PROJECT SPECIAL PROVISION

(10-18-95) Z-1a

PERMITS

The Contractor's attention is directed to the following permits, which have been applied for by the Department of Transportation to the authority granting the permit. Copies of the permits will be furnished to the Contractor when received by the Department. A copy of the final 401, and the draft 404 permit conditions and drawings has been included for the Contractor's use in placing his bid on this project. It is anticipated that the conditions and drawings in the draft 404 permit will be approved as currently written.

PERMIT	AUTHORITY GRANTING THE PERMIT
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DENR State of North Carolina

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the Department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-14 of the *Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.

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NCDENR

North Carolina Department of Environment and Natural Resources

Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

November 12, 2009

Ms. Darlene Waddell
North Carolina Global TransPark Authority
2780 Jetport Road, Suite A
Kinston, NC 28504

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Neuse Buffer Rules with ADDITIONAL CONDITIONS for the railroad spur extension from existing NCRR main line to the Spirit Aerosystems building location within the North Carolina Global TransPark in Lenoir County, TIP U-2928.

NCDWQ Project No. 19970093 v. 2

Dear Ms. Waddell:

Attached hereto is a modification of Certification No. 3184 issued to The Global TransPark Authority dated April 7, 1998.

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

Sincerely,

Coleen H. Sullins
Director

Attachments

cc: Tracey Wheeler, US Army Corps of Engineers, Washington Field Office
Neil Lassiter, PE, Division 2 Engineer
Jay B. Johnson, Division 2 Environmental Officer
Kathy Matthews, Environmental Protection Agency (electronic copy only)
Robert Belvin, NC Division of Land Quality, Washington Regional Office
Ron Ferrell, PBS&J-EcoScience, Raleigh
Marc Hamel, NCDOT Rail Division
Garcy Ward, NCDWQ Washington Regional Office
File Copy

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: http://h2o.enr.state.nc.us/ncwetlands/

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Modification to the 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 (NCDWQ) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B .0233 . This certification authorized the NCDOT to impact 6.81 acres of jurisdictional wetlands, 394 linear feet of jurisdictional streams, and 36,002 square feet of protected riparian buffers in Lenoir County. The project shall be constructed pursuant to the modification dated received July 1, 2009. The authorized impacts are as described below:

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)	Impacts requiring Mitigatio
1	0.01	0	0	0.01	0	0.02	0.02
2	0.01	0	0	0.01	0	0.02	0.02
3	0.01	0.02	0	0	0	0.03	0.01
4	0.01	0	0	0.01	0	0.02	0.02
5	0.01	0	0	0.01	0	0.02	0.02
6	0.03	0	0.01	0.01	0	0.05	0.05
7A	0.46	0	0	0.22	0	0.68	0.68
7B	0	0	0.12	0.04	0	0.16	0.16
8	0.92	0	0	0.38	0	1.3	1.3
9	0.24	0	0	0.1	0	0.34	0.34
10	0.07	0	0	0.04	0	0.11	0.11
11	0.3	0.12	0	0	0.14	0.56	0.44
12	1.1	0	0.31	0.69	0	2.1	2.1
13	0.08	0	0	0.01	0	0.09	0.09
14A	0	0	0.01	0.01	0	0.02	0.02
14B	0	0	0.03	0.02	0	0.05	0.05
15	0.34	0	0.54	0.26	0	1.14	1.14
16 [1]	0	0	0	0	0	0	0
17	0	0	0.04	0.02	0	0.06	0.06
18	0.01	0	0	0.01	0	0.02	0.02
19	0	0	0.01	0.01	0	0.02	0.02
TOTAL:	**3.6**	**0.14**	**1.07**	**1.86**	**0.14**	**6.81**	**6.67**

Current Wetland Impacts Allowed: 6.81 acres

[1]Subsequent to receiving the permit application, Site 16 was re-verified by the USACE and determined not to be a wetland. Therefore, although the impacts are shown and discussed in the permit application, no wetland impacts occurred and no mitigation will be required for this site.

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 feet)	Stream Impacts Requiring Mitigation (linear ft)
6	0	0	201	0	201	201
11	0	0	0	0	0	0
13	0	0	193	0	193	193
TOTAL:	**0**	**0**	**394**	**0**	**394**	**394**

Total Stream Impact for Project: 394 linear feet

Neuse River Basin Riparian Buffer Impacts

Impact Site	Zone 1 Impact (ft²)	Wetlands in Zone 1 (ft²)	Zone 1 Buffers (not in wetlands) (ft²)	Zone 1 Buffer Mitigation Required (3:1ratio)	Zone 2 Impact (ft²)	Wetlands in Zone 2 (sq ft)	Zone 2 Buffers (not in wetlands) (ft²)	Zone 2 Buffer Mitigation Required (1.5:1 ratio)	Total Impact (ft²)	Total Mitigation Required (ft²)
6	11,230	0	11,230	33,690	6,622	0	6,622	9,933	17,852	43,623
11	2,677	1,810	867	N/A	2,838	1,386	1,452	N/A	5,515	0
13	7,853	4,187	3,666	N/A	4,782	0	4,782	N/A	12,635	0
Total:	**21,760**	**5,997**	**15,763**	**33,690**	**14,242**	**1,386**	**12,856**	**9,933**	**36,002**	**43,623**

* N/A = Total impact for Site is less than 1/3 acre and 150 linear feet of impact, no mitigation required

Total Buffer Impact for Project: 36,002 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 modified application dated received July 1, 2009. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated April 7, 1998 and the extension dated October 13, 2008 still apply except where superceded by this certification. Should your project change, you are required to notify the NCDWQ 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). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B .0233. 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:

1. This modification is applicable only to the proposed activities. All other conditions written into previous Water Quality Certifications, including Certification No. 3184 dated April 7, 1998 and the associated extension of this Water Quality Certification dated October 13, 2008 for this project still apply except where superceded by this certification.

Project Specific Conditions:

2. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification.
3. 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 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.
4. 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.

Mitigation

The initial 401 Water Quality Certification (WQC) application for this project is dated July 10, 1997 and was approved April 7, 1998. During the permitting negotiations in 1998 it was decided that the GTP would offer all mitigation for the potential loss of 871 wetland acres without a provision for functional basis as part of the credit/debit process. The initial 401 WQC has remained active and an extension was granted on October 13, 2008. Therefore, in keeping with the April 7, 1998 and the October 13, 2008 401 WQC, no mitigation ratios are proposed as part of this certification. Instead, credits (at a 1:1 ratio) will be deducted from the remaining credits available to the Global TransPark in the Stonyton Creek, Dover Bay, and Frog Hollow Mitigations Sites as outlined below:

5. Compensatory mitigation for 394 linear feet of impact to streams is required. We understand that you have chosen to debit credits from the Stonyton Creek Conservation Area. According to the NCDWQ's records, this site has not gone through the final NCDWQ approval process to determine the amount of credits that will ultimately be available. Nonetheless, based in information provided to the NCDWQ, it appears at this time that there will be sufficient credits once final approval is given to meet the required mitigation for impacts approved with this WQC. However, should there be insufficient credits upon final approval of the site the GTP will be required to obtain the necessary credits by other means.

Stonyton Creek Mitigation Site - Stream Credit	
Site Credit History	**Credits (feet)**
Anticipated Available Credits Upon Final NCDWQ Approval:	2,906
Credits Used for Previous Projects:	2,100
Credits used for This Project:	394
Anticipated Remaining Credits Upon Final NCDWQ Approval:	**412**

6. Compensatory mitigation for impacts to 11,230 square feet of protected riparian buffers in Zone 1 and 6,622 square feet of protected riparian buffers in Zone 2 (a total of 17,852 ft²) shall be required. A total of 43,623 ft² of credit will be required. We understand that you have chosen to debit credits from the Stonyton Creek Conservation Area. According to the NCDWQ's records, this site has not gone through the final NCDWQ approval process to determine the amount of credits that will ultimately be available. Nonetheless, based in information provided to the NCDWQ, it appears at this time that there will be sufficient credits once final approval is given to meet the required mitigation for impacts approved with this WQC. However, should there be insufficient credits upon final approval of the site the GTP will be required to obtain the necessary credits by other means.

Stonyton Creek Mitigation Site - Buffer Credit	
Site Credit History	**Credits (ft²/acres)**
Anticipated Available Credits Upon Final NCDWQ Approval:	6,316,200 / 145.00
Credits Used for Previous Projects:	0 / 0
Credits used for This Project:	61,794 / 1.00
Anticipated Remaining Credits Upon Final NCDWQ Approval:	**6,254,406 / 144.00**

7. Compensatory mitigation for impacts to 0.85 acres riverine and 5.82 acres of non-riverine (a total of 6.67 acres) wetlands is required. We understand that you have chosen to debit credits from the Dover Bay Mitigation Site, the Frog Hollow Mitigation Site, and/or the Stonyton Creek Conservation area. According to the NCDWQ's records, none of these sites has gone through the final NCDWQ approval process to determine the amount of credits that will ultimately be available. Nonetheless, based in information provided to the NCDWQ, it appears at this time that there will be sufficient credits once final approval is given to meet the required mitigation for impacts approved with this WQC. However, should there be insufficient credits upon final approval of the sites the GTP will be required to obtain the necessary credits by other means.

Wetland Impact Summary			
Activity[1]	Riverine	Non-Riverine	Total
Credits Allowed in April 7, 1998 WQC	**106.40**	**764.50**	**870.90**
Runway Extension/Access Taxiway (10/21/1998)	22.70	--	22.70
Crescent Road (R-2719BA) (10/21/1998)	--	5.91	5.91
ALSF (10/21/1998)	--	12.40	12.40
Hardstand (7/10/1999)	--	8.60	8.60
Cargo Building (5/1/2001)	0.42	--	0.42
Utility Line Construction (9/18/2001)	--	2.17	2.17
Stonyton Creek Restoration Site[2] (8/21/2002)	0.00	0.00	0.00
Runway (clearing/grubbing) (9/4/2002)	--	13.50	13.50
John Mewborne Road Relocation (5/15/2003)	--	5.00	5.00
Glideslope Grading and ALSF Road (10/15/2003)	--	53.00	53.00
Institute Road[3] (2/28/2005)	0.00	0.00	0.00
Spirit Aerosystems Roads (9/16/2008 & 3/12/2009)	0.04	--	0.04
Total of Previously Permitted Impacts	**23.16**	**100.58**	**123.74**
Rail Spur (U-2928) Impacts	0.85	5.82 [4]	0.85
Total Impacts (through this WQC)	**24.01**	**106.40**	**124.59**
REMAINING CREDITS	**82.39**	**658.10**	**740.49**

[1] Dates shown are the date of application

[2] Impacts to 1.1 acres of wetlands were mitigated through creation of the SCRS, resulting in no net impacts

[3] Institute Road, although permitted, was never built and no impacts occurred

[4] Initial Impact was 8.11 acres, but was reduced to 5.82 based on latest USACE wetland verification.

General Conditions:

8. Unless otherwise approved in this certification, placement of 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 the NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

9. 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.

10. 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.

11. 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.

12. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species.

13. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWQ first.

14. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.

15. All pile driving or drilling activities shall be enclosed in turbidity curtains unless otherwise approved by NCDWQ in this certification.

16. All bridge construction shall be performed from temporary work bridges or temporary causeways.

17. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

18. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

19. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species.

20. 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.

21. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.

22. 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.

23. 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.

24. 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.

25. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.

26. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

27. 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 the NCDWQ 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, NCDWQ may reevaluate and modify this certification.

28. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification.

29. A copy of this Water Quality Certification shall be maintained on 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.

30. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization 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.

31. 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.

32. Native riparian vegetation (ex. list trees and shrubs native to your geographic region) must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

33. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit 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.

34. 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.

35. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

36. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.

37. Upon completion of the project (including any impacts at associated borrow or waste sites), the Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWQ 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 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 12th day of November 2009

DIVISION OF WATER QUALITY

Coleen H. Sullins
Director

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

CERTIFICATE OF COMPLETION

NCDWQ 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 Transportation Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to NCDWQ 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: _____

Engineer's Certification
_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee, I do 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 _____

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: http://h2o.enr.state.nc.us/ncwetlands/

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Special Conditions
SAW-2008-02650 North Carolina Global TransPark Railroad Spur

a. All work authorized by this permit must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

b. 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. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

c. 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 waters or wetlands or to reduce the reach of waters or wetlands.

d. The Permittee shall schedule an onsite preconstruction meeting between its representatives, the contractor's representatives and the appropriate USACE Regulatory Project Manager prior to commencement of this project to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall notify the USACE Project Manager a minimum of thirty (30) days in advance of the meeting in order to provide that individual with sufficient opportunity to schedule and participate in the required meeting.

e. 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. 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, Ext. 526 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

f. The Permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

g. 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.

h. 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. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project

i. The Permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. 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).

j. The Permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

k. Violations of these conditions or violations of Section 404 of the Clean Water Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the Permittee's discovery of the violation.

l. The Permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, within 60 days of project completion.

m. 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.

n. The Permittee shall conduct a survey for red cockaded woodpeckers and cavity trees within the railroad spur study area corridor plus an additional buffer of 0.5 mile from either side of the study area corridor. This shall be performed and a report submitted to the USACE within 45 days of the issuance of this permit. Should birds and/or cavity trees be observed, the Permittee shall immediately contact the USACE to discuss contingency measures.

o. The width, height, and gradient of any pipe or culvert installed as a result of this permit must be sized to allow for the passage of average low and high water flows.

p. Any pipe or culvert installed as a result of this permit shall be buried at least one (1) foot below normal bed elevation when placed within streams appearing as blue lines on United States Geological Survey (USGS) 7.5 minute quadrangle sheets.

Wetland Mitigation Conditions

q. Within 30 days of permit issuance, the Permittee shall submit written documentation that

18.2 acres of property within the Dover Bay Restoration Area has been assigned to this project.

r. Within 30 days of permit issuance, the Permittee shall submit written documentation that 394 linear feet of stream mitigation within the Stoneyton Creek restoration project has been assigned to this project.

s. Within 60 days of permit issuance, the Permittee shall submit to the USACE a ledger depicting all permitted debits from the NCGTP mitigation properties, including this permit action and all other debits associated with the original permit (Action ID SAW-1992-02851).

CONTRACT: 38989

TIP PROJECT: U-2928B

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2928B	1	

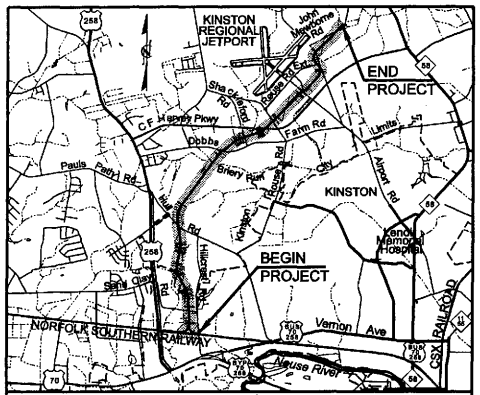
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

NCDOT
RAIL DIVISION

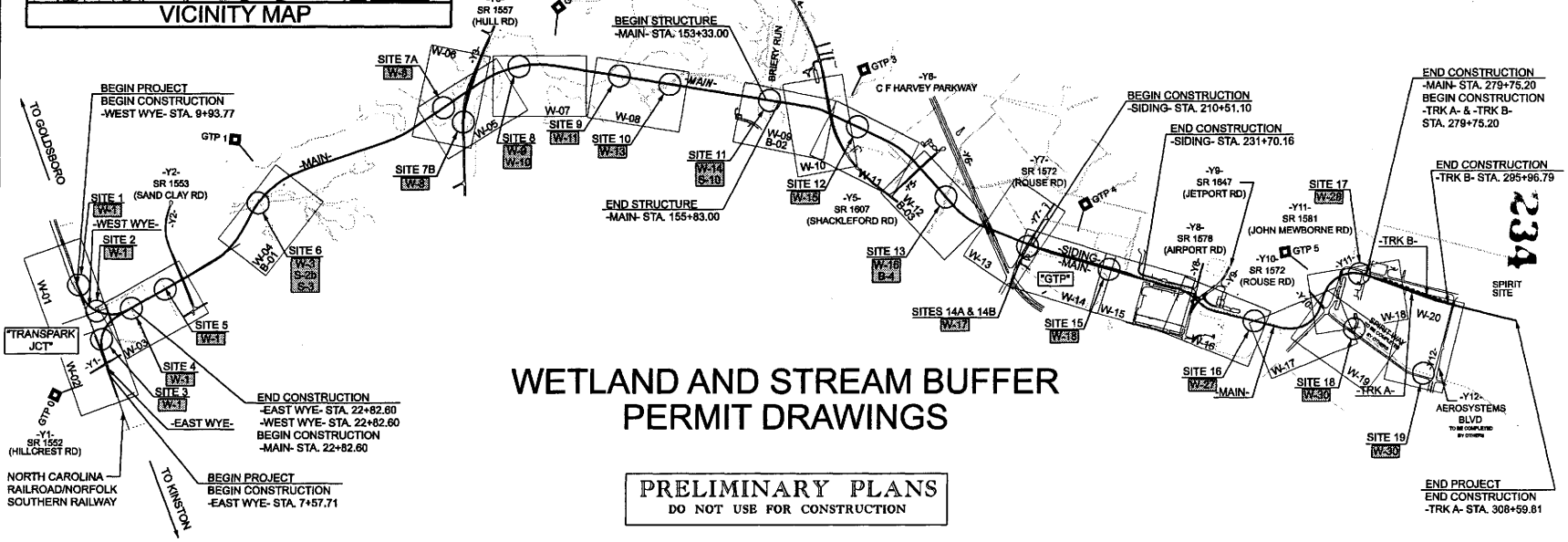
LENOIR COUNTY

LOCATION: NORTH CAROLINA GLOBAL TRANSPARK

TYPE OF WORK: RAIL ACCESS ON NEW LOCATION FROM NCRR MP EC-22.6 WEST OF KINSTON TO NORTH CAROLINA GLOBAL TRANSPARK



VICINITY MAP



WETLAND AND STREAM BUFFER PERMIT DRAWINGS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

234

PROJECT LENGTH

LENGTH OF RAIL TIP PROJECT U-2928B	
MAIN TRACK	5.70 mi.
OTHER THAN MAIN TRACK	0.95 mi.
LENGTH OF STRUCTURES TIP PROJECT U-2928B	0.05 mi.
LENGTH OF ROADWAY TIP PROJECT U-2928B	1.21 mi.

HNTB

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

Prepared in the Office of:
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609

JIM KESSLER, P.E.
RAIL PROJECT ENGINEER
COREY VERNIER, E.I.
RAIL PROJECT DESIGN ENGINEER
PHILLIP ROGERS, P.E.
ROADWAY PROJECT ENGINEER
JAMES BYRD, P.E.
HYDRAULICS PROJECT ENGINEER
JASON ORTHNER, P.E.
NCDOT PROJECT MANAGER

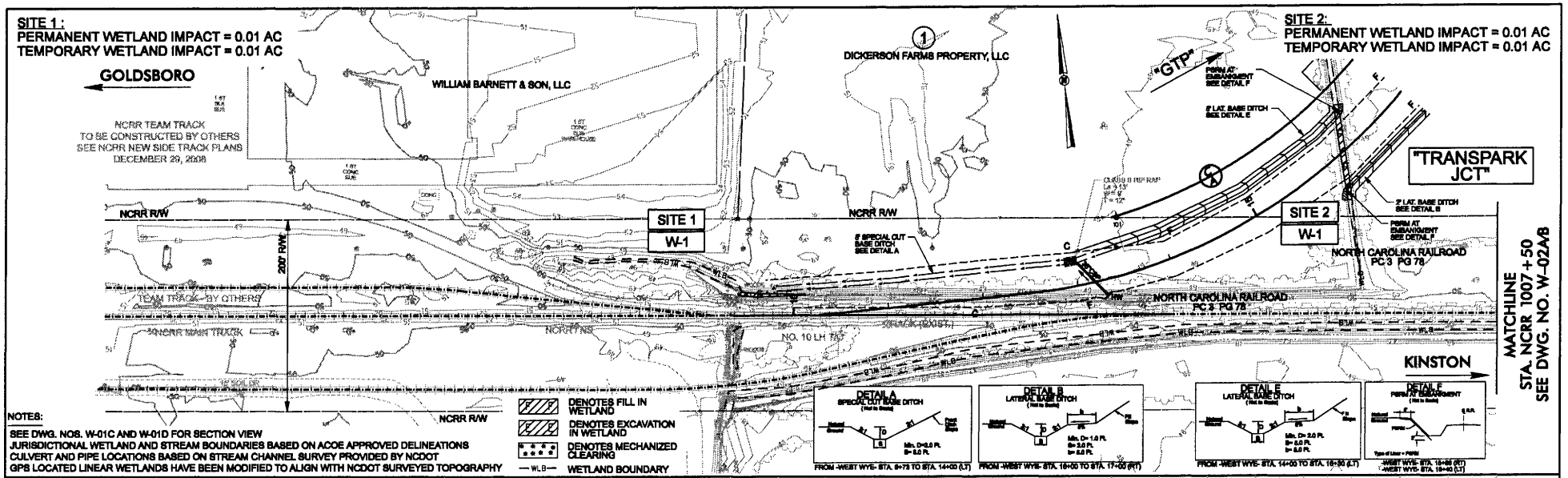
RAIL ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

HYDRAULICS ENGINEER
SIGNATURE: P.E.

