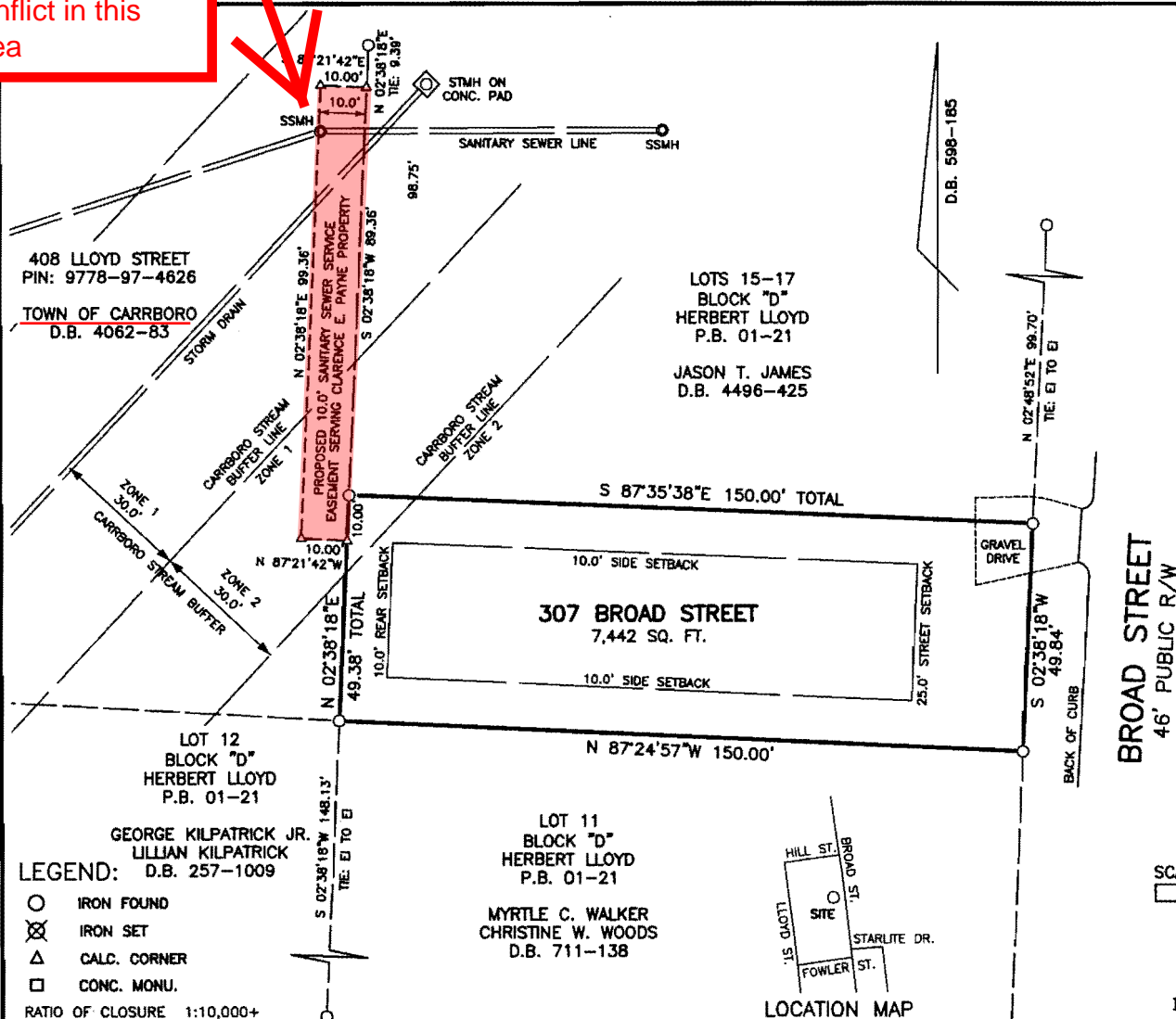
ADDED: OCTOBER 23, 2012

LAST SURVEYED MARCH 24, 2008

