



## LOWELL PLANNING AND ZONING BOARD MEETING

### Regular Meeting

Tuesday, February 7th, 2023, 6:00 P.M.

- 
1. **CALL TO ORDER**
  2. **DETERMINATION OF QUORUM**
  3. **PLEDGE OF ALLEGIANCE**
  4. **CHANGES TO AND APPROVAL OF AGENDA**
  5. **APPROVAL OF MINUTES FROM January 7<sup>th</sup>, 2023, MEETING**
  6. **OLD BUSINESS**
    - A. **None**
  7. **NEW BUSINESS**
    - A. **General Rezoning Application - ZMA23-01- ROB PRESSLEY/LOWELL OZB, LLC**

Request to rezone approximately 4.48 acres from VSR (Vehicle Service & Repair District) and CIV (Civic District) to IND (Industrial District). The subject properties are located west of Phillips Street and east of Peachtree Street. The property is owned by LOWELL OZB, LLC
    - B. **Text Amendment Application - ZTA23-01 - ROB PRESSLEY/LOWELL OZB, LLC**

Request to amend Article 3 - *Definitions, Abbreviations and Symbols*, Article 8 - *Districts*, Article 9- *Building & Lot Type Standards & Specifications* & Article 12 - *Off-Street Parking, Stacking and Loading Areas* of the Lowell Development Ordinance to allow for a new classification/use category of “Industrial Flex Space” .

**C. Text Amendment Application - ZTA23-02 - LOWELL STAFF**

Request to amend Section 8.4-5 - *Civic District (CIV)*, of the Lowell Development Ordinance to reduce the Minimum Lot Size and Minimum Lot Width.

**D. Reservation of Utility Service - GASTON COUNTY PUBLIC WORKS - LOWELL ELEMENTARY SCHOOL**

Request to extend water service outside City of Lowell municipal limits and set new water service to feed Lowell Elementary School.

**8. ADJOURNMENT**

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**UPCOMING IMPORTANT DATES**

February 14<sup>th</sup>, 2023 - City Council Meeting - 6:00pm, Lowell City Hall

March 7<sup>th</sup>, 2023 - Planning Board Meeting - 6:00pm, Lowell City Hall

# MINUTES

Lowell Planning and Zoning Board  
Regular Meeting  
Tuesday, January 3, 2023, 6:00 P.M.

## I. CALL TO ORDER

Chairman Scott Wilson, called the meeting to order at 6:00 p.m. Planning Board members present: Heather Seay, David Jennings, Troy Roberts Sr., and Norris Lamb. Staff members present: Joe Gates, Planning Director, and Cheryl Ramsey, City Clerk. Members of the public were also in attendance.

## II. DETERMINATION OF QUORUM –it was determined a quorum was reached.

## III. PLEDGE OF ALLEGIANCE - led by Scott Wilson

## IV. CHANGES TO AND APPROVAL OF AGENDA – No changes were proposed to the agenda. Board Member Lamb made a motion to approve the agenda, seconded by Board Member Roberts. The vote was unanimously in favor.

## V. APPROVAL OF MINUTES FROM THE NOVEMBER 1, 2022, MEETING.

Motion was made by Board Member Jennings to approve the previous minutes, seconded by Board Member Seay. The vote was unanimously in favor.

## VI. OLD BUSINESS – None

## VII. NEW BUSINESS

A. Consideration of Master Sign Plan Application -3211 Aberdeen Blvd. (previously 3301 Lineberger Rd) – 306406 Presented by Joe Gates. This is regarding the large Newell building off Interstate 85. The applicant is asking for the maximum size limit to be increased to 96.4 feet from 32 feet. Mr. Gates then pulled up the building plans for members to review. Board Member Lamb asked if there is currently a sign here. Mr. Gates said yes, the 96.4 ft sign is already up. Dana Stowe of Sign Connection explained the complicated process of obtaining a permit. The City of Gastonia mistakenly allowed the business to increase the signage square footage. It was later determined that this building is actually in Lowell and now they are requesting approval to the increase.

Chairman Wilson asked if the sign was lit up. Ms. Stowe said it is, but it is not a bright overpowering type of light and was nicely done. Mr. Gates then showed the board what the 32ft size sign looked like. Board Member Lamb noted that the

32ft sign is too small for the size building and would be difficult to find. Ms. Stowe mentioned that even the 96.4 ft size is hard to see from the highway.

Chairman Wilson asked what was on the other side of the building. Mr. Gates said that Northpoint bought the area, and no homes would be affected as it will be entirely within an industrial park and no residences.

Mr. Gates informed the board that in reviewing the application per the procedure outlined in Section 17.10 Review Procedure of the LDO, they needed to take the following into consideration:

1. The extent to which the proposed master sign plan deviates from the sign allowances otherwise applicable in this Article.
2. The rationale provided by the applicant for the deviations.
3. The extent to which the master sign plan promotes City goals associated with community character, wayfinding, pedestrian-orientation, and business identification.
4. The degree to which the master sign plan creatively and effectively addresses the issues and constraints unique to the site with regard to signage.

With no other questions, Board Member Lamb made a motion to increase the signage on the discussed property from 32 to 96.4 ft to make it more visible and more accessible for people to find the business, seconded by Board Member Jennings. The vote was unanimously in favor. Mr. Gates stated he will ensure the vote goes to the City Council's next public hearing in February.

**VIII. ADJOURN**

Motion was made to adjourn by Board Member Roberts, seconded by Board Member Seay. The vote was unanimously in favor. Adjourned at 6:19 p.m.

AFFIRM:

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Chair, Scott Wilson

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Cheryl Ramsey, City Clerk





**To:** Lowell Planning Board  
**From:** Joe Gates, Planning Director  
**Date:** Friday, February 3, 2023  
**RE:** AGENDA ITEM 7A: Request to rezone approximately 4.48 acres from VSR (Vehicle Service & Repair District) and CIV (Civic District) to IND (Industrial District). The subject properties are located west of Phillips Street and east of Peachtree Street. The property is owned by LOWELL OZB, LLC

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**File # ZMA23-01**

**OWNER:** LOWELL OZB, LLC  
**APPLICANT:** ROB PRESSLEY, LOWELL OZB LLC  
**PROPOSED ZONING ACTION:** Parcel 306363: Rezone from IND/VSR to IND  
Parcel 127737: Rezone from CIV to IND  
**LOCATION:** Located at 701 W. First Street and 615 Phillips St  
**TRACT SIZE:** Parcel 306363: 4.36 acres  
Parcel 127737: 0.12 acres

**EVALUATION:**

Background and Site Description

Subject hearing involves a request to rezone approximately 4.48 acres from VSR (Vehicle Service & Repair District) and CIV (Civic District) to IND (Industrial District). The subject properties are located west of Phillips Street and east of Peachtree Street. The property is owned by LOWELL OZB, LLC

Description of Adjoining Properties and Zoning

The Storage Solutions Warehouse is located to the northeast of this property and is currently zoned IND (Industrial). Directly across the street, the applicant owns approximately 10 acres that is zoned IND (Industrial). There are existing single-family homes (zoned MU-1, MU-2 and SFR-4 ) to the east, west and south of these properties.

Public Facilities

Public water and sewer currently are in the area and could serve this site.

Comprehensive Plan

The Lowell Future Land Use Map in the 2040 Lowell City Plan indicates Employment/Manufacturing and Civic uses as suitable for the subject property.

Conclusion

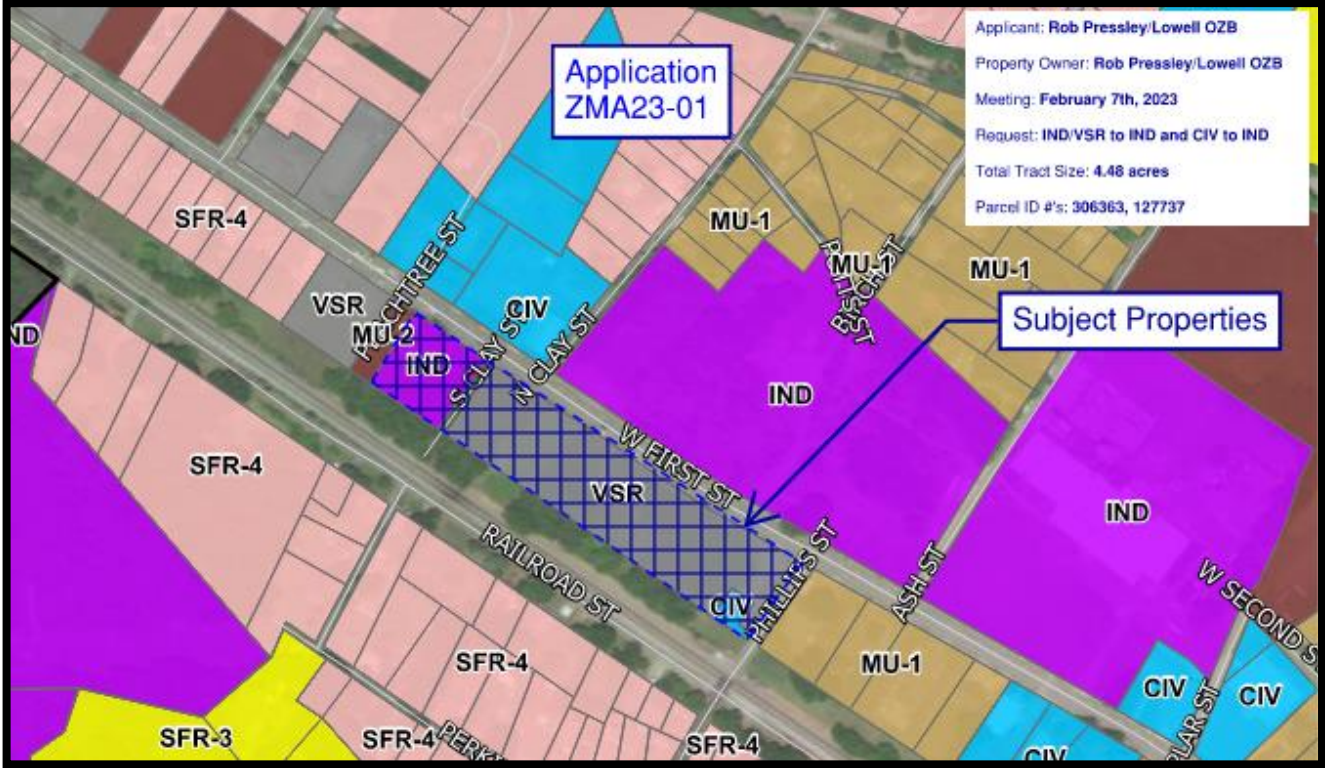
The applicant is requesting a zoning map amendment to the official zoning map. Based on the existing zoning and other industrial zoning in the proximity, **staff recommends approval of the rezoning request.**

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Joe Gates, CZO  
Planning Director

**Statement of consistency and reasonableness (motion to approve):** The proposed rezoning is consistent with the land use designation identified in the Lowell City Plan 2040 and is in compliance with the current zoning in the area. Therefore, the Planning Board considers an affirmative vote to be reasonable and in the public interest.

**Statement of consistency and reasonableness (motion to deny):** While the proposed rezoning can be considered consistent with the Lowell City Plan 2040, the Planning Board considers an affirmative vote to not be reasonable and not in the public interest.



APPLICATION FOR REZONING

TO: THE CITY OF LOWELL

APPLICATION #: ZMA23-01  
DATE FILED: January 13th, 2023  
FEE PAID: YES

The undersigned does (do) hereby respectfully make application and request to the City of Lowell to amend the Zoning Ordinance and/or change the Zoning Map of the City of Lowell as hereinafter requested and in support of this application the following facts are shown:

- 1) It is requested that the real property hereinafter described be rezoned from:

VSR & CIV to IND

- 2) The real property sought to be rezoned is owned in fee simple by:

LOWELL OZB, LLC

as evidenced in Deed Book 5294 & 5363 Page 645 & 1485 of the Gaston County Register of Deeds Office. There are no restrictions or covenants of record appearing in the chain of title which would prohibit the property from being put to the use specified in Paragraph 1 of this application.

- 3) The address of the real property sought to be rezoned is: 701 W. FIRST STREET & 615 PHILLIPS STREET and / or a further legal description by metes and bounds of said realty is attached to this application.

- 4) The real property sought to be rezoned is located on the SOUTH side of W. FIRST STREET between PHILLIPS STREET and CLAY STREET (street) (street)

CLAY STREET and further identified in Gaston County Tax Book \_\_\_\_\_, Map \_\_\_\_\_, Parcel(s) 127737 & 306363 Said Lot(s) has (have) a frontage of 1000 feet and a depth of 300 feet, or 7.12 acres.

- 5) The following are all the adjoining property owners who own land adjacent to all sides, front and rear, which shall include properties across the street from the property sought to be rezoned. The names and addresses listed below shall be determined

by the most recent tax listing as recorded in the Gaston County Tax Office. (Use additional pages if necessary.)

| NAME              | ADDRESS |
|-------------------|---------|
| SEE Exhibit A & B |         |
|                   |         |
|                   |         |
|                   |         |
|                   |         |
|                   |         |
|                   |         |

- 6) The applicant understands that a letter stating the date, time and place for the Public Hearing for the rezoning of said property shall be mailed to each of the parties listed in Paragraph 5 at least ten (10) days prior to the said Public Hearing.
- 7) If the applicant is not the legal owner of the property sought to be rezoned, the legal owners names and addresses shall be listed below. Owners shall be determined by the most recent tax listing as recorded in the Gaston County Tax Office. (Use additional pages if necessary.)

| NAME | ADDRESS |
|------|---------|
| N/A  | N/A     |
|      |         |
|      |         |
|      |         |

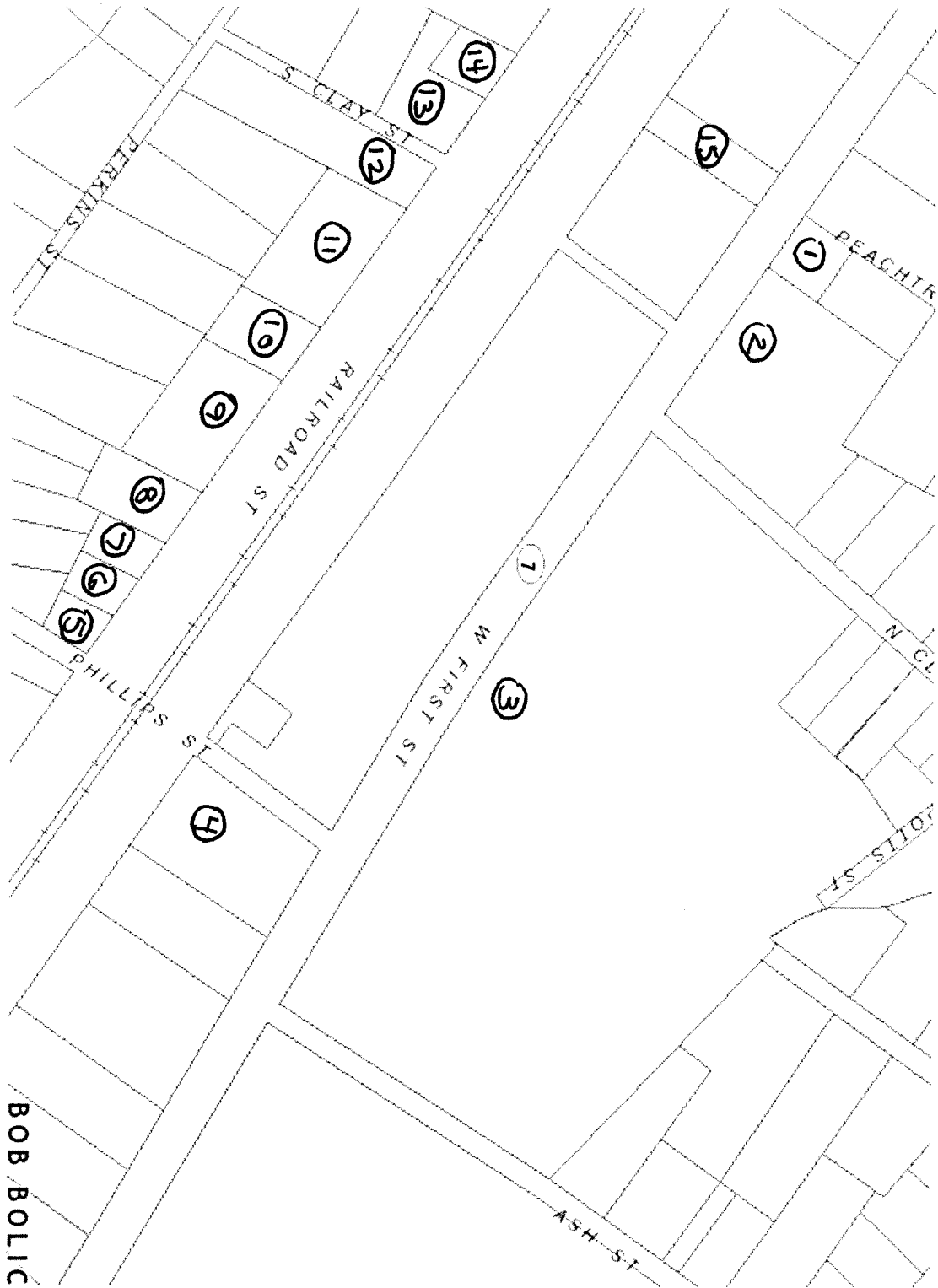
- 8) A map or drawing identifying the real property requested to be rezoned and all attached properties with their designated zoning districts shown shall be attached to this application.

Applicant(s) Name: LOWELL OZB, LLC ATTN: ROB PRESSLEY  
Address: 2320 W. MOREHEAD ST., 2ND FL., CHARLOTTE, NC 28208  
Telephone: (704) 904-4053

Applicant's Signature: , MANAGER

City of Lowell  
101 West First Street  
Lowell, NC 28098

Telephone: 704 – 824 - 3518



ADJOINING PROPERTY OWNER MAP

EXHIBIT A

BOB BOLIC

**EXHIBIT B  
ADJOINING PROPERTY OWNERS**

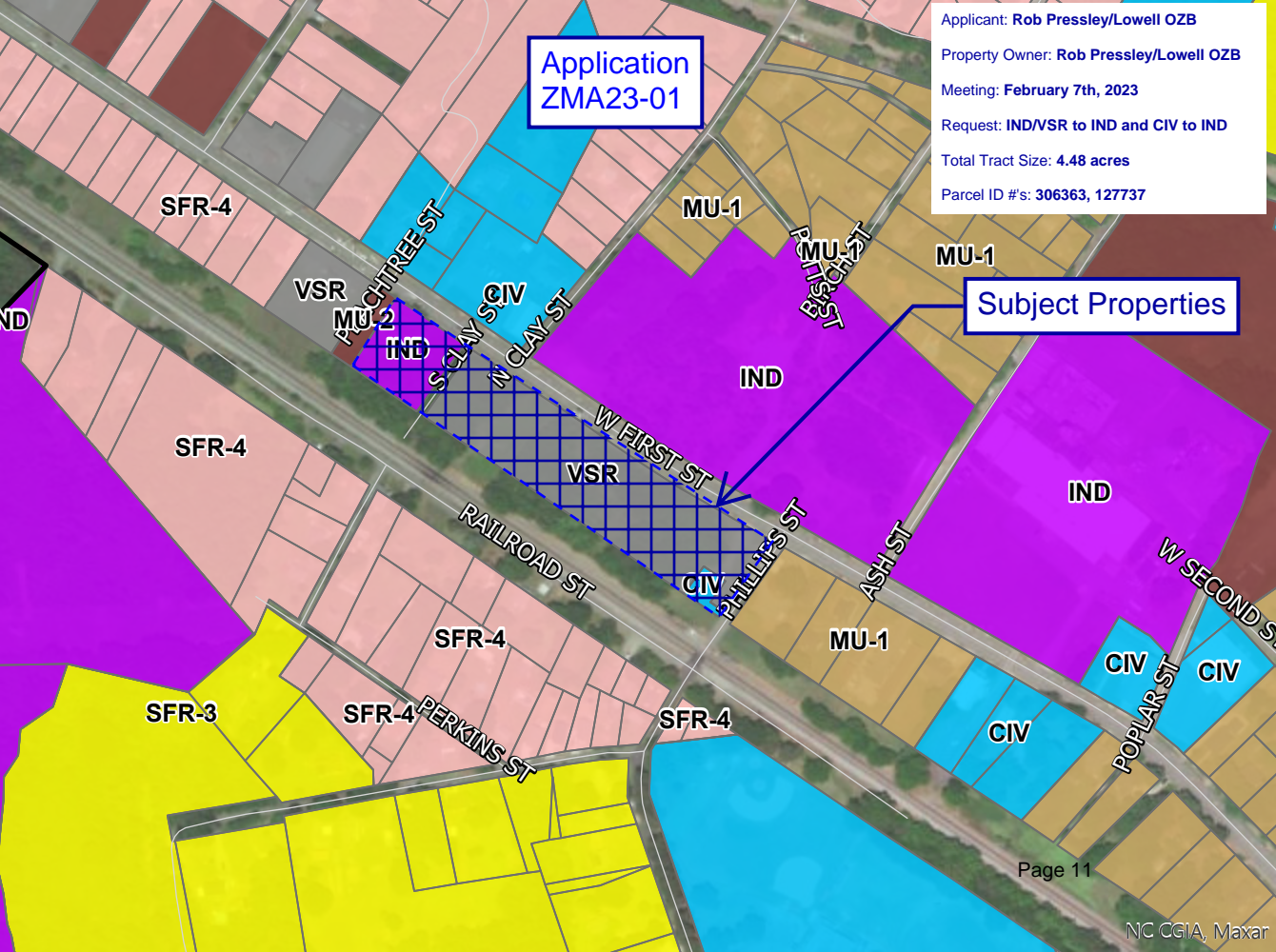
| <u>ID#</u> | <u>PARCEL</u> | <u>OWNER</u>                   | <u>OWNER ADDRESS</u>                                     |
|------------|---------------|--------------------------------|--|
| 1          | 127662        | Lowell Church of God           | P.O. Box 802, Lowell, NC 28098                           |
| 2          | 127667        | Lowell Church of God           | P.O. Box 802, Lowell, NC 28098                           |
| 3          | 306362        | Lowell OZB, LLC                | 2320 W. Morehead St, 2nd Fl., Charlotte, NC 28208        |
| 4          | 127735        | Bikas Jana Vasillios           | 221 Scodfield Rd., Charlotte, NC 28209                   |
| 5          | 127776        | John L. & Natalie R. Lancaster | 601 RailroadSt., Lowell NC 28098                         |
| 6          | 127775        | Randy S. Shavers               | 603 Railroad St., Lowell, NC 28098                       |
| 7          | 127771        | Michael A. Barrett             | 605 Railroad St., Lowell, NC 28098                       |
| 8          | 214240        | Jeffrey and Candace Funderburk | P.O. Box 662, Lowell, NC 28098                           |
| 9          | 127767        | Shirley M. Broome              | 709 Railroad St., Lowell, NC 28098                       |
| 10         | 127764        | Christine E. & Benny K. Hyman  | 5033 Abbingtton Way, Belmont, NC 28012                   |
| 11         | 127763        | Blue Dog Investments, LLC      | 726 Red Bird Ln., Clover, SC 29710                       |
| 12         | 127760        | Southeast Forestlands, LLC     | 1036 Peninsula Dr., Belmont, NC 28012                    |
| 13         | 216259        | VSP Charlotte, LLC             | 3495 Piedmont Rd NE, Bldg 11, Ste 300, Atlanta, GA 30305 |
| 14         | 127756        | Marilyn M. Crunkleton          | 112 Rainbow Cir., Clover, SC 29710                       |
| 15         | 127743        | DO/28 Invetments, LLC          | P.O. Box 8, Lowell, NC 28098                             |



Application  
ZMA23-01

Applicant: Rob Pressley/Lowell OZB  
Property Owner: Rob Pressley/Lowell OZB  
Meeting: February 7th, 2023  
Request: IND/VSR to IND and CIV to IND  
Total Tract Size: 4.48 acres  
Parcel ID #'s: 306363, 127737

Subject Properties





**To:** Lowell Planning Board

**From:** Joe Gates, Planning Director

**Date:** Friday, February 3, 2023

**RE:** AGENDA ITEM 7B: Subject hearing involves a request to amend Article 3 - Definitions, Abbreviations and Symbols, Article 8 - Districts, 9- Building & Lot Type Standards & Specifications & Article 12 - Off-Street Parking, Stacking and Loading Areas of the Lowell Development Ordinance to allow for a new classification/use category of “Industrial Flex” that would be added to the Table of uses allowed in the Industrial Zoning District.

