



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE
GOVERNOR

EUGENE CONTI
SECRETARY

January 12, 2009

MEMORANDUM TO: Mr. C. E. Lassiter, Jr., PE
Division Two Engineer

FROM: Philip S. Harris, III, P.E., Unit Head
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Lenoir County, Crescent Road from US 70 to US 258;
T.I.P. Number R-2719A; Federal Aid Project No. STP-
0224(3); WBS Project No. 34501.1.1

A handwritten signature in black ink, appearing to read "E. L. Fudge".

Attached are the U.S. Army Corps of Engineers Section 404 Individual Permit, N.C. Division of Water Quality Section 401 Individual Water Quality Certification and Riparian Buffer Authorization for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
<http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html>

PSH/gyb

Attachment

Cc: W/attachment
Mr. Randy Garris, P.E. State Contract Officer
Ms. Beth Harmon, EEP
Mr. Jay B. Johnson, Division Environmental Officer

Cc: W/o attachment (see website for attachments)
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Art McMillan, P.E., Highway Design
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Mr. Rob Hanson, P.E., PDEA Eastern Region Unit Head

PROJECT COMMITMENTS

CRESCENT ROAD
FROM US 70 TO US 258
CITY OF KINSTON, LENOIR COUNTY, NORTH CAROLINA

FEDERAL AID PROJECT NO. STP-0224(3)
WBS PROJECT NO. 34501.1.1
TIP PROJECT NO. R-2719A

Current status, changes, or additions to the project commitments as shown in the environmental documents for the project are printed in *italics*.

COMMITMENTS DEVELOPED DURING PROJECT DEVELOPMENT

NCDOT Project Development and Environmental Analysis Branch (PDEA)

On-site stream mitigation will be performed by PDEA Office of Natural Environment. The remaining mitigation requirements will be fulfilled through the Ecosystem Enhancement Program.

NCDOT plans incorporate on-site stream, wetland, and buffer mitigation, as reflected in current permit applications. No EEP mitigation is required.

NCDOT Roadway Design Unit / Division 2

A final design noise report will be performed based on the results of the planning noise study. Noise mitigation will be provided as needed in accordance with the NCDOT Noise Abatement Policy.

A final noise report was conducted. The report indicated that no additional noise mitigation (beyond what was shown on hearing maps) is necessary.

Adherence to FAA regulations with respect to clearance zones associated with obstructions to runways will be considered. Coordination will occur with local officials at Kinston Regional Jetport during the final design phase of the proposed project.

NCDOT coordination and analysis resulted in the following measures:

Project special provisions will stipulate the following clauses (subject to revisions for better clarity and ease of contractor management):

- 1. The contractor is notified that the project lies just underneath approach, departure, and circling airspace for the Kinston Regional Jetport, and as such certain FAA provisions apply. As such, obstructions to airspace are a serious consideration.*

2. *The contractor cannot use any means or measure which will cause a temporary obstruction (such as cranes and soil or equipment stockpiles) whereby any component of the obstruction is higher than 188 feet above mean sea level. Before extending/raising any crane for the first time at each usage site, the contractor will verify crane setup (with regard to elevations) with the engineer and obtain approval to extend/raise the trestle or boom.*
3. *For informational/example purposes only and not a project specification: Plans indicate that the highest grade point on the proposed interchange with US 25 (which is approximately 9,500 feet from the nearest runway) is 131.5 feet. Thus if a crane were set on this point, the crane cannot extend higher than 56.5 feet. Conversely, the proposed grade of Crescent road at the same interchange is around 105.5 feet. Thus if a crane was set on the lower roadway just below the grade separation – it could rise as high as 82.5 feet.*
4. *At all times on site, all cranes, equipment, or temporary stockpiles taller than 50-feet in height must be outfitted with an operational FAA-approved obstruction warning light system that engages automatically (photosensitive switch) each night. The burden is placed on the contractor to submit proof that the system is FAA-approved, that power systems are operational, and that two replacement bulbs are on site – prior to the equipment being allowed to be used or extend vertically on site. Reference: FAA Advisory Circular 150/5345-43.*
5. *Unless otherwise approved in writing by NCDOT, the contractor shall not locate any component of a borrow pit within 10,000 feet of the end of any runway at Kinston Regional Jetport.*

Final design plans shall be prepared to ensure no construction activities occur within Falling Creek or its protective riparian buffer zones.

Final design plans include provision for high-visibility, protective fencing to be installed between the project start (Station 15+30) and falling creek. Project special provisions will indicate that the contractor must not impact the buffer zones or creek area.

Final design plans shall be prepared to ensure that no right-of-way will be purchased from The Sutton Farmhouse historic boundary.

No right-of-way was acquired from this property.

NCDOT Roadside Environmental Unit

In order to retain a visual screen between the Sutton Farm House and the new interchange with Crescent Road and US 258, tree protection measures shall be used to minimize tree removal on the north side of the new interchange.

Final plans and contract special provisions will include tree protection fencing to contain contractor operations, thus preserving the existing tree buffer that lies between the Sutton Farm House property and the new interchange. This commitment was

“moved” from Roadway Design Unit to the Roadside Environmental Unit to ensure consistency.

Landscaping will be required along a portion of existing US 70 to be abandoned. The landscaping will be placed between Stations 45+00 and 70+00 to provide visual screening of relocated US 70/Crescent Road to the Parrott House, a historic property.

NCDOT will incorporate this commitment into its final landscape plans, in accordance with the Memorandum of Agreement between FHWA and HPO. The MOA also requires that the landscape be reviewed and commented upon by the HPO and the property owner prior to approval of landscape plans.

NCDOT Geotechnical Unit / GeoEnvironmental Section

The NCDOT Geotechnical Unit/GeoEnvironmental Section will further assess the affected properties for hazardous materials and make right-of-way acquisition recommendations accordingly. Should hazardous substance sites be discovered during construction activities, measures to minimize and/or mitigate potential impacts would be implemented.

This hazmat assessment was conducted, and recommendations were provided to the NCDOT Right-of-Way Branch. Results of the assessment did not affect project design.

NCDOT Division 2

The FAA regulations with respect to clearance zones associated with obstructions to runways must be considered during project construction, particularly with respect to the use of unusually tall construction equipment, such as cranes.

This requirement is satisfied in the previous project commitment under NCDOT Roadway Design Unit / Division 2, above, which provides specifications to ensure that obstructions to navigable airspace are avoided, and which also attempts to prevent any future bird collisions by establishing a 10,000 foot minimum distance between any borrow pits and the closest runway of Kinston Regional Jetport.

The Contractor shall be made aware that no construction activities occur within Falling Creek or its protective riparian buffer zones.

Final design plans include provision for high-visibility, protective fencing to be installed between the project start (Station 15+30) and falling creek. Project special provisions will indicate that the contractor must not impact the buffer zones or creek area that lie beyond fencing.

NCDOT Project Development and Environmental Analysis Branch

Prior to initiation of work, NCDOT shall record the Sutton Farm House and its surroundings in accordance with the Historic Structures and Landscape Recordation Plan as shown in Appendix A of the Memorandum of Agreement (MOA).

The Sutton Farm House was recorded according to above requirement.

COMMITMENTS DEVELOPED DURING PROJECT PERMITTING

NCDOT Division 2 / Natural Environmental Unit

Stream Mitigation:

Compensatory mitigation for impacts to 1,118 linear feet of streams at a replacement ratio of 1:1 is required. Compensatory mitigation for impacts to jurisdictional streams shall be provided by on-site stream restoration of 2,077 linear feet at Banks School Road Mitigation Site 1 (an unnamed tributary to Falling Creek) and 268 linear feet of restoration at the Banks School Road Mitigation Site 2. On-site mitigation at these sites will be provided as follows:

Mitigation Type	Location	Stream length (lf)	Ratio	Credits
Restoration	Banks School Rd. Site 1 (on-site)	2,077	1:1	2,077
Restoration	Banks School Rd. Site 2 (on-site)	286	1:1	286
			TOTAL:	2,363

Monitoring of the both stream restoration areas shall consist of Level 1 monitoring requirements. Monitoring shall be performed twice annually (summer and winter) for each year of a five year period following completion of the work. Monitoring activities shall consist of reference photos, plant survival determinations, and visual inspection of stream stability. The sites shall be monitored for five years, provided at least two bankfull events have occurred during this monitoring period. If two bankfull events have not occurred by the end of the five year monitoring period, the NCDOT may, at the DWQ's discretion, cease further monitoring of the site. The two bankfull events should occur within different monitoring years.

On-site stream restoration shall be constructed in accordance with the design submitted in your February 15, 2008 application. Please be reminded that as-builts for the completed streams shall be submitted to the North Carolina Division of Water Quality 401 Wetlands Unit with the as-builts for the rest of the project. If the parameters of this condition are not met, then the permittee shall supply additional stream mitigation for the 1,118 linear feet of impacts. All channel work will be constructed in a dry work area, will be completed and stabilized, and must be approved on site by DWQ staff, prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. All enhanced stream segments shall have a 50-foot

wide native wooded buffer planted on both sides of the stream unless otherwise authorized by this Certification. A transitional phase incorporating rolled erosion control product (RECP) and appropriate temporary ground cover is allowable.

Wetland Mitigation:

Compensatory mitigation for impacts to 12.05 acres of jurisdictional wetlands will be required as a result of this project. Off-site mitigation credits shall be credited at a 2:1 ratio. Mitigation shall be provided as follows:

Mitigation Type	Location	Wetland Type	Impact Amount (ac)	Ratio	Credits Required (ac)
Restoration	Banks School Rd. Site 2 (on-site)	Riverine	0.68	1:1	0.68
Restoration	Jeffrey's Warehouse (off-site)	Riverine	2.02	2:1	4.04
Restoration	Jeffrey's Warehouse (off-site)	Non-riverine	2.76	2:1	5.52
Restoration	Casey-King (off-site)	Non-riverine	6.59	2:1	13.18
TOTAL:			12.05	2:1	23.42

If there are insufficient credits for 2:1 ratio at either Casey King or Jeffrey's Warehouse, credits must be debited from another site or from EEP. However, credits shall be debited or obtained at a 2:1 ratio. If credits are not debited as shown in the above table, the NCDOT shall notify the DWQ, in writing prior to construction, of where credits will be debited. If mitigation is provided through EEP, an acceptance letter shall be submitted to the DWQ.

Wetland mitigation area shall be planted with no less than 680 stems/acre. Vegetation success shall be measured by survivability over a 5-year monitoring period. Survivability will be based on 320 stems/acre after three years and 260 stems after five years. A survey of vegetation during the growing season shall be conducted annually over the five-year monitoring period and submitted to the NC Division of Water Quality. Monitoring should include tree density counts, photo documentation, and plots sufficient enough to demonstrate survival and diversity of tree species. If the surviving vegetation densities are below the required thresholds after the five-year monitoring period, the site may still be declared successful at the discretion of and with written approval from the NC Division of Water Quality.

Hydrologic success of the sites will be attained by restoration of a hydrologic regime that results in inundation or saturation of the soils within 12 inches of the ground surface for at least 12.5 percent of the growing season. The hydrologic monitoring shall persist for a total of five years. After the five-year monitoring period, if the monitoring requirements are not met, the site may still be declared successful at the discretion of and with written

approval from the NC Division of Water Quality. Monitoring should include both restoration and enhancement areas.

Buffer Mitigation:

Compensatory mitigation for impacts to 158,132 square feet of protected riparian buffers in Zone 1 and 96,581 square feet of protected riparian buffers in Zone 2 shall be required, for a total of 254,713 square feet. Compensatory mitigation will be completed through a combination of both on-site and off-site mitigation as follows:

Location	Credits Proposed
Banks School Road. Site 1 (on-site)	165,963
Banks School Road Site 2 (on-site)	91,476
Crescent Road Site (off-site)	200,376
Jeffrey's Warehouse (off-site)	161,453
TOTAL:	619,268

In accordance with 15A NCAC 02B .0242(9) riparian vegetation re-establishment shall include a minimum of at least 2 native hardwood tree species planted at a density sufficient to provide 320 trees per acre at maturity. The mitigation area shall be placed under a perpetual conservation easement that will provide for protection of the property's nutrient removal efficiencies.

The permittee shall monitor both on-site buffer mitigation sites. Monitoring shall consist of visual review and photo evidence. An annual report shall be submitted to the DWQ for a period of five years showing monitoring results, survival rate/success of tree and vegetation establishment, and that diffuse flow through the riparian buffer has been maintained. The first annual report shall be submitted within one year of final planting. Failure to achieve a buffer density of 320 trees per acre after five years will require the annual report to provide appropriate remedial actions to be implemented and a schedule for implementation. Approval of the final annual report, and a formal "close out" of the mitigation site by the DWQ is required. Additionally, the Jeffrey's Warehouse site, which has currently completed year 1 monitoring, shall continue to be monitored in accordance with the approved monitoring plan. Should either of the Banks School Road sites or Jeffrey's Warehouse site fail to obtain satisfactory results, the DWQ may require the NCDOT to seek appropriate compensatory mitigation from other approved sites or through the EEP.

NCDOT Division 2

Two copies of the final construction drawings shall be furnished to NCDWQ Central Office prior to the pre-construction meeting. The permittee shall provide written verification that the final construction drawings comply with the drawings contained in the application dated February 15, 2008 and the revision dated August 5, 2008. Any

deviations from the approved drawings are not authorized unless approved by the NC Division of Water Quality.

The culvert at Site 9 will be left at natural ground level to avoid possible draining of the surrounding wetlands. However, all other culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a modification to this certification will be required.

NC DOT shall use "Design Standards in Sensitive Watersheds" [15A NCAC 4B .0124(a)-(e)] for the entire project. However, due to the size of the project, NC DOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres. Temporary cover (wheat, millet, or similar annual grain) or permanent herbaceous cover should be planted on all bare soil within 15 working days of ground disturbing activities to provide long-term erosion control. Erosion control matting should be used in conjunction with appropriate seeding on disturbed soils in steep slope and riparian areas. Steep slopes are defined as those slopes graded at an angle which cannot retain vegetative cover. Matting shall be secured in place with staples or wherever possible, live stakes of native trees. Straw mulch and tall fescue shall not be used in riparian areas.

No changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality.

NCDOT Division 2 / Roadside Environmental

Pursuant to NCAC15A 2B .0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.



IN REPLY REFER TO

**DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS**

Washington Regulatory Field Office
P.O. Box 1000
Washington, North Carolina 27889-1000

January 7, 2009

Regulatory Division

Action ID. SAW 2008-02460

Gregory J. Thorpe, Ph.D.
Environmental Manager Director
Project Development and Environmental Analysis Branch
N.C. Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe,

In accordance with your written request of August 5, 2008, and the ensuing administrative record, enclosed are two copies of a permit to construct on new location the final section of Crescent Road (TIP R-2719A), starting from an intersection with existing US 70 east of Falling Creek and continuing northeast approximately four miles on new location to the intersection of US 258 and existing Crescent Road. The project is located west of Kinston in Lenoir County.

You should acknowledge that you accept the terms and conditions of the enclosed permit by signing and dating each copy in the spaces provided ("Permittee" on page 3). Your signature, as permittee, indicates that, as consideration for the issuance of this permit, you voluntarily accept and agree to comply with all of the terms and conditions of this permit. All pages of both copies of the signed permit with drawings should then be returned to the Wilmington District office for final authorization. A self-addressed envelope is enclosed for your convenience.

This correspondence contains an initial proffered permit for the above described activity. If you object to this decision or the enclosed special conditions you may request that the District Commander reconsider his decision. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the District Commander, Wilmington District Corps of Engineers at the following address:

Col. Jefferson Ryscavage, District Commander
US Army Corps of Engineers, Wilmington District
Post Office Box 1890
Wilmington, NC 28402-1890

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 9, 2009.

****It is not necessary to submit an RFA form to the District Office if you do not object to the decision in contained in this correspondence.****

After the permit is authorized in this office, the original copy will be returned to you; the duplicate copy will be permanently retained in this office. If you have questions, please contact William Wescott at the Washington Regulatory Field Office, telephone 252-975-1616 ext. 31.

Sincerely,

A handwritten signature in black ink that reads "David M. Lekson". The signature is written in a cursive style with a long, sweeping underline.

David M. Lekson, P.W.S.
Chief, Washington Regulatory Field Office

Enclosures

Blind Copies Furnished:

CESAW-R

Perform work in or affecting navigable waters of the United States, upon recommendation of the Chief of Engineers, pursuant to SECTION 10 of the Rivers and Harbor Act of March 3, 1899

 X Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Clean Water Act

 Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972

SPECIAL CONDITIONS (Action ID. SAW 2008-02460; NCDOT/TIP R-2719A)

COMPLIANCE WITH PLANS

- a) All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation.
- b) This authorization is only for TIP R-2719 Section A.

ACTIVITIES NOT AUTHORIZED

- c) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, nor shall any activities take place that cause the degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

This permit does not authorize temporary placement or double handling of excavated or fill material within jurisdictional waters, including wetlands, outside the permitted area. Additionally, no construction materials or equipment will be placed or stored within jurisdictional waters, including wetlands.

CONSTRUCTION PLANS

- d) The Permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided to Washington Regulatory Field Office that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Washington Regulatory Field Office prior to any active construction in waters or wetlands.
- e) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the Permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

POLLUTION SPILLS

f) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. No equipment staging or storage of construction material will occur in wetlands. Hydro-seeding equipment will not be discharged or washed out into any surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the Permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

NOTIFICATION

g) The Permittee shall advise the Corps in writing at least two weeks prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

CLEAN FILL MATERIAL

h) Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

CONTRACTOR COMPLIANCE

i) The Permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.

SEDIMENTATION AND EROSION CONTROL MEASURES

j) The Permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standards. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be

adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

The Permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.

REPORTING OF VIOLATIONS

k) The Permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager, within 24 hours of the Permittee's discovery of the violation.

COMPLIANCE WITH SPECIAL CONDITIONS

l) Failure to institute and carry out the details of these special conditions, will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project, or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.

PRECONSTRUCTION MEETING

m) The Permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The Permittee shall provide the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the preconstruction meeting for a time when the Corps of Engineers and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The Permittee shall invite the Corps and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

BORROW AND WASTE

n) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The Permittee shall provide the Corps of Engineers

with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the Permittee has that information. The Permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. All jurisdictional wetland boundaries on borrow and waste sites shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The Permittee shall ensure that all such areas comply with Special Condition c) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the Special Condition c). All information will be available to the Corps of Engineers upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

MITIGATION

o) Compensatory mitigation for the unavoidable impacts to 2.70 acres of riverine wetlands, 9.35 acres of non-riverine wetlands, and 2,363 linear feet of stream associated with the proposed project shall be provided as outlined in the following table.

Project Impacts		Required Mitigation			
Type	Area	Type	Location	Ratio	Credits Required
Riverine	2.7 acres	Restoration	Banks School Rd. Site 2 (on-site)	1:1	0.68 acres
			Jeffery's Warehouse (off-site)	2:1	4.04 acres
Non-Riverine	9.35 acres	Restoration	Casey-King (off-site)	2:1	13.18 acres
			Jeffery's Warehouse (off-site)	2:1	5.52 acres
Stream	2,363 linear feet	Restoration	Banks School Rd. Site 1 (on-site)	1:1	2,077 feet
			Banks School Rd. Site 2 (on-site)	1:1	286 feet

On-site mitigation will be in accordance with the Banks School Road Stream and Wetland Mitigation Site Plan dated January 8, 2008. Wetland mitigation success criteria will include the following. Vegetation success shall be measured by survivability over a 5-year period. Survivability will be based on 320 planted stems/acre after three years and 260 planted stems/acre after five years. Hydrologic success of the sites will be attained by restoration of a hydrologic regime that results in inundation or saturation of the soils within 12 inches of the ground surface for at least 12.5 percent of the growing season. The hydrologic monitoring shall occur over a 5-year period.

p) The Permittee owns Jeffery's Warehouse, and Banks School Rd. Sites 1 & 2 for the purpose of providing wetland and stream mitigation. The Permittee shall maintain the mitigation sites identified above in their natural condition, as altered by the mitigation plans, in perpetuity.

Except as authorized or required by the mitigation plan, prohibited activities on the mitigation properties include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage, trash, or other waste material. In addition, the Permittee shall take no action, whether on or off the mitigation properties, which will adversely impact the streams and/or wetlands on the mitigation properties.

q) Condition (p), above, runs with the land. The Permittee shall not sell, lease, or otherwise convey any interest in the mitigation properties without subjecting the properties to legally enforceable restrictions on the use of the properties, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: NCDOT	File Number: SAW 2008-02460	Date: January 7, 2009
Attached is:		See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
U.S. Army Corps of Engineers
Attn. Mr. William Wescott, Project Manager
Washington Regulatory Field Office
Post Office Box 1000
Washington, North Carolina 27889

If you only have questions regarding the appeal process you may also contact:
Mr. Michael F. Bell, Administrative Appeal Review Officer
CESAD-ET-CO-R
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
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DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation, Gregory J. Thorpe, Ph.D.**

Permit No. **SAW 2008-02460**

Issuing Office **CESAW-RG-W**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The proposed T.I.P. project R-2719 Section A involves constructing a divided multi-lane, full control of access freeway, interchanges at locations with major traffic movements, and grade separations at minor crossroads and railroads. The project is approximately 4 miles long starting east of Falling Creek on US 70, and going northeast on new location to US 258 to tie in with the northern section of Crescent Road west of Kinston, Lenoir County. The T.I.P. R-2719 Section A project would permanently impact 12.05 acres of jurisdictional wetlands and 2,363 linear feet of stream. The project would temporarily impact 1.50 acres of jurisdictional wetlands and 1,227 linear feet of stream.

Project Location: This project involves the construction of the final section of Crescent Road starting from US 70 east of Falling Creek and continuing northeast approximately four miles on new location to the intersection of US 258 and existing Crescent Road. The project is located west of Kinston in Lenoir County.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2013**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.

SPECIAL CONDITIONS (Action ID. SAW 2008-02460; NCDOT/TIP R-2719A)

COMPLIANCE WITH PLANS

- a) All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation.
- b) This authorization is only for TIP R-2719 Section A.

ACTIVITIES NOT AUTHORIZED

- c) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, nor shall any activities take place that cause the degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

This permit does not authorize temporary placement or double handling of excavated or fill material within jurisdictional waters, including wetlands, outside the permitted area. Additionally, no construction materials or equipment will be placed or stored within jurisdictional waters, including wetlands.

CONSTRUCTION PLANS

- d) The Permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided to Washington Regulatory Field Office that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Washington Regulatory Field Office prior to any active construction in waters or wetlands.
- e) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the Permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

POLLUTION SPILLS

- f) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other

toxic materials. No equipment staging or storage of construction material will occur in wetlands. Hydro-seeding equipment will not be discharged or washed out into any surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the Permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

NOTIFICATION

g) The Permittee shall advise the Corps in writing at least two weeks prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

CLEAN FILL MATERIAL

h) Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

CONTRACTOR COMPLIANCE

i) The Permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.

SEDIMENTATION AND EROSION CONTROL MEASURES

j) The Permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standards. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

The Permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.

REPORTING OF VIOLATIONS

k) The Permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act to the Corps of Engineers, Washington Regulatory Field Office NCDOT Regulatory Project Manager, within 24 hours of the Permittee's discovery of the violation.

COMPLIANCE WITH SPECIAL CONDITIONS

l) Failure to institute and carry out the details of these special conditions, will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project, or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.

PRECONSTRUCTION MEETING

m) The Permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The Permittee shall provide the Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the preconstruction meeting for a time when the Corps of Engineers and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The Permittee shall invite the Corps and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

BORROW AND WASTE

n) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The Permittee shall

provide the Corps of Engineers with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the Permittee has that information. The Permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. All jurisdictional wetland boundaries on borrow and waste sites shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The Permittee shall ensure that all such areas comply with Special Condition c) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the Special Condition c). All information will be available to the Corps of Engineers upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

MITIGATION

o) Compensatory mitigation for the unavoidable impacts to 2.70 acres of riverine wetlands, 9.35 acres of non-riverine wetlands, and 2,363 linear feet of stream associated with the proposed project shall be provided as outlined in the following table.

Project Impacts		Required Mitigation			
Type	Area	Type	Location	Ratio	Credits Required
Riverine	2.7 acres	Restoration	Banks School Rd. Site 2 (on-site)	1:1	0.68 acres
			Jeffery's Warehouse (off-site)	2:1	4.04 acres
Non-Riverine	9.35 acres	Restoration	Casey-King (off-site)	2:1	13.18 acres
			Jeffery's Warehouse (off-site)	2:1	5.52 acres
Stream	2,363 linear feet	Restoration	Banks School Rd. Site 1 (on-site)	1:1	2,077 feet
			Banks School Rd. Site 2 (on-site)	1:1	286 feet

On-site mitigation will be in accordance with the Banks School Road Stream and Wetland Mitigation Site Plan dated January 8, 2008. Wetland mitigation success criteria will include the following. Vegetation success shall be measured by survivability over a 5-year period. Survivability will be based on 320 planted stems/acre after three years and 260 planted stems/acre after five years. Hydrologic success of the sites will be attained by restoration of a hydrologic regime that results in inundation or saturation of the soils

within 12 inches of the ground surface for at least 12.5 percent of the growing season. The hydrologic monitoring shall occur over a 5-year period.

p) The Permittee owns Jeffery's Warehouse, and Banks School Rd. Sites 1 & 2 for the purpose of providing wetland and stream mitigation. The Permittee shall maintain the mitigation sites identified above in their natural condition, as altered by the mitigation plans, in perpetuity. Except as authorized or required by the mitigation plan, prohibited activities on the mitigation properties include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage, trash, or other waste material. In addition, the Permittee shall take no action, whether on or off the mitigation properties, which will adversely impact the streams and/or wetlands on the mitigation properties.

q) Condition (p), above, runs with the land. The Permittee shall not sell, lease, or otherwise convey any interest in the mitigation properties without subjecting the properties to legally enforceable restrictions on the use of the properties, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.

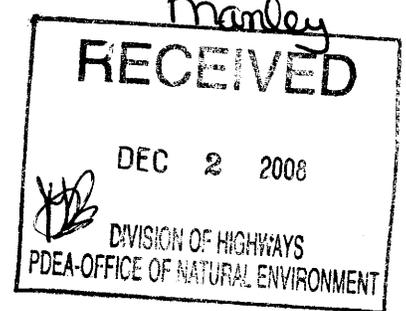


Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

November 25, 2008

Dr. Greg Thorpe, PhD., Branch Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1548



Subject: Correction to 401 Water Quality Certification for R-2719A (Crescent Road) in Lenoir County,
DWQ Project No. 20080314.
WQC No. 003763

Dear Dr. Thorpe:

This letter is in regards to the 401 Water Quality Certification (WQC) issued on October 28, 2008 for Crescent Road in Lenoir County (DWQ Project No. 20080314). Condition No. 29 of the WQC issued on October 28, 2008 contains the following language:

“No changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality.”

This language is hereby corrected to read as follows:

“In riparian buffer areas, no changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality.”

Please attach a copy of this letter with any copies of the original Water Quality Certification. All other conditions written into the previous Water Quality Certification for this project dated October 28, 2008 still apply except where superseded by this correction. We are sorry for any inconvenience this may have caused. If you have any questions please contact David Wainwright at (919) 715-3415.

Sincerely,

Coleen H. Sullins,
Director

cc: William Wescott, US Army Corps of Engineers, Washington Field Office
Kathy Matthews, Environmental Protection Agency
Chris Militscher, Environmental Protection Agency
Travis Wilson, NC Wildlife Resources Commission (electronic)
Gary Jordan, US Fish and Wildlife Service (electronic)
Garcy Ward, DWQ Washington Regional Office
File Copy



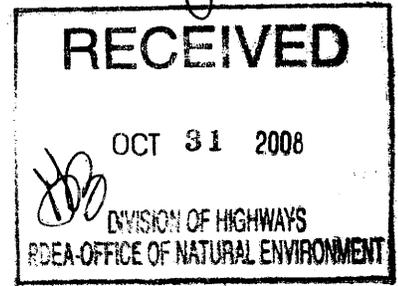
Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen Sullins, Director
Division of Water Quality

manley

October 28, 2008

Dr. Greg Thorpe, PhD., Branch Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548



Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE BUFFER RULES with ADDITIONAL CONDITIONS for the proposed southern section of Crescent Road from US 70 to US 258 in Lenoir County, Federal Aid Project No. STP-224(3) State Project No. 8.2200101, TIP No. R-2719A.
DWQ Project No. 20080314
WQC003763

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 003763 issued to The North Carolina Department of Transportation dated October 28, 2008.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Coleen Sullins
Coleen Sullins
Director

Attachments

cc: William Wescott, US Army Corps of Engineers, Washington Field Office
Kathy Matthews, Environmental Protection Agency
Chris Militscher, Environmental Protection Agency
Travis Wilson, NC Wildlife Resources Commission (electronic)
Gary Jordan, US Fish and Wildlife Service (electronic)
Garcy Ward, DWQ Washington Regional Office
File Copy



**401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE
BUFFER RULES with ADDITIONAL CONDITIONS**

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H .0500 and [15A NCAC 2B .0233]. This certification authorizes the NCDOT to impact 13.22 acres of jurisdictional wetlands, 3,590 linear feet of jurisdictional streams and 348,634 square feet of protected riparian buffers in Lenoir County. The project shall be constructed pursuant to the initial application dated received February 15, 2008 and the revision to the initial application dated received August 6, 2008. The authorized impacts are as described below:

Stream Impacts in the Neuse River Basin

Site	Permanent Fill in Intermittent Stream (linear ft.)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1	0	0	499	208	707	499
2	0	0	619	245	864	619
3	158	18	0	0	176	0
4	119	18	0	0	137	0
5A	0	0	50	18	68	0
5B	21	61	0	0	82	0
6	286	36	0	0	322	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	237	182	0	0	419	0
12	188	155	0	0	343	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	109	109	0
18	0	0	0	0	0	0
19	186	177	0	0	363	0
TOTAL:	1,195	647	1,168	580	3,590	1,118

Total Stream Impact for Project: 3,590 linear feet



Wetland Impacts in the Neuse River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5A	0	0	0	0	0	0
5B	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0.03	0	0	0	0.01	0.04
8	2.67	0	0	0	0.2	2.87
9	2.93	0	0	0	0.31	3.24
10	1.96	0	0	0	0.18	2.14
11	1.36	0	0.03	0	0.14	1.53
12	0.94	0	0.01	0	0.10	1.05
13	0.73	0	0.03	0	0.09	0.85
14*	0.91*	0	0.01	0.02	0.04	0.98
15	0.06	0	0	0	0.01	0.07
16	0.36	0	0	0	0.08	0.44
17	0	0	0	0	0	0
18	0	0	0	0	0.01	0.01
19	0	0	0	0	0	0
TOTAL:	11.95	0	0.08	0.02	1.17	13.22

*An additional impact of 0.02 acres is added to the total impact at Site 14 due to a total taking of the associated wetlands
Total Wetland Impact for Project: 13.22 acres.

Neuse River Riparian Buffer Impacts

Site	Zone 1 Impact (sq ft)	minus Wetlands in Zone 1 (sq ft)	= Zone 1 Buffers (not wetlands) (sq ft)	Impact Requiring Mitigation (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	minus Wetlands in Zone 2 (sq ft)	= Zone 2 Buffers (not wetlands) (sq ft)	Impact Requiring Mitigation (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
1	37,815	0	37,815	37,815	113,445	22,339	0	22,339	22,339	33,509
2	49,052	0	49,052	49,052	147,156	29,064	0	29,064	29,064	43,596
3	10,004	0	10,004	10,004	30,012	6,561	0	6,561	6,561	9,842
4	7,794	0	7,794	N/A	N/A	5,174	0	5,174	N/A	N/A
5	4,119	0	4,119	N/A	N/A	2,798	0	2,798	N/A	N/A
6	20,004	0	20,004	N/A	N/A	14,987	0	14,987	N/A	N/A
7	19,349	0	19,349	19,349	58,047	14,532	0	14,532	14,532	21,798
8	21,619	9,646	11,973	11,973	35,919	12,965	5,333	7,632	7,632	11,448
9	17,781	7,787	9,994	9,994	29,982	10,457	4,499	5,958	5,958	8,937
10	0	0	0	N/A	N/A	129	0	129	N/A	N/A
11	6,596	0	6,596	N/A	N/A	4,469	0	4,469	N/A	N/A
12	0	0	0	N/A	N/A	586	0	586	N/A	N/A
13	19,945	0	19,945	19,945	59,835	10,495	0	10,495	10,495	15,743
TOTAL:	214,078	17,433	196,645	158,132	474,396	134,556	9,832	124,724	96,581	144,873

* N/A = Total for Site is less than 1/3 acre and 150 linear feet of impact, or is allowable and therefore no mitigation required
Total Buffer Impact for Project: 348,634 square feet.



The application provides adequate assurance that the discharge of fill material into the waters of the Neuse River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received February 15, 2008 and the associated revision dated received August 6, 2008. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

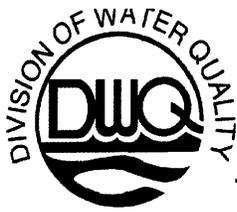
Project Specific Conditions

- Two copies of the final construction drawings shall be furnished to NCDWQ Central Office prior to the pre-construction meeting. The permittee shall provide written verification that the final construction drawings comply with the drawings contained in the application dated February 15, 2008 and the revision dated August 5, 2008. Any deviations from the approved drawings are not authorized unless approved by the NC Division of Water Quality.
- Stream Mitigation:

Compensatory mitigation for impacts to 1,118 linear feet of streams at a replacement ratio of 1:1 is required. Compensatory mitigation for impacts to jurisdictional streams shall be provided by on-site stream restoration of 2,077 linear feet at Banks School Road Mitigation Site 1 (an unnamed tributary to Falling Creek) and 268 linear feet of restoration at the Banks School Road Mitigation Site 2. On-site mitigation at these sites will be provided as follows:

Mitigation Type	Location	Stream length (lf)	Ratio	Credits
Restoration	Banks School Rd. Site 1 (on-site)	2,077	1:1	2,077
Restoration	Banks School Rd. Site 2 (on-site)	268	1:1	268
			TOTAL:	2,345

Monitoring of the both stream restoration areas shall consist of Level 1 monitoring requirements. Monitoring shall be performed twice annually (summer and winter) for each year of a five year period following completion of the work. Monitoring activities shall consist of reference photos, plant survival determinations, and visual inspection of stream stability. The sites shall be monitored for five years, provided at least two bankfull events have occurred during this monitoring period. If two bankfull events have not occurred by the end of the five year monitoring period, the NCDOT may, at the DWQ's discretion, cease further monitoring of the site. The two bankfull events should occur within different monitoring years.



On-site stream restoration shall be constructed in accordance with the design submitted in your February 15, 2008 application. Please be reminded that as-builts for the completed streams shall be submitted to the North Carolina Division of Water Quality 401 Wetlands Unit with the as-builts for the rest of the project. If the parameters of this condition are not met, then the permittee shall supply additional stream mitigation for the 1,118 linear feet of impacts. All channel work will be constructed in a dry work area, will be completed and stabilized, and must be approved on site by DWQ staff, prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. All enhanced stream segments shall have a 50-foot wide native wooded buffer planted on both sides of the stream unless otherwise authorized by this Certification. A transitional phase incorporating rolled erosion control product (RECP) and appropriate temporary ground cover is allowable.

3. Wetland Mitigation:

Compensatory mitigation for impacts to 12.05 acres of jurisdictional wetlands will be required as a result of this project. Off-site mitigation credits shall be credited at a 2:1 ratio. Mitigation shall be provided as follows:

Mitigation Type	Location	Wetland Type	Impact Amount (ac)	Ratio	Credits Required (ac)
Restoration	Banks School Rd. Site 2 (on-site)	Riverine	0.68	1:1	0.68
Restoration	Jeffrey's Warehouse (off-site)	Riverine	2.02	2:1	4.04
Restoration	Jeffrey's Warehouse (off-site)	Non-riverine	2.76	2:1	5.52
Restoration	Casey-King (off-site)	Non-riverine	6.59	2:1	13.18
TOTAL:			12.05		23.42

If there are insufficient credits for 2:1 ratio at either Casey King or Jeffrey's Warehouse, credits must be debited from another site or from EEP. However, credits shall be debited or obtained at a 2:1 ratio. If credits are *not* debited as shown in the above table, the NCDOT shall notify the DWQ, in writing prior to construction, of where credits will be debited. If mitigation is provided through EEP, an acceptance letter shall be submitted to the DWQ.

Wetland mitigation area shall be planted with no less than 680 stems/acre. Vegetation success shall be measured by survivability over a 5-year monitoring period. Survivability will be based on 320 stems/acre after three years and 260 stems after five years. A survey of vegetation during the growing season shall be conducted annually over the five-year monitoring period and submitted to the NC Division of Water Quality. Monitoring should include tree density counts, photo documentation, and plots sufficient enough to demonstrate survival and diversity of tree species. If the surviving vegetation densities are below the required thresholds after the five-year monitoring period, the site may still be declared successful at the discretion of and with written approval from the NC Division of Water Quality.

Hydrologic success of the sites will be attained by restoration of a hydrologic regime that results in inundation or saturation of the soils within 12 inches of the ground surface for at least 12.5 percent of the growing season. The hydrologic monitoring shall persist for a total of five years. After the five-year monitoring period, if the monitoring requirements are not met, the site may still be declared successful at the discretion of and with written approval from the NC Division of Water Quality. Monitoring should include both restoration and enhancement areas.



4. Buffer Mitigation:

Compensatory mitigation for impacts to 158,132 square feet of protected riparian buffers in Zone 1 and 96,581 square feet of protected riparian buffers in Zone 2 shall be required, for a total of 254,713 square feet. Compensatory mitigation will be completed through a combination of both on-site and off-site mitigation as follows:

Location	Credits Proposed
Banks School Road. Site 1 (on-site)	165,963
Banks School Road Site 2 (on-site)	91,476
Crescent Road Site (off-site)	200,376
Jeffrey's Warehouse (off-site)	161,453
TOTAL:	619,268

In accordance with 15A NCAC 02B .0242(9) riparian vegetation re-establishment shall include a minimum of at least 2 native hardwood tree species planted at a density sufficient to provide 320 trees per acre at maturity. The mitigation area shall be placed under a perpetual conservation easement that will provide for protection of the property's nutrient removal efficiencies.

The permittee shall monitor both on-site buffer mitigation sites. Monitoring shall consist of visual review and photo evidence. An annual report shall be submitted to the DWQ for a period of five years showing monitoring results, survival rate/success of tree and vegetation establishment, and that diffuse flow through the riparian buffer has been maintained. The first annual report shall be submitted within one year of final planting. Failure to achieve a buffer density of 320 trees per acre after five years will require the annual report to provide appropriate remedial actions to be implemented and a schedule for implementation. Approval of the final annual report, and a formal "close out" of the mitigation site by the DWQ is required. Additionally, the Jeffrey's Warehouse site, which has currently completed year 1 monitoring, shall continue to be monitored in accordance with the approved monitoring plan. Should either of the Banks School Road sites or Jeffrey's Warehouse site fail to obtain satisfactory results, the DWQ may require the NCDOT to seek appropriate compensatory mitigation from other approved sites or through the EEP.

- All mitigation sites used for project impact credits shall be under a conservation easement and/or right-of-way agreement which will be maintained in perpetuity by the NCDOT, or if the property is sold, the respective property owner.
- The culvert at Site 9 will be left at natural ground level to avoid possible draining of the surrounding wetlands. However, all other culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a modification to this certification will be required.
- NC DOT shall use "Design Standards in Sensitive Watersheds" [15A NCAC 4B .0124(a)-(e)] for the entire project. However, due to the size of the project, NC DOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres. Temporary cover (wheat, millet, or similar annual grain) or permanent herbaceous cover should be planted on all bare soil within 15 working days of



ground disturbing activities to provide long-term erosion control. Erosion control matting should be used in conjunction with appropriate seeding on disturbed soils in steep slope and riparian areas. Steep slopes are defined as those slopes graded at an angle which cannot retain vegetative cover. Matting shall be secured in place with staples or wherever possible, live stakes of native trees. Straw mulch and tall fescue shall not be used in riparian areas.

General Conditions

8. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
9. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.
10. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
11. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage.
12. The Permittee shall ensure that the final design drawings adhere to the certification and to the drawings submitted for approval.
13. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
14. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
15. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
16. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
17. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
18. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may reevaluate and modify this certification.
19. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification.



20. The outside buffer, wetland or water boundary located within the construction corridor approved by this certification shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
21. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
22. Native riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
23. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this certification without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
24. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
25. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.
26. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification.
27. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular DOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated, with native woody species before the next growing season following completion of construction.
28. Pursuant to NCAC15A 2B .0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this



project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

29. No changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality.
30. A copy of this Water Quality Certification shall be maintained on site at the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
31. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
32. Upon completion of the project (including any impacts at associated borrow or waste site), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 28th day of October 2008

DIVISION OF WATER QUALITY

Coleen Sullins
Director

WQC No. 003763



DWQ Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

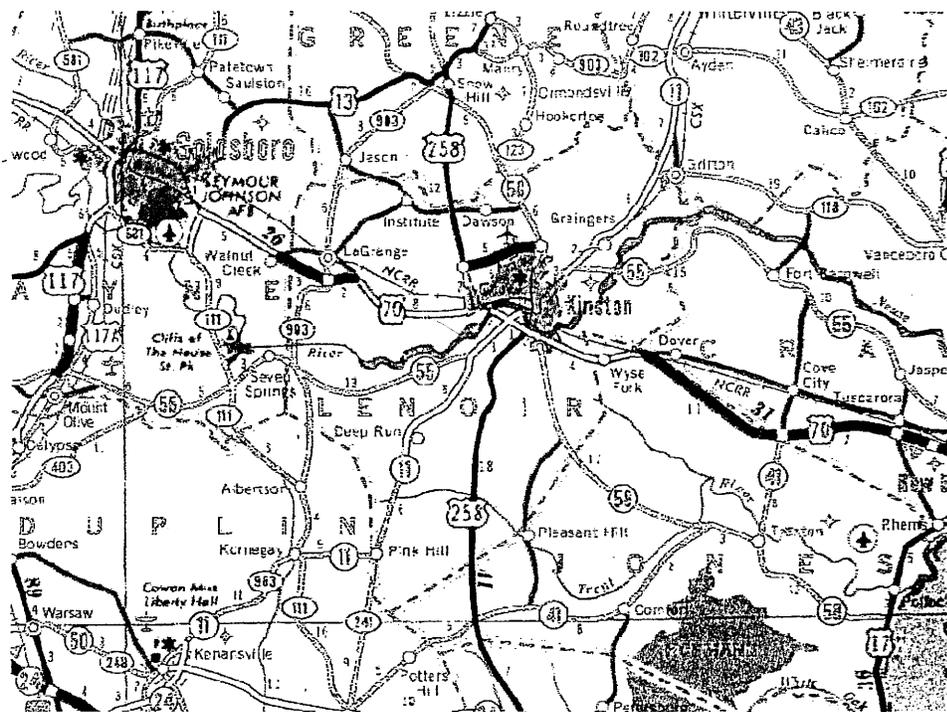
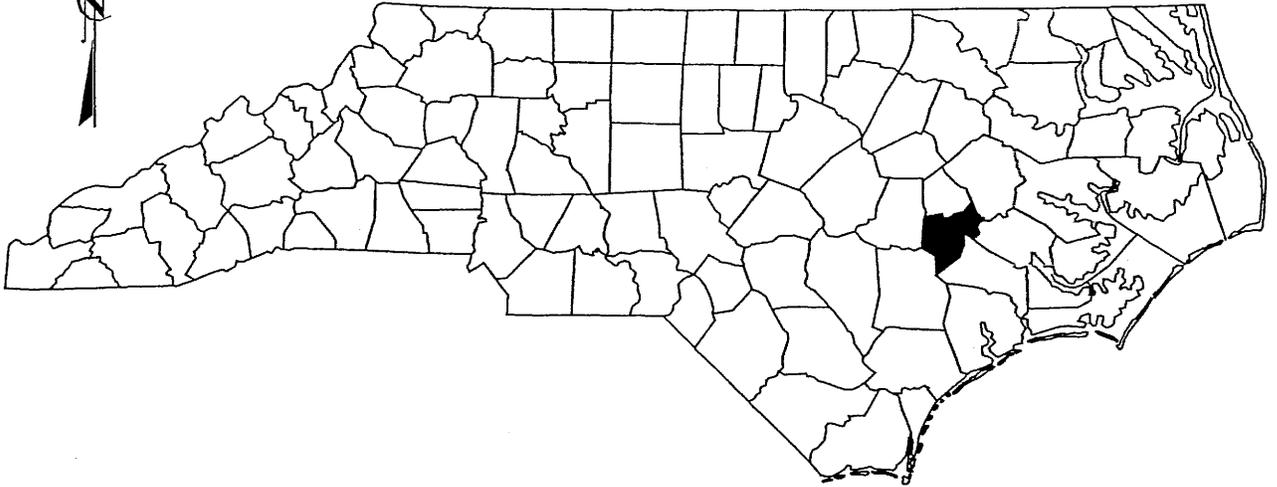
Signature: _____ Date: _____

If this project was designed by a Certified Professional

I, _____, as a duly registered Professional _____ (i.e., Engineer, Landscape Architect, Surveyor, etc.) in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____ Date _____

NORTH CAROLINA



VICINITY MAP

Permit Drawing
Sheet 1 of 66

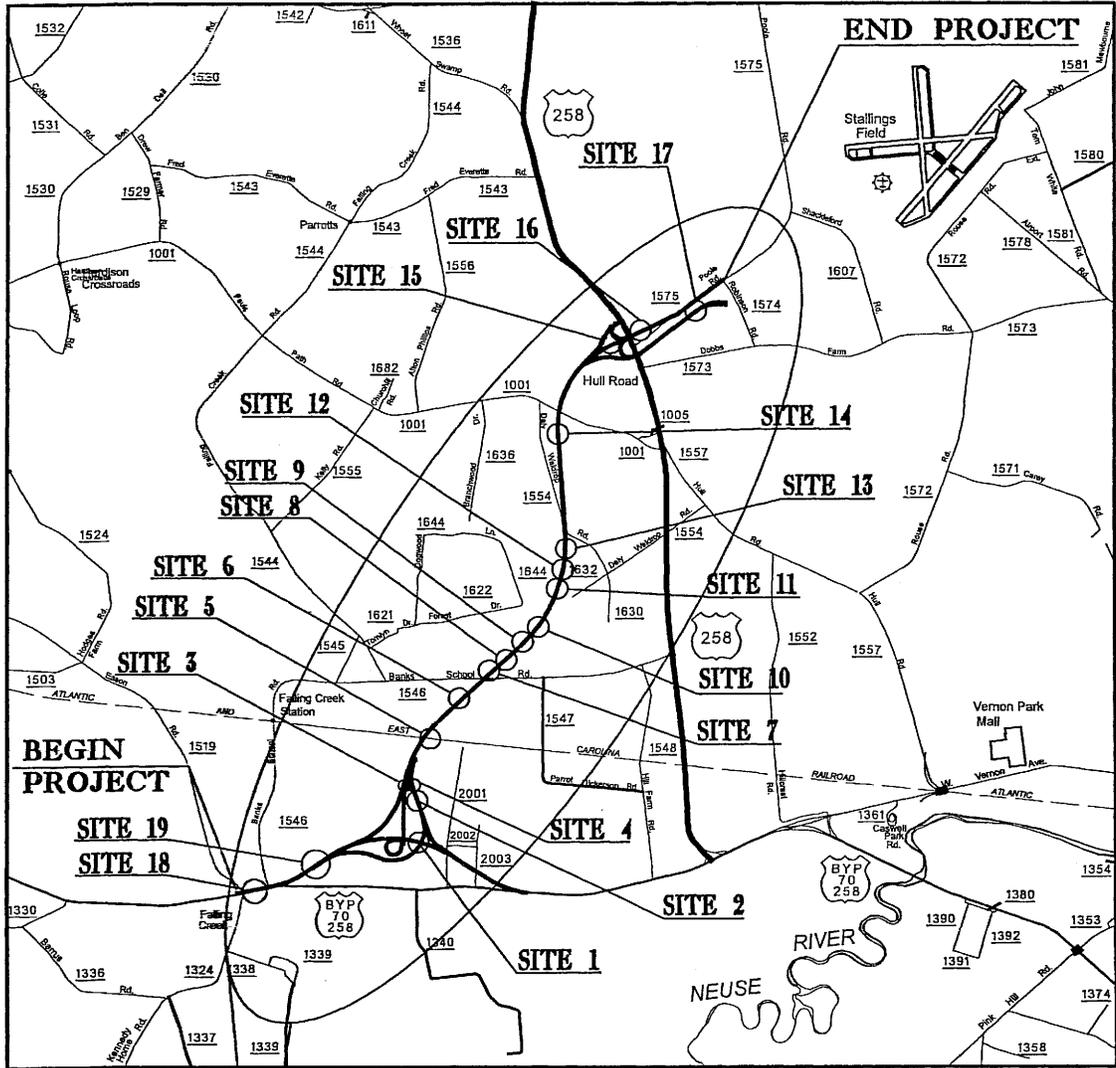
NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450111 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET

OF

5 / 26 / 06

WETLAND SITE MAP



SITE

Permit Drawing
Sheet 2 of 66



NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 5 / 26 / 06

R:\2005\11\15\New Permits\2719a_Hyd.prm.wet.tsh.dgn
 Co. E. 3/30/05

WETLAND IMPACTS SUMMARY OF AFFECTED PROPERTY OWNERS

TRACT NO.	PROPERTY OWNER	ADDRESS	SITE NO.
(8)	FALLING CREEK FARMS INC.	818 WEST MINISTER LN KINSTON, NC 28501	19
(14)	ERWIN W. PARROT, et al	818 WEST MINISTER LN KINSTON, NC 28501	1,2,3 & 4
(16)	PROPERTY OF LENOIR COUNTY	PO BOX 3289 KINSTON, NC 28502-3289	1,2
(33)	FALLING CREEK FARMS INC.	818 WEST MINISTER LN KINSTON, NC 28501	2,5A
(34)	JOHN P. CASEY	2702 BANKS SCHOOL RD KINSTON, NC 28504	5B
(38)	THE STATE OF NORTH CAROLINA	116 WEST JONES ST RALEIGH, NC 27603	5B,6,7
(46)	THE STATE OF NORTH CAROLINA	116 WEST JONES ST RALEIGH, NC 27603	8,9,10,11
(48)	THE STATE OF NORTH CAROLINA	116 WEST JONES ST RALEIGH, NC 27603	9,10,11
(51)	ELLIS A. KING, et al	PO BOX 6007 KINSTON, NC 28502	11,12
(60)	HATTIE E. DALY ESTATE	12807 PINE TREE LANE FORT WASHINGTON, MD 20744	12,13
(67)	NINA L. HILL	2189 PAULS PATH ROAD KINSTON, NC 28504	14
(97)	WILLIAM H. ROUSE, et al	1904 HARDEE ROAD KINSTON, NC 28504	15
(104)	WILLIAM H. ROUSE, et al	1904 HARDEE ROAD KINSTON, NC 28504	16

Permit Drawing
Sheet 4 of 66



NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501L1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET

OF

9 / 21 / 07

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)		
1	-Y1- 74+43	3@12'x10' RCBC							0.10	0.05	499	208		
2	-Y1RPCA- 16+14	3@12'x10' RCBC							0.18	0.07	619	245		
3	-L- 69+50	60" RCP							0.01	<0.01	158	18		
4	-Y1RPCA- 9+20	60" RCP							0.01	<0.01	119	18		
5A	-SVRD5- 21+90	2@60" RCP							0.02	0.01	50	18		
5B	-L- 87+80 LT	TEMP 2@36" CSP							0.02	<0.01	21	61		
6*	-L- 103+73	36" RCP							0.03	0.01	286	36	286*	
7	-L- 108+40 TO 109+40	Roadway Fill	0.03					<0.01						
8	-L- 113+26 TO 119+26	Roadway Fill	2.67					0.20						
9	-L- 119+50 TO 127+61	Roadway Fill	2.93					0.31						
10	-L- 127+61 TO 133+27	Roadway Fill	1.96					0.18						
11	-L- 135+50 TO 140+70	2@9'X8' RCBC	1.36		0.03			0.14		0.03	237	182		
12	-L- 150+80 TO 154+00	2@8'X8' RCBC	0.94		0.01			0.10		0.02	188	155		
13	-L- 154+80 TO 158+90	Roadway Fill	0.73		0.03			0.09						
14**	-L- 203+39 TO 206+22	Roadway Fill	0.89		0.01	0.02		0.04						
15	-L- 241+20 TO 241+90	Roadway Fill	0.06					0.01						
16	-L- 249+10 TO 253+80	Roadway Fill	0.36					0.08						
17	-Y6- 33+75	TEMP 48" CSP								0.02		109		
18	-Y1- 18+30	EXISTING BRIDGE						<0.01						
19*	-Y1- 38+22	2@9'X6' RCBC							0.04	0.04	186	177		
TOTALS:			11.93	0.00	0.08	0.02	1.15	0.46	0.25	2363	1227	286		

* SEE MITIGATION PLANS

** The wetland impact to site 14 along right side should be considered as a "total take", and the additional impact area is 0.02 acre. Therefore, the total wetland impact = (0.89+0.01+0.02+0.04)+0.02 = 0.98 acre

Site 5B - Temporary impacts/pipes due to need for Construction Access

0.35 acres of Temporary Fill In Wetlands in the Hand Clearing areas for erosion control measures.