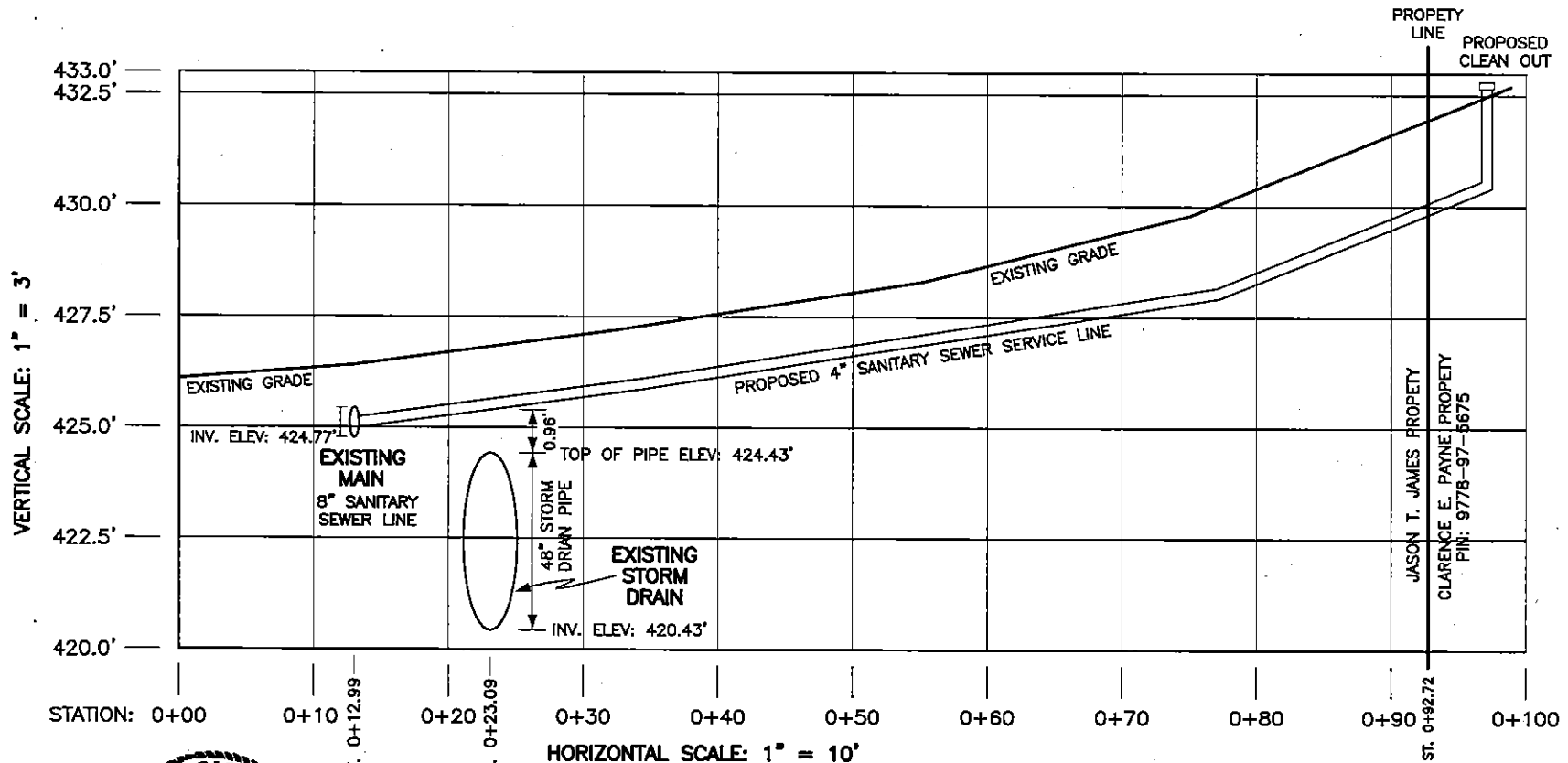
SCALE 1" = 30'

FREEHOLD LAND SURVEYS, INC.