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In discussions with the applicant regarding potential development of property in the IND (Industrial) district, staff and the applicant reviewed the permitted uses and other development requirements required by the Lowell Development Ordinance.

After reviewing our ordinance, the applicant is proposing additional standards to the Lowell Development Ordinance to allow for a category of development known as “Industrial Flex Space”. This use differs from others in our uses table because it allows for a broader amount of uses under this “type” and allows for development of sites when the specific “end user” is unknown but the general type of development is known.

If approved, these revisions would modify Articles 3 ,8, 9 and 12 of the Lowell Development Ordinance and would add standards for a new type of development that is not currently addressed in our ordinance. **Staff recommends approval as presented below.**

**Statement of Reasonableness and Consistency (motion to approve):** This ordinance is consistent with the *Lowell 2040 Comprehensive Plan* and any applicable duly adopted small areas plans and is reasonable and in the public interest because it provides development provisions to the Lowell Development Ordinance and supports the goal of providing various options for development to the City.

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- **Articles 3 - Definitions** - *add the following word and definition.*

**Industrial Flex Space** - A building or portion thereof that can be used and/or easily converted to use for office, sales, distribution, or storage as allowed in the IND (Industrial) Zoning District. These spaces will typically have larger percentage of office and/or showroom space than would typically be found in warehouse and distribution buildings.

- **Article 8 Districts, Table 8.1 Table of Use** - *Add "Industrial Flex Space" to table of uses under the IND (Industrial) zoning District.*

| Table 8.1 - Table of Uses | SIC | Industrial (IND) |
|---------------------------|-----|------------------|
| Industrial Flex Space     |     | <u>I</u>         |

- **Article 9 Building and Lot Type Standards, Section 9.8-2 Highway Lot Type Standards(A)(4)** - *Add unlined language below to existing section.*

**Section 9.8-2 Highway Lot Type Standards(A) Building Placement, Parking and Vehicle Access**

Parking shall be located to the rear and/or side of the building, except parking for Industrial Flex Space. Parking for Industrial Flex Space uses shall be permitted in the front yard and shall be limited to one row of parking between the building and street. Side-yard parking may occupy no more than 35% of the principal frontage line and shall be buffered from the street according to the buffer requirements as set forth in Article 11. Parking shall not be placed in any side-yard abutting an intersecting street. Where dimensions of existing lots restrict parking behind buildings, the limitations on side-yard parking may be modified.

- **Article 12 Off-Street Parking, Stacking and Loading Areas** - *add the following underlined text to Table 12-1.*

| Type of Land Use                      | Off-Street Parking Spaces to be Provided:            |   |
|---------------------------------------|--|---|
|                                       | Minimum  | Maximum   |
| Office, Business, and Industrial Uses |  |   |
| <u>Industrial Flex</u>                | <u>1.5 spaces per 1,000 Sq. ft. gross floor area</u> | <u>2.5 spaces per 1,000 Sq. ft. gross floor area.</u> |



**CITY OF LOWELL  
PETITION FOR ZONING TEXT AMENDMENT CHANGE**

**Staff Use Only:**

**Scheduled for Planning and Zoning Board consideration:**

Date: FEBRUARY 7TH, 2023 Time: 6PM Location: LOWELL CITY HALL

~~Date written notice sent to Property Owner: \_\_\_\_\_~~

Planning and Zoning Board recommendation: \_\_\_ Approved \_\_\_ Denied

Notes/Comments: \_\_\_\_\_  
\_\_\_\_\_

**Scheduled for City Council consideration:**

Date: APRIL 11TH, 2023 Time: 6PM Location: LOWELL CITY HALL

Dates advertised: (a) first notice: \_\_\_\_\_ (b) second notice: \_\_\_\_\_

City Council recommendation: \_\_\_ Approved \_\_\_ Denied

Date applicant notified of City Council action: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## PETITION FOR ZONING TEXT AMENDMENT CHANGE

### #2- State the exact nature of the text change desired:

**Summary:** Petitioner desires to add an “Industrial Flex” category to Lowell’s Development Ordinance as part of it Industrial Zoning. The following outlines 1) The current or closely related text related to the proposed new Industrial zoning category and 2) The specific change/addition requested.

### ARTICLE #3- *Definitions, Abbreviations and Symbols*

**Existing Text:**

NONE

**Proposed Text:**

Add a definition for Industrial Flex. Petitioner offers the following:

“Industrial Flex- Buildings allowing for a wide range of office, showroom and warehouse uses. They can be used for many purposes (Permitted Uses specifically outlined in Use Table 8.1) and are easier to retrofit to meet a company’s needs than typical warehouse buildings allowed for in Industrial Zoning. This flexibility is ideal for a wide range of companies that need office or showroom space with a warehouse component. Flex buildings usually have slightly-lower ceiling clear height (14–24 ft clear) and have a larger percentage of office or showroom space than a typical distribution warehouse building. They also have more parking, typically front loading, and nicer landscaping than other industrial buildings and warehouse loading contained in the rear of the building.”

### ARTICLE #8- *Districts (Including Table of Uses 8.1)*

**Existing Text:**

NONE

**Proposed Change:**

Add an “Industrial Flex” category with generally all the same permitted uses as allowed for in the Industrial zoning and shown in Table 8.1.

**ARTICLE #9- *Building & Lot Type Standards & Specifications***

**Existing Text:**

9.8-2(A).(4.)- Parking shall be located to the rear and/or side of the building. Side-yard parking may occupy no more than 35% of the principal frontage line and shall be buffered from the street according to the buffer requirements as set forth in Article 11. Parking shall not be placed in any side-yard abutting an intersecting street. Where dimensions of existing lots restrict parking behind buildings, the limitations on side-yard parking may be modified.

**Proposed Text:**

In order to segregate office/showroom traffic from loading and truck traffic, Petitioner requests the following language: “Parking for Industrial Flex shall be permitted in the front, side and rear yard with parking in front of the building limited to one row and properly screened from the street.”

**ARTICLE #12- *Off Street Parking, Stacking and Loading Areas***

**Existing Text:**

NONE

**Proposed Text:**

Since Industrial Flex would house a variety of uses and since most projects developed would be speculative, it would be impossible to apply any existing parking ratios to a Flex project. Therefore, Petitioner requests the following parking ratios be considered for the Industrial Flex zoning category.

Maximum Parking: 2.5 spaces per 1,000 SF  
Minimum Parking: 1.5 spaces per 1,000 SF



**To:** Lowell Planning Board  
**From:** Joe Gates, Planning Director  
**Date:** Friday, February 3, 2023  
**RE:** AGENDA ITEM 7C: Consideration of text amendment request to amend Article 8 Districts - Section 8.4-5 Civic District (CIV)

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The Civic District (CIV) provides a location for educational, medical, governmental, religious, and other institutional uses. Staff is proposing a reduction in the Minimum Lot Size and Minimum Lot Width to allow for more diversity in the size and scale of development in the Civic District.

If approved, these revisions would modify Article 8, Section 8.4-5 Civic District (CIV) of the Lowell Development Ordinance and would modify general standards for developments in the Civic (CIV) District. **Staff recommends approval as presented below.**

**Section 8.4-5 (E) General Standards and Specifications - replace the existing values as underlined below.**

| Minimum Lot Size                         | Minimum Lot Width            | Minimum Front Street Setback | Minimum Rear Yard Setback   | Minimum Side yard setback   | Minimum Side Street Setback Corner Lot  |
|--|------------------------------|------------------------------|---|---|---|
| <del>20,000 SF</del><br><u>10,000 SF</u> | <del>96'</del><br><u>70'</u> | 12'                          | 12' or as required by buffering standards and/or building type whichever is greater | 12' or as required by buffering standards and/or building type whichever is greater | 12' or as required by buffering standards and/or building type whichever is greater |

**Statement of Reasonableness and Consistency (motion to approve):** This ordinance is consistent with the *Lowell 2040 Comprehensive Plan* and any applicable duly adopted small areas plans and is reasonable and in the public interest because it provides development provisions to the Lowell Development Ordinance and supports the goal of providing various options for development to the City.



**To:** Lowell Planning Board  
**From:** Joe Gates, Planning Director  
**Date:** Friday, February 3, 2023  
**RE:** AGENDA ITEM 7D: Request to extend water service outside city limits to provided water service to Lowell Elementary School.

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Gaston County Public Works is requesting to extend a City of Lowell public water main from its existing location near the River View subdivision to the Lowell Elementary School property which lies southeast of the neighborhood. The subject property is outside the city limits of Lowell and lies completely within the municipal limits of McAdenville.

Reasons for proposed extension:

- Lowell Elementary School is currently receiving water from the Town of McAdenville. The existing line is at the end of the water line for that municipality which is causing poor water quality and supply issues. This existing line is also undersized for the schools current and future needs.
- Installing a new, larger diameter line from Lowell would provide better water quality and supply the school with the necessary water supply needed to meet the demands.
- The project would also include the installation of a new fire hydrant. Currently, the closest fire hydrant is located at the intersection of Power Drive and River View Dr (over 300ft away).

Per the City of Lowell *Utility Allocation and Extension Policy*, Reservation Process, the Planning Board shall review and make recommendation to the City Council for consideration and approval of an application that requests allocation for any project **outside the incorporated jurisdiction of the City.**

Per Section C of the *Utility Allocation and Extension Policy*. The following hierarchy shall apply to the Boards evaluation of this request.

**C. Consistent with the intent of this policy and other public statements and policies made by the City Council, the following hierarchy shall apply to the evaluation of utility allocation requests:**

1. Location: The priority for utility extension will be given to applicants whose subject extension is to service an area that is within the corporate limits or otherwise incorporated into the City of Lowell.
2. Industrial projects and other major employers.
3. Commercial development projects with a mixed-use element.
4. Non-profit or civic uses which contribute to or attract significant economic development to the City.
5. Additional phases attached to residential projects with a proven record of quality product and economic success.
6. Residential projects that include tangible, high quality community amenities.
7. Residential projects that include diverse products and opportunities.
8. Residential projects, not otherwise described above.

The site plan, application and the *Utility Allocation and Extension Policy* has been added to this agenda item for your reference and review.



# CITY OF LOWELL



*e-mail this application along with utility plan to:*

Public Works Director, City of Lowell  
 101 W. First Street  
 Lowell, NC 28098  
 tshrewsbury@lowellnc.com

## Capacity Assurance Review Application

### FLOW ACCEPTANCE / WILLINGNESS TO SERVE

All requests require a utility drawing indicating that proposed water/sewer connection point(s) and sizes.

#### **SELECT SUBMITTAL TYPE:**

FLOW ACCEPTANCE  (RESERVES CAPACITY)

DATE: 01/16/2023

WILLINGNESS TO SERVE  (DOES NOT RESERVE CAPACITY)

### Requested By

|                   |                  |            |                    |                                      |              |
|-------------------|------------------|------------|--------------------|--------------------------------------|--------------|
| William H.        | Armstrong        |            |                    | Armstrong Glen, P.C.                 |              |
| <i>First Name</i> | <i>Last name</i> |            |                    | <i>Company, HOA, Developer, etc.</i> |              |
| P.O. Box 7326     |                  |            |                    |                                      |              |
| <i>Address</i>    |                  |            |                    |                                      |              |
| Charlotte         | NC               | 28241      | warmstrong@armstor | Apartment/Unit #<br>704-529-0345     |              |
| <i>City</i>       | <i>State</i>     | <i>Zip</i> | <i>Email</i>       | <i>Fax</i>                           | <i>Phone</i> |

### Project Location

|  |              |            |  |              |  |
|--|--------------|------------|--|--------------|--|
| Water Supply to Lowell Elementary School |              |            |  | 704-836-9118 |  |
| <i>Project Name</i>                      |              |            |  | <i>Phone</i> |  |
| 1500 Power Drive                         |              |            |  |              |  |
| <i>Site Address</i>                      |              |            |  |              |  |
| Lowell                                   | NC           | 28098      | Apartment/Unit #<br>ktkiser@gaston.k12.nc.us |              |  |
| <i>City</i>                              | <i>State</i> | <i>Zip</i> | <i>Email</i>                                 |              |  |
| Kristen Kiser                            |              |            |  |              |  |
| <i>Contact Person Name</i>               |              |            |  |              |  |

### Project Information

Complete the following:

1. Project is  new  modification
2. Type of development (15A NCAC 02T.0114 Wastewater Design Flow Rates)
  - a. Residential, apartment \_\_\_\_\_ units
  - b. Residential, townhome/condominium \_\_\_\_\_ units
  - c. Amenity Center (sf) or Pool (people) \_\_\_\_\_ units
  - d. Residential, single-family \_\_\_\_\_ lots
    - i. Public Roads?  Y  N
  - e. Restaurant \_\_\_\_\_ seats
  - f. Retail or retail with food prep \_\_\_\_\_ sf
  - g. Office \_\_\_\_\_ #emp/shift
  - h. Warehouse \_\_\_\_\_ #loading bays
  - i. Hotel or suites \_\_\_\_\_ rooms
  - j. School 540 students
    - i. Cafeteria  Y  N
    - ii. Gym/Locker Rooms  Y  N
  - k. Other (provide flow calculations) See at
3. Will this project have a pool?  Y  N
  - a. If yes, pool must have a 4-inch drain line

4. Will this project have a private sewer lift station?  Y  N
5. Total wastewater flow requested (average daily flow in gpd, show calculations) See m
6. Commercial only: Peak wastewater flow requested (peak hourly flow in GPH): N/A
7. Average Daily Water Demand: 3,400
8. Peak Water Demand (GPM): 46 GP
9. Does this project include a 6-inch or larger private sewer line providing service to multiple buildings?  Y  N
10. Does this project include a 2-inch or larger private water line providing service to multiple buildings?  Y  N

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| <b>City Tracking #:</b> | <b>Map #</b> |
|-------------------------|--------------|
|-------------------------|--------------|

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| <b>Basin</b> | <b>Flow amount (gpd)</b> |
|--------------|--------------------------|
|--------------|--------------------------|

Does the flow transmit through a **City** lift station?  Y  N

If yes, which station?

WWTF **Basin:**

**Bill Armstrong**

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**From:** Kim Carver <k.carver@townofmcadenville.org>  
**Sent:** Tuesday, September 27, 2022 12:08 PM  
**To:** Bill Armstrong  
**Subject:** Lowell Elementary Consumption Report

Hi Bill, below is the information requested for the consumption at Lowell Elementary School. The usage was pulled for the full months school was in full session/very few breaks.

Thanks.

| Full Name                | Service Addr      | Calc Usage | Entry Date |
|--------------------------|-------------------|------------|------------|
| Lowell Elementary School | 1500 POWER DRI... | 56400      | 10/4/2021  |
| Lowell Elementary School | 1500 POWER DRI... | 81600      | 11/3/2021  |
| Lowell Elementary School | 1500 POWER DRI... | 58900      | 12/6/2021  |
| Lowell Elementary School | 1500 POWER DRI... | 50700      | 3/1/2022   |
| Lowell Elementary School | 1500 POWER DRI... | 66900      | 4/5/2022   |
| Lowell Elementary School | 1500 POWER DRI... | 50700      | 5/3/2022   |
| Lowell Elementary School | 1500 POWER DRI... | 65200      | 5/31/2022  |
| Lowell Elementary School | 1500 POWER DRI... | 52400      | 7/7/2022   |
|                          |                   | 482800     |            |

Thanks,

Kim

Kim Carver  
Utility Billing / Planning Secretary  
[k.carver@townofmcadenville.org](mailto:k.carver@townofmcadenville.org)  
Office: 704-824-3190  
163 Main St. McAdenville, NC 28101  
Office Hours: 8:30am-4:30pm M-F  
[www.townofmcadenville.org](http://www.townofmcadenville.org)

City of Lowell  
Policy for Managing Utility Allocations & Extensions

**PURPOSE:** A Policy to Establish the Provision of Water Distribution and Sewer Collection Services to Serve the Corporate Limits of the City of Lowell and Incorporate by Extension Additional Areas Outside the Corporate Limits Which May be Advantageous for Annexation into the City of Lowell, North Carolina.

*WHEREAS*, the City of Lowell, incorporated 1879, for the purpose of establishing essential municipal services for both current and future citizens;

*WHEREAS*, the City of Lowell City Council declares the extension of potable water and sewer collection services into areas of need and areas of future growth to be a major priority; *and*

*WHEREAS*, the City of Lowell City Council desires to establish a sound policy for the management of both water and sewer capacity to promote orderly growth in accordance with the *City of Lowell Comprehensive Land Use Plan*.

**SCOPE/COVERAGE:**

**Section 1 - Policy for Evaluating and Reserving Utility Allocations**

**I. General Principles**

- A. The City of Lowell has allocated substantial capital for investment in the infrastructure necessary to support a growing, prosperous, and healthy community. Water supply and wastewater treatment capacity are among the most important elements of this infrastructure.
- B. Increasing the City's property tax base and/or revenue sources by the expansion and improvement of residential, commercial and industrial land uses and fostering a higher quality of life for its residents are the paramount factors by which utility allocation decisions are based.
- C. Consistent with the intent of this policy and other public statements and policies made by the City Council, the following hierarchy shall apply to the evaluation of utility allocation requests:
  - 1. Location: The priority for utility extension will be given to applicants whose subject extension is to service an area that is within the corporate limits or otherwise incorporated into the City of Lowell.
  - 2. Industrial projects and other major employers.
  - 3. Commercial development projects with a mixed-use element.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

4. Non-profit or civic uses which contribute to or attract significant economic development to the City.
5. Additional phases attached to residential projects with a proven record of quality product and economic success.
6. Residential projects that include tangible, high quality community amenities.
7. Residential projects that include diverse products and opportunities.
8. Residential projects, not otherwise described above.