**Permit Drawing
Sheet 5 of 66**

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

LENOIR COUNTY
PROJECT: 34501.1.1 (R-2719A)

SHEET

June-08

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Standard Symbology Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LENOIR COUNTY

LOCATION: CRESCENT ROAD IN KINSTON FROM
US 70 TO US 258

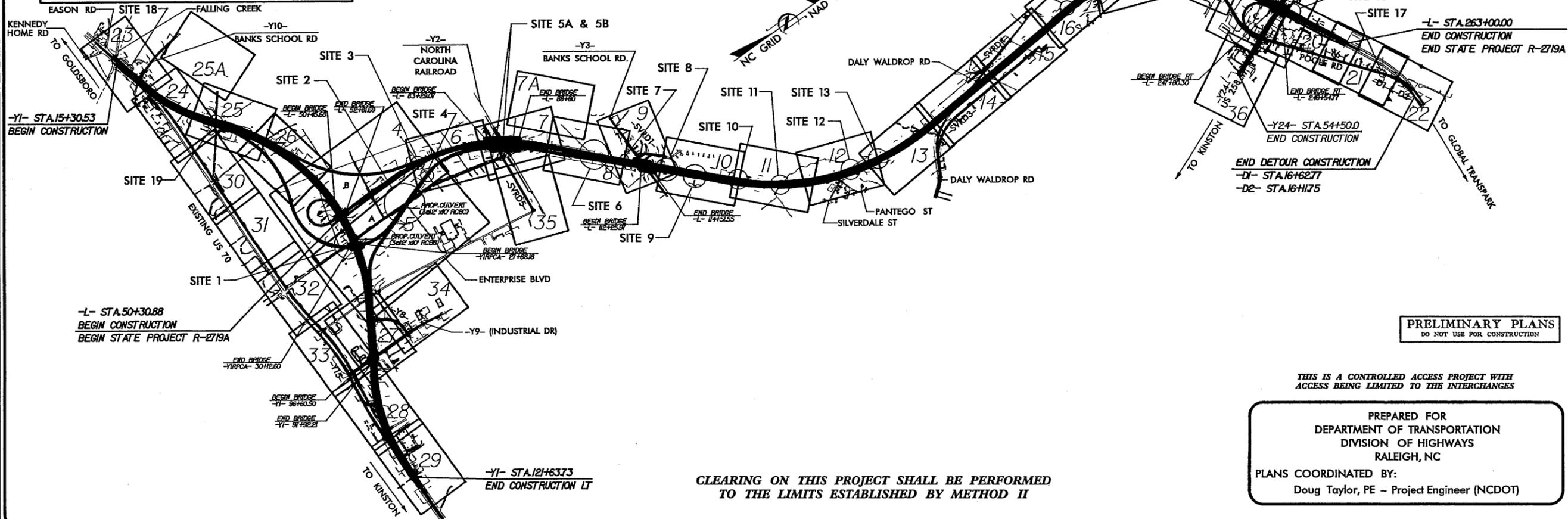
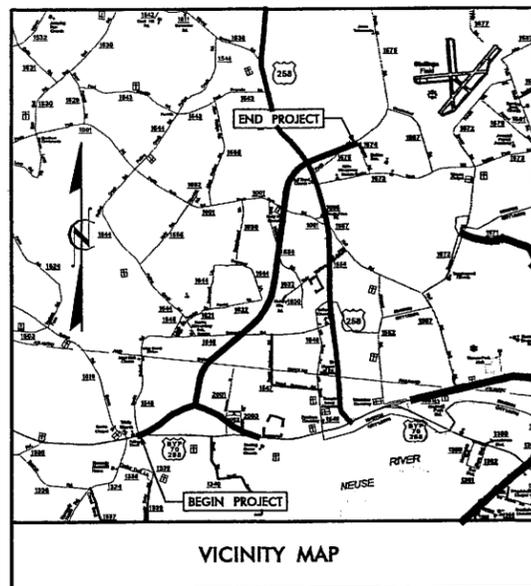
TYPE OF WORK: GRADING, PAVING, STRUCTURES, DRAINAGE

R-2719A: WETLAND SITE MAP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2719A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34501.1.1	STP-0224(3)	PE	
34501.2.4	STP-0224(8)	ROW, Util.	

Permit Drawing
Sheet 6 of 66

TIP PROJECT: R-2719A



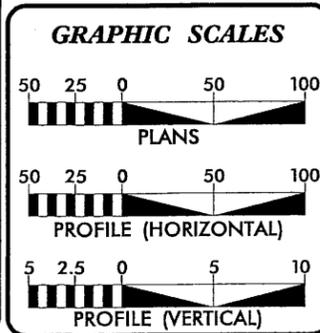
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

THIS IS A CONTROLLED ACCESS PROJECT WITH
ACCESS BEING LIMITED TO THE INTERCHANGES

PREPARED FOR
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC
PLANS COORDINATED BY:
Doug Taylor, PE - Project Engineer (NCDOT)

CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD II

CONTRACT: ROW PLANS AUGUST 2005



DESIGN DATA

ADT 2007 =	26,510
ADT 2027 =	46,060
DHV =	10 %
D =	55 %
T =	14 % *
V =	70 MPH
* TTST	10% DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2719A =	3.772 MI
LENGTH STRUCTURE TIP PROJECT R-2719A =	0.256 MI
TOTAL LENGTH OF TIP PROJECT R-2719A =	4.028 MI

NOTE: SOUTHBOUND LANES WERE USED FOR PROJECT LENGTH CALCULATIONS

Prepared for the Division of Highways in the Office of:
URS CORPORATION - NORTH CAROLINA
1600 Perimeter Park Dr., Morrisville, North Carolina 27560
Telephone (919) 461-1100 Fax (919) 461-1415

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 31, 2005

LETTING DATE: OCTOBER 2008

TIMOTHY H. KEENER, P.E.
PROJECT ENGINEER

MICHAEL LINDGREN, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

8/17/99

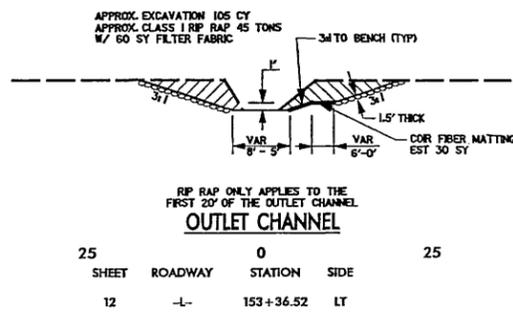
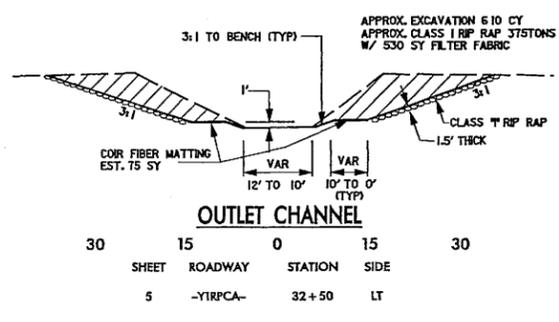
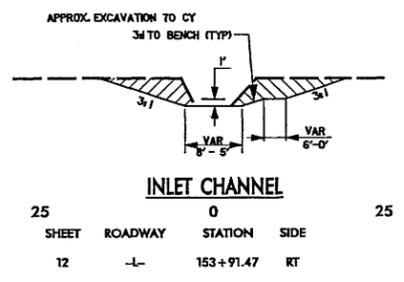
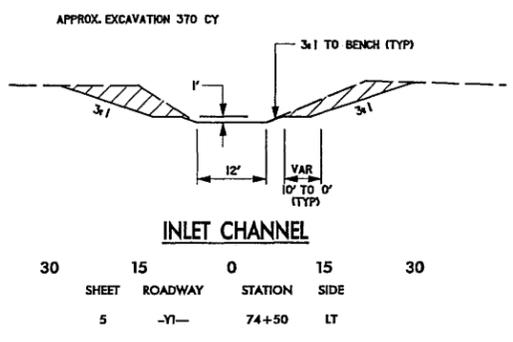
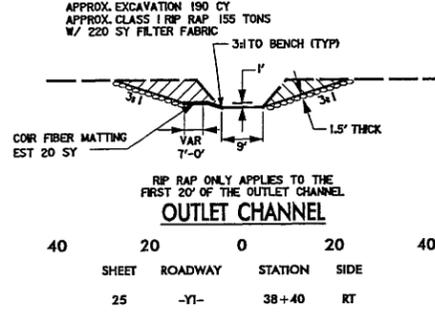
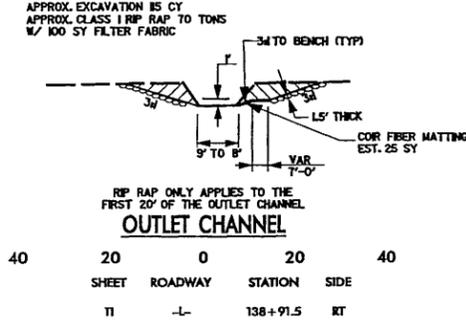
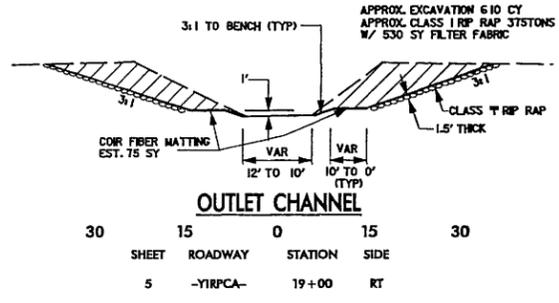
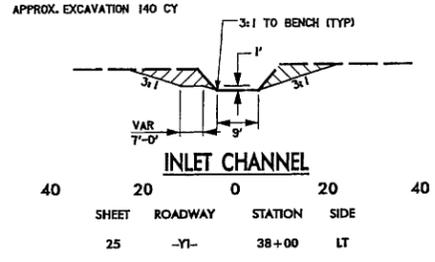
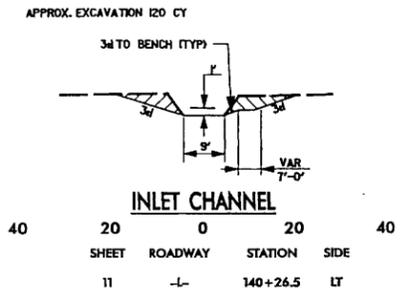
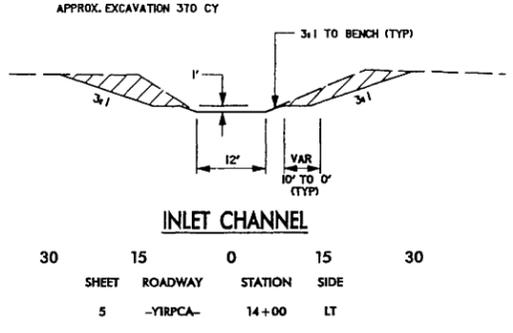
SHEET NOT TO SCALE

Prepared by
URS
URS Corporation - North Carolina
1600 Parklane Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 2M
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 8 of 66

CULVERT CHANNEL DETAILS



REVISIONS

9/20/2007
R:\Hydro\ulica\new_permits\R2719A_HYD_2M.dgn

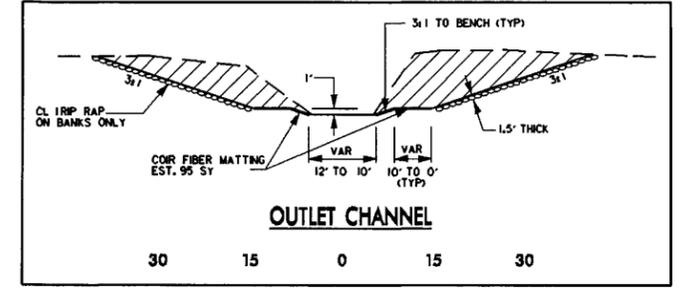
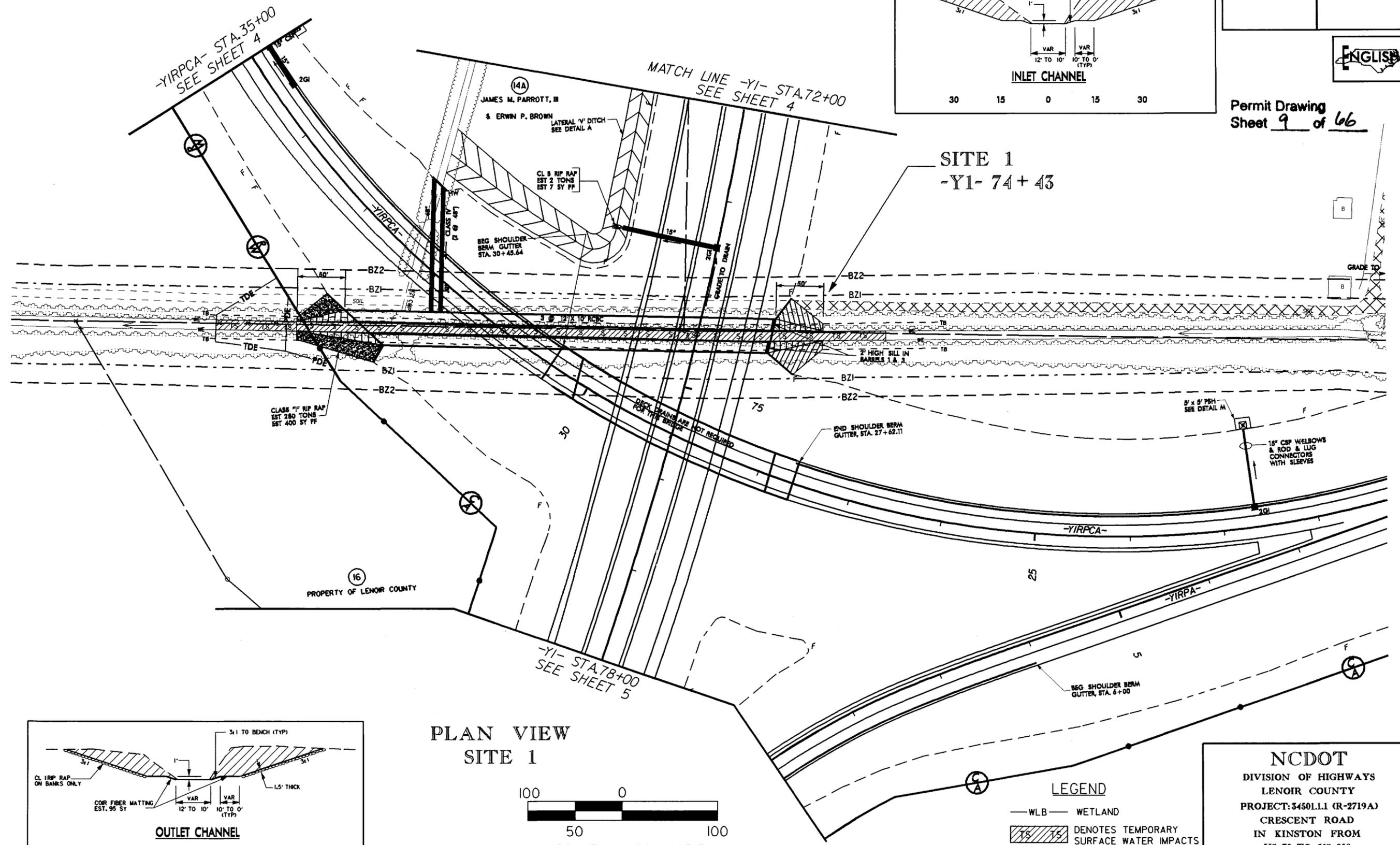
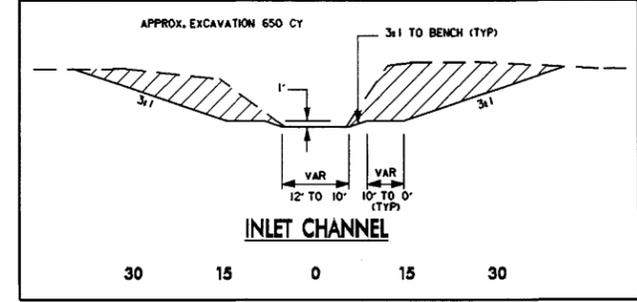
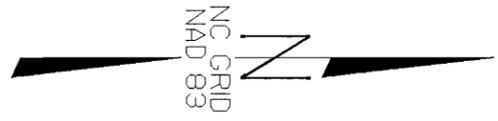
8/17/99

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Marietta, North Carolina 27660
TELEPHONE: (919) 461-1100 FAX: (919) 461-1415

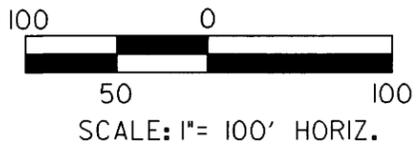
PROJECT REFERENCE NO. R-2719A	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Permit Drawing
Sheet 9 of 66



PLAN VIEW SITE 1



LEGEND

— WLB —	WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS
	DENOTES PERMANENT SURFACE WATER IMPACTS

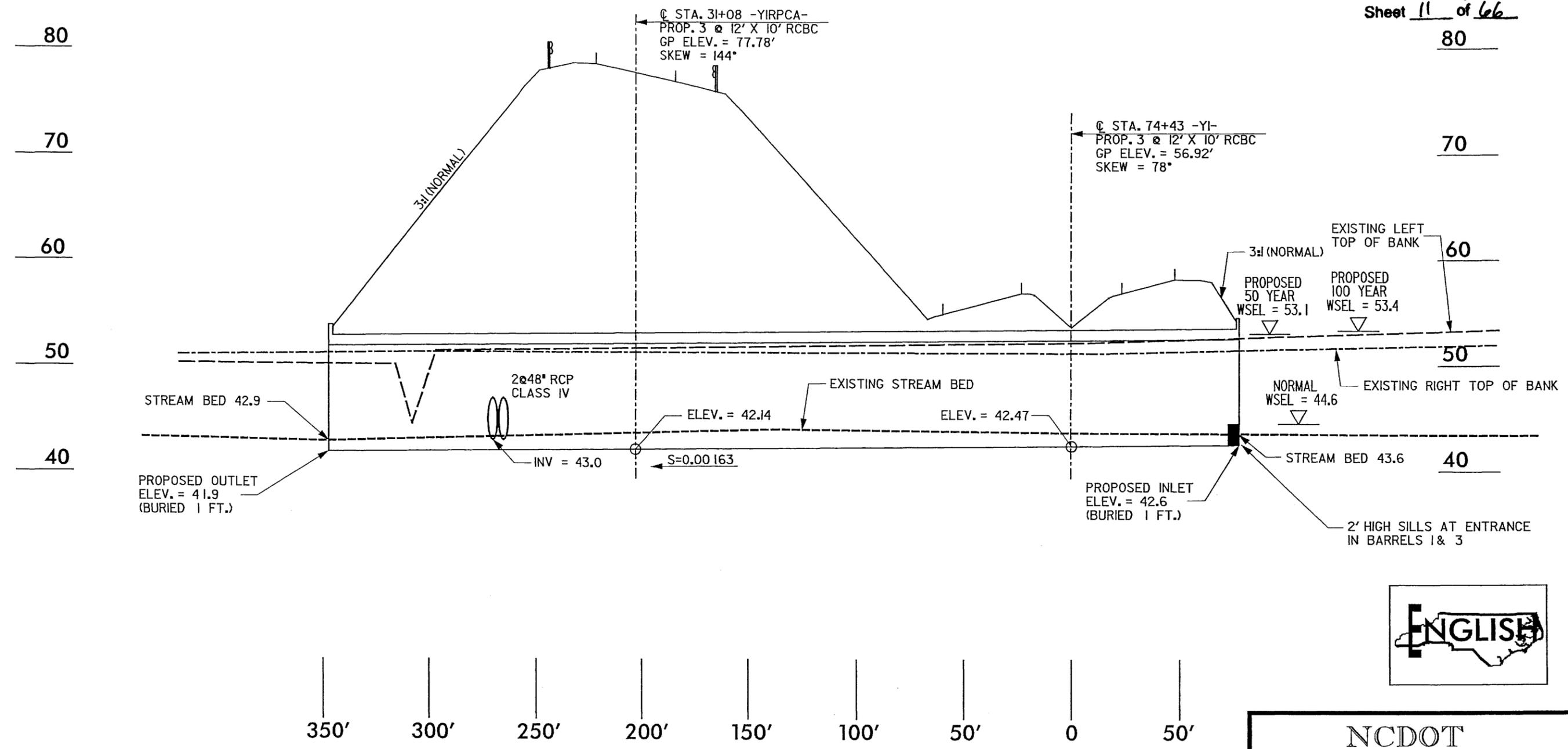
NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450L11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF

29-JAN-2008 09:07
r:\drainage\permits\2719a_hyd_prm_vet_04.dgn
11/22/2004

PROJECT REFERENCE NO. R-2719A	SHEET NO. SI-PAS
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 11 of 66
80



**PROFILE ALONG STRUCTURE
SITE 1**

SCALE:
1" = 50' HORIZONTAL
1" = 10' VERTICAL

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 5 / 26 / 06

R:\Hydraulics\new_permits\2719a_hyd_pf\us_sl.dgn 9:49:49 AM 6/2/2006

5/28/99

NOTE: FOR -Y1- PLAN, SEE SHEETS 4,5 & 27

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URS
 URS Corporation - North Carolina
 1600 Parameter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1418

25 0 50
 PROFILE (HORIZONTAL)
 2.5 0 5
 PROFILE (VERTICAL)
 CONST. REV.
 R/W REV.

PROJECT REFERENCE NO. **R-2719A** SHEET NO. **48**
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 12 of 66

PI = 74+50.00
 EL = 56.72'
 VC = 220'
 K = 311



STRUCTURE HYDRAULIC DATA
 STA 74+43 -Y1-
 36" RCP 47' RCB

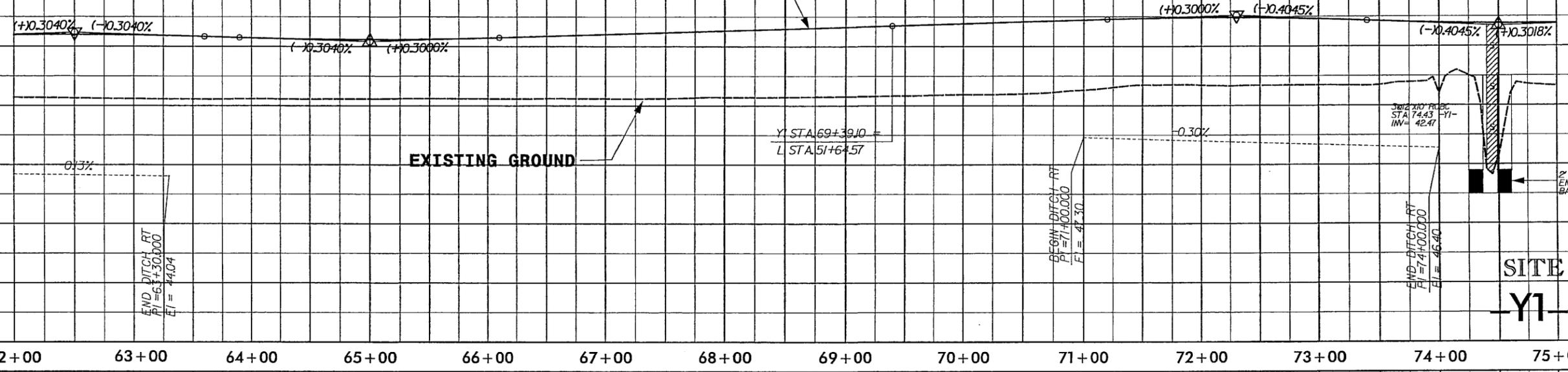
DESIGN DISCHARGE	= 400 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 53.1 FT
BASE DISCHARGE	= 600 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 53.4 FT
OVERTOPPING DISCHARGE	= 340 CFS
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING ELEVATION	= 55.6 FT

PI = 62+50.00
 EL = 56.18'
 VC = 220'
 K = 362

PI = 65+00.00
 EL = 55.42'
 VC = 220'
 K = 364

BM-A ELEV 53.26
 RR SPIKE IN 30" HARDWOOD TREE
 -Y1- 75+86, 615' RT

PI = 72+30.00
 EL = 57.61'
 VC = 220'
 K = 312



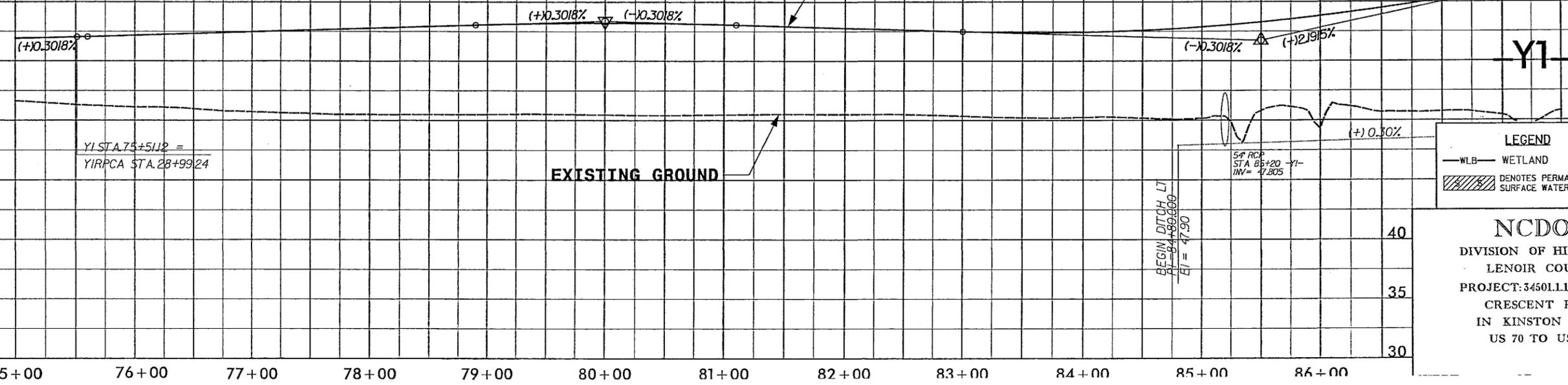
20/2007
 \hydro\caulica\new_permit\ts\ar-2719a_hyd.pfl-48.dgn

PI = 80+00.00
 EL = 58.38'
 VC = 220'
 K = 364

PI = 85+50.00
 EL = 56.72'
 VC = 500'
 K = 201

PIPE HYDRAULIC DATA
 STA 85+20 -Y1-

DRAINAGE AREA	= 400 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 300 CFS
DESIGN HW ELEVATION	= 52.58 FT
10 YEAR DISCHARGE	= 300 CFS
10 YEAR HW ELEVATION	= 52.58 FT
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING DISCHARGE	= 206 CFS
OVERTOPPING ELEVATION	= 53.89 FT



LEGEND

— WLB — WETLAND

DENOTES PERMANENT SURFACE WATER IMPACTS

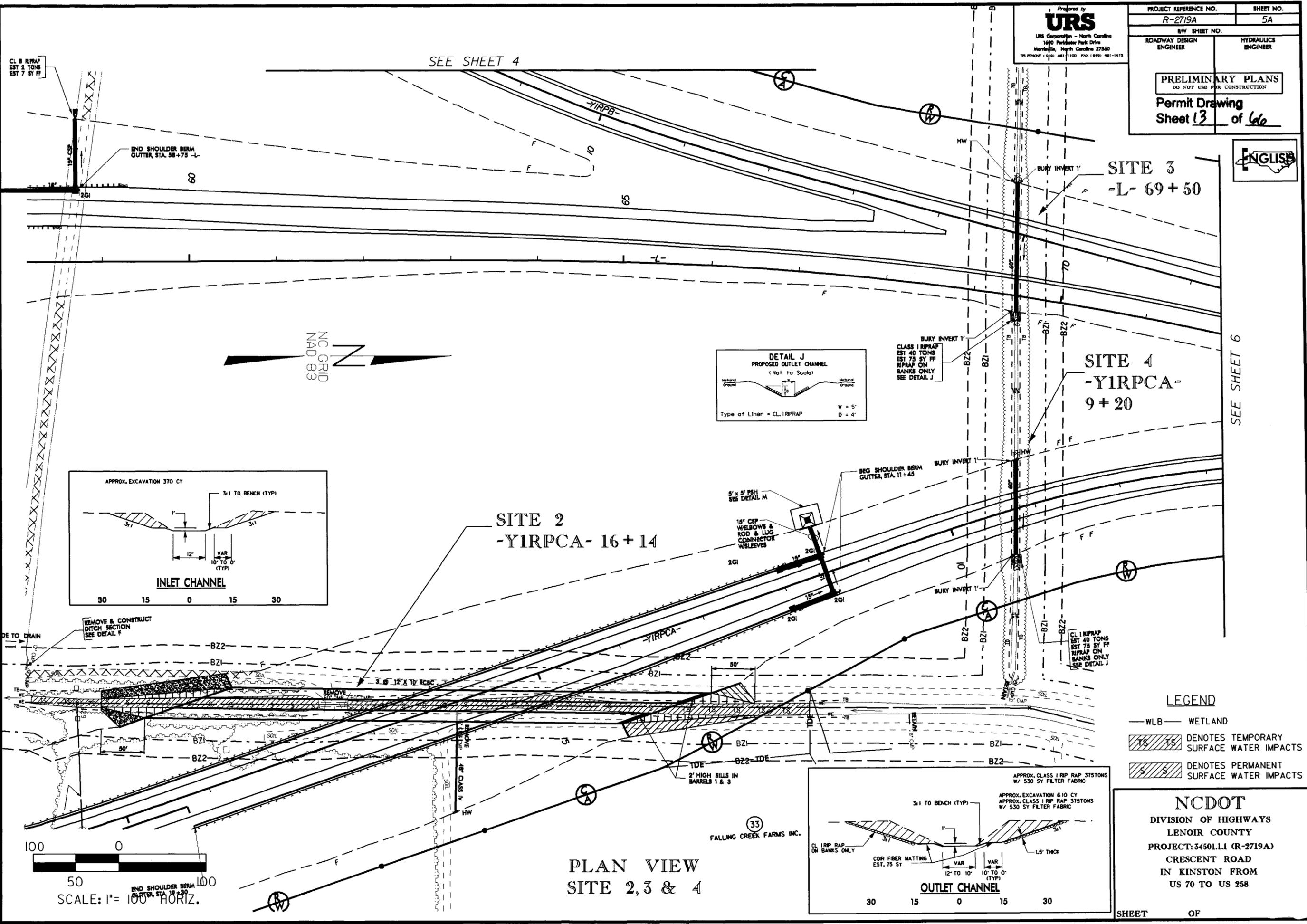
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.L1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

PROJECT REFERENCE NO. R-2719A	SHEET NO. 5A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Permit Drawing Sheet 13 of 16	

Prepared by
URS
URS Corporation - North Carolina
1490 Parkwater Park Drive
Merrifield, North Carolina 27560
TELEPHONE: (919) 481-1100 FAX: (919) 481-1415



SEE SHEET 6



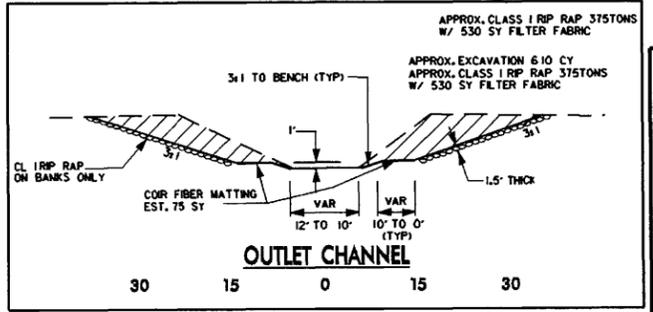
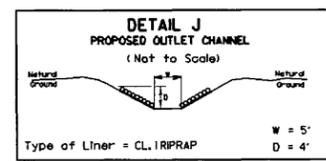
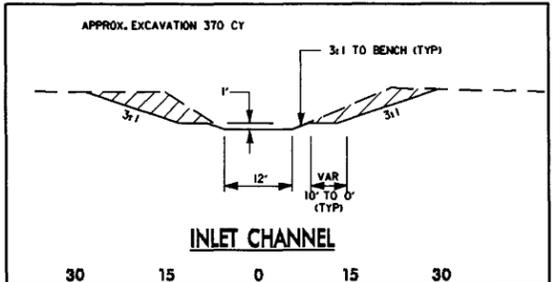
SEE SHEET 4

SITE 3
-L- 69+50

SITE 4
-YIRPCA-
9+20

SITE 2
-YIRPCA- 16+14

PLAN VIEW
SITE 2, 3 & 4

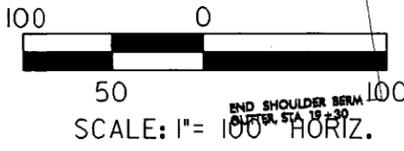


LEGEND

- WLB WETLAND
- 15/15 DENOTES TEMPORARY SURFACE WATER IMPACTS
- 3/3 DENOTES PERMANENT SURFACE WATER IMPACTS

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450LL1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF



8/17/99
29-JAN-2008 08:55
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1/22/04

8/17/99

Project by
URS
URS Corporation - North Carolina
1690 Parkside Park Drive
Raleigh, North Carolina 27660
TELEPHONE (919) 481-1100 FAX (919) 481-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 5A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Permit Drawing Sheet 14 of 66	



SEE SHEET 4

CL. I RIPRAP
EST. 2 TONS
EST. 7 SY FF

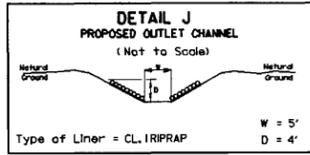
END SHOULDER BERM
GUTTER, STA. 58+75

-YIRPB-

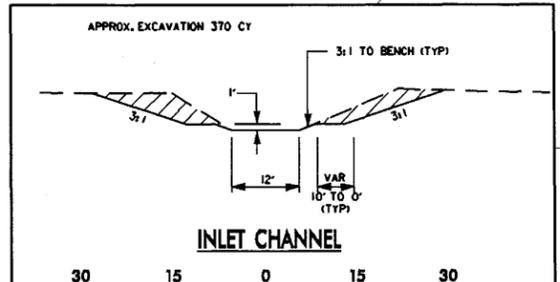
SITE 3
-L- 69+50

SITE 4
-YIRPCA-
9+20

NC GRID
NAD 83



CLASS I RIPRAP
EST. 40 TONS
EST. 75 SY FF
RIPRAP ON
BANKS ONLY
SEE DETAIL J



SITE 2
-YIRPCA- 16+14

BEG SHOULDER BERM
GUTTER, STA. 11+45

REMOVE & CONSTRUCT
DITCH SECTION
SEE DETAIL F

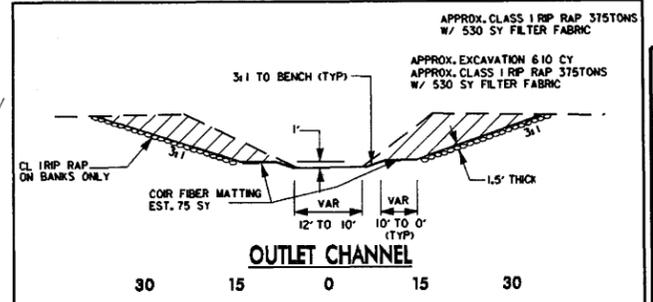
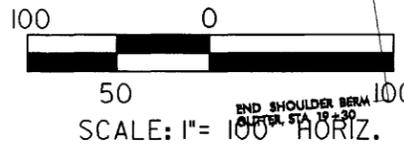
CLASS I RIPRAP
EST. 40 TONS
EST. 75 SY FF
RIPRAP ON
BANKS ONLY
SEE DETAIL J

LEGEND

- WLB WETLAND
- 18/15 DENOTES TEMPORARY SURFACE WATER IMPACTS
- 5/5 DENOTES PERMANENT SURFACE WATER IMPACTS

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 5450LL1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

PLAN VIEW
SITE 2, 3 & 4

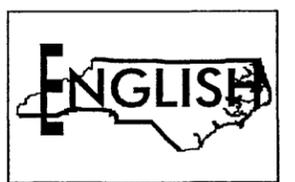
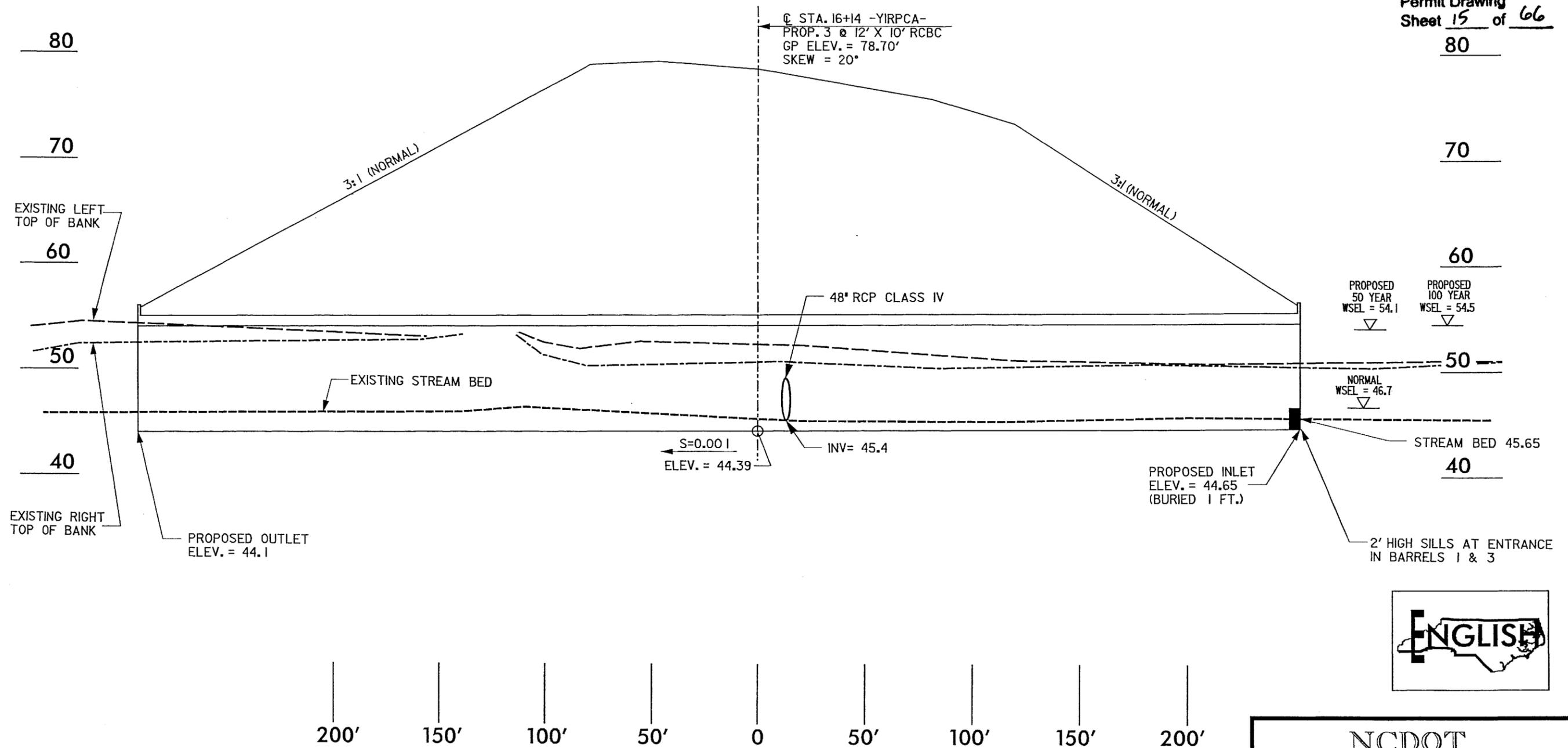


FALLING CREEK FARMS INC.