P.O. BOX 188      CARRBORO      NORTH CAROLINA      27510



# EXHIBIT "A1"



PROFILE OF PROPOSED SANITARY SEWER SERVICE LATERAL  
ALONG EASTERN PROPERTY LINE OF THE TOWN OF CARRBORO  
PROPERTY(PIN: 9778-97-4626) SERVING  
CLARENCE E. PAYNE PROPERTY(PIN: 9778-97-5675)

FREEHOLD LAND SURVEYS, INC.  
P.O. BOX 188 CARRBORO NORTH CAROLINA 27510

## Wayne Hadler

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**From:** Joe Leo <JLeo@owasa.org>  
**Sent:** Tuesday, December 18, 2012 11:21 AM  
**To:** Wayne Hadler  
**Subject:** RE: Private Sewer Line Easement 307 Broad Street

Wayne,

Everything is acceptable, once the easement is recorded please forward a pdf copy to me for our records.  
Thanks,

Joe Leo  
Engineering Technician  
Office (919) 537-4242  
Fax (919) 968-4464

---

**From:** Wayne Hadler [<mailto:whadler@bhcwlaw.com>]  
**Sent:** Tuesday, December 18, 2012 9:32 AM  
**To:** Joe Leo  
**Subject:** Private Sewer Line Easement 307 Broad Street

Good Morning Joe,

Attached please find a proposed Private Sewer Service Line Easement for the property at 307 Broad Street along with a letter I delivered to Jeff Kleaveland at the Town. Jeff has reported the Town staff will be recommended the Town provide the Easement. The connection route along the Town's property line appears to be the easiest way to provide service. Mr. James property adjacent to 307 Broad Street was also considered, however, Mr. James did not respond to my client's offer and frankly running a 10' easement along his rear lot line doesn't provide any advantages. Charlie Billings at Freehold has completed the Exhibit Maps which are attached to the Easement.

Please let me know if this is acceptable to you (OWASA).

Thank you.

Wayne

Wayne R. Hadler, NC State Bar No. 15890  
Beemer, Hadler, Willett, P.A.  
1829 E. Franklin Street, Ste. 800-B  
Chapel Hill, NC 27514  
919-929-0391 (tel)  
919-967-3063 (fax)  
[briehad@aol.com](mailto:briehad@aol.com) or [whadler@bhcwlaw.com](mailto:whadler@bhcwlaw.com)

### Confidentiality Notice

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**From:** [David Poythress](#)  
**To:** [Jeff Kleaveland](#)  
**Cc:** [George E. Seiz](#)  
**Subject:** FW: 307 Lloyd Easement Request across Town Property (408 Lloyd)  
**Date:** Tuesday, December 11, 2012 8:45:51 AM  
**Attachments:** [image001.png](#)

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FYI

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**From:** David Poythress  
**Sent:** Friday, December 07, 2012 5:08 PM  
**To:** Randy Dodd  
**Subject:** RE: 307 Lloyd Easement Request across Town Property (408 Lloyd)

Randy:

Some history. The Board of Alderman in 1987 approved the installation of the 48" storm drainage piping due to many concerns raised by the residents prior to the piping. This project was with the approved with the 1987 Street Improvements projects which preceded a Community Block Grant for the Lloyd-Broad St. areas to provide curb/gutter and sidewalks.

Regarding the sewer line. If the stream was day lighted in the future, the presence of a properly constructed aerial sewer line would not preclude day lighting of the stream. It would be no different than the many numerous locations where sanitary sewers cross a drainage way. The profile provided showed the residential sewer overtop of the existing 48" line so the residential sewer line wouldn't create any issues with storm pipe removal and grading to restore the stream.

