

REQUEST FOR BOARD ACTION

Henderson County Board of Commissioners

Meeting Date: April 7, 2008

Subject: Sewer Line Extension (Offsite) - Hillandale Elementary/ Flat Rock Middle

Attachments: Vicinity Map
Engineer's Report
Project Summary
Project Map
County Review Sheet

Summary of Request:

The City of Hendersonville has requested that the County comment on the proposed offsite sewer line extension for Hillandale Elementary and Flat Rock Middle Schools. The sewer line is approximately 1,840 linear feet and will replace the existing sewer line servicing the Hillandale Elementary School to the east, along Blue Ridge Road. The project's location within the urban services area is consistent with the Henderson County 2020 Comprehensive Plan.

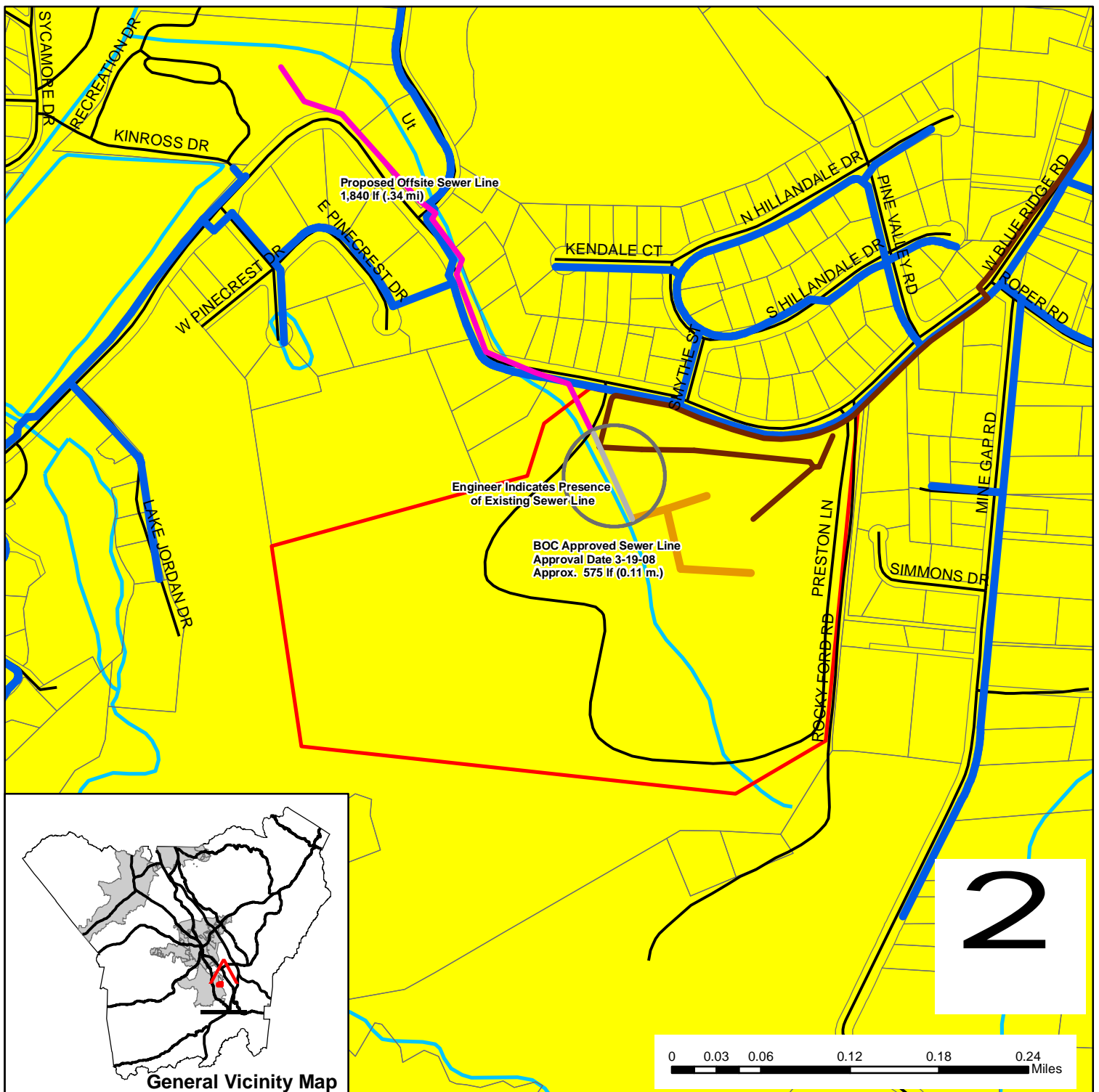
Please also note that on March 19, 2008 the Board of Commissioners approved an onsite sewer line extension for Hillandale Elementary. This application is for an offsite sewer line extension; a City of Hendersonville Project Summary Sheet, with backup documents and County Review Sheet with Staff comments, are attached for Board review and action.

Board Action Request:

Action by the Board of Commissioners is needed to either grant or deny this request. If the Board decides to approve the requested extension the following motion has been provided.

Suggested Motion:

I move that the Board approve the Hillandale Elementary and Flat Rock Middle School sewer line extension and direct Staff to convey the County's comments to the City of Hendersonville.



Hillandale Elementary/ Flat Rock Middle

OWNER/DEVELOPER: Henderson County
Board of Public Schools
ZONING: R-1
SEWER SYSTEM: Public

Map Created by the Henderson County Planning Department on 3/07/2008
See Master Plan for exact location of project.

** Engineer Indicates the presence of a sewer line near the existing creek.

Legend

- Proposed Offsite Sewer Line
- Proposed Onsite Sewer Line
- Existing Hendersonville Sewer Line
- Official Blue Line Streams
- Existing Hendersonville Water Line
- Streets
- Hillandale Elementary
- Urban Services Area

Laughter, Austin and Associates, P.A.

Engineering • Planning • Land Surveying
131 FOURTH AVENUE EAST
HENDERSONVILLE, NORTH CAROLINA 28792

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Donald J. Austin
Thomas P. Welbourn
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WATS 1-800-858-LAND

PROJECT NARRATIVE.....Sewer

TO: Lee Smith, Utilities Director
Water and Sewer Department
City of Hendersonville

From: Laughter, Austin and Associates, PA

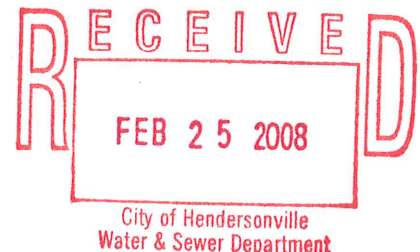
Date: Monday, February 25, 2008

Subject: HILLDALE ELEMENTARY & FLAT ROCK MIDDLE SCHOOLS
PARCEL ID NUMBER: 9906531
SANITARY SEWER EXTENSION

Ref: LAA Job No.: LAA07252

An extension of the existing gravity sewer collection system located on the East side of King Creek in BonClarken is required to provide gravity sewer service to the above referenced existing/new public facility(s). This sewer extension will generate approximately 15,000 GPD of domestic wastewater. The existing site to be served is currently owned by:

HENDERSON COUNTY BOARD OF PUBLIC EDUCATION
Bo Caldwell, Ed.S, Senior Director, Facility Management
414 Fourth Ave. West
Hendersonville, North Carolina 28739
Contact: Bo Caldwell
Office 697-4516, Mobile 388-0271
Email address; <mailto:bcaldwell@henderson.K12.nc.us>



The water service for this project is existing.

At the present time, **Bo Caldwell** will be responsible for signing the Sewer Line Extension Agreement (SLEA) with the City of Hendersonville.

The project will consist of approximately 1840 LF of 8" AWWA SDR35 PVC and ANSI/AWWA C151/A21.5 CL350 DIP gravity sewer line, 11 Precast Concrete Manholes, 2 NCDOT Road Bore & Jack, and all other related appurtenances. For more information regarding this proposed project see the accompanying preliminary plans.

This project is estimated to be completed (90) days after project has begun assuming favorable weather conditions. I, or an authorized representative of my company, will be observing and monitoring the progress of construction for this project. Should you have any questions, concerns or comments regarding this project please feel free to contact me.

Engineer's Signature
Date



FEB 25 2008

Jon H. Laughter, PE

TECHNICAL SPECIFICATIONS

City of Hendersonville
to serve

**Hillandale Elementary &
Flat Rock Middle School
Gravity Sewer Extension**

OFF
Blue Ridge Road- SR1812

FOR

Henderson County Board of Public Education

HENDERSON COUNTY

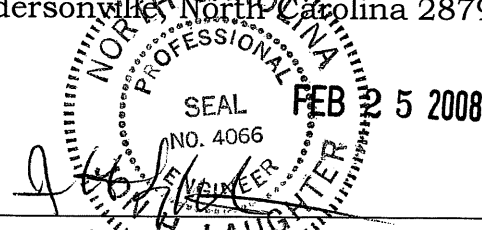
JOB NO. 07-252

February 25, 2008

PREPARED BY:

**LAUGHTER, AUSTIN AND
ASSOCIATES, P.A.**

131 Fourth Avenue East
Hendersonville, North Carolina 28792



JON H. LAUGHTER
PROFESSIONAL ENGINEER
N.C. REGISTRATION NUMBER 4066

SECTION 1400

SANITARY SEWER COLLECTION SYSTEM

SEWER PIPE & MATERIALS

1400.0 SANITARY SEWER LINES

1400.1 Reference Specifications

Specifications (current at the time of advertisement for bids) of the American Society for Testing Materials (ASTM) and the American National Standards Institute (ANSI) shall apply (unless otherwise specified) in all cases where material is covered by an item in these Specifications, and all material used under this Contract shall conform fully to these current Specifications or be removed from the job at the direction of the Owner. Failure of the Owner to condemn materials on preliminary inspection shall not be grounds for acceptance if future defects are found.

1400.2 Materials

- 1400.2.0 PVC pipe shall be SDR-35 and shall be the longest standard lengths available for each size of pipe.
- 1400.2.1 Vitrified clay pipe shall be extra strength clay pipe conforming to ASTM C700.
 - 1400.2.1.1 Nominal laying lengths shall be the longest lengths available for each size of pipe.
 - 1400.2.1.2 Joints shall be bell and spigot compression type conforming to ASTM C425, or compression sleeve type conforming to ASTM C594, Type B. Joints consisting of a combination polyester spigot with "O" ring and a helically wound glass filament coupling bonded mechanically and chemically to the pipe and conforming to the performance requirements of ASTM C425 will be acceptable.
 - 1400.2.1.3 Pipe shall be smooth, free from cracks, blisters or other imperfections, and shall be of true theoretical shape and form throughout its length.
 - 1400.2.1.4 Each joint shall be clearly and legibly marked with the manufacturer's name or identifying symbol, and the letter ES shall be indented on the exterior of the pipe near the socket.
 - 1400.2.1.5 Vitrified clay service wyes shall be extra strength clay service wyes conforming to ASTM C700.