**II. Reservation Process**

- A. The owner of any project requiring utility service within the City of Lowell shall submit a written application for an allocation. The application shall be in letter form, addressed to the City, and shall include detailed information on the amount of capacity necessary to serve the project, the nature of the project, project schedule in relation to consumption of utility capacity, and other supporting information demonstrating how the project serves the needs and interest of the City of Lowell.
- B. The Planning Board shall review and make recommendation to the City Council for consideration and approval all allocations, which require or may require a daily flow allocation of five thousand gallons (5,000 gpd) or more; any application that requests allocation for any project outside the incorporated jurisdiction of the City; and, any allocation made for a land use category from capacity otherwise set aside for a different land use type.
  1. Residential Subdivision Development, Mixed-use Planned Developments, Commercial and/or Industrial Developments, and Special Use Permits. The City Council shall with deliberation incorporate the evaluation of utility allocation requests into the decision-making process associated with each of the aforementioned review processes established within the City's development standards and specifications. The criteria contained herein for evaluation of utility allocation requests shall be included as elements within the review process for the accompanying land use application with regard to conformity with City of Lowell' policies and ordinances, planning practices, and consistency with the adopted *City of Lowell Comprehensive Land Use Plan* or later version.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

- C. The City Public Works Engineer shall review for approval all incorporated area applications for utility capacity, which require a daily flow allocation of less than five thousand gallons (5,000 gpd) for allocations.
1. The City Public Works Engineer shall consider the goals articulated by this and related City policies when reviewing applications for utility allocations. If an application is denied, the City Public Works Engineer shall state in writing the reasons for denial of the request.
  2. Appeals process. Any applicant whose application for utility service is denied by the City Public Works Engineer and who believes that such denial is inconsistent with the goals and priorities stated by this and related City policies may appeal the denial for review by the City Council for final decision at the next regularly scheduled City Council meeting.
- D. Utility allocations granted under this policy shall require the requestor to post the tap fees within forty-five (45) days of the date the allocation is granted. Failure to pay the tap fees within this period may result in revocation of the allocation.
1. All utility allocations approved by the City shall be effective for a period of twenty-four (24) months. Projects possessing an allocation must start construction within the time shown on the project schedule prepared and submitted by the developer or customer.
  2. Upon request by the applicant and at the discretion of the City Manager, an allocation may be extended for a twelve (12) month period.
  4. At the final expiration date for an unused allocation the City shall rescind the allocation and retain sixty percent (60%) of the applicable fees paid to the City.
  5. Authority of the distributing of utility allocations in association with the City's utility services is held exclusively by the City of Lowell. Utility allocations shall not be redistributed to a third party.
  6. Relinquishment of allocated utilities shall be in accordance with Subsection II.E of this policy.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

- E. An allocation holder may relinquish capacity back to the City subject to the following policies for reimbursement of fees paid:
1. If a project is unsuccessful in obtaining any required City or County permit or approval or any State permit or approval, and the allocation holder relinquishes capacity back to the City within ninety (90) days of the date the allocation is granted, the full amount paid on utility tap fees shall be reimbursed without penalty or other withholding by the City.
  2. If a project is successful in obtaining all required City, County and State approvals and agrees to relinquish the total capacity allocation granted back to the City within ninety (90) days following receipt of final permit approval from the City, then the total amount of the utility capacity fees paid to the City shall be returned without penalty or other withholding by the City.
  3. If a project is unsuccessful in obtaining any required City or County permit or approval or any State permit or approval and holds an allocation for ninety (90) or more days, but relinquishes back to the City the full amount of allocation within fewer than six (6) months beyond the scheduled date for start of construction, then twenty percent (20%) of the total utility tap fees shall be retained by the City and the remaining amount shall be returned to the applicant.
  4. If a project is successful in obtaining all required City, County and State approvals and holds an allocation for ninety (90) or more days following receipt of final permit approval from the City, but relinquishes back to the City the full amount of allocation within fewer than six (6) months beyond the scheduled date for start of construction, then twenty percent (20%) of the total utility tap fees shall be retained by the City and the remaining amount shall be returned to the applicant.
  5. If a project is or is not successful in obtaining all required City, County and State approvals and the allocation holder agrees to relinquish the total capacity allocation granted back to the City after six (6) months beyond the scheduled date for start of construction, but within twelve (12) months beyond the scheduled date for start of construction, then thirty percent (30%) of the total utility tap fees shall be retained by the City and the remaining amount shall be returned to the applicant.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

6. If a project is or is not successful in obtaining all required City, County and State approvals and the allocation holder agrees to relinquish the total capacity allocation granted back to the City after twelve (12) months beyond the scheduled date for start of construction, but within eighteen (18) months beyond the scheduled date for start of construction, then forty percent (40%) of the total utility tap fees shall be retained by the City and the remaining amount shall be returned to the applicant.
  7. If a project is or is not successful in obtaining all required City, County and State approvals and the allocation holder agrees to relinquish the total capacity allocation granted back to the City after eighteen (18) months beyond the scheduled date for start of construction, but within twenty-four (24) months beyond the scheduled date for start of construction, then fifty percent (50%) of the total utility tap fees shall be retained by the City and the remaining amount shall be returned to the applicant.
  8. If a project is or is not successful in obtaining all required City, County and State approvals and has not demonstrated significant construction advancement in the proposed project within twenty-four (24) months beyond the scheduled date for start of construction, then the City shall rescind the allocation and retain sixty percent (60%) of the applicable fees paid to the City and the remaining amount shall be returned to the applicant.
- F. Granting of a utility allocation does not imply or confer approval of any other applications or reviews as may be required by City Ordinance or policy and does not imply or create any vested right per G.S 160D-108.
- G. If the City of Lowell approves an allocation for utility capacity for a project and a permit for such project is ultimately denied by the North Carolina Department of Environmental Quality, its successors or other responsible regulatory agency, then the City of Lowell shall bear no liability for any costs incurred by the applicant, nor bear further responsibility in the matter. In such cases, applicable utility access fees, if previously collected, shall be returned as provided in Subsection II.E.



City of Lowell  
Policy for Managing Utility Allocations & Extensions

**III. Capacity Accounting**

- A. Due to weather related factors, the regulatory environment, and the dynamic nature of both water resources and wastewater flow and treatment, accounting of available utility capacity is, by its very nature, inexact. The City of Lowell shall seek to track the amount of capacity that may be available for allocation; however, such reports do not constitute a policy statement, commitment or guarantee on the amount of capacity available for allocation.
  - 1. The City Public Works Engineer shall prepare and incorporate as part of the program established hereunder a schedule of utility capacity available and a list of allocations granted.
  - 2. The City Public Works Engineer shall make at least annual reports to the City Council regarding the status of utility capacities available and allocations granted.

**Section 2 - Utility Extension Policy**

**I. General Principles**

- A. The City of Lowell has allocated substantial capital for investment in the infrastructure necessary to support a growing, prosperous, and healthy community. Water supply and wastewater treatment capacity are among the most important elements of this infrastructure.
- B. Increasing the City's property tax base and/or revenue by the expansion and improvement of residential, commercial and industrial, and/or civic land uses and fostering a higher quality of life for its residents are the paramount factors by which utility allocation decisions are based.
- C. Consistent with the intent of this policy and other public statements and policies made by the City Council, the following hierarchy shall apply to the evaluation of utility extension requests:
  - 1. Location: The priority for utility extension will be given to applicants whose subject extension is to service an area that is within the corporate limits or otherwise incorporated into the City of Lowell.
  - 2. Industrial projects and other major employers.
  - 3. Commercial development projects with a mixed-use element.
  - 4. Non-profit or civic uses which contribute to or attract significant economic development to the City.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

5. Additional phases attached to residential projects with a proven record of quality product and economic success.
  6. Residential projects that include tangible, high quality community amenities.
  7. Residential projects that include diverse products and opportunities.
  8. Residential projects, not otherwise described above.
- D. The planning and extension of water and sewer systems of the City of Lowell shall be accomplished in accordance with the following general principles:
1. Extensions shall be made to promote the orderly growth of the community. The minimum distance for any extension of a water main or sanitary sewer main shall be determined by City Council. In general, the minimum distance for extensions shall be one platted block or, in the case of water mains, from main line valve to main line valve; and in the case of sanitary sewer extensions, from manhole to manhole.
  2. The size of water mains and sanitary sewer mains to be installed, and the other required system facilities shall be determined by the City Council in accordance with the recognized standards and accepted engineering practices and design, and in accordance with applicable system plans adopted by the City Council.
  3. The City shall be responsible for the maintenance, operation, control and ownership of all water and sewer facilities.
  4. Developers of subdivisions shall be responsible for the full cost of installing utilities within their own subdivisions, and for the full cost of any mains or outfalls required to connect said subdivisions to the water or sewer systems of the City existing at the time. This provision shall apply to all subdivisions whether within or outside of the corporate limits.

**II. Application for Extension and Approval of Extension Application**

- A. Any property owner or owners desiring water or sanitary sewer service shall apply in writing to the City Council requesting the extension of water or sanitary sewer service or both. No request for the extension of services shall be considered unless submitted in writing in accordance with this Chapter and applicable provisions of the City of Lowell Development Ordinance.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

- B. The applicant shall be required to submit as part of the application, and prior to approval, such information, plans, specifications, or other data as may be required to adequately determine if the requirements of this Chapter and applicable provisions of the City of Lowell Development Ordinance are to be met.
- C. Prior to final approval by the City, the applicant shall furnish to the City all necessary information, reports, plans and specifications as well as appropriate fees payable to the City and documentation of all required permits from other units of government and their agencies.
- D. When application is made for a water or sewer extension or both to serve an area or development that is planned as part of a larger development project or subdivision, all of which is not to be developed at the time application is made, the owner or owners shall submit plans in sufficient detail in order to determine the size and type facilities which will be necessary to serve the entire development or subdivision when completed.
- E. No extension to the water or sanitary sewer system of the City shall be made, and no application approved, except in accordance with the requirements of this Section and the consistent with the adopted *City of Lowell Comprehensive Land Use Plan* or later version.

**III. Financing Extensions within the Corporate Limits**

- A. *Extensions to Existing Lots, Parcels or Developed Property.*
  - 1. When application is received requesting the extension of water or sanitary sewer service or both to serve property, within the corporate limits, which is developed or where streets have been previously dedicated and accepted by the City, and where the area is not part of a new subdivision, the City Public Works Engineer or other person designated by the City Council shall estimate the cost of the project and present the application for the extension, the estimated cost and other required information to the City Council for consideration. If the application is approved by the City Council, and subject to the availability of funds, the City will install or have installed by contract under its supervision, the extensions which have been approved, and the extensions shall be financed in accordance with this Section.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

2. Upon receipt of a petition to extend a water and/or sewer main, the City Council has the following five options for response:
  - a. Install the extension at the City's expense.
  - b. Approve and allow the petitioner to install the extension at petitioner's expense.
  - c. Install the extension at the petitioner's expense.
  - d. Install and jointly finance the extension in cooperation with the petitioner.
  - e. Deny the request.
3. The criteria under which an option will be chosen are generally defined herein; however, the City Council may act according to any aforementioned option, which it feels is in the best interest of the City.
4. When the City determines that it is advisable to install larger size lines or facilities than are necessary to serve the benefited property, the difference in the cost of the larger size facilities over the cost of the facilities required to serve the benefited property the extensions shall be paid by the City and excluded from the total cost to be shared by the property owner(s) and the City as provided herein.

- B. *Extension by the City Council's Initiative.* Nothing in this Chapter shall prevent the City Council from extending water or sanitary sewer mains or both within the corporate limits on their own initiative without receipt of an application from property owners and to assess the cost of such extensions in accordance with Subsection III.A above, when, in the opinion of the City Council, the general public interest requires such extensions of service.

#### **IV. Financing Extensions to Subdivisions and Properties Outside of the Corporate Limits**

The financing of extensions of water or sanitary sewer service or both to properties located outside of the corporate limits or to subdivisions for which the extension of service has not been approved as of the date of adoption of this Ordinance shall be performed in accordance with the provisions of this Article and other applicable City Ordinances including but not limited to the City of Lowell Development Ordinance.

- A. All applications for water and sewer extensions to serve properties located outside of the corporate limits or to serve subdivisions, for which an application for extension has not been approved as of the date of this Ordinance, shall be made in the same manner and under the same requirements as provided for in Subsection III.A and Subsection III.B.

City of Lowell  
Policy for Managing Utility Allocations & Extensions

- B. If an application is approved by the City Council, the owner or owners shall be required to pay 100% of the total cost of all extensions. However, the City may participate to the extent agreed upon by the City Council in the cost of larger size mains that are in excess of the size mains required to serve the project. No reimbursement by the City shall be made upon annexation and all water and sewer lines connected to the City system and located outside of the corporate limits shall become the property of the City at the time those facilities are connected.
  
- C. All applicants requesting utility services shall, at the request of the City, file a petition for annexation to the City. Failure to file a petition for voluntary annexation or satellite annexation on notice from the City may result in immediate termination of water service upon finding by the City Council of a breach of the agreement for the provision of water service.

**V. Specifications; Ownership**

Any water mains or sanitary sewer mains, lift stations, pumping stations, tanks, controls, telemetry, easements and/or other appurtenances extended under the provisions of this Chapter shall be installed and constructed in accordance with the approved plans, specifications and other requirements of the City. All facilities installed under the provisions of this Chapter, whether within or outside the corporate limits, shall become the sole property of the City and under its jurisdiction and control for any and all purposes whatsoever at the time those facilities are connected to the City system. The property owner or owners shall grant to the City such utility easement as the City may require. In addition, a deed to the City for water or sewer facilities installed which are located outside the corporate limits, the cost of which is borne by the applicant or property owners, shall be executed prior to the time any extensions provided for in this Chapter are connected to the City system.

**ADOPTED on this the \_\_\_<sup>th</sup> day of \_\_\_\_\_ 2021**

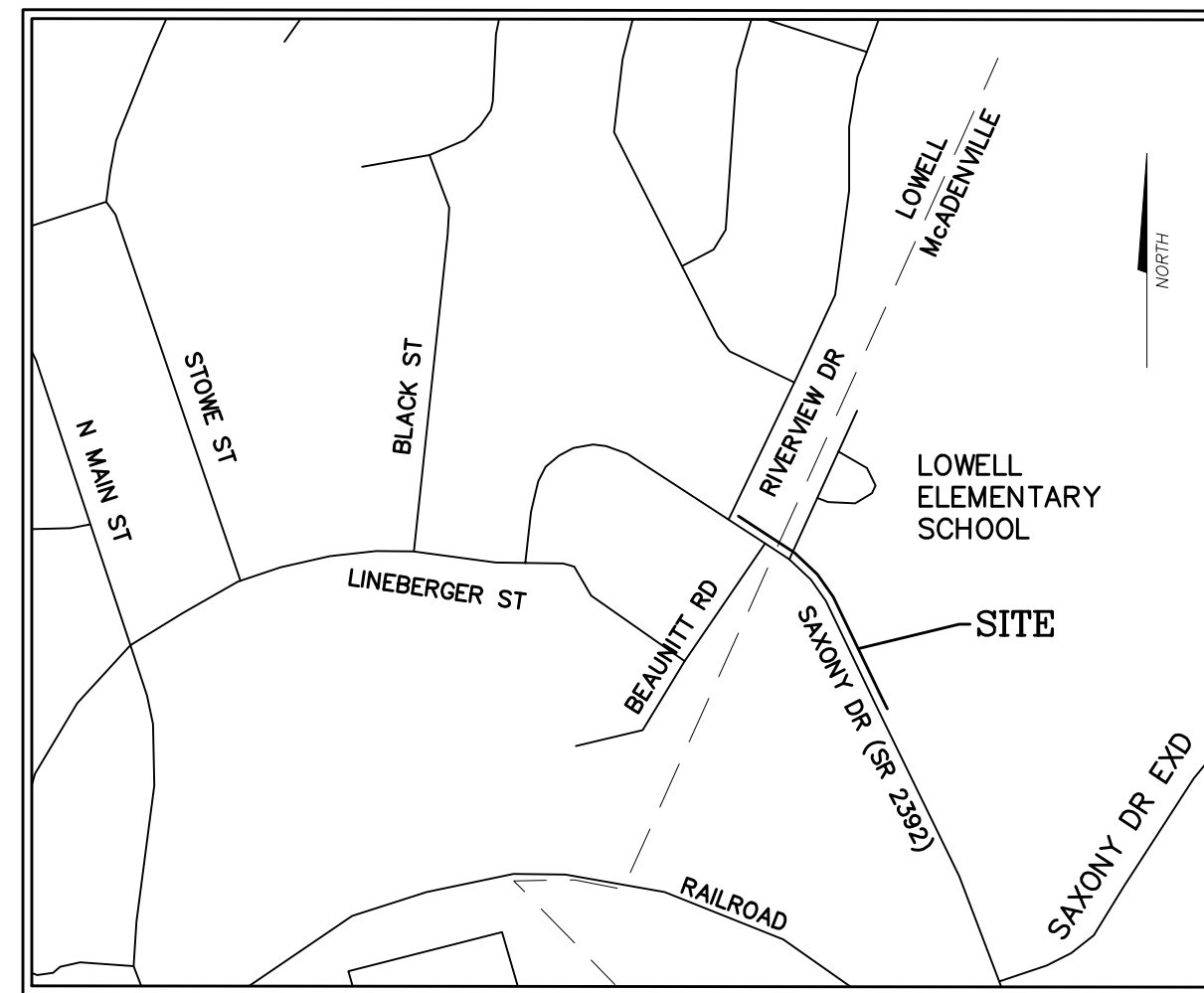
s/ \_\_\_\_\_  
**Sandy Railey, Mayor**

s/ \_\_\_\_\_  
**Beverly Harris, City Clerk**

# Construction Drawings for Water Extension to Lowell Elementary School

Labella review  
2/1/23

01/13/2023



**LOCATION MAP**  
SCALE: 1 = 500'

**UTILITY PROVIDERS:**

WATER

CITY OF GASTONIA/TWO RIVERS *Indicate City of Lowell as the utility owner*  
181 S. SOUTH STREET *City of Lowell Public Works Dept*  
GASTONIA, NC 28052 *704-824-3518*  
(704) 866-6714 *101 W. First Street*  
*Lowell, NC 28098*

CABLE/INTERNET/TELEPHONE

SPECTRUM  
2125 Union Rd.  
Gastonia, NC 28054  
(888) 406-7063

AT&T  
(800) 844-365-1226

NATURAL GAS

DOMINION ENERGY  
1801 TRINITY CHURCH RD.  
CONCORD NC 28027  
(877) 776-2427

ELECTRIC

Duke Energy  
P.O. Box 1090  
Charlotte, NC 28201  
526 S. Church St.  
Charlotte, NC 28202  
(800) 769-3766



**GASTON COUNTY  
BOARD OF COMMISSIONERS**

Chad Brown, Chairman  
Bob Hovis, Vice Chairman  
Allen Fraley  
Kim Johnson  
Tom Keigher  
Tracy Philbeck  
Ronnie Worley

GASTON COUNTY PUBLIC WORKS  
150 S. YORK STREET  
GASTONIA, NORTH CAROLINA 28052  
(704) 866-6714

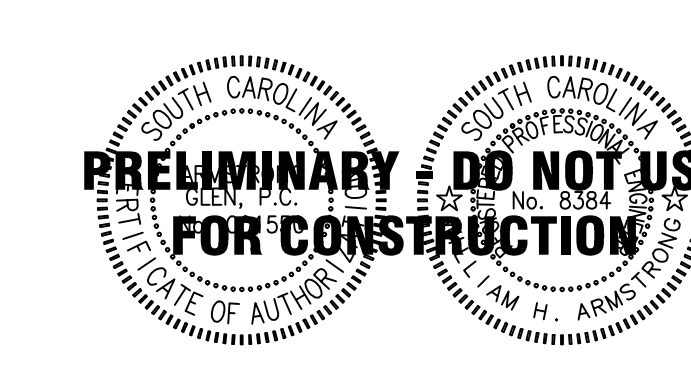
| Sheet Index  |                          |
|--------------|--------------------------|
| Sheet Number | Sheet Title              |
| 1            | Cover Sheet              |
| 2-3          | General & Grassing Notes |
| 4            | Water Main Plan          |
| 5-6          | Water Main Details       |
| 7            | Erosion Control Plan     |
| 8            | Erosion Control Details  |
| 9            | Traffic Control Details  |

Armstrong Glen, P.C.  
9771 S. Southern Pine Boulevard  
Charlotte, NC 28241  
Phone: 704-529-0435  
Fax: 704-529-0433

| NO. | DATE | REVISION |
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**WATER EXTENSION TO LOWELL  
ELEMENTARY SCHOOL**

Cover Sheet



|                          |                   |
|--------------------------|-------------------|
| Project Manager:<br>WHA  |                   |
| Drawn By<br>DJC          | Checked By<br>WHA |
| Date: 01/13/2023         |                   |
| Scale: NTS               |                   |
| Engineering Project No.: |                   |
| Drawing No.:             |                   |
| 1                        |                   |



Add note for minimum depth of cover over pipe per Standard Specifications

Add note that maximum depth of cover shall not exceed 5'

It is recommended to copy/paste relevant sections of the Gastonia standard specifications to the plan sheets for reference during construction.

WATER MAIN INSTALLATION NOTES:

- CROSSINGS ON EXISTING ASPHALT, CONCRETE AND GRAVEL SHALL BE RESTORED WITH MATCHING MATERIALS FROM SUBGRADE TO SURFACE UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR ALL TESTING, FLUSHING AND DISINFECTING OF NEW WATER MAIN.
- ALL WATER MAIN MATERIALS, VALVES, ETC ARE TO MEET THE CITY OF LOWELL, CITY OF GASTONIA AND TWO RIVERS UTILITIES SPECIFICATIONS AND DRAWINGS. **CONTRACTOR SHALL HAVE ACCESS TO SPECIFICATIONS AND DETAILS AT ALL TIMES ON SITE.**
- CONTRACTOR TO PROVIDE ACCESS TO RESIDENTIAL AND SCHOOL DRIVEWAYS DURING CONSTRUCTION AND TO COORDINATE ACCESS WITH LOWELL ELEMENTARY SCHOOL.
- CONTRACTOR TO ENSURE MAIL SERVICE IS NOT INTERRUPTED DURING CONSTRUCTION.
- THERE SHALL BE NO ON-SITE DISPOSAL OF CONSTRUCTION DEBRIS, CELLULOSE MATERIAL, OR OTHER WASTE.
- CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF DRIVE CULVERTS, STORM DRAIN PIPES AND STRUCTURES AS NECESSARY FOR WATER MAIN INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND/OR COORDINATION OF THE RELOCATION OF TELECOMMUNICATIONS (INCLUDING FIBER OPTIC, TELEPHONE, TV, ETC.) AND ELECTRICAL (POLES, GUY WIRE, ETC.) AS NECESSARY FOR WATER MAIN INSTALLATION.

NCDOT TRAFFIC SAFETY NOTES:

- TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE "WORK AREA TRAFFIC CONTROL HANDBOOK" (WATCH), NCDOT ROADWAY DESIGN MANUAL, AND THE DETAILS IN THESE PLANS.
- SAFE MAINTENANCE OF TRAFFIC IS REQUIRED AT ALL TIMES DURING CONSTRUCTION.
- ALL TRENCHES SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED BEFORE THE CONTRACTOR VACATES THE CONSTRUCTION SITE FOR THE DAY.

UTILITY CONTACT INFORMATION:

NORTH CAROLINA 811 (NC811)  
1-800-632-4949 OR 811  
CALL 10 WORKING-DAYS BEFORE YOU DIG.

SITE CONDITION NOTES:

AREA DISTURBED = 0.18 ACRES  
 ADJACENT PROPERTY USES: RESIDENTIAL, RIGHT-OF-WAY  
 IMPERVIOUS SURFACE = 0.22 ACRES (DRAINS ACROSS DISTURBANCE)  
 SPEED LIMIT OF SAXONY DR. = 35 MPH  
 ACCORDING TO THE NATIONAL COOPERATIVE SOIL SURVEY, SOILS ALONG THE PROPOSED WATERLINE ALIGNMENT CONSIST OF C1B (CECIL-URBAN LAND COMPLEX)  
 APPROXIMATE START DATE = MAY 1, 2023  
 APPROXIMATE DATE OF FINAL COMPLETION = JULY 30, 2023  
 ACCORDING TO FEMA NATIONAL FLOOD HAZARD MAP: PANEL #3710357600J DATED 09/28/2007 THIS AREA IS NOT IN A FLOOD HAZARD ZONE.

**, LATEST EDITION.**

EROSION CONTROL NARRATIVE:

THE PURPOSE OF THIS CONSTRUCTION ACTIVITY IS TO INSTALL A 8" PVC WATER MAIN AND APPURTENANCES ALONG THE NORTH SIDE OF SAXONY DR. TYING TO AN EXISTING 8" WATER MAIN ON SAXONY DR. NEAR RIVERVIEW RD. SOUTHWEST FOR APPROXIMATELY 406 LF. EROSION CONTROL MEASURE WILL CONSIST OF SILT FENCE AND COMPOST SOCKS.