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**From:** Randy Dodd  
**Sent:** Friday, December 07, 2012 4:54 PM  
**To:** Jeff Kleaveland; David Poythress; George E. Seiz; 'Henry Wells'; 'Nick Parker'  
**Subject:** RE: 307 Lloyd Easement Request across Town Property (408 Lloyd)

Jeff et al.,

First, a regulatory technicality, and then a potential future conflict issue. The technicality is that the underground runoff conveyance is in a regulatory grey zone from both a Town and a State/Federal perspective. On the plat, the 48" pipe is indicated as a storm drain, but there is a strong rationale that it be alternatively designated as a "modified natural stream". There was a mapped stream feature that was buried some years back. This interpretation brings into play the potential for consideration as jurisdictional waters, which in my mind means the Town has an interest in being careful with the granting of such easements.

Furthermore, the Bolin Creek Watershed Restoration Team has identified the daylighting of the buried stream feature as a legitimate restoration opportunity that would improve water quality in this priority subwatershed. While at this point this is a concept that has not received policy (BoA), legal (necessary support from affected adjacent property owners), or financial support, I do need to speak on behalf of watershed restoration interests to seriously consider granting of this easement that results in a constraint to this future possibility. A condition that gave the Town right to pursue stream daylighting at some point in the future, e.g., through not granting as permanent easement, or some other means, seems prudent to consider.

Randy Dodd  
Environmental Planner

**From:** [Randy Dodd](#)  
**To:** [Jeff Kleaveland](#); [David Poythress](#); [George E. Seiz](#); ["Henry Wells"](#); ["Nick Parker"](#)  
**Subject:** RE: 307 Lloyd Easement Request across Town Property (408 Lloyd)  
**Date:** Friday, December 07, 2012 4:54:23 PM  
**Attachments:** [image001.png](#)

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Jeff et al.,

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Randy Dodd  
Environmental Planner  
Town of Carrboro  
301 West Main Street  
Carrboro, NC 27510  
919 918-7326  
[rdodd@townofcarrboro.org](mailto:rdodd@townofcarrboro.org)



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**From:** Jeff Kleaveland  
**Sent:** Friday, December 07, 2012 11:20 AM  
**To:** David Poythress; George E. Seiz; Randy Dodd; 'Henry Wells'; 'Nick Parker'  
**Subject:** 307 Lloyd Easement Request across Town Property (408 Lloyd)

All,

Here's another version of the easement request by the owners of 307 Broad Street. This one, however, includes a survey of the existing pipes in the ground which appears to demonstrate that the lateral can be accomplished without a conflict box. This profile is at the end of the attached easement request from the owner's attorney which you should read to see if everything is correct. I didn't catch any problems...

Also attached is the approved recombination of the Town property that will be effected by the easement for your reference.

Let me know if this gives you more comfort with approving this easement. The property owner's evidently have made an effort to negotiate with the property owner's next door with no luck. Evidently they want a high price for the granting of the easement. So, they are now asking us (again).

Last time, we had concerns about the potential conflicts that the service might present to current and future use of the property. Now, at least we have some information to gauge the impacts.

Please let me know what you think. The owner wants to get this to the Board in December though January is more realistic. We can always add a condition to the approval if there is something hanging out there that needs addressing.

Best regards,

Jeff Kleaveland, Planner/ZDS, RLA  
Town of Carrboro Planning Department  
301 West Main Street  
Carrboro, NC 27510  
(919) 918-7332 – phone  
(919) 942-1720 – fax  
[jkleaveland@townofcarrboro.org](mailto:jkleaveland@townofcarrboro.org) – email  
[www.townofcarrboro.org](http://www.townofcarrboro.org) – Town of Carrboro Homepage  
[www.townofcarrboro.org/pzi/zoning.htm](http://www.townofcarrboro.org/pzi/zoning.htm) -- Zoning Division Homepage



**From:** [Henry Wells](#)  
**To:** [Jeff Kleaveland](#)  
**Cc:** [Charlie Musser](#); [Randy Dodd](#)  
**Subject:** FW: 307 Lloyd Easement Request across Town Property (408 Lloyd)  
**Date:** Tuesday, December 11, 2012 9:59:01 AM  
**Attachments:** [image001.png](#)  
[DWQ Memo 50" Buffer Clarification at Point of Stream.pdf](#)  
[NCDWQ Stream ID v.4.11 Mod Nat Strm def.pdf](#)  
[NCAC 02T.0305 Util Des Separations.pdf](#)

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Jeff,

Here are our comments on the Easement Request.