- 1400.2.2 Cast iron pipe shall be of 18/40 gray iron conforming to ANSI Standards A21.1, A21.6, and A21.8, and Federal Specification WW-P-421, Grade A, Type II or III, Class 150, unless otherwise noted. Pipe shall have push-on or mechanical joint ends conforming to ANSI A21.11, except where other type ends are shown or required.
- 1400.2.2.1 Each pipe shall be coated on the outside with a standard bituminous coating.
- 1400.2.2.1 Interior surface of each pipe, for sewers, shall be lined with a standard bituminous coating, 1 mil thick.
- 1400.2.3 Ductile iron pipe shall be of 60-42-10 ductile cast iron conforming to ANSI Standards A21.51-1976 and A21.50-1976. Pipe shall be designed for a rated working pressure of 150 psi plus a surge allowance of 100 psi, unless otherwise noted, and a thickness class of 50 through 56 as required by the laying condition and depth of cover. Pipe shall have push-on or mechanical joint ends conforming to ANSI A21.11, except where other type ends are shown or required.
- 1400.2.3.1 Pipe coating and lining requirements shall be as specified for cast iron pipe.
- 1400.2.3.2 Where used in pipe encasement and where directed by the Owner, ductile iron pipe shall be of 60-42-10 ductile cast iron conforming to ANSI A21.51-1971 and Federal Specifications WW-P-421, Grade C, Type III mechanical joints, Class 150 unless otherwise noted. Pipe coating and lining requirements shall be as specified for cast iron pipe.
- 1400.2.4 Cast iron and ductile iron fittings and cast iron service wyes shall be of 18/40 gray iron and shall conform to ANSI A21.10, with mechanical joint ends conforming to ANSI A21.11. All other fittings shall be bituminous coated and cement mortar lined as required for pipe. Where flanged ends are required, flanges shall conform to ANSI B16 and B16b.
- 1400.2.5 Concrete for protection, blocking and other uses shall be composed of Portland cement, sand, coarse aggregate, water, and approved admixtures, and designed to provide a 3,000 psi compressive strength at 28 days. Steel reinforcing bars when required shall conform to ASTM A615, Grade 40.
- 1400.2.6 Cast iron soil pipe used for sewer services shall be service weight iron soil pipe, coated, and shall meet Federal Specification WW-401. Joints in cast iron soil pipe to bell-and-spigot type using lead or stab-in compression methods.

1400.2.7 Truss pipe shall conform to material specifications and installation requirements of ASTM D-26-80.

1400.3 **Material Testing**

1400.3.0 PVC pipe shall be subject to such testing as the Owner may require should its acceptability be questioned.

1400.3.1 Vitrified clay pipe shall be tested by an independent laboratory acceptable to the Owner. Tests shall be made in accordance with ASTM C301, and a test certificate shall be furnished to the Owner by the laboratory, for each shipment of pipe, showing that the pipe conforms to these Specifications. Each joint of pipe shall be stenciled with the laboratory's initials, and any pipe arriving at the job site unstenciled will be rejected.

1400.3.2 Ductile iron pipe and cast iron pipe shall be subject to such testing as the Owner may require should its acceptability be questioned.

1400.3.3 The Owner may perform such destructive and non-destructive testing as he deems necessary; procedures will follow those of the American Society for Testing and Materials (ASTM) or the American Association of State Highway Transportation Officials (AASHTO). The Owner reserves the right to modify these procedures in testing ditch compaction to allow a deeper test to be made using the sandcone method; nuclear testing gauges may be employed for density measurements.

1400.3.4 Responsibility for material furnished by the Contractor shall rest solely with the Contractor, and he shall replace at his own expense all material found to be defective in manufacture or damaged after delivery by manufacturer provided, however, that the Contractor may have material defective in manufacture replaced by the manufacturer.

1400.4 **Installation**

Pipe shall be installed in accordance with the best practice, manufacturer's instructions, and Owner's direction. Where the pipeline crosses under or is installed on a highway or railroad right of way, work shall be done in accordance with such requirements specified.

1400.4.1 Loading and unloading of pipe and accessories shall at all times be performed with care to avoid damage.

1400.4.2 Locations

Pipelines shall be installed in the locations shown on the Plans and to the alignment and grade shown thereon. Prior to beginning work on any section of the line, the Contractor shall consult with the Owner and determine that all rights-of-way and necessary permits have been obtained. Contractor shall familiarize himself with all conditions and/or limitations of such rights-of-way permits and shall fully comply with all such requirements. All work shall be confined to the limits of rights-of-way, and any encroachment beyond these limits shall be the Contractor's liability.

1400.4.3 Clearing and grubbing along pipelines shall be as specified in the section on site clearing.

1400.4.4 Protection shall be afforded to all underground and surface structures using methods acceptable to the Engineer. This protection shall be furnished by the Contractor at his own expense. If damages occur, repairs shall be made promptly at the Contractor's expense. All repair work shall be satisfactory to the Engineer, the County, and the Owner of the utility.

1400.4.5 Deviations from line and grade may be made only with the approval of the Engineer when such deviations arise from grade or line conflicts with existing utilities, structures, or other sources of conflict.

1400.4.6 Subsurface explorations shall be made by the Contractor at the direction of the Engineer where it is necessary to determine the location of existing pipes, valves, or other underground structures. No additional compensation will be allowed for subsurface exploration, but will be considered incidental to other items of construction.

1400.4.7 Trench excavation and backfill shall be confined to the construction area as shown on the Plans and shall be done in an approved manner with proper equipment. Excavation and filling work shall be suspended during rain and inclement weather, or when unsatisfactory field conditions are encountered, unless otherwise directed by the Engineer. At all times during construction, Contractor shall maintain proper drainage in the construction area and shall take all measures necessary for erosion and sediment control.

1400.4.7.1 Trenches for pipe shall be dug true to line and grade.

- 1400.4.7.2 Sides of trenches shall be kept as nearly vertical as possible. Maximum trench width up to a level 1 foot above the top of the pipe shall be noted on the Plans, plus sheeting where necessary. Where paving is to be cut, it shall be cut in advance of trenching 1 foot wider than the specified width of the trench.
- 1400.4.7.3 Where soil conditions prohibit vertical walls, trench width shall be as specified above with the remainder being held to the least possible width greater than that specified. Where soil conditions prevent trench excavation without excessive widths, or where directed by the Engineer, sheeting shall be used to support trench walls, as specified hereinafter.
- 1400.4.7.4 For gravity sewer lines, trench bottoms shall be prepared as follows:
- a. Trenches shall be excavated below the established subgrade as required to provide for preparation of flat trench bottoms in strict accordance with the improved ditch bedding details as shown. Pipe bedding and backfill shall be Class "C," except Class "B" bedding shall be used where specifically noted on the Plans or where directed by the Engineer.
 1. For Class "C" bedding, the bedding material shall have a minimum thickness under the pipe barrel as noted in the improved ditch bedding details.
 2. For Class "B" bedding, the bedding material shall have a minimum thickness under the pipe barrel as specified above for Class "C", and shall extend not less than halfway up the pipe barrel at both sides.
 - b. Angular material shall be used for sewer pipe bedding for all subgrade conditions. Select material will not be used for sewer pipe bedding. Bedding material shall be well compacted and so shaped that the load is supported throughout the entire length of the pipe barrel and not at the pipe bells. Bell holes shall be dug to relieve the bells of the load and to provide for completion of joints. Angular material shall be crushed stone or gravel conforming to ASTM C33, Size No. 67, with size range of 1/4 inch to 3/4 inch.
- 1400.4.7.5 Water which is found or accumulates in trenches shall be pumped, bailed or otherwise removed. All machinery required for pumping or bailing shall be furnished by the Contractor. Trenches shall be kept free of water while pipe is being laid. Disposal of water after removal shall be satisfactory to the Engineer.
- 1400.4.7.6 Where required and as approved by the Engineer, sheeting and bracing shall be used to prevent injury to persons and caving of trench walls.

Sheeting and bracing shall be left in place until the trench is refilled to a safe limit. The top portion may then be removed, but the lower portion shall remain undisturbed. A trench box may be used if ditch widths do not exceed the maximum indicated in the improved ditch bedding details.

- 1400.4.7.7 All blasting where required, shall be done under the personal supervision of a person thoroughly skilled in this class of work and in accordance the section on Blasting. All necessary measures to protect life and property shall be taken. Where in close proximity to buildings, transmission lines, telephone lines or other facilities, timber mats other means of preventing damage from flying debris shall be used. Ample and suitable signals shall be given in proximity to the work before each blast, and flag men shall be placed on all roads beyond the danger zone in every direction to warn traffic. Contractor shall be responsible for all damage resulting from blasting.
- 1400.4.7.8 Backfilling of trenches shall progress as rapidly as pipelaying and testing will permit.
- 1400.4.7.9 Backfill around the pipe and up to 1 foot above the top of the pipe shall conform to the bedding class required and shall be placed by hand in layers not more than 6 inches thick. Select material free of large stones, hard lumps, debris, and other objectionable material shall be used for the portion of backfill above the angular material. As fast as the angular or select material is placed, it shall be cut under the haunches of the pipe with a shovel and thoroughly compacted with light tamps for the full width of the trench to provide support for the bottom and sides of the pipe. Filling shall be carried up evenly on both sides.
- 1400.4.7.10 The remainder of the backfill material shall be placed as specified below. No frozen earth, debris, or rocks measuring more than 6 inches shall be used in this portion of backfill.
- a. Under pavement, backfill material shall be placed in layers not more than 6 inches thick and thoroughly compacted to prevent future settlement. Compaction shall be at least 90% of maximum as determined by Modified Proctor Test (ASTM D1557, Method A). Rolling with rubber tired vehicles or track type equipment will not be allowed. The top of the trench shall be filled with base for pavement as specified in Section 1000.1, well mixed and compacted. Excess material shall be promptly removed from the site, and the pavement surface cleaned of objectionable material. Contractor shall correct any future settlement with the guarantee period.

- b. In unpaved roads and shoulders, backfill shall be placed in layers not more than 8 inches thick and thoroughly compacted with mechanical tampers. The top 6 inches of the trench shall be filled with well compacted topsoil.
- c. For cross-country lines, outfall lines and at other points where damage to the system or property will not occur, backfill shall be placed in 12-inch layers and compacted with mechanical tampers. Upper portion of the backfill, more than 5 feet above the pipe, may be compacted by rolling with wheeled equipment. Excess material may be mounded on the trench unless otherwise directed by the Owner.

1400.4.7.11 The Contractor shall be responsible for Final subsidence of all trenches and shall leave trenches flush with the original ground after all settlement has taken place. Any settlement of backfill below finish grade shall be promptly corrected. Trenches shall be protected against scour due to surface drainage.

1400.4.7.12 Backfilling around manholes shall, in general, conform to the requirements for backfilling trenches, except that no backfill shall be placed around manholes until all mortar has properly set.

1400.4.8 **Pipe Installation**

Pipe shall be hauled to the site and distributed neatly along the trench prior to laying. All pipe shall be protected during handling against impact shocks and free fall and shall be kept clean at all times. All damaged pipe shall be rejected and removed from the work site.

1400.4.8.1 Gravity sewer pipe in trenches shall be laid to produce a straight line of pipe on a uniform grade. Each pipe shall be laid to form a close joint with the preceding pipe and so as to form a smooth inside flow line. Any misalignment of pipe shall be corrected by the Contractor at his expense. All pipe shall be laid up grade.

1400.4.9 Manholes shall be constructed as specified in the section on Standard 4' Diameter Sanitary Sewer Manholes.

1400.4.10 Cutting and replacing of pavement shall be as specified in the section on Cutting of Existing Pavement.

1400.4.11 Concrete for blocking and protection and collars shall be provided as follows:

All bends, dead ends, stream crossings, etc. shall be acceptably blocked with concrete having bearing on undisturbed earth on the side or at the bottom of the trench or both on the side and the bottom of the trench. Bearing area shall be equal to that shown on the Drawings or as directed by the Owner.

1400.4.12 **Sewer Services**

1400.4.12.1 Pipe for sewer services shall be 4" cast iron (C.I.) soil pipe, as shown on the Plans or pipe as directed by the Owner. Where installation by boring is specified, 4" C.I. soil pipe shall be used. A grade of 2% shall be maintained with 6" C.I. pipe; 4" C.I. soil pipe shall be laid with a minimum allowable grade of 1%.

1400.4.12.2 When directed by the Owner, each sewer service shall be run from the main to the street right-of-way line where a combination wye and cleanout stack will be installed. Services installed for future development shall be sealed at the property line with an approved watertight plug.