29-JAN-2008 08:55
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PROJECT REFERENCE NO. R-2719A	SHEET NO. S2-PAS
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 15 of 66



**PROFILE ALONG STRUCTURE
SITE 2**

SCALE:
1" = 50' HORIZONTAL
1" = 10' VERTICAL

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.1.1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

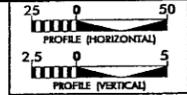
SHEET OF 5 / 26 / 06

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5/28/99

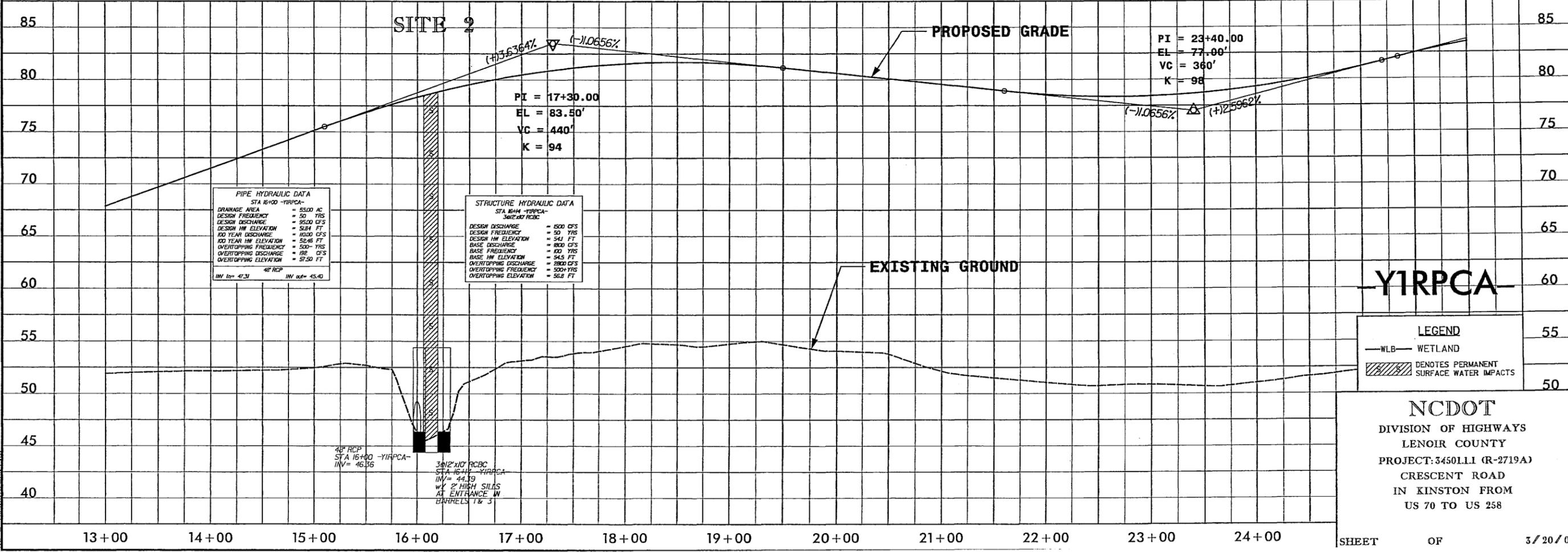
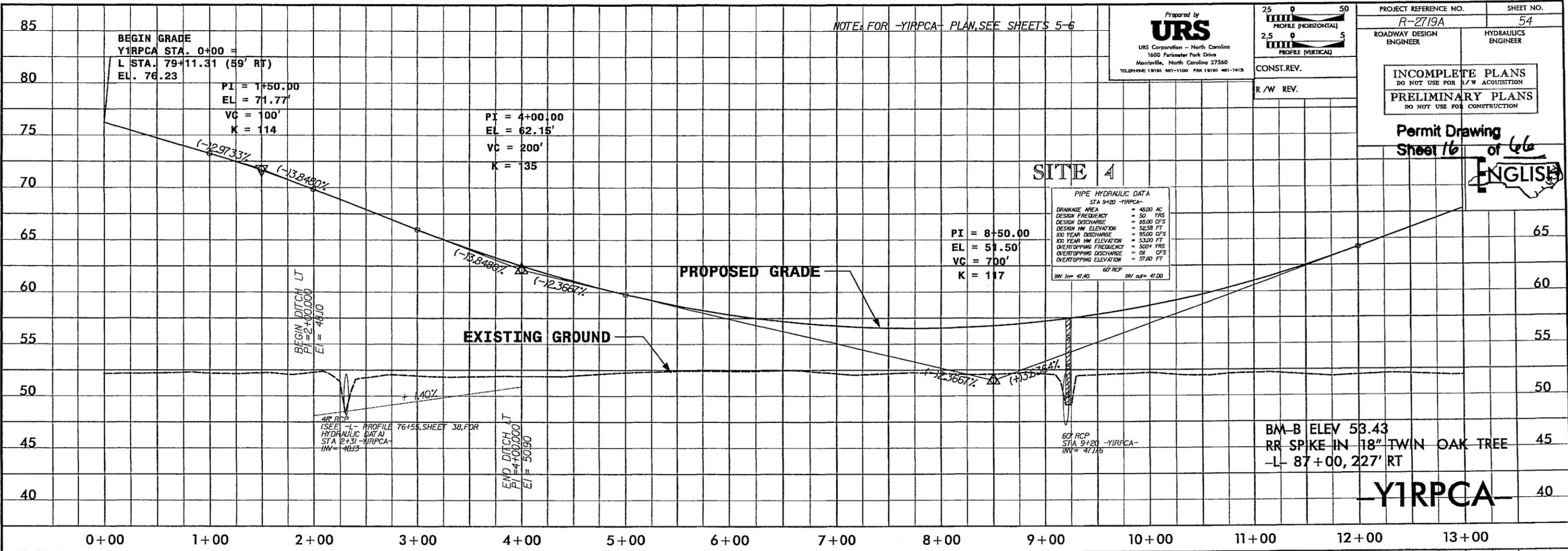
NOTE: FOR -YIRPCA- PLAN, SEE SHEETS 5-6

Prepared by
URS
 URS Corporation - North Carolina
 1600 Parkcenter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1413



PROJECT REFERENCE NO. R-2719A SHEET NO. 54
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
 INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

Permit Drawing
 Sheet 16 of 66
 ENGLISH



3/20/2007
 R:\Hydro\Projects\new_permit\2719o_hyd_pf1_54.dgn
 G. & Associates, P.C.

5/28/09

NOTE FOR -L- PLAN, SEE SHEETS 4, 6 & 7

Prepared by
URS
 URS Corporation - North Carolina
 1600 Parkview Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 481-1100 FAX (919) 481-1410

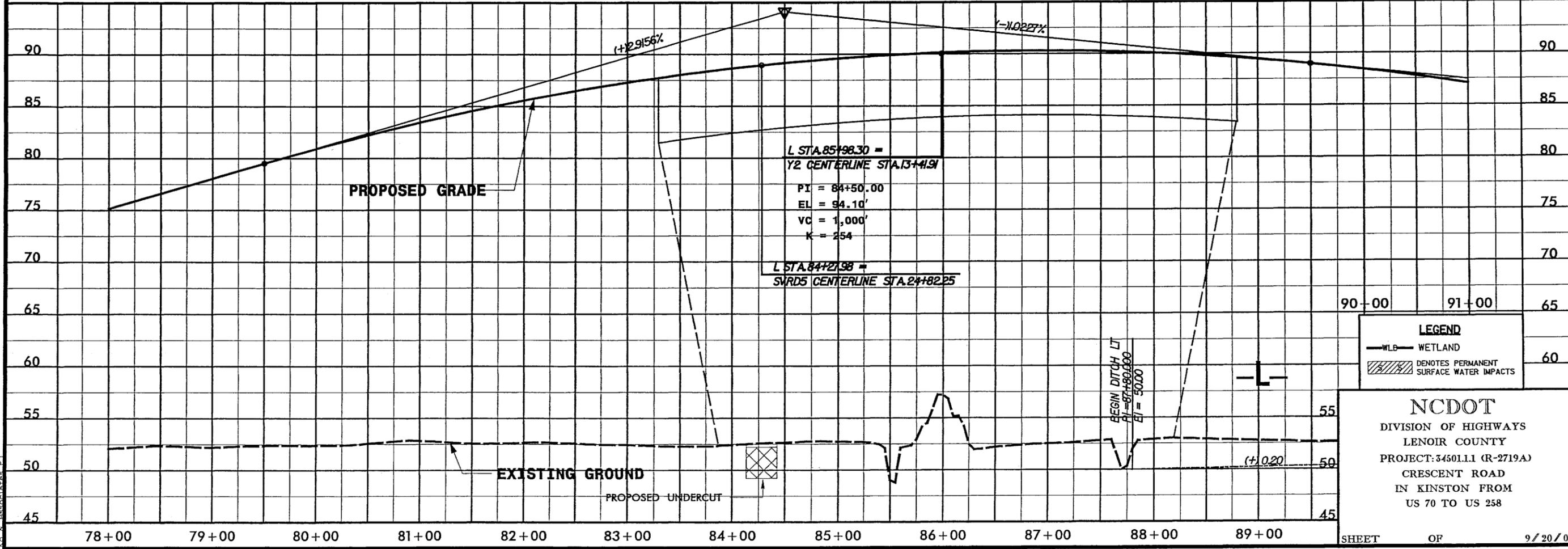
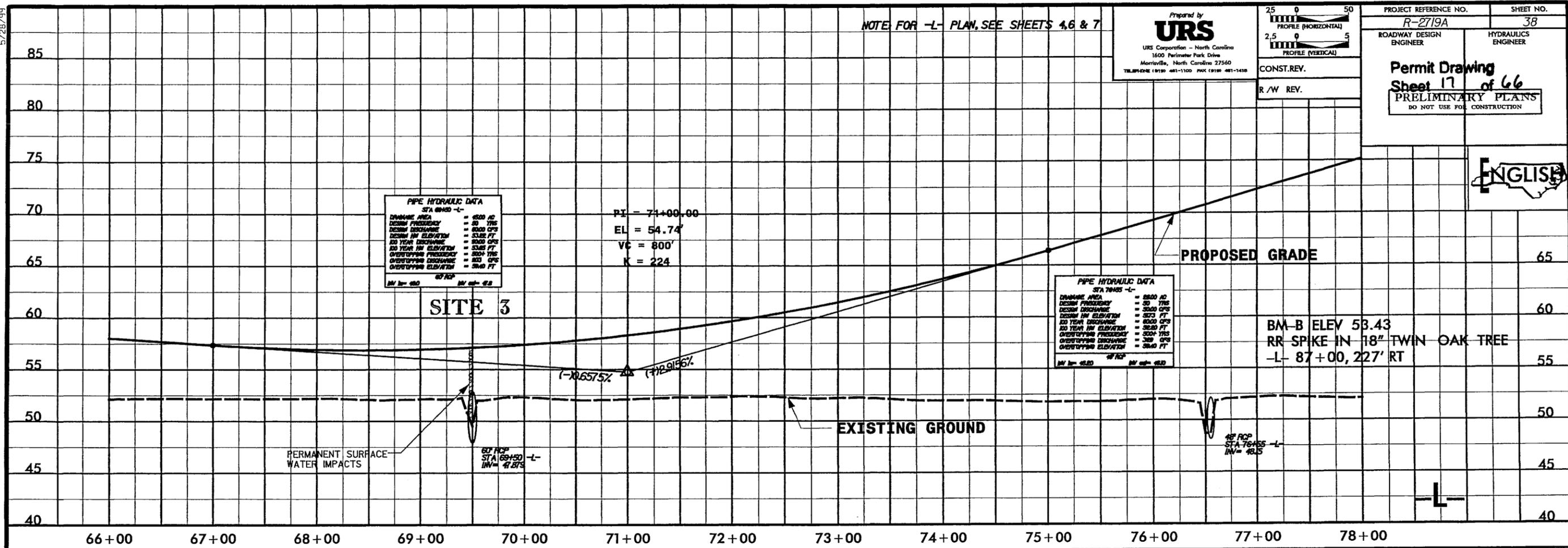
25 0 50
 PROFILE (HORIZONTAL)
 2.5 0 5
 PROFILE (VERTICAL)

CONST. REV.
 R/W REV.

PROJECT REFERENCE NO. R-2719A SHEET NO. 38

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

Permit Drawing
Sheet 17 of 66
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



LEGEND

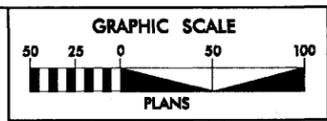
WLD WETLAND

Denotes Permanent Surface Water Impacts

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

8/20/2007 R:\Hydraulics\New Permits\R-2719a_hyd_pf1_38.dgn

8/17/99



Prepared by
URS
URS Corporation - North Carolina
1600 Parkcenter Park Drive
Raleigh, North Carolina 27640
TELEPHONE (919) 461-1100 FAX (919) 461-1415

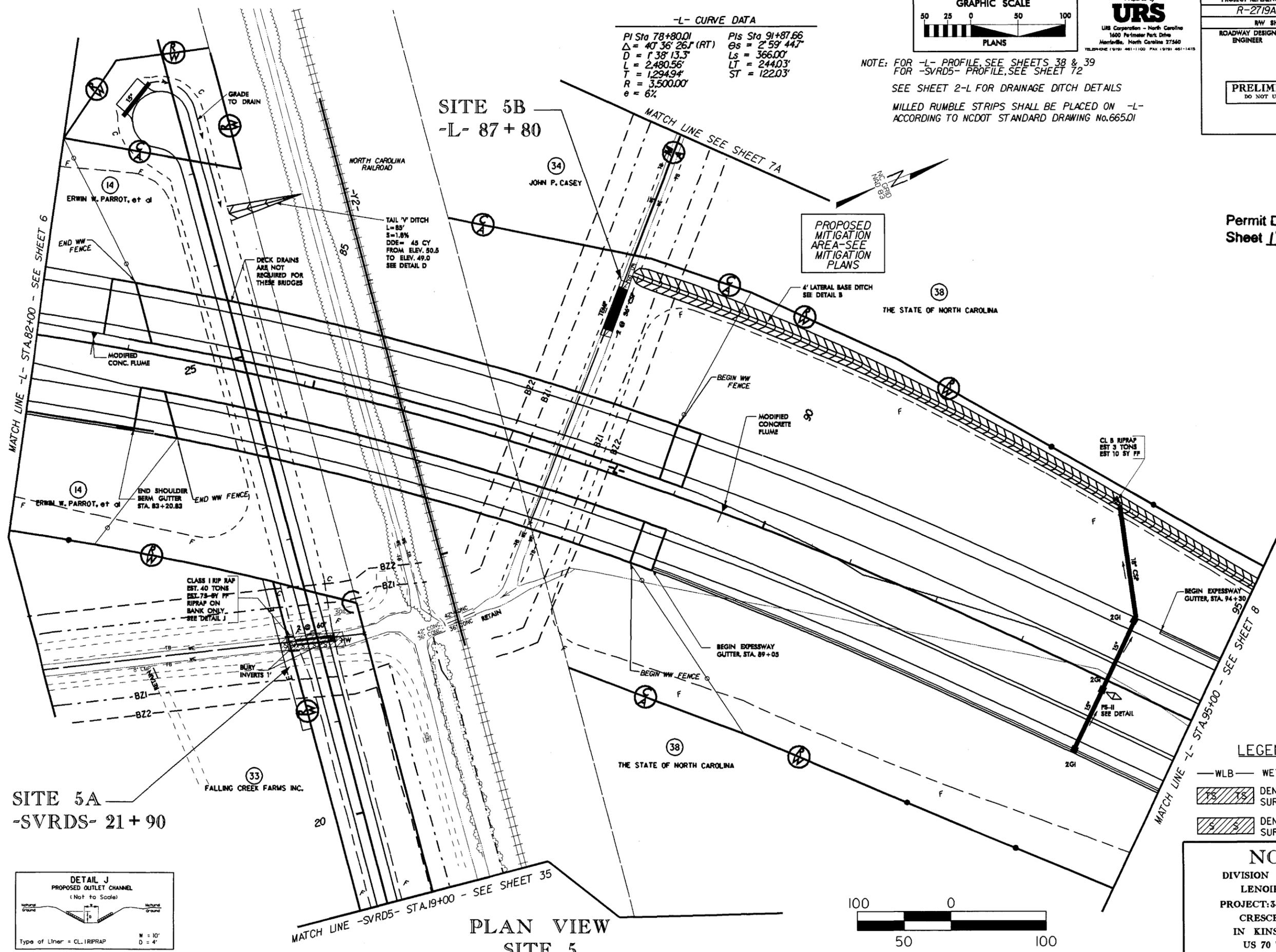
PROJECT REFERENCE NO. R-2719A	SHEET NO. 7
R/W SHEET NO. 7	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Permit Drawing
Sheet 18 of 66

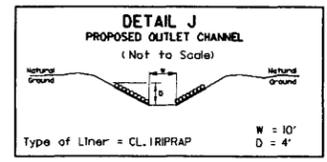
-L- CURVE DATA
 PI Sta 78+80.01 Pls Sta 91+87.66
 $\Delta = 40^{\circ} 36' 26.1''$ (RT) $\Theta_s = 2^{\circ} 59' 44.7''$
 $D = 1^{\circ} 38' 13.3''$ $L_s = 366.00'$
 $L = 2,480.56'$ $LT = 244.03'$
 $T = 1,294.94'$ $ST = 122.03'$
 $R = 3,500.00'$
 $e = 6\%$

NOTE: FOR -L- PROFILE, SEE SHEETS 38 & 39
 FOR -SVRDS- PROFILE, SEE SHEET 72
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
 MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
 ACCORDING TO NCDOT STANDARD DRAWING No.665.01

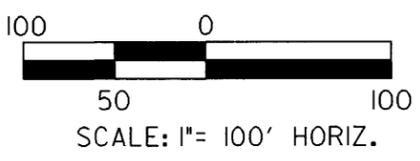


PROPOSED
MITIGATION
AREA-SEE
MITIGATION
PLANS

REVISIONS
 DATE: 3/20/06 - REVISED TWO PARCEL NUMBERS IN UPPER LEFT AREA OF SHEET FROM 33 TO 14
 DATE: 6/14/06 - PARCEL 38 ELIMINATED, TEMPORARY DRAINAGE EASEMENT, AND ADDED MITIGATION AREA BOUNDARY
 DATE: _____ - PARCEL 36; ADDED MATCHLINE TO SHEET 7A AND ADDED MITIGATION AREA BOUNDARY



PLAN VIEW
SITE 5



LEGEND

— WLB —	WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS
	DENOTES PERMANENT SURFACE WATER IMPACTS

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF

29-JAN-2008 09:04
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 created at 11:24:32

5/28/99

BM-B ELEV 53.43
RR SPIKE IN 18" TWIN OAK TREE
L- 87+00, 227' RT

NOTE: FOR -SVRD5- PLAN, SEE SHEETS 7 & 35

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1410

25 0 50
PROFILE (HORIZONTAL)
2.5 0 5
PROFILE (VERTICAL)

CONST. REV.
R/W REV.

PROJECT REFERENCE NO. R-2719A
SHEET NO. 72

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 20 of 66

ENGLISH

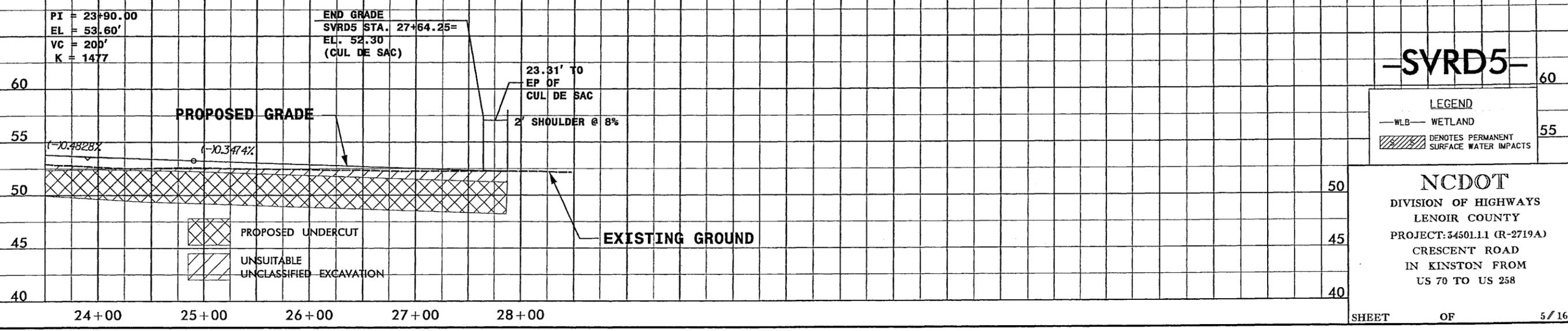
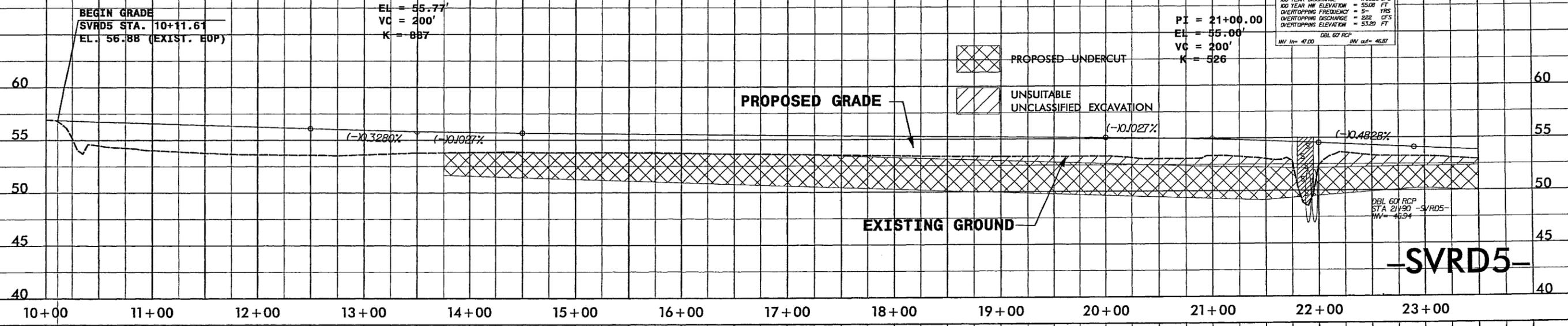
PIPE HYDRAULIC DATA
STA 21+90 -SVRD5-

DRAINAGE AREA	= 2.40 AC
DESIGN FREQUENCY	= 5 YRS
DESIGN DISCHARGE	= 65000 CFS
DESIGN HW ELEVATION	= 53.96 FT
100 YEAR DISCHARGE	= 100000 CFS
100 YEAR HW ELEVATION	= 55.09 FT
OVERTOPPING FREQUENCY	= 5- YRS
OVERTOPPING DISCHARGE	= 222 CFS
OVERTOPPING ELEVATION	= 53.20 FT

DEL 60' RCP
STA 21+90 -SVRD5-
HW = 46.54

SITE 5

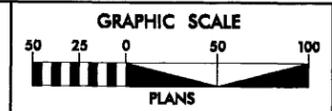
PI = 21+00.00
EL = 55.00'
VC = 200'
K = 526



5/16/2007
K:\Hydro\11\ca\new_permits\2719a_hyd_p1_72.dgn

8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 39
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



Prepared by
URS
URS Corporation - North Carolina
1600 Parkside Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 8
R/W SHEET NO. 8	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 23 of 66



NORTH CAROLINA

THE STATE OF NORTH CAROLINA

THE STATE OF NORTH CAROLINA

THE STATE OF NORTH CAROLINA

(SEE NOTE A)
PROPOSED
MITIGATION
AREA-SEE
MITIGATION
PLANS

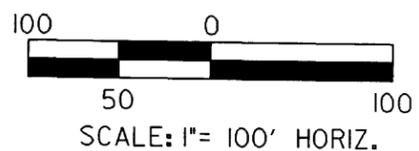
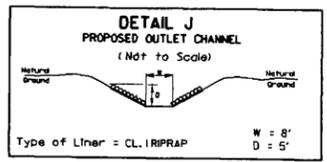
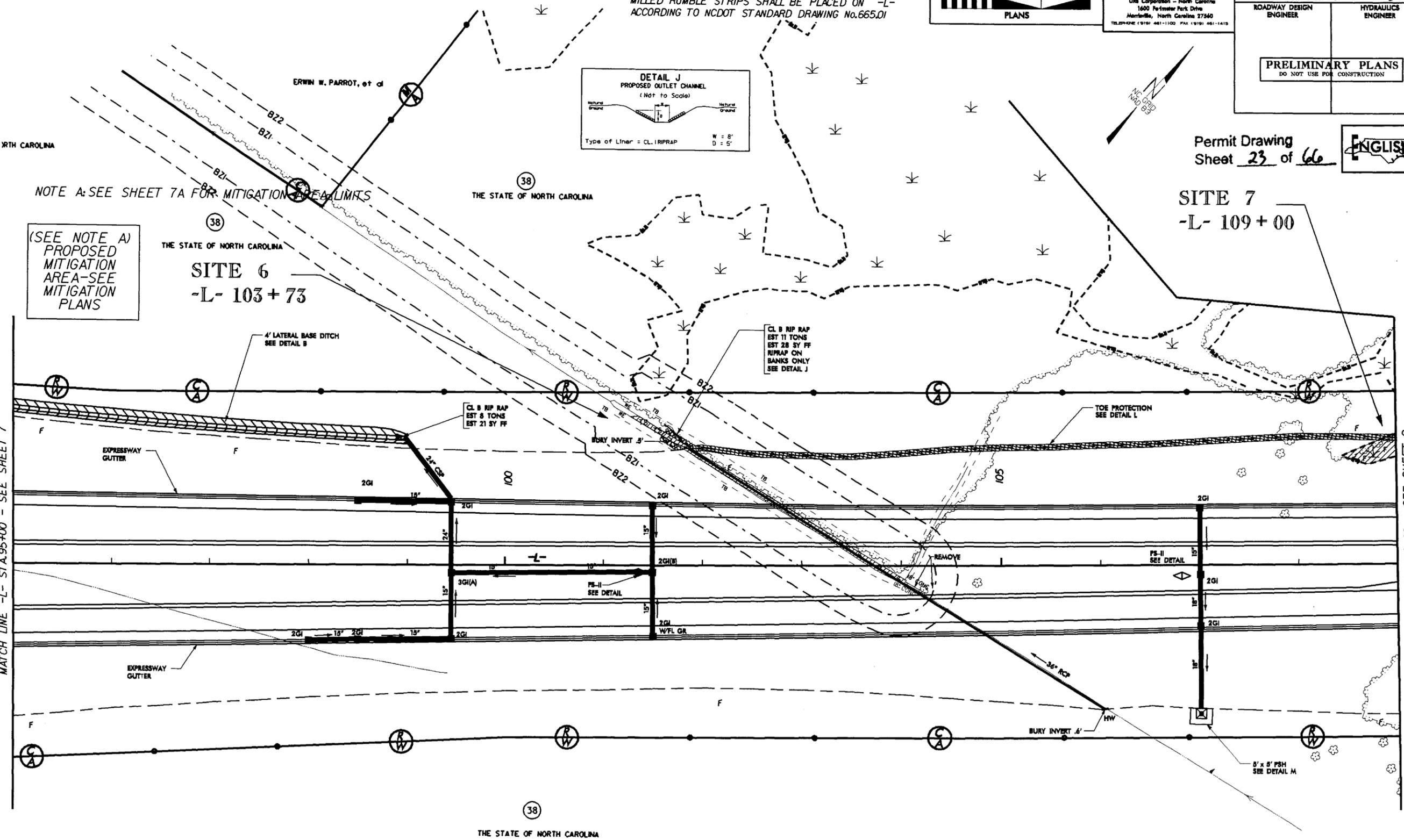
SITE 6
-L- 103+73

SITE 7
-L- 109+00

REVISIONS
DATE: 6/14/06 - PARCEL 38; ELIMINATED TEMPORARY DRAINAGE EASEMENT FOR EROSION CONTROL
DATE: 2/14/07 - PARCEL 38; ELIMINATED LABEL TIDE FOR EROSION CONTROL DEVICE
DATE: - PARCEL 38; ADDED NOTE FOR MITIGATION AREA (REFERENCE TO SHEET 7A) AND REDUCED LIMITS OF TOPO AND DESIGN SHOWN ON THIS SHEET

MATCH LINE -L- STA.95+00 - SEE SHEET 7

MATCH LINE -L- STA.109+00 - SEE SHEET 9



PLAN VIEW SITES 6 & 7

LEGEND

— WLB —	WETLAND
	DENOTES FILL IN WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS
	DENOTES PERMANENT SURFACE WATER IMPACTS

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

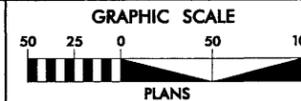
SHEET OF

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AT: HY221524

8/17/99

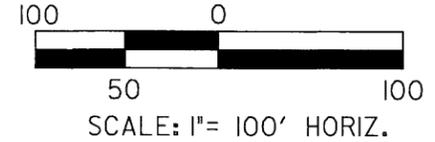
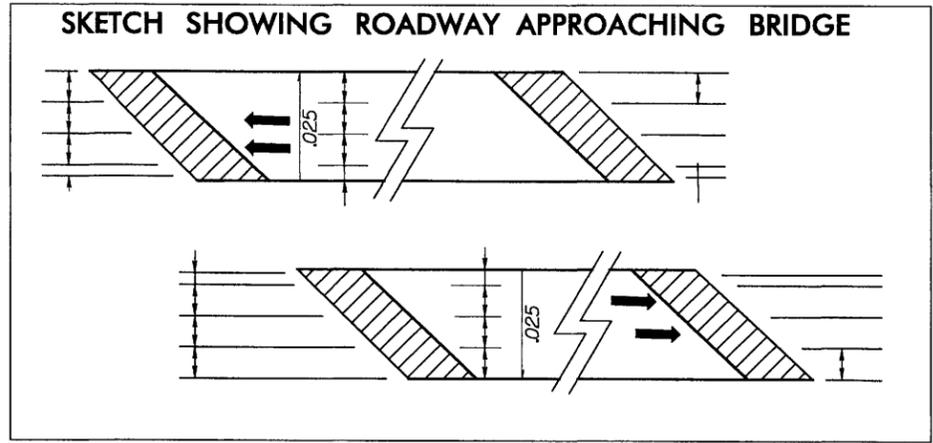
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01

NOTE: FOR -L- PROFILE, SEE SHEET 39 FOR -SVRDI- PROFILE, SEE SHEET 62 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS

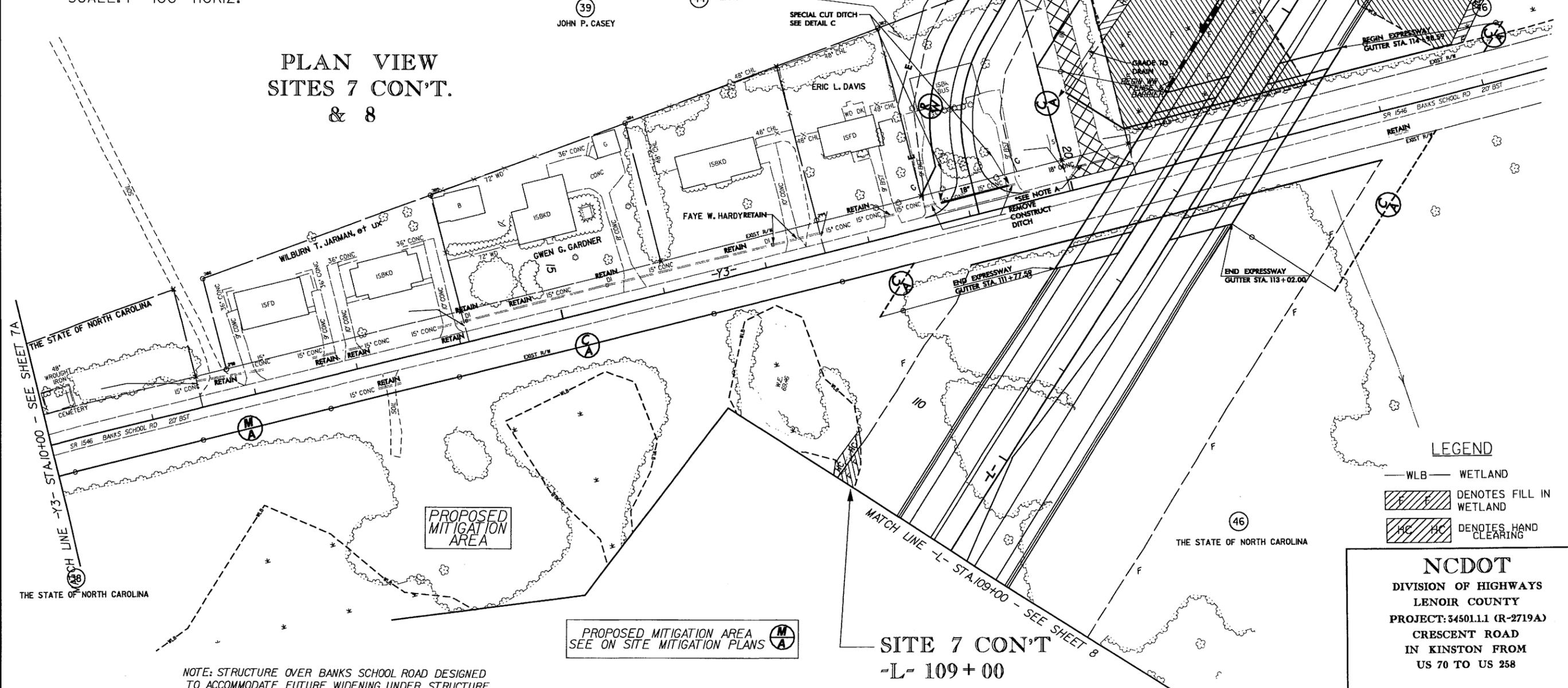


Prepared by URS URS Corporation - North Carolina 1400 Fairmeier Park Drive Morrisville, North Carolina 27560

PROJECT REFERENCE NO.	R-2719A	SHEET NO.	9
RW SHEET NO.	9		
ROADWAY DESIGN ENGINEER	Permit Drawing	HYDRAULICS ENGINEER	Sheet 24 of 66
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



PLAN VIEW SITES 7 CONT. & 8



* NOTE A REMOVE 18" RCP & CONSTRUCT DITCH SECTION SEE DETAIL D (Y3 20+20 LT)



REVISIONS 32006 - REVISED PARCELS IN LOWER RIGHT CORNER OF SHEET FROM 46 TO 38 322006 - REVISED RIGHT OF WAY ON PARCEL 45 PER REQUEST TO ELIMINATE REMNANT - ADDED MATCHLINE TO SHEET 7A AND ADDED MITIGATION AREA BOUNDARY

LEGEND

— WLB —	WETLAND
	DENOTES FILL IN WETLAND
	DENOTES HAND CLEARING

NCDOT DIVISION OF HIGHWAYS LENOIR COUNTY PROJECT: 34501.1.1 (R-2719A) CRESCENT ROAD IN KINSTON FROM US 70 TO US 258

PROPOSED MITIGATION AREA SEE ON SITE MITIGATION PLANS

NOTE: STRUCTURE OVER BANKS SCHOOL ROAD DESIGNED TO ACCOMMODATE FUTURE WIDENING UNDER STRUCTURE

SITE 7 CON'T -L- 109+00

SITE 8 -L- 117+50

SEE SHEET 7A

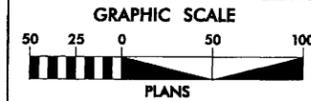
MATCH LINE -L- STA. 117+00 - SEE SHEET 10

MATCH LINE -L- STA. 109+00 - SEE SHEET 8

8/17/99
 REVISIONS
 32006 - REVISED PARCEL NUMBER IN LOWER RIGHT CORNER OF SHEET FROM 46 TO 38
 32206 - REVISED RIGHT OF WAY ON PARCEL 45 PER REQUEST TO ELIMINATE REMNANT
 - ADDED MATCHLINE TO SHEET 7A AND ADDED MITIGATION AREA BOUNDARY
 8/17/2008 lca\Permits\2008_05_30 (Updates)\2719a_hyd_perm_wet_09.dgn
 0 Associates, Inc.

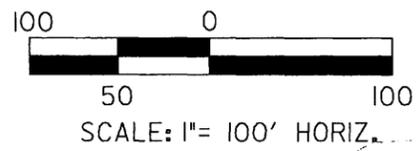
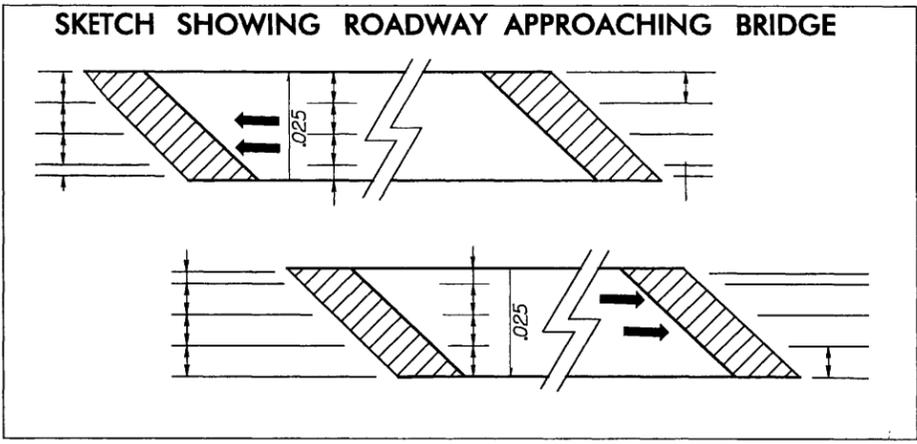
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01

NOTE: FOR -L- PROFILE, SEE SHEET 39
 FOR -SVRDI- PROFILE, SEE SHEET 62
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS

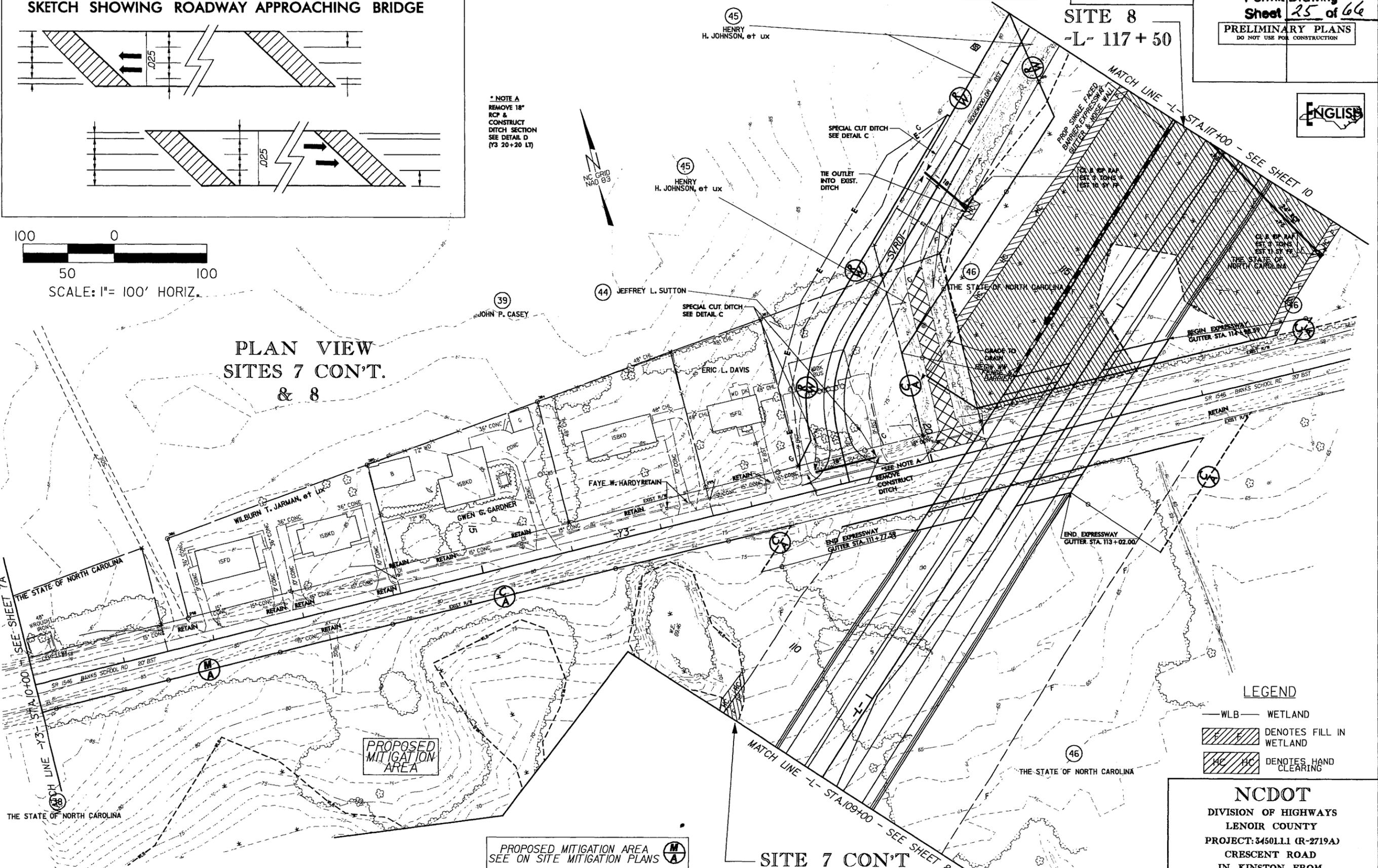


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URS
 URS Corporation - North Carolina
 1600 Parkmaker Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 9
R/W SHEET NO. 9	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Permit Drawing	
Sheet 25 of 66	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



**PLAN VIEW
SITES 7 CONT.
& 8**



PROPOSED MITIGATION AREA
 SEE ON SITE MITIGATION PLANS

NOTE: STRUCTURE OVER BANKS SCHOOL ROAD DESIGNED TO ACCOMMODATE FUTURE WIDENING UNDER STRUCTURE

SITE 7 CONT
 -L- 109 + 00

SITE 8
 -L- 117 + 50

LEGEND

— WLB —	WETLAND
	DENOTES FILL IN WETLAND
	DENOTES HAND CLEARING

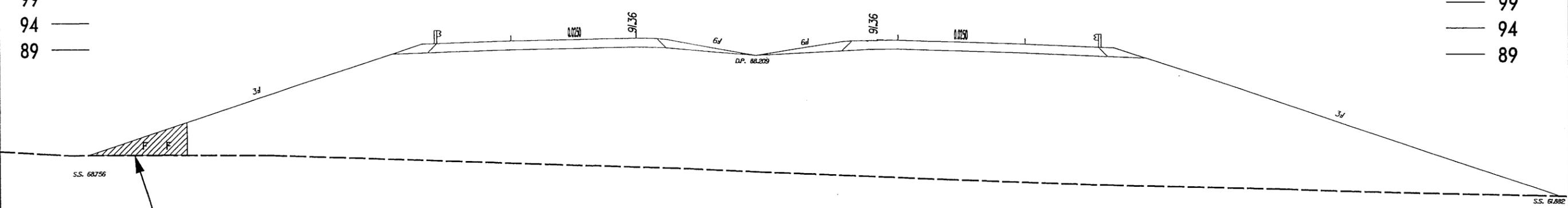
NCDOT
 DIVISION OF HIGHWAYS
 LENOR COUNTY
 PROJECT: 34501.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

PROJECT REFERENCE NO. R-2719A	SHEET NO. SITE 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

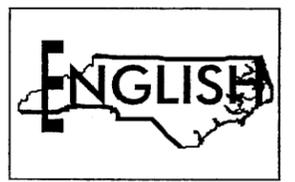
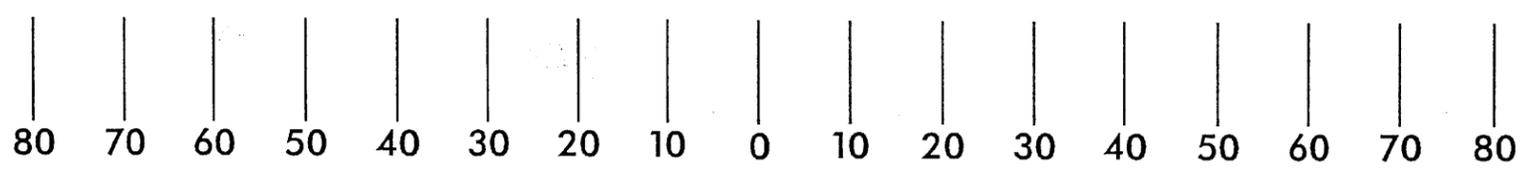
Permit Drawing
Sheet 26 of 66

109 —
104 —
99 —
94 —
89 —

— 109
— 104
— 99
— 94
— 89



FILL IN WETLANDS



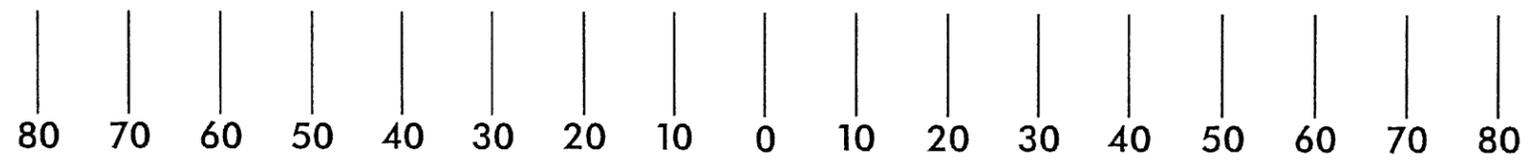
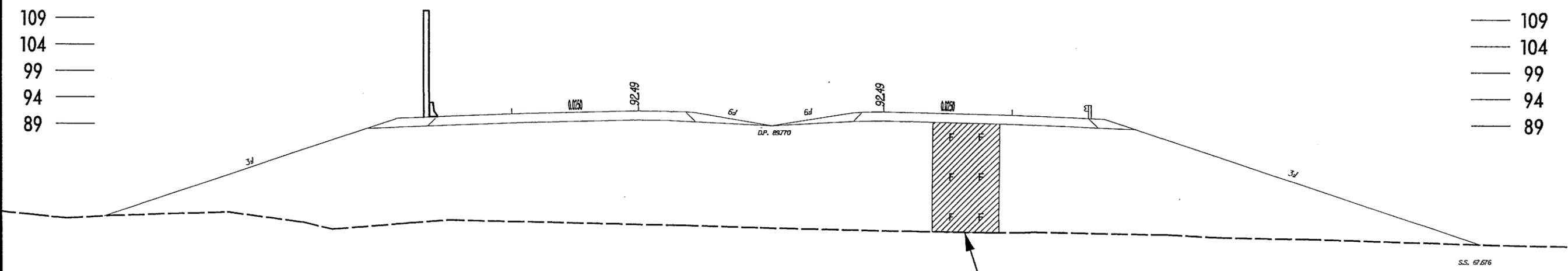
LEGEND
 DENOTES FILL IN WETLANDS

X-SECTION
SITE 7
 STA 109+00 -L-

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

PROJECT REFERENCE NO. <i>R-2719A</i>	SHEET NO. <i>SITE 8</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 27 of 66



LEGEND
 DENOTES FILL IN WETLANDS

X-SECTION
SITE 8
 STA 117+50 -L-



NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 5 / 26 / 06

5/28/99

NOTE: FOR -L- PLAN, SEE SHEETS 7-9

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 Morrisville, North Carolina 27560
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25 0 50
 PROFILE (HORIZONTAL)
 2.5 0 5
 PROFILE (VERTICAL)

CONST. REV.
 R/W REV.