Henry

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**From:** Charlie Musser  
**Sent:** Monday, December 10, 2012 8:40 PM  
**To:** Henry Wells  
**Subject:** RE: 307 Lloyd Easement Request across Town Property (408 Lloyd)

Henry,

I have attached some items that may be relative to the issues discussed below. The first is an NCDWQ memo, dated 3-10-08 explaining the method for establishing a terminal point for mapping buffers in the regulated watersheds of that day. Conditions are shown for a stream entering and/or exiting a pipe. Interesting from several standpoints, but for this subject note that the pipe is described as the "start and stop point of a stream that is subject to the.....buffer rules". More recent guidance may have been issued since this memo date but I am not aware of any. For a definitive answer on whether a piped watercourse may be a "Modified Natural Stream", don't count on the definition in the attached NCDWQ Stream ID Manual v.4.11. It doesn't even mention pipes. Ditches are presented as though they are the only artificial drainage features in existence. For some clarity though (and consistence with the previous document) it does indicate that artificial features are not streams.

Regardless of the present condition or regulation, Randy is correct in pointing out that the act of daylighting may present a future opportunity for the Town to pursue a project that would benefit water quality, and that the grant of an easement could create future constraints for such endeavors. The sewer profile drawing certainly indicates that any attempt to remove or replace the storm drain pipe would expose the proposed plastic sewer service. The third attachment is provided for information only. OWASA is the agency that would decide if the hi-lighted portion of the NCAC 02T rule on minimum clearances between sewer lines and storm drain pipes is applicable in this case.

Charlie Musser, Jr., RLA  
Sungate Design Group, PA

---

**From:** Henry Wells  
**Sent:** Monday, December 10, 2012 8:17 AM  
**To:** Charlie Musser  
**Subject:** FW: 307 Lloyd Easement Request across Town Property (408 Lloyd)



Michael F. Easley  
Governor

William G. Ross, Jr., Secretary  
Department of Environment and Natural Resources

Coleen, H. Sullins, Director  
Division of Water Quality

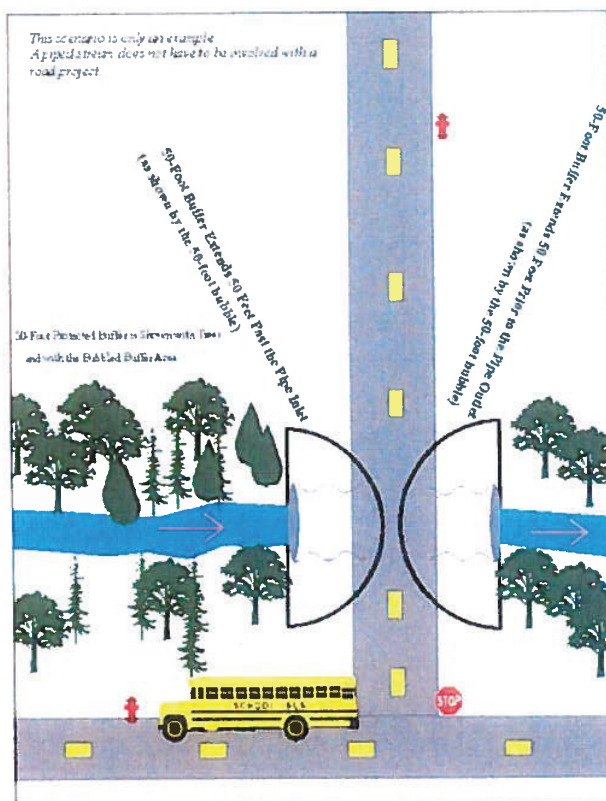
March 10, 2008  
Buffer Interpretation/Clarification #2008-018