1400.4.12.3 Trench support for services shall conform to the same specifications as those for sewer mains.

1400.4.12.4 Where services are bored the entire sewer service from main to property line shall be C.I. soil pipe. The face of the bore cut shall be a distance of 5 feet from the edge of the pavement on either side unless approval to the contrary is given by the Owner.

1400.4.12.5 Sewer services 4" in diameter shall be connected to the main by means of a wye, installed to the main at an angle of 45 degrees, with respect to direction of flow.

1400.5 **Inspection and Acceptance**

All work shall be subject to inspection and approval by the Owner prior to final acceptance and payment.

1400.5.1 Sewer lines will be lamped and all pipeline shall show a true line between manholes without defects in condition, grade or alignment.

1400.5.2 **Infiltration and Exfiltration**

All sewer lines shall be checked for infiltration and exfiltration. All tests shall be conducted under the direction of the Engineer. Infiltration and exfiltration

shall not exceed 100 gallons/mile/inch dia./day. These conditions shall be met before a line is accepted. If tests reveal infiltration and/or exfiltration in excess of the above amount due to defects in the work, such defects shall be corrected by the Contractor at no cost to the Owner. Lines shall be subject to re-testing when necessary.

- 1400.5.3 Infiltration shall be checked by measuring flow over a V-notch weir installed in the line and force mains. All other methods of measuring infiltration are subject to approval of the County. Where infiltration cannot be checked due to excessively dry conditions, exfiltration tests only will be required.
- 1400.5.4 Exfiltration test procedures shall be as specified below. The Contractor shall be responsible for providing water for the exfiltration test.
- a. Plug the lower end of the section to be tested.
 - b. Fill the line and manhole with water to a level as directed by the County.
 - c. Let the water stand overnight or at least 4 hours to allow all trapped air to escape and the pipe to reach its maximum absorption.
 - d. After the pipe has reached its maximum absorption, refill the manhole to the original depth.

1400.5.5 **Air Test**

At the Contractor's option or where directed by the Owner, sewer lines and force mains may undergo a low pressure air test in lieu of the exfiltration test. All lines shall pass the air test before they will be accepted by the Owner. Lines not passing the test shall be repaired and retested as requested.

- 1400.5.6 Air tests shall be conducted in strict accordance with the testing equipment manufacturer's instructions, including all recommended safety precautions. No one will be allowed in the manholes during the testing. Equipment used for air testing shall be equipment specifically designed for this type of test and is subject to approval of the Owner.

The section of the line being tested will be considered acceptable if the time required for a pressure drop of 1.0 psig is more than the time shown for each pipe size in the following table:

Pipe Dia. (In.)	Time (Min.:Sec.)	Pipe Dia. (In.)	Time (Min.:Sec.)
4	1:55	18	8:30
6	2:50	20	9:25
8	3:45	21	9:55
10	4:45	24	11:20
12	5:40	27	12:45
14	6:35	30	14:10
15	7:05	36	17:00
16	7:35		

If the air test is used, manholes shall be checked for leakage by using water as directed by the Owner.

1400.6 **Method of Measurement**

- 1400.6.1 Trench excavation and subsurface exploration, except rock excavation, shall be incidental to the sewer line construction and shall not be measured.
- 1400.6.2 The removal, abandoning, and plugging of existing sewer lines and manholes shall be incidental to the construction of new lines and shall not be measured.
- 1400.6.3 Sewer pipe will be measured for payment in linear feet for the various diameters specified.
- 1400.6.4 Pipe joints and jointing material will not be measured.
- 1400.6.5 Service wyes will be measured per each and will include watertight plugs, size specified on the drawings, when directed by the Owner.
- 1400.6.6 Ductile iron sewer pipe will be measured for payment in linear feet for various diameters specified.
- 1400.6.7 Ductile iron pipe joints and jointing material will not be measured.
- 1400.6.8 Sheeting and bracing left in place shall be measured in board feet.
- 1400.6.9 Bedding material (stone stabilization) shall be measured in cubic yards.
- 1400.6.10 Service connections will be measured for payment per each installed in place, including cleanout.

1400.6.11 Thrust blocks and pipe collars will be measured for payment in cubic yards.

1400.7 **Basis of Payment**

1400.7.0 Sewer mains will be paid for at the Contract unit price bid per foot of length for the various diameters and types specified in the drawings. The Contract unit price shall be full compensation for the furnishing of all labor, material, clearing and grubbing, trench excavation and backfilling, testing and disinfection, equipment tools, and incidentals necessary to complete the items in accordance with the Drawings and Specifications.

1400.7.1 Ductile iron sewer mains will be paid for at the Contract unit price bid per foot of length for the various diameters and types specified in the Drawings. The Contract unit price shall be full compensation for the furnishing of all labor, materials, clearing and grubbing, trench excavation and backfilling, testing and disinfection, pavement replacement, equipment, tools, and incidentals necessary to complete the items in accordance with the Drawings and Specifications.

1400.7.2 Sheeting and bracing when ordered by the owner to be left in place, shall be paid for at the Contract unit price bid per board foot. The Contract unit price shall be full compensation for the furnishing of all labor, materials, equipment, tools, and incidentals necessary for the completion of this item.

1400.7.3 Thrust blocks and pipe collars shall be paid for at the Contract unit price bid per cubic yard type A (3,000 psi compression strength at 20 days) concrete. The Contract unit price shall be full compensation for furnishing all labor, materials, equipment, tools, and incidentals necessary to complete the items in accordance with the Drawings and Specifications.

1400.7.4 Bedding material (stone stabilization) shall be paid for at the Contract unit price bid per yard. The Contract unit price shall be full compensation for the furnishings of all labor, equipment, material, tools, and incidentals necessary to complete the items, including tests, in accordance with the Drawings and Specifications.

1400.7.5 Service connections will be paid for at the Contract unit price bid per each, including cleanout. The Contract unit price shall be full compensation for the furnishing of all labor, materials, cleaning and grubbing, equipment, tools, and incidentals necessary to complete the items in accordance with the Plans and Specifications.

1410.0 **Standard 4 ft. Diameter Sanitary Sewer Manholes**

1410.1 **Specifications**

- 1410.1.1 Sanitary sewer manholes shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Owner.
- 1410.1.2 Manhole rings and covers shall conform to ASTM A48 for Class 30 grey cast iron. All castings shall be coated in conformance with ASTM A74.
- 1410.1.3 All sewer manholes over 3 ft. in depth shall be provided with steps made from cast iron conforming to ASTM A48 and shall be fabricated and installed in accordance with the Plans.
- 1410.1.4 Sewer lines entering a manhole and having a vertical drop in excess of 3 ft. shall be provided with an outside of wall pipe drop or inside of wall pipe drop in accordance with the Plans. All sanitary sewer manholes shall be constructed with invert channels as detailed on the Plans to confine the flow of liquids through the manhole.

1410.2 **Material**

Sanitary sewer manholes shall be constructed to conform to a combination of one or more of the types listed below.

- 1410.2.1 Brick sanitary sewer manholes shall be constructed of standard common red brick conforming to ASTM C32 for grade SA or MA and be of standard building sizes. All manhole brick shall be laid in approved mortar in accordance with approved standard construction practices governing manhole construction. The outside surface of brick manholes shall be plastered with cement mortar, minimum 1/2 inch thick, and shall be equal in strength to the mortar used in the brick work.
- 1410.2.2 Precast concrete sanitary sewer manholes shall be constructed in accordance with Plans and utility special provisions. The manhole shall conform to ASTM C478 and be constructed of reinforced concrete rings or section grade rings.

On precast sewer manholes of extra depth with more than two pipes entering or an extra large sewer pipe entering the base section, instead of being precast, shall be made from approved brick laid on the concrete footing slab as required on brick type manholes. Where precast sewer

manholes are to accommodate an extra large sewer pipe, a larger precast section with a transition manhole section may be used. Where precast sewer manholes are to be constructed over existing sewer pipe, the base section shall be altered or shop fabricated to fit the field condition of pipe size and pipe alignment. Precast manhole joints and connecting pipe joints be sealed in accordance with the recommendations of the manufacturer or as shown on the Plans.

1410.3 **Method of Measurement**

1410.3.1 Standard 4 ft. diameter sanitary sewer manhole. The quantity of manholes to be paid for will be the actual number of manholes which have been constructed and accepted.

1410.4 **Basis of Payment**

1410.4.1 Standard 4 ft. diameter sanitary sewer manhole. The quantity of sewer manholes, measured as provided above, will be paid for at the Contract unit price each for "Standard 4 ft. Diameter Sanitary Sewer Manhole." Such payment will be full compensation for the complete manhole including the spring line, manhole taper, manhole flow line, bench, ring and cover, steps, footing, wall concrete, mortar, grout, brick, precast rings, excavation, backfilling, and incidentals necessary to complete the work as required.

Where existing lines are to be tied into new manholes or manholes replacing existing manholes, all pipe, fittings, and concrete necessary to complete the work shall be considered a part of the manhole Contract unit price.

**PROJECT SUMMARY
SEWER UTILITY EXTENSION
Hillandale Elementary – Off Site**

Insert Council Date

To: Honorable Mayor and Members of City Council

From: Water & Sewer Department Staff

RE: STAFF RECOMMENDATION FOR ACCEPTANCE OF
SEWER UTILITY EXTENSION AGREEMENT (SUEA)

This is a project to extend lines to provide sewer service to the existing Hillandale Elementary School. This project is located along Blue Ridge Road. This project is under the reviewing jurisdiction of Henderson County and is located within the USA – Urban Services planning area. The entire cost of the proposed sewer line extension is to be paid for by Henderson County Public Schools.

This project requires approximately 1,840 linear feet of sewer line sized as following:

Approximate Length:	Description:
953 lf	8" PVC SDR 35
887 lf	8" DIP CL350

Pump station required: Yes No.

There will be no additional wastewater flow as this extension is replacing an existing pump station.

The Reviewing Jurisdiction, listed below, has completed their review of this utility extension request in regard to their adopted land use plan or in terms of its future impact on existing land uses for that local government.

Reviewing Jurisdiction: Henderson County

Approved Disapproved (See attached letter provided to the City by the Reviewing Jurisdiction)

Narrative Comments Provided: Yes No

Signing Official: _____
(Print)

Date: _____

Based on the above information, the Water & Sewer Department has the capacity to support this additional infrastructure and associated connections and hereby recommends approval of said project contingent upon final approval of construction plans and specifications by the Water & Sewer Department.