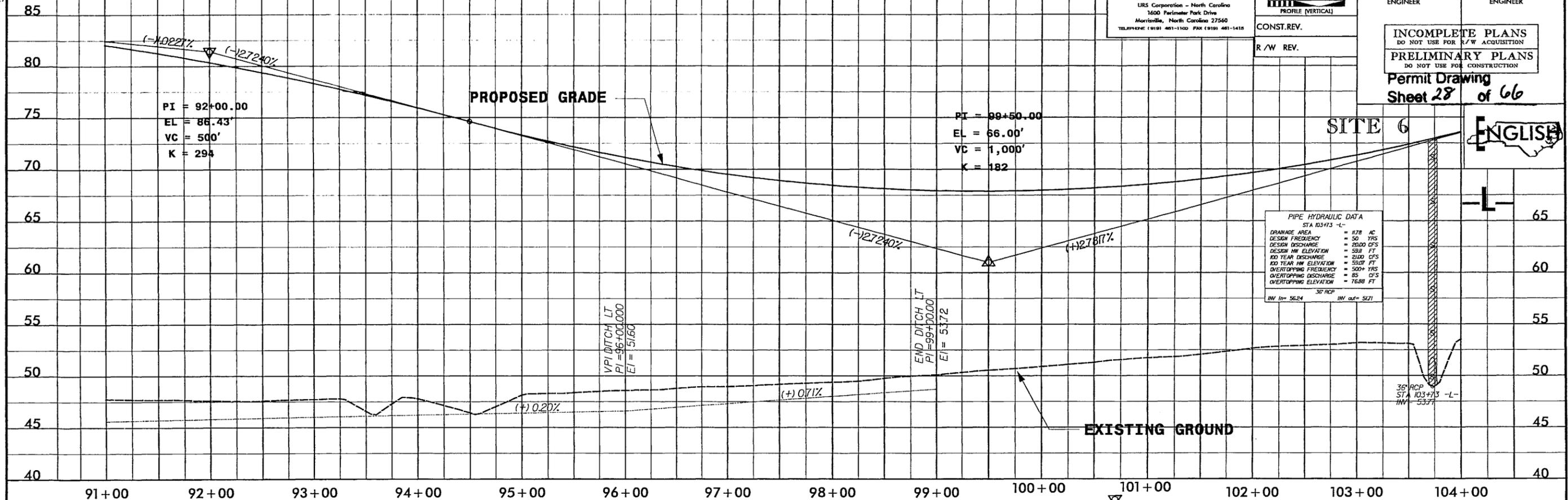
PROJECT REFERENCE NO. R-2719A
 SHEET NO. 39

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

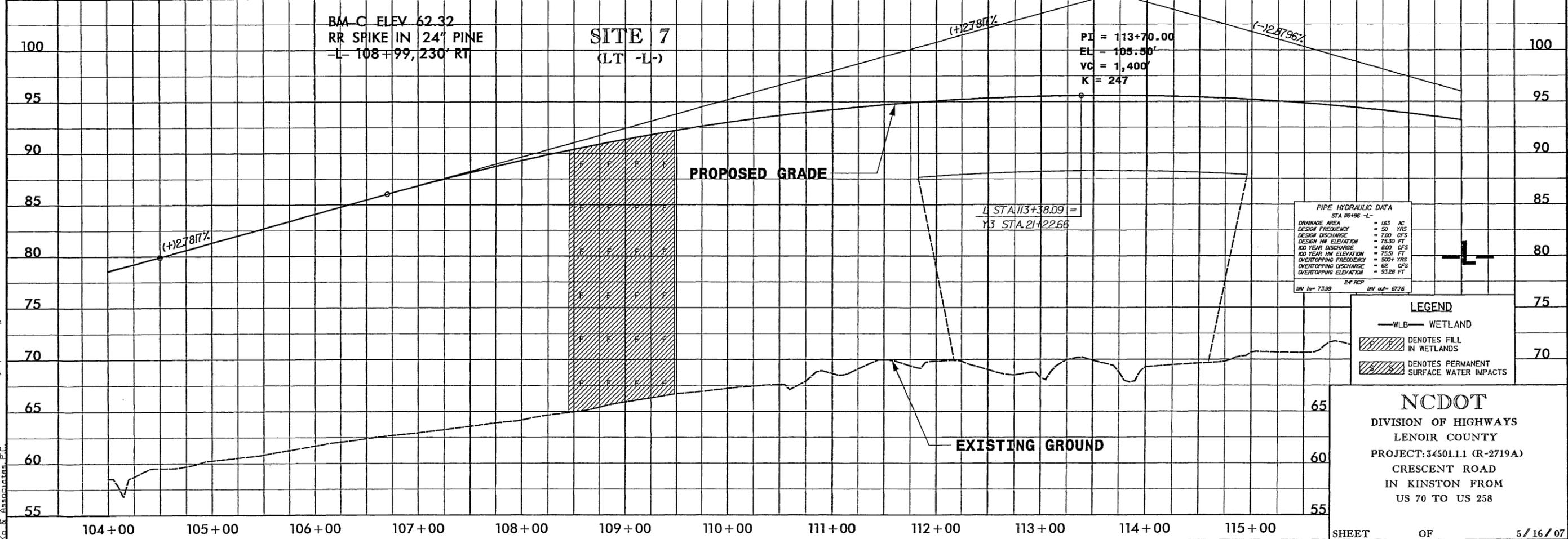
Permit Drawing
 Sheet 28 of 66



PIPE HYDRAULIC DATA
 STA 103+73 -L-

DRAINAGE AREA	= 178 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 2000 CFS
DESIGN HW ELEVATION	= 59.0 FT
100 YEAR DISCHARGE	= 2100 CFS
100 YEAR HW ELEVATION	= 59.0 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 85 CFS
OVERTOPPING ELEVATION	= 76.88 FT

36\"/>



PIPE HYDRAULIC DATA
 STA 113+38 -L-

DRAINAGE AREA	= 163 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 710 CFS
DESIGN HW ELEVATION	= 75.30 FT
100 YEAR DISCHARGE	= 800 CFS
100 YEAR HW ELEVATION	= 75.51 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 62 CFS
OVERTOPPING ELEVATION	= 93.28 FT

24\"/>

LEGEND

—WLB— WETLAND

DENOTES FILL IN WETLANDS

DENOTES PERMANENT SURFACE WATER IMPACTS

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

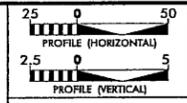
SHEET OF 5/16/07

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5/28/99

NOTE: FOR -L- PLAN, SEE SHEETS 10-II

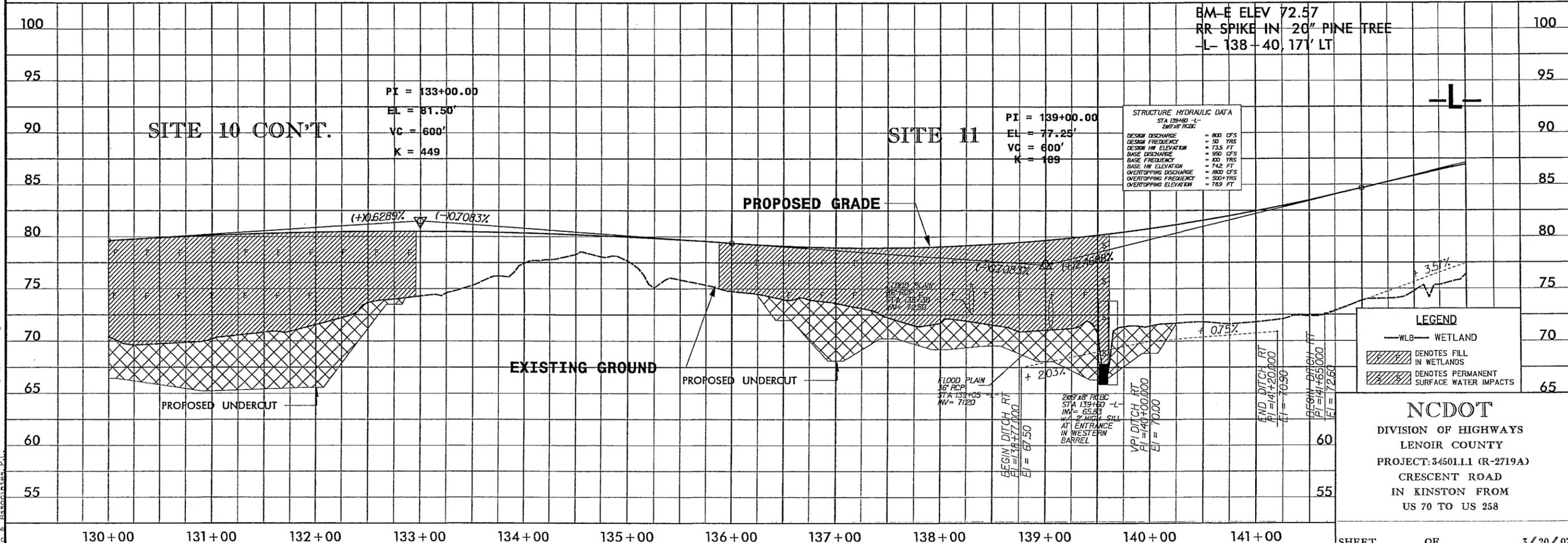
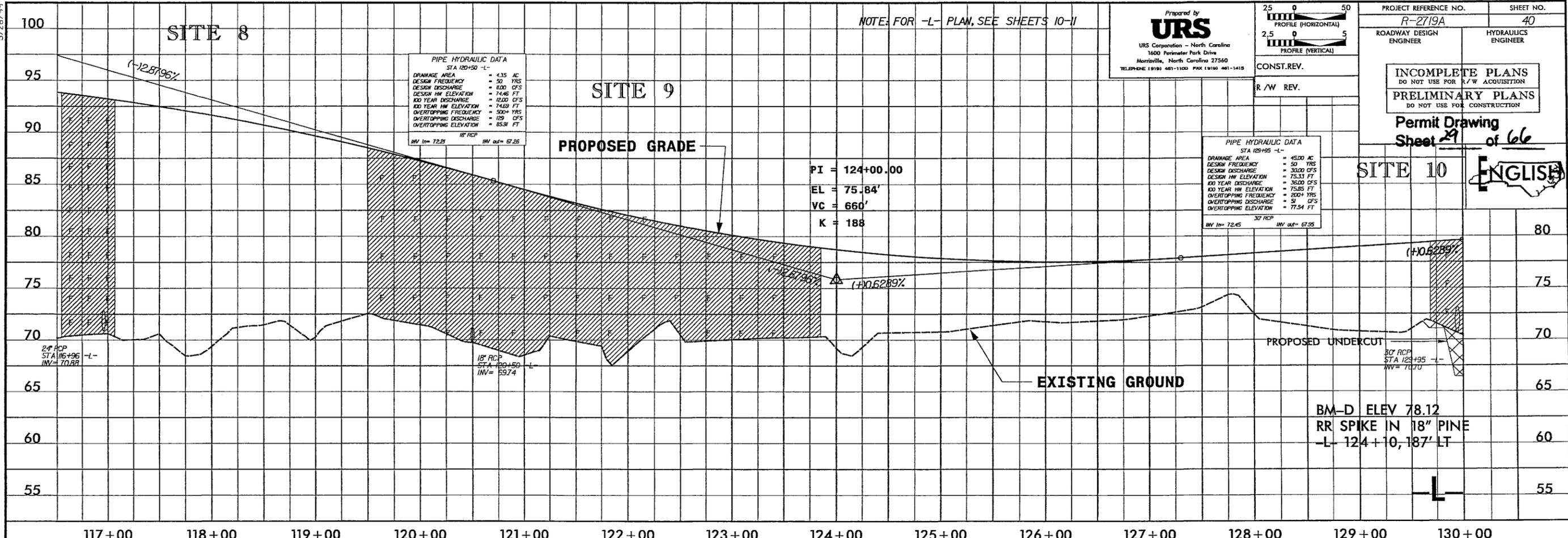
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 URS Corporation - North Carolina
 1400 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415



PROJECT REFERENCE NO. R-2719A	SHEET NO. 40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

CONST. REV.
 R/W REV.

Permit Drawing
 Sheet 29 of 66
 ENGLISH



LEGEND

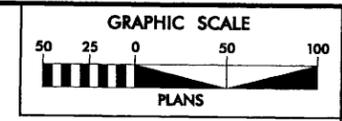
- WLB- WETLAND
- Denotes FILL IN WETLANDS
- Denotes PERMANENT SURFACE WATER IMPACTS

NC DOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

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8/17/99

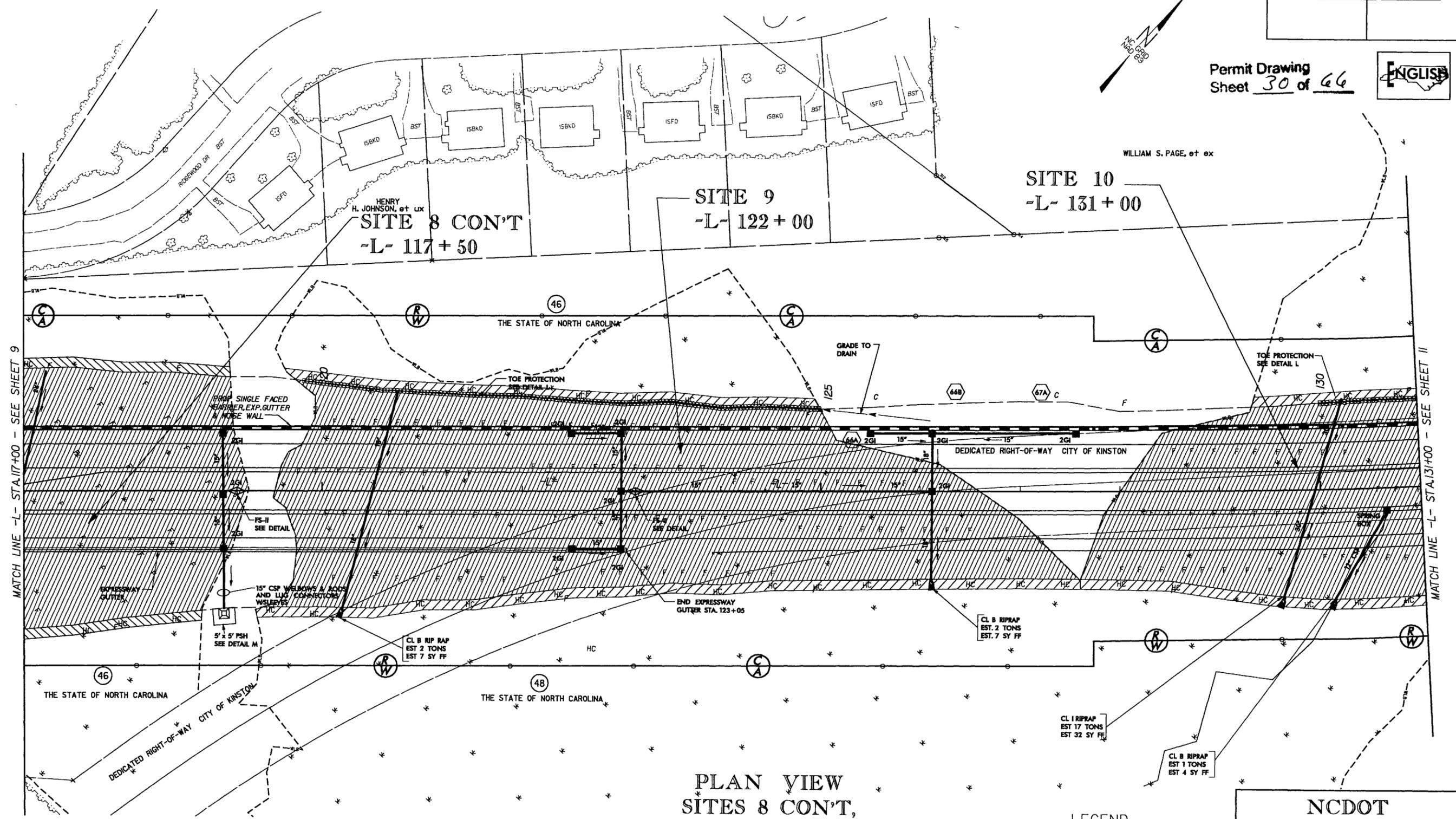
NOTE: FOR -L- PROFILE, SEE SHEET 40
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01



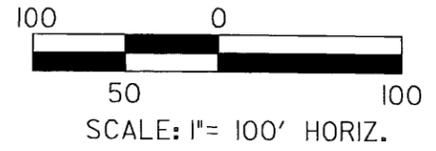
Prepared by
URS
URS Corporation - North Carolina
1600 Parkcenter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 10
R/W SHEET NO. 10	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 30 of 46



PLAN VIEW SITES 8 CON'T, 9 & 10



LEGEND

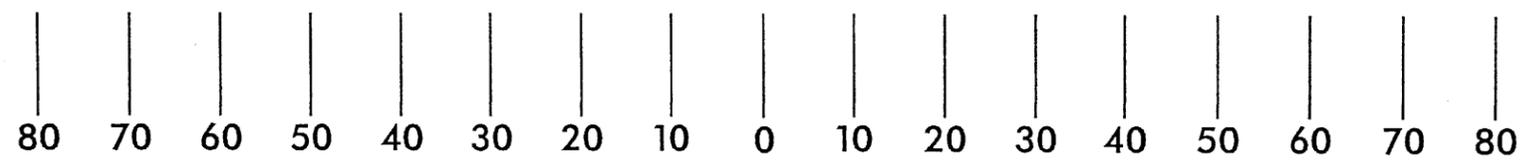
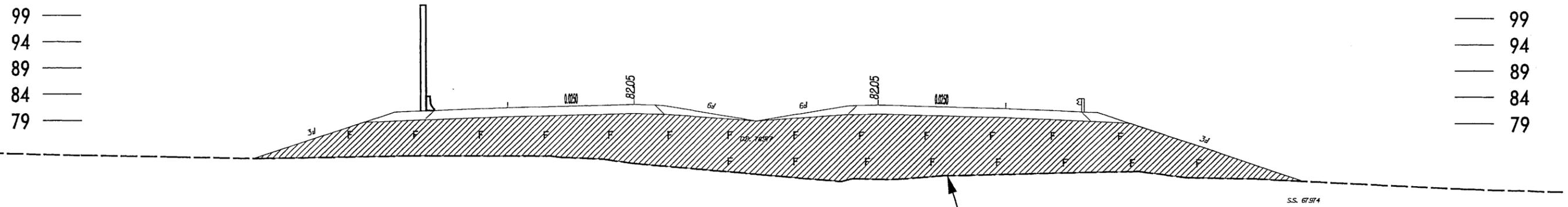
— WLB —	WETLAND
	DENOTES FILL IN WETLAND
	DENOTES HAND CLEARING

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

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PROJECT REFERENCE NO. <i>R-2719A</i>	SHEET NO. <i>SITE 9</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

Permit Drawing
Sheet 32 of 66



LEGEND
 DENOTES FILL IN WETLANDS

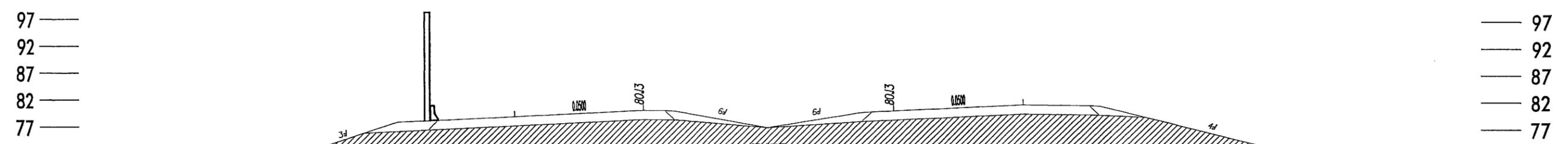
X-SECTION
SITE 9
 STA 122+00 -L-



NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258
 SHEET OF 5 / 26 / 06

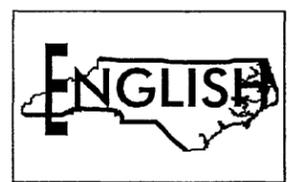
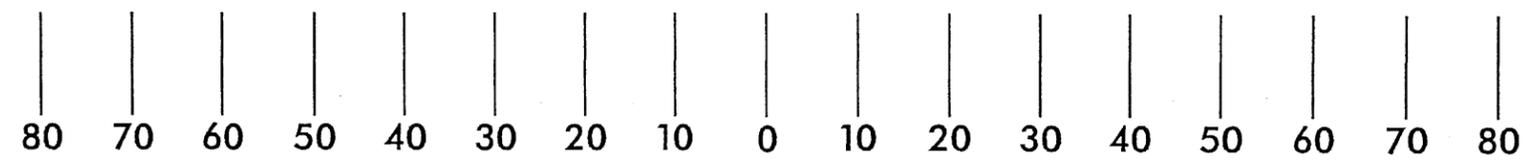
PROJECT REFERENCE NO. R-2719A	SHEET NO. SITE 10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 33 of 66



FILL IN WETLANDS

UNDERCUT



LEGEND
 DENOTES FILL IN WETLANDS

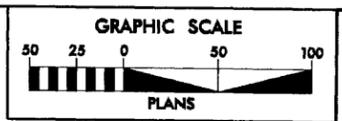
X-SECTION
SITE 10
 STA 131+00 -L-

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 5 / 26 / 06

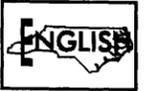
8/17/99

NOTE: FOR -L- PROFILE, SEE SHEETS 40 & 41
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01

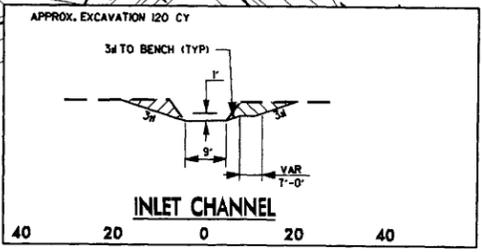
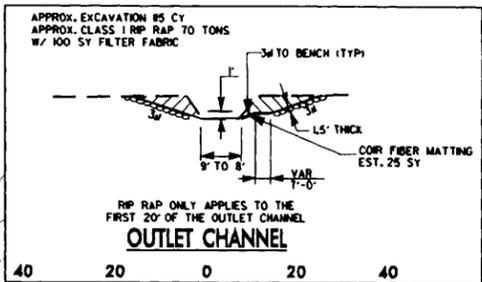
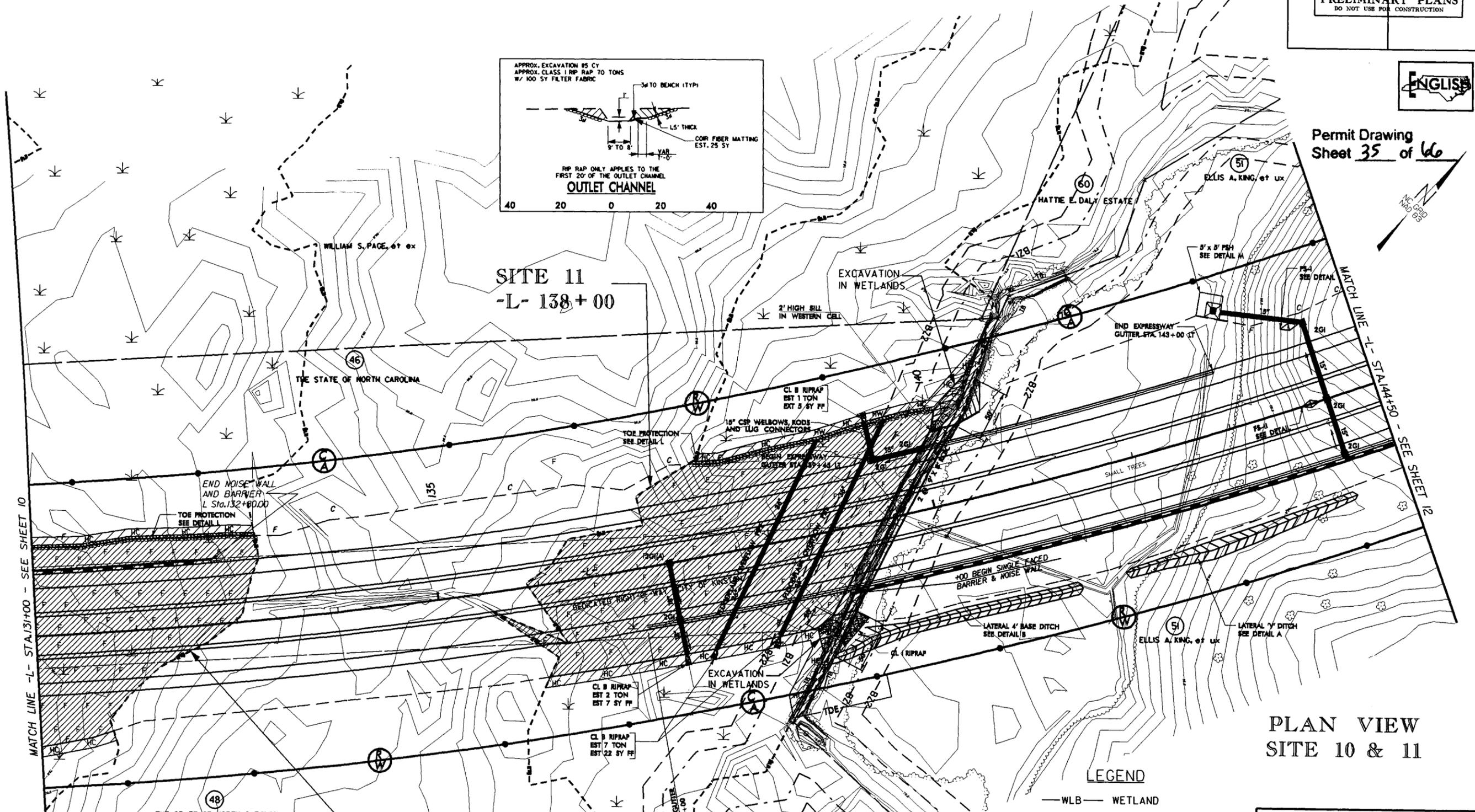


Prepared by
URS
URS Corporation - North Carolina
1600 Piedmont Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 11
R/W SHEET NO. 11	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Permit Drawing
Sheet 35 of 66



LEGEND

— WLB —	WETLAND
	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS
	DENOTES PERMANENT SURFACE WATER IMPACTS
	DENOTES HAND CLEARING

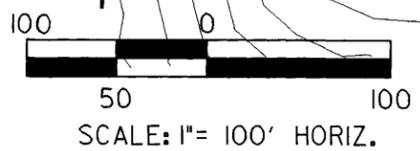
PLAN VIEW
SITE 10 & 11

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3460L1.1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF

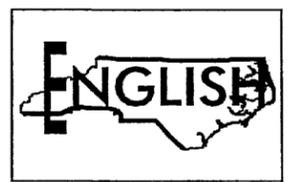
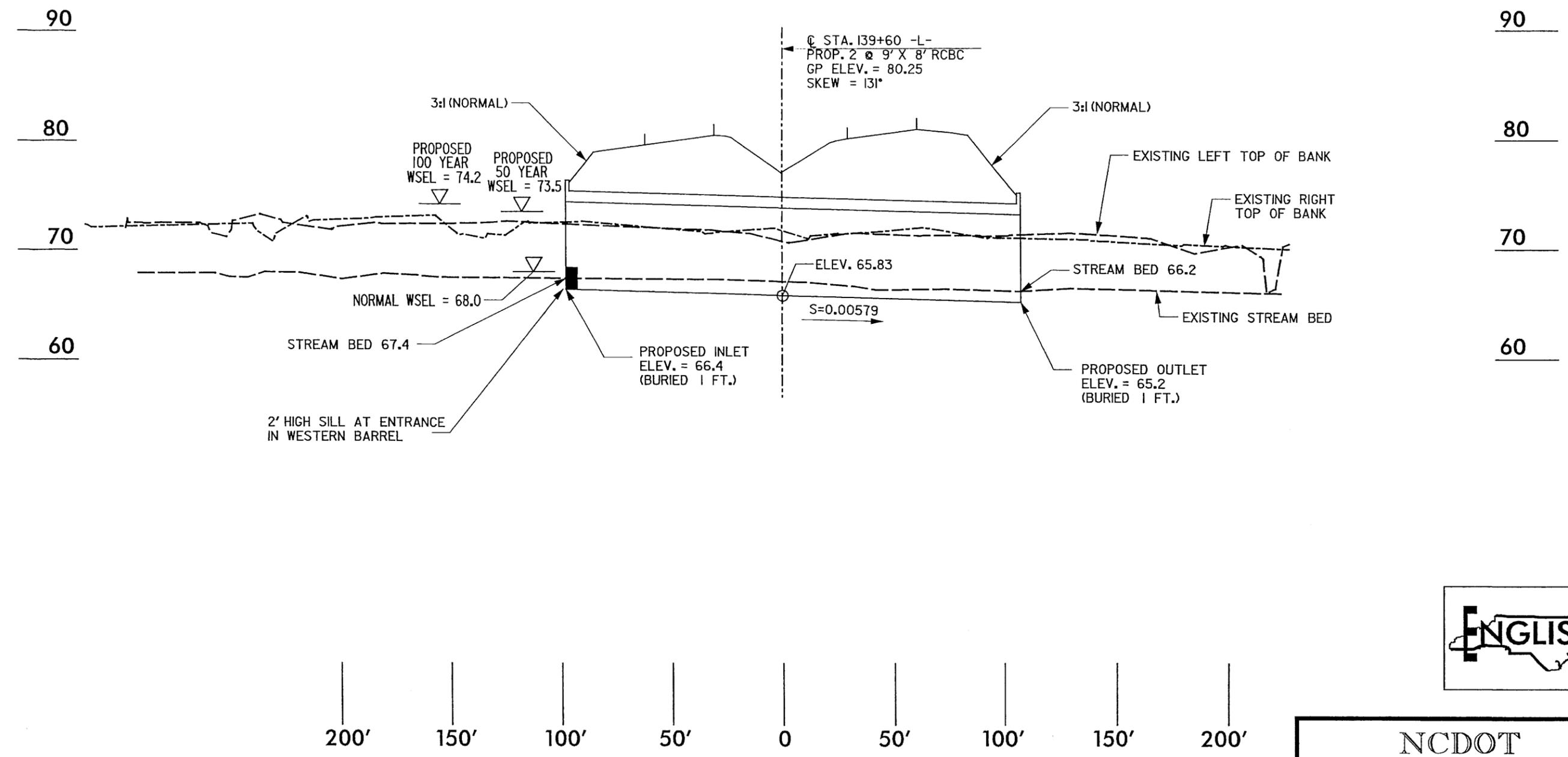
REVISIONS
DATE: 6/14/06 - PARCEL 48 & 51; REVISED TEMPORARY DRAINAGE EASEMENT

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PROJECT REFERENCE NO. R-2719A	SHEET NO. S11-PAS
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet **36** of **66**



**PROFILE ALONG STRUCTURE
SITE 11**

SCALE:
1" = 50' HORIZONTAL
1" = 10' VERTICAL

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 5 / 26 / 06

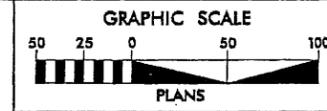
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6/27/2006 10:03:54 AM

8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 4I

SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS

MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



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URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 12
RW SHEET NO. 12	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

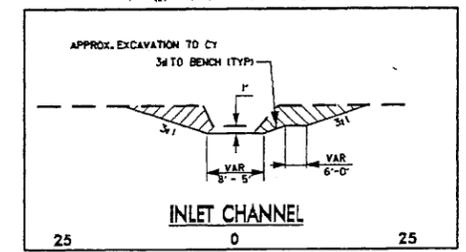
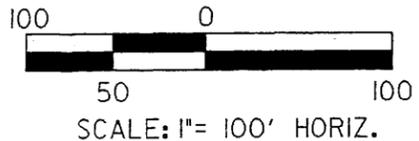
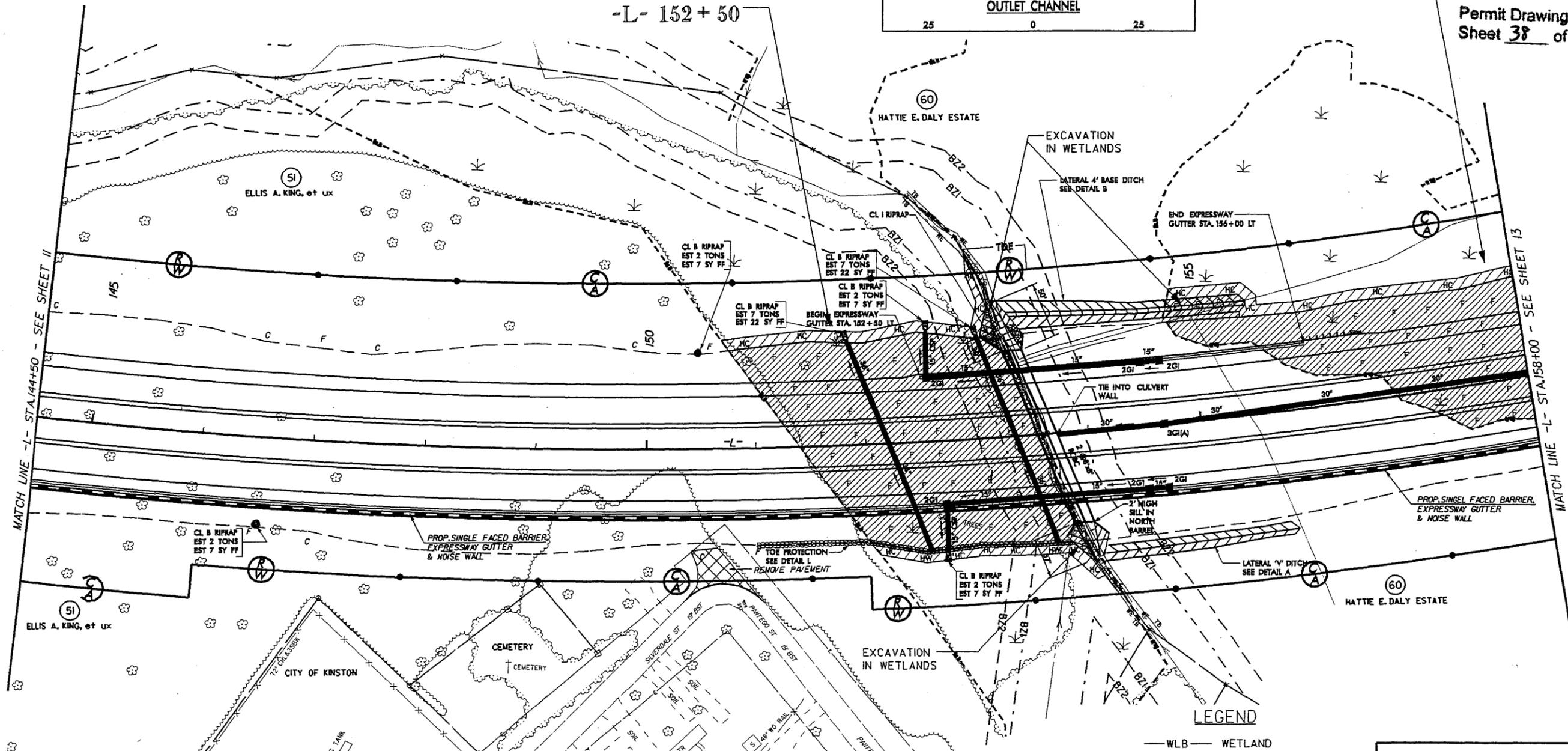
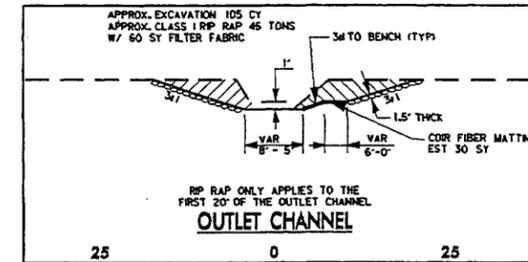
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SITE 13
-L- 157 + 00

Permit Drawing
Sheet **38** of **66**

SITE 12
-L- 152 + 50



PLAN VIEW
SITES 12 & 13

LEGEND

— WLB —	WETLAND
	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS
	DENOTES PERMANENT SURFACE WATER IMPACTS
	DENOTES HAND CLEARING

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3460LL1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF

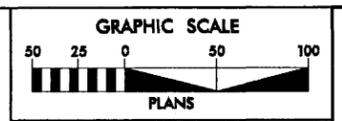
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8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 4I

SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS

MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.0I



Prepared by
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URS Corporation - North Carolina
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Merrillville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

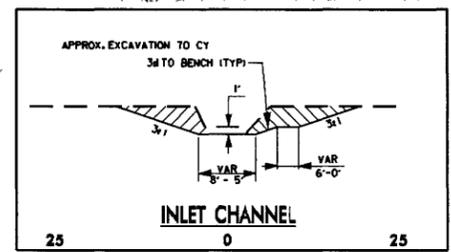
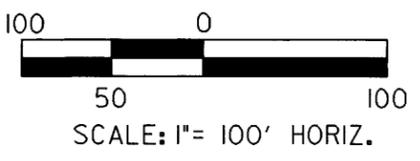
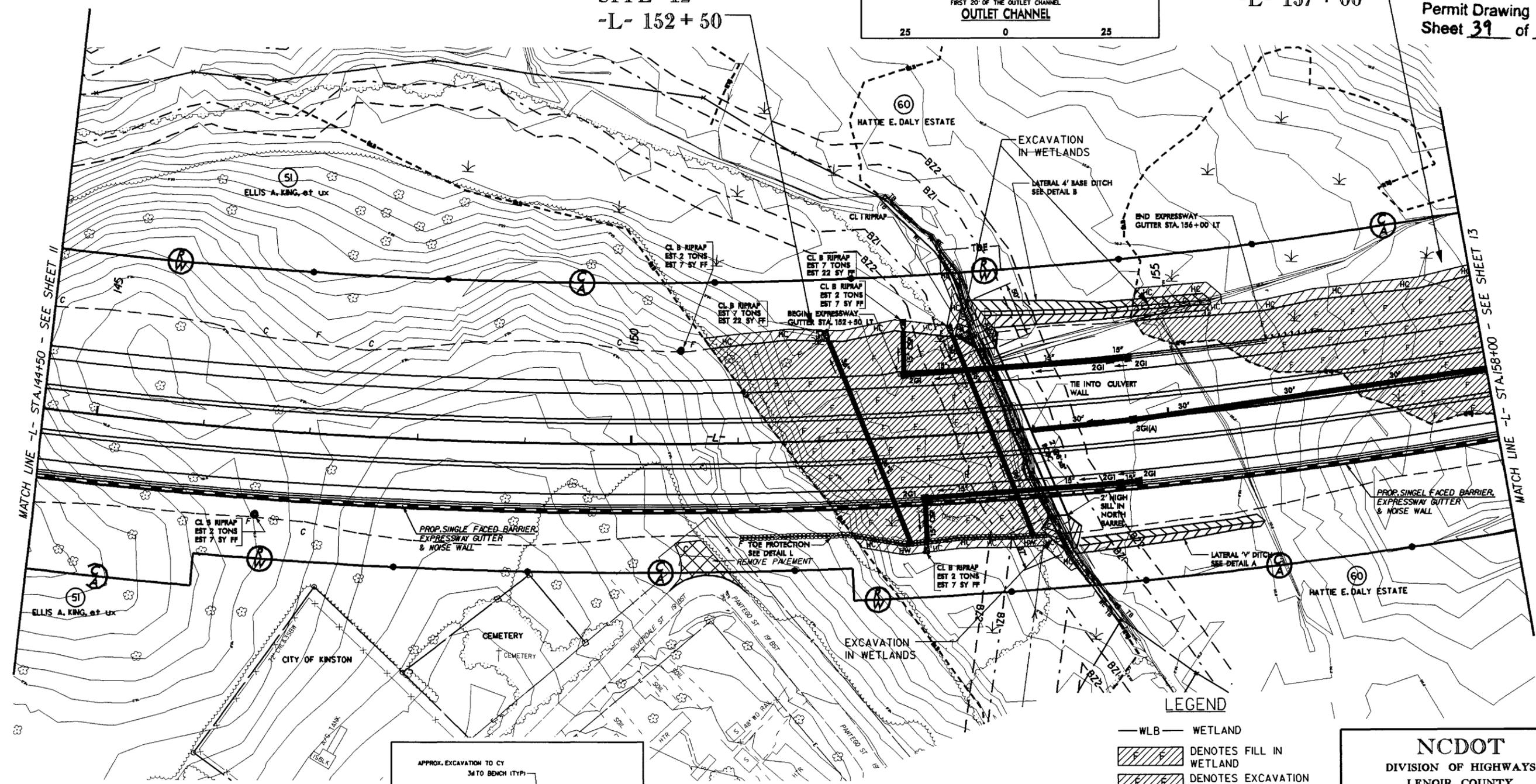
PROJECT REFERENCE NO. R-2719A	SHEET NO. 12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SITE 13
-L- 157 + 00

Permit Drawing
Sheet 39 of 66

SITE 12
-L- 152 + 50



PLAN VIEW
SITES 12 & 13

LEGEND

- WLB — WETLAND
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES TEMPORARY SURFACE WATER IMPACTS
- DENOTES PERMANENT SURFACE WATER IMPACTS
- DENOTES HAND CLEARING

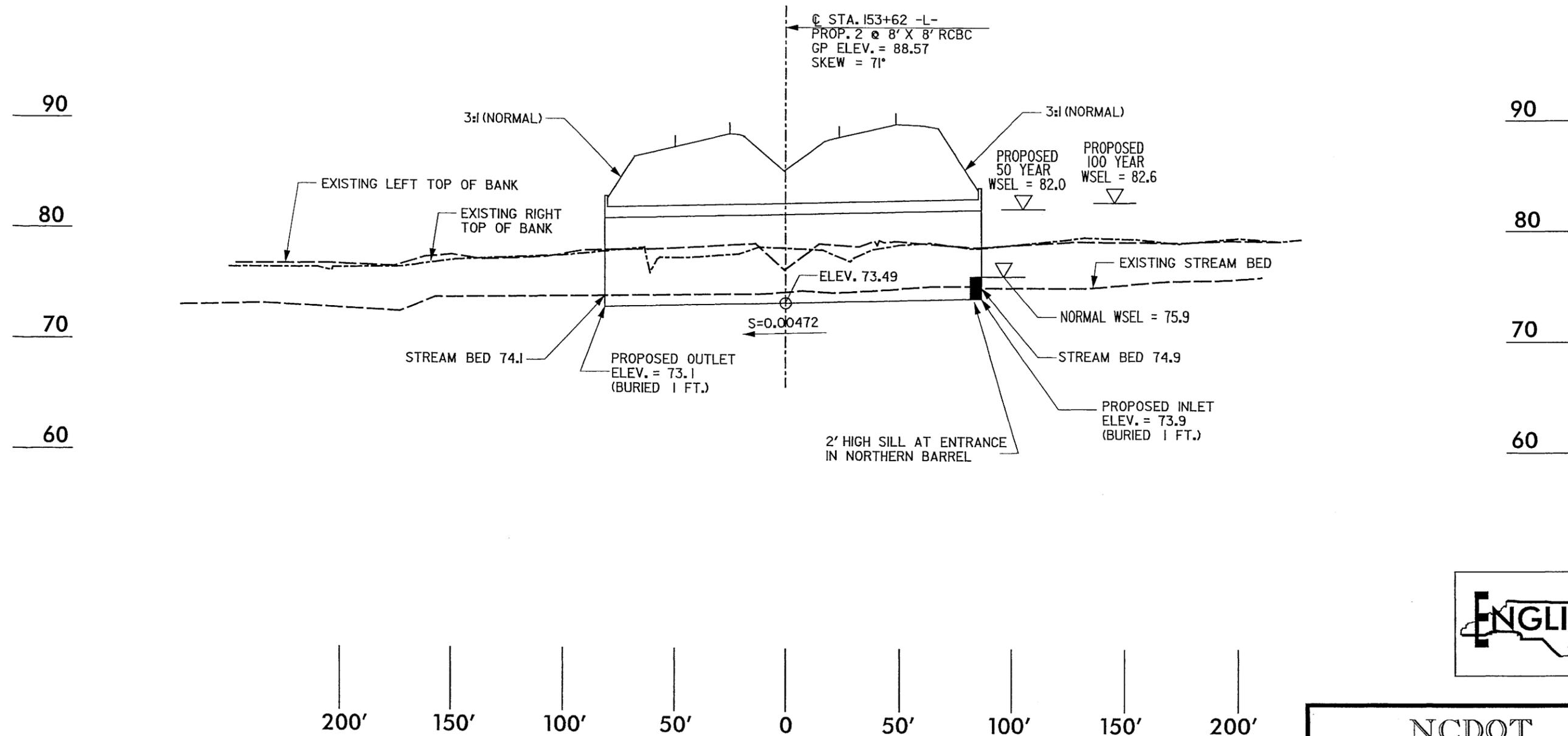
NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF

29-JAN-2008 10:36
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sheet 39 of 66

PROJECT REFERENCE NO. R-2719A	SHEET NO. S12-PAS
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 40 of 66



PROFILE ALONG STRUCTURE
SITE 12

SCALE:
 1" = 50' HORIZONTAL
 1" = 10' VERTICAL

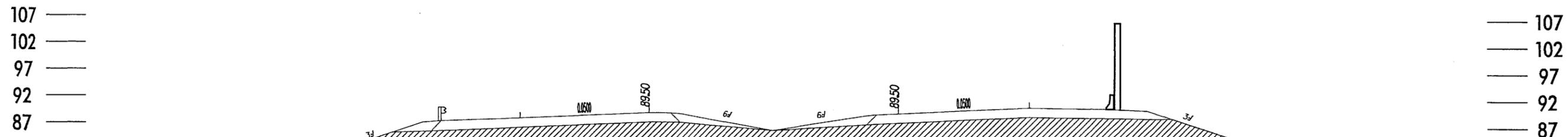
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 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 5 / 26 / 06

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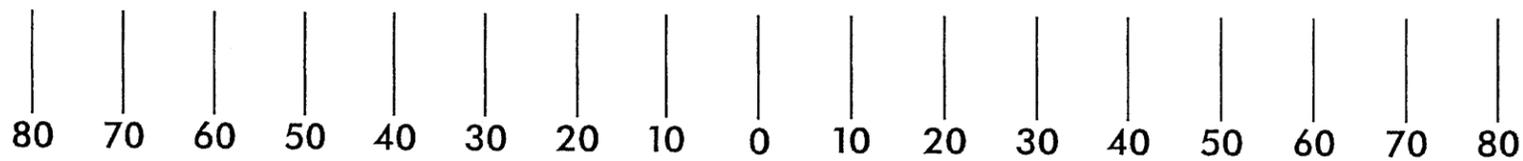
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 41 of 66



S.S. 71.626

FILL IN WETLANDS



LEGEND
 DENOTES FILL IN WETLANDS

X-SECTION
SITE 12
STA 152+50 -L-

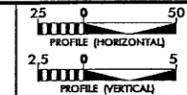
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.L1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 5 / 26 / 06

5/28/99

NOTE: FOR -L- PLAN, SEE SHEETS 11-13

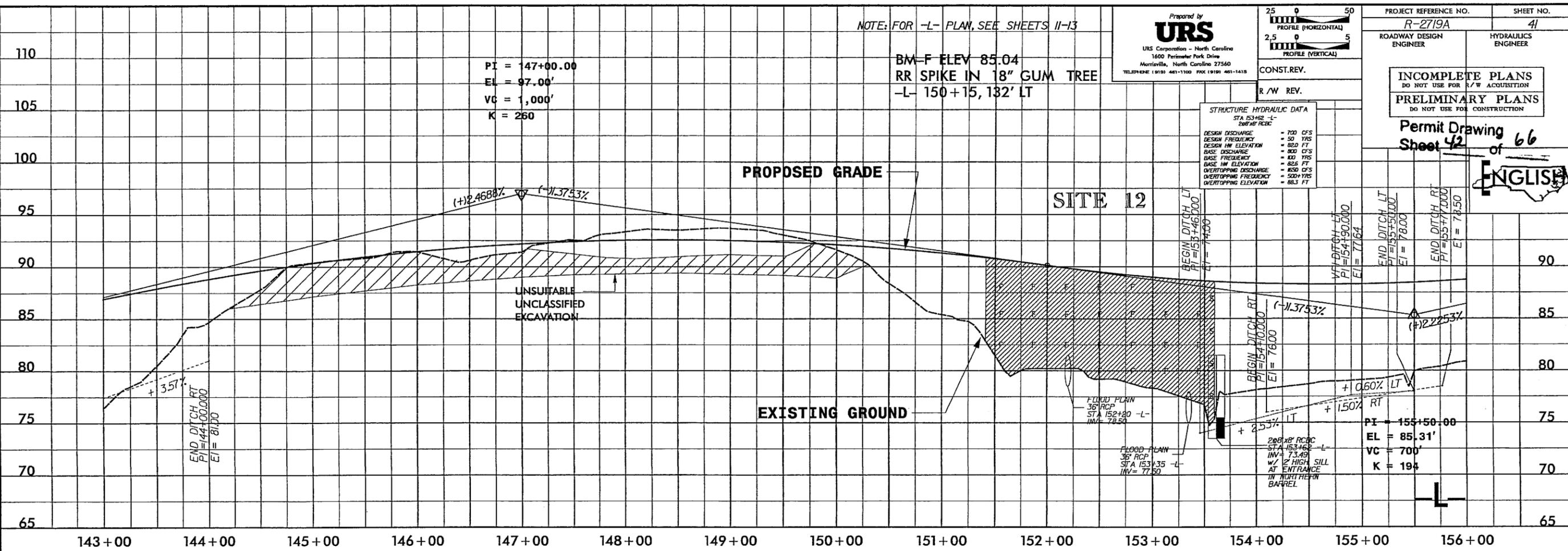
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 1400 Parkside Park Drive
 Morrisville, North Carolina 27560
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 41
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

Permit Drawing
 Sheet 42 of 66
ENGLISH



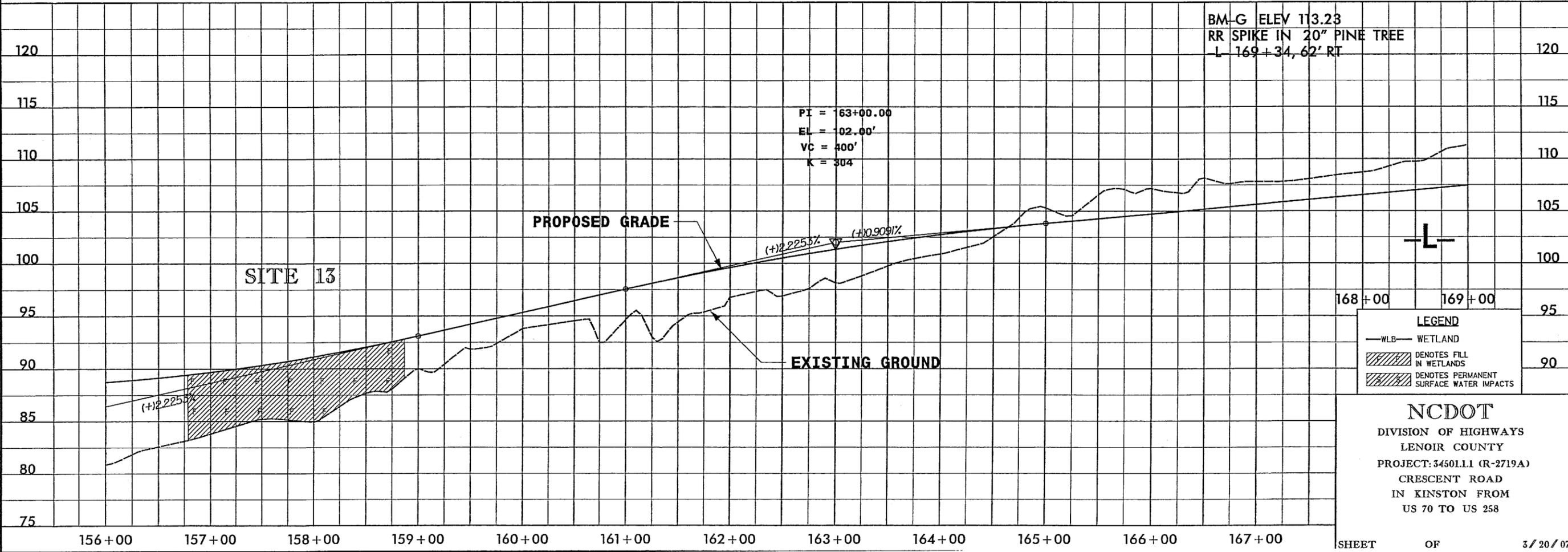
PI = 147+00.00
 EL = 97.00'
 VC = 1,000'
 K = 260

BM-F ELEV 85.04
 RR SPIKE IN 18" GUM TREE
 -L- 150+15, 132' LT

STRUCTURE HYDRAULIC DATA
 STA 153+62 -L-
 268'x8' RCBC

DESIGN DISCHARGE	= 700 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 85.00 FT
BASE DISCHARGE	= 800 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 85.50 FT
OVERTOPPING DISCHARGE	= 850 CFS
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING ELEVATION	= 86.3 FT

PI = 155+50.00
 EL = 85.31'
 VC = 700'
 K = 194



PI = 163+00.00
 EL = 102.00'
 VC = 400'
 K = 304

BM-G ELEV 113.23
 RR SPIKE IN 20" PINE TREE
 -L- 169+34, 62' RT

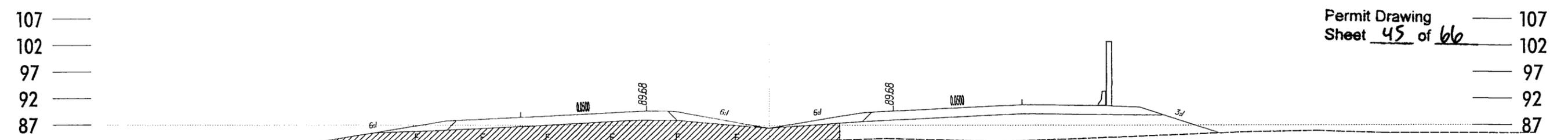
LEGEND

W/L	WETLAND
[Hatched Box]	DENOTES FILL IN WETLANDS
[Hatched Box]	DENOTES PERMANENT SURFACE WATER IMPACTS

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

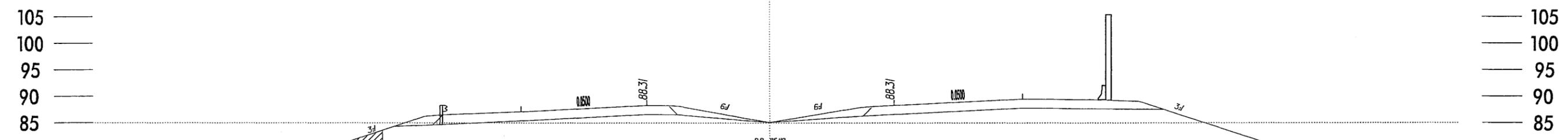
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 J.C. & Associates, P.C.