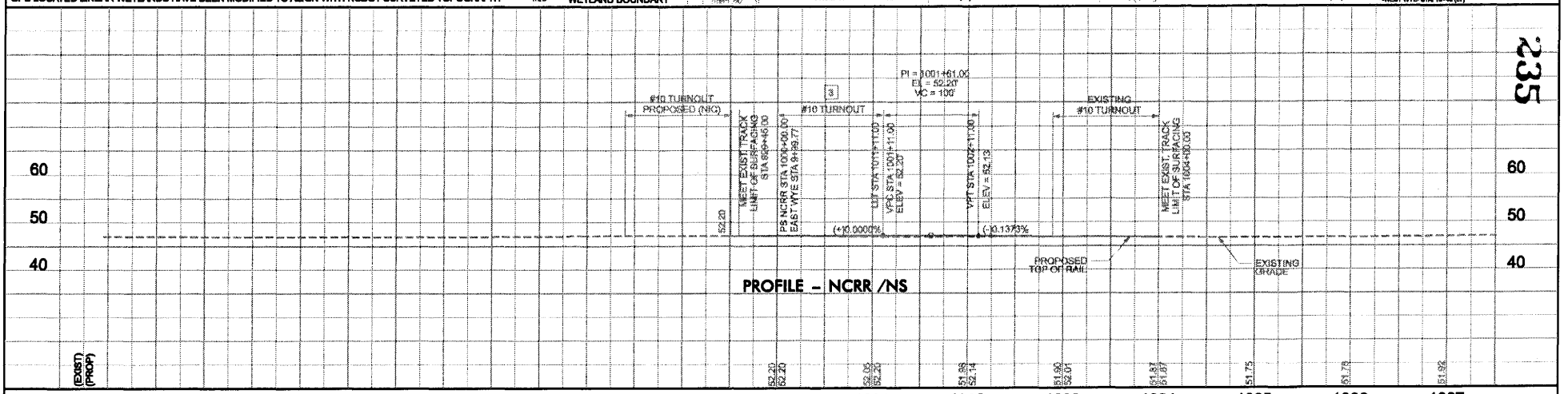
GTP Rail Access

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION
ENGINEERING AND SAFETY BRANCH
CAPITAL TAXI
1495 MAIL SERVICE CENTER
RALEIGH, NC 27699-1495



NOTES:

SEE DWG. NOS. W-01C AND W-01D FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY



235

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1584

GTP Rail Access

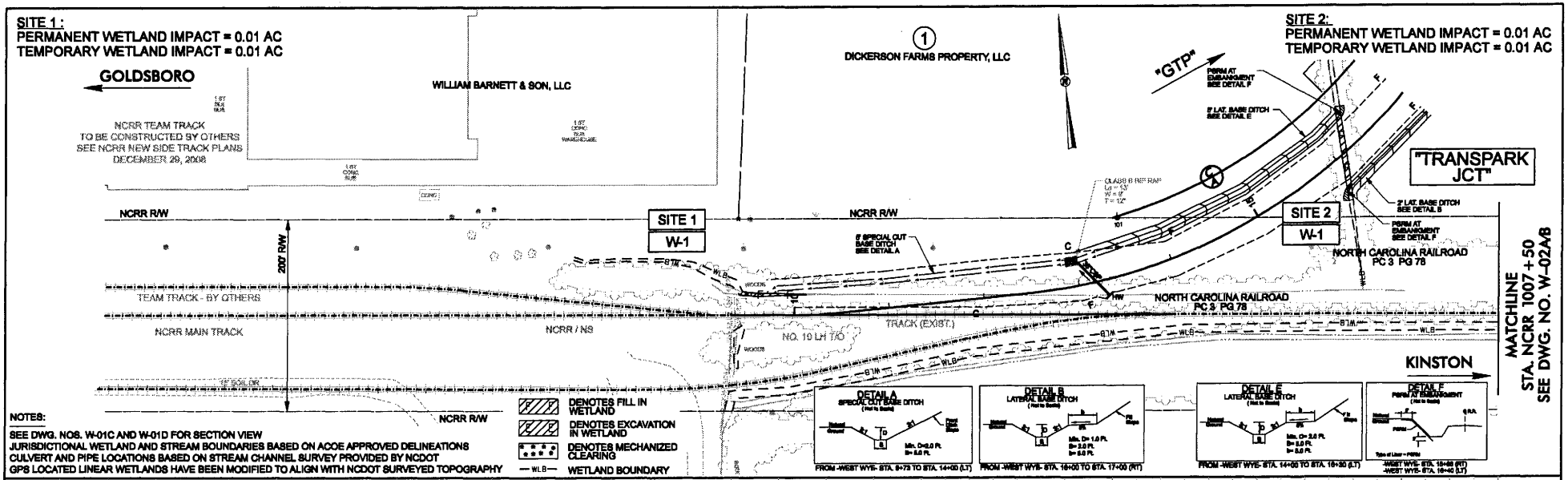
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 1 & 2

KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-01A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

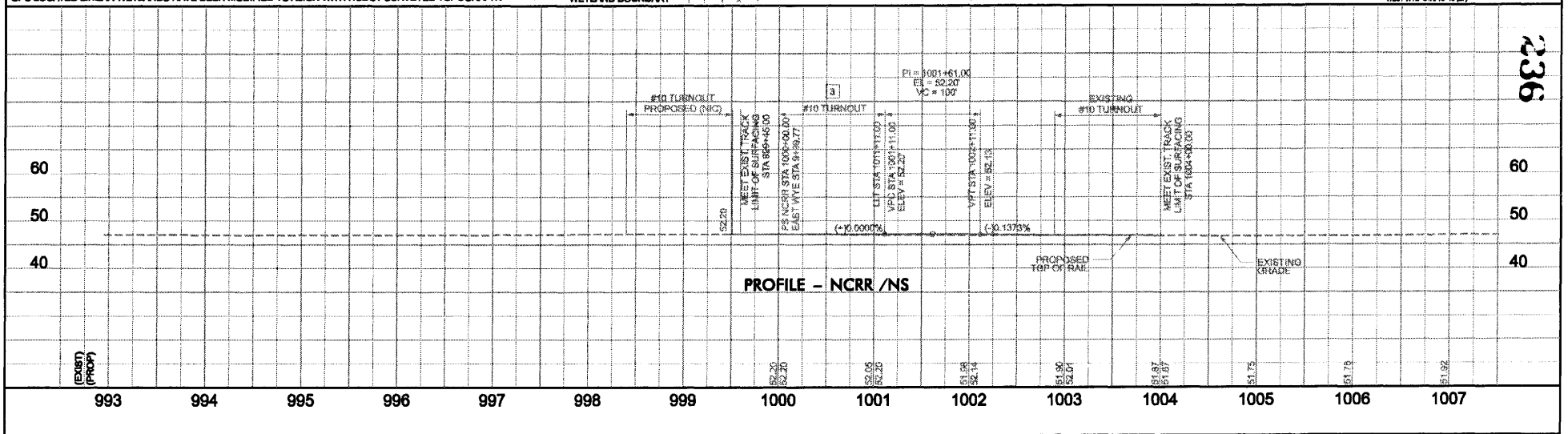
SITE 1 :
PERMANENT WETLAND IMPACT = 0.01 AC
TEMPORARY WETLAND IMPACT = 0.01 AC

SITE 2:
PERMANENT WETLAND IMPACT = 0.01 AC
TEMPORARY WETLAND IMPACT = 0.01 AC



NOTES:
SEE DWG. NOS. W-01C AND W-01D FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY

DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING
WLB WETLAND BOUNDARY



REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
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CHECKED BY: JKK
DATE: JUNE 17, 2009

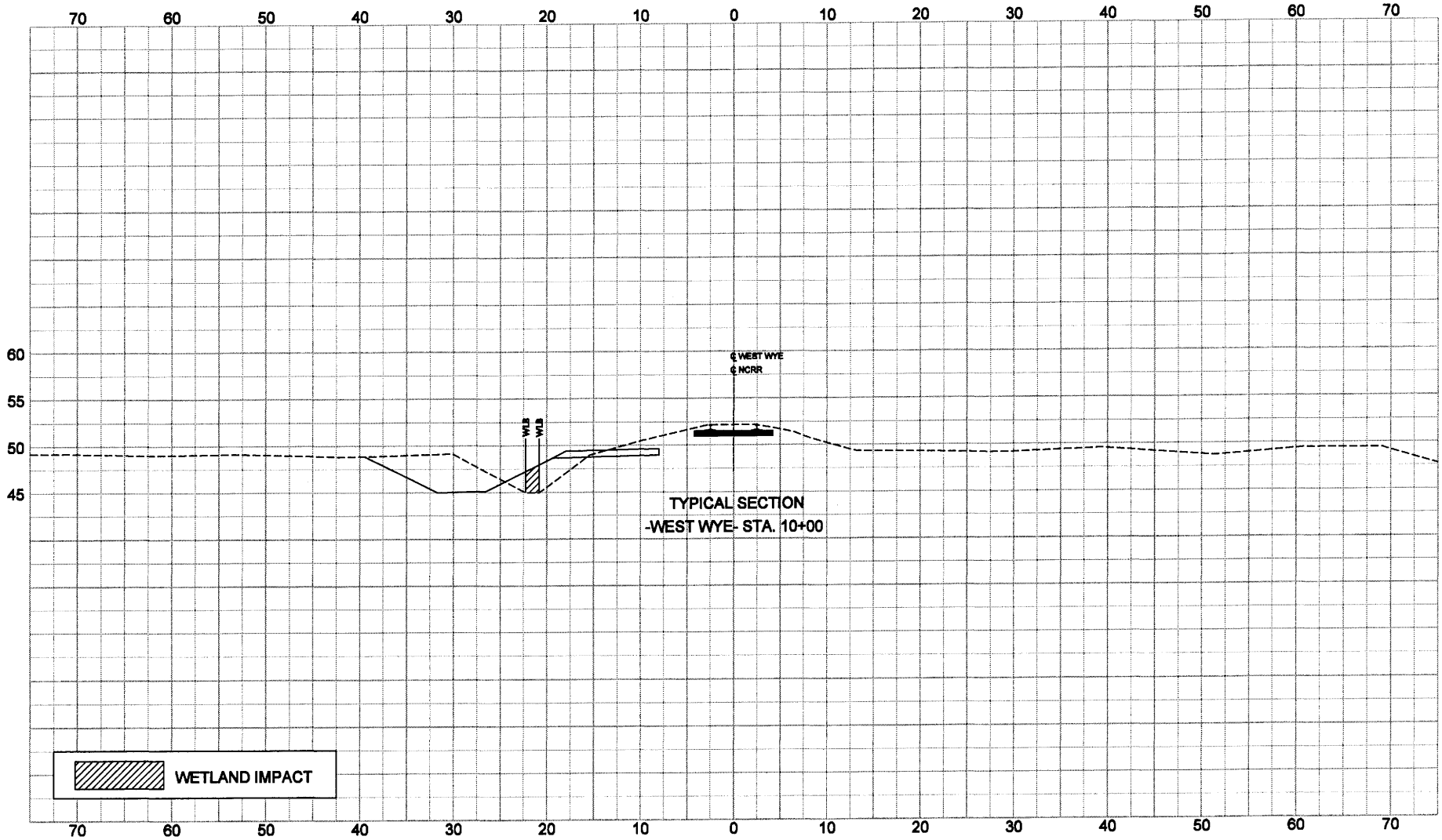
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.O.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 1 & 2
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-01B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