A motion is needed to approve and accept this project. Suggested wording for motion is as follows:

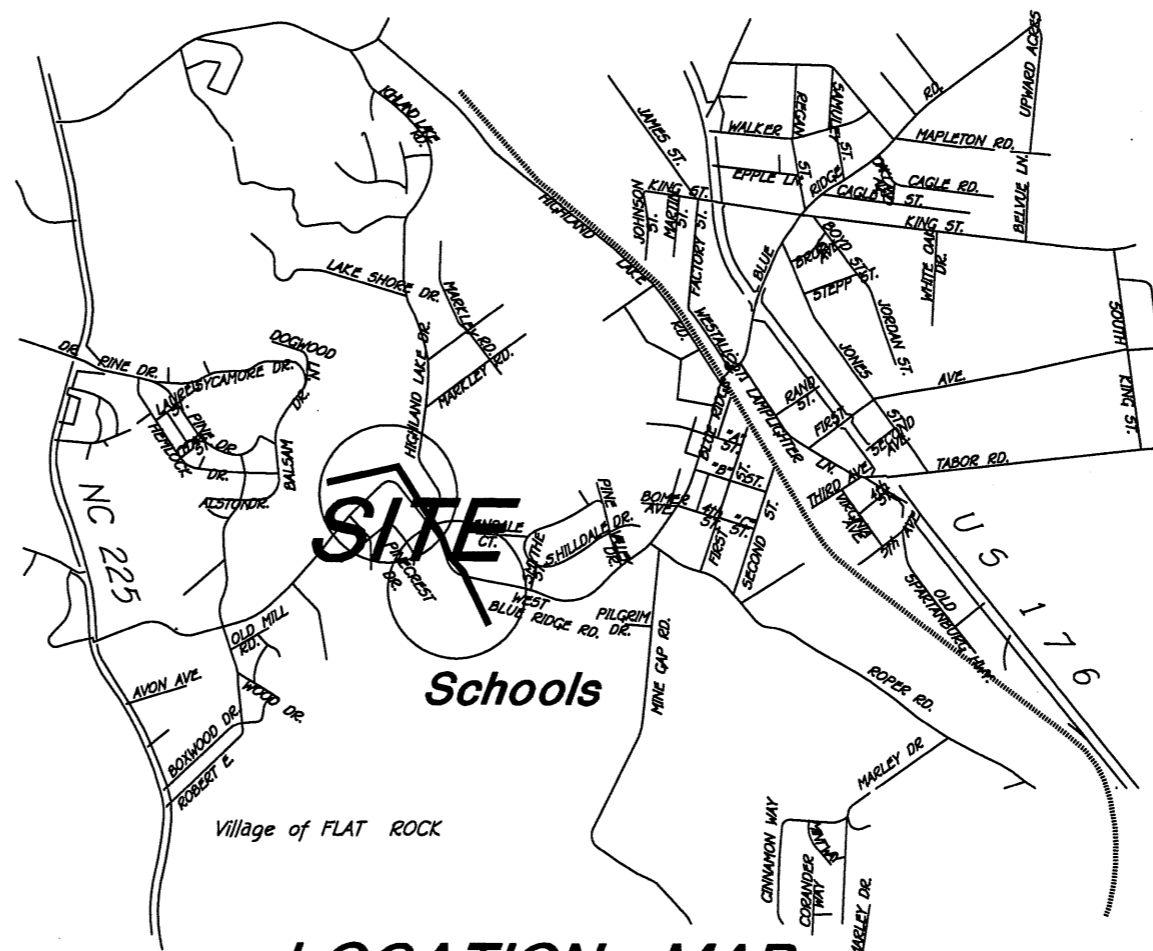
"I move to accept this Sewer Utility Extension Project and to authorize the City Manager to execute the associated Sewer Utility Extension Agreement on behalf of the City."

Water and Sewer Department:	<input type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	Date: _____
Henderson Co. Commissioners:	<input type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	Date: _____
Hendersonville City Council:	<input type="checkbox"/> Approved	<input type="checkbox"/> Disapproved	Date: _____

Hillandale Elementary and Flat Rock Middle School SANITARY SEWER EXTENSION Henderson County Board of Public Education

NOTE

1. SPECIFICATIONS AND REQUIREMENTS OF THE CHWSD AND NCDENR STANDARDS SUPERCEDE ALL OTHERS IN THE INSTALLATION OF THE PROPOSED SEWER EXTENSION. ALL CONSTRUCTION SHALL BE UNDER THE INSPECTION OF THE ENGINEER, CHWSD AND NCDENR.
2. ALL WORK MUST BE PERFORMED BY A NORTH CAROLINA LICENSED UTILITY CONTRACTOR.
3. REFER TO DETAIL SHEETS FOR SEPERATION REQUIREMENTS BETWEEN UTILITIES.
4. CONTRACTOR TO COORDINATE EXACT LOCATION OF PROPOSED AND EXISTING UTILITIES.
5. PROJECT LIES OUTSIDE OF 100-YEAR FLOOD PLAIN.
6. SEE SANITARY SEWER DETAIL SHEETS FOR GENERAL NOTES CONCERNING SEWER INSTALLATION REQUIREMENTS.
7. SEWER CONSTRUCTION ON THIS SITE IS AUTHORIZED BY PERMITS ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (NCDENR) AND CHWSD. THE WORK IS SUBJECT TO INSPECTIONS AT ALL TIMES BY REPRESENTATIVES OF NCDENR, CHWSD, THE OWNER AND THE ENGINEER. THE PERMITS REQUIRE CERTIFICATE OF COMPLETION BY THE ENGINEER OF THE SEWER SYSTEMS PRIOR TO ISSUANCE OF FINAL OPERATION APPROVAL BY CHWSD AND NCDENR.



LOCATION MAP
NOT TO SCALE

To be Served by:
CITY OF HENDERSONVILLE
WATER & SEWER DEPARTMENT

under authority of
City Of Hendersonville
LEE SMITH, UTILITIES DIRECTOR

OPERATIONS CENTER
305 WILLIAMS STREET
HENDERSONVILLE, NORTH CAROLINA 28793
PH.: 828.697.3063
FAX: 828.697.3074



FEB 25 2008

NO.	DATE	BY	APPRV.	DESCRIPTION
2-25-08	JDC	JHL		SUBMIT TO CHWSD
10-25-07	JDC	JHL		CONSTRUCTION DWGS. IN-PROGRESS

REVISIONS JOB NO. 07-252

GRAVITY SEWER
COVER

HENDERSONVILLE TWP. HENDERSON COUNTY, N.C.

LAUGHTER, AUSTIN AND ASSOCIATES, P.A.
131 FOURTH AVENUE EAST
HENDERSONVILLE, NORTH CAROLINA 28792
(828) 692-9089

DRAWN BY JDC CHECKED BY JHL DATE 10/07 SHEET NO. 1

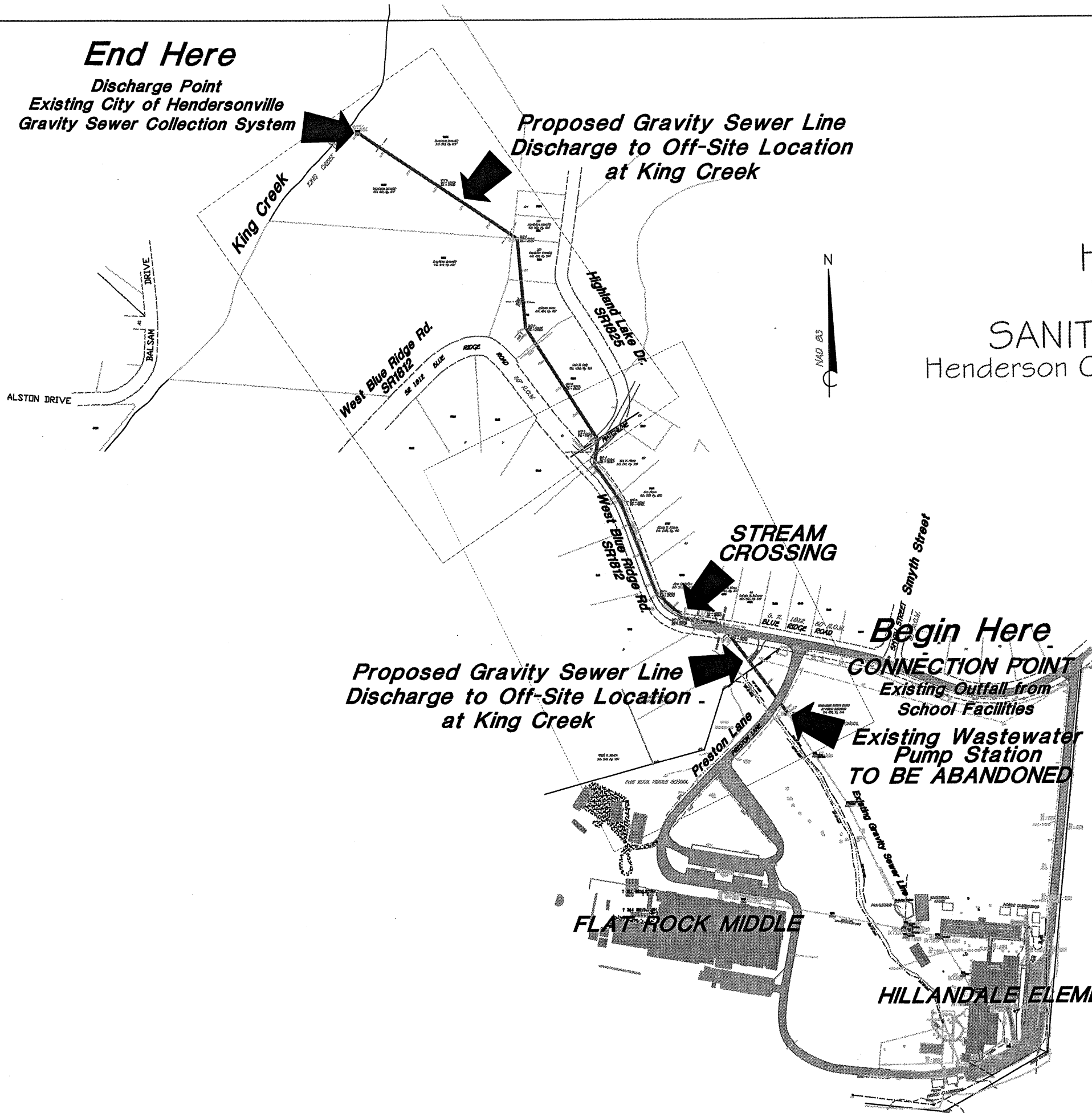
CONTRACT NO. 07252ENGR TAX PARCEL NUMBER

End Here

Discharge Point
Existing City of Hendersonville
Gravity Sewer Collection System

Proposed Gravity Sewer Line
Discharge to Off-Site Location
at King Creek

Hillandale Elementary and
Flat Rock Middle School
SANITARY SEWER EXTENSION
Henderson County Board of Public Education
scale: 1"=350 FT

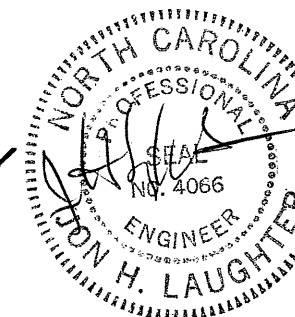


Begin Here

Proposed Gravity Sewer Line
Discharge to Off-Site Location
at King Creek

CONNECTION POINT
Existing Outfall from
School Facilities
Existing Wastewater
Pump Station
TO BE ABANDONED

FEB 25 2008



PROJECT MAP

HENDERSONVILLE TWP. HENDERSON COUNTY, N.C.
LAUGHTER, AUSTIN AND ASSOCIATES, P.A.
131 FOURTH AVENUE EAST
HENDERSONVILLE, NORTH CAROLINA 28792
(828) 692-9009

CREW CHIEF	DJA	CHECKED BY	JHL	DATE	10/07	SHEET NO.	2
DRAWN BY	JDC	SCALE	1"=350'				
ORDER FILE	DRAWING FILE 07252ENGR						
FLOOD MAP PANEL NUMBER	TAX PARCEL NUMBER						

JOB NO. 07-252

**Proposed Gravity Sewer Line
Discharge to Off-Site Location
at King Creek**

Preston Lane

**Existing Wastewater
Pump Station
TO BE ABANDONED**

TO BE ABANDONED

Existing Gravity Sewer Line

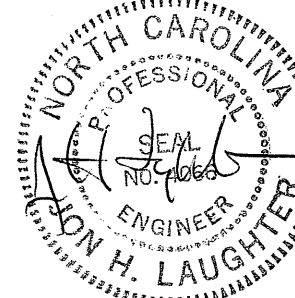
Hillandale Elementary and
Flat Rock Middle School
SANITARY SEWER EXTENSION
Henderson County Board of Public Education