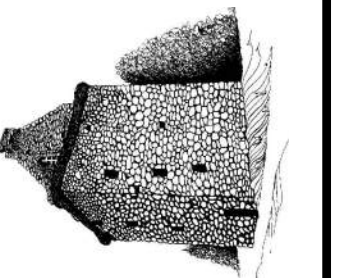
EROSION CONTROL NOTES:

- EROSION CONTROL DEVICES, SEEDING, DETAILS AND SPECIFICATIONS PER NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
- AGENTS, OFFICIALS, OR OTHER QUALIFIED PERSONS AUTHORIZED BY GASTON COUNTY WILL PERIODICALLY INSPECT LAND-DISTURBING ACTIVITIES TO ENSURE COMPLIANCE WITH THE ACT, THIS ORDINANCE, OR RULES OR ORDERS ADOPTED OR ISSUED PURSUANT TO THIS ORDINANCE, AND TO DETERMINE WHETHER THE MEASURES REQUIRED IN THE PLAN ARE EFFECTIVE IN CONTROLLING EROSION AND SEDIMENT RESULTING FROM LAND-DISTURBING ACTIVITY. NOTICE OF THE RIGHT TO INSPECT SHALL BE INCLUDED IN THE CERTIFICATE OF APPROVAL OF EACH EROSION AND SEDIMENTATION CONTROL PLAN. A LIST OF AUTHORIZED AGENTS AND OFFICIALS SHALL BE PROVIDED OR LISTED AT THE NATURAL RESOURCES DEPARTMENT. NO PERSON SHALL WILLFULLY RESIST, DELAY, OR OBSTRUCT AN AUTHORIZED REPRESENTATIVE, EMPLOYEE, OR AGENT OF THE COUNTY WHILE THAT PERSON IS INSPECTING OR ATTEMPTING TO INSPECT A LAND-DISTURBING ACTIVITY UNDER THIS SECTION.
- CONTRACTOR IS TO RETAIN A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN ON-SITE AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL EROSION CONTROL MEASURES DEEMED NECESSARY BY THE GASTON COUNTY INSPECTOR OR BY FIELD CONDITIONS.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE A WEEK OR AFTER EACH RAINFALL EVENT (GREATER THAN 0.5"), AND REPAIR IF NECESSARY, TO ENSURE THAT ALL EROSION CONTROL MEASURES ARE FUNCTIONING PROPERLY.
- ANY EXCAVATED SOIL HAULED OFF SITE MUST GO TO A PERMITTED SITE.
- FABRIC, SAND, OR SCREENINGS SHALL BE PLACED UNDER ANY STOCKPILE OF SOIL ON PAVED SURFACES. ONSITE TEMPORARY SOIL STOCKPILES SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE. TEMPORARY STOCKPILES SHALL HAVE TEMPORARY SILT FENCE INSTALLED AT THE TOE OF SLOPE AND BE SEEDED AND MULCHED.
- ANY TURBID WATER PUMPED OFF SITE MUST BE PUMPED THROUGH A FILTER BAG.
- ALL ROADWAYS ARE TO BE INSPECTED DAILY BY THE CONTRACTOR. ANY DEBRIS OR SOIL DEPOSITED ON THE ROADWAY SURFACE IS TO BE REMOVED BY THE CONTRACTOR PRIOR TO VACATING THE CONSTRUCTION SITE FOR THAT DAY. IF DANGEROUS CONDITIONS EXIST, THE ROADWAY SURFACE IS TO BE CLEANED IMMEDIATELY. CLEANING SHALL INCLUDE BROOM CLEANING OF THE ROADWAY SURFACE.
- THE CONTRACTOR SHALL COMPLETE THE FINANCIAL RESPONSIBILITY/OWNERSHIP FORM LOCATED WITHIN THE PROJECT MANUAL. THE CITY WILL TRANSFER FINANCIAL RESPONSIBILITY OF THE EROSION CONTROL PERMIT TO THE CONTRACTOR.
- PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILLING, COVERING, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
- CONCRETE WASHDOWN TO BE AT AN OFFSITE LOCATION. ON-SITE WASHDOWN NOT ALLOWED.

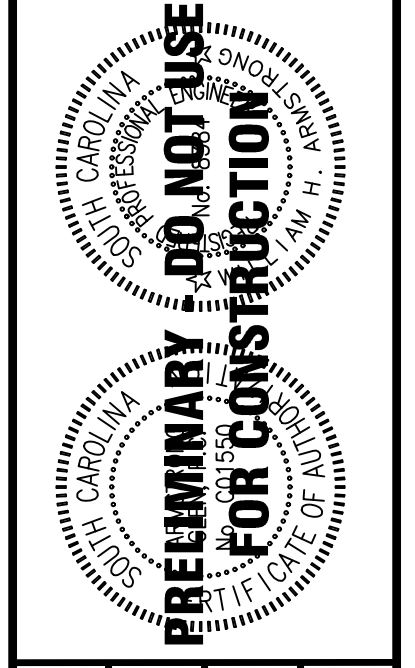
REQUIRED SEQUENCE OF CONSTRUCTION OPERATIONS

- CONSTRUCTION MAY NOT BEGIN UNTIL GASTON COUNTY HAS ISSUED A NOTICE TO PROCEED.
- PLACE EROSION CONTROL MEASURES AS INDICATED ON PLANS.
- CALL COUNTY INSPECTOR FOR AN INSPECTION OF SEDIMENT AND EROSION CONTROL MEASURES ONCE THEY ARE INSTALLED.
- CLEAR AND GRUB AS NECESSARY FOR WATER MAIN INSTALLATION.
- INSTALL NEW PIPE FROM IN ACCORDANCE WITH THE PLANS.
- AS WATER MAIN INSTALLATION PROGRESSES, SEED AND MULCH PER GRASSING NOTES AND SPECIFICATIONS AS SOON AS PRACTICAL.
- FILL, TEST AND DISINFECT THE NEW WATER MAIN. NO NEW TIE SHALL BE MADE UNTIL TESTING HAS BEEN COMPLETED.
- REPAIR ANY LEAKS IN THE SYSTEM.
- TEST 2 WATER SAMPLES, TAKEN 24 HOURS APART, FOR THE PRESENCE OF BACTERIA AND CHLORINE RESIDUAL.
- NCDEQ MAY CONDUCT ITS OWN INSPECTION AND TAKE SAMPLES FROM THE COMPLETED WATER MAIN AND TEST FOR THE PRESENCE OF BACTERIA. AFTER RECEIPT OF PERMIT TO OPERATE FROM NCDEQ AND PERMISSION TO PROCEED FROM THE CITY OF LOWELL, AND GASTON COUNTY, NEW SECTIONS OF WATER MAIN MAY BE ACTIVATED FOR USE.
- ALL DISTURBED AREAS NOT TO RECEIVE ASPHALT OR CONCRETE PAVING SHALL BE STABILIZED BY FERTILIZING, SEEDING, AND MULCHING. ADDITIONAL EROSION CONTROL DEVICES SHALL BE PLACED AS NEEDED TO FILTER RUNOFF OR AS DIRECTED BY THE ENGINEER, CITY OF LOWELL, GASTON COUNTY OR NCDEQ INSPECTOR.
- TEMPORARY SEDIMENT CONTROL DEVICES FOR THE CONSTRUCTION OF THE WATER MAIN SHALL REMAIN UNTIL VEGETATION IS ESTABLISHED.
- REMOVE REMAINING SEDIMENT CONTROLS.

Plans Prepared By:  
**Armstrong Glen, P.C.**  
9771-D Southern Pine Boulevard  
P.O. Box 7326 28241  
Charlotte, NC 28234  
Phone: 704-929-0345  
Fax: 704-929-0495



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**WATER EXTENSION TO LOWELL ELEMENTARY SCHOOL**

**GENERAL NOTES**

SHEET **2** OF **9**



SECTION 02485 – GRASSING

PART 1 – GENERAL

RELATED DOCUMENTS:

DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, AND TECHNICAL SPECIFICATION SECTIONS, APPLY TO WORK OF THIS SECTION.

SUMMARY:

THIS SPECIFICATION PERTAINS TO PLANTING, FERTILIZING, AND MAINTAINING GRASS ON ALL FILL SLOPES, CUT SLOPES, AND GRADED AREAS DISTURBED BY INSTALLATION OF UTILITIES OR BY ROAD CONSTRUCTION. THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, TOOLS, AND MATERIALS NECESSARY TO PERFORM ALL TASKS REQUIRED TO COMPLETE ALL GRASSING WITHIN THE LIMITS OF RIGHT-OF-WAY AND OTHER DISTURBED AREAS SHOWN ON THE DRAWINGS AND THESE SPECIFICATIONS, IN COORDINATION WITH ALL OTHER DIVISIONS OF WORK. ANY INCIDENTAL WORK, MATERIAL, OR APPURTENANCES NOT SPECIFICALLY SHOWN, BUT NECESSARY FOR COMPLETION OF THE WORK, SHALL BE FURNISHED AS REQUIRED. ALL UNPAVED AREAS CLEARED AND GRUBBED, GRADED, FILLED, EXCAVATED, OR OTHERWISE DISTURBED DURING CONSTRUCTION, BOTH WITHIN AND BEYOND THE RIGHT-OF-WAY LIMITS SHOWN ON THE DRAWINGS, SHALL BE STABILIZED WITH GRASS. PLANTING MAY INCLUDE BOTH TEMPORARY AND PERMANENT GRASSING. ESTABLISHMENT OF PERMANENT GRASSING IS REQUIRED FOR THE COMPLETION OF THE CONTRACT AND FINAL PAYMENT.

QUALITY ASSURANCE:

SOME PRODUCTS AND EXECUTION SPECIFIED IN THIS SECTION ARE REFERENCED TO IN THE LATEST EDITION OF PUBLISHED SPECIFICATIONS AND STANDARDS OF THE FOLLOWING:

- NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) SECTION 1060 & 1660
- NCEQE EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

SUBMITTALS:

THE CONTRACTOR WILL, UPON REQUEST, FURNISH THE INVOICES AND OR OTHER DOCUMENTATION OF ALL MATERIALS USED IN ORDER TO DETERMINE RATES AND QUALITY OF MATERIALS. THIS INCLUDES SEED, LIME, FERTILIZER, AS WELL AS ANY OTHER MATERIALS USED.

DELIVERY, STORAGE, AND HANDLING:

DELIVER PACKAGED MATERIALS IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT THE SITE.

JOB CONDITIONS:

THIS SPECIFICATION IS INTENDED TO PROVIDE A COMPLETE GRASSING PROCEDURE WHICH IS TO BE CAREFULLY FOLLOWED. SOME PROCEDURES MAY BE ADJUSTED, UPON CONSULTATION WITH THE ENGINEER, SO AS TO MEET UNFORSEEN WEATHER AND SOIL CONDITIONS.

PROCEED WITH AND COMPLETE GRASSING WORK AS RAPIDLY AS PORTIONS OF THE PROJECT SITE BECOME AVAILABLE.

SPECIAL PROJECT WARRANTY:

WARRANTY GRASSING THROUGHOUT THE SPECIFIED MAINTENANCE PERIOD, AND UNTIL FINAL ACCEPTANCE.

TEMPORARY SEEDING:

TEMPORARY GRASSING SHALL BE PERFORMED ON ANY CLEARED, UNVEGETATED, OR SPARSELY VEGETATED SOIL SURFACE WHERE VEGETATIVE COVER IS NEEDED FOR LESS THAN 1 YEAR. APPLICATIONS OF THIS PRACTICE INCLUDE DIVERSIONS, DAMS, TEMPORARY SEDIMENT BASINS, TEMPORARY ROAD BANKS, AND TOPSOIL STOCKPILES.

PROPER SEEDBED PREPARATION, SELECTION OF APPROPRIATE SPECIES, AND USE OF QUALITY SEED ARE AS IMPORTANT IN THIS PRACTICE AS IN PERMANENT SEEDING. FAILURE TO FOLLOW ESTABLISHED GUIDELINES AND RECOMMENDATIONS CAREFULLY MAY RESULT IN AN INADEQUATE OR SHORT-LIVED STAND OF VEGETATION THAT WILL NOT CONTROL EROSION. TEMPORARY SEEDING PROVIDES PROTECTION FOR NO MORE THAN 1 YEAR, DURING WHICH TIME PERMANENT STABILIZATION SHOULD BE INITIATED.

COMPLETE GRADING BEFORE PREPARING SEEDBEDS, AND INSTALL ALL NECESSARY EROSION CONTROL PRACTICES SUCH AS, DIKES, WATERWAYS, AND BASINS. MINIMIZE STEEP SLOPES BECAUSE THEY MAKE SEEDBED PREPARATION DIFFICULT AND INCREASE THE EROSION HAZARD. IF SOILS BECOME COMPACTED DURING GRADING, LOOSEN THEM TO A DEPTH OF 6-8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW.

SEEDBED PREPARATION:

GOOD SEEDBED PREPARATION IS ESSENTIAL TO SUCCESSFUL PLANT ESTABLISHMENT. A GOOD SEEDBED IS WELL-PULVERIZED, LOOSE, AND UNIFORM. WHERE HYDROSEEDING METHODS ARE USED, THE SURFACE MAY BE LEFT WITH A MORE IRREGULAR SURFACE OF LARGE CLODS AND STONES.

LIMING

APPLY LIME ACCORDING TO SOIL TEST RECOMMENDATIONS. IF THE PH (ACIDITY) OF THE SOIL IS NOT KNOWN, AN APPLICATION OF GROUND AGRICULTURAL LIMESTONE AT THE RATE OF 1 TO 1 1/2 TONS/ACRE ON COARSE-TEXTURED SOILS AND 2-3 TONS/ACRE ON FINE TEXTURED SOILS IS USUALLY SUFFICIENT. APPLY LIMESTONE UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. SOILS WITH A PH OF 6 OR HIGHER NEED NOT BE LIMED.

FERTILIZER

BASE APPLICATION RATES ON SOIL TESTS. WHEN THESE ARE NOT POSSIBLE, APPLY A 10-10-10 GRADE FERTILIZER AT 700-1,000 LB/ACRE. BOTH FERTILIZER AND LIME SHOULD BE INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.

SURFACE ROUGHENING

IF RECENT TILLAGE OPERATIONS HAVE RESULTED IN A LOOSE SURFACE, ADDITIONAL ROUGHENING MAY NOT BE REQUIRED, EXCEPT TO BREAK UP LARGE CLODS. IF RAINFALL CAUSES THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING, HARROWING, OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING (PRACTICE 6.03, SURFACE ROUGHENING).

PLANT SELECTION

SELECT AN APPROPRIATE SPECIES OR SPECIES MIXTURE FROM TABLE 6.10A FOR SEEDING IN LATE WINTER AND EARLY SPRING, TABLE 6.10B FOR SUMMER, AND TABLE 6.10C FOR FALL.

SEEDING

EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. USE SEEDING RATES GIVEN IN TABLES 6.10A-6.10C. BROADCAST SEEDING AND HYDROSEEDING ARE APPROPRIATE FOR STEEP SLOPES WHERE EQUIPMENT CANNOT BE DRIVEN. HAND BROADCASTING IS NOT RECOMMENDED BECAUSE OF THE DIFFICULTY IN ACHIEVING A UNIFORM DISTRIBUTION. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN 1 INCH DEEP, AND GRASSES AND LEGUMES NO MORE THAN 1/2 INCH. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING, AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPACKER. HYDROSEEDED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.

MAINTENANCE

RESEED AND MULCH AREAS WHERE SEEDLING EMERGENCE IS POOR, OR WHERE EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

SPECIES: RATE (LB/ACRE)  
-RYE (GRAIN) 120

-ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS) 50

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SEEDING DATES

MOUNTAINS: ABOVE 2500 FEET: FEB. 15 – MAY 15  
BELOW 2500 FEET: FEB. 1 – MAY 1  
PIEDMONT: JAN. 1 – MAY 1  
COASTAL PLAIN: DEC. 1 – APR. 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, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

SPECIES: RATE (LB/ACRE)  
-GERMAN MILLET 40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING DATES

MOUNTAINS: MAY 15 – AUG. 15  
PIEDMONT: MAY 1 – AUG. 15  
COASTAL PLAIN: APR. 15 – 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, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE

SPECIES: RATE (LB/ACRE)  
-RYE (GRAIN) 120

SEEDING DATES

MOUNTAINS: AUG. 15 – DEC. 15  
COASTAL PLAIN AND PIEDMONT: AUG. 15 – DEC. 30

SOIL AMENDMENTS

FOLLOW 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 (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT SEEDING:

PERMANENT SEEDING SHALL BE PERFORMED IN SELECTED AREAS FOR THE PURPOSE OF REDUCING EROSION AND DECREASING SEDIMENT YIELD FROM DISTURBED AREAS, TO PERMANENTLY STABILIZE SUCH AREAS IN A MANNER THAT IS ECONOMIC, ADAPTS TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

AREAS TO BE STABILIZED WITH PERMANENT VEGETATION MUST BE SEED OR PLANTED WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS AFTER FINAL GRADE IS REACHED, UNLESS TEMPORARY STABILIZATION IS APPLIED.

SOIL PREPARATION:

PROPER SOIL PREPARATION IS NECESSARY FOR SUCCESSFUL SEED GERMINATION AND ROOT ESTABLISHMENT. IT IS ALSO NECESSARY FOR ESTABLISHMENT OF ROOTED SPRIGS, SOD AND WOODY PLANTS. HEAVILY COMPACTED SOILS PREVENT AIR, NUTRIENTS AND MOISTURE FROM REACHING ROOTS THEREBY RETARDING OR PREVENTING PLANT GROWTH. THE SUCCESS OF SITE STABILIZATION AND REDUCTION OF FUTURE MAINTENANCE ARE DEPENDENT ON AN ADEQUATELY PREPARED SOIL BED. FOLLOWING ARE THE REQUIREMENTS FOR PREPARATION OF AREAS TO BE VEGETATED BY GRASSING, SPRIGGING, SODDING, AND/OR PLANTING OF WOODY PLANTS:

GENERAL REQUIREMENTS:

- PREPARATION FOR PRIMARY/PERMANENT STABILIZATION SHALL NOT BEGIN UNTIL ALL CONSTRUCTION AND UTILITY WORK WITHIN THE PREPARATION AREA IS COMPLETE. HOWEVER, IT MAY BE NECESSARY TO PREPARE FOR NURSE CROPS PRIOR TO COMPLETION OF CONSTRUCTION AND INSTALLATION OF UTILITIES.
- A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST (OR EQUAL) SHALL BE OBTAINED FOR ALL AREAS TO BE SEED, SPRIGGED, SODDED OR PLANTED. RECOMMENDED FERTILIZER AND PH ADJUSTING PRODUCTS SHALL BE INCORPORATED INTO THE PREPARED AREAS AND BACKFILL MATERIAL PER THE TEST.
- ALL AREAS TO BE SEED OR PLANTED SHALL BE TILLED OR RIPPED TO A DEPTH SPECIFIED ON THE APPROVED PLANS, CONSTRUCTION SEQUENCE AND/OR CONSTRUCTION BID LIST. RIPPING CONSISTS OF CREATING FISSURES IN A CRISS-CROSS PATTERN OVER THE ENTIRE SURFACE AREA, UTILIZING AN IMPLEMENT THAT WILL NOT GLAZE THE SIDE WALLS OF THE FISSURES. SITE PREPARATION THAT DOES NOT COMPLY WITH THESE DOCUMENTS SHALL NOT BE ACCEPTABLE. THE DEPTH OF SOIL PREPARATION MAY BE ESTABLISHED AS A RANGE BASED ON THE APPROVAL OF THE REVIEWING STATE OR LOCAL AGENCY. ONCE TILLED OR RIPPED ACCORDING TO THE APPROVED PLAN, ALL AREAS ARE TO BE RETURNED TO THE APPROVED FINAL GRADE. PH MODIFIERS AND/OR OTHER SOIL AMENDMENTS SPECIFIED IN THE SOIL TESTS CAN BE ADDED DURING THE SOIL PREPARATION PROCEDURE OR AS DESCRIBED BELOW.
- ALL STONES LARGER THAN THREE (3) INCHES ON ANY SIDE, STICKS, ROOTS, AND OTHER EXTRANEOUS MATERIALS THAT SURFACE DURING THE BED PREPARATION SHALL BE REMOVED.

PLANTING:

SEED – PREPARE THE SEED BED AS DESCRIBED ABOVE IN SOIL PREPARATION. APPLY SEED AT RATES SPECIFIED ON THE PLANS, AND/OR AS RECOMMENDED IN TABLES 6.11A-C, WITH A CYCLONE SEEDER, PROP TYPE SPREADER, DRILL, OR HYDROSEEDER ON AND/OR INTO THE PREPARED BED. INCORPORATE THE SEED INTO THE SEED BED AS SPECIFIED. PROVIDE FINISHED GRADES AND CAREFULLY CULTI-PACK THE SEEDBED AS TERRAIN ALLOWS. MULCH IMMEDIATELY.

PERMANENT SEEDING:

AUGUST – APRIL

RYE GRAIN – 40 LBS PER ACRE OR  
WHEAT – 30 LBS PER ACRE OR  
KY 31 TALL FESCUE – 100 LBS PER ACRE OR  
KY BLUE GRASS – 15 LBS PER ACRE

MAY – SEPTEMBER

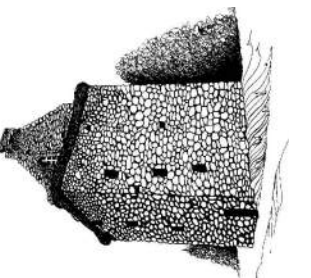
BROWNTOP MILLET – 10 LBS PER ACRE OR  
GERMAN MILLET – 10 LBS PER ACRE OR  
KOBE LESPEDEZA – 10 LBS PER ACRE

\* NOTES:

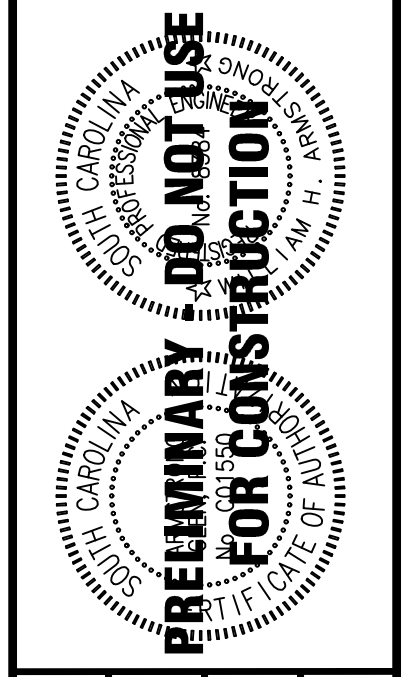
1. SEEDING RATES ARE FOR HULLED SEED UNLESS OTHERWISE NOTED.
2. FERTILIZER & LIMESTONE – RATES TO BE APPLIED IN ABSENCE OF SOIL TESTS. RECOMMENDED APPLICATION RATE ASSUMES SIGNIFICANTLY DISTURBED SITE SOILS WITH LITTLE OR NO RESIDUAL VALUE.
3. REFER TO TABLES 6.11 IN NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FOR MORE INFORMATION.