237

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

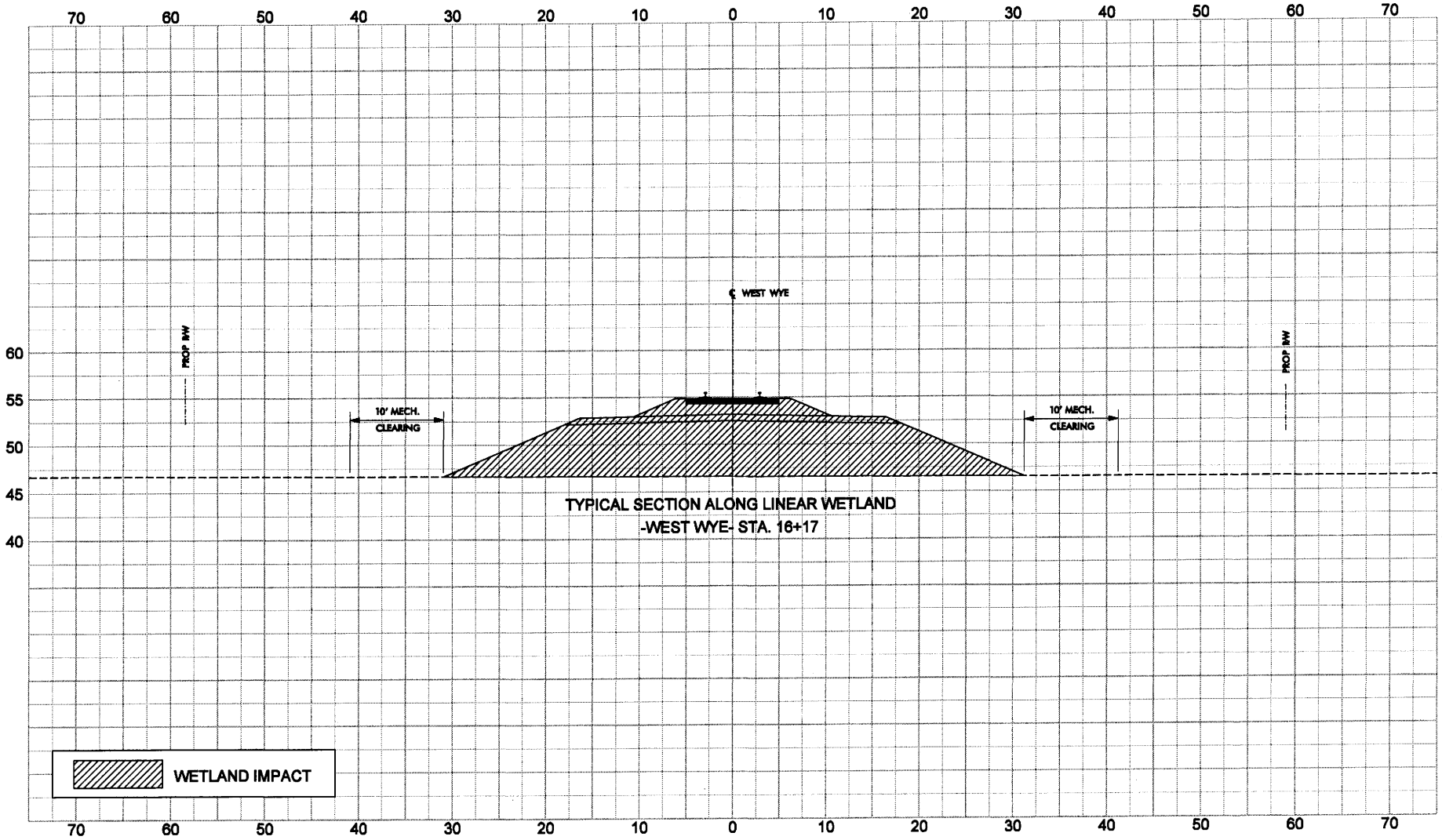
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
849 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27608
C-1584

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 1
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-01C
SCALE: 1" = 10'
SHEET NO:



238

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

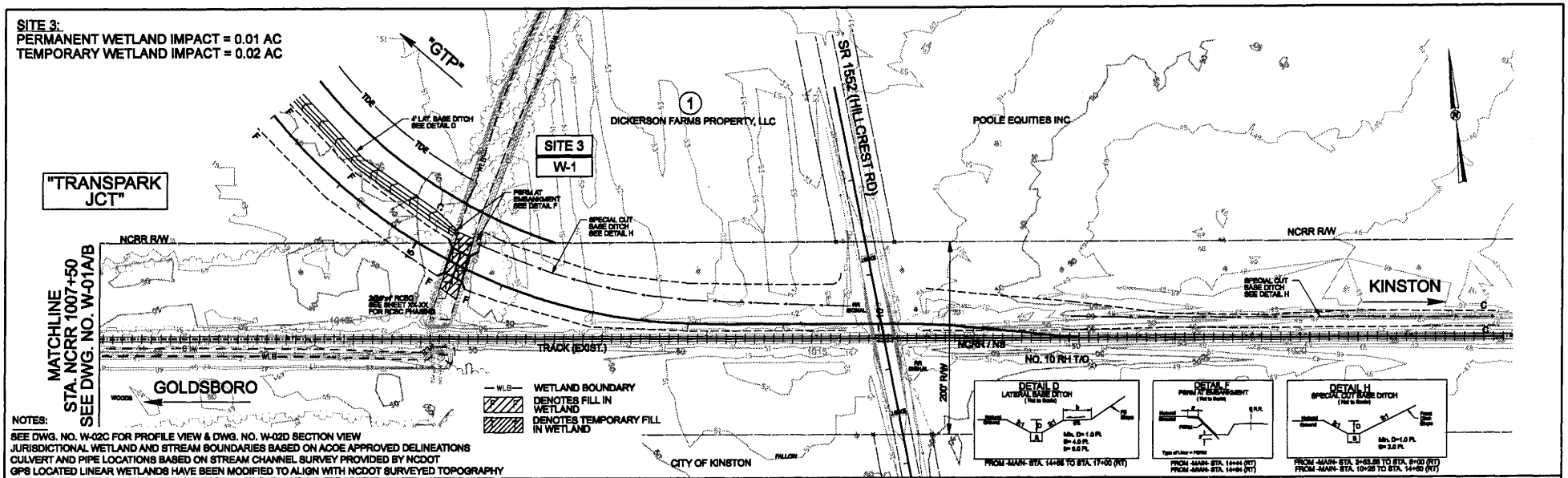
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

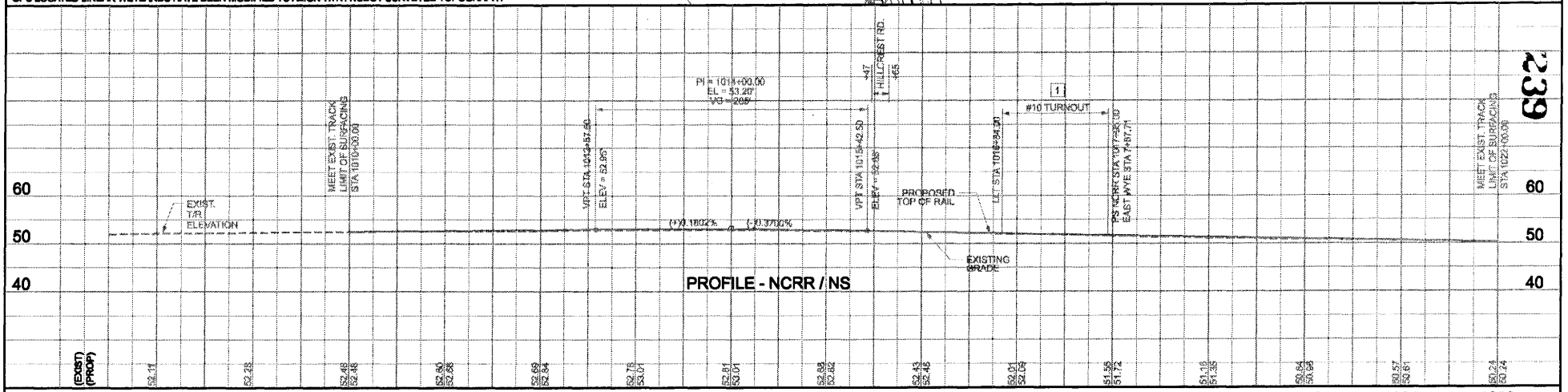
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 2
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-01D
SCALE: 1" = 10'
SHEET NO:

SITE 3:
PERMANENT WETLAND IMPACT = 0.01 AC
TEMPORARY WETLAND IMPACT = 0.02 AC



NOTES:
SEE DWG. NO. W-02C FOR PROFILE VIEW & DWG. NO. W-02D SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY



REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 3
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-02A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

239

SITE 3:
PERMANENT WETLAND IMPACT = 0.01 AC
TEMPORARY WETLAND IMPACT = 0.02 AC

"TRANSPARK JCT"

MATCHLINE STA. NCRR 1007+50 SEE DWG. NO. W-01A/B

"GTP"

4' LAT. BASE DITCH SEE DETAIL D

PERM AT EMBANKMENT SEE DETAIL F

SPECIAL CUT BASE DITCH SEE DETAIL H

SITE 3
W-1

1 DICKERSON FARMS PROPERTY, LLC

POOLE EQUITIES INC

SR 1552 (HILLCREST RD)

NCRR R/W

TRACK (EXIST.)

NCRR / NS

NO. 10 RH T/O

200' R/W

KINSTON

GOLDSBORO

CITY OF KINSTON

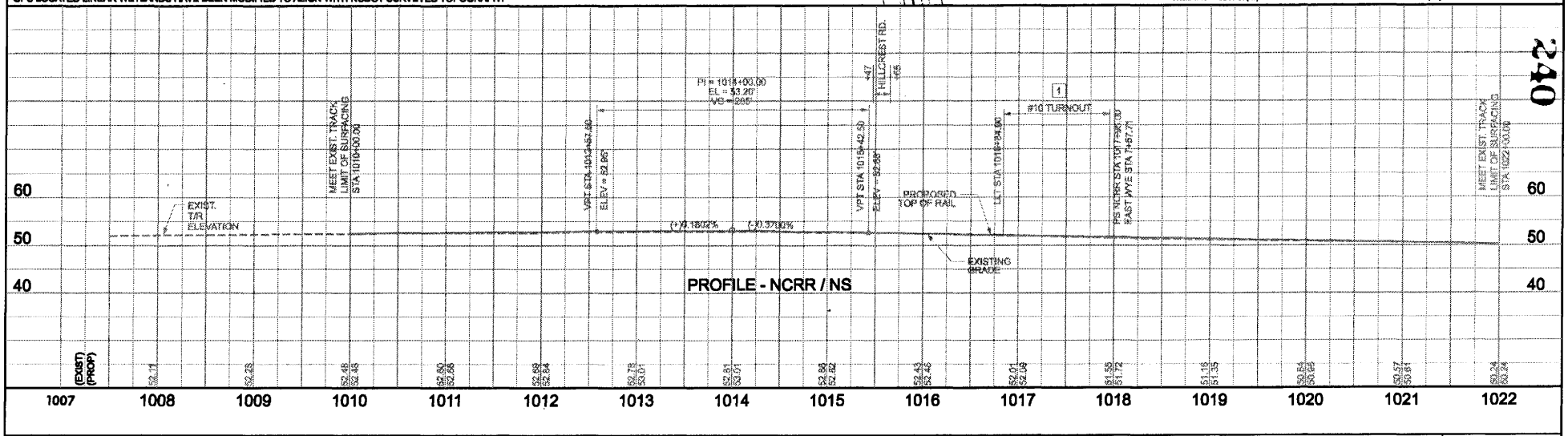
— WLB — WETLAND BOUNDARY
DENOTES FILL IN WETLAND
DENOTES TEMPORARY FILL IN WETLAND

DETAIL D
LATERAL BASE DITCH
FROM -MAIN- STA. 14+66 TO STA. 17+00 (RT)

DETAIL F
PERM AT EMBANKMENT
FROM -MAIN- STA. 14+44 (RT)
FROM -MAIN- STA. 14+94 (RT)

DETAIL H
SPECIAL CUT BASE DITCH
FROM -MAIN- STA. 3+53.98 TO STA. 8+00 (RT)
FROM -MAIN- STA. 10+28 TO STA. 14+60 (RT)