FLAT ROCK MIDDLE SCHOOL

FLAT ROCK MIDDLE

HILLANDALE ELEMENTARY

FEB 25 2008



PROJECT MAP

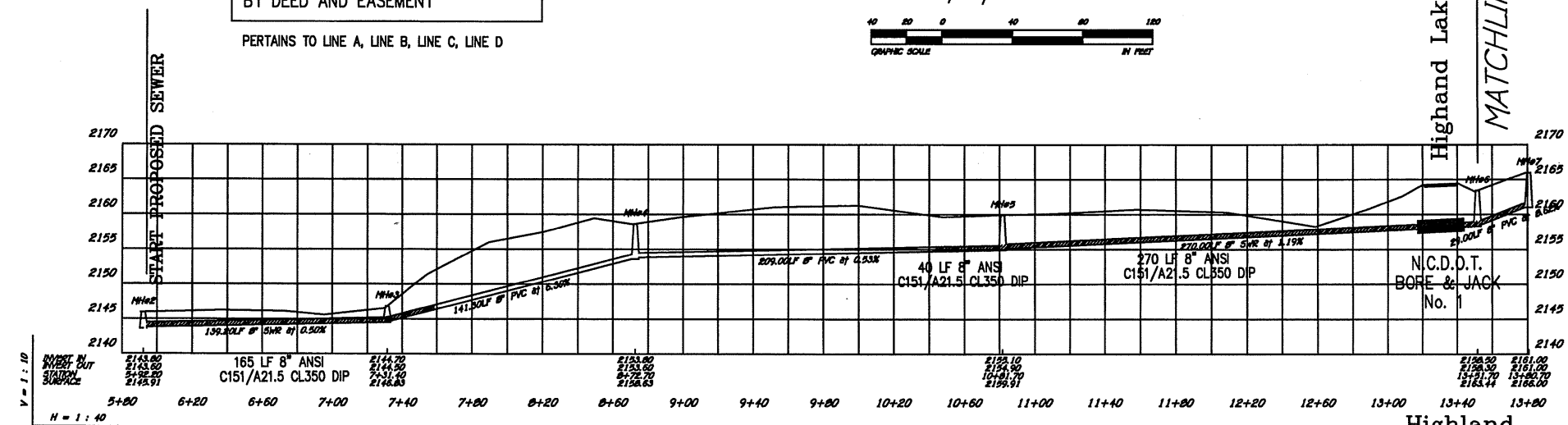
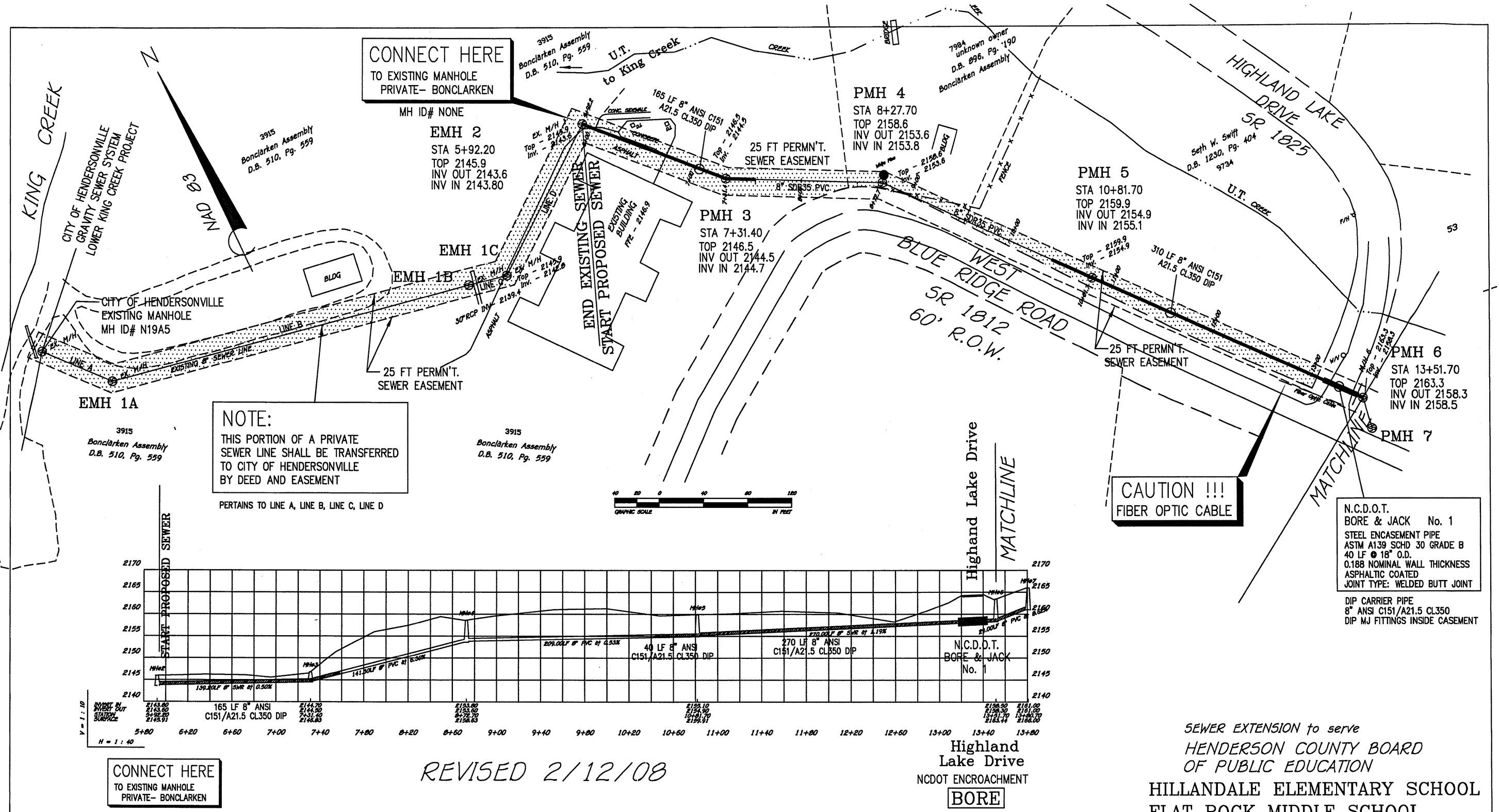
HENDERSONVILLE TWP. HENDERSON COUNTY, N.C.

LAUGHTER, AUSTIN AND ASSOCIATES, P.A.
131 FOURTH AVENUE EAST
HENDERSONVILLE, NORTH CAROLINA 28792
(828) 692-9089

CREW CHIEF DJA	CHECKED BY JHL	DATE 10/07	SHEET NO. 3
DRAWN BY JDC	SCALE 1" = 150'		
CAD FILE	BRAVING FILE	07232ENGR	
FLOOD MAP PANEL NUMBER	TAX PARCEL NUMBER		

JOB NO. 07-252

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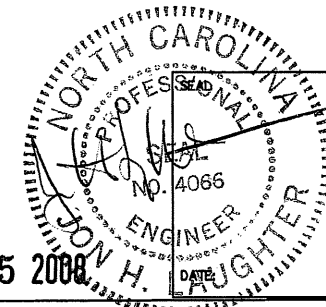


SEWER EXTENSION to serve
 HENDERSON COUNTY BOARD OF PUBLIC EDUCATION
 HILLDALE ELEMENTARY SCHOOL
 FLAT ROCK MIDDLE SCHOOL

STATION 5+92.2 TO 13+51.70

PLAN & PROFILE

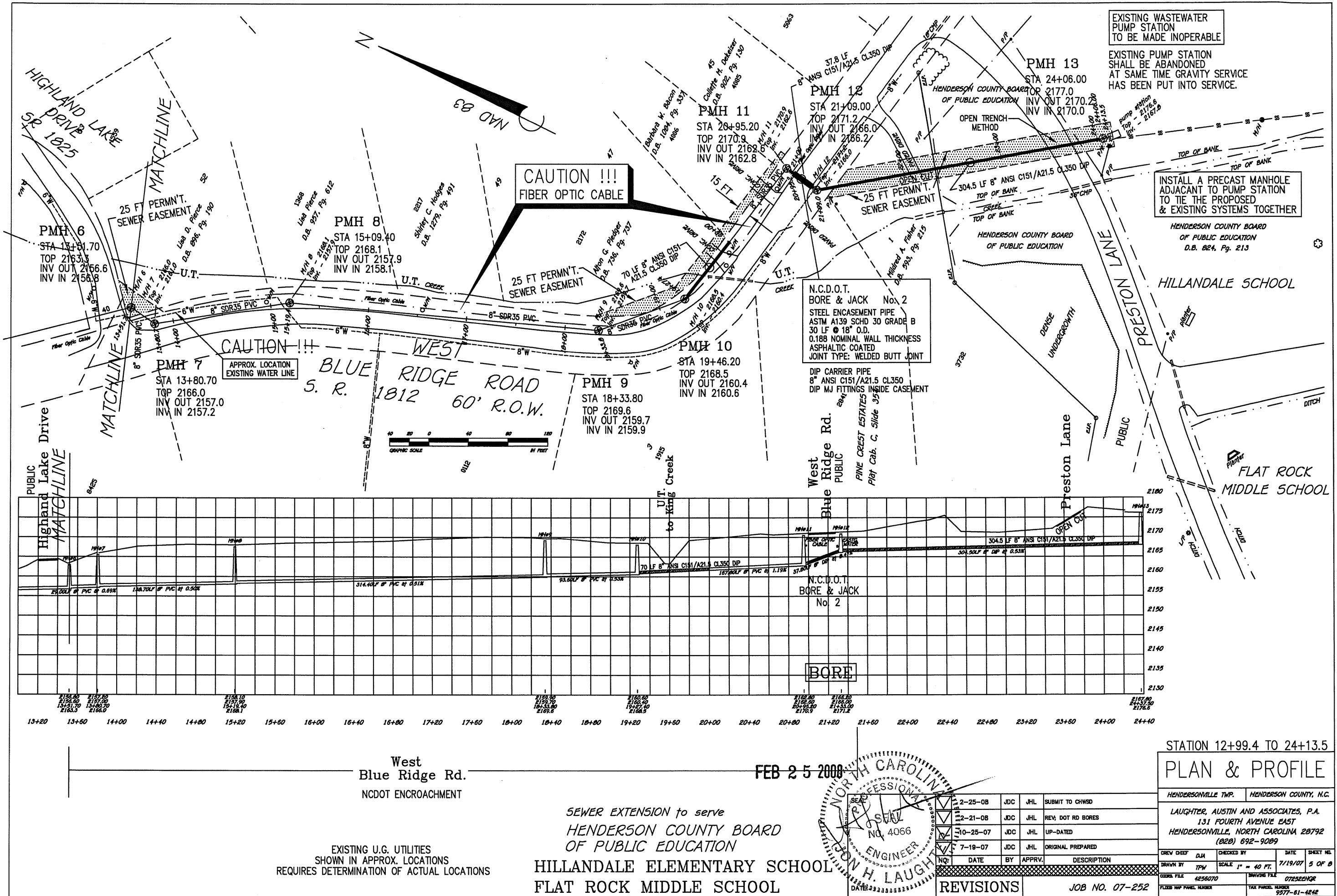
HENDERSONVILLE TWP.	HENDERSON COUNTY, N.C.
LAUGHTER, AUSTIN AND ASSOCIATES, P.A. 131 FOURTH AVENUE EAST HENDERSONVILLE, NORTH CAROLINA 28792 (828) 692-9089	
CREW CHIEF	DJA
CHECKED BY	JHL
DATE	7/19/07
SHEET NO.	4 OF 8
DRAWN BY	TPW
SCALE	1" = 40 FT.
DESIGN FILE	4256070
DRAWING FILE	07252
FILED W/P FILE NUMBER	TAX PARCEL NUMBER 9577-61-4242



FEB 25 2008

EXISTING U.G. UTILITIES SHOWN IN APPROX. LOCATIONS REQUIRES DETERMINATION OF ACTUAL LOCATIONS

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EXISTING WASTEWATER PUMP STATION TO BE MADE INOPERABLE

EXISTING PUMP STATION SHALL BE ABANDONED AT SAME TIME GRAVITY SERVICE HAS BEEN PUT INTO SERVICE.