Plans Prepared By:  
**Armstrong Glen, P.C.**

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P.O. Box 7326 28241  
Charlotte, NC 28220-7326  
Phone: 704-529-0345  
Fax: 704-529-0495



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WATER EXTENSION TO  
LOWELL ELEMENTARY  
SCHOOL

GRASSING NOTES

SHEET 3 OF 9

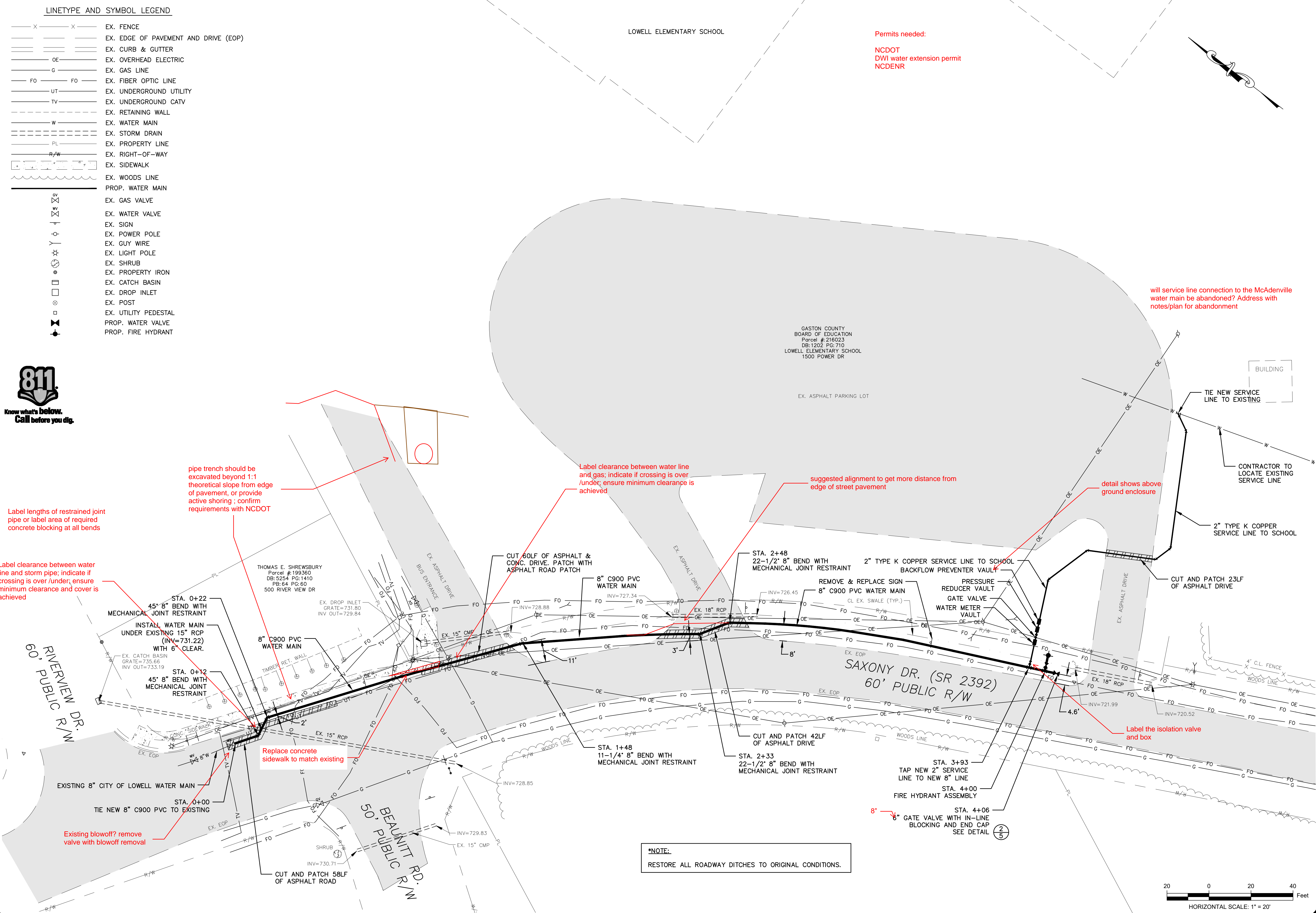


LINETYPE AND SYMBOL LEGEND

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| — X — X —   | EX. FENCE                            |
| — — — — —   | EX. EDGE OF PAVEMENT AND DRIVE (EOP) |
| — — — — —   | EX. CURB & GUTTER                    |
| — OE —      | EX. OVERHEAD ELECTRIC                |
| — G —       | EX. GAS LINE                         |
| — FO — FO — | EX. FIBER OPTIC LINE                 |
| — UT —      | EX. UNDERGROUND UTILITY              |
| — TV —      | EX. UNDERGROUND CATV                 |
| — — — — —   | EX. RETAINING WALL                   |
| — W —       | EX. WATER MAIN                       |
| — — — — —   | EX. STORM DRAIN                      |
| — PL —      | EX. PROPERTY LINE                    |
| — R/W —     | EX. RIGHT-OF-WAY                     |
| — — — — —   | EX. SIDEWALK                         |
| — — — — —   | EX. WOODS LINE                       |
| — — — — —   | PROP. WATER MAIN                     |
| — — — — —   | EX. GAS VALVE                        |
| — — — — —   | EX. WATER VALVE                      |
| — — — — —   | EX. SIGN                             |
| — — — — —   | EX. POWER POLE                       |
| — — — — —   | EX. GUY WIRE                         |
| — — — — —   | EX. LIGHT POLE                       |
| — — — — —   | EX. SHRUB                            |
| — — — — —   | EX. PROPERTY IRON                    |
| — — — — —   | EX. CATCH BASIN                      |
| — — — — —   | EX. DROP INLET                       |
| — — — — —   | EX. POST                             |
| — — — — —   | EX. UTILITY PEDESTAL                 |
| — — — — —   | PROP. WATER VALVE                    |
| — — — — —   | PROP. FIRE HYDRANT                   |



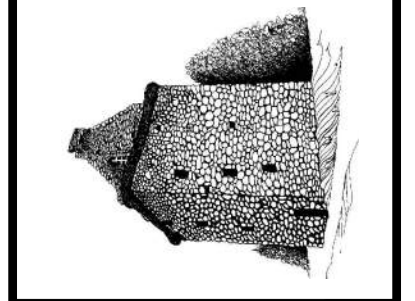
Know what's below.  
Call before you dig.



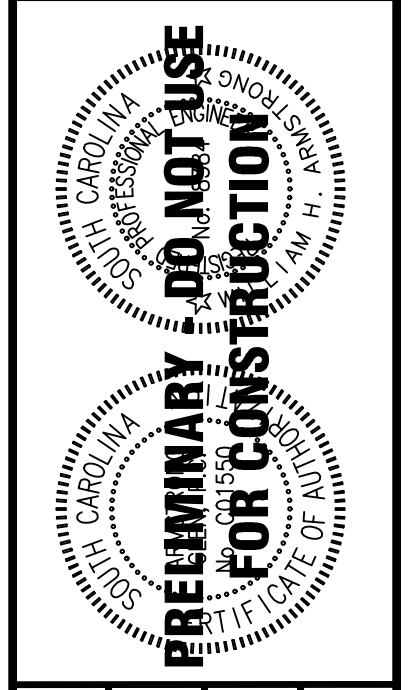
Permits needed:  
NCDOT  
DWI water extension permit  
NCDENR

will service line connection to the McAdenville water main be abandoned? Address with notes/plan for abandonment

Plans Prepared By:  
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P.O. Box 7326 28241  
Charlotte, NC 28224  
Phone: 704-529-0345  
Fax: 704-529-0495



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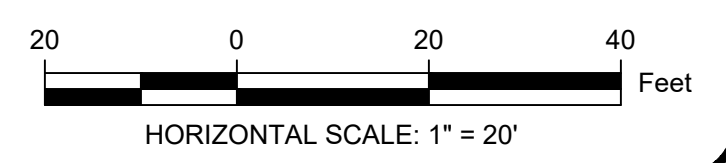
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**WATER EXTENSION TO LOWELL ELEMENTARY SCHOOL**

**WATER MAIN PLAN**

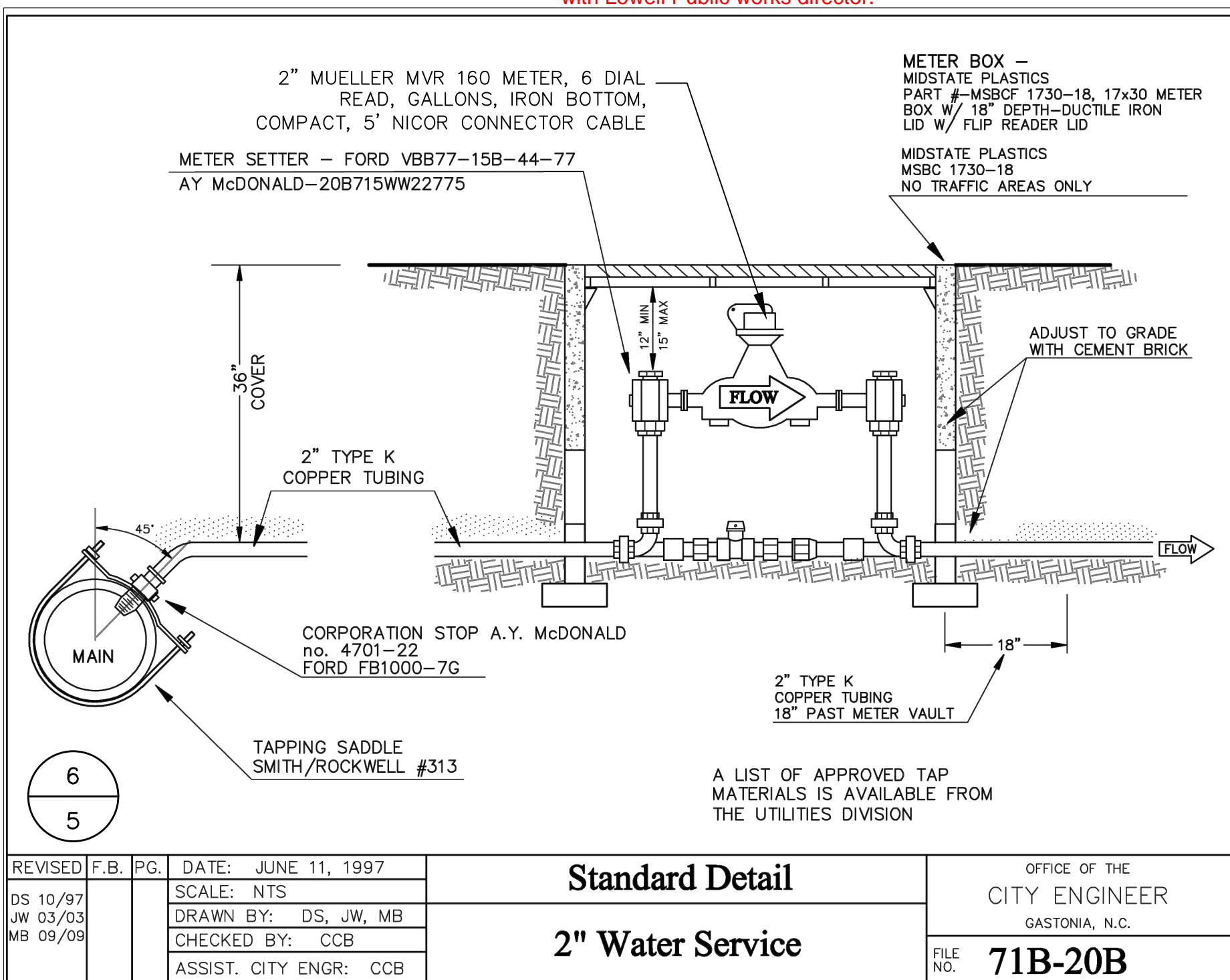
SHEET **4** OF **9**

\*NOTE:  
RESTORE ALL ROADWAY DITCHES TO ORIGINAL CONDITIONS.

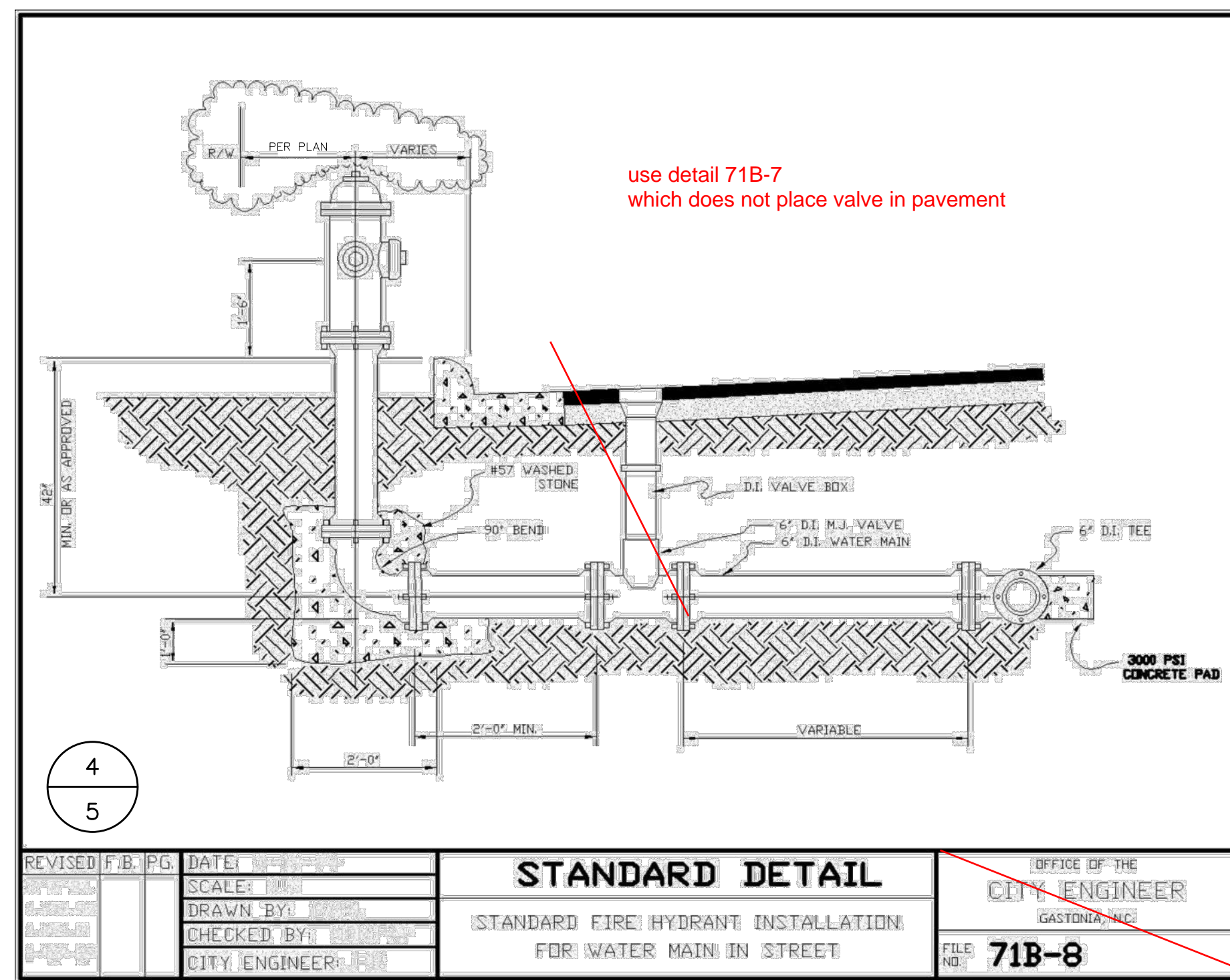




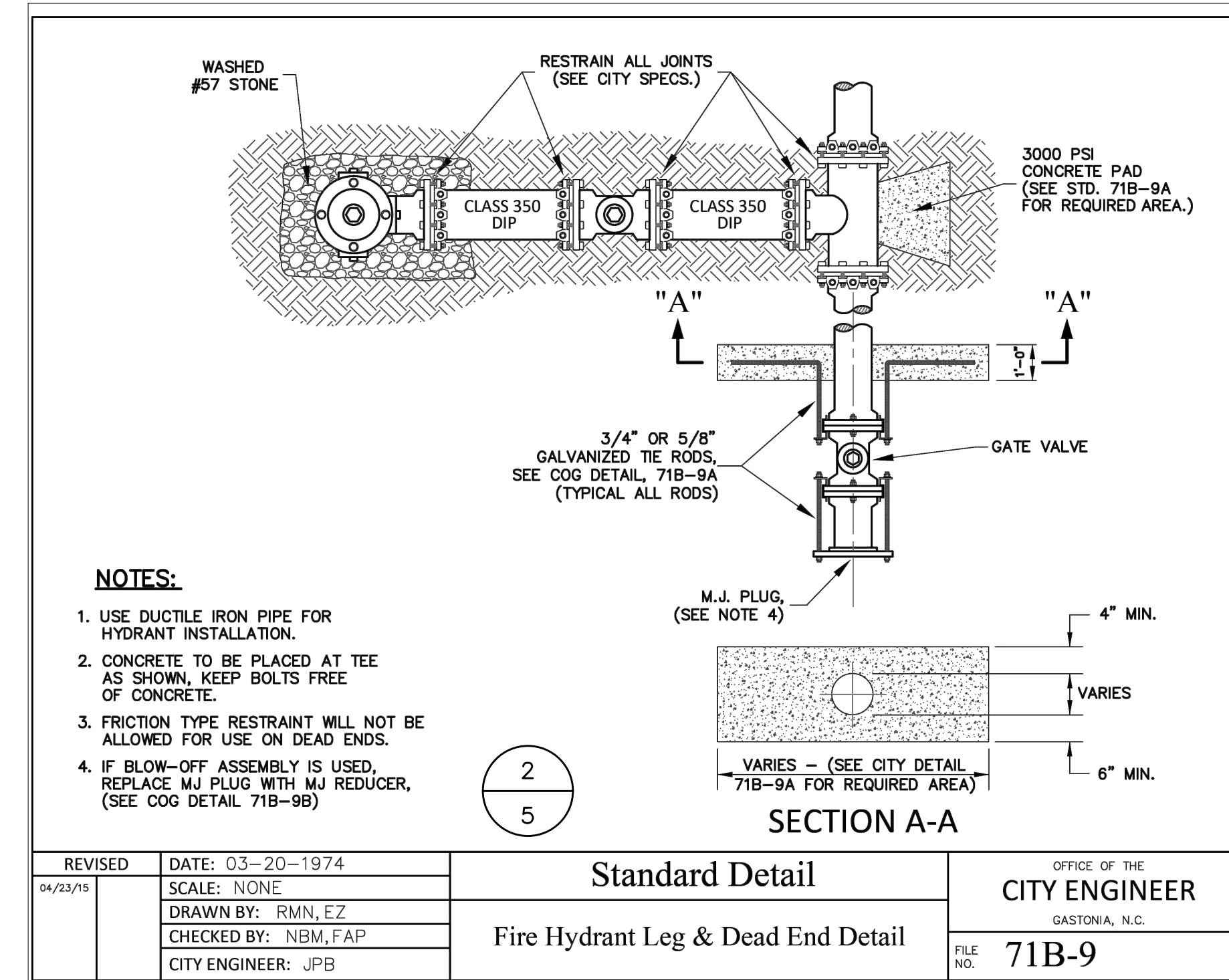
Provide specification for electronics to the top of box lid for electronic read. Confirm requirements with Lowell Public works director.



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| REVISED                 | F.B. | PG. | DATE: JUNE 11, 1997    | OFFICE OF THE CITY ENGINEER |
| DS 10/97                |      |     | SCALE: NTS             | GASTONIA, N.C.              |
| JW 03/03                |      |     | DRAWN BY: DS, JW, MB   |                             |
| MB 09/09                |      |     | CHECKED BY: CCB        |                             |
|                         |      |     | ASSIST. CITY ENGR: CCB |                             |
| <b>Standard Detail</b>  |      |     |                        | <b>71B-20B</b>              |
| <b>2" Water Service</b> |      |     |                        |                             |



|  |      |     |                     |                             |
|--|------|-----|---------------------|-----------------------------|
| REVISED  | F.B. | PG. | DATE: JUNE 10, 2003 | OFFICE OF THE CITY ENGINEER |
|  |      |     | SCALE: NONE         | GASTONIA, N.C.              |
|  |      |     | DRAWN BY: TAJ       |                             |
|  |      |     | CHECKED BY: MMB     |                             |
|  |      |     | CITY ENGINEER: FAP  |                             |
| <b>STANDARD DETAIL</b>   |      |     |                     | <b>71B-8</b>                |
| <b>(STANDARD FIRE HYDRANT INSTALLATION FOR WATER MAIN IN STREET)</b> |      |     |                     |                             |



|   |      |     |                      |                             |
|---|------|-----|----------------------|-----------------------------|
| REVISED                                       | F.B. | PG. | DATE: 03-20-1974     | OFFICE OF THE CITY ENGINEER |
| 04/23/75                                      |      |     | SCALE: NONE          | GASTONIA, N.C.              |
|   |      |     | DRAWN BY: RMN, EZ    |                             |
|   |      |     | CHECKED BY: NBM, FAP |                             |
|   |      |     | CITY ENGINEER: JPB   |                             |
| <b>Standard Detail</b>                        |      |     |                      | <b>71B-9</b>                |
| <b>Fire Hydrant Leg &amp; Dead End Detail</b> |      |     |                      |                             |

AREAS REQUIRED FOR CONCRETE BLOCKING FOR TEES AND BENDS ETC. BASED ON TEST PRESSURE OF 200 P.S.I. (ALL AREAS ON BEYOND SIDE OF THE TEE OR BEND). (AREAS) FEET ARE INDICATED FOR APPROPRIATE BEND SIZE.