NOTES:
SEE DWG. NO. W-02C FOR PROFILE VIEW & DWG. NO. W-02D SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY



240

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

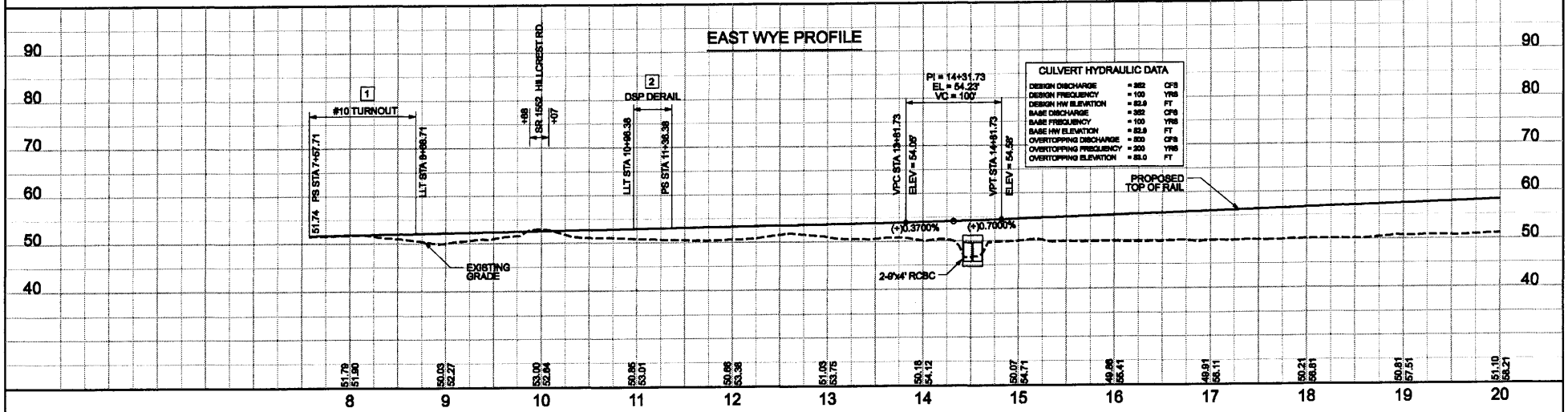
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

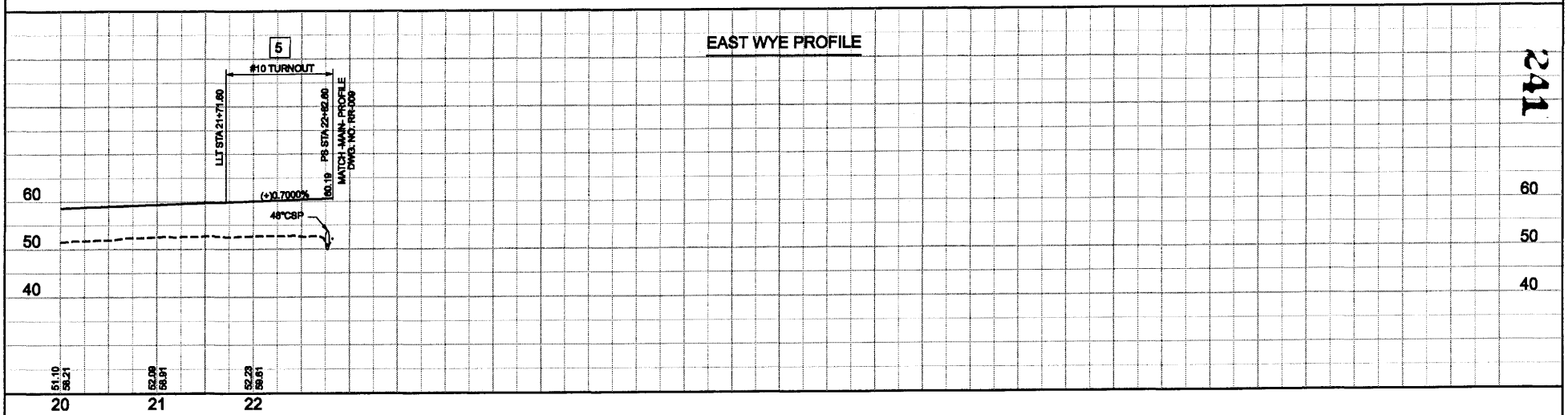
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 3
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-02B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:





241

REV. NO	DATE	BY	APP. BY	DESCRIPTION

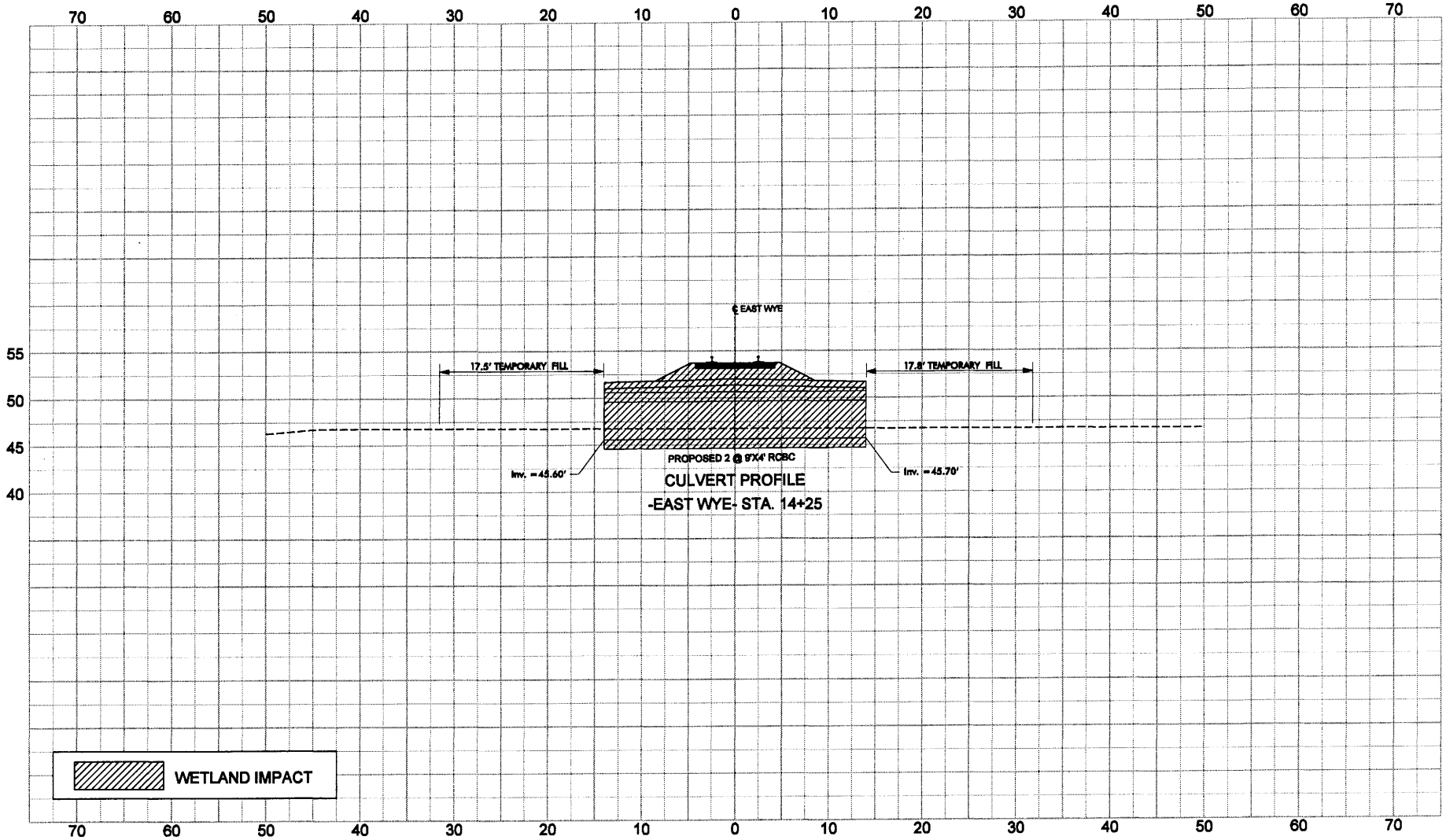
DESIGNED BY: CPV
DRAWN BY: ABR
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
PROFILE
SITE 3
KINSTON, NC

PROJECT NUMBER: U-2928B
DRAWING NO: W-02C
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



242

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

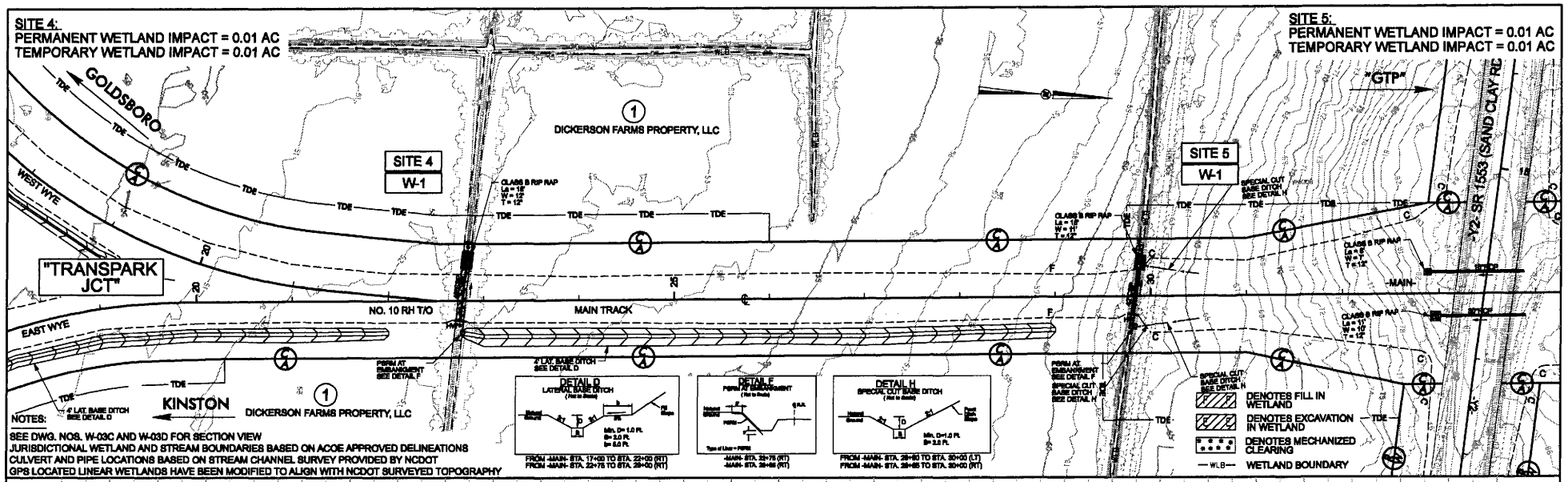
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

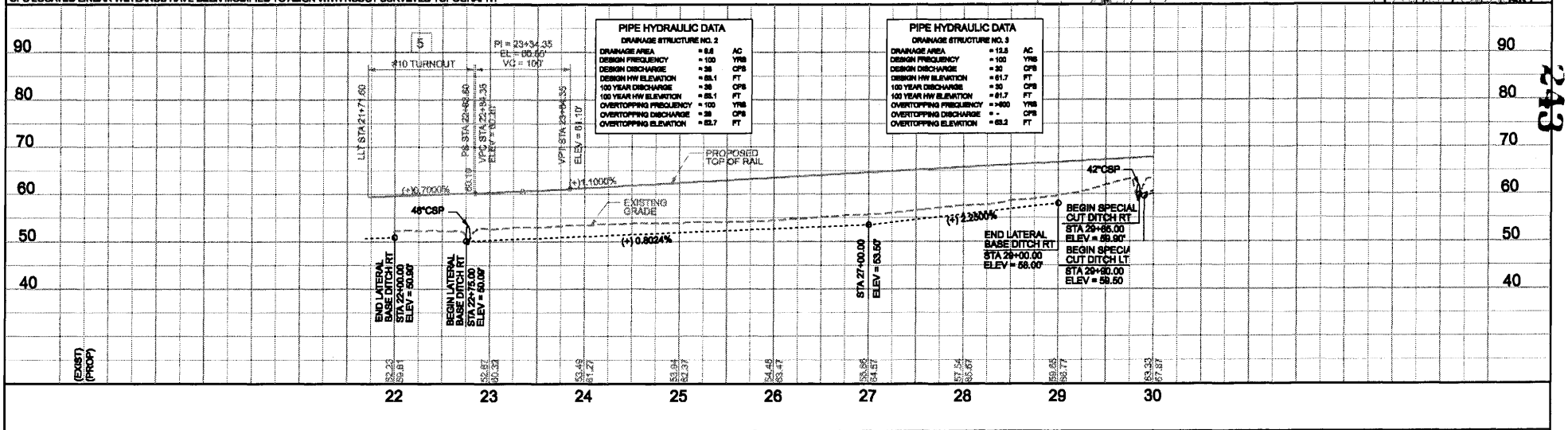
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27608
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
CULVERT PROFILE
SITE 3
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-02D
SCALE: 1" = 10'
SHEET NO:





REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
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CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

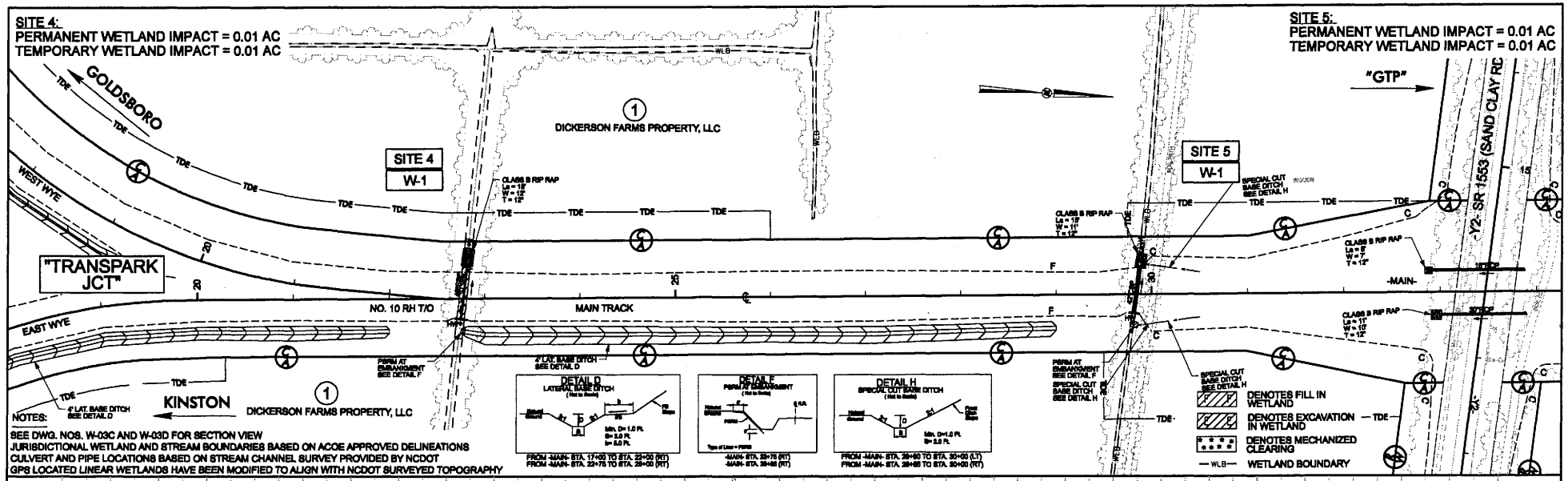
GTP Rail Access

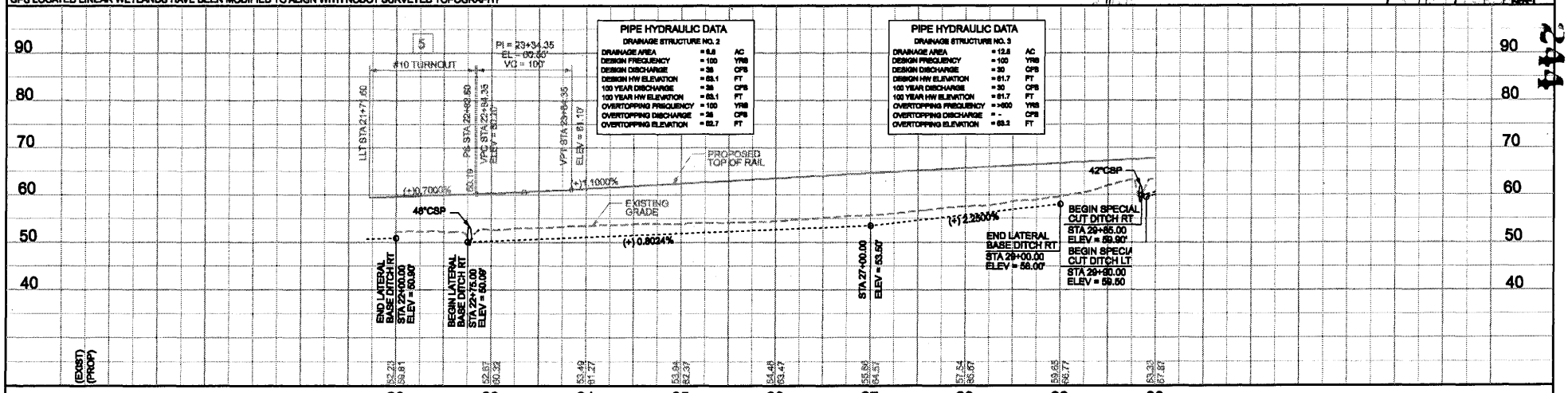
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 4 & 5

KINSTON, NC

PROJECT NUMBER: 44675
DRAWING NO: W-03A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

243





PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 2

DRAINAGE AREA	= 6.8	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 38	CFS
DESIGN HW ELEVATION	= 63.1	FT
100 YEAR DISCHARGE	= 38	CFS
100 YEAR HW ELEVATION	= 63.1	FT
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING DISCHARGE	= 26	CFS
OVERTOPPING ELEVATION	= 62.7	FT

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 3

DRAINAGE AREA	= 12.6	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 30	CFS
DESIGN HW ELEVATION	= 61.7	FT
100 YEAR DISCHARGE	= 30	CFS
100 YEAR HW ELEVATION	= 61.7	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 63.2	FT

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
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CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

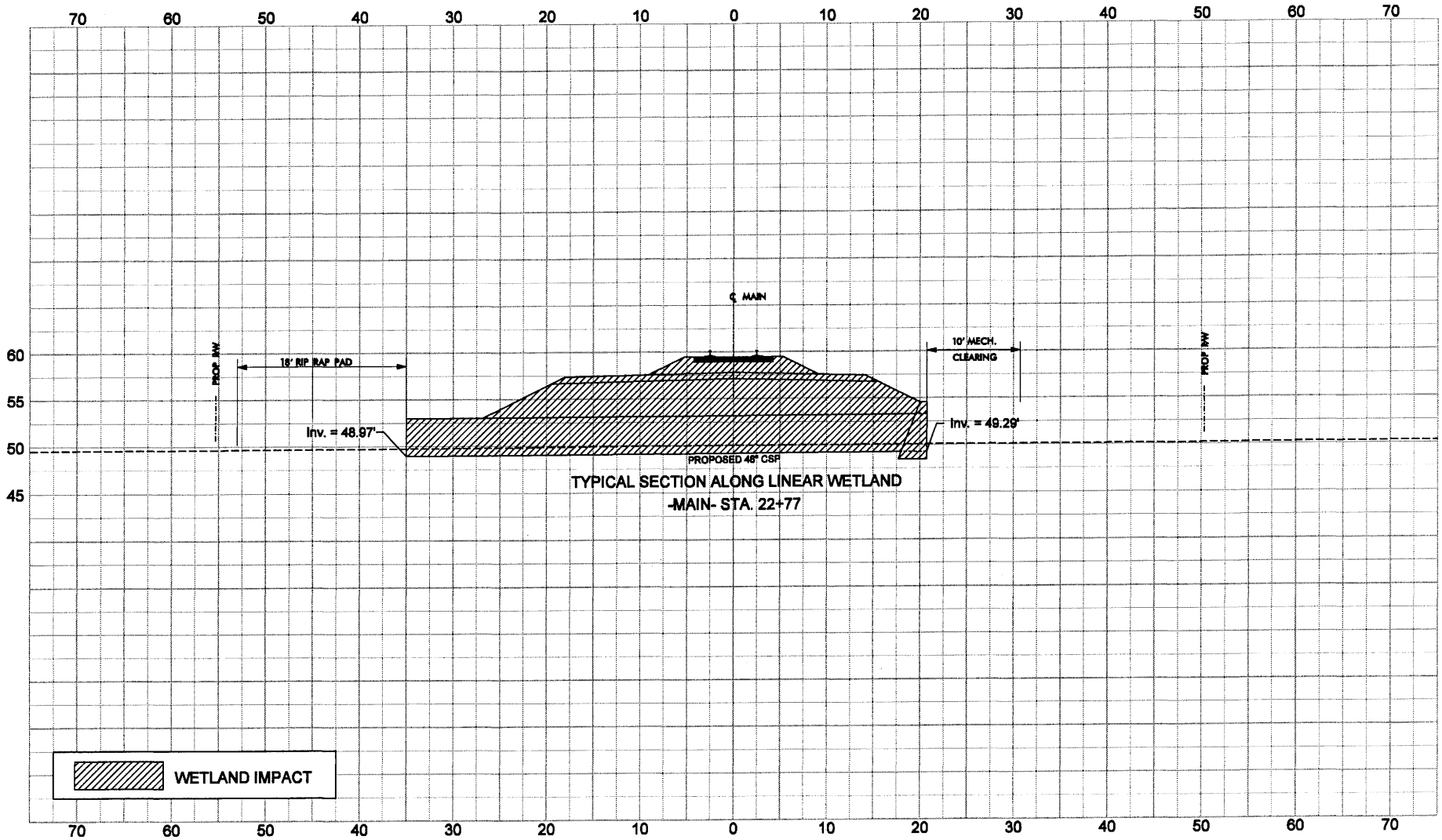
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 4 & 5

KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-03B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