INSTALL A PRECAST MANHOLE ADJACENT TO PUMP STATION TO TIE THE PROPOSED & EXISTING SYSTEMS TOGETHER

HENDERSON COUNTY BOARD OF PUBLIC EDUCATION D.B. 824, Pg. 213

HILLDALE SCHOOL

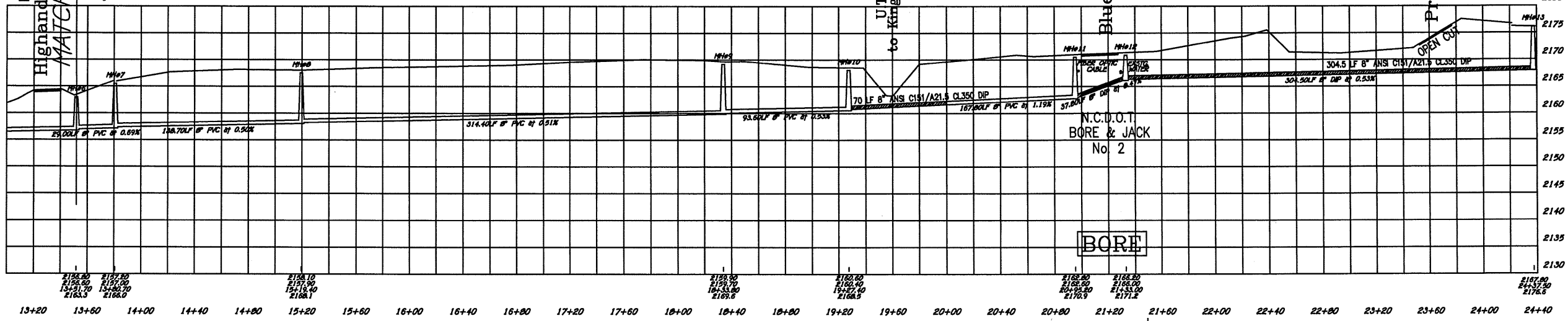
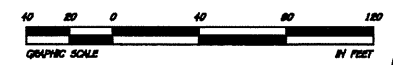
FLAT ROCK MIDDLE SCHOOL

CAUTION !!! FIBER OPTIC CABLE

CAUTION !!! APPROX. LOCATION EXISTING WATER LINE

N.C.D.O.T. BORE & JACK No. 2 STEEL ENCASEMENT PIPE ASTM A139 SCHD 30 GRADE B 30 LF @ 18" O.D. 0.188 NOMINAL WALL THICKNESS ASPHALTIC COATED JOINT TYPE: WELDED BUTT JOINT

DIP CARRIER PIPE 8" ANSI C151/A21.5 CL350 DIP MJ FITTINGS INSIDE CASEMENT



STATION 12+99.4 TO 24+13.5

PLAN & PROFILE

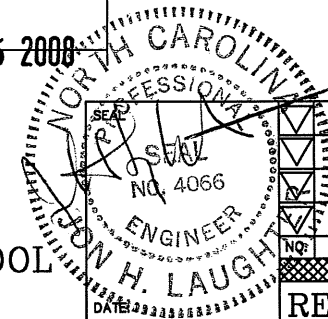
HENDERSONVILLE TWP. HENDERSON COUNTY, N.C.
LAUGHTER, AUSTIN AND ASSOCIATES, P.A.
131 FOURTH AVENUE EAST
HENDERSONVILLE, NORTH CAROLINA 28792
(828) 692-9089

CREW CHIEF	DJA	CHECKED BY	DATE	SHEET NO.
DRAWN BY	TPW	SCALE	1" = 40 FT.	7/19/07 5 OF 8
CADD FILE	4256070	INVOICE FILE	072525ENGR	
PLANS W/P PANEL NUMBER		TAX PARCEL NUMBER	9277-61-4242	

SEWER EXTENSION to serve
HENDERSON COUNTY BOARD
OF PUBLIC EDUCATION
HILLDALE ELEMENTARY SCHOOL
FLAT ROCK MIDDLE SCHOOL

EXISTING U.G. UTILITIES
SHOWN IN APPROX. LOCATIONS
REQUIRES DETERMINATION OF ACTUAL LOCATIONS

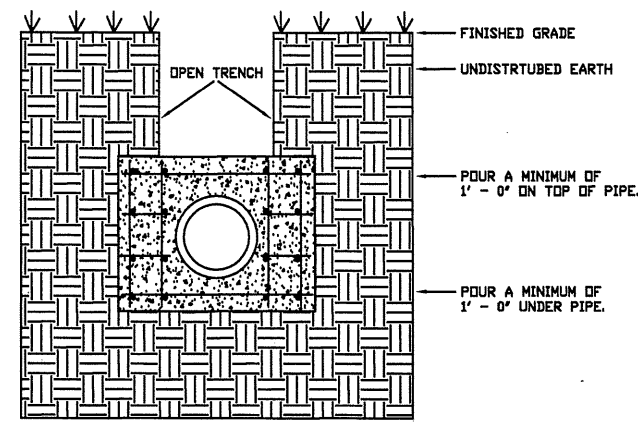
FEB 25 2008



NO.	DATE	BY	APPRV.	DESCRIPTION
1	2-25-08	JDC	JHL	SUBMIT TO CHWS
2	2-21-08	JDC	JHL	REV; DOT RD BORES
3	10-25-07	JDC	JHL	UP-DATED
4	7-19-07	JDC	JHL	ORIGINAL PREPARED

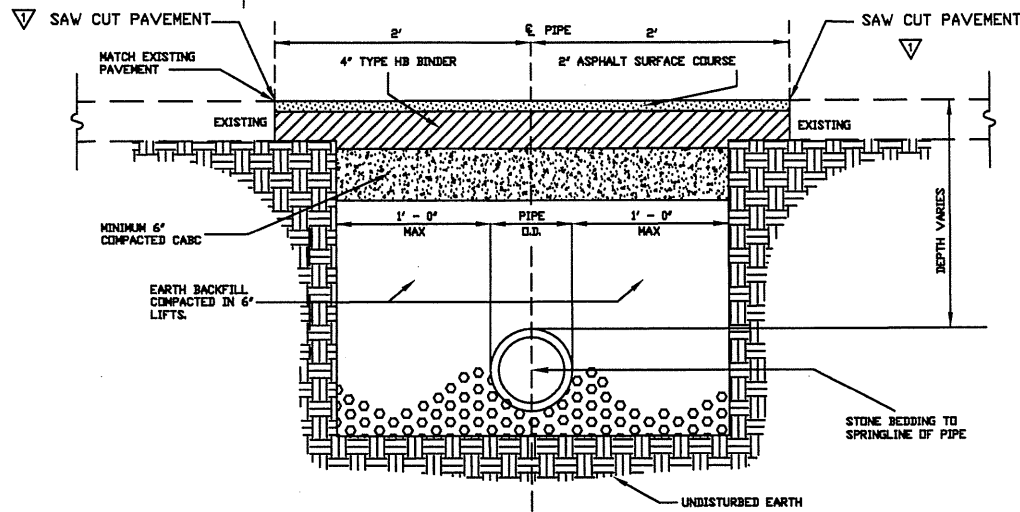
REVISIONS

JOB NO. 07-252



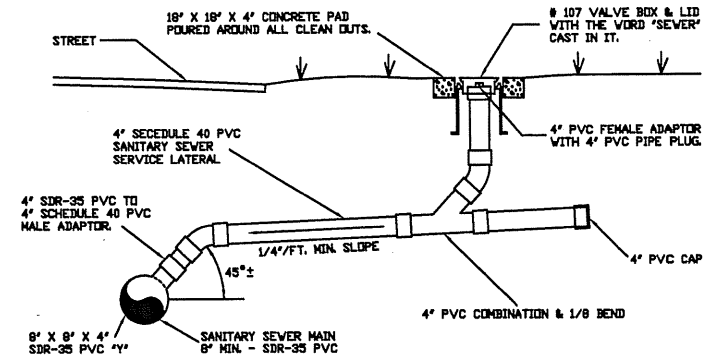
TYPICAL END VIEW
CONCRETE KEYING DETAIL

N.T.S.



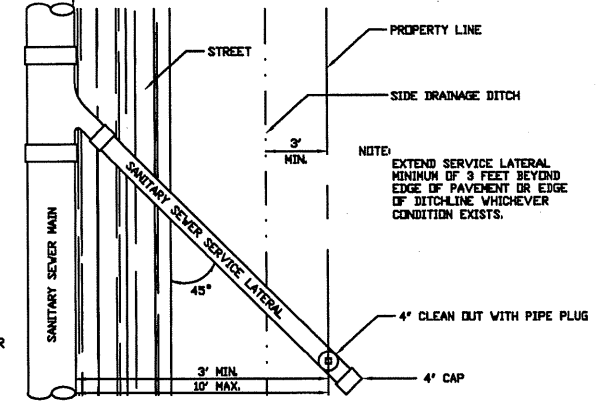
TYPICAL PAVEMENT REPAIR

N.T.S.

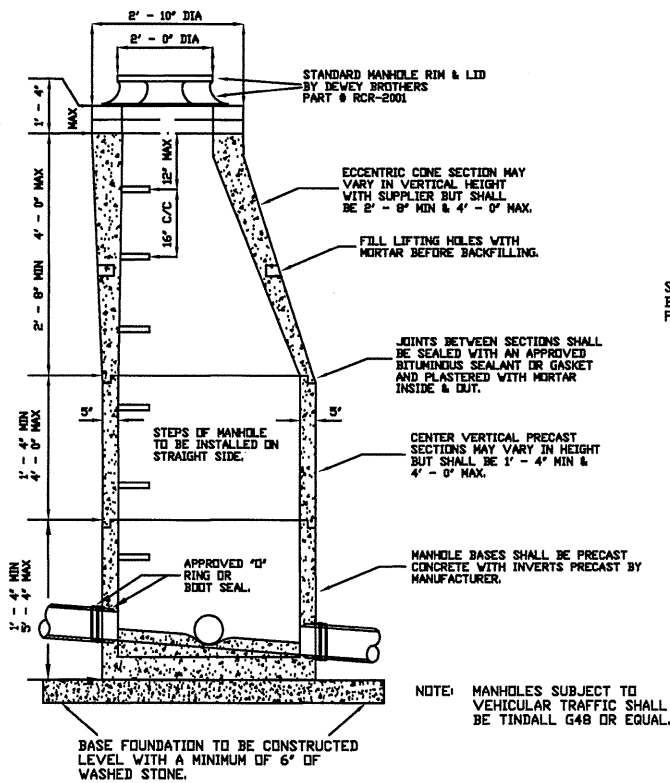


END VIEW
TYPICAL 4" SEWER SERVICE LATERAL
AND CLEAN OUT DETAILS.

N.T.S.

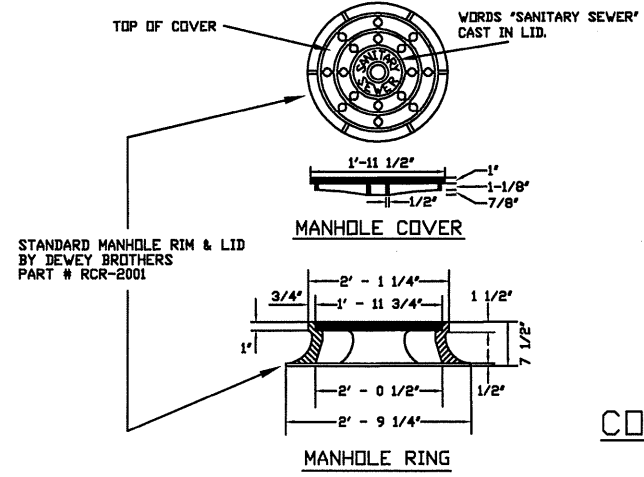


CONCRETE KEYS MUST BE REINFORCED WITH # 4 REBAR AT 9" EACH WAY.
CONCRETE KEY MUST EXTEND 1' - 0" HORIZONTAL INTO UNDISTURBED SIDE WALLS OF TRENCH.
NOTE: KEYS SHALL BE CONSTRUCTED OF 3000 PSI CONCRETE.