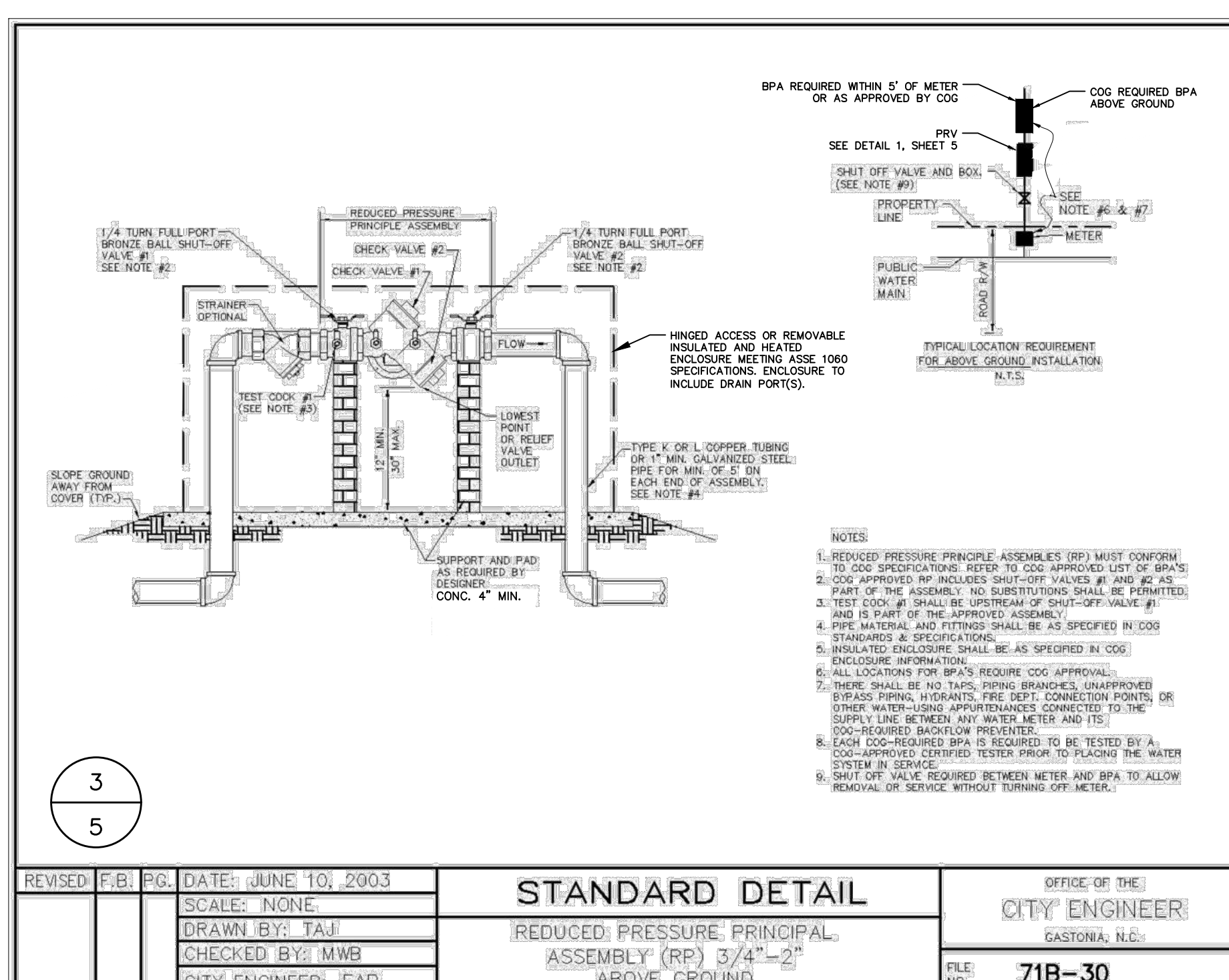
| SIZE AND DEGREE OF BEND | STATIC THRUST IN POUNDS | EARLY DRY CLAY 4000 LBS./FT <sup>2</sup> | SOFT CLAY 2000 LBS./FT <sup>2</sup> | GRAVEL, COARSE SAND 1000 LBS./FT <sup>2</sup> | THE RODS REQUIRED |
|-------------------------|-------------------------|--|-------------------------------------|---|-------------------|
| 6"                      |                         |  |                                     |   |                   |
| 11-1/4"                 | 1,108                   | 1  | 1                                   | 1   | 1                 |
| 22-1/2"                 | 2,207                   | 1  | 2                                   | 2   | 2                 |
| 45"                     | 4,328                   | 2  | 3                                   | 3   | 3                 |
| 90/TEE                  | 7,996                   | 2  | 4                                   | 4   | 4                 |
| PLUG                    | 5,665                   | 2  | 3                                   | 3   | 2-5/8"            |
| 8"                      |                         |  |                                     |   |                   |
| 11-1/4"                 | 1,970                   | 1  | 1                                   | 2   | 1                 |
| 22-1/2"                 | 3,922                   | 1  | 2                                   | 3   | 2                 |
| 45"                     | 7,694                   | 2  | 4                                   | 5   | 3                 |
| 90/TEE                  | 14,215                  | 4  | 8                                   | 9   | 4                 |
| PLUG                    | 10,053                  | 3  | 5                                   | 6   | 2-5/8"            |
| 12"                     |                         |  |                                     |   |                   |
| 11-1/4"                 | 4,433                   | 2  | 3                                   | 3   | 3                 |
| 22-1/2"                 | 8,826                   | 3  | 5                                   | 6   | 4                 |
| 45"                     | 17,312                  | 5  | 9                                   | 11  | 5                 |
| 90/TEE                  | 30,983                  | 8  | 16                                  | 19  | 6                 |
| PLUG                    | 22,619                  | 6  | 12                                  | 14  | 4-3/4"            |
| 16"                     |                         |  |                                     |   |                   |
| 11-1/4"                 | 7,881                   | 2  | 4                                   | 5   | 4                 |
| 22-1/2"                 | 15,691                  | 4  | 8                                   | 10  | 5                 |
| 45"                     | 30,779                  | 8  | 16                                  | 19  | 6                 |
| 90/TEE                  | 56,861                  | 15                                       | 29                                  | 35  | 7                 |
| PLUG                    | 40,213                  | 10                                       | 21                                  | 25  | 6-3/4"            |

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE HORIZONTAL PLANE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

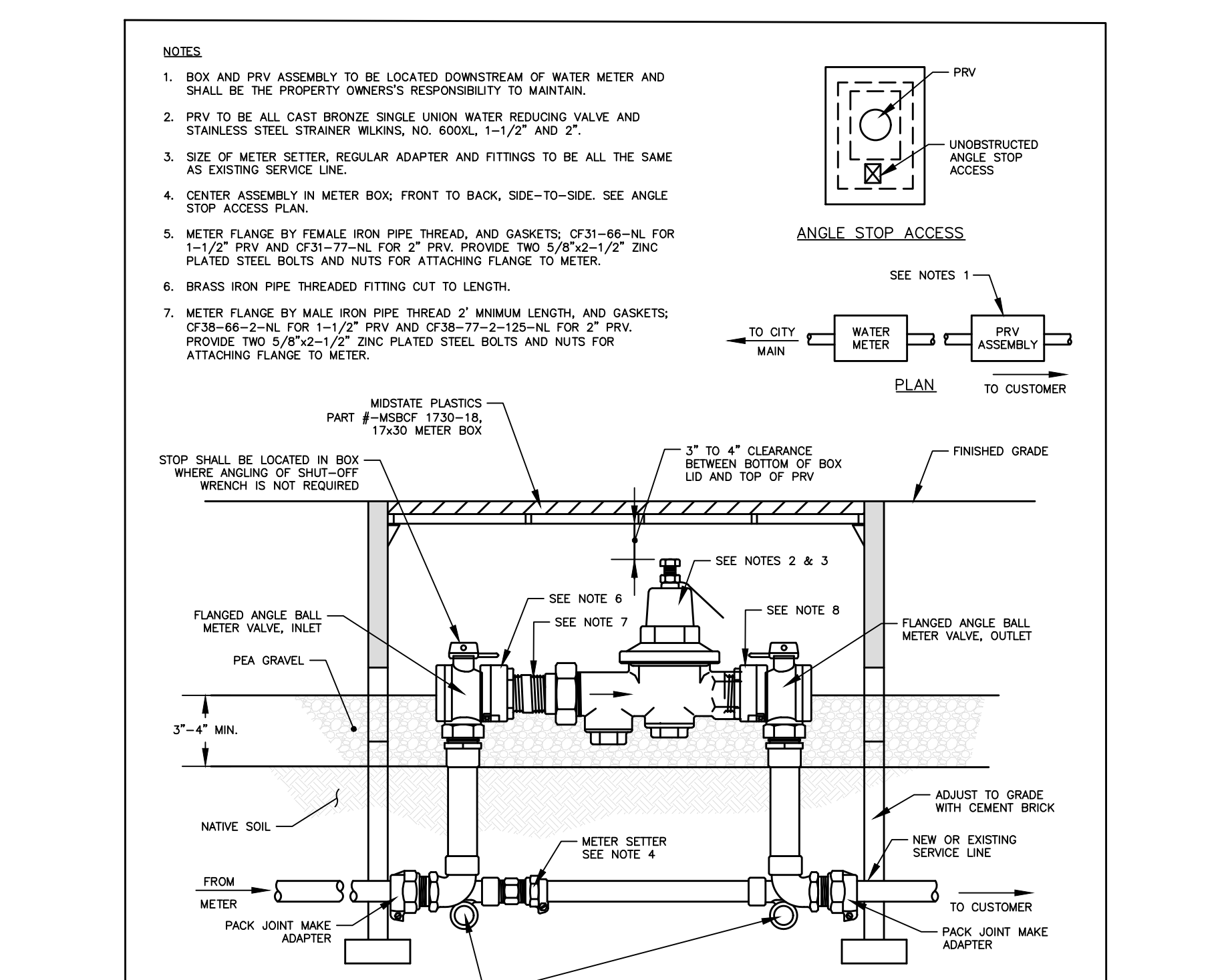
USE 6" - 90° BEND VALVE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

(2 - 5/8" # ROD IS ADEQUATE FOR 8" F.H. LEG)

|  |      |     |                       |                             |
|--|------|-----|-----------------------|-----------------------------|
| REVISED  | F.B. | PG. | DATE: 12-11-84        | OFFICE OF THE CITY ENGINEER |
| 1/6/05   |      |     | SCALE: NONE           | GASTONIA, N.C.              |
|  |      |     | DRAWN BY: G.A.Q.      |                             |
|  |      |     | CHECKED BY: D.C.C.    |                             |
|  |      |     | CITY ENGINEER: D.E.C. |                             |
| <b>STANDARD DETAIL</b>   |      |     |                       | <b>71B-9A</b>               |
| <b>AREAS REQUIRED FOR CONCRETE BLOCKING FOR TEES AND BENDS ETC. (BASED ON TEST PRESSURE OF 200 P.S.I.)</b> |      |     |                       |                             |



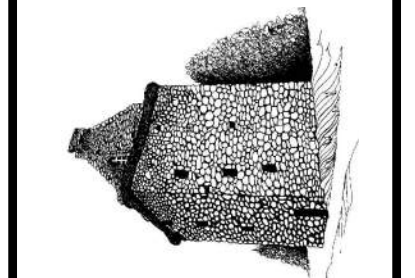
|  |      |     |                     |                             |
|--|------|-----|---------------------|-----------------------------|
| REVISED  | F.B. | PG. | DATE: JUNE 10, 2003 | OFFICE OF THE CITY ENGINEER |
|  |      |     | SCALE: NONE         | GASTONIA, N.C.              |
|  |      |     | DRAWN BY: TAJ       |                             |
|  |      |     | CHECKED BY: MMB     |                             |
|  |      |     | CITY ENGINEER: FAP  |                             |
| <b>STANDARD DETAIL</b>   |      |     |                     | <b>71B-30</b>               |
| <b>REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP) 3/4"-2" ABOVE GROUND</b> |      |     |                     |                             |



|  |      |     |                       |                             |
|--|------|-----|-----------------------|-----------------------------|
| REVISED  | F.B. | PG. | DATE: 12-11-84        | OFFICE OF THE CITY ENGINEER |
| 1/6/05   |      |     | SCALE: NONE           | GASTONIA, N.C.              |
|  |      |     | DRAWN BY: G.A.Q.      |                             |
|  |      |     | CHECKED BY: D.C.C.    |                             |
|  |      |     | CITY ENGINEER: D.E.C. |                             |
| <b>STANDARD DETAIL</b>   |      |     |                       | <b>71B-9A</b>               |
| <b>AREAS REQUIRED FOR CONCRETE BLOCKING FOR TEES AND BENDS ETC. (BASED ON TEST PRESSURE OF 200 P.S.I.)</b> |      |     |                       |                             |

1 5 PRESSURE REDUCING VALVE WITH BOX FOR 2" SERVICE LINE

Plans Prepared By:  
**Armstrong Glen, P.C.**  
 9771-D Southern Pine Boulevard  
 Charlotte, NC 28241  
 Phone: 704-529-0345  
 Fax: 704-529-0495



| NO. | DATE | BY | DESCRIPTION |
|-----|------|----|-------------|
|     |      |    |             |
|     |      |    |             |
|     |      |    |             |

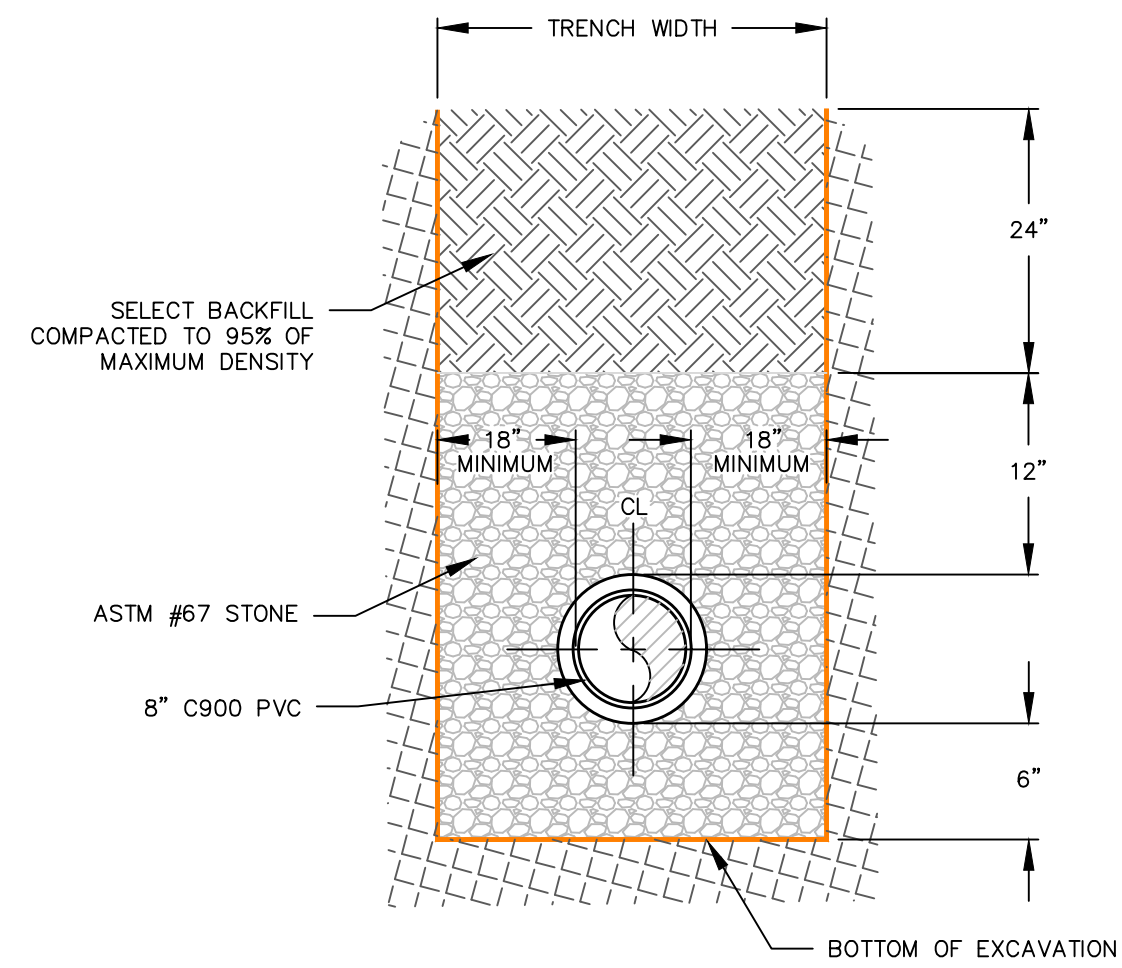
|       |               |                                 |     |
|-------|---------------|---------------------------------|-----|
| 22105 | JOB NO.       | 22105/LOWELL WATER SUPPLY/ACAD/ | WHA |
|       | CAD FILE PATH |                                 |     |
|       | DATE          | 01/13/2023                      |     |
|       | PREPARED BY   | WHA                             |     |
|       | APPROVED BY   |                                 |     |

**WATER EXTENSION TO LOWELL ELEMENTARY SCHOOL**

**WATER MAIN DETAILS**

|       |   |    |   |
|-------|---|----|---|
| SHEET | 5 | OF | 9 |
|-------|---|----|---|



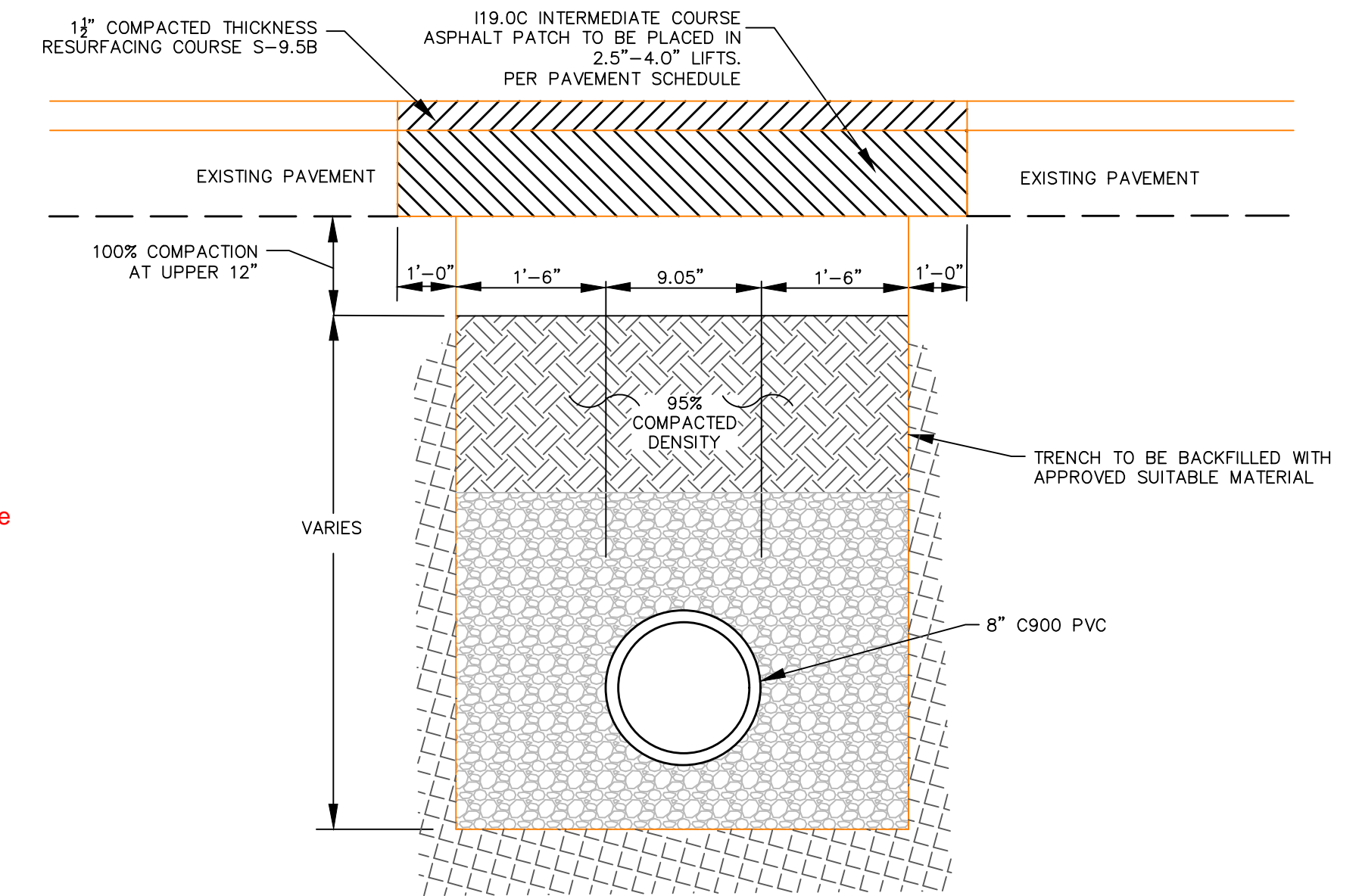


**NOTES:**

1. BACKFILL TO 95% OF MAXIMUM DENSITY WHERE EXCAVATIONS CUT THROUGH PAVEMENTS, CURBS, DRIVEWAYS AND SIDEWALKS, AND UNDER OR ADJACENT TO STRUCTURES.
2. STONE TO BE SIZE ASTM #67, WELL TAMPED.
3. HAND SHAPE TRENCH BOTTOM FOR LOWER QUADRANT OF PIPE AND BELLS.
4. PROVIDE MINIMUM 3'-0" COVER OVER PIPE.