PROJECT REFERENCE NO. R-2719A	SHEET NO. SITE 13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

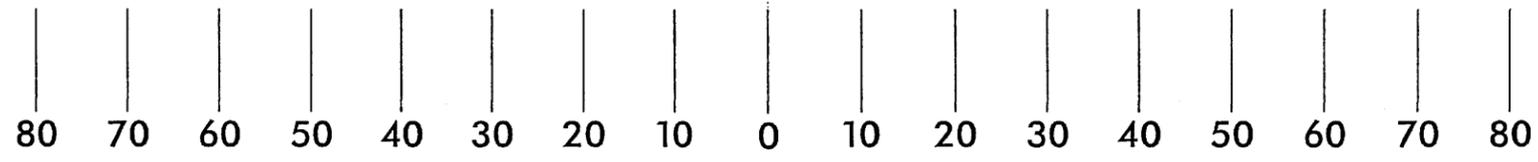


Permit Drawing 107
 Sheet 45 of 66 102
 97
 92
 87

X-SECTION
SITE 13
STA 157 + 00 -L-



EXISTING DITCH
 PROPOSED DITCH TO REPLACE THE EXISTING DITCH



LEGEND	
	DENOTES FILL IN WETLANDS
	DENOTES EXCAVATION IN WETLANDS

X-SECTION
SITE 13
STA 155 + 00 -L-

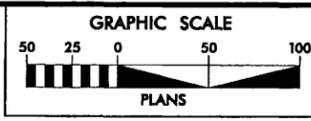
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 3 / 20 / 07

B.17/99
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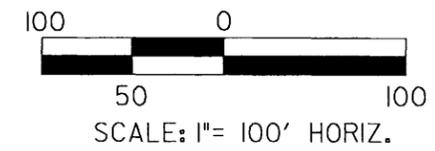
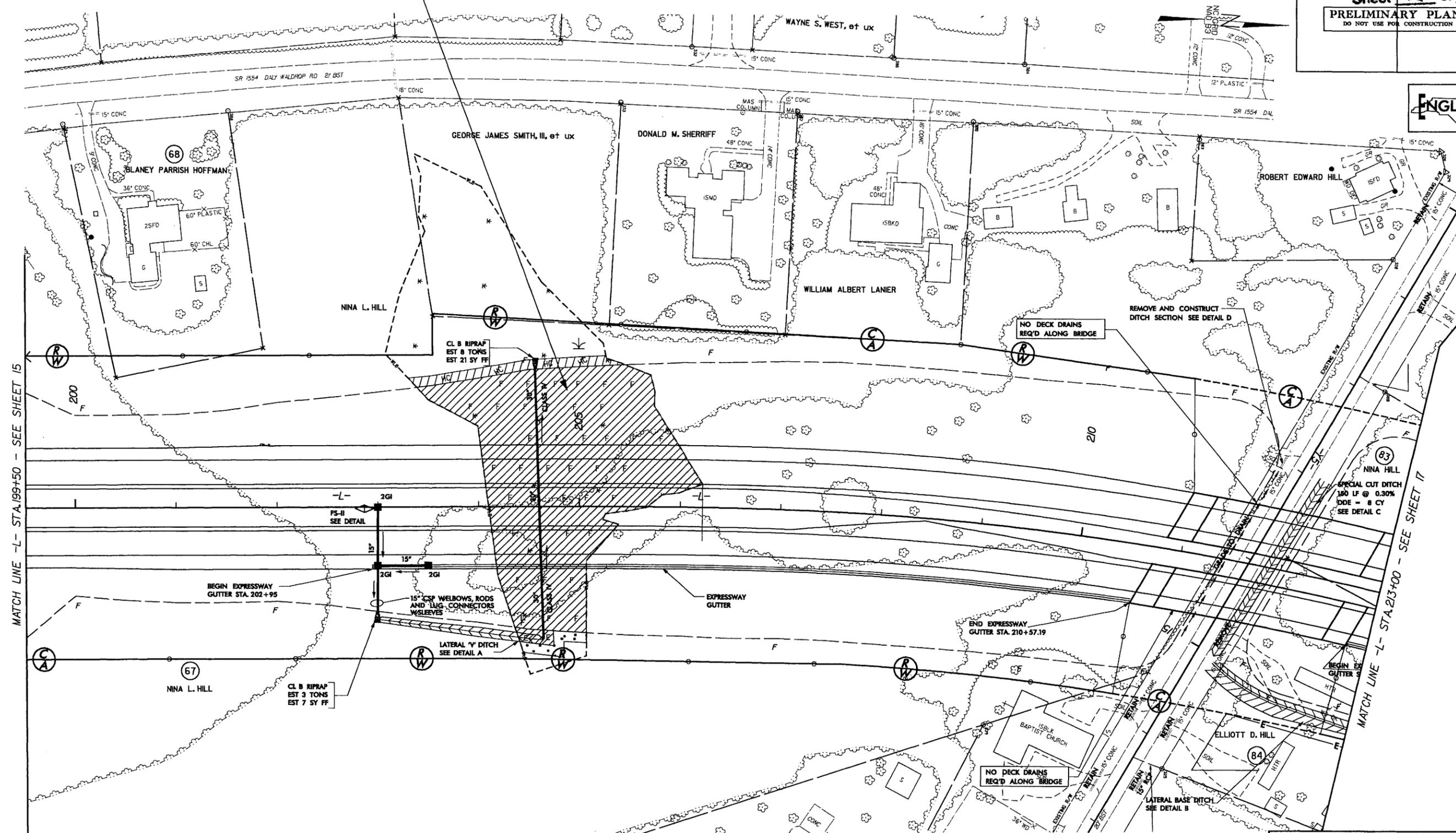
SITE 14
-L- 205+00

NOTE: FOR -L- PROFILE, SEE SHEET 43
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
 MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
 ACCORDING TO NCDOT STANDARD DRAWING No.665.01



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 Morrisville, North Carolina 27560
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 16
RW SHEET NO. 16	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Permit Drawing	
Sheet 46 of 66	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	



PLAN VIEW
SITE 14

LEGEND

	DENOTES EXCAVATION IN WETLAND		DENOTES MECHANIZED CLEARING
	DENOTES HAND CLEARING		DENOTES WETLAND
	DENOTES FILL IN WETLAND		

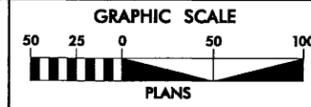
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF

8/17/99

SITE 14 -L- 205 + 00

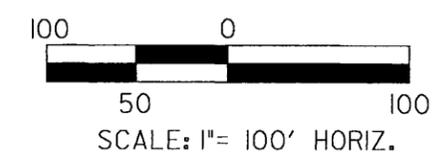
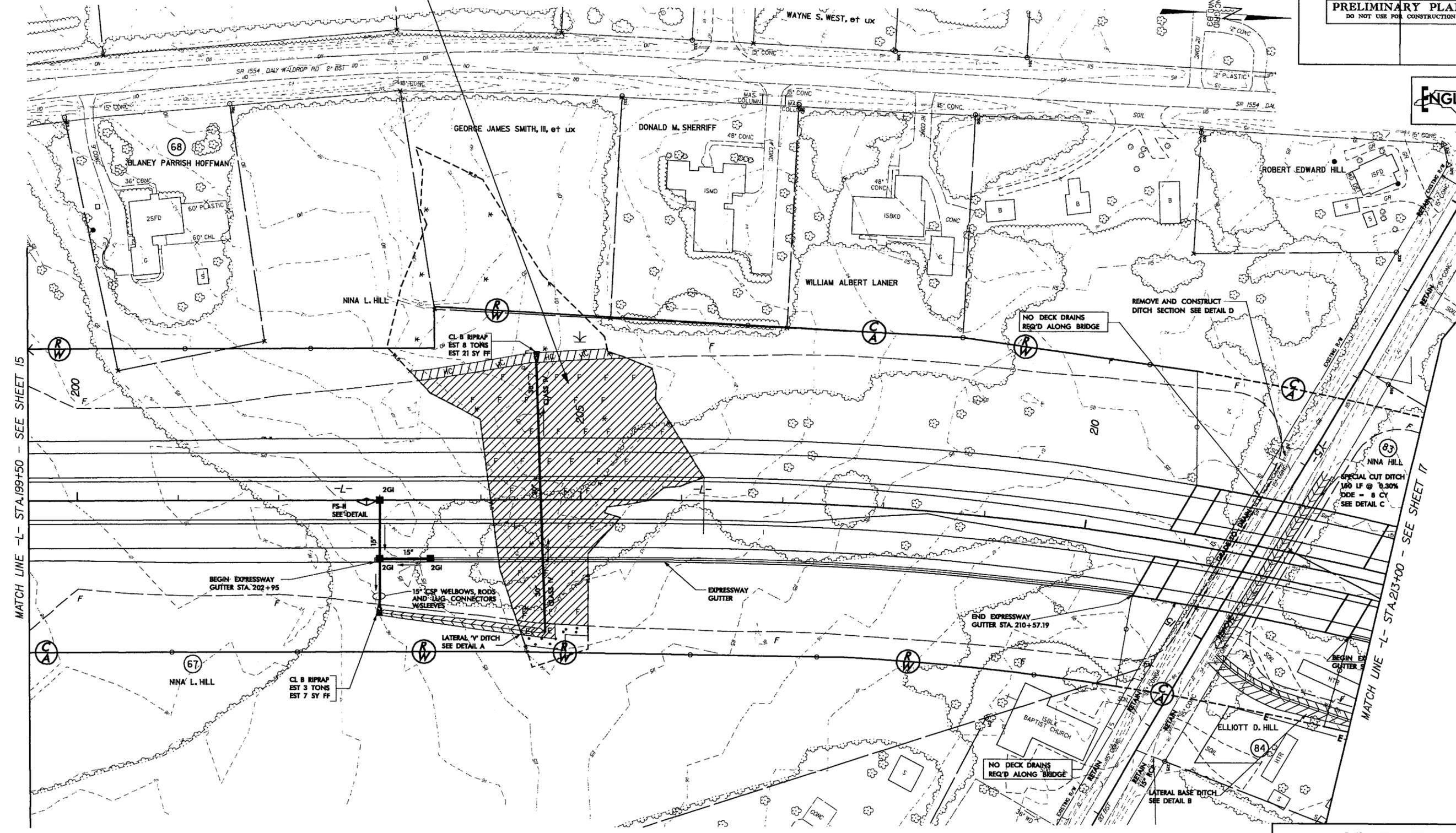
NOTE: FOR -L- PROFILE, SEE SHEET 43
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



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PROJECT REFERENCE NO. R-2719A	SHEET NO. 16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
RW SHEET NO. 16	
Permit Drawing Sheet 47 of 66	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

ENGLISH



PLAN VIEW SITE 14

LEGEND

	DENOTES EXCAVATION IN WETLAND		DENOTES FILL IN WETLAND
	DENOTES HAND CLEARING		DENOTES MECHANIZED CLEARING
	— WLB — WETLAND		

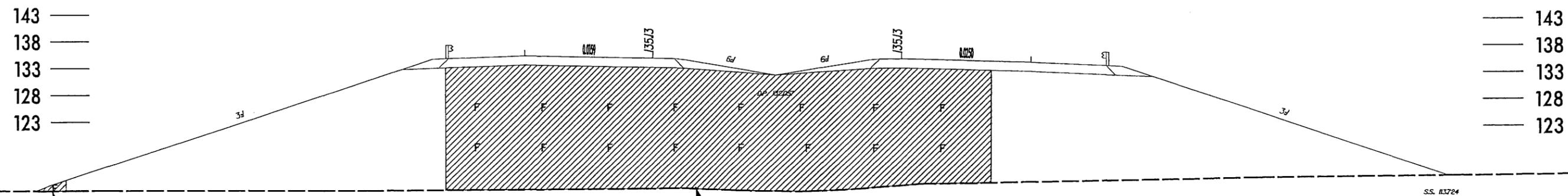
NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF

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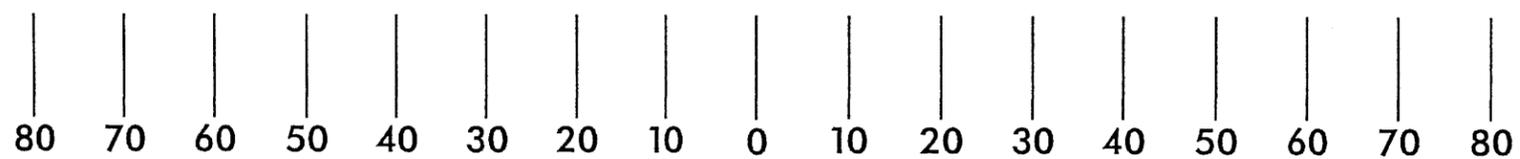
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 48 of 66



FILL IN WETLANDS

FILL IN WETLANDS



LEGEND

 DENOTES FILL IN WETLANDS

X-SECTION
SITE 14
STA 205+00 -L-



NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450LL1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

5/28/99

NOTE: FOR -L- PLAN, SEE SHEETS 15-17

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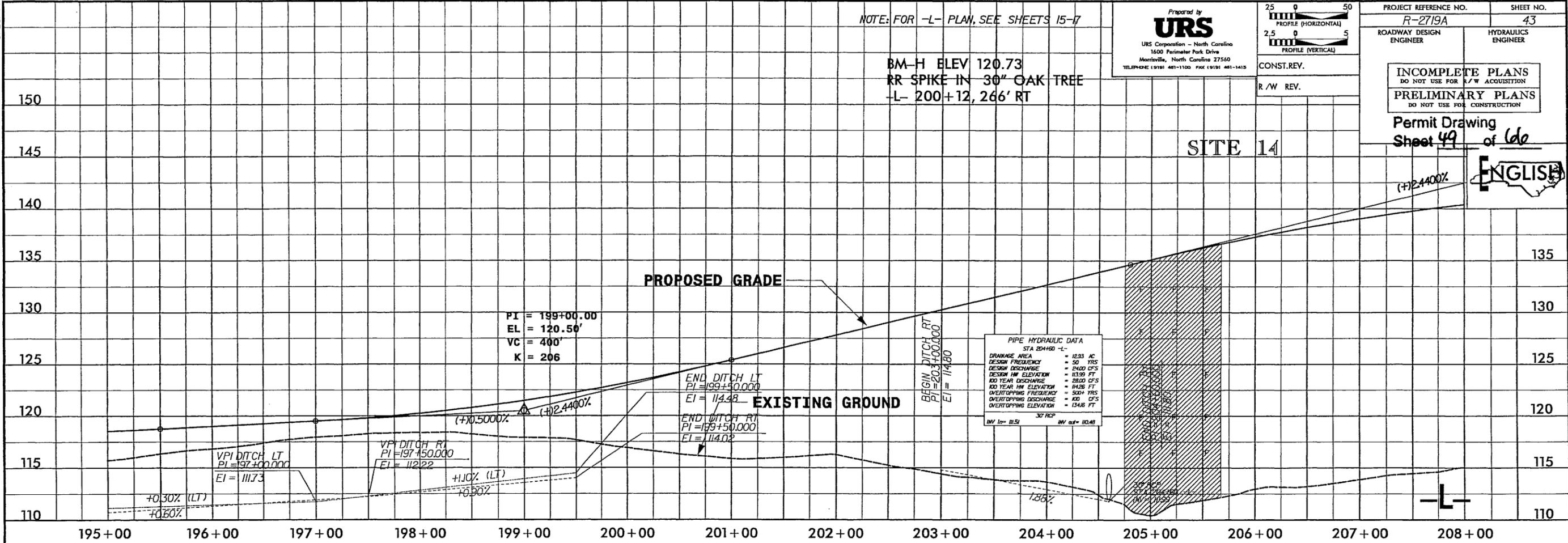
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 PROFILE (HORIZONTAL)
 2.5 0 5
 PROFILE (VERTICAL)

CONST. REV.
 R/W REV.

PROJECT REFERENCE NO. R-2719A SHEET NO. 43
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
 INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
 PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
 Permit Drawing Sheet 49 of 66



SITE 14

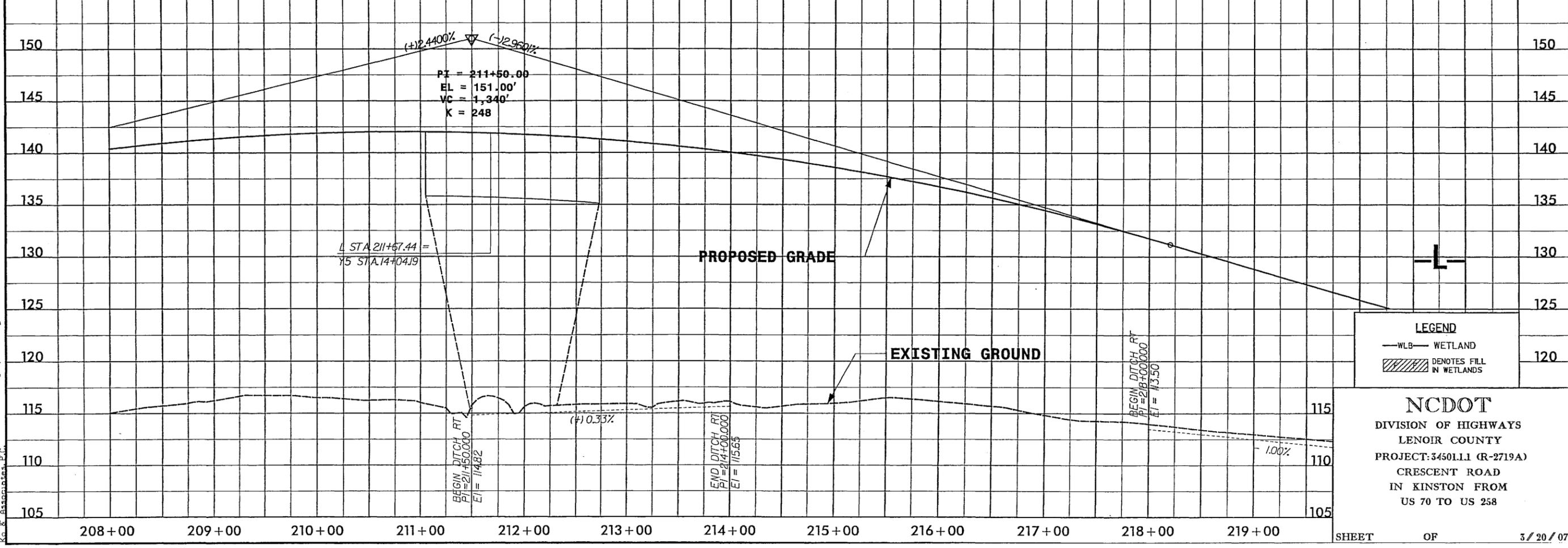


PIPE HYDRAULIC DATA
 STA 204+00 -L-

DRAINAGE AREA	= 12.93 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 2400 CFS
DESIGN HW ELEVATION	= 113.99 FT
100 YEAR DISCHARGE	= 2800 CFS
100 YEAR HW ELEVATION	= 116.26 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 100 CFS
OVERTOPPING ELEVATION	= 114.6 FT

30" RCP
 INV 114.51
 30" RCP
 INV 114.48

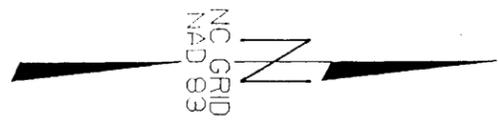
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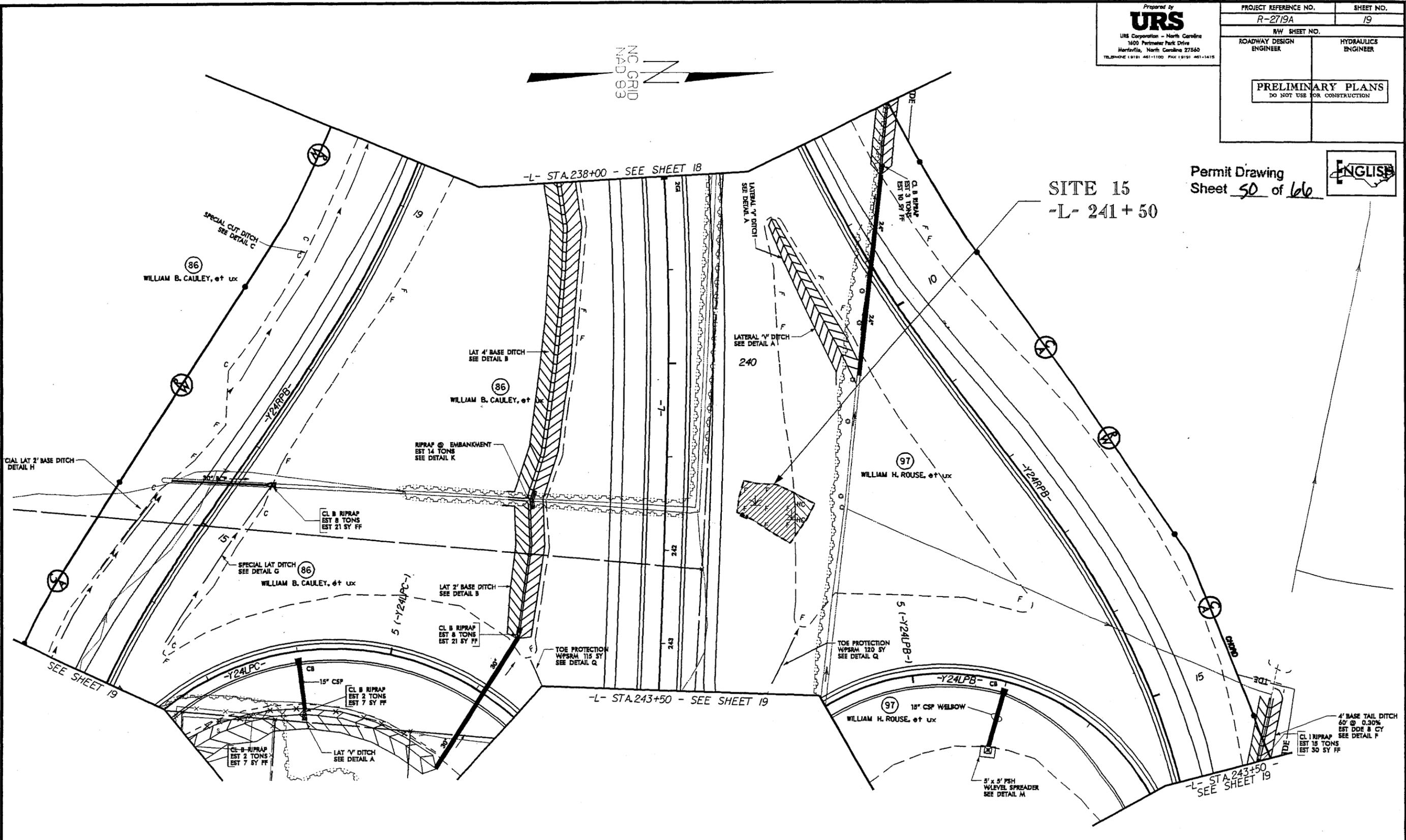
LEGEND
 -WLB- WETLAND
 [Hatched Box] DENOTES FILL IN WETLANDS

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

Permit Drawing
 Sheet 50 of 66



SITE 15
 -L- 241 + 50



PLAN VIEW
SITE 15

LEGEND

- WLB — WETLAND
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 3450LL1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

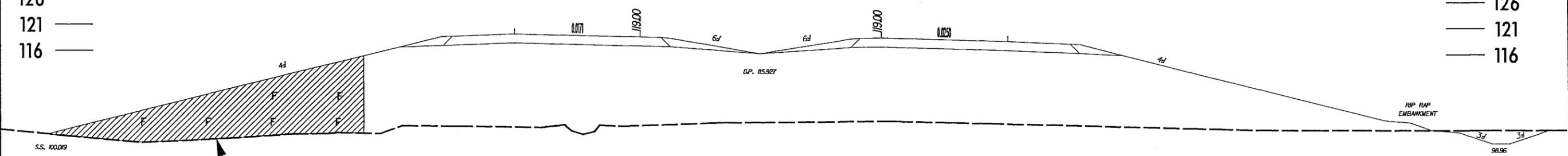
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 52 of 66

157 —
152 —
126 —
121 —
116 —

157 —
152 —
126 —
121 —
116 —



FILL IN WETLANDS



80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

LEGEND
 DENOTES FILL IN WETLANDS

X-SECTION
SITE 15
 STA 241+50 -L-

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

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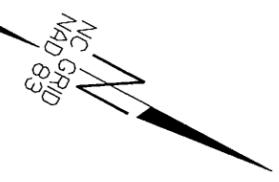
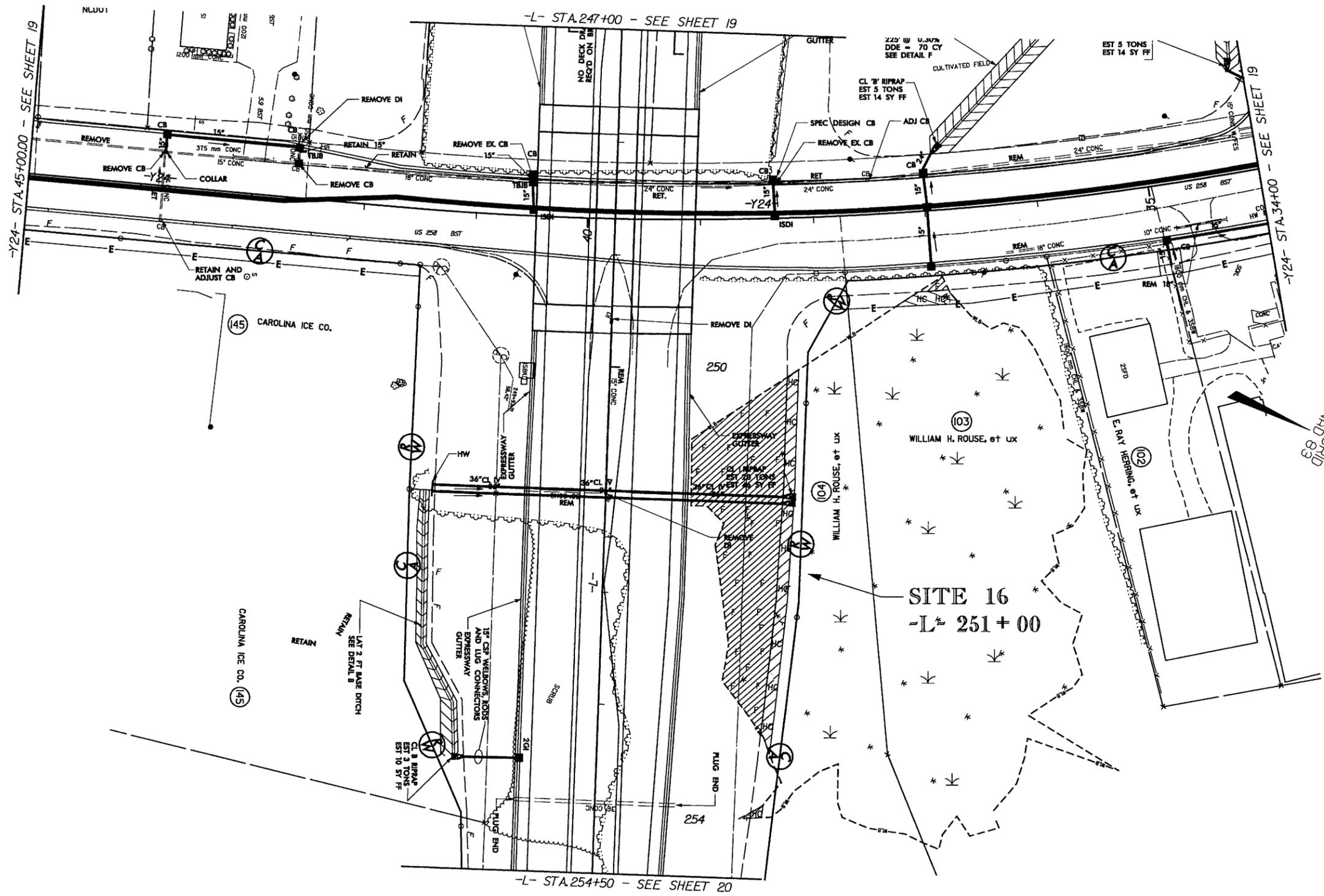
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Morrisville, North Carolina 27560
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 19A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

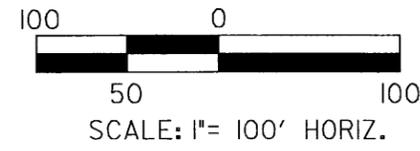


Permit Drawing
Sheet 54 of 66



LEGEND

- WLB — WETLAND
- [Hatched Box] DENOTES FILL IN WETLAND
- [Hatched Box] DENOTES HAND CLEARING



PLAN VIEW
SITE 16

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.L1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF

8/17/99

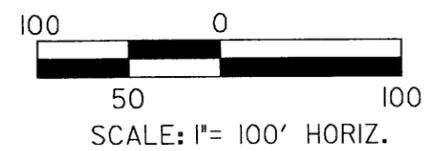
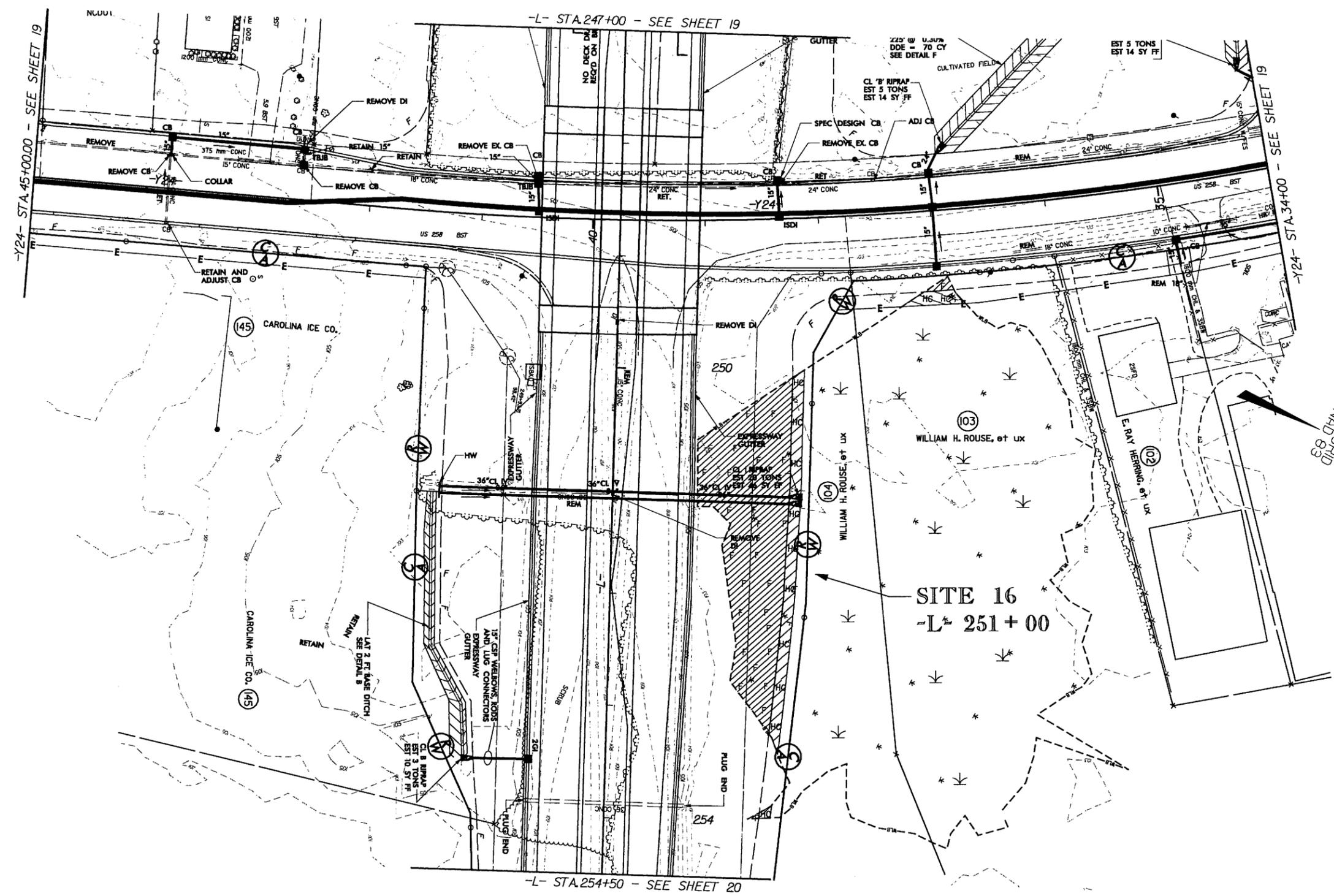
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1600 Perimeter Park Drive
Mantoloking, North Carolina 27560
TEL: 919-461-1100 FAX: 919-461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 19A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Permit Drawing
Sheet 55 of 66



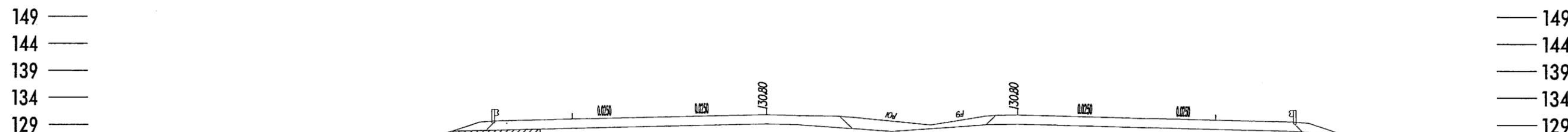
PLAN VIEW SITE 16

- LEGEND**
- WLB — WETLAND
 - DENOTES FILL IN WETLAND
 - DENOTES HAND CLEARING

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

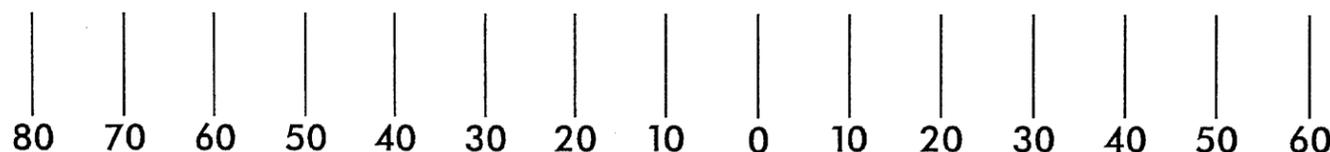
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 56 of 66



SS. 102.08

FILL IN WETLANDS



LEGEND
 DENOTES FILL IN WETLANDS

X-SECTION
SITE 16
 STA 251+00 -L-

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 5 / 26 / 06

5/28/99
 3/30/2007
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 K. W. Associates

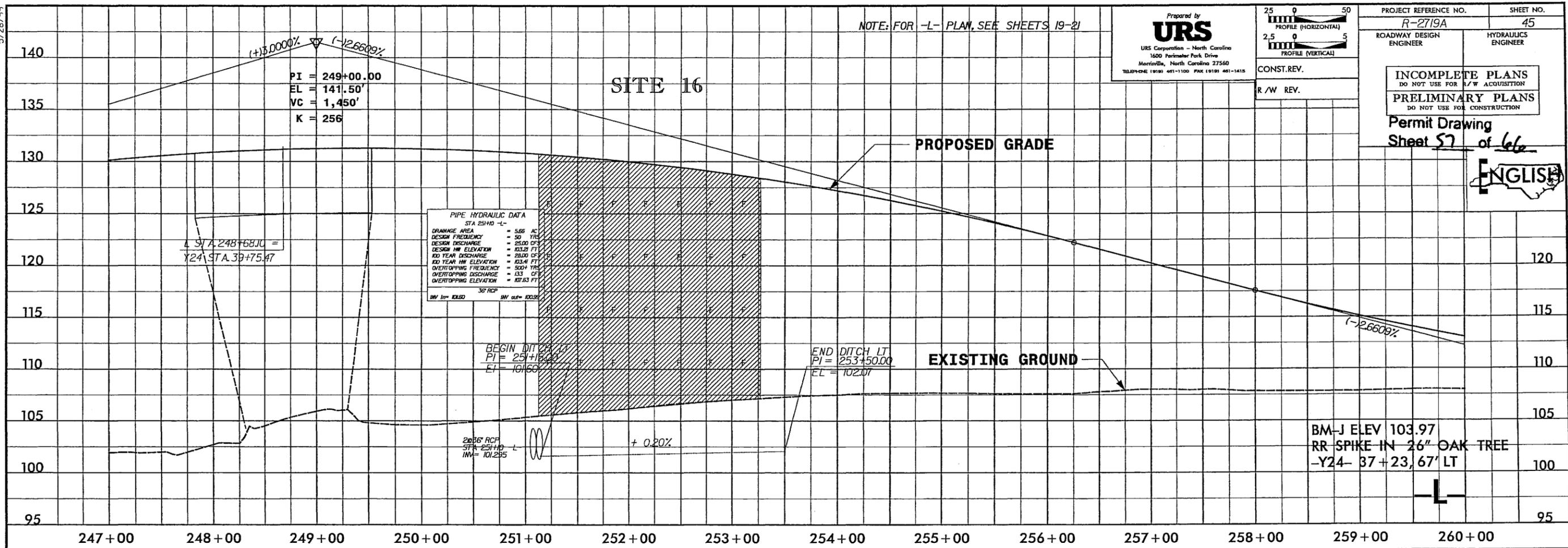
NOTE: FOR -L- PLAN, SEE SHEETS 19-21

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 URS Corporation - North Carolina
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 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
 DO NOT USE FOR A/W ACQUISITION
PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

Permit Drawing
 Sheet 57 of 66



PIPE HYDRAULIC DATA
 STA 251+00 -L-

DRAINAGE AREA	= 5.66 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 25.00 CFS
DESIGN HW ELEVATION	= 103.21 FT
100 YEAR DISCHARGE	= 28.00 CFS
100 YEAR HW ELEVATION	= 103.41 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 133 CFS
OVERTOPPING ELEVATION	= 107.63 FT

36" RCP
 INV 101.255

END GRADE
 STATE PROJECT R-2719A
 -L- STA. 263+00.00
 EL 109.40' (EXISTING)

PI = 260+50.00
 EL = 110.90'
 VC = 500'
 K = 243

LEGEND

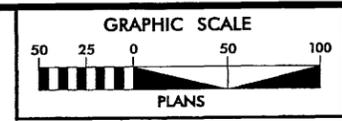
—WLB—	WETLAND
	DENOTES FILL IN WETLANDS

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

8/17/99

9/20/2007
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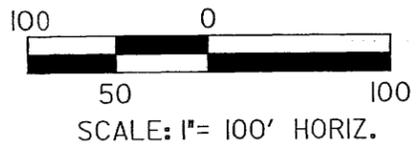
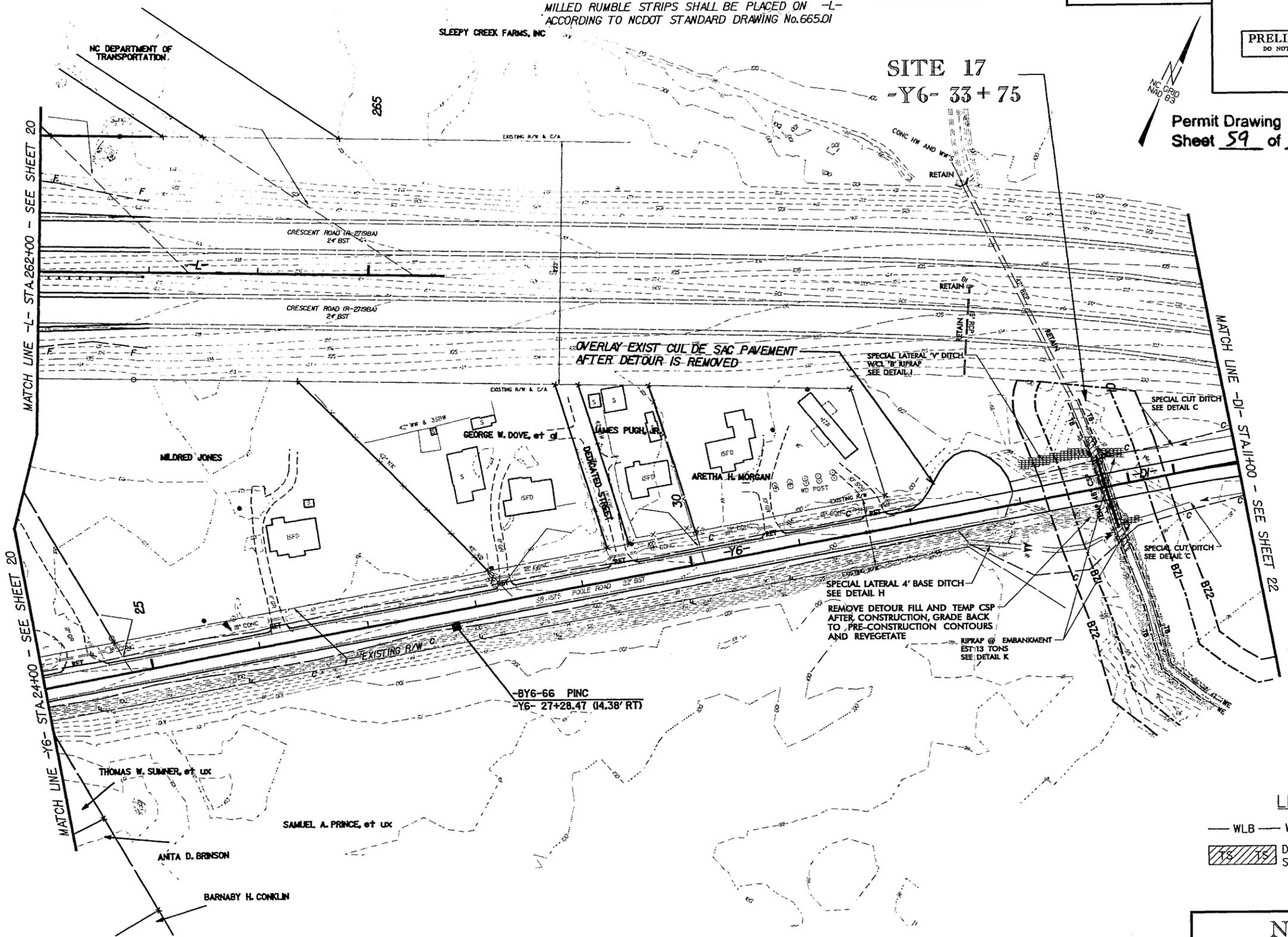
NOTE: FOR -L- PROFILE, SEE SHEET 45
FOR -Y6- PROFILE, SEE SHEET 70
FOR -D1- & -D2- PROFILE, SEE SHEET 71
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



Prepared by
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 21
R/W SHEET NO. 21	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 59 of 66



PLAN VIEW SITE 17

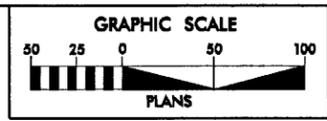
LEGEND

	WLB - WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

8/17/99
 23-Jan-2008 16:08
 C:\p\proj\23Jan\23Jan.dgn
 23-Jan-2008 16:08
 C:\p\proj\23Jan\23Jan.dgn

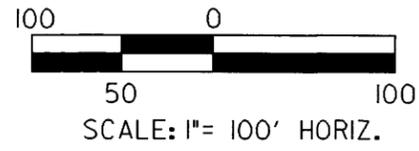
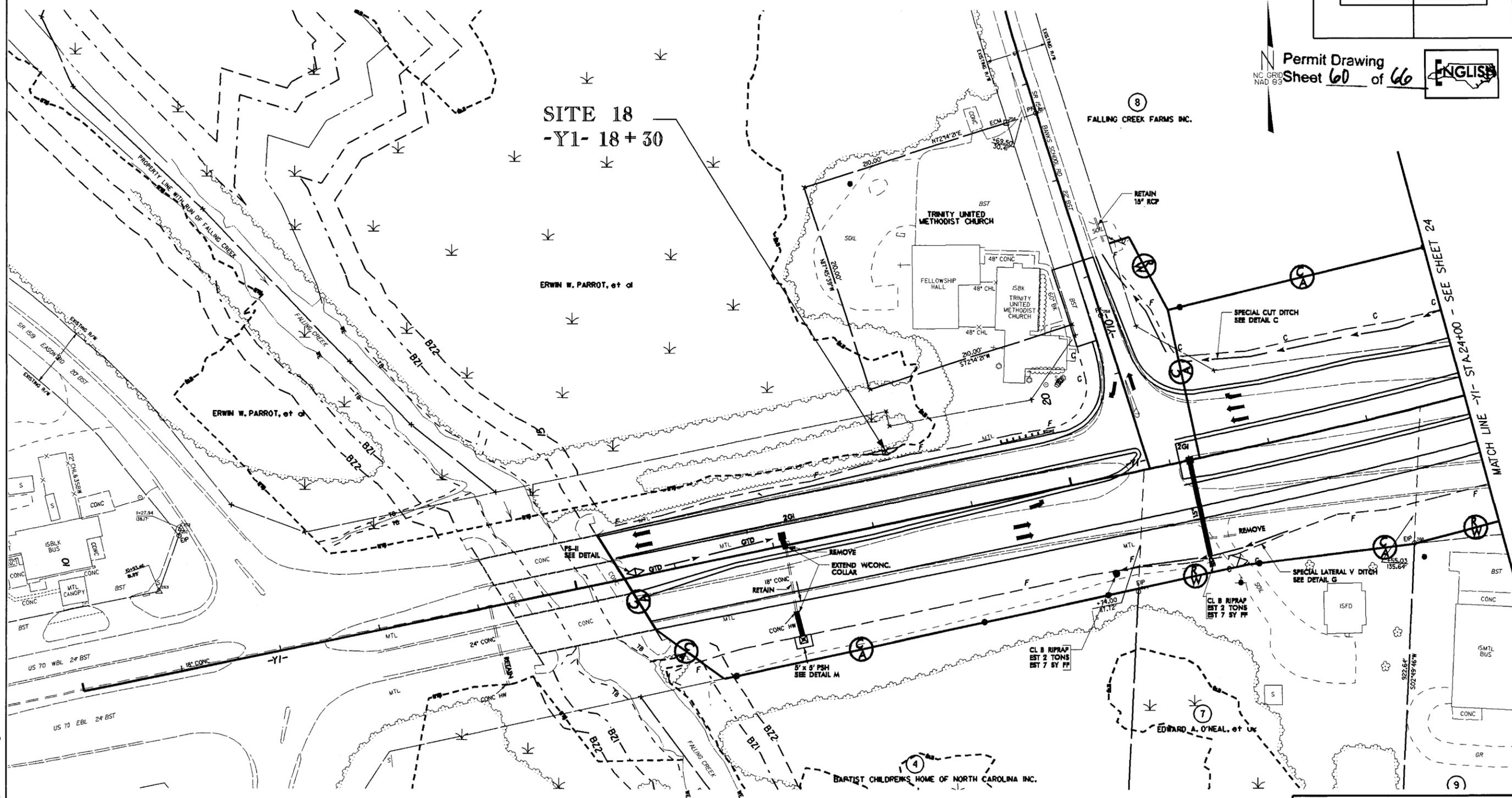
NOTE: FOR -Y1- PROFILE, SEE SHEET 46
 FOR -Y10- PROFILE, SEE SHEET 60
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
 FOR INTERSECTION DETAIL SEE SHEET 2-J
 MILLED RUMBLE STRIPS SHALL BE PLACED ON -Y1-
 ACCORDING TO NCDOT STANDARD DRAWING No. 665.01
 BEGIN MILLED RUMBLE STRIPS AT BEGINNING OF C/A.