245

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

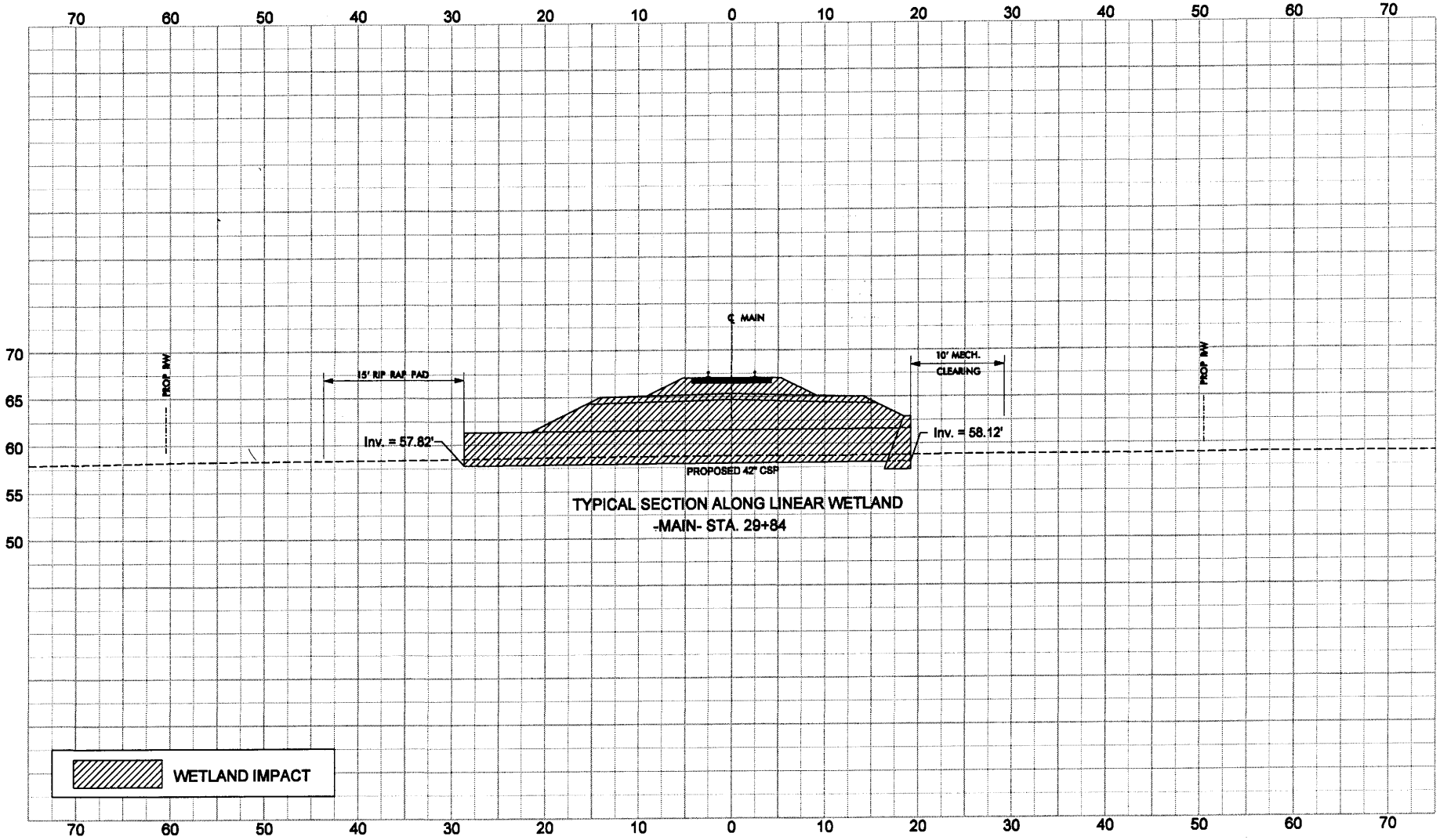
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
849 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1524

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 4
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-03C
SCALE: 1" = 10'
SHEET NO:



REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

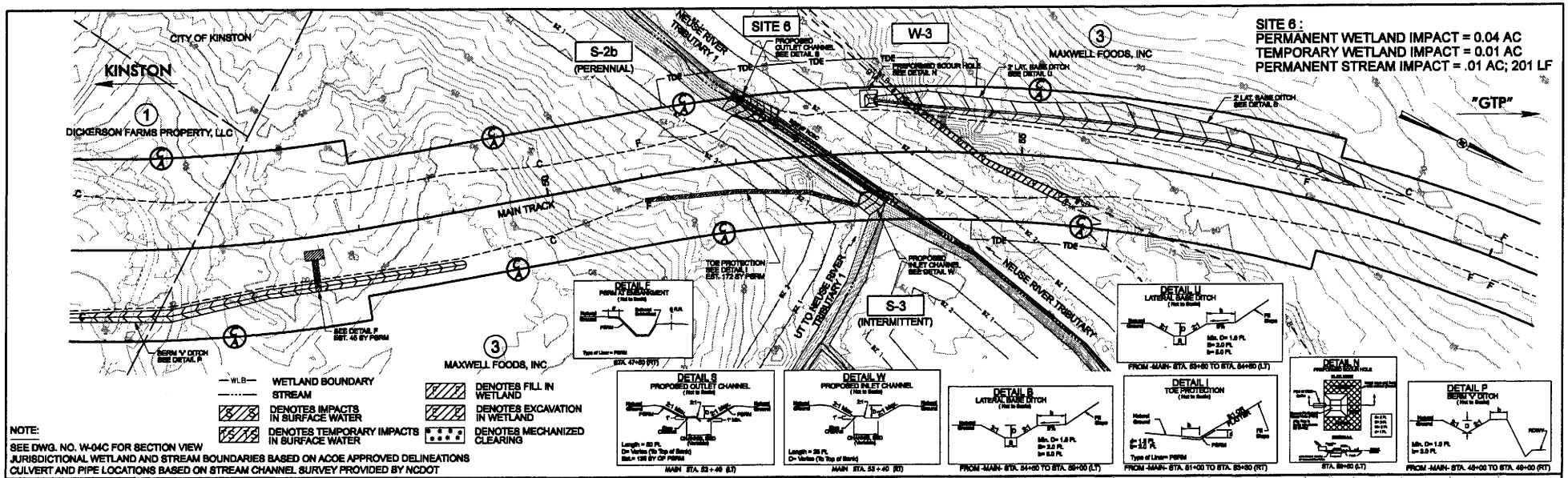
HNTB
HNTB NORTH CAROLINA, P.C.
248 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

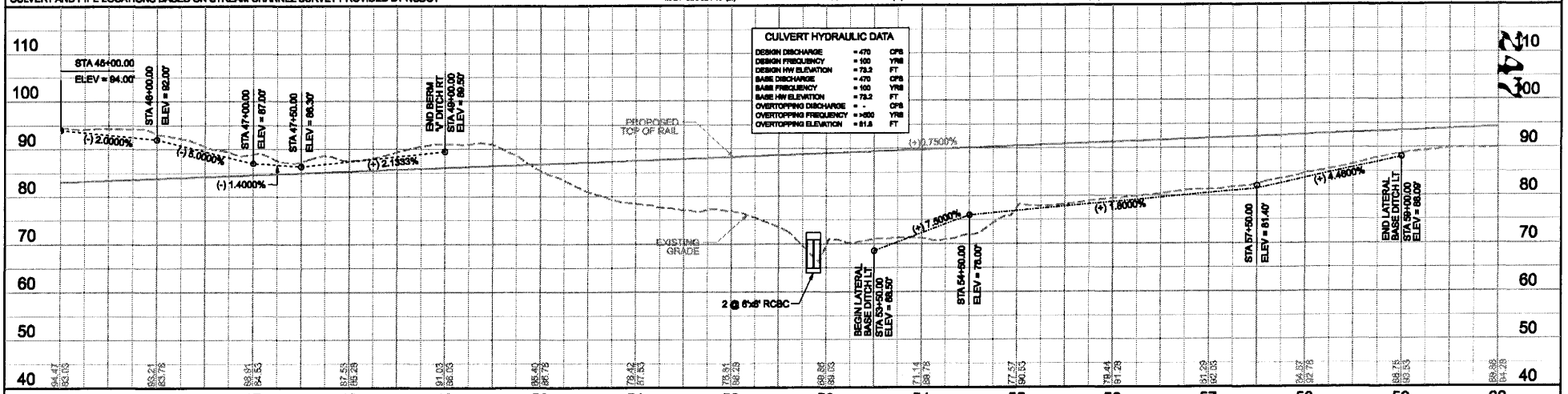
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 5
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-03D
SCALE: 1" = 10'
SHEET NO:

246



NOTE:
SEE DWG. NO. W-04C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

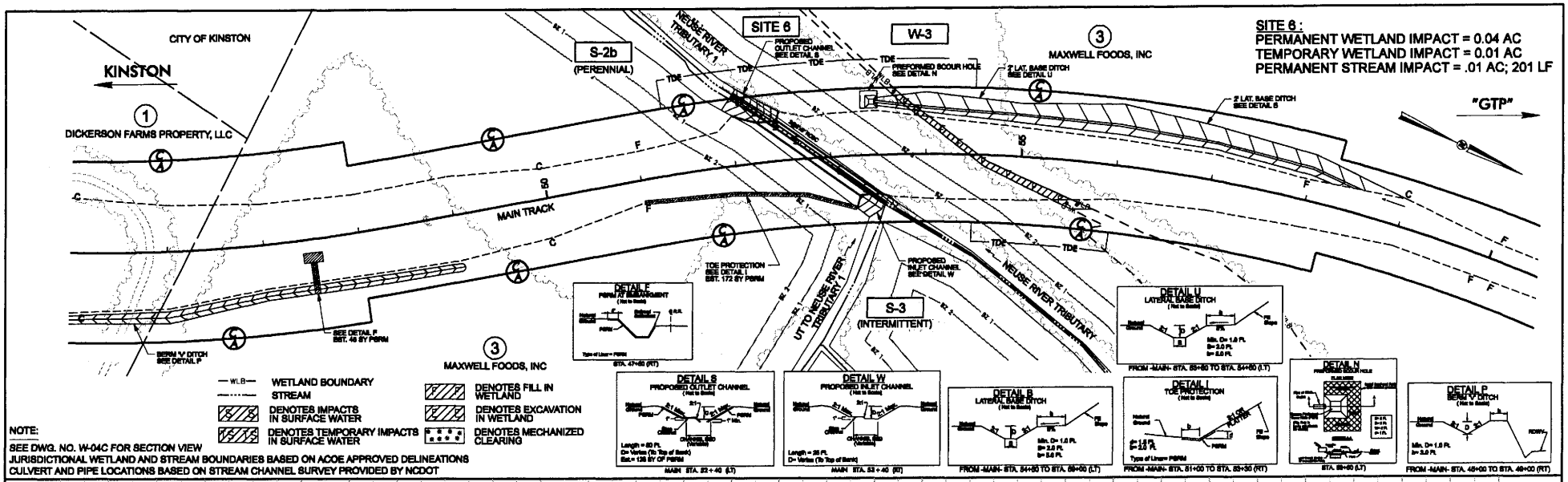
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

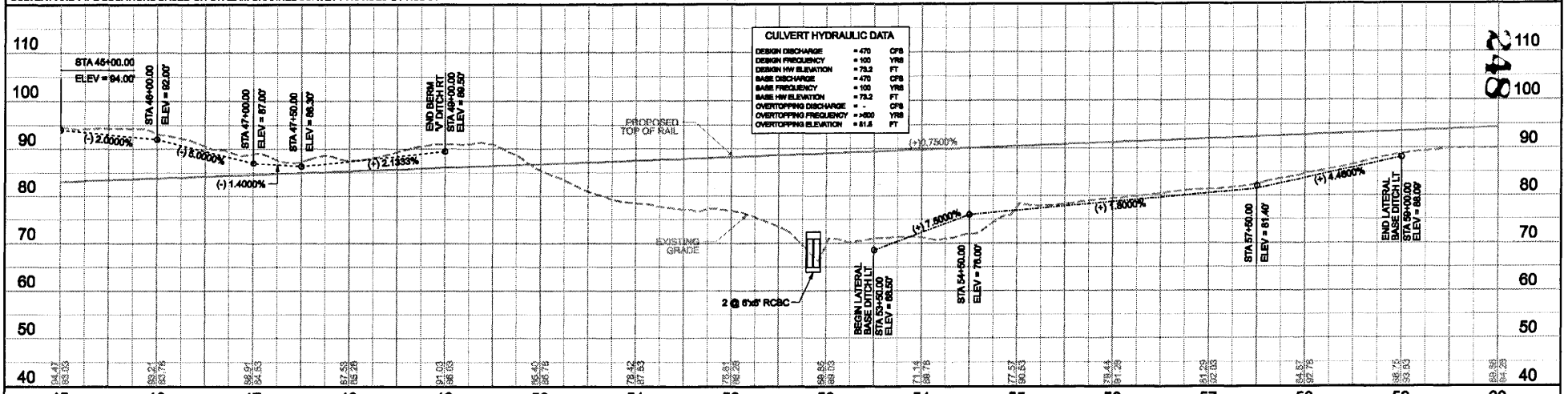
HNTB
HNTB NORTH CAROLINA, P.C.
348 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1584