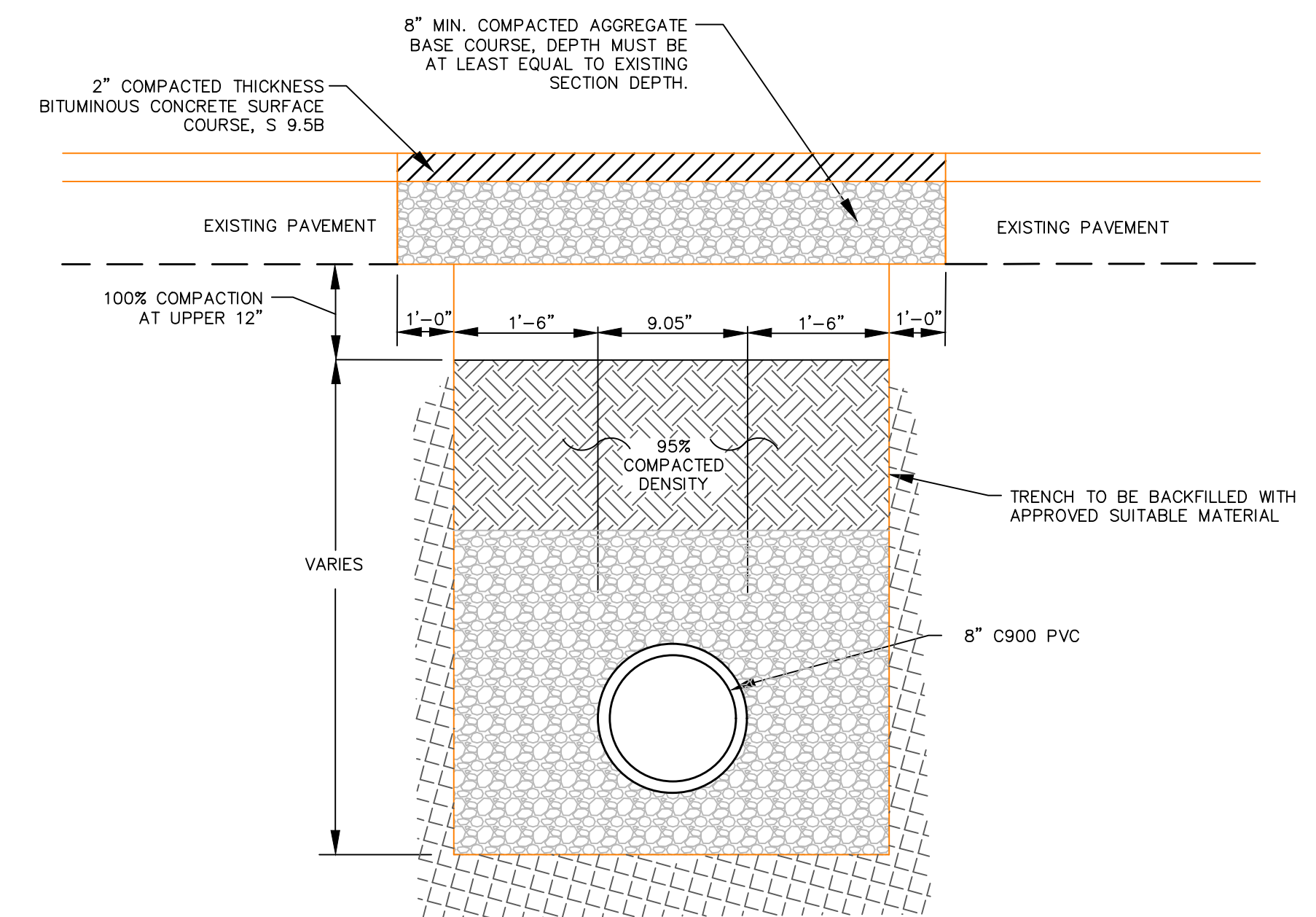
3 PVC PIPE BEDDING DETAIL  
SCALE: N.T.S.

Suggested: Full stone envelope for PVC pipes operating under pressure may not be necessary, unless existing soil conditions warrant additional support



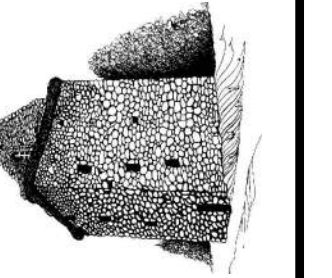
| PAVEMENT SCHEDULE                                       |   |
|---|---|
| 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S-9.5B       | APPLIED AT A RATE OF 112.5 LBS. PER SQUARE YARD-INCH (NCDOT SECTION 610)    |
| 5.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I-19.0C | APPLIED AT A RATE OF 114 LBS. PER SQUARE YARD-INCH (NCDOT SECTION 610)      |
| ASPHALT TACK COAT                                       | APPLIED AT AT RATE OF 0.02-0.05 GALLONS PER SQUARE YARD (NCDOT SECTION 605) |

2 ROAD PAVEMENT CUT & PATCH  
SCALE: N.T.S.



1 ASPHALT DRIVE CUT & PATCH  
SCALE: N.T.S.

Plans Prepared By:  
**Armstrong Glen, P.C.**  
9771-D Southern Pine Boulevard  
P.O. Box 7326 28241  
Charlotte, NC 28229-0345  
Phone: 704-529-0345  
Fax: 704-529-0495



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|     |      |    |             |
|     |      |    |             |



|               |                                 |             |            |
|---------------|---------------------------------|-------------|------------|
| 22105         | AS SHOWN                        | SCALE       | WHA        |
| JOB NO.       | 22105/LOWELL WATER SUPPLY/ACAP/ | CHECKED BY  | WHA        |
| CAD FILE PATH | DIC                             | DATE        | 01/13/2023 |
| PREPARED BY   | WHA                             | APPROVED BY |            |

WATER EXTENSION TO  
LOWELL ELEMENTARY  
SCHOOL

WATER MAIN DETAILS

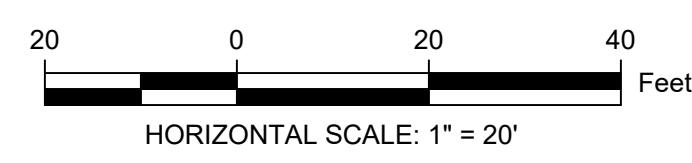
SHEET 6 OF 9

**GENERAL EROSION CONTROL LEGEND**

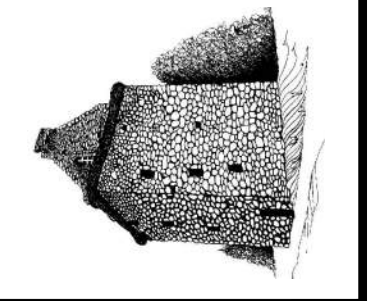
- SF ——— SF ——— SILT FENCE
- LOD ——— LOD ——— LIMITS OF DISTURBED AREA
- ( ) ——— COMPOST SOCK
- [ ] ——— INLET PROTECTION



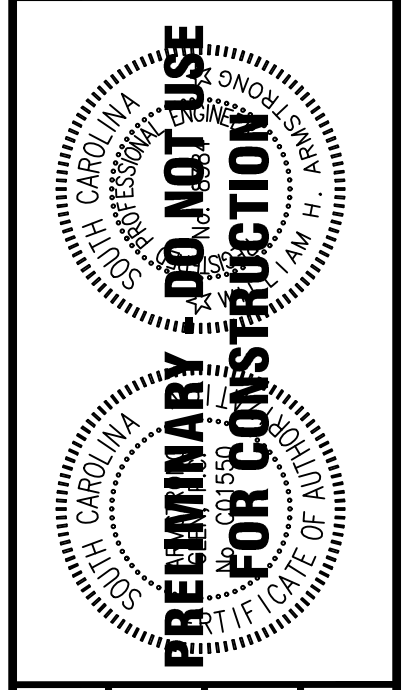
Know what's below.  
Call before you dig.



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P.O. Box 7326 28241  
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| NO. | DATE | BY | DESCRIPTION |
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|          |                                 |     |             |             |
|----------|---------------------------------|-----|-------------|-------------|
| AS SHOWN | SCALE                           | WHA | CHECKED BY  | DATE        |
| 22105    | 22105/LOWELL WATER SUPPLY/ACAD/ | WHA | 01/13/2023  |             |
| JOB NO.  | CAD FILE PATH                   | DIC | PREPARED BY | APPROVED BY |
|          |                                 |     | WHA         |             |

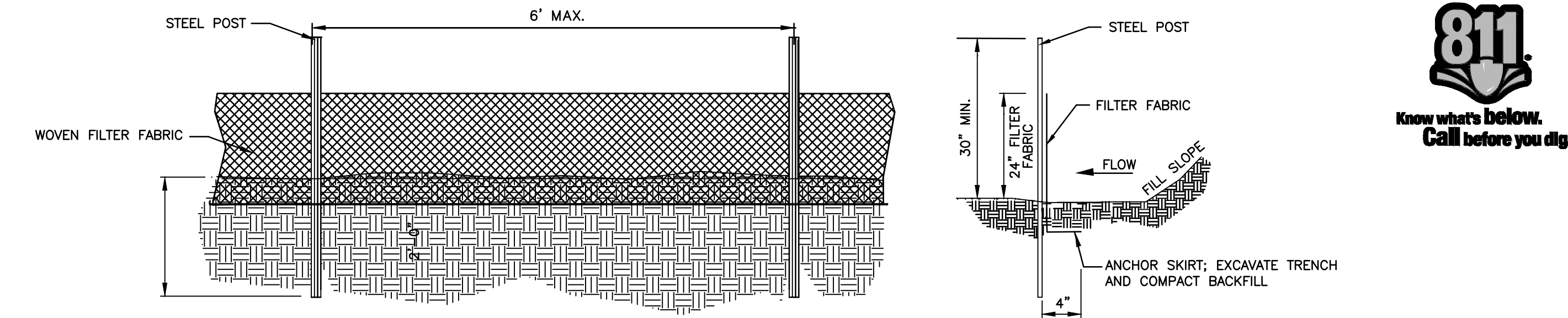
**WATER EXTENSION TO  
LOWELL ELEMENTARY  
SCHOOL**

**EROSION CONTROL PLAN**

SHEET **7** OF **9**

W:\PROJECT FILES\22105 - Lowell Water Supply\Acad\Design\Lowell ESD Planning ERO PLAN\_171372023\_9\_26\_23.dwg  
 W:\PROJECT FILES\22105 - Lowell Water Supply\Acad\Design\Lowell ESD Planning ERO PLAN\_171372023\_9\_26\_23.dwg





**GENERAL NOTES:**

1. FILTER FABRIC FENCE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
2. WOVEN FILTER FABRIC BE USED WHERE SILT FENCE IS TO REMAIN FOR A PERIOD OF MORE THAN 30 DAYS.
3. STEEL POSTS SHALL BE 5"-Ø IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
4. TURN SILT FENCE UP SLOPE AT ENDS.
5. GRAVE 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.
6. DRAINAGE AREA CAN NOT BE GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
7. SLOPE LENGTHS CAN NOT EXCEED CRITERIA SHOWN IN TABLE 6.62A NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
8. 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 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 DEPRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

## 3 TEMPORARY SILT FENCE

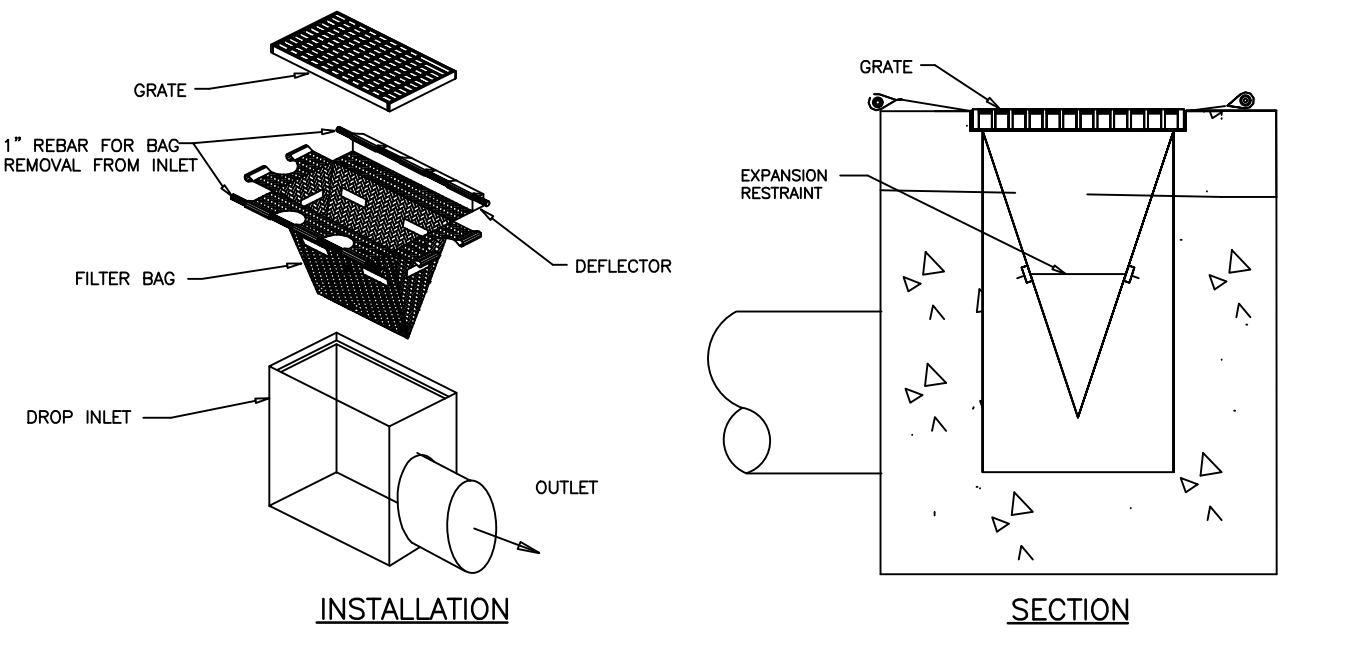
**NOTES:**

1. INLET MAINTENANCE SHALL BE DOCUMENTED IN PROJECT LOG BOOK.
2. FILTER TYPES SHALL BE APPROVED BY THE COUNTY 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 PROJECT ACCEPTANCE.
5. FILTER BAGS SHALL BE CLEANED OR REPLACED ON A REGULAR BASIS (NOT BE MORE THAN HALF FULL AT ANY TIME).

**CONSTRUCTION INSTALLATION**

**SPECIFICATIONS**

1. MATERIALS USED IN THE COMPOST SOCK MUST MEET THE SPECIFICATIONS OUTLINED ABOVE AND IN PRACTICE 6.18, COMPOST BLANKETS.
2. COMPOST SOCKS SHOULD BE LOCATED AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN.
3. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLOGS, AND OTHER DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF THE COMPOST SOCK.
4. COMPOST SOCKS SHOULD BE INSTALLED PARALLEL TO THE TOE OF A GRADED SLOPE, A MINIMUM OF 10 FEET BEYOND THE TOE OF THE SLOPE. SOCKS LOCATED BELOW FLAT AREAS SHOULD BE LOCATED AT THE EDGE OF THE LAND-DISTURBANCE. THE ENDS OF THE SOCKS SHOULD BE TURNED SLIGHTLY UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE END OF THE SOCKS.
5. FILL SOCK NETTING UNIFORMLY WITH COMPOST TO THE DESIRED LENGTH SUCH THAT LOGS DO NOT DEFIRM.
6. ØAK OR OTHER DURABLE HARDWOOD STAKES 2" X 2" IN CROSS SECTION SHOULD BE DRIVEN VERTICALLY PLUMB, THROUGH THE CENTER OF THE COMPOST SOCK. STAKES SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 4 FEET, OR A MAXIMUM INTERVAL OF 8 FEET IF THE SOCK IS PLACED IN A 4 INCH TRENCH. SEE FIGURE 6.66B. THE STAKES SHOULD BE DRIVEN TO A MINIMUM DEPTH OF 12 INCHES, WITH A MINIMUM OF 3 INCHES PROTRUDING ABOVE THE COMPOST SOCK.
7. IN THE EVENT STAKING IS NOT POSSIBLE (I.E., WHEN SOCKS ARE USED ON PAVEMENT) HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SOCK TO HOLD IT IN PLACE DURING RUNOFF EVENTS.
8. IF THE COMPOST SOCK IS TO BE LEFT AS PART OF THE NATURAL LANDSCAPE, IT MAY BE SEEDED AT TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION USING THE SEEDING SPECIFICATION IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
9. COMPOST SOCKS ARE NOT TO BE USED IN PERENNIAL OR INTERMITTENT STREAMS.



## 2 DROP INLET SACK PROTECTION

**VEGETATED COMPOST SOCK:**

FOR PERMANENT AREAS THE COMPOST SOCK CAN BE DIRECTLY SEEDED TO ALLOW VEGETATION ESTABLISHED DIRECTLY ON THE DEVICE. VEGETATION ON AND AROUND THE COMPOST SOCK WILL ASSURE SLOWING RUNOFF VELOCITY FOR INCREASED DEPOSITION OF POLLUTANTS. THE OPTION OF ADDING VEGETATION SHOULD BE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. ADDITIONAL SOIL AMENDMENT AND FERTILIZER ARE REQUIRED FOR VEGETATION ESTABLISHMENT IN THE VEGETATED COMPOST SOCK.

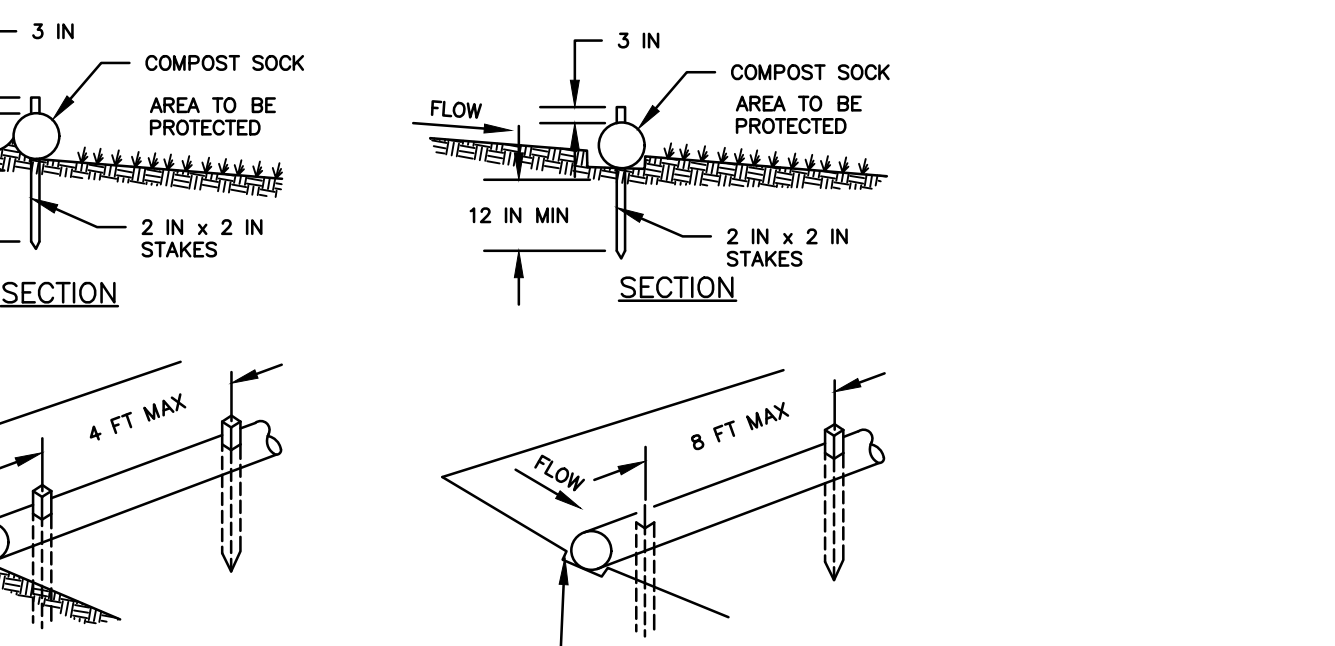


TABLE 6.66B - COMPOST SOCK SPACING VERSUS CHANNEL SLOPE

| CHANNEL SLOPE (%) | SPACING BETWEEN SOCKS (FEET) |                       |
|-------------------|------------------------------|-----------------------|
|                   | 8-INCH DIAMETER SOCK         | 12-INCH DIAMETER SOCK |
| 1                 | 67                           | 100                   |
| 2                 | 33                           | 50                    |
| 3                 | 22                           | 33                    |
| 4                 | 17                           | 25                    |
| 5                 | 13                           | 20                    |

**MATERIAL:**

THE COMPOST MEDIA SHALL BE DERIVED FROM WELL-DECOMPOSED ORGANIC MATTER SOURCE PRODUCED BY CONTROLLED AEROBIC (BIOLOGICAL) DECOMPOSITION THAT HAS BEEN SANITIZED THROUGH THE GENERATION OF HEAT AND STABILIZED TO THE POINT THAT IS APPROPRIATE FOR THIS PARTICULAR APPLICATION. COMPOST MATERIAL SHALL BE PROCESSED THROUGH PROPER THERMOPHILIC COMPOSTING, MEETING THE US ENVIRONMENTAL PROTECTION AGENCY'S DEFINITION FOR A PROCESS TO FURTHER REDUCE PATHOGENS (PRP), AS DEFINED AT 40 CFR PART 503. THE COMPOST PORTION SHALL MEET THE CHEMICAL, PHYSICAL AND BIOLOGICAL PROPERTIES SPECIFIED IN PRACTICE 6.18, COMPOST BLANKETS TABLE 6.18A, WITH THE EXCEPTION OF PARTICLE SIZE. SLIGHTLY MORE COARSE COMPOST IS RECOMMENDED FOR THE SOCKS, AS FOLLOWS:

| PARTICLE SIZE DISTRIBUTION | PERCENT PASSING SELECTED SIEVE MESH SIZE, DRY WEIGHT BASIS |
|----------------------------|--|
| 2"                         | 99 % (3 MAXIMUM PARTICLE SIZE)                             |
| 3/8"                       | 30-50 %  |

THIS SPECIFICATION COVERS COMPOST PRODUCED FROM VARIOUS ORGANIC BY-PRODUCTS, FOR USE AS AN EROSION AND SEDIMENT CONTROL MEASURE ON SLOPED AREAS. THE PRODUCT'S PARAMETERS WILL VARY BASED ON WHETHER VEGETATION WILL BE ESTABLISHED ON THE TREATED SOIL. ONLY COMPOST PRODUCTS THAT MEET ALL APPLICABLE STATE AND FEDERAL REGULATIONS PERTAINING TO ITS PRODUCTION AND DISTRIBUTION MAY BE USED IN THIS APPLICATION. APPROVED COMPOST PRODUCTS MUST MEET RELATED STATE AND FEDERAL CHEMICAL CONTAMINANT (E.G., HEAVY METALS, PESTICIDES, ETC.) AND PATHOGEN LIMIT STANDARDS PERTAINING TO THE FEEDSTOCKS (SOURCE MATERIALS) IN WHICH IT ARE DERIVED. IN REGIONS SUBJECT TO HIGHER RATES OF PRECIPITATION AND/OR GREATER RAINFALL INTENSITY, LARGER COMPOST SOCKS SHOULD BE USED. IN THESE PARTICULAR REGIONS COARSER COMPOST PRODUCTS ARE PREFERRED AS THE COMPOST SOCK MUST ALLOW FOR AN IMPROVED WATER PENETRATION RATE. THE DESIGNER SHOULD CHECK THE FLOW RATE PER FOOT OF SOCK IN ORDER TO ENSURE DRAINAGE RATE OF THE COMPOST SOCK BEING USED IS ADEQUATE. THE REQUIRED FLOW RATES ARE OUTLINED IN TABLE 6.66C.