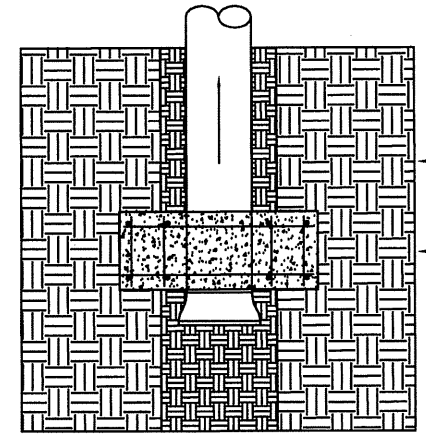
TYPICAL PRECAST
CONCRETE MANHOLE DETAIL

N.T.S.



MANHOLE RING & COVER
FOR SANITARY SEWERS

N.T.S.

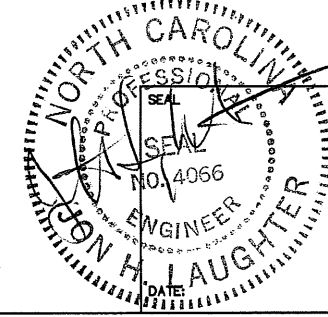


CONCRETE KEYING DETAIL
TYPICAL TOP VIEW

N.T.S.

SEWER EXTENSION to serve
HENDERSON COUNTY BOARD
OF PUBLIC EDUCATION
HILLDALE ELEMENTARY SCHOOL
FLAT ROCK MIDDLE SCHOOL

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FEB 25 2008

STANDARD DETAILS
CITY OF HENDERSONVILLE
WATER AND SEWER DEPARTMENT

STD. DETAILS

HENDERSONVILLE TWP. HENDERSON COUNTY, N.C.
LAUGHTER, AUSTIN AND ASSOCIATES, P.A.
131 FOURTH AVENUE EAST
HENDERSONVILLE, NORTH CAROLINA 28792
(828) 692-9089

NO.	DATE	BY	APPRV.	DESCRIPTION
2-25-08	JDC	JHL		SUBMIT TO CHWSD
7-19-07	JDC	JHL		ORIGINAL PREPARED

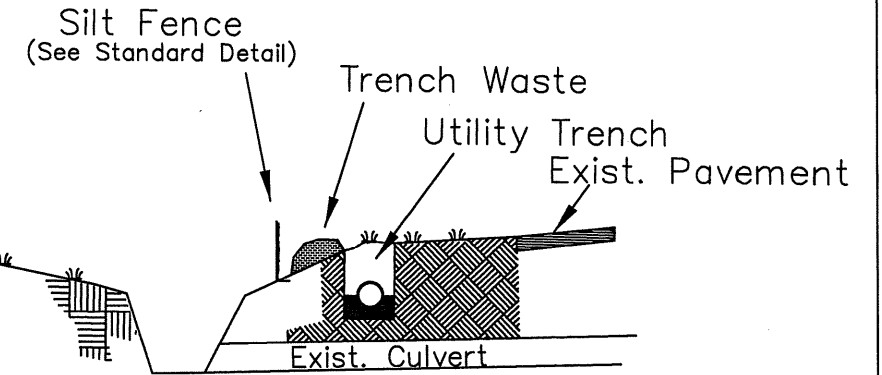
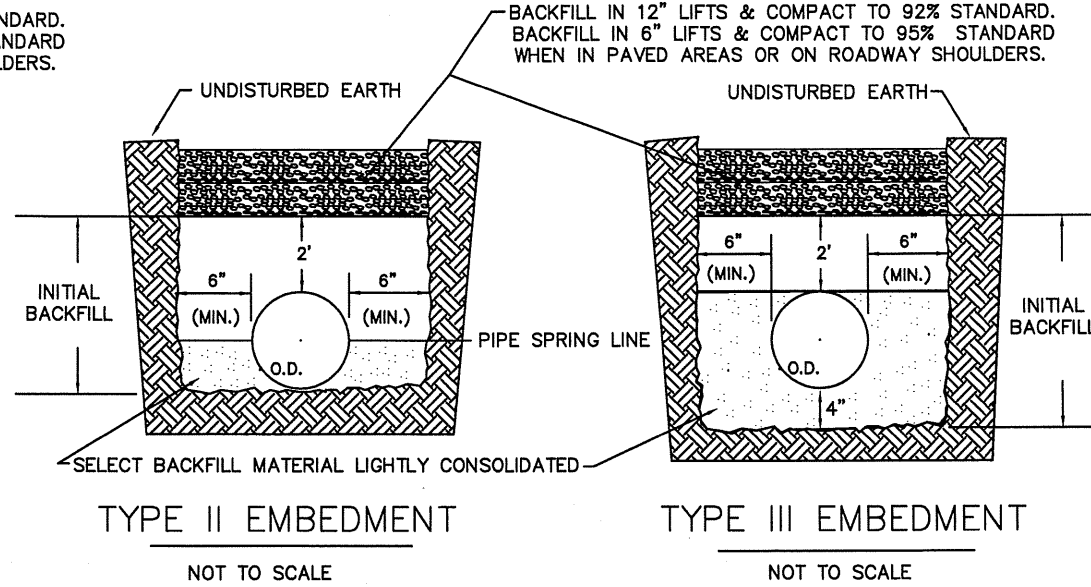
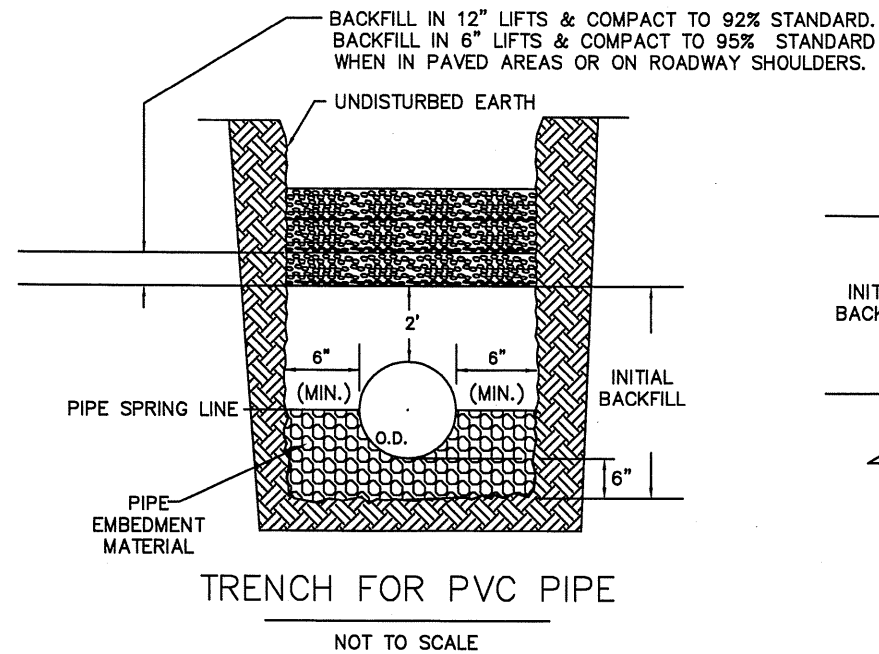
REVISIONS

JOB NO. 07-252

CREW CHIEF	DATE	CHECKED BY	DATE	SHEET NO.
DJA	7/19/07	TPW	7/19/07	6 OF 6

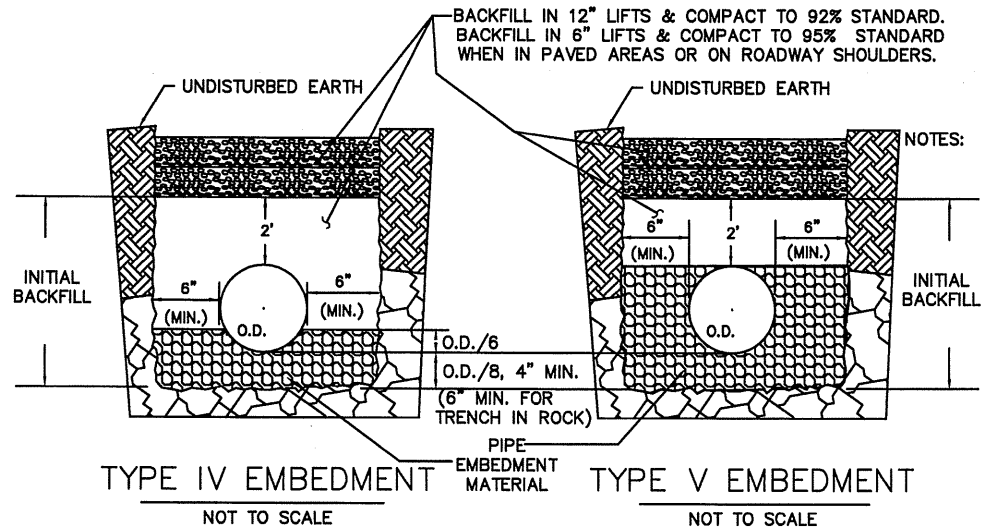
SCALE 1" = 40 FT.

DRAWING FILE 4255070
DRAWING FILE 07252
FLEX MAP PANEL NUMBER 9577-61-4242



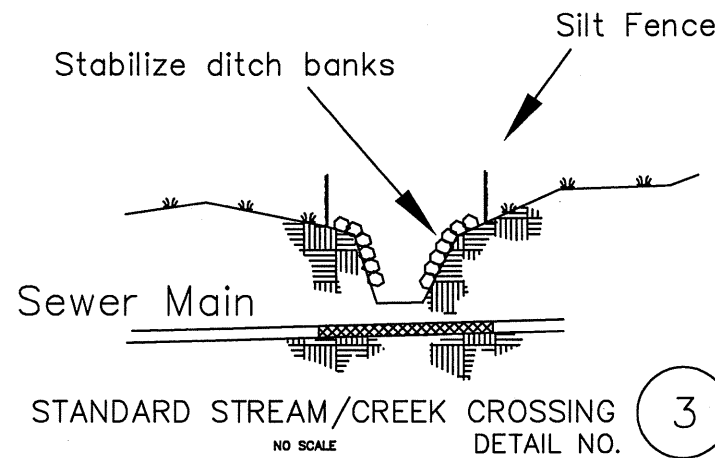
- NOTES:
1. PVC PIPES REQUIRE CLASS I PIPE EMBEDMENT MATERIALS.
 2. WHEN TRENCH IS SUBJECT TO INUNDATION, EMBEDMENT MATERIALS MUST EXTEND TO TOP OF PIPE.
 3. NO BOULDERS OR STONES IN EXCESS OF 4" WILL BE USED IN INITIAL BACKFILL.
 4. THIS DETAIL IS VALID FOR PVC SEWER PIPE INSTALLED AT DEPTHS OF UP TO 20 FEET.