## MEMORANDUM

**RE:** There has been a need to clarify how to measure the 50-foot buffer at the point where a stream ceases to be piped or "daylights" (the start point of a stream) as well as how to measure the 50-foot buffer at the point where a "daylighted" stream becomes piped (the stop point of a stream), per the Neuse River Basin Buffer Rule 15A NCAC 2B.0233(4), the Tar-Pamlico River Basin Buffer Rule 15A NCAC 2B.0259(4), the Randleman Lake Water Supply Watershed Buffer Rule 15A NCAC 2B.0250(3), and the Catawba River Basin Buffer Rule 15A NCAC 2B.0243(4).

**Solution:** In the case where a stream has been piped and then daylights, the buffer start point of that stream is a "bubble" arcing 50-feet upstream of the pipe. In the case where a daylighted stream becomes piped, the buffer stop point is a "bubble" arcing 50-feet downstream from the pipe.

*\*The drawing below illustrates the 50-foot buffer "bubble" at the start and stop points of a stream that is subject to the above-mentioned buffer rules\*.*



Signature: \_\_\_\_\_

Date: \_\_\_\_\_

One  
North Carolina  
Naturally

401 Wetlands Certification Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1650  
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604  
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: <http://h2o.enr.state.nc.us/newetlands>

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However, please note that the identification method was designed with redundancy among the indicators to allow for reasonably accurate ratings even after a recent precipitation.

### **Ditches and Modified Natural Streams**

In many parts of North Carolina it may be difficult to differentiate between an artificial feature (e.g. ditch or canal) and a natural stream that has been modified (e.g. straightened or relocated). There are a variety of techniques that can be employed to help make this distinction. The topographic lines depicted on a USGS topographic map may indicate a natural valley in which a natural stream could be present. Parallel topographic contour crenulations (V-shaped contour lines) with angles of 90° or less can be indicative of the presence of a stream. Features located outside of a natural crenulation (i.e. moving across a slope rather than perpendicular to it) may not be natural or, alternatively, may be a relocated stream. Additionally, NRCS county soil survey maps often show the presence of linear soil mapping units, which are indicative of alluvial deposits and the presence of a stream. If the feature in question is determined to be artificial, scoring is not necessary for buffer rule applications in North Carolina since those rules do not apply to ditches. The exception is the Randleman Watershed Buffer Rules (see rules).

### **Field Form Indicators and Descriptions**

#### **A. Geomorphic Indicators**

##### **1. Continuity of Channel Bed and Bank**

*Throughout the length of the reach, is the stream clearly defined by having a discernable bank and streambed?*

The bed of a stream is the channel bottom and the physical confine of the "normal" baseflow or low water flow. Streambanks are vertical or sloped areas rising from the bed of the channel and are the lateral constraints (channel margins) of flow during all stages but flood stage. Flooding occurs when a stream overflows its banks and partly or completely fills its floodplain. As a general rule, the bed is that part of the channel at or near "normal" flow, and the banks are that part above the water line. However, because discharge varies, this differentiation is subject to local interpretation. Usually the bed is clear of terrestrial vegetation, while the banks are subjected to water flow only during high stages, and therefore can support vegetation much of the time. This indicator will lessen and may diminish or become fragmented upstream as the stream becomes ephemeral.

**Strong** – The stream has a well developed channel with continuous bed and bank present throughout the length of the reach.

**Moderate** – The majority of the stream channel has a continuous bed and bank. However, there are obvious interruptions.

**Weak** – The majority of the stream channel has obvious interruptions in the continuity of bed and bank. However, there is still some representation of the bed and bank sequence.