TABLE 6.66c - COMPOST SOCK INITIAL FLOW RATES

| COMPOST SOCK DESIGN DIAMETER | 8-INCH     | 12-INCH     | 18-INCH     | 24-INCH     | 32-INCH     |
|------------------------------|------------|-------------|-------------|-------------|-------------|
| MAXIMUM SLOPE LENGTH (<=2%)  | 600 FT     | 750 FT      | 1,000 FT    | 1,300 FT    | 1,650 FT    |
| HYDRAULIC FLOW THROUGH RATE  | 7.5 GPM/FT | 11.3 GPM/FT | 15.0 GPM/FT | 22.5 GPM/FT | 30.0 GPM/FT |

## 1 COMPOST SOCK

**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes

| Site Area Description                                      | Stabilize within this many calendar days after ceasing land disturbance | Timeframe variations   |
|--|---|--|
| (a) Perimeter dikes, swales, ditches, and perimeter slopes | 7   | None   |
| (b) High Quality Water (HQW) Zones                         | 7   | None   |
| (c) Slopes steeper than 3:1                                | 7   | If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.<br>7 days for slopes greater than 50' in length and soft slopes steeper than 4:1.<br>7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones<br>-10 days for Falls Lake Watershed |
| (d) Slopes 3:1 to 4:1                                      | 14  | 7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones<br>-10 days for Falls Lake Watershed unless there is zero slope  |
| (e) Areas with slopes flatter than 4:1                     | 14  | 7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones<br>-10 days for Falls Lake Watershed unless there is zero slope  |

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

| Temporary Stabilization  | Permanent Stabilization   |
|--|---|
| <ul style="list-style-type: none"> <li>• Temporary grass seed covered with straw or other mulches and tackifiers.</li> <li>• Hydroseeding.</li> <li>• Rolled erosion control products with or without temporary grass seed.</li> <li>• Appropriately applied straw or other mulch.</li> <li>• Plastic sheeting.</li> </ul> | <ul style="list-style-type: none"> <li>• Permanent grass seed covered with straw or other mulches and tackifiers.</li> <li>• Geotextile fabrics such as permanent soil reinforcement matting.</li> <li>• Hydroseeding.</li> <li>• Shrubs or other permanent plantings covered with mulch.</li> <li>• Uniform and evenly distributed ground cover sufficient to restrain erosion.</li> <li>• Retaining walls.</li> <li>• Rolled erosion control products with grass seed.</li> </ul> |

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging off-site.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

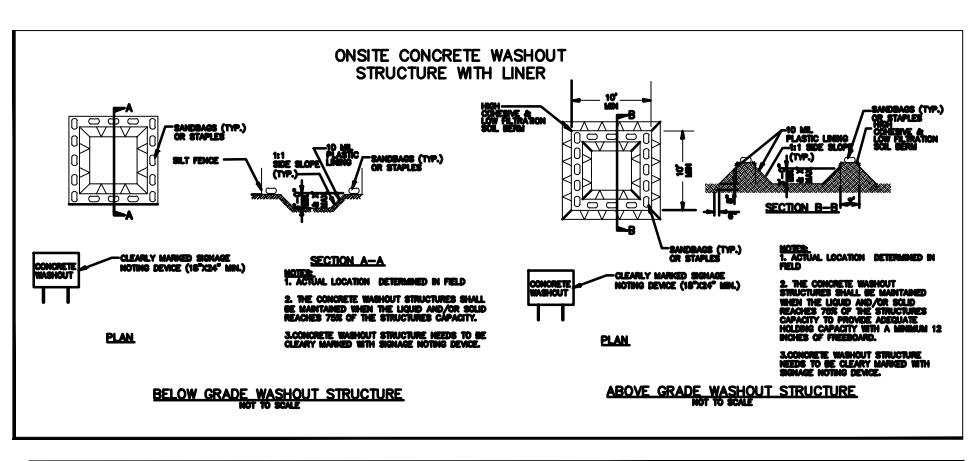
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Anchor all lightweight items in waste containers during times of high winds.

**PORTABLE TOILETS**

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



**CONCRETE WASHOUTS**

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle steel, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

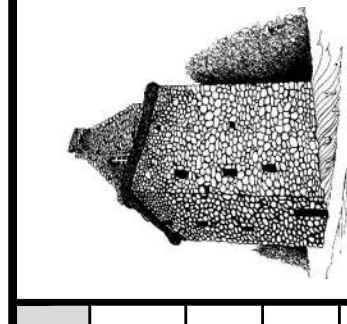
**HERBICIDES, PESTICIDES AND RODENTICIDES**

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

**HAZARDOUS AND TOXIC WASTE**

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

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# NCG01 GROUND STABILIZATION AND MATERIALS HANDLING EFFECTIVE: 04/01/19

## PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

**SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

| Inspect  | Frequency (during normal business hours)   | Inspection records must include:   |
|--|--|--|
| (1) Rain gauge maintained in good working order              | Daily  | Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual day rainfall information is available, record the cumulative rain gauge observations for each weekend or attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-measuring device approved by the Division. |
| (2) E&S Measures   | At least once per 7 calendar days and within 24 hours of a rain event > 3.0 inch in 24 hours | 1. Identification of the measures inspected.<br>2. Date and time of the inspection.<br>3. Name of the person performing the inspection.<br>4. Indication of whether the measures were operating properly.<br>5. Description of maintenance needs for the measure.<br>6. Description, evidence and date of corrective actions taken.  |
| (3) Stormwater discharge outlets (SDOs)                      | At least once per 7 calendar days and within 24 hours of a rain event > 3.0 inch in 24 hours | 1. Identification of the discharge outlets inspected.<br>2. Date and time of the inspection.<br>3. Name of the person performing the inspection.<br>4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or debris.<br>5. Indication of visible sediment leaving the site.<br>6. Description, evidence, and date of corrective actions taken.   |
| (4) Perimeter of site  | At least once per 7 calendar days and within 24 hours of a rain event > 3.0 inch in 24 hours | 1. Actions taken to clean up or stabilize the sediment that has left the site limits.<br>2. Description, evidence, and date of corrective actions taken.<br>3. An explanation as to the actions taken to control future releases.  |
| (5) Streams or wetlands onsite or offsite (where applicable) | At least once per 7 calendar days and within 24 hours of a rain event > 3.0 inch in 24 hours | If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:<br>1. Description, evidence and date of corrective actions taken, and<br>2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(c) of this permit.  |
| (6) Ground stabilization measures                            | After each phase of grading  | 1. The date of grading installation of perimeter E&S measures, clearing and grubbing, installation of storm drainage facilities, completion of all land disturbing activity, construction or redevelopment, permanent ground cover.<br>2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.                                 |

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

## PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

**SECTION B: RECORDKEEPING**

1. E&S Plan Documentation

The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be kept on site and available for inspection at all times during normal business hours.

| Item to Document  | Documentation Requirements  |
|---|---|
| (a) Each E&S measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S plan. | Initial and date each E&S measure on a copy of the approved E&S plan or complete, date and sign an inspection report that lists each E&S measure shown on the approved E&S plan. This documentation is required upon the initial installation of the E&S measures or if the E&S measures are modified after initial installation. |
| (b) A phase of grading has been completed.  | Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate completion of the construction phase.  |
| (c) Ground cover is located and installed in accordance with the approved E&S plan.   | Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.  |
| (d) The maintenance and repair requirements for all E&S measures have been performed.   | Complete, date and sign an inspection report.   |
| (e) Corrective actions have been taken to E&S measures.   | Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate the completion of the corrective action.   |

2. Additional Documentation to be kept on Site

In addition to the E&S plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the hard-copy copies will be allowed if shown to provide equal access and utility as the required paper records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. (40 CFR 122.41)

## PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless it is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&S plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&S plan authority has approved these items.
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems.
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above.
- (e) Velocity dissipation devices such as check dams, sediment pans, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

## PART III, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless it is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&S plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&S plan authority has approved these items.
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems.
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above.
- (e) Velocity dissipation devices such as check dams, sediment pans, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

## PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

**SECTION C: REPORTING**

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 149-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

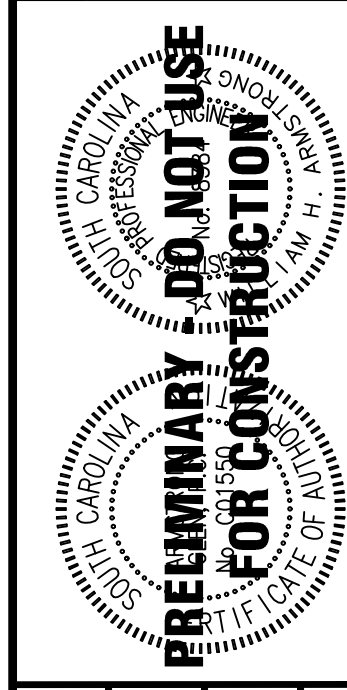
**Reporting Timeframes (After Discovery) and Other Requirements**

(a) Anticipated bypasses (40 CFR 122.41(m)(3))

- **Within 24 hours**, an oral or electronic notification.
- **Within 7 calendar days**, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.
- If the stream is named on the [NC 303\(d\) list](#) as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.

(b) Oil spills and release of hazardous substances per Item 1(b) above

- **A report at ten ten days before the date of the bypass, if possible.** The report shall include an evaluation of the anticipated quality and effect of the bypass.
- **Within 24 hours**, an oral or electronic notification.
- **Within 7 calendar days**, a report that includes an evaluation of the quality and effect of the bypass.
- **Within 24 hours**, an oral or electronic notification.
- **Within 7 calendar days**, a report that contains a description of the noncompliance, and its causes, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. (40 CFR 122.41(f)(6)).
- Division staff may waive the requirement for a written report on a case-by-case basis.



|                |             |
|----------------|-------------|
| AS SHOWN SCALE | WHA         |
| CHECKED BY     | DATE        |
| 01/17/2023     |             |
| WHA            | APPROVED BY |

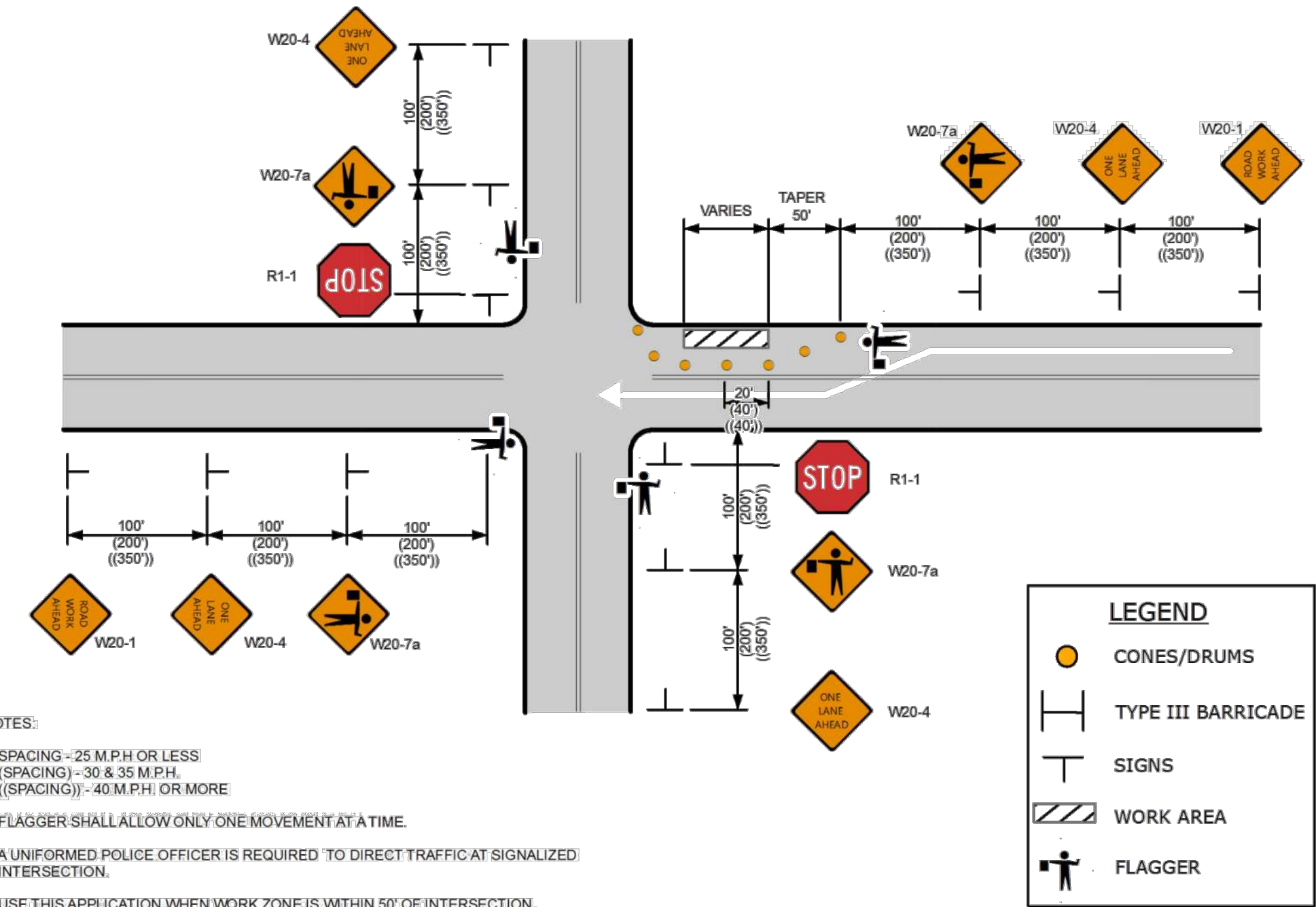
**WATER EXTENSION TO LOWELL ELEMENTARY SCHOOL**

**EROSION CONTROL DETAILS**

SHEET 8 OF 9

# NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING EFFECTIVE: 04/01/19



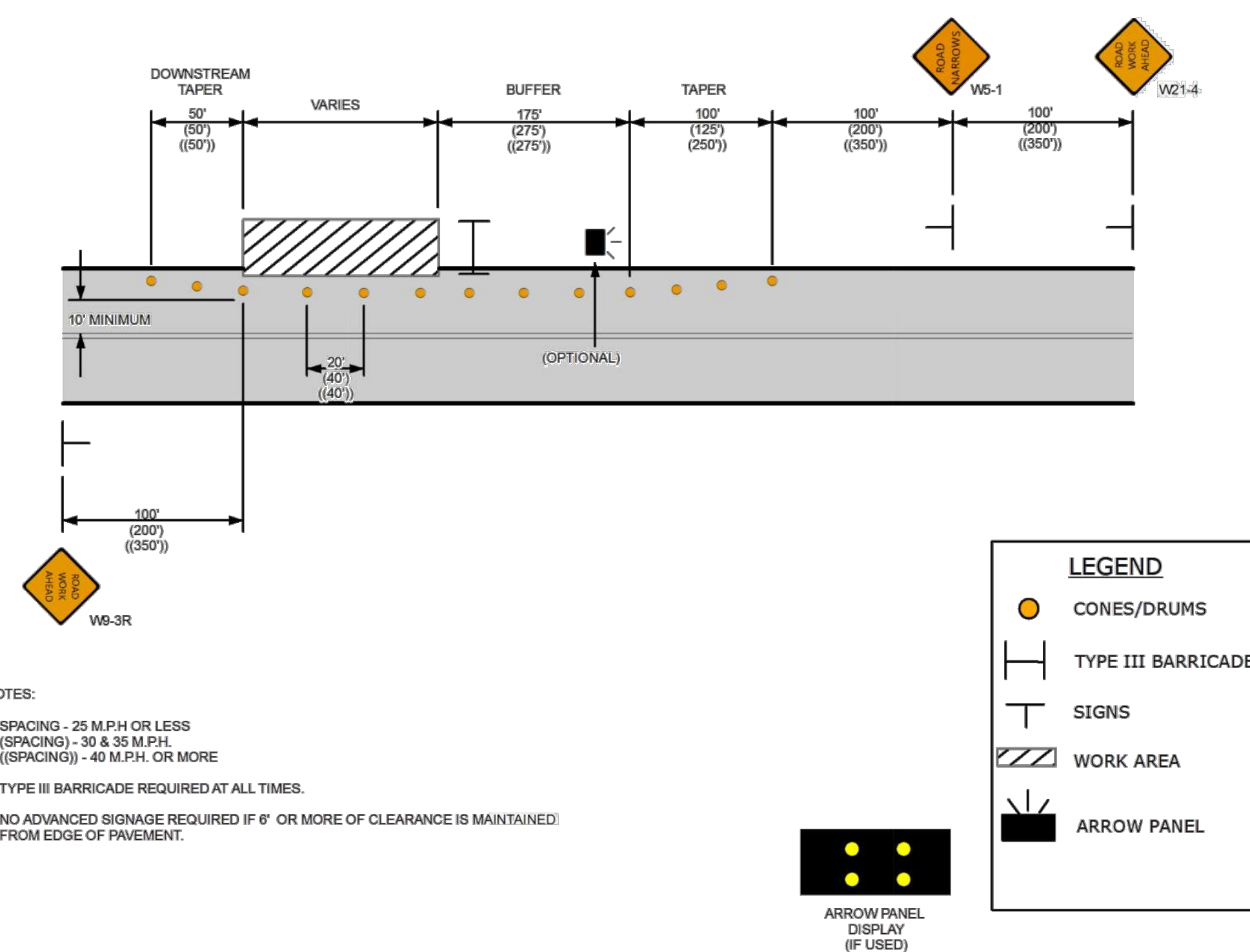


- NOTES:
1. SPACING - 25 M.P.H. OR LESS  
(SPACING) - 30 & 35 M.P.H.  
(SPACING) - 40 M.P.H. OR MORE
  2. FLAGGER SHALL ALLOW ONLY ONE MOVEMENT AT A TIME.
  3. A UNIFORMED POLICE OFFICER IS REQUIRED TO DIRECT TRAFFIC AT SIGNALIZED INTERSECTION.
  4. USE THIS APPLICATION WHEN WORK ZONE IS WITHIN 50' OF INTERSECTION.

**LEGEND**

- CONES/DRUMS
- TYPE III BARRICADE
- SIGNS
- ▨ WORK AREA
- FLAGGER

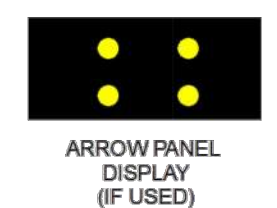
2 WORK AREA BEFORE AN INTERSECTION  
9 (FLAGGER CONTROL) N.T.S.



- NOTES:
1. SPACING - 25 M.P.H. OR LESS  
(SPACING) - 30 & 35 M.P.H.  
(SPACING) - 40 M.P.H. OR MORE
  2. TYPE III BARRICADE REQUIRED AT ALL TIMES.
  3. NO ADVANCED SIGNAGE REQUIRED IF 6' OR MORE OF CLEARANCE IS MAINTAINED FROM EDGE OF PAVEMENT.

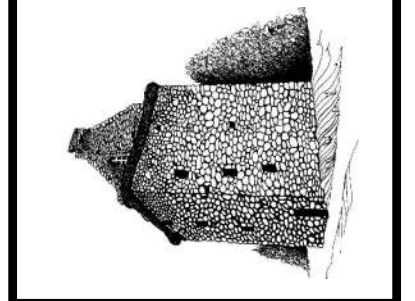
**LEGEND**

- CONES/DRUMS
- TYPE III BARRICADE
- SIGNS
- ▨ WORK AREA
- ARROW PANEL

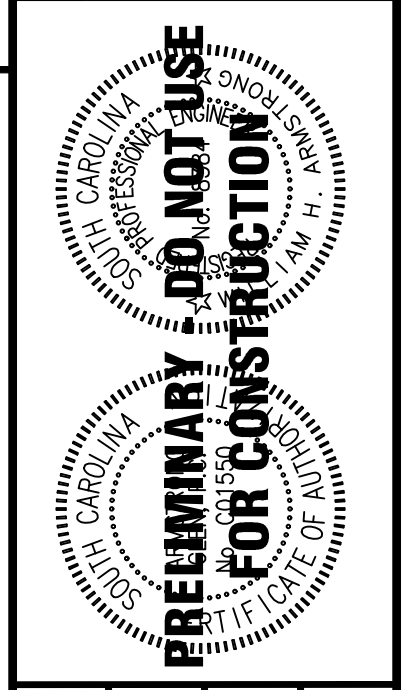


1 WORK AREA ON SHOULDER  
9 (MINOR ENCROACHMENT ON PAVEMENT) N.T.S.

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| NO. | DATE | BY | DESCRIPTION |
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| 22105         | AS SHOWN                        | SCALE       | DATE       |
| JOB NO.       | 22105/LOWELL WATER SUPPLY/ACAD/ | WHA         | 01/13/2023 |
| CAD FILE PATH | DC                              | PREPARED BY | DATE       |
|               | WHA                             | APPROVED BY |            |

**WATER EXTENSION TO  
LOWELL ELEMENTARY  
SCHOOL**

**TRAFFIC CONTROL  
DETAILS**

SHEET 9 OF 9