STANDARD DETAIL
TRENCH FOR PVC PIPE

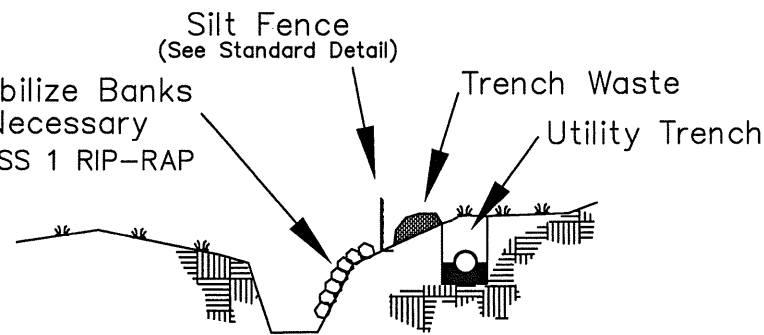


- NOTES:
1. DUCTILE IRON PIPE AND BEDDING SHALL MEET OR EXCEED LAYING CONDITIONS AS SHOWN ON MSD DETAIL SHEET #MSD-24A. TYPE IV OR TYPE V EMBEDMENT SHALL BE REQUIRED: WHEN REQUIRED BY LOADING CONDITIONS OR WHEN TRENCH IS IN ROCK.
 2. NO BOULDERS OR STONES IN EXCESS OF 4" WILL BE USED IN INITIAL BACKFILL.
 3. EMBEDMENT MATERIALS SHALL BE CLASS I PIPE EMBEDMENT MATERIAL, SELECT BACKFILL MATERIAL SHALL BE AS SPECIFIED.

STANDARD DETAIL
TRENCH FOR DUCTILE IRON PIPE

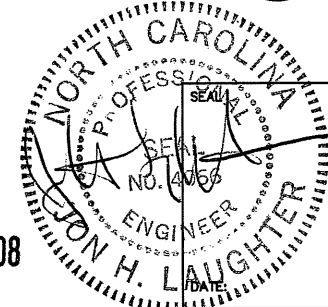


STANDARD STREAM/CREEK CROSSING
DETAIL NO. 3



TRENCH DETAIL NEAR WATERCOURSES
AND CREEKS
DETAIL NO. 4

SEWER EXTENSION to serve
HENDERSON COUNTY BOARD
OF PUBLIC EDUCATION
HILLDALE ELEMENTARY SCHOOL
FLAT ROCK MIDDLE SCHOOL



FEB 25 2008

REVISIONS				JOB NO. 07-252	
NO.	DATE	BY	APPRV.	DESCRIPTION	
2-25-08	JDC	JHL		SUBMIT TO CHWSD	
7-19-07	JDC	JHL		ORIGINAL PREPARED	

STANDARD DETAILS CITY OF HENDERSONVILLE WATER AND SEWER DEPARTMENT	
STD. DETAILS	
HENDERSONVILLE TWP.	HENDERSON COUNTY, N.C.
LAUGHTER, AUSTIN AND ASSOCIATES, P.A. 131 FOURTH AVENUE EAST HENDERSONVILLE, NORTH CAROLINA 28792 (828) 692-9089	
CREW CHIEF	DATE
DJA	7/19/07
CHECKED BY	SHEET NO.
TPW	7 OF 8
DRAWN BY	SCALE
TPW	1" = 40 FT.
DESIGN FILE	DRAWING FILE
4256070	07232
FLOOD MAP PANEL NUMBER	TAX PARCEL NUMBER
	9577-51-4242

**BORE UNDER SR1825
HIGHLAND LAKE DRIVE
BORE NO. 1**

Gravity Sewer Extension

	Carrier	Casing
Contents _____	Sanitary Sewer	Ductile Iron Pipe
Outside Diameter _____	8 inches	18 inches
Pipe Material _____	Ductile Cast Iron	Steel, 40 LF
Specification and Grade _____	60-42-10	Sch20 STD
Wall Thickness _____	0.25	0.188
Actual Working Pressure _____	150 PSI	N/A
Type of Joint _____	Slip Joint	Weld-Butt
Coating _____	N/A	Asphalt
Method of Installation _____	BORE	
Vents: Number _____	Size _____	(Hght. above grnd.)
Seals: Both Ends _____	One End _____	
Bury: Below Travel Surface _____	3 feet _____	inches
Bury: (Roadway Ditches) _____	2 feet _____	inches
Cathodic Protection _____		

**BORE UNDER SR1812
WEST BLUE RIDGE ROAD
BORE NO. 2**

Gravity Sewer Extension

	Carrier	Casing
Contents _____	Sanitary Sewer	Ductile Iron Pipe
Outside Diameter _____	8 inches	18 inches
Pipe Material _____	Ductile Cast Iron	Steel, 40 LF
Specification and Grade _____	60-42-10	Sch20 STD
Wall Thickness _____	0.25	0.188
Actual Working Pressure _____	150 PSI	N/A
Type of Joint _____	Slip Joint	Weld-Butt
Coating _____	N/A	Asphalt
Method of Installation _____	BORE	
Vents: Number _____	Size _____	(Hght. above grnd.)
Seals: Both Ends _____	One End _____	
Bury: Below Travel Surface _____	3 feet _____	inches
Bury: (Roadway Ditches) _____	2 feet _____	inches
Cathodic Protection _____		

N.C.D.O.T. SPECIAL PROVISIONS

Untrenched Construction

Under no circumstances shall jetting or wet boring, with water, of utility pipelines or encasements under pavements be allowed.

Boring and Jacking

Smooth wall or spiral weld steel pipe may be jacked through dry bores slightly larger than the pipe bored progressively ahead of the leading edge of the advancing pipe as spoil is mucked by the auger back through the pipe. As the dry boring operation progresses, each new section of the encasement pipe shall be butt-welded to the section previously jacked into place. Encasements shall extend from ditch line to ditch line in cut sections, 5 ft. beyond the toe of slopes, and 3 ft. behind curb sections.

If voids are encountered or occur outside the encasement pipe, grout holes shall be installed in the top section of the encasement pipe at 10 ft. centers and the voids filled with 1:3 portland cement grout at sufficient pressure to prevent settlement in the roadway.

In the event an obstruction during the boring and jacking operation, the auger is to be withdrawn and the excess pipe is to be cut off, capped, and filled with 1:3 portland cement grout at sufficient pressure to fill all voids before moving to another boring site.

Size and wall thickness of smooth wall, spiral welded encasement pipe for boring and jacking is as follows:

Pipe Sizes (O.D.)	Wall Thickness	Pipe Sizes (O.D.)	Wall Thickness
4 to 12 3/4"	0.188	24"	0.250
16"	0.250	30"	0.312
18"	0.250	36"	0.375
20"	0.250	48"	0.500

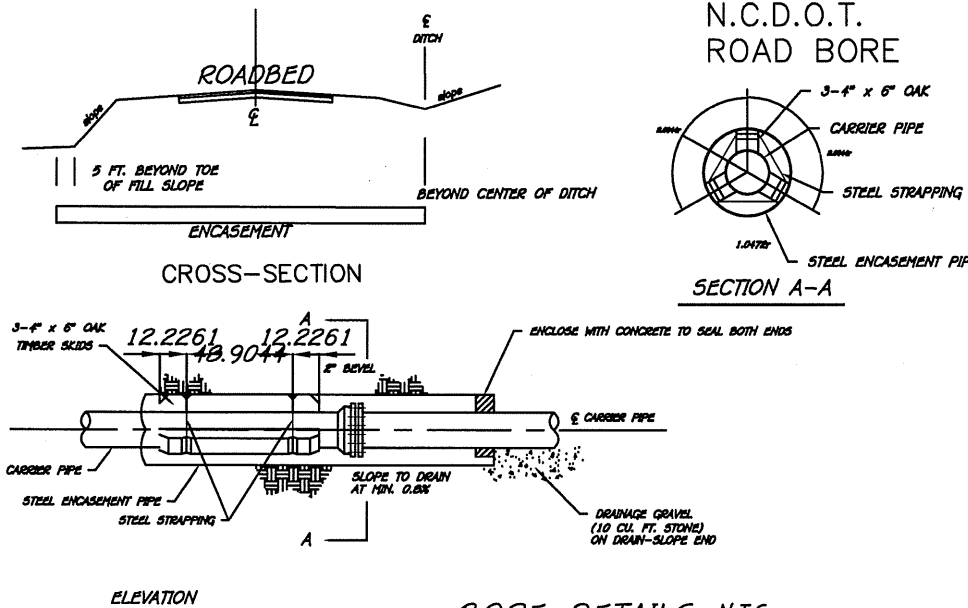
Materials, joints, protective coating, grouting, wall of carrier pipe, welds, and cathodic protection shall be in accordance with applicable industry or governmental codes, as well as the specification of the Department of Transportation.

Casing pipe shall be sealed at the ends to prevent flowing water and debris from entering the annular space between the casing and the carrier.

The grade of the top of the pipe or casing within rights-of-way should provide minimum

- A. Longitudinal Installations 3 ft.
- B. Crossing Under Roadways 3 ft. (below travel surface)
- C. Crossing Under Ditches 2 ft. (paved or unpaved)

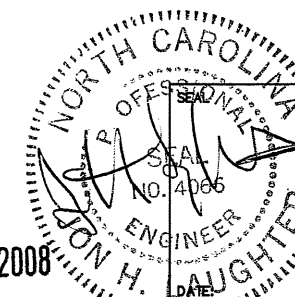
bury as follows:
Pipelines carrying flammable, corrosive, expansive, energized or unstable transmittant must comply with State, Federal and Utility Codes. In no case, shall the depth of bury be less than as indicated above.



BORE DETAILS N.T.S.

BORE DETAILS

SEWER EXTENSION to serve
HENDERSON COUNTY BOARD OF PUBLIC EDUCATION
HILLDALE ELEMENTARY SCHOOL
FLAT ROCK MIDDLE SCHOOL



FEB 25 2008

NCDOT DETAILS

HENDERSONVILLE TWP.		HENDERSON COUNTY, N.C.	
LAUGHTER, AUSTIN AND ASSOCIATES, P.A. 131 FOURTH AVENUE EAST HENDERSONVILLE, NORTH CAROLINA 28792 (828) 692-9089			
CREW CHIEF	DJA	CHECKED BY	DATE
DRAWN BY	TPH	SCALE	1" = 40 FT.
NO.	DATE	BY	APPRV.
REVISIONS		JOB NO. 07-252	
COORD. FILE	4256070	DRAWING FILE	07252ENGR
FLOOD MAP PANEL NUMBER		TAX PANEL NUMBER	9377-61-424E

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HENDERSON COUNTY REVIEW OF CITY SEWER LINE EXTENSIONS

Project Name: Hillendale Elementary School (Offsite Sewer Extension)
 Size of Sewer Line: 1840 lf (935 lf of 8" PVC SDR 35; 887 lf of 8" DIP CL350)
 County Staff Reviewing Extension: Rocky Hyder, Fire Marshal; Alexis Baker, Planner; Autumn Radcliff, Senior Planner

Has the project been reviewed under the **County Subdivision Regulations of the Land Development Code**? Yes No N/A

Date reviewed: 3.7.08
 Action: _____
 Conditions: _____
 Comments: _____

Has the project been reviewed under the **County Manufactured Park Regulations of the Land Development Code**? Yes No N/A

Date reviewed: _____
 Action: _____
 Conditions: _____
 Comments: _____

Has the project been reviewed under the **County Zoning Regulations (i.e. Special-Use or Conditional-Use Permit) of the Land Development Code**? Yes No N/A

Date reviewed: _____
 Action: _____
 Conditions: _____
 Comments: _____

Is the project subject to **any other County Land Use Regulations**? Yes No N/A

If yes, explain: _____

Does the project conform with the **2020 Henderson County Comprehensive Plan (CCP)**? Yes No N/A

BOARD OF COMMISSIONERS APPROVAL

- | | | |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | Approved | Date of Board Review: _____ |
| <input type="checkbox"/> | Not Approved | Comments: _____ |
| <input type="checkbox"/> | Conditional Approval (See Comments) | |