Prepared by
URS
 URS Corporation - North Carolina
 1600 Parkmaker Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
 Sheet 60 of 66
 [ENGLISH]



PLAN VIEW
 SITE 18

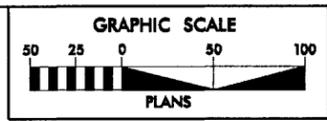
LEGEND

— WLB —	WETLAND
	HC HC DENOTES HAND CLEARING

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258
 SHEET OF

8/17/99
 REVISIONS
 DATE: PARCEL 8 REMOVED PDE AT CULVERT AND ADDED MITIGATION AREA BOUNDARY ON BOTH SIDES OF STREAM
 29-JAN-2008 lkl4
 r:\drainage\permits\2719a_hyd_prm_wet_25.dgn
 11/22/02

MATCH LINE - SEE SHEET 25A



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 URS Corporation - North Carolina
 1600 Parkmaker Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 861-1100 FAX (919) 861-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 25
RAW SHEET NO. 25	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-YI- CURVE DATA

PIs Sta 34+08.87 Os = 4'16"10.9" Ls = 427.00' LT = 28475' ST = 142.4'	PIs Sta 41+587.2 Os = 2'33"26.3" Ls = 341.00' LT = 227.36' ST = 113.69'	PIs Sta 66+70.52 Δ = 64'14"25.4" (RT) D = 1'29"59.6" L = 4283.01' T = 2,398.16' R = 3,820.00' e = 5.5%
---	---	--

NOTE: FOR -YI- PROFILE, SEE SHEETS 46 & 47
 FOR -YIRPCA- PROFILE, SEE SHEET 56
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
 SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS

-YIRPCA- CURVE DATA

PIs Sta 56+51.41 Δ = 47'35"39.3" (LT) D = 2'59"59.2" L = 1,586.59' T = 842.30' R = 1,910.00' e = 6%	PIs Sta 64+82.65 Os = 1'00"08.6" Ls = 210.00' ST = 86.94' LT = 123.14' Δ1 = 0'57"17.7" Δ2 = 2'59"59.2" R1 = 6,000.00' R2 = 1,910.00'	PIs Sta 66+39.81 Δ = 0'39"04.5" (LT) D = 0'57"17.7" L = 68.20' T = 34.10' R = 6,000.00' e = 2.5%	PIs Sta 67+40.58 Os = 0'57"17.7" Ls = 200.00' LT = 133.34' ST = 66.67'
---	--	--	--

MILLED RUMBLE STRIPS SHALL BE PLACED ON -YI- ACCORDING TO NCDOT STANDARD DRAWING No.665.01
 FOR GORE DETAIL SEE NCDOT STANDARD DRAWING 225.03

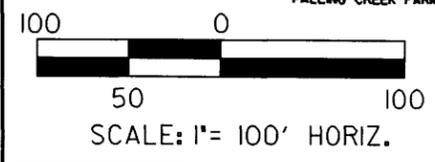
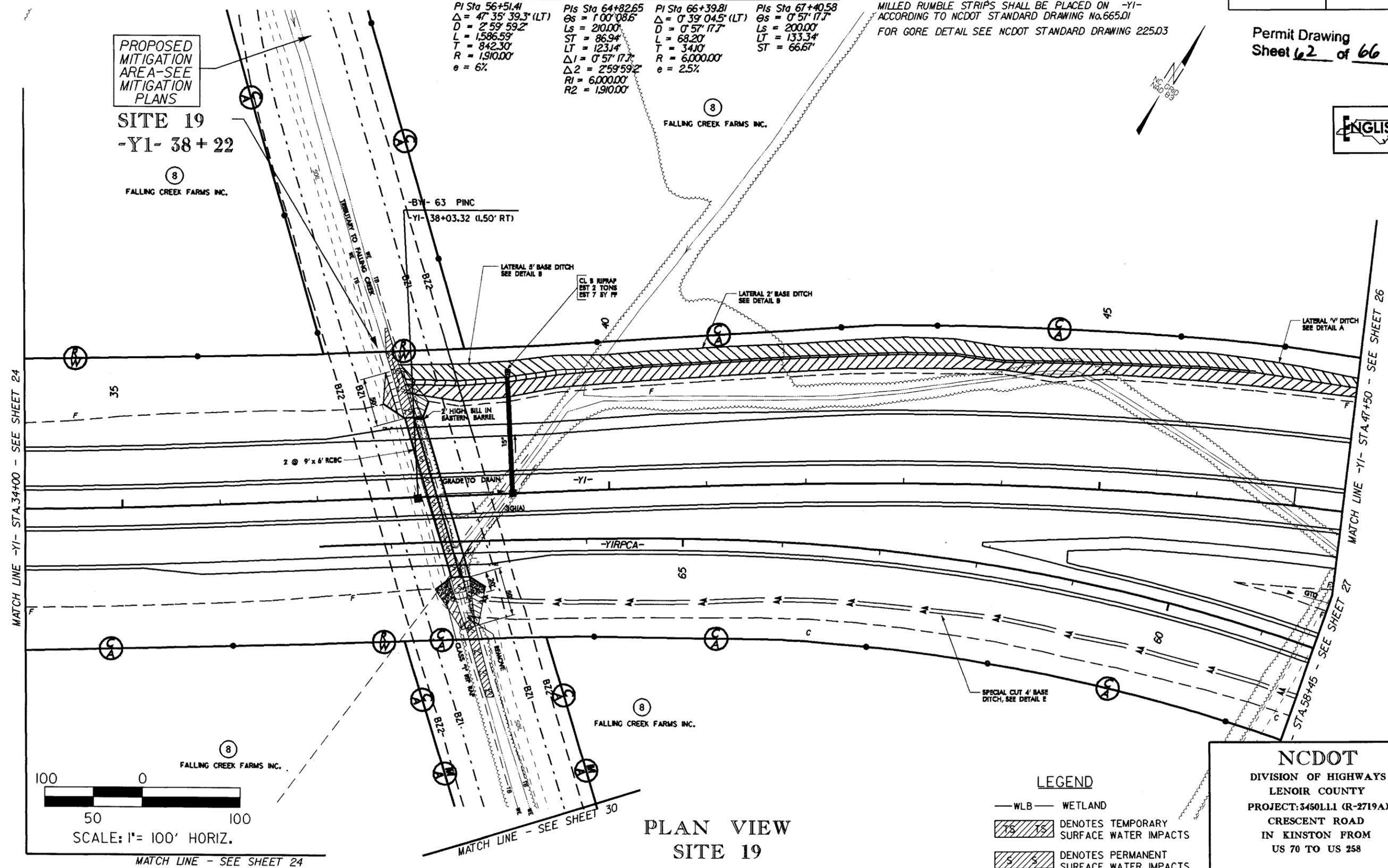
Permit Drawing
 Sheet 62 of 66

PROPOSED MITIGATION AREA-SEE MITIGATION PLANS

SITE 19
 -YI- 38+22

FALLING CREEK FARMS INC.

FALLING CREEK FARMS INC.



PLAN VIEW
 SITE 19

LEGEND

— WLB —	WETLAND
	DENOTES TEMPORARY SURFACE WATER IMPACTS
	DENOTES PERMANENT SURFACE WATER IMPACTS

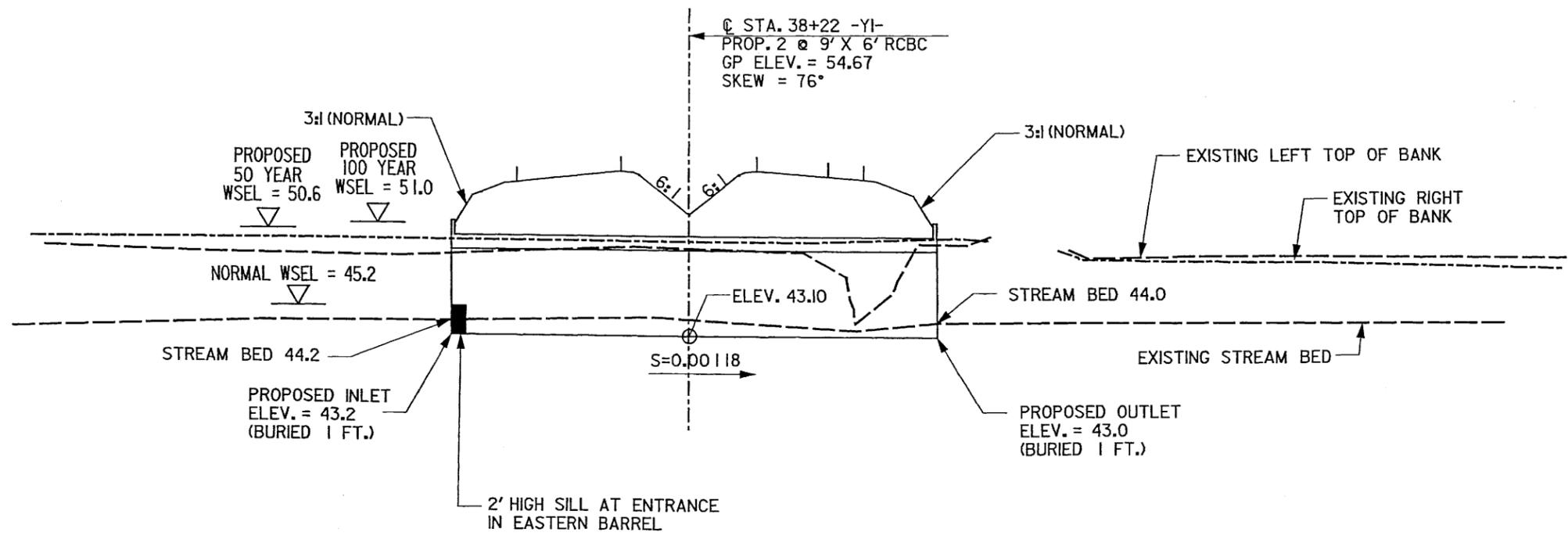
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 3450LL1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258
 SHEET OF

PROJECT REFERENCE NO. R-2719A	SHEET NO. S19-PAS
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 44 of 66

70
60
50
40
30

70
60
50
40
30



SCALE:
1" = 50' HORIZONTAL
1" = 10' VERTICAL

**PROFILE ALONG STRUCTURE
SITE 19**



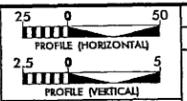
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 54501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

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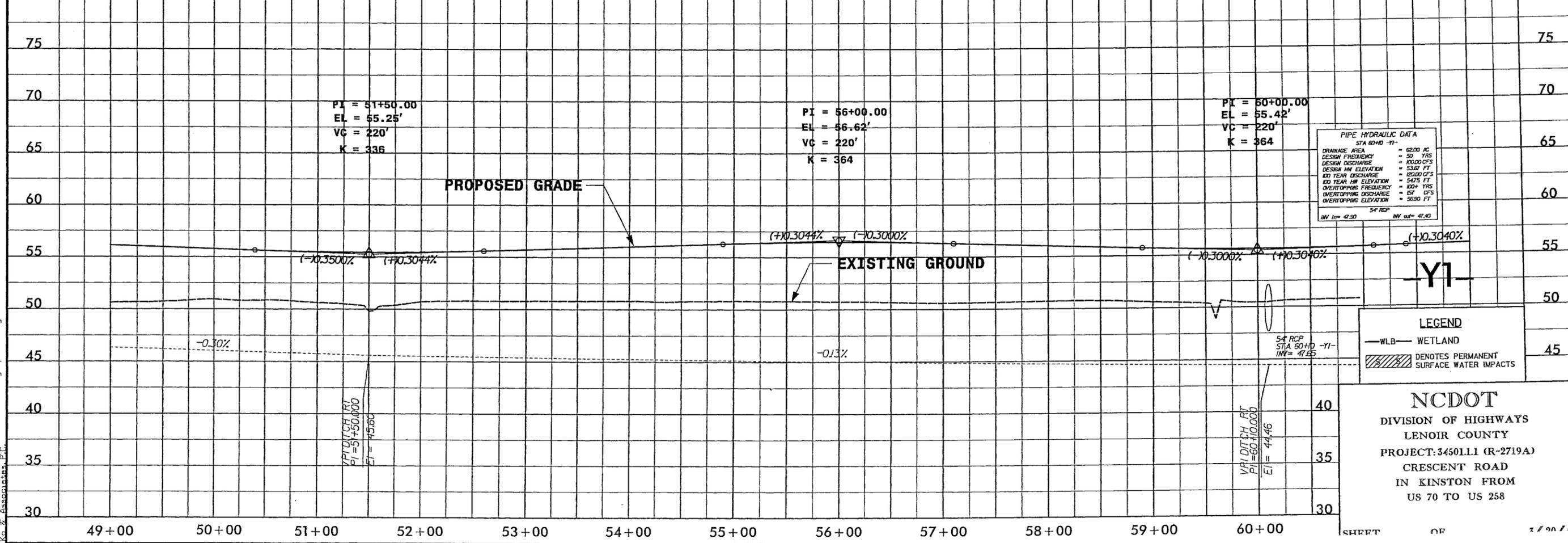
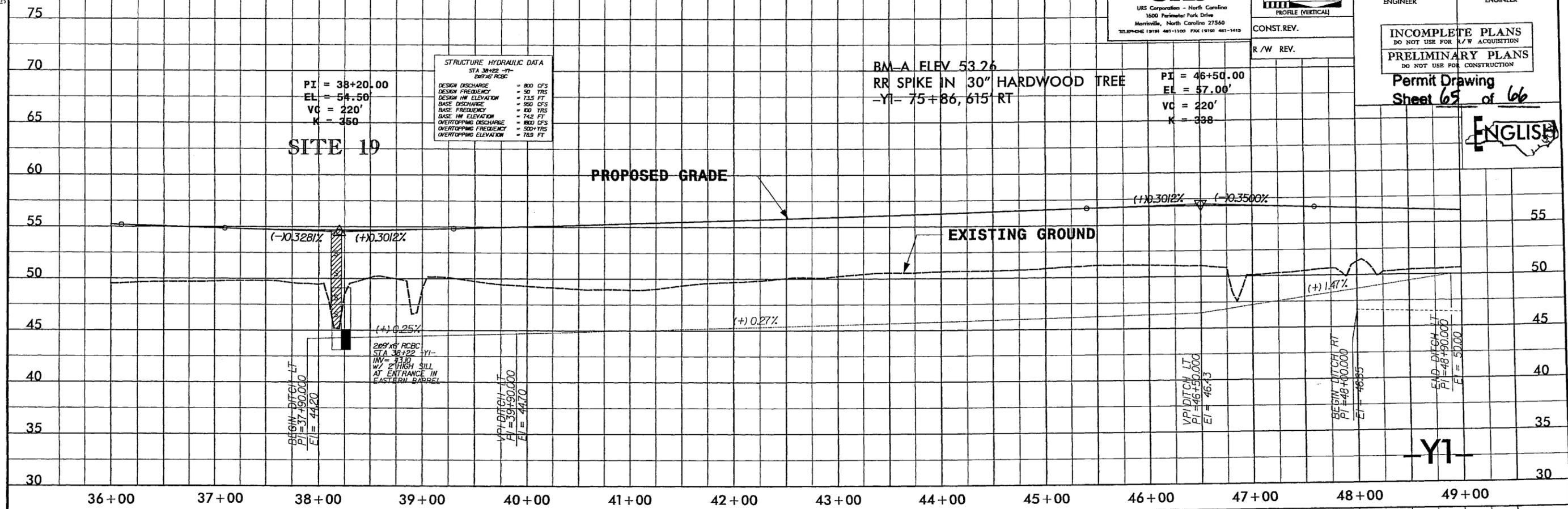
5/28/99

NOTE: FOR -Y1- PLAN, SEE SHEETS 4,25-26

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 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1413



PROJECT REFERENCE NO. R-2719A SHEET NO. 47
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER
 INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION
 Permit Drawing
 Sheet 65 of 66



LEGEND
 -WLB- WETLAND
 DENOTES PERMANENT SURFACE WATER IMPACTS

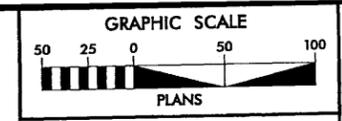
NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 3450111 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

K:\2000\100\New_permit\2719a_hyd.pfl.47.dgn

8/17/9c

REVISIONS
DATE: _____ PARCEL 8, ADDED THIS SHEET AND MITIGATION AREA BOUNDARY ON BOTH SIDES OF STREAM

9/21/2007
C:\projects\lenoir\permits\2719a-hyd-prm-wet.dgn
5A.dgn



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URS Corporation - North Carolina
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Morriseville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 25A
R/W SHEET NO. 25A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing
Sheet 66 of 66



14
ERWIN W. PARROT, et al



14
ERWIN W. PARROT, et al

8
FALLING CREEK FARMS INC.

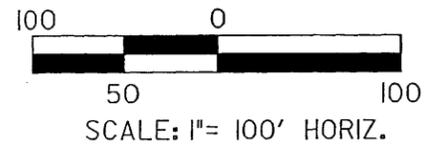
8
FALLING CREEK FARMS INC.

PROPOSED MITIGATION AREA-SEE MITIGATION PLANS

PROP 48" WW FENCE

PROP 48" WW FENCE

PROP 48" WW FENCE

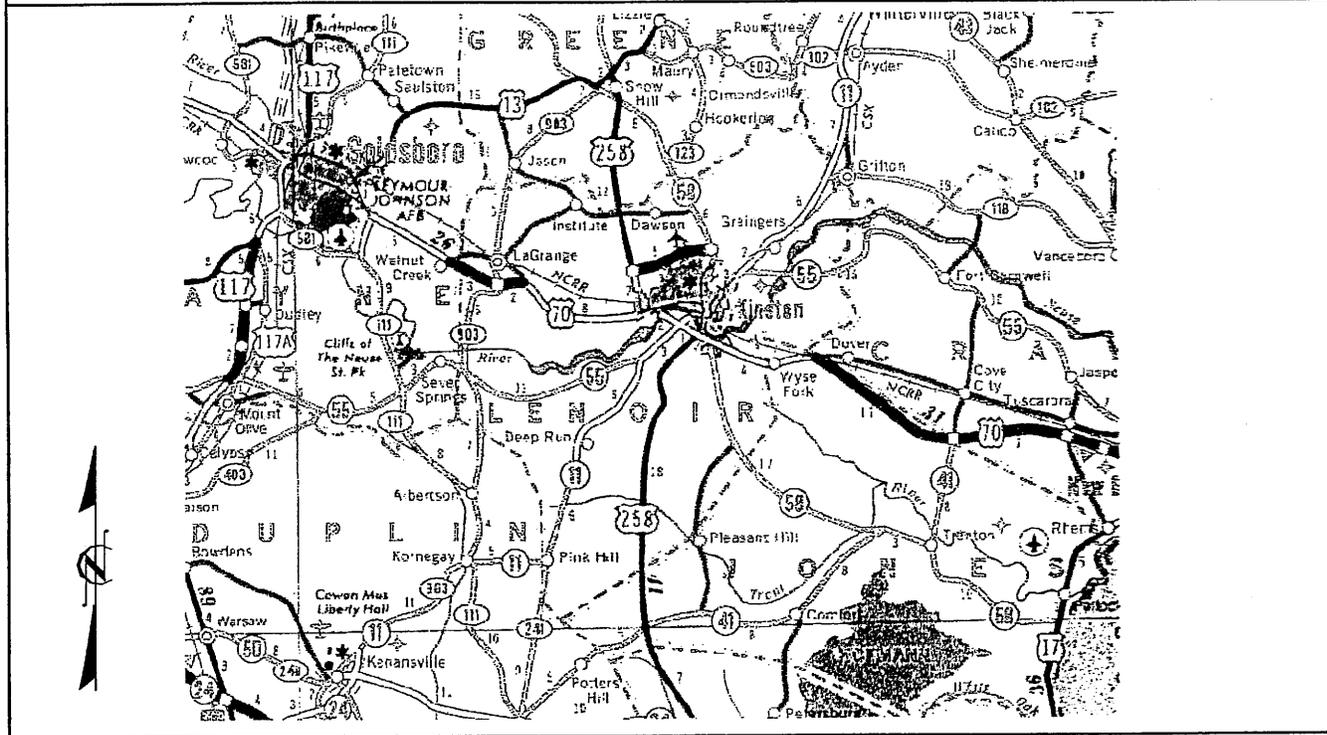
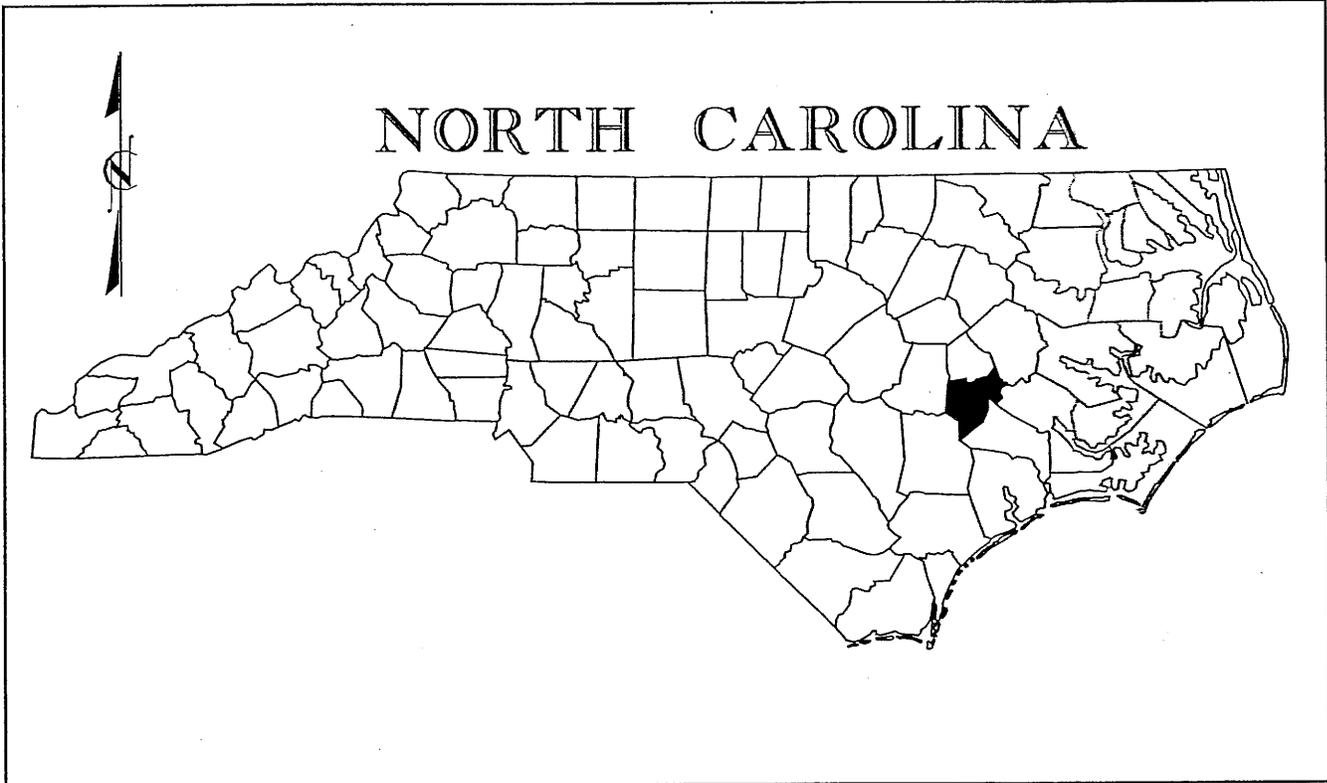


LEGEND
— WLB — WETLAND

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 9/21/07

MATCH LINE - SEE SHEET 25



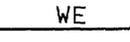
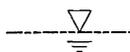
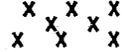
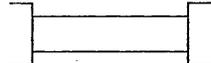
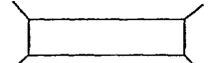
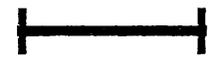
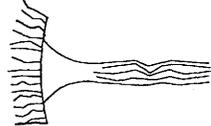
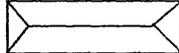
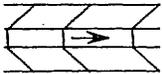
VICINITY
MAP

Buffer Drawing
Sheet 1 of 31

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450111 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

8/10/2006
 R:\Highways\Lenoir\Permits\Ar-2719a_Highway\m_vet_tsh.dgn
 G. F. Associates, P.C.

BUFFER LEGEND

<p>— WLB — WETLAND BOUNDARY</p> <p> WETLAND</p> <p> ALLOWABLE IMPACTS ZONE 1</p> <p> ALLOWABLE IMPACTS ZONE 2</p> <p> MITIGABLE IMPACTS ZONE 1</p> <p> MITIGABLE IMPACTS ZONE 2</p> <p>— BZ — RIPARIAN BUFFER ZONE</p> <p>— BZ1 — RIPARIAN BUFFER ZONE 1 30 ft (9.2m)</p> <p>— BZ2 — RIPARIAN BUFFER ZONE 2 20 ft (6.1m)</p> <p>→ → FLOW DIRECTION</p> <p> TOP OF BANK</p> <p> EDGE OF WATER</p> <p>— C — PROP. LIMIT OF CUT</p> <p>— E — PROP. LIMIT OF FILL</p> <p> PROP. RIGHT OF WAY</p> <p>— NG — NATURAL GROUND</p> <p>— PL — PROPERTY LINE</p> <p>— TDE — TEMP. DRAINAGE EASEMENT</p> <p>— PDE — PERMANENT DRAINAGE EASEMENT</p> <p>— EAB — EXIST. ENDANGERED ANIMAL BOUNDARY</p> <p>— EPB — EXIST. ENDANGERED PLANT BOUNDARY</p> <p> WATER SURFACE</p> <p> LIVE STAKES</p> <p> BOULDER</p> <p> COIR FIBER ROLLS</p>	<p> PROPOSED BRIDGE</p> <p> PROPOSED BOX CULVERT</p> <p> PROPOSED PIPE CULVERT 12"-48" PIPES 54" PIPES & ABOVE</p> <p>(DASHED LINES DENOTE EXISTING STRUCTURES)</p> <p> SINGLE TREE</p> <p> WOODS LINE</p> <p> DRAINAGE INLET</p> <p> ROOTWAD</p> <p> RIP RAP</p> <p> ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE</p> <p> PREFORMED SCOUR HOLE (PSH)</p> <p> LEVEL SPREADER (LS)</p> <p> DITCH/ GRASS SWALE</p>
---	--

Buffer Drawing
Sheet 3 of 31

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450LL1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

6/12/2006 8:14 AM C:\Users\jca\My Documents\Projects\2719a-Hyd.prm.buf_sah.dgn

BUFFER IMPACTS SUMMARY OF AFFECTED PROPERTY OWNERS

TRACT NO.	PROPERTY OWNER	ADDRESS	SITE NO.
(8)	FALLING CREEK FARMS INC.	818 WEST MINISTER LN KINSTON, NC 28501	13
(14)	ERWIN W. PARROT, et al	818 WEST MINISTER LN KINSTON, NC 28501	1,2,3 & 4
(16)	PROPERTY OF LENOIR COUNTY	PO BOX 3289 KINSTON, NC 28502-3289	1,2
(33)	FALLING CREEK FARMS INC.	818 WEST MINISTER LN KINSTON, NC 28501	2,5
(34)	JOHN P. CASEY	2702 BANKS SCHOOL RD KINSTON, NC 28504	6
(38)	THE STATE OF NORTH CAROLINA	116 WEST JONES ST RALEIGH, NC 27603	6,7
(46)	THE STATE OF NORTH CAROLINA	116 WEST JONES ST RALEIGH, NC 27603	8
(48)	THE STATE OF NORTH CAROLINA	116 WEST JONES ST RALEIGH, NC 27603	8
(51)	ELLIS A. KING, et al	PO BOX 6007 KINSTON, NC 28502	8,9
(60)	HATTIE E. DALY ESTATE	12807 PINE TREE LANE FORT WASHINGTON, MD 20744	9
(62)	NINA L. HILL	2189 PAULS PATH ROAD KINSTON, NC 28504	10

Buffer Drawing
Sheet 4 of 31



NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.1.1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

09/08/05

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Standard Symbology Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LENOIR COUNTY

LOCATION: CRESCENT ROAD IN KINSTON FROM
US 70 TO US 258

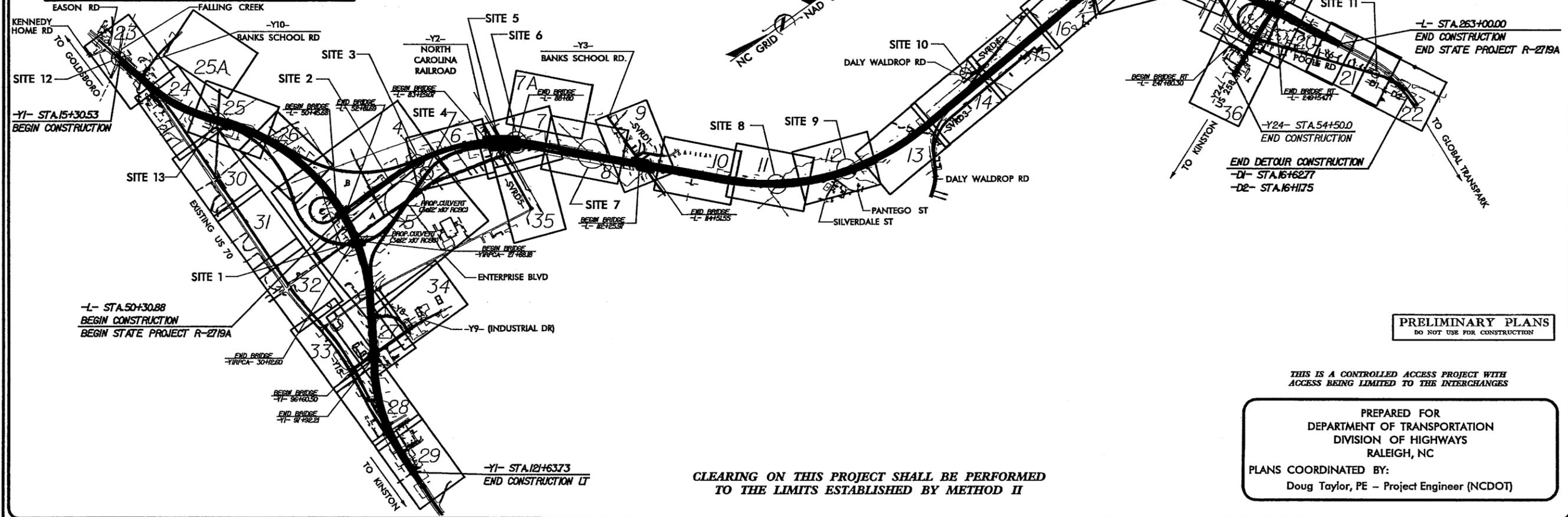
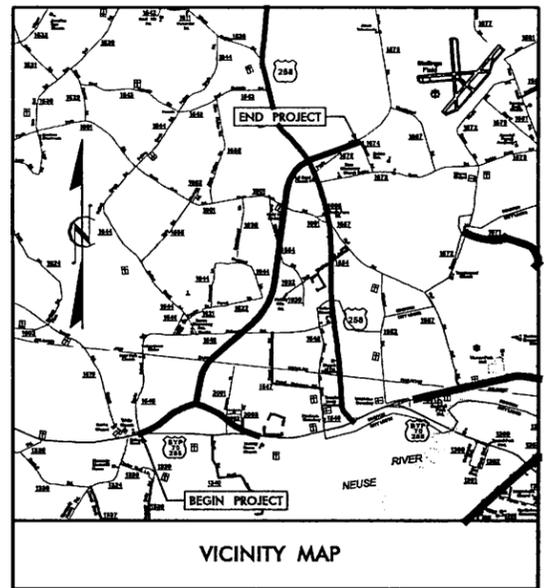
TYPE OF WORK: GRADING, PAVING, STRUCTURES, DRAINAGE

R-2719A: BUFFER SITE MAP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2719A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34501.1.1	STP-0224(3)	PE	
34501.2.4	STP-0224(8)	ROW, Util.	

Buffer Drawing
Sheet 7 of 31

TIP PROJECT: R-2719A



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

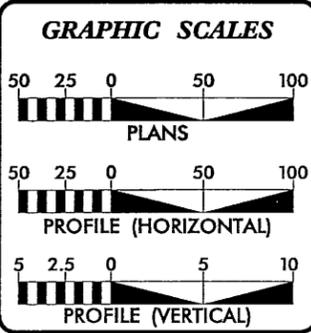
THIS IS A CONTROLLED ACCESS PROJECT WITH
ACCESS BEING LIMITED TO THE INTERCHANGES

PREPARED FOR
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC

PLANS COORDINATED BY:
Doug Taylor, PE - Project Engineer (NCDOT)

CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD II

CONTRACT:



DESIGN DATA

ADT 2007 =	26,510
ADT 2027 =	46,060
DHV =	10 %
D =	55 %
T =	14 % *
V =	70 MPH
* TTST	10% DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2719A =	3.772 MI
LENGTH STRUCTURE TIP PROJECT R-2719A =	0.256 MI
TOTAL LENGTH OF TIP PROJECT R-2719A =	4.028 MI

NOTE: SOUTHBOUND LANES WERE USED FOR PROJECT LENGTH CALCULATIONS

Prepared for the Division of Highways in the Office of:
URS CORPORATION - NORTH CAROLINA
1600 Perimeter Park Dr., Morrisville, North Carolina 27560
Telephone (919) 461-1100 Fax (919) 461-1415

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 31, 2005

LETTING DATE: OCTOBER 2008

TIMOTHY H. KEENER, P.E.
PROJECT ENGINEER

MICHAEL LINDGREN, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

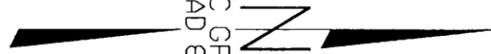
STATE HIGHWAY DESIGN ENGINEER

ROW PLANS
AUGUST 2005

B/17/99

GRASS SWALE
STA. 32+70
-YIRPCA-

NAD 83
GRID

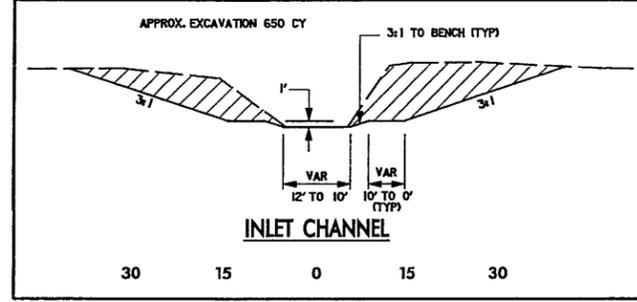


Prepared by
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URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



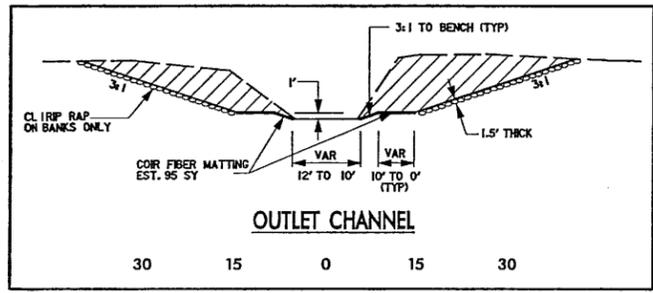
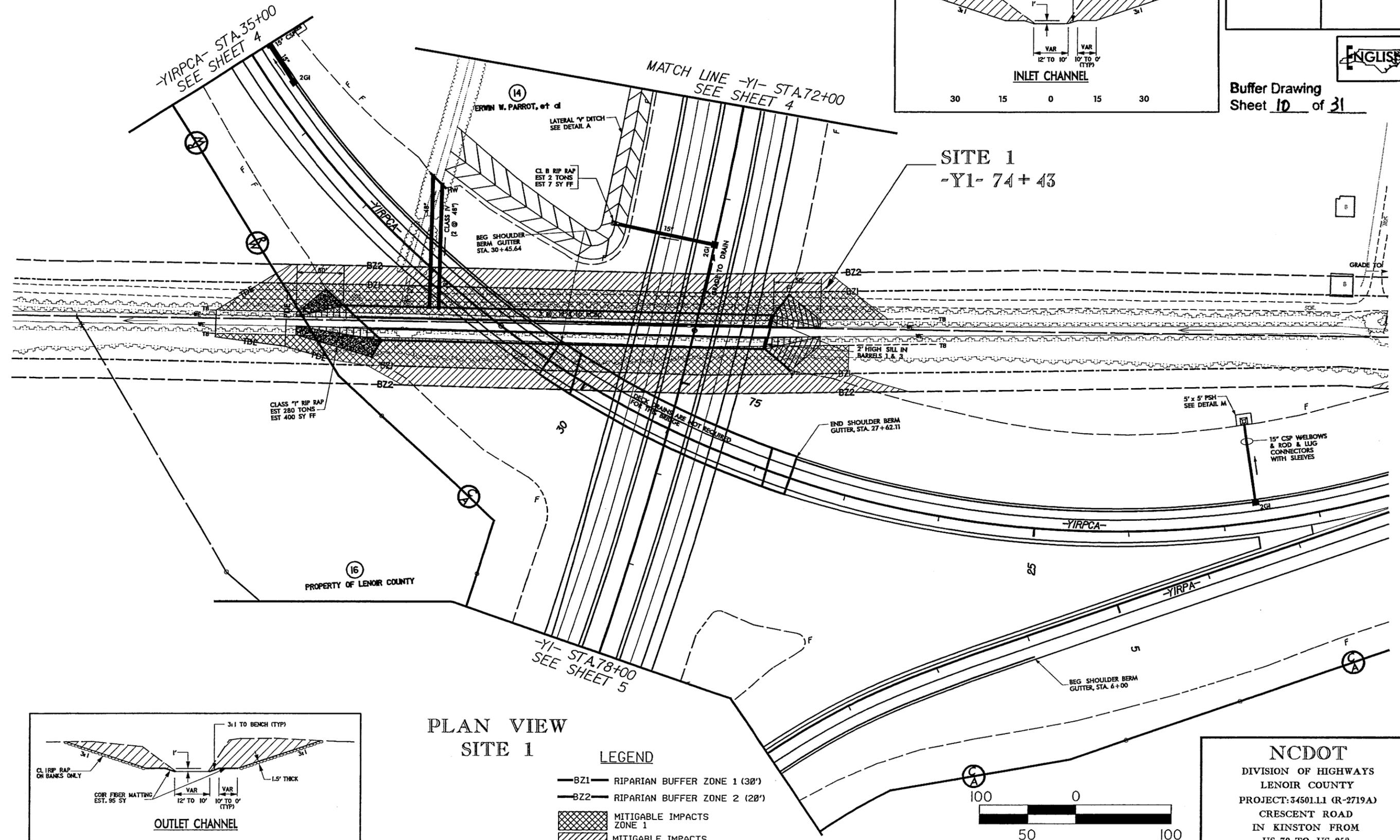
Buffer Drawing
Sheet 10 of 31



-YIRPCA- STA. 35+00
SEE SHEET 4

MATCH LINE -YI- STA. 72+00
SEE SHEET 4

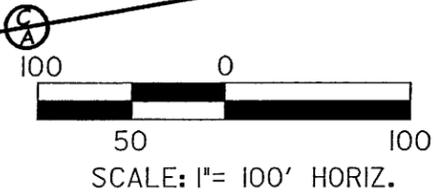
SITE 1
-YI- 74+43



PLAN VIEW SITE 1

LEGEND

- BZ1— RIPARIAN BUFFER ZONE 1 (30')
- BZ2— RIPARIAN BUFFER ZONE 2 (20')
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2



NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

B/21/2007
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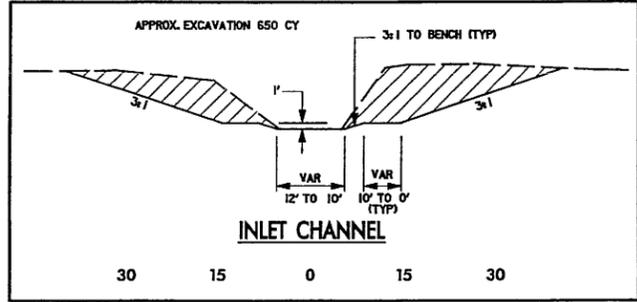
8/17/99
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GRASS SWALE
 STA. 32+70
 -YIRPCA-