**Absent** –The stream has a very poorly developed channel in which little or no bed and bank can be distinguished.

**15A NCAC 02T .0305 DESIGN CRITERIA**

(a) Construction of sewers and sewer extensions are prohibited in the following areas unless the specified determinations are made:

- (1) in a natural area designated on the State Registry of Natural Heritage Areas by a protection agreement between the owner and the Secretary, unless the Commission agrees that no prudent, feasible or technologically possible alternative exists; or,
- (2) in a natural area dedicated as a North Carolina Nature Preserve by mutual agreement between the owner and State of North Carolina (Governor and Council of State), unless the Commission recommends and the Governor and Council of State agree that no prudent, feasible or technologically possible alternative exists;

(b) Engineering design documents. The following documents shall be prepared prior to submitting a permit application to the Division. If submittal of such documents is not requested in the permitting process (i.e., fast-track), they shall be available upon request by the Division. If required by G.S. 89C, a professional engineer shall prepare these documents:

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

- (1) A plan and profile of sewers, showing their proximity to other utilities and natural features, such as water supply lines, water lines, wells, storm drains, surface waters, roads and other trafficked areas.
- (2) Design calculations including pipe and pump sizing, velocity, pump cycle times and level control settings, pump station buoyancy, wet well storage, surge protection, detention time in the wet well and force main, ability to flush low points in force mains with a pump cycle, and downstream sewer capacity analysis.
- (3) Specifications relative to the sewer system describing all materials to be used, methods of construction and means for assuring the quality and integrity of the finished project.

(c) All deeds, easements and encroachment agreements necessary for installation and operation and maintenance of the system shall be obtained prior to operation of the system.

(d) There shall be no by-pass or overflow lines designed in any new sewer system except for valved piping and appurtenances intended for emergency pumping operation(s).

(e) A minimum of two feet protection from a 100-year flood shall be provided unless there is a water-tight seal on all station hatches and manholes with control panels and vents extending two feet above the 100-year flood elevation.

(f) The following minimum separations shall be provided for the sewer system except as allowed by Paragraph (g) of this Rule:

Storm sewers and other utilities not listed below (vertical)	24 inches
Water mains (vertical-water over sewer including in benched trenches)	18 inches
or (horizontal)	10 feet
Reclaimed water lines (vertical – reclaimed over sewer)	18 inches
or (horizontal)	2 feet
Any private or public water supply source, including any wells, WS-I waters or Class I or Class II impounded reservoirs used as a source of drinking water	100 feet
Waters classified WS (except WS-I or WS-V), B, SA, ORW, HQW, or SB from normal high water (or tide elevation) and wetlands	50 feet
Any other stream, lake, impoundment, or ground water lowering and surface drainage ditches	10 feet
Any building foundation	5 feet
Any basement	10 feet
Top slope of embankment or cuts of 2 feet or more vertical height	10 feet
Drainage systems and interceptor drains	5 feet
Any swimming pool	10 feet
Final earth grade (vertical)	36 inches

(g) Alternatives where separations in Paragraph (f) of this Rule cannot be achieved. Nothing in this Paragraph shall supersede the allowable alternatives provided in the Commission for Public Health Public Water Supply Rules (15A NCAC 18C), Commission for Public Health Sanitation Rules (15A NCAC 18A) or the Groundwater Protection Rules (15A NCAC 02L and 15A NCAC 02C) that pertain to the separation of sewer systems to water mains or public or private wells:

- (1) For storm sewers, engineering solutions such as ductile iron pipe or structural bridging to prevent crushing the underlying pipe.
- (2) For public or private wells, piping materials, testing methods and acceptability standards meeting water main standards shall be used where these minimum separations cannot be maintained. All appurtenances shall be outside the 100 foot radius. The minimum separation shall however not be less than 25 feet from a private well or 50 ft from a public well.
- (3) For public water main horizontal or vertical separations, alternatives as described in 15A NCAC 18C .0906(b) and (c).
- (4) For less than 36-inches cover from final earth grade, ductile iron pipe shall be specified. Ductile iron pipe or other pipe with proper bedding to develop design supporting strength shall be provided where sewers are subject to traffic bearing loads.