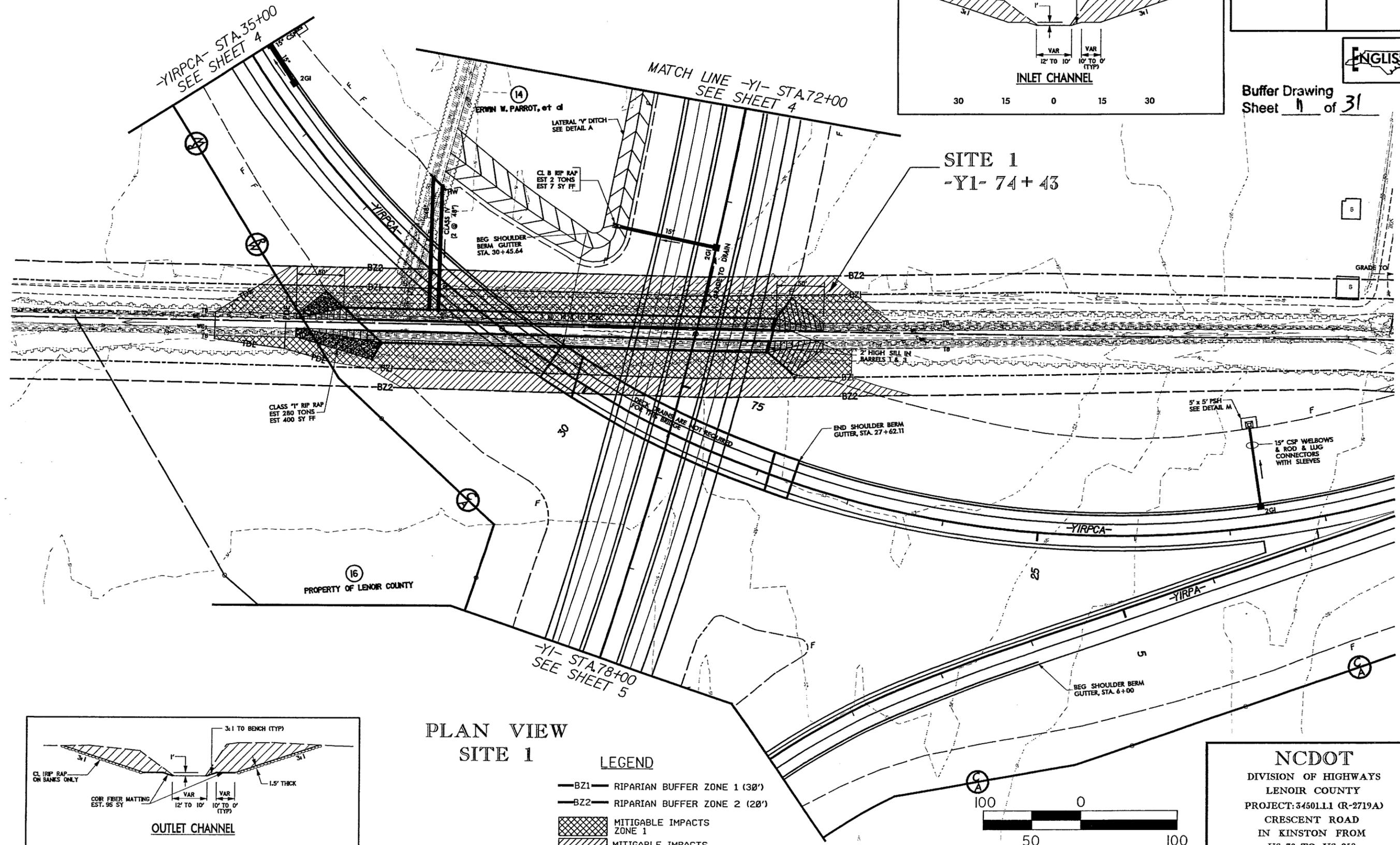
Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE: (919) 461-1100 FAX: (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 5
HW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



ENGLISH

Buffer Drawing
 Sheet 11 of 31

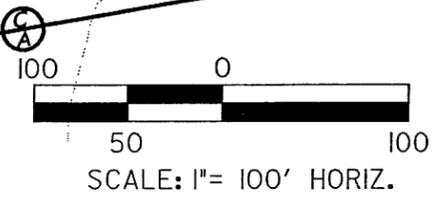
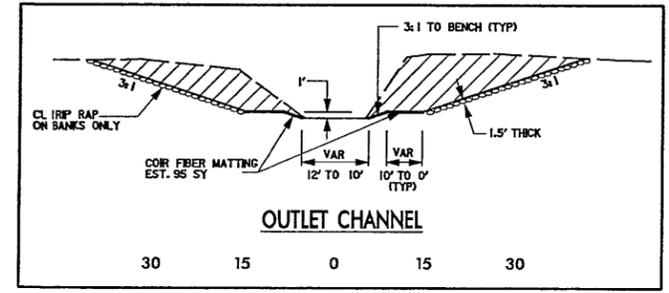


SITE 1
 -YI- 74+43

**PLAN VIEW
 SITE 1**

LEGEND

- BZ1— RIPARIAN BUFFER ZONE 1 (30')
- BZ2— RIPARIAN BUFFER ZONE 2 (20')
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2

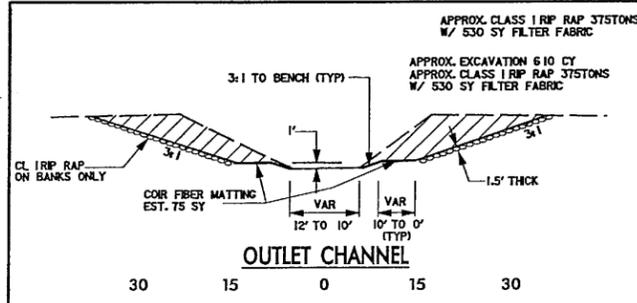
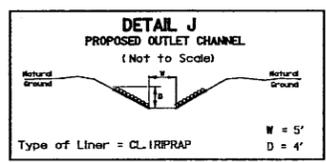
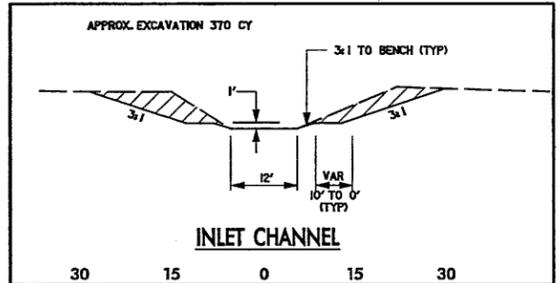
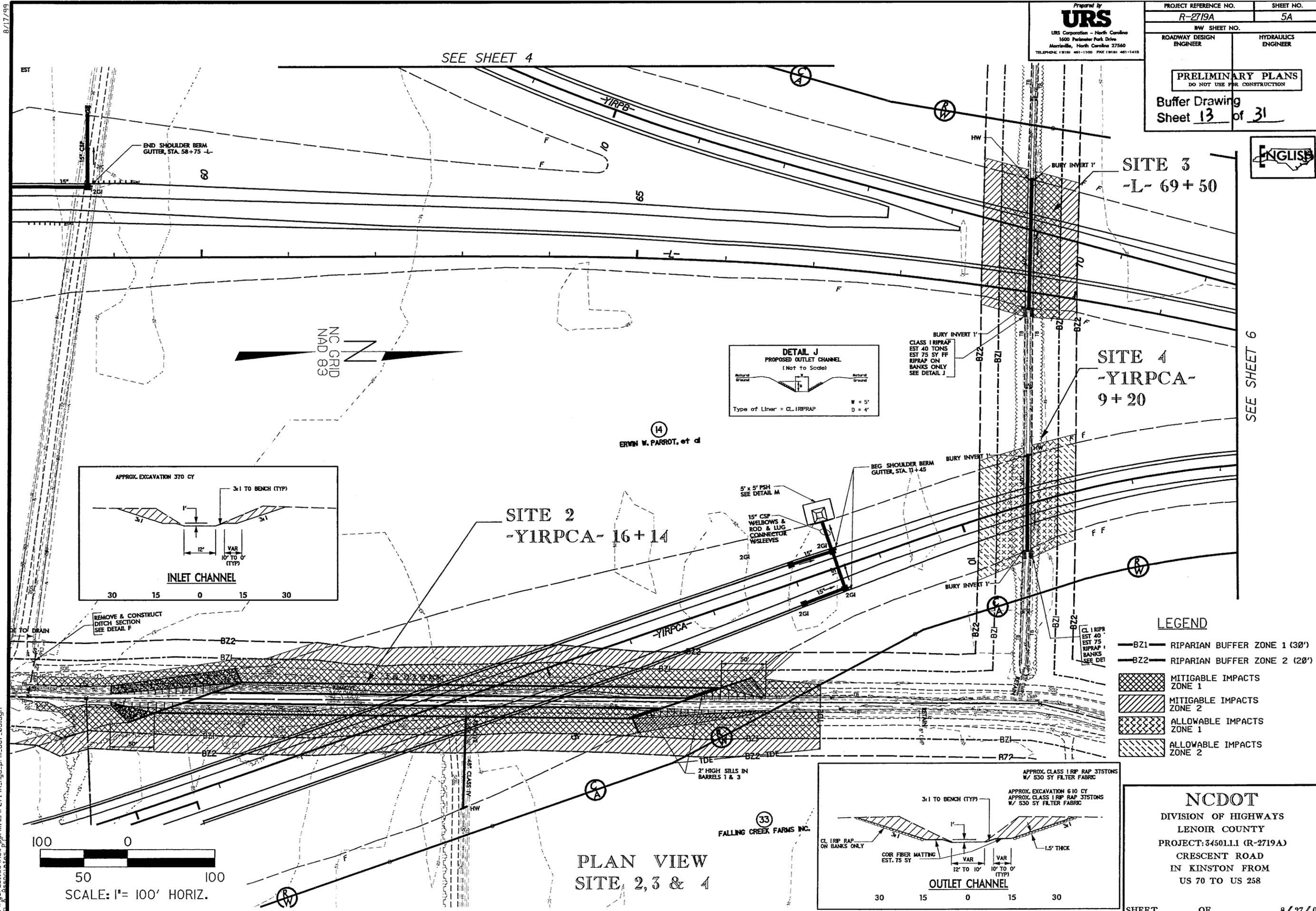


NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 3450LL1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

8/17/99

8/27/2007
 C:\Users\perry\Documents\permits\2719A_hyd_prm_buf_05.dgn

PROJECT REFERENCE NO. R-2719A		SHEET NO. 5A	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
Buffer Drawing Sheet 13 of 31			

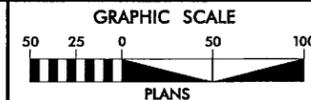


- LEGEND**
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
 - BZ2— RIPARIAN BUFFER ZONE 2 (20')
 - MITIGABLE IMPACTS ZONE 1
 - MITIGABLE IMPACTS ZONE 2
 - ALLOWABLE IMPACTS ZONE 1
 - ALLOWABLE IMPACTS ZONE 2

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 3450LL1 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 8 / 27 / 07

8/17/99



Prepared by URS
URS Corporation - North Carolina
1600 Parklane Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

PROJECT REFERENCE NO.	SHEET NO.
R-2719A	7
R/W SHEET NO.	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Buffer Drawing	
Sheet 14 of 31	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

-L- CURVE DATA

PI Sta 78+80.01	Pls Sta 91+87.66
$\Delta = 40^{\circ} 36' 26.1''$ (RT)	$\Theta_s = 2^{\circ} 59' 44.7''$
$D = 1^{\circ} 38' 13.3''$	$L_s = 366.00'$
$L = 2,480.56'$	$LT = 244.03'$
$T = 1,294.94'$	$ST = 122.03'$
$R = 3,500.00'$	
$e = 6\%$	

NOTE: FOR -L- PROFILE, SEE SHEETS 38 & 39
FOR -SVRD5- PROFILE, SEE SHEET 72
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01

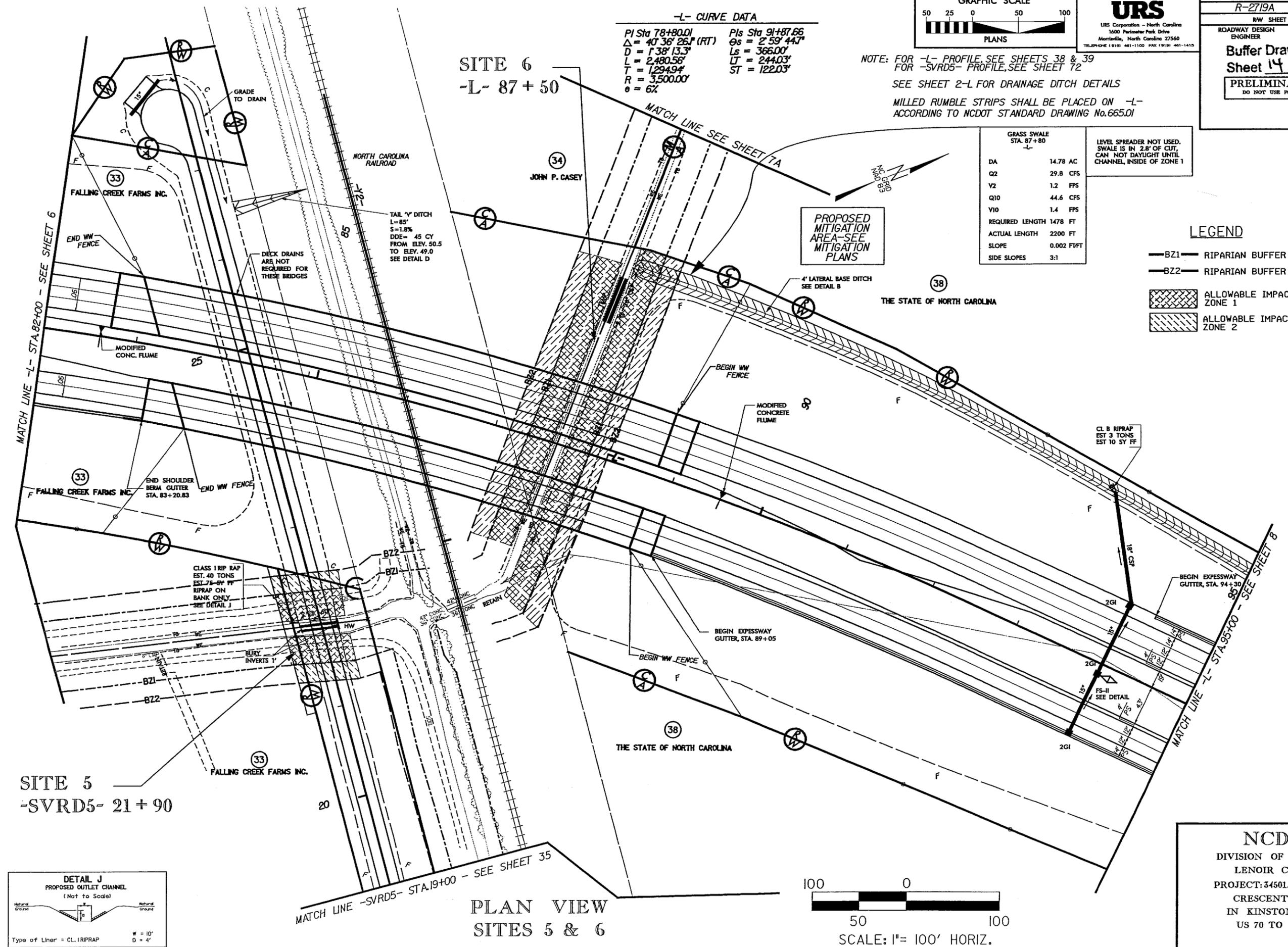
GRASS SWALE
STA. 87+80

DA	14.78 AC
Q2	29.8 CFS
Y2	1.2 FPS
Q10	44.6 CFS
Y10	1.4 FPS
REQUIRED LENGTH	1478 FT
ACTUAL LENGTH	2200 FT
SLOPE	0.002 FF/FT
SIDE SLOPES	3:1

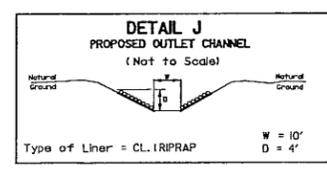
LEVEL SPREADER NOT USED.
SWALE IS IN 2.8' OF CUT,
CAN NOT DAYLIGHT UNTIL
CHANNEL, INSIDE OF ZONE 1

LEGEND

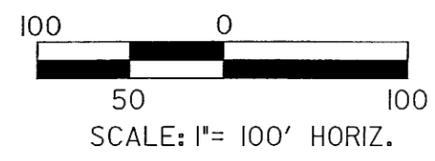
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
- BZ2— RIPARIAN BUFFER ZONE 2 (20')
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2



REVISIONS
 DATE: 3/20/06 - REVISED TWO PARCEL NUMBERS IN UPPER LEFT AREA OF SHEET FROM 33 TO 14
 DATE: 6/14/06 - PARCEL 38; ELIMINATED TEMPORARY DRAINAGE EASEMENT (FOR EROSION CONTROL)
 DATE: _____ - PARCEL 38; ADDED MATCHLINE TO SHEET 7A AND ADDED MITIGATION AREA BOUNDARY
 9/21/2007
 K:\projects\highways\new_permits\vr2719a_hyd.prm.buf_17.dgn

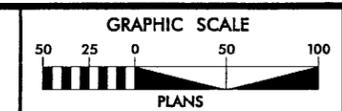


PLAN VIEW
SITES 5 & 6



NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 9 / 21 / 07



Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415

-L- CURVE DATA

PI Sta 78+80.01	PIs Sta 91+87.66
$\Delta = 40' 36' 26.1''$ (RT)	$\Theta_s = 2' 59' 44.7''$
$D = 1' 38' 13.3''$	$L_s = 366.00'$
$L = 2,480.56'$	$LT = 244.03'$
$T = 1,294.94'$	$ST = 122.03'$
$R = 3,500.00'$	
$e = 6\%$	

NOTE: FOR -L- PROFILE SEE SHEETS 38 & 39
FOR -SVRD5- PROFILE, SEE SHEET 72
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01

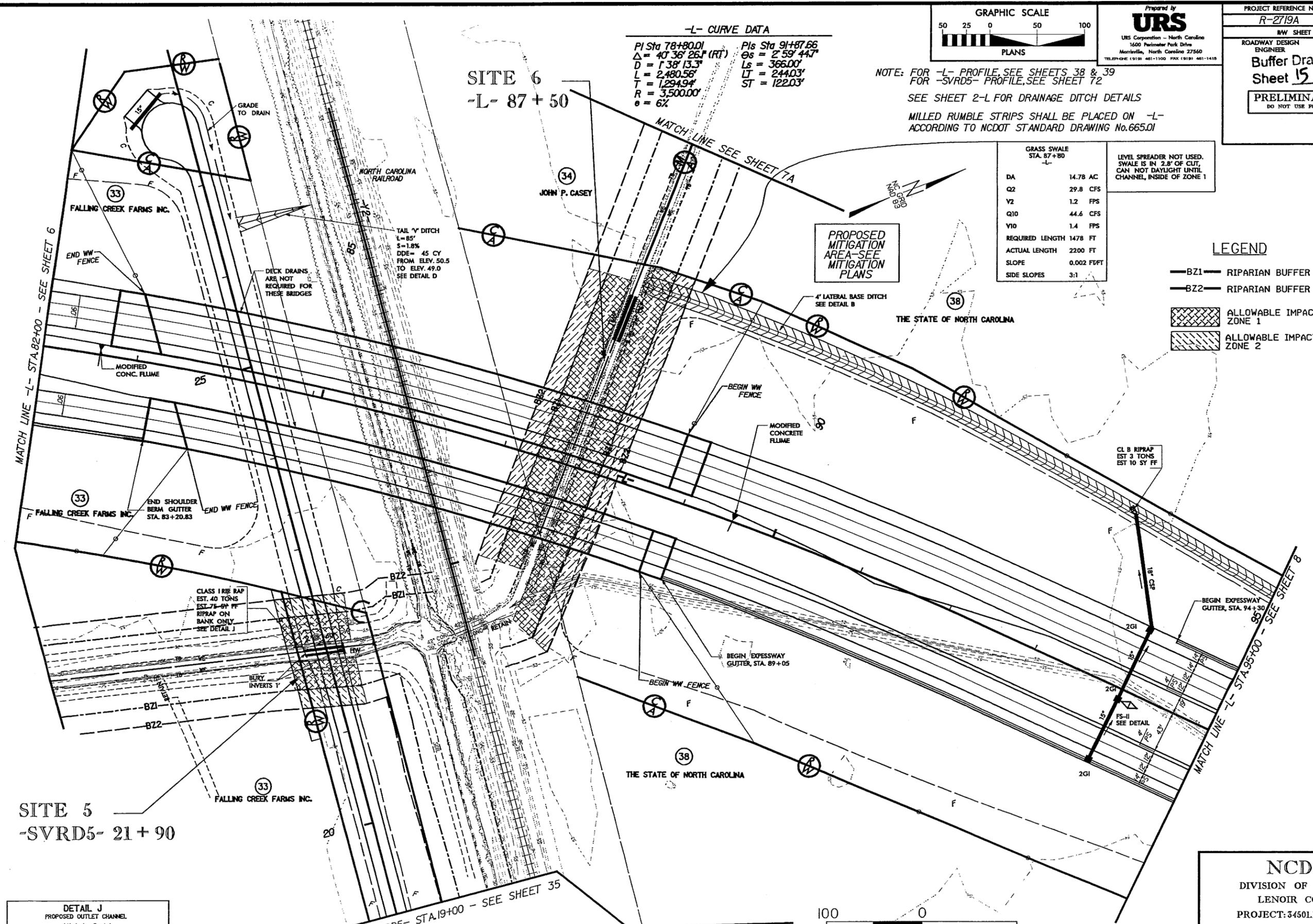
GRASS SWALE STA. 87+80 -L-

DA	14.78 AC
Q2	29.8 CFS
V2	1.2 FPS
Q10	44.6 CFS
V10	1.4 FPS
REQUIRED LENGTH	1478 FT
ACTUAL LENGTH	2200 FT
SLOPE	0.002 FVFT
SIDE SLOPES	3:1

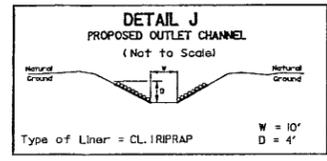
LEVEL SPREADER NOT USED.
SWALE IS IN 2.8' OF CUT,
CAN NOT DAYLIGHT UNTIL
CHANNEL, INSIDE OF ZONE 1

LEGEND

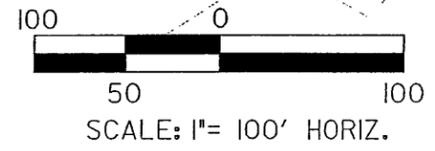
- BZ1 RIPARIAN BUFFER ZONE 1 (30')
- BZ2 RIPARIAN BUFFER ZONE 2 (20')
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2



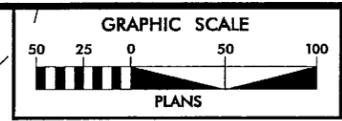
REVISIONS
 DATE: 3/20/06 - REVISED TWO PARCEL NUMBERS IN UPPER LEFT AREA OF SHEET FROM 33 TO 14
 DATE: 6/14/06 - PARCEL 38; ELIMINATED TEMPORARY DRAINAGE EASEMENT (FOR EROSION CONTROL)
 DATE: _____ - PARCEL 38; ADDED MATCHLINE TO SHEET 7A AND ADDED MITIGATION AREA BOUNDARY
 DATE: _____
 9/21/2007 Lic: NCS-Permits v2719a_hyd.prm.buf_07.dgn
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PLAN VIEW
SITES 5 & 6



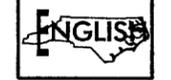
8/17/09



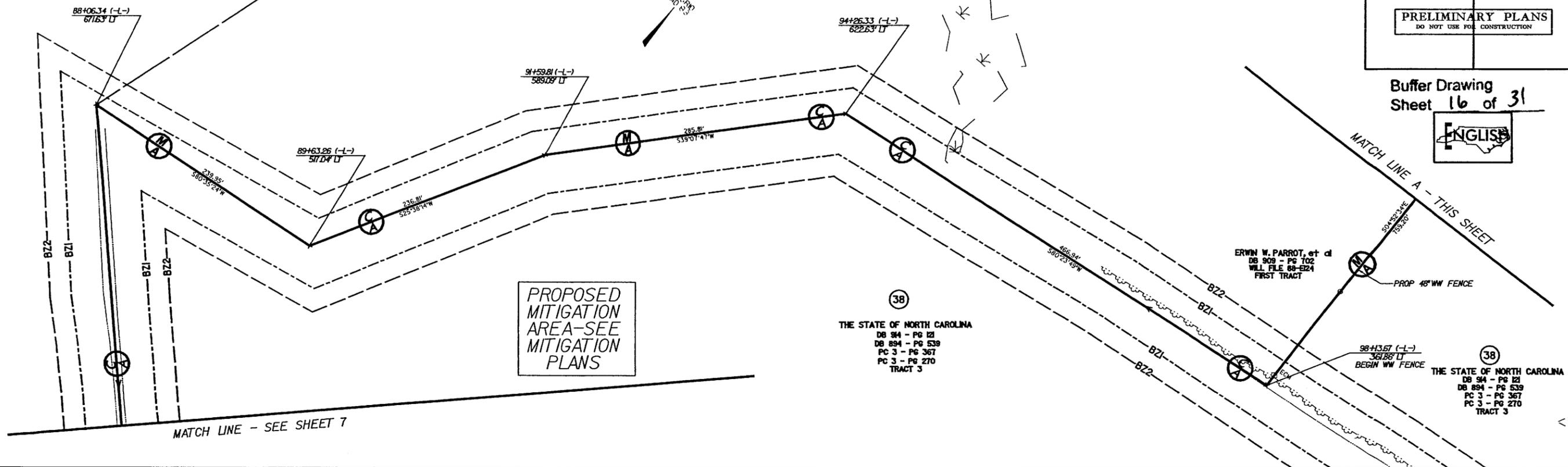
Prepared by
URS
URS Corporation - North Carolina
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 7A
R/W SHEET NO. 7A	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 16 of 31



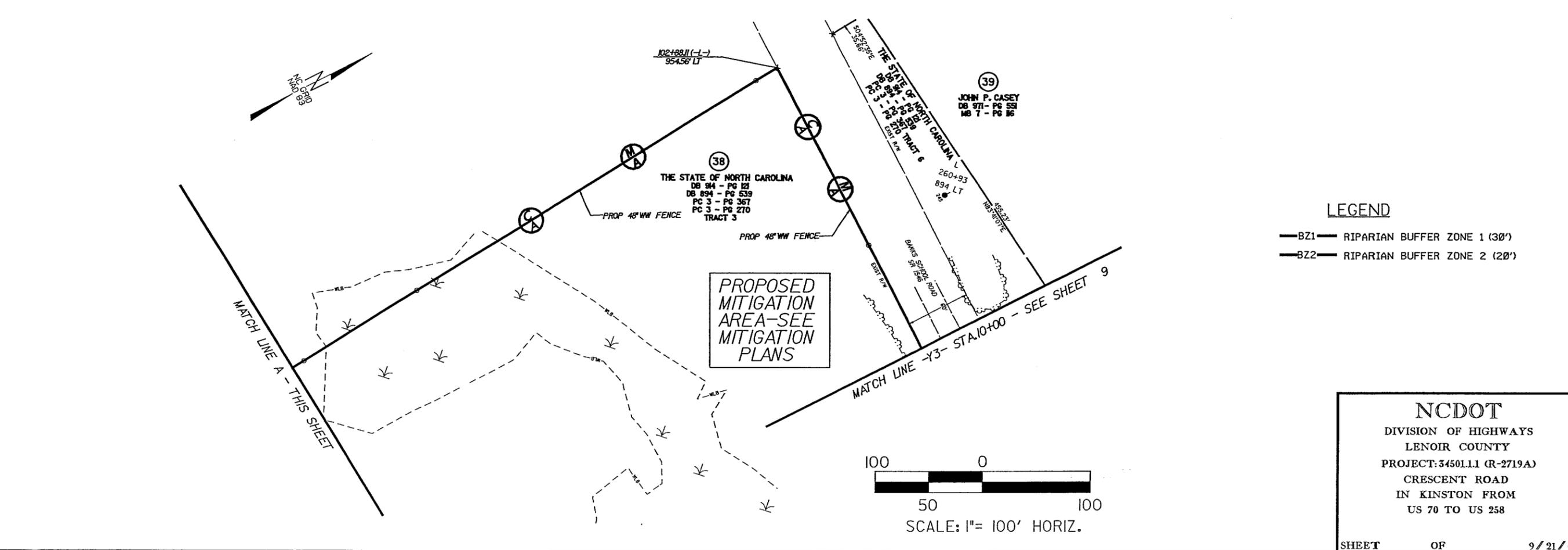
JOHN P. CASEY
DB 971 - PG 551
MB 7 - PG 86



REVISIONS

DATE: _____ - PARCEL 38; ADDED THIS SHEET AND MITIGATION AREA BOUNDARY

8/21/2007
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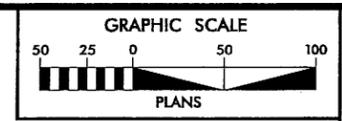


NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 9 / 21 / 07

8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 39
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



Prepared by
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 8
RW SHEET NO. 8	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

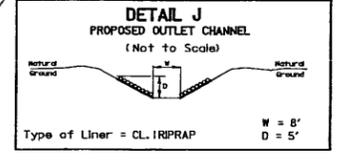
Buffer Drawing
Sheet 17 of 31



NOTE A: SEE SHEET 7A FOR MITIGATION AREA LIMITS

(SEE NOTE A)
PROPOSED
MITIGATION
AREA-SEE
MITIGATION
PLANS

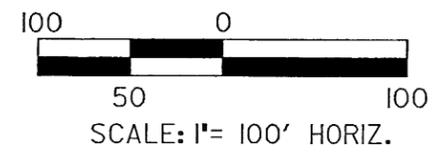
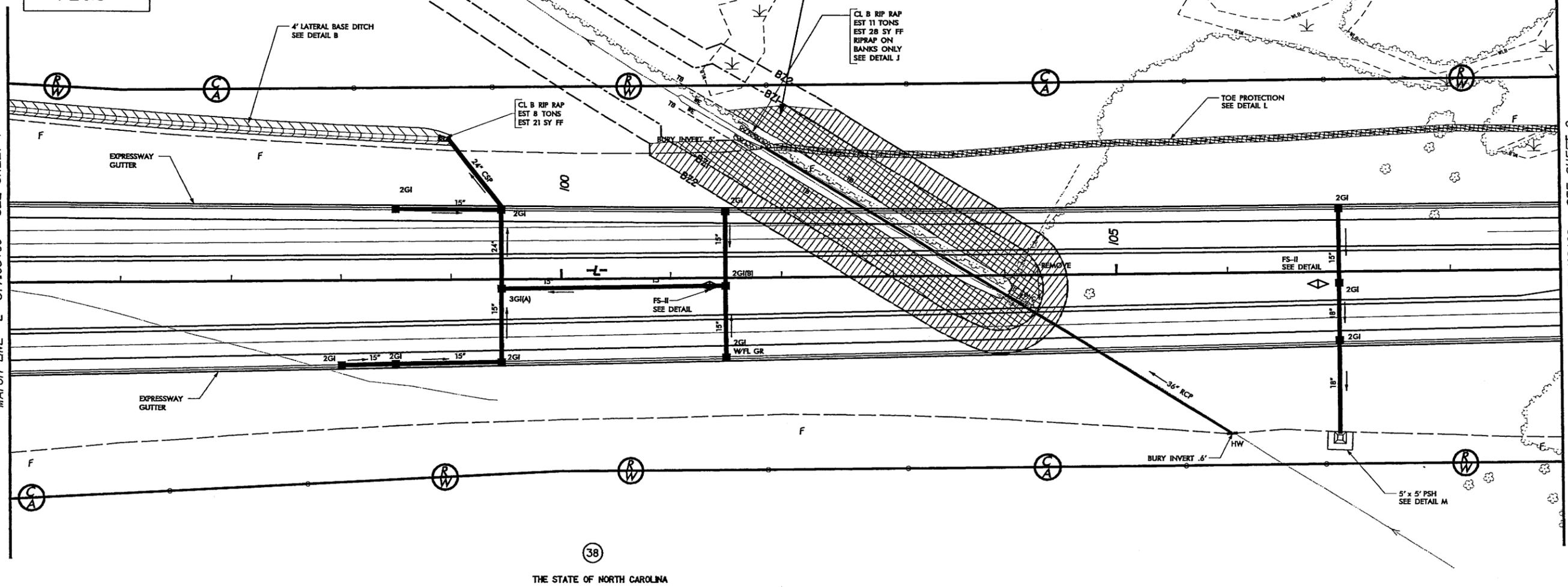
SITE 7
-L- 103+73



REVISIONS
DATE: 6/14/06 - PARCEL 38; ELIMINATED TEMPORARY DRAINAGE BASEMENT (FOR EROSION CONTROL)
DATE: 2/14/07 - PARCEL 38; ELIMINATED LABEL "TDE FOR EROSION CONTROL DEVICE"
DATE: - PARCEL 38; ADDED NOTE FOR MITIGATION AREA (REFERENCE TO SHEET 7A)
8/23/2007
C:\v\hydro\ulica\new_permits\1-2719a_hyd_prm_buf_8.dgn

MATCH LINE -L- STA.95+00 - SEE SHEET 7

MATCH LINE -L- STA.109+00 - SEE SHEET 9



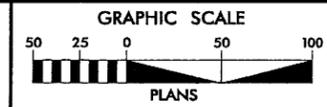
PLAN VIEW
SITE 7

- LEGEND**
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
 - BZ2— RIPARIAN BUFFER ZONE 2 (20')
 - MITIGABLE IMPACTS ZONE 1
 - MITIGABLE IMPACTS ZONE 2

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450L11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258
SHEET OF 9/21/07

8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 39
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
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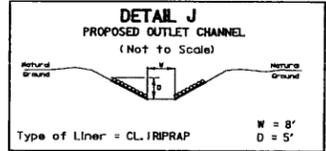
PROJECT REFERENCE NO. R-2719A	SHEET NO. 8
RW SHEET NO. 8	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Buffer Drawing
Sheet 18 of 31



NOTE A: SEE SHEET 7A FOR MITIGATION AREA LIMITS

(SEE NOTE A)
PROPOSED
MITIGATION
AREA-SEE
MITIGATION
PLANS

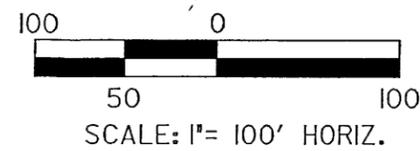


SITE 7
-L- 103+73

MATCH LINE -L- STA.95+00 - SEE SHEET 7

MATCH LINE -L- STA.109+00 - SEE SHEET 9

REVISIONS
DATE: 6/14/05 - PARCEL 38; ELIMINATED TEMPORARY DRAINAGE EASEMENT FOR EROSION CONTROL
DATE: 2/14/07 - PARCEL 38; ELIMINATED LABEL "IDE FOR EROSION CONTROL DEVICE"
DATE: - PARCEL 38; ADDED NOTE FOR MITIGATION AREA (REFERENCE TO SHEET 7A)
DATE: - PARCEL 38; ADDED NOTE FOR MITIGATION AREA (REFERENCE TO SHEET 7A)



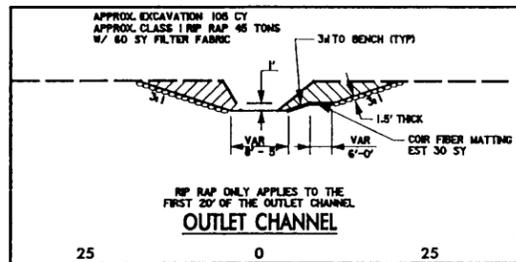
PLAN VIEW
SITE 7

LEGEND

	BZ1 RIPARIAN BUFFER ZONE 1 (30')
	BZ2 RIPARIAN BUFFER ZONE 2 (20')
	MITIGABLE IMPACTS ZONE 1
	MITIGABLE IMPACTS ZONE 2

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450L11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

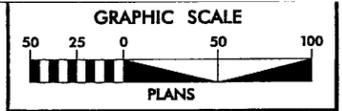
8/17/99
8/28/2007
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NOTE: FOR -L- PROFILE, SEE SHEET 4I

SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS

MILLED RUMBLE STRIPS SHALL BE PLACED ON -L- ACCORDING TO NCDOT STANDARD DRAWING No.665.01



Prepared by
URS
URS Corporation - North Carolina
1600 Parkcenter Park Drive
Mooresville, North Carolina 27560
TEL: 704-241-1100 FAX: 704-241-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 12
RW SHEET NO. 12	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Buffer Drawing	
Sheet 21 of 31	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	



SITE 9
-L- 153+62

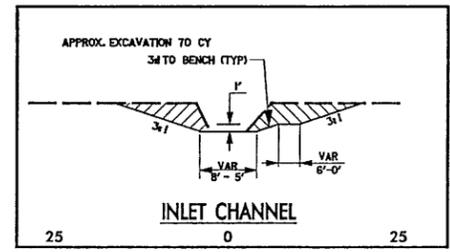
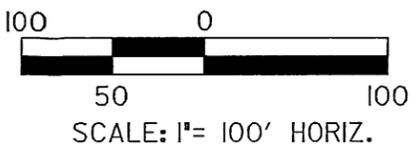
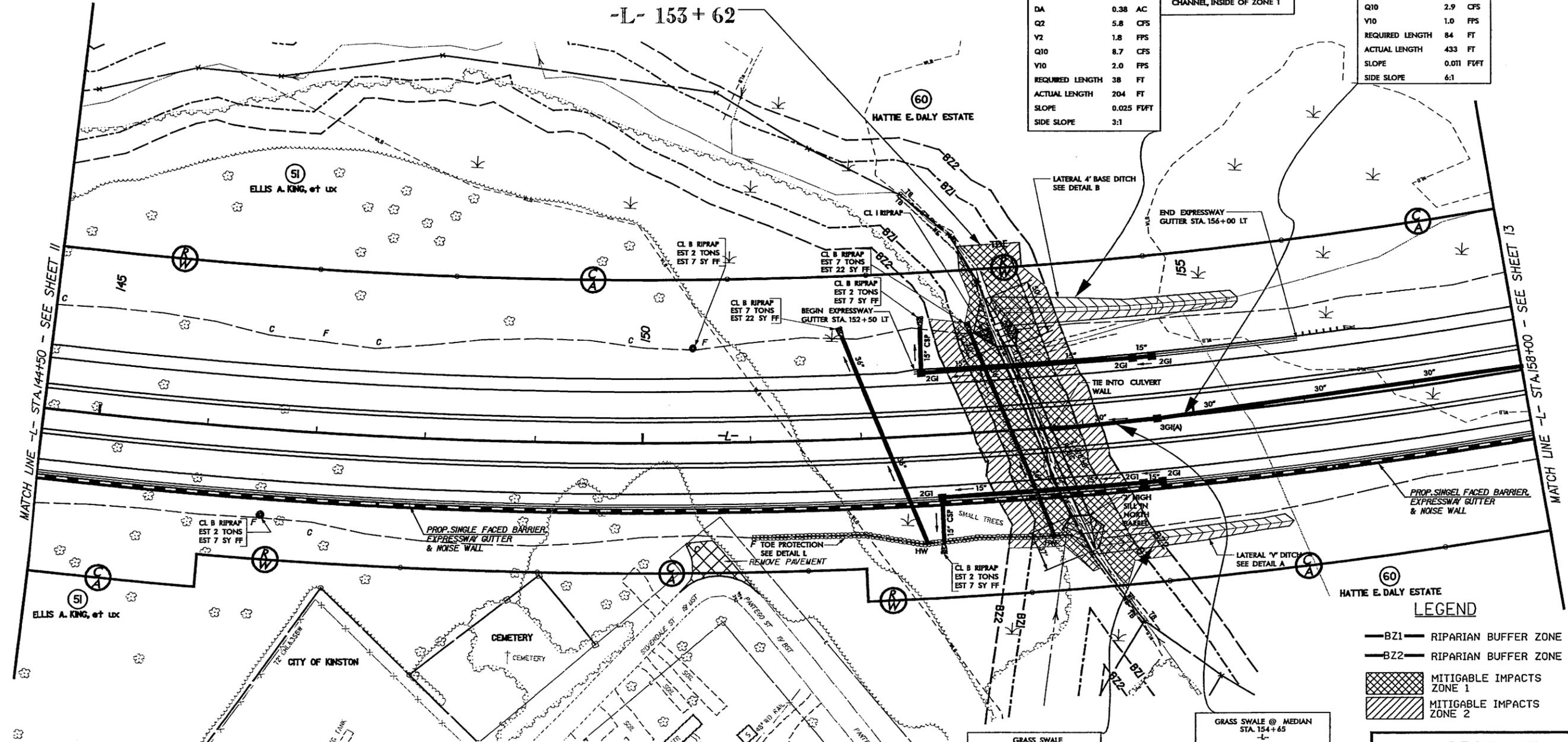
GRASS SWALE @ STA. 153+46

DA	0.38 AC
Q2	5.8 CFS
V2	1.8 FPS
Q10	8.7 CFS
V10	2.0 FPS
REQUIRED LENGTH	38 FT
ACTUAL LENGTH	204 FT
SLOPE	0.025 FV/FT
SIDE SLOPE	3:1

LEVEL SPREADER NOT USED.
SWALE IS IN 3' OF CUT,
CAN NOT DAYLIGHT UNTIL
CHANNEL, INSIDE OF ZONE 1

GRASS SWALE @ MEDIAN STA. 154+70

DA	0.84 AC
Q2	1.9 CFS
V2	0.9 FPS
Q10	2.9 CFS
V10	1.0 FPS
REQUIRED LENGTH	84 FT
ACTUAL LENGTH	433 FT
SLOPE	0.011 FV/FT
SIDE SLOPE	6:1



PLAN VIEW
SITE 9

LEVEL SPREADER NOT USED.
SWALE IS IN 2.2' OF CUT,
CAN NOT DAYLIGHT UNTIL
CHANNEL, INSIDE OF ZONE 1

GRASS SWALE @ STA. 154+10

DA	0.84 AC
Q2	1.8 CFS
V2	1.1 FPS
Q10	2.7 CFS
V10	1.2 FPS
REQUIRED LENGTH	84 FT
ACTUAL LENGTH	167 FT
SLOPE	0.015 FV/FT
SIDE SLOPE	3:1

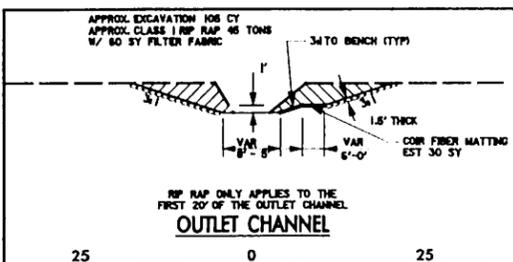
GRASS SWALE @ MEDIAN STA. 154+65

DA	1.22 AC
Q2	2.8 CFS
V2	0.8 FPS
Q10	4.2 CFS
V10	0.9 FPS
REQUIRED LENGTH	122 FT
ACTUAL LENGTH	625 FT
SLOPE	0.007 FV/FT
SIDE SLOPE	6:1

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.L1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

8/17/99

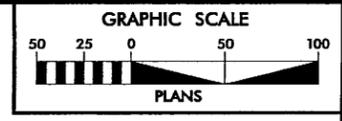
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NOTE: FOR -L- PROFILE, SEE SHEET 4I

SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS

MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01



Prepared by
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URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE: (919) 461-1100 FAX: (919) 461-1415

PROJECT REFERENCE NO. R-2719A	SHEET NO. 12
RW SHEET NO. 12	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Buffer Drawing Sheet 22 of 31	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SITE 9
-L- 153+62

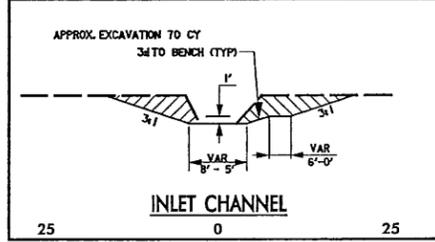
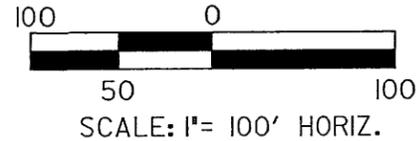
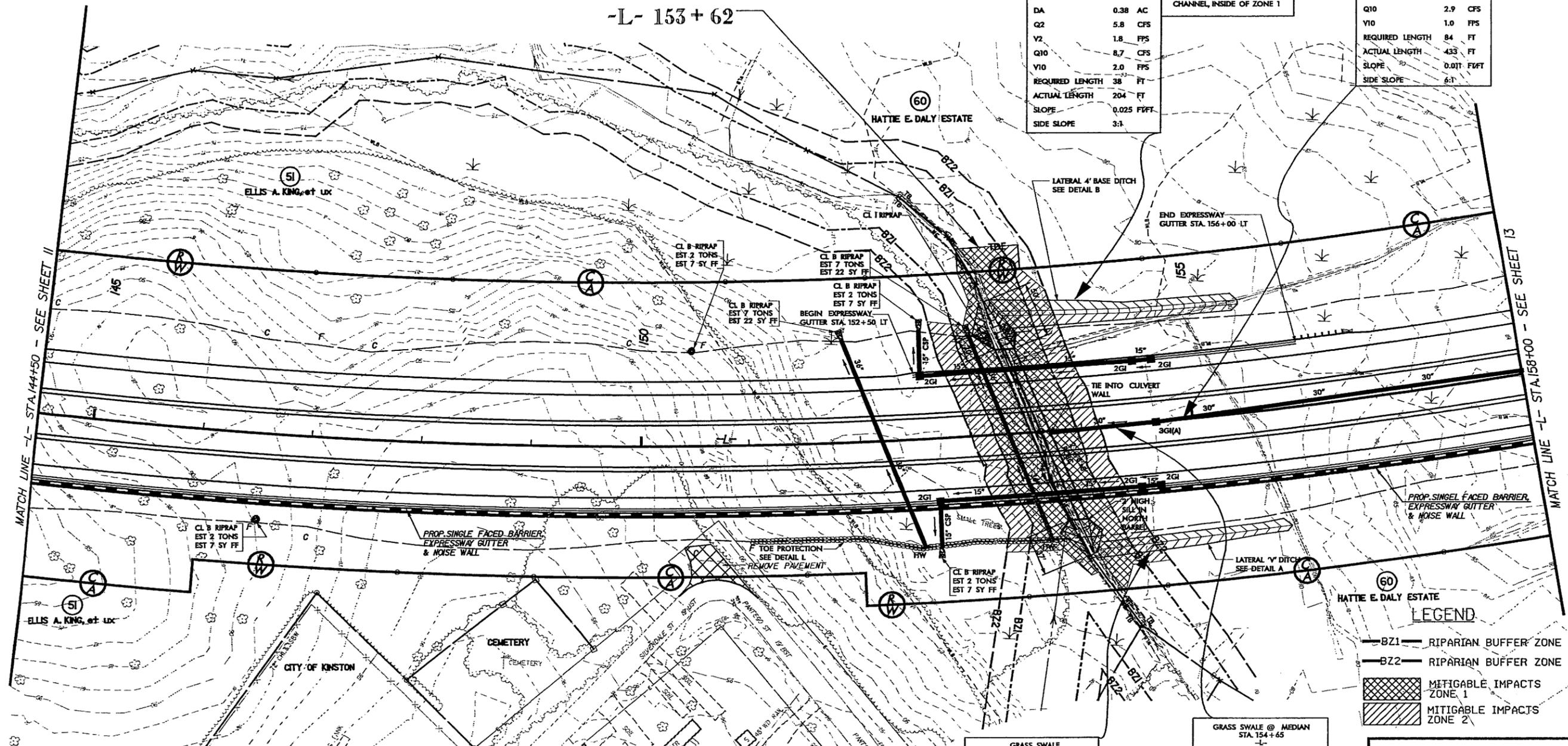
GRASS SWALE @ MEDIAN
STA. 153+46

DA	0.38	AC
Q2	5.8	CFS
V2	1.8	FPS
Q10	8.7	CFS
V10	2.0	FPS
REQUIRED LENGTH	38	FT
ACTUAL LENGTH	204	FT
SLOPE	0.025	FW/FT
SIDE SLOPE	3:1	

LEVEL SPREADER NOT USED.
SWALE IS IN 3' OF CUT,
CAN NOT DAYLIGHT UNTIL
CHANNEL, INSIDE OF ZONE 1

GRASS SWALE @ MEDIAN
STA. 154+70

DA	0.84	AC
Q2	1.9	CFS
V2	0.9	FPS
Q10	2.9	CFS
V10	1.0	FPS
REQUIRED LENGTH	84	FT
ACTUAL LENGTH	433	FT
SLOPE	0.011	FW/FT
SIDE SLOPE	6:1	



PLAN VIEW
SITE 9

LEVEL SPREADER NOT USED.
SWALE IS IN 2.2' OF CUT,
CAN NOT DAYLIGHT UNTIL
CHANNEL, INSIDE OF ZONE 1

GRASS SWALE @ MEDIAN
STA. 154+10

DA	0.84	AC
Q2	1.8	CFS
V2	1.1	FPS
Q10	2.7	CFS
V10	1.2	FPS
REQUIRED LENGTH	84	FT
ACTUAL LENGTH	167	FT
SLOPE	0.015	FW/FT
SIDE SLOPE	3:1	

GRASS SWALE @ MEDIAN
STA. 154+65

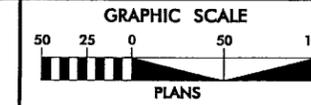
DA	1.22	AC
Q2	2.8	CFS
V2	0.8	FPS
Q10	4.2	CFS
V10	0.9	FPS
REQUIRED LENGTH	122	FT
ACTUAL LENGTH	625	FT
SLOPE	0.007	FW/FT
SIDE SLOPE	6:1	

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 8/28/07

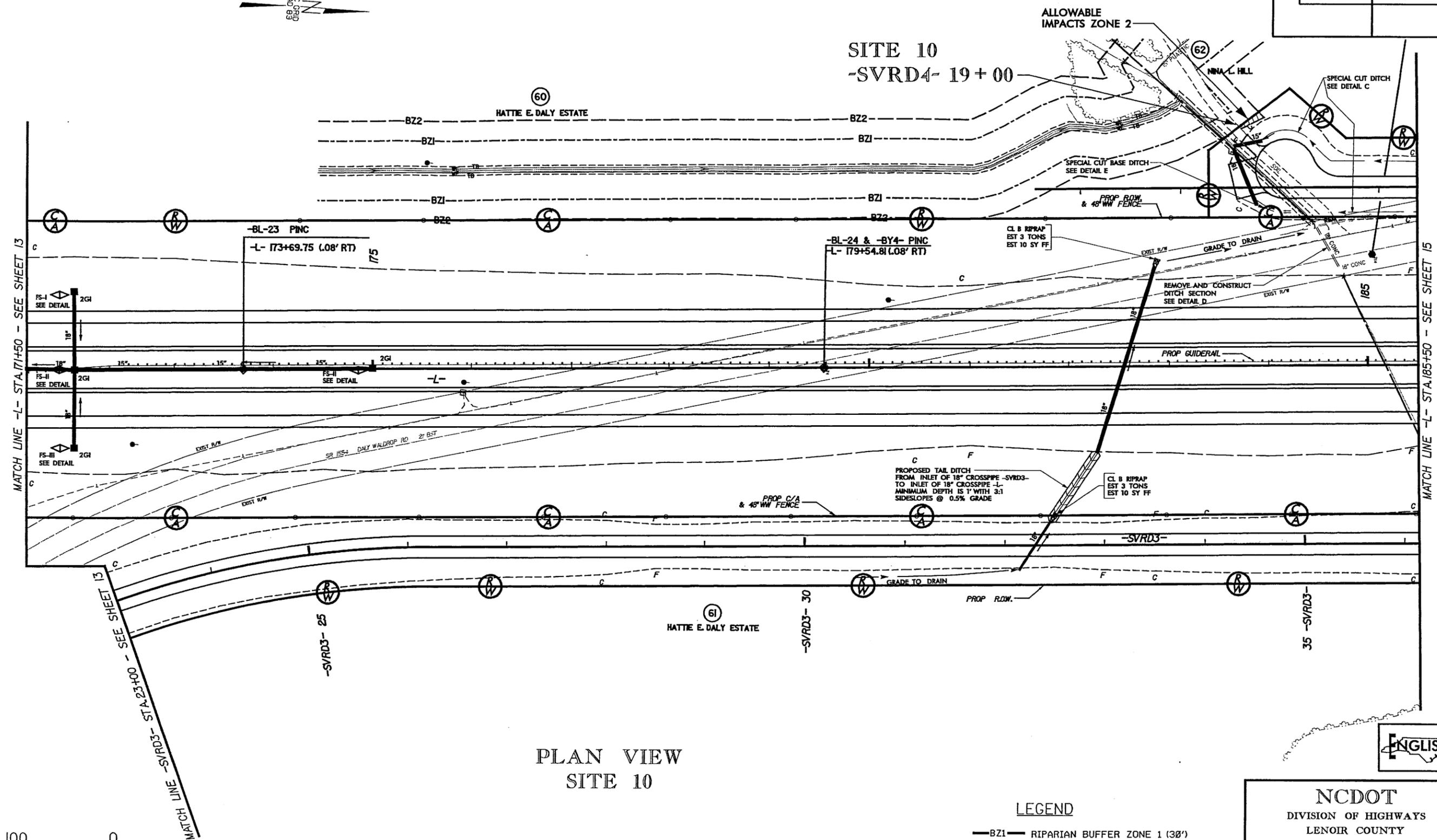
8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 42
FOR -SVRD3- PROFILE, SEE SHEET 63 & 64
FOR -SVRD4- PROFILE, SEE SHEET 64
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.D1
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS

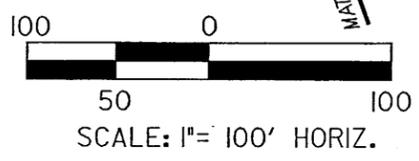


Prepared by
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 14
R/W SHEET NO. 14	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Buffer Drawing	
Sheet 23 of 31	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PLAN VIEW
SITE 10



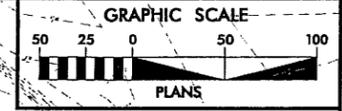
- LEGEND**
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
 - BZ2— RIPARIAN BUFFER ZONE 2 (20')
 - ALLOWABLE IMPACTS ZONE 2

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450L11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

8/28/2007
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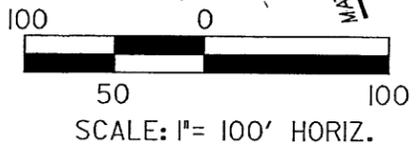
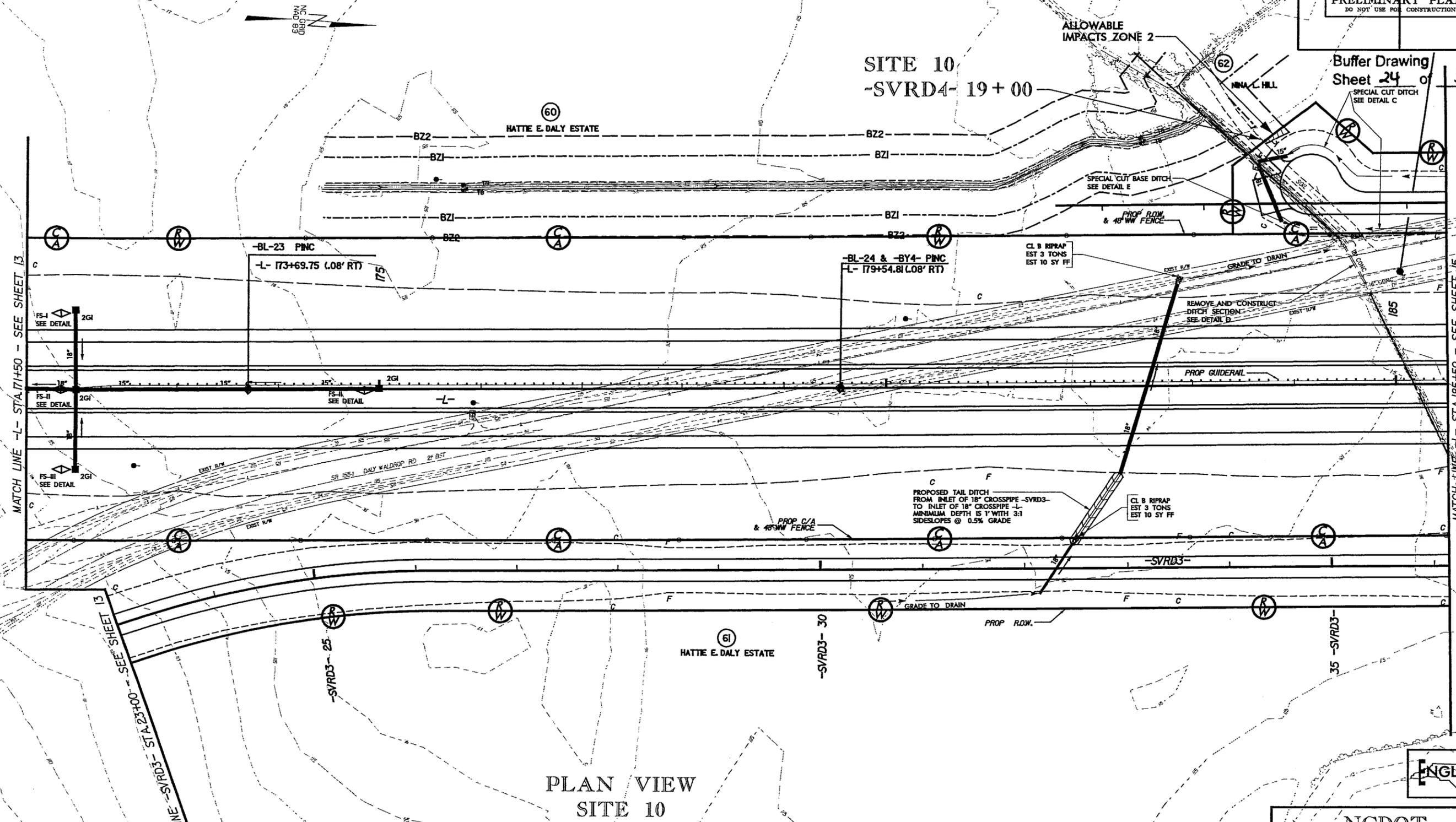
8/17/99

NOTE: FOR -L- PROFILE, SEE SHEET 42
FOR -SVRD3- PROFILE, SEE SHEET 63 & 64
FOR -SVRD4- PROFILE, SEE SHEET 64
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS



Prepared by
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 14
RAW SHEET NO. 14	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



LEGEND

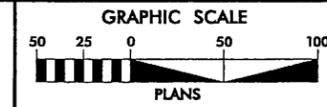
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
- BZ2— RIPARIAN BUFFER ZONE 2 (20')
- ▨ ALLOWABLE IMPACTS ZONE 2

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450111 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

8/28/2007
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NOTE: FOR -L- PROFILE, SEE SHEET 45
FOR -Y6- PROFILE, SEE SHEET 70
FOR -D1- & -D2- PROFILE, SEE SHEET 71
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
ACCORDING TO NCDOT STANDARD DRAWING No.665.D1

SLEEPY CREEK FARMS, INC

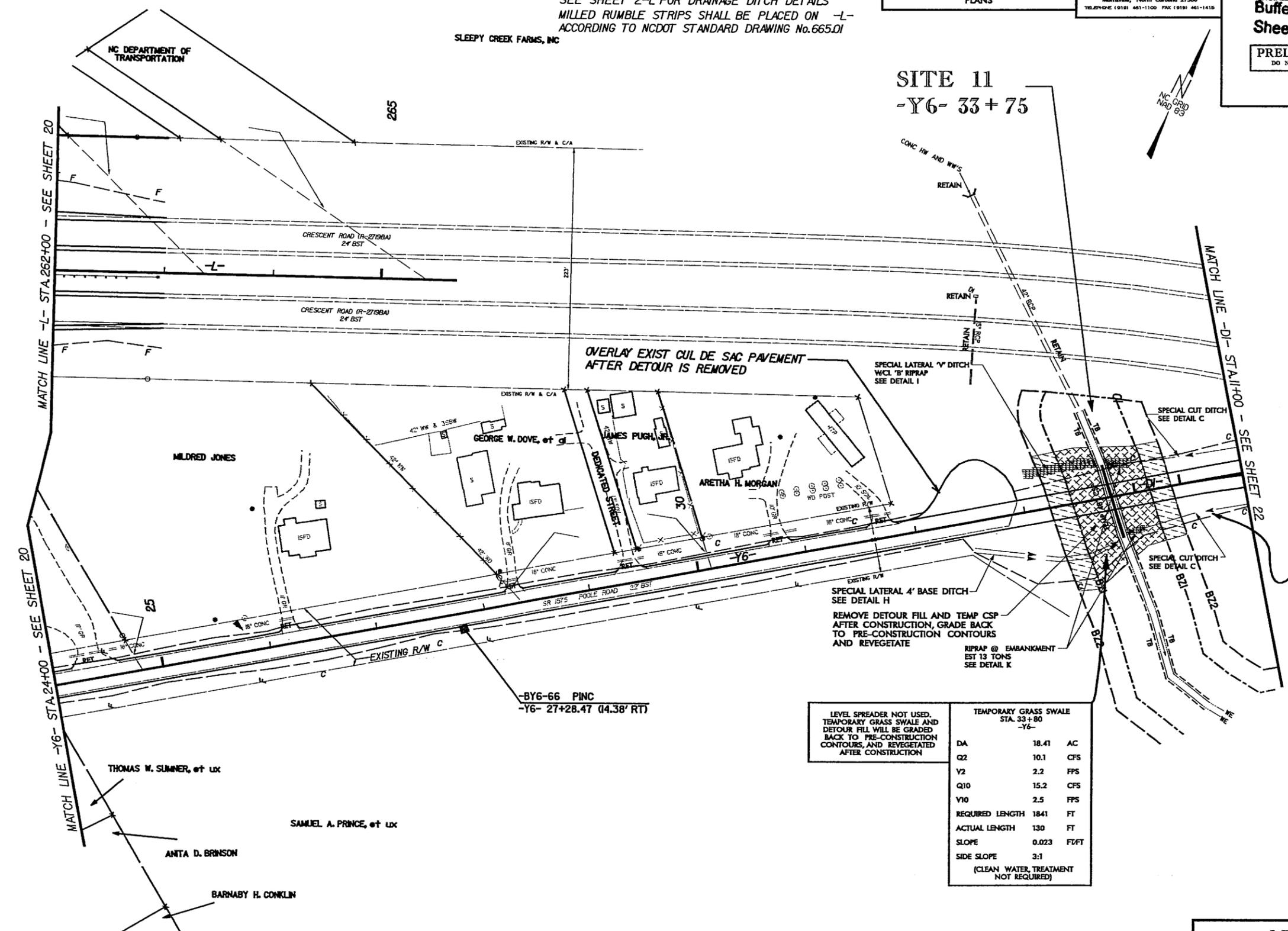


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PROJECT REFERENCE NO.	R-2719A	SHEET NO.	21
R/W SHEET NO.			21
ROADWAY DESIGN ENGINEER	Buffer Drawing Sheet 25 of 31	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



SITE 11 -Y6- 33+75



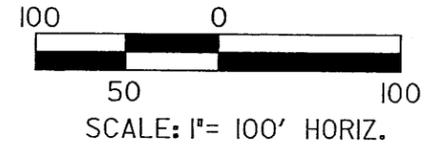
LEVEL SPREADER NOT USED. TEMPORARY GRASS SWALE AND DETOUR FILL WILL BE GRADED BACK TO PRE-CONSTRUCTION CONTOURS, AND REVEGETATED AFTER CONSTRUCTION

TEMPORARY GRASS SWALE STA. 33+93 -Y6-		
DA	0.24	AC
Q2	0.5	CFS
V2	0.9	FPS
Q10	0.7	CFS
V10	1.0	FPS
REQUIRED LENGTH	24	FT
ACTUAL LENGTH	207	FT
SLOPE	0.005	FT/FT
SIDE SLOPE	4:1	

LEVEL SPREADER NOT USED. TEMPORARY GRASS SWALE AND DETOUR FILL WILL BE GRADED BACK TO PRE-CONSTRUCTION CONTOURS, AND REVEGETATED AFTER CONSTRUCTION

TEMPORARY GRASS SWALE STA. 33+80 -Y6-		
DA	18.41	AC
Q2	10.1	CFS
V2	2.2	FPS
Q10	15.2	CFS
V10	2.5	FPS
REQUIRED LENGTH	1841	FT
ACTUAL LENGTH	130	FT
SLOPE	0.023	FT/FT
SIDE SLOPE	3:1	
(CLEAN WATER TREATMENT NOT REQUIRED)		

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PLAN VIEW SITE 11

LEGEND

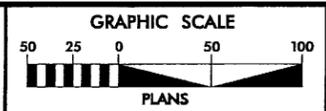
- BZ1- RIPARIAN BUFFER ZONE 1 (30')
- BZ2- RIPARIAN BUFFER ZONE 2 (20')
- [Cross-hatched box] ALLOWABLE IMPACTS ZONE 1
- [Diagonal lines box] ALLOWABLE IMPACTS ZONE 2

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 8 / 28 / 07

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NOTE: FOR -L- PROFILE, SEE SHEET 45
 FOR -Y6- PROFILE, SEE SHEET 70
 FOR -D1- & -D2- PROFILE, SEE SHEET 71
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
 MILLED RUMBLE STRIPS SHALL BE PLACED ON -L-
 ACCORDING TO NCDOT STANDARD DRAWING No.665.D1

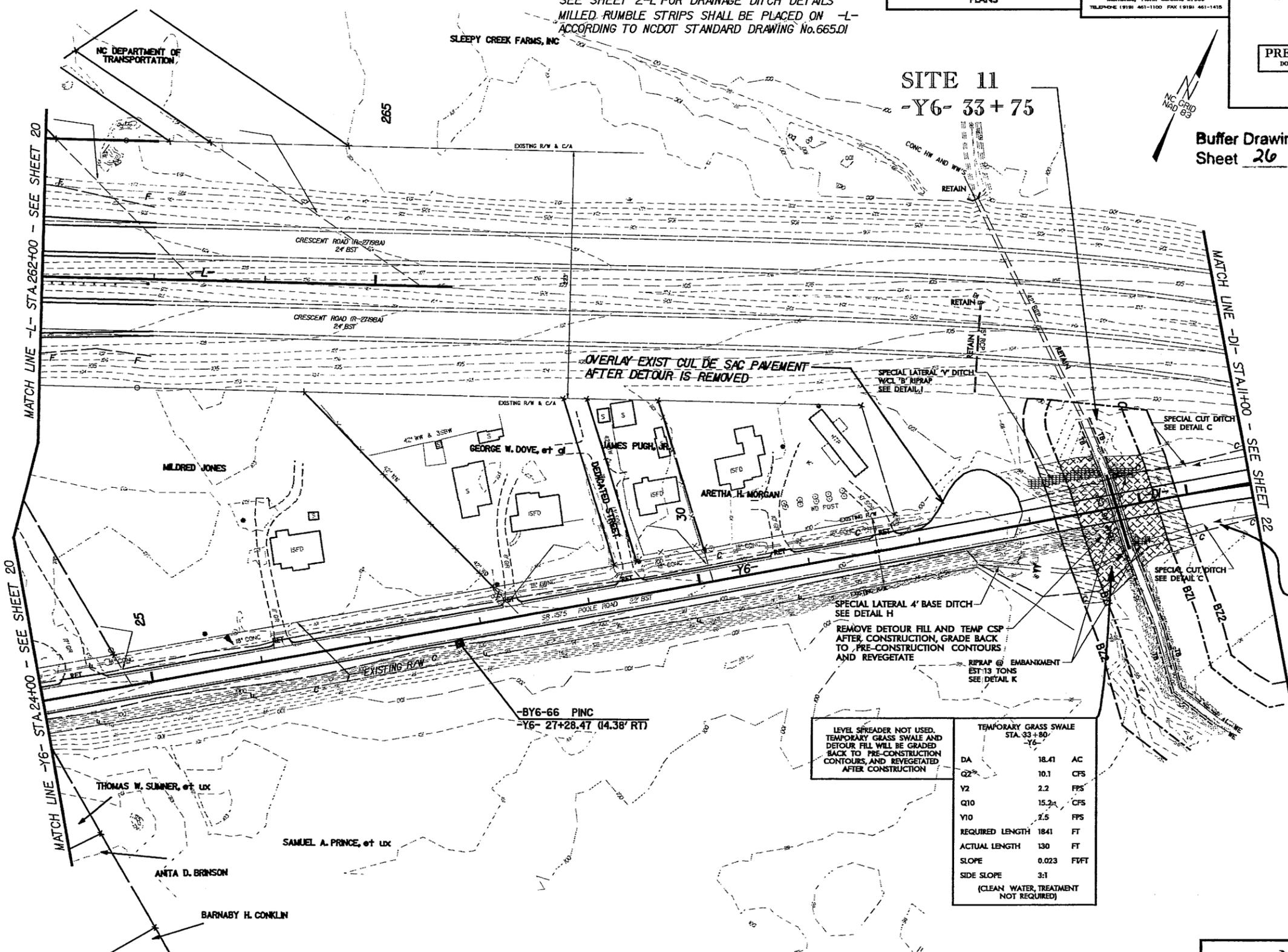


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PROJECT REFERENCE NO. R-2719A	SHEET NO. 21
R/W SHEET NO. 21	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



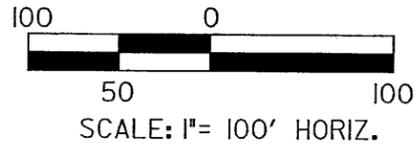
Buffer Drawing
 Sheet 26 of 31



LEVEL SPREADER NOT USED. TEMPORARY GRASS SWALE AND DETOUR FILL WILL BE GRADED BACK TO PRE-CONSTRUCTION CONTOURS, AND REVEGETATED AFTER CONSTRUCTION		
TEMPORARY GRASS SWALE STA. 33+75 -Y6-		
DA	0.24	AC
Q2	0.5	CFS
V2	0.9	FPS
Q10	0.7	CFS
V10	1.0	FPS
REQUIRED LENGTH	24	FT
ACTUAL LENGTH	207	FT
SLOPE	0.005	FT/FT
SIDE SLOPE	4:1	

LEVEL SPREADER NOT USED. TEMPORARY GRASS SWALE AND DETOUR FILL WILL BE GRADED BACK TO PRE-CONSTRUCTION CONTOURS, AND REVEGETATED AFTER CONSTRUCTION

TEMPORARY GRASS SWALE STA. 33+80 -Y6-		
DA	18.41	AC
Q2	10.1	CFS
V2	2.2	FPS
Q10	15.3	CFS
V10	2.5	FPS
REQUIRED LENGTH	1841	FT
ACTUAL LENGTH	130	FT
SLOPE	0.023	FT/FT
SIDE SLOPE	3:1	
(CLEAN WATER TREATMENT NOT REQUIRED)		



PLAN VIEW
 SITE 11

LEGEND

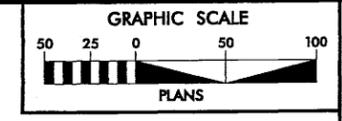
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
- BZ2— RIPARIAN BUFFER ZONE 2 (20')
- [Cross-hatched box] ALLOWABLE IMPACTS ZONE 1
- [Diagonal lines box] ALLOWABLE IMPACTS ZONE 2

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 34501.11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258

SHEET OF 8 / 28 / 07

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NOTE: FOR -Y1- PROFILE, SEE SHEET 46
FOR -Y10- PROFILE, SEE SHEET 60
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
FOR INTERSECTION DETAIL SEE SHEET 2-J
MILLED RUMBLE STRIPS SHALL BE PLACED ON -Y1-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01
BEGIN MILLED RUMBLE STRIPS AT BEGINNING OF C/A

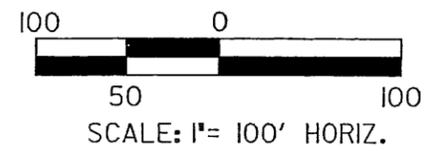
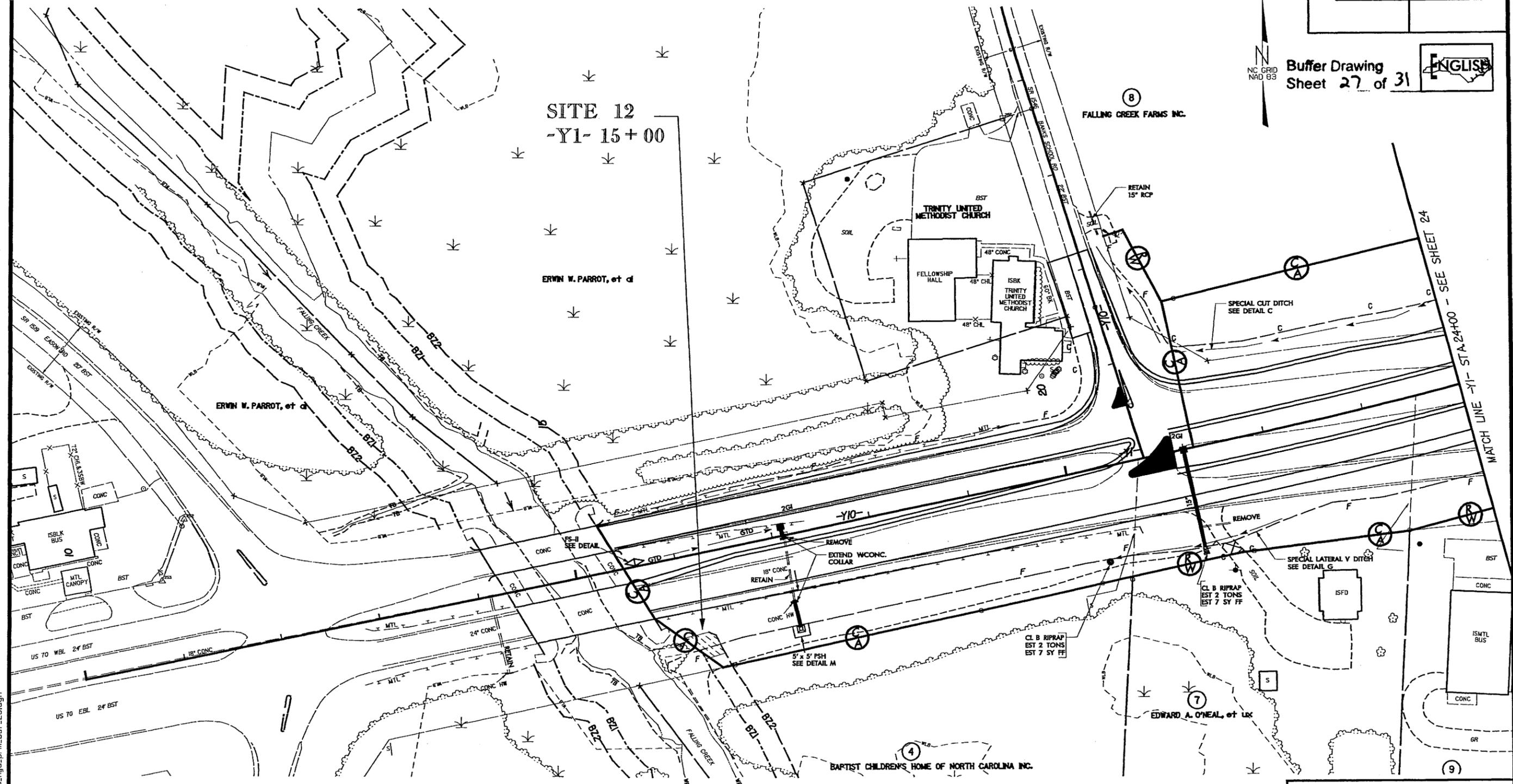


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PROJECT REFERENCE NO. R-2719A	SHEET NO. 23
R/W SHEET NO. 23	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Buffer Drawing
Sheet 27 of 31



PLAN VIEW SITE 12

LEGEND

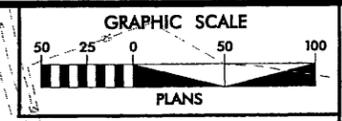
	BZ1	RIPARIAN BUFFER ZONE 1 (30')
	BZ2	RIPARIAN BUFFER ZONE 2 (20')
		ALLOWABLE IMPACTS ZONE 2

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.11 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 8 / 28 / 07

8/28/2007
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NOTE: FOR -Y1- PROFILE, SEE SHEET 46
FOR -Y10- PROFILE, SEE SHEET 60
SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
FOR INTERSECTION DETAIL SEE SHEET 2-J
MILLED RUMBLE STRIPS SHALL BE PLACED ON -Y1-
ACCORDING TO NCDOT STANDARD DRAWING No.665.01
BEGIN MILLED RUMBLE STRIPS AT BEGINNING OF C/A

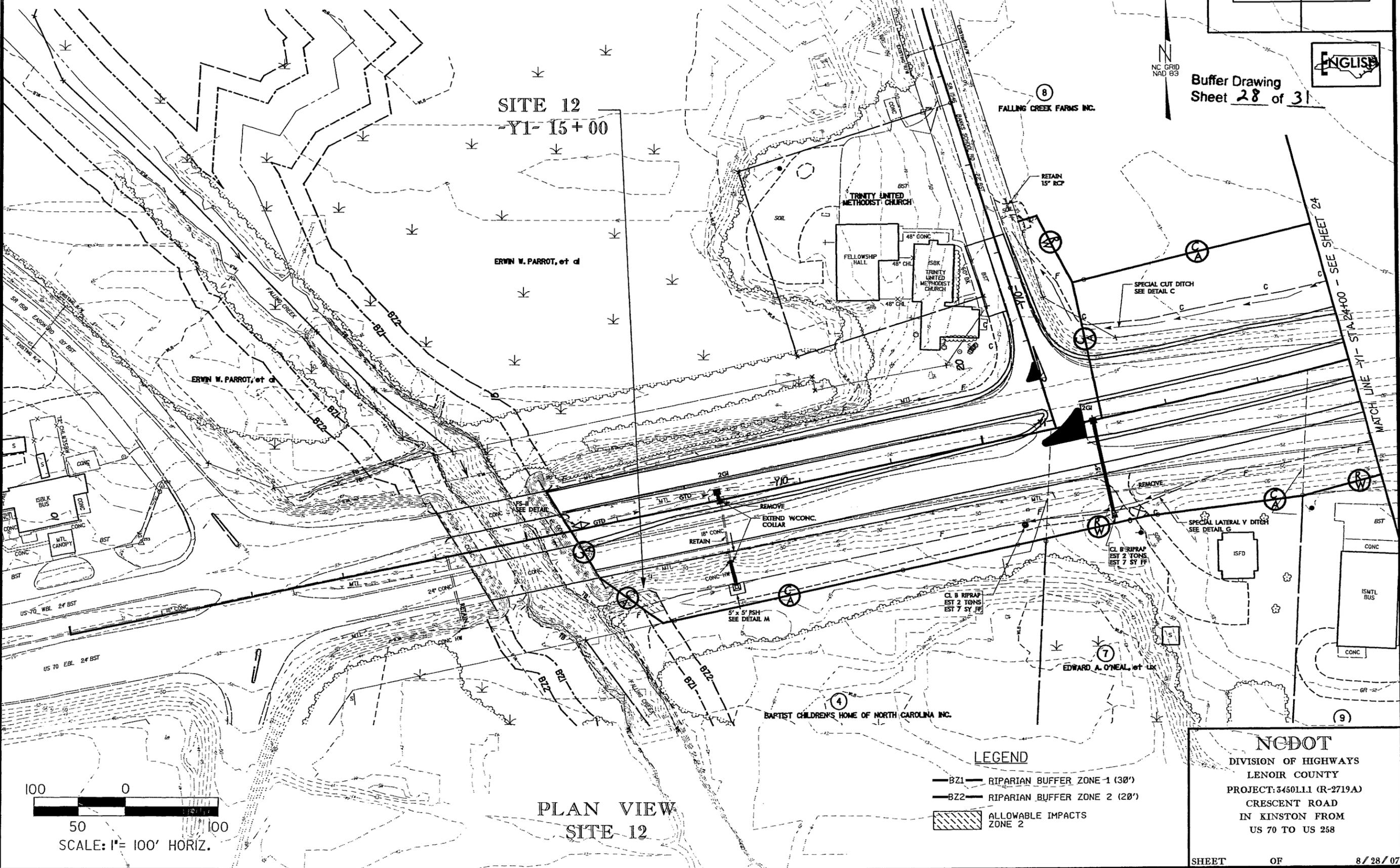


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PROJECT REFERENCE NO. R-2719A	SHEET NO. 23
R/W SHEET NO. 23	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Buffer Drawing
Sheet 28 of 31



SITE 12
-Y1- 15+00

ERWIN W. PARROT, et al

TRINITY UNITED
METHODIST CHURCH

FELLOWSHIP HALL

TRINITY UNITED
METHODIST CHURCH

FALLING CREEK FARMS INC.

RETAIN
15' RC

SPECIAL CUT DITCH
SEE DETAIL C

MATCH LINE -Y1- STA 24+00 - SEE SHEET 24

SPECIAL LATERAL V DITCH
SEE DETAIL G

CL B RIPRAP
EST 2 TONS
EST 7 SY FF

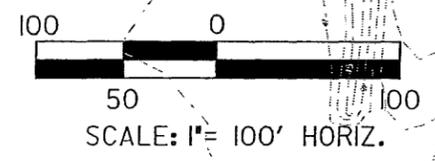
CL B RIPRAP
EST 2 TONS
EST 7 SY FF

BAPTIST CHILDREN'S HOME OF NORTH CAROLINA INC.

EDWARD A. O'NEAL, et al

LEGEND

- BZ1 RIPARIAN BUFFER ZONE 1 (30')
- BZ2 RIPARIAN BUFFER ZONE 2 (20')
- ALLOWABLE IMPACTS ZONE 2

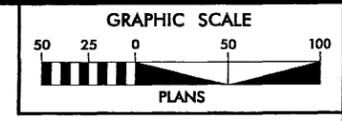


PLAN VIEW
SITE 12

NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 3450LL1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

SHEET OF 8/28/07

PROJECT REFERENCE NO.	SHEET NO.
R-2719A	25
RW SHEET NO.	25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



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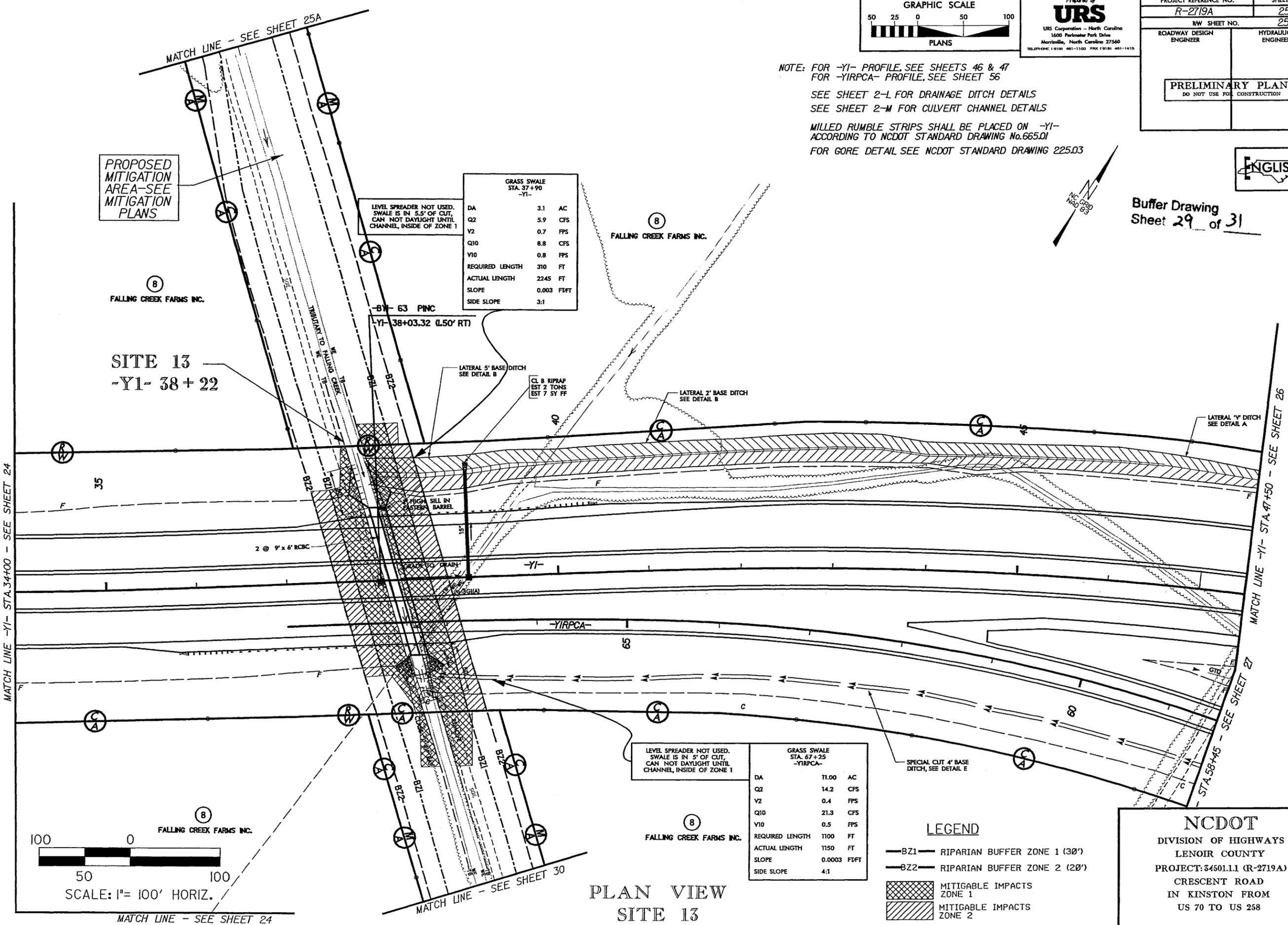
NOTE: FOR -Y1- PROFILE, SEE SHEETS 46 & 47
FOR -YIRPCA- PROFILE, SEE SHEET 56

SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS

MILLED RUMBLE STRIPS SHALL BE PLACED ON -Y1- ACCORDING TO NCDOT STANDARD DRAWING No.665.01
FOR GORE DETAIL SEE NCDOT STANDARD DRAWING 225.03



Buffer Drawing
Sheet 29 of 31



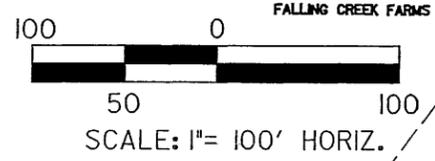
GRASS SWALE
STA. 37+90
-Y1-

DA	3.1	AC
Q2	5.9	CFS
V2	0.7	FPS
Q10	8.8	CFS
V10	0.8	FPS
REQUIRED LENGTH	310	FT
ACTUAL LENGTH	2245	FT
SLOPE	0.003	FT/FT
SIDE SLOPE	3:1	

GRASS SWALE
STA. 67+25
-YIRPCA-

DA	11.00	AC
Q2	14.2	CFS
V2	0.4	FPS
Q10	21.3	CFS
V10	0.5	FPS
REQUIRED LENGTH	1100	FT
ACTUAL LENGTH	1150	FT
SLOPE	0.0003	FT/FT
SIDE SLOPE	4:1	

- LEGEND**
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
 - BZ2— RIPARIAN BUFFER ZONE 2 (20')
 - MITIGABLE IMPACTS ZONE 1
 - MITIGABLE IMPACTS ZONE 2



PLAN VIEW
SITE 13

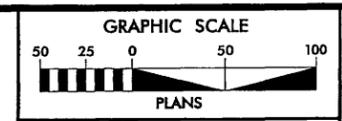
NCDOT
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 34501.1 (R-2719A)
CRESCENT ROAD
IN KINSTON FROM
US 70 TO US 258

REVISIONS
DATE: PARCEL B; REMOVED PDE AT CULVERT AND ADDED MITIGATION AREA BOUNDARY ON BOTH SIDES OF STREAM

8/21/2007
R:\Hydraulics\new_permits\2719a_hyd_prm_buf_25.dgn
CO & Associates, P.C.

8/17/09

8/17/99
 DATE: PARCEL B REMOVED PDE AT CULVERT AND ADDED MITIGATION AREA BOUNDARY ON BOTH SIDES OF STREAM
 8/21/2007
 C:\projects\new_pperm\ts\2719a_hyd_prm_bu_f_15.dgn
 2007 Associates, P.C.



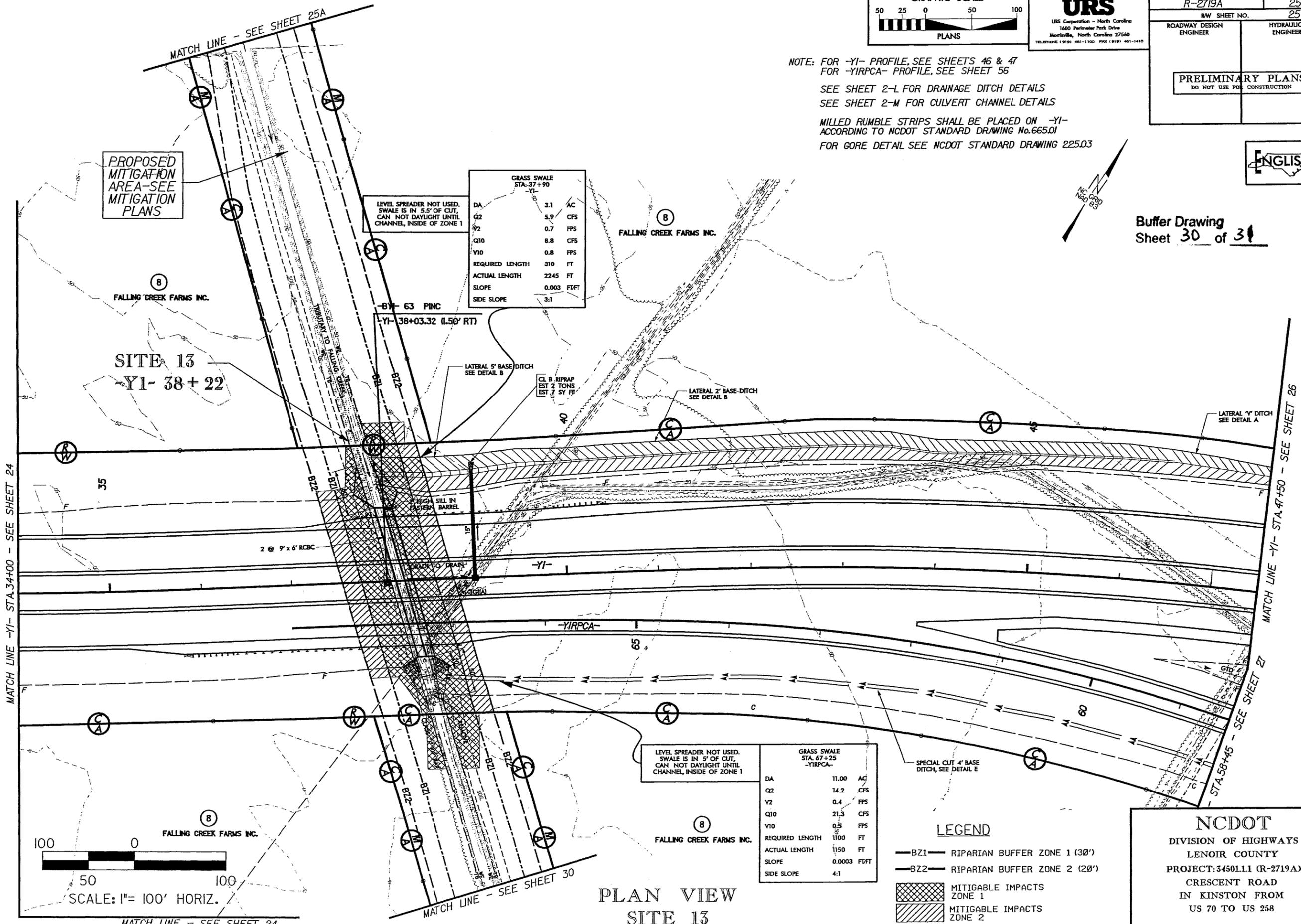
Prepared by
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 1600 Parkcenter Park Drive
 Morrisville, North Carolina 27560
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PROJECT REFERENCE NO. R-2719A	SHEET NO. 25
R/W SHEET NO. 25	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NOTE: FOR -Y1- PROFILE, SEE SHEETS 46 & 47
 FOR -YIRPCA- PROFILE, SEE SHEET 56
 SEE SHEET 2-L FOR DRAINAGE DITCH DETAILS
 SEE SHEET 2-M FOR CULVERT CHANNEL DETAILS
 MILLED RUMBLE STRIPS SHALL BE PLACED ON -Y1- ACCORDING TO NCDOT STANDARD DRAWING No.665.01
 FOR GORE DETAIL SEE NCDOT STANDARD DRAWING 225.03



Buffer Drawing
 Sheet 30 of 31



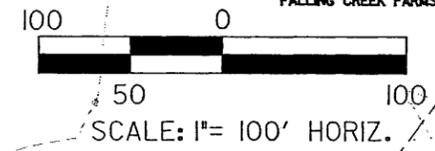
LEVEL SPREADER NOT USED. SWALE IS IN 5.5' OF CUT, CAN NOT DAYLIGHT UNTIL CHANNEL, INSIDE OF ZONE 1

GRASS SWALE STA. 37+90 -Y1-		
DA	3.1	AC
Q2	5.9	CFS
V2	0.7	FPS
Q10	8.8	CFS
V10	0.8	FPS
REQUIRED LENGTH	310	FT
ACTUAL LENGTH	2245	FT
SLOPE	0.003	FT/FT
SIDE SLOPE	3:1	

LEVEL SPREADER NOT USED. SWALE IS IN 5' OF CUT, CAN NOT DAYLIGHT UNTIL CHANNEL, INSIDE OF ZONE 1

GRASS SWALE STA. 67+25 -YIRPCA-		
DA	11.00	AC
Q2	14.2	CFS
V2	0.4	FPS
Q10	21.3	CFS
V10	0.5	FPS
REQUIRED LENGTH	1100	FT
ACTUAL LENGTH	1150	FT
SLOPE	0.0003	FT/FT
SIDE SLOPE	4:1	

- LEGEND**
- BZ1— RIPARIAN BUFFER ZONE 1 (30')
 - BZ2— RIPARIAN BUFFER ZONE 2 (20')
 - MITIGABLE IMPACTS ZONE 1
 - MITIGABLE IMPACTS ZONE 2



PLAN VIEW
SITE 13

NCDOT
 DIVISION OF HIGHWAYS
 LENOIR COUNTY
 PROJECT: 3450L11 (R-2719A)
 CRESCENT ROAD
 IN KINSTON FROM
 US 70 TO US 258
 SHEET OF 9/21/07