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 6
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-04A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:





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DATE: JUNE 17, 2009

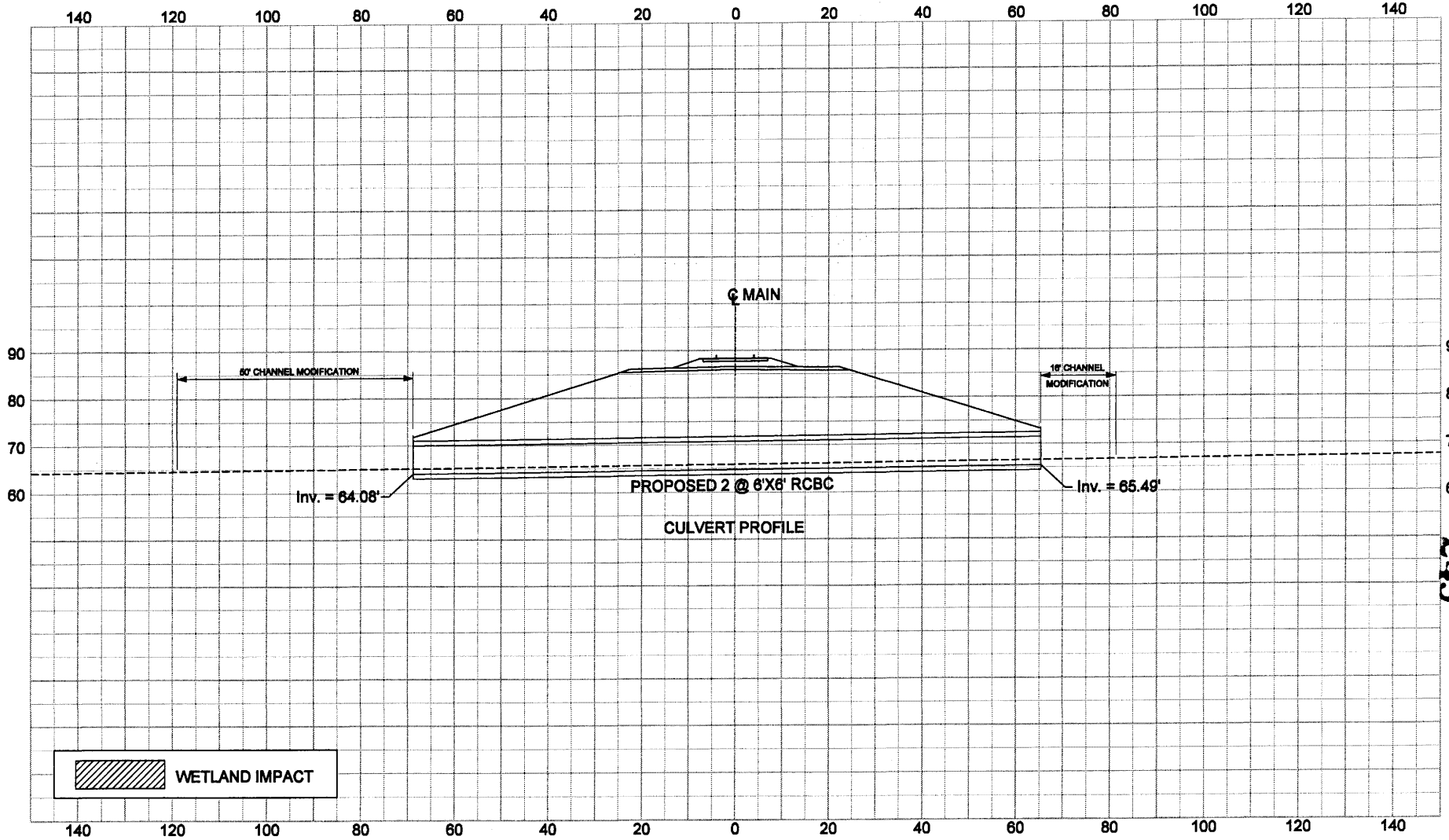
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 6
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-04B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



249

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
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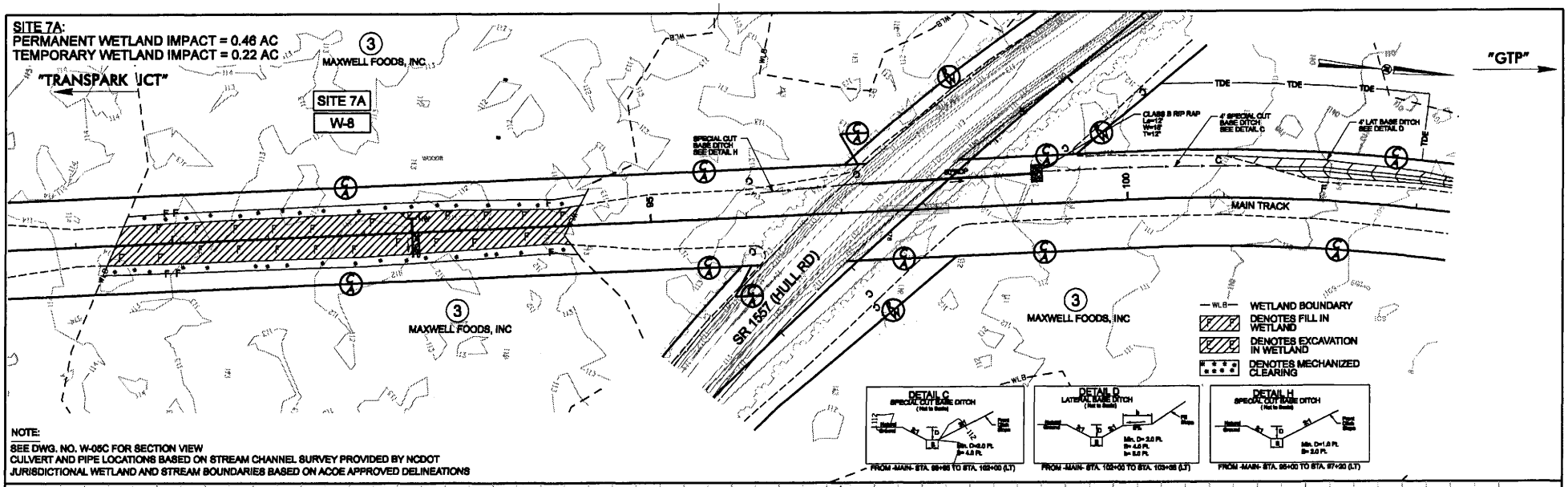
549 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

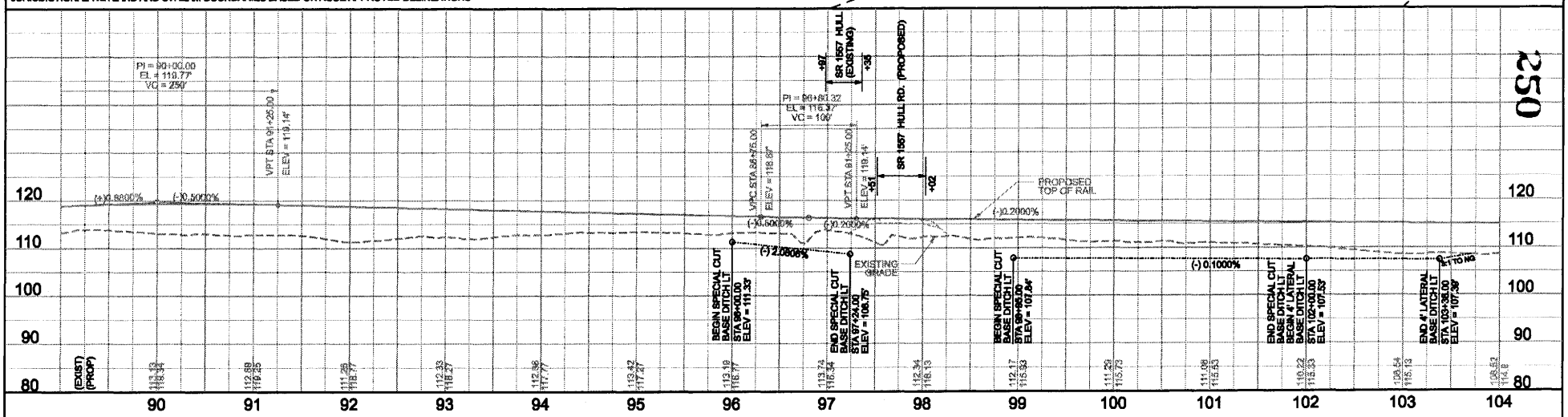
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
CULVERT PROFILE
SITE 6
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-04C
SCALE: 1" = 20'
SHEET NO:

SITE 7A:
PERMANENT WETLAND IMPACT = 0.46 AC
TEMPORARY WETLAND IMPACT = 0.22 AC



NOTE:
SEE DWG. NO. W-05C FOR SECTION VIEW
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS



REV. NO.	DATE	BY	APP. BY	DESCRIPTION

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CHECKED BY: JKK
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NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
0-1664

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 7A
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-05A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

SITE 7A:
PERMANENT WETLAND IMPACT = 0.46 AC
TEMPORARY WETLAND IMPACT = 0.22 AC

"TRANSPARK UCT"

"GTP"

SITE 7A
W-8

MAXWELL FOODS, INC

SR 1557 (HULL RD)

MAIN TRACK

SPECIAL CUT BASE DITCH SEE DETAIL H

CLASS B RIP RAP

4' SPECIAL CUT BASE DITCH SEE DETAIL C

4' LAT BASE DITCH SEE DETAIL D

WETLAND BOUNDARY
DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING

DETAIL C
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D=0.0 Ft.
B= 4.0 Ft.
FROM -MAIN- STA. 99+95 TO STA. 102+00 (LT)

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2.0 Ft.
B= 4.0 Ft.
B= 5.0 Ft.
FROM -MAIN- STA. 102+00 TO STA. 103+38 (LT)

DETAIL H
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D= 1.0 Ft.
B= 2.0 Ft.
FROM -MAIN- STA. 95+00 TO STA. 97+20 (LT)

NOTE:
SEE DWG. NO. W-05C FOR SECTION VIEW
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS

PI = 99+00.00
EL = 119.77'
VC = 250'

VPT STA 91+25.00
ELEV = 119.14'

PI = 99+80.32
EL = 119.37
VC = 100'

VPC STA 98+75.00
ELEV = 118.99'

VPT STA 91+25.00
ELEV = 119.14'

SR 1557 HULL RD. (EXISTING)

SR 1557 HULL RD. (PROPOSED)

PROPOSED TOP OF RAIL

EXISTING GRADE

(+)0.8000%
(-)0.5000%
(-)0.6000%
(-)0.2000%
(-)2.0000%
(-)0.2000%
(-)0.1000%

BEGIN SPECIAL CUT BASE DITCH LT STA 96+00.00 ELEV = 111.33'

END SPECIAL CUT BASE DITCH LT STA 97+24.00 ELEV = 108.75'

BEGIN SPECIAL CUT BASE DITCH LT STA 99+95.00 ELEV = 107.84'

END SPECIAL CUT BASE DITCH LT BEGIN 4' LATERAL BASE DITCH LT STA 102+00.00 ELEV = 107.53'

END 4' LATERAL BASE DITCH LT STA 103+38.00 ELEV = 107.39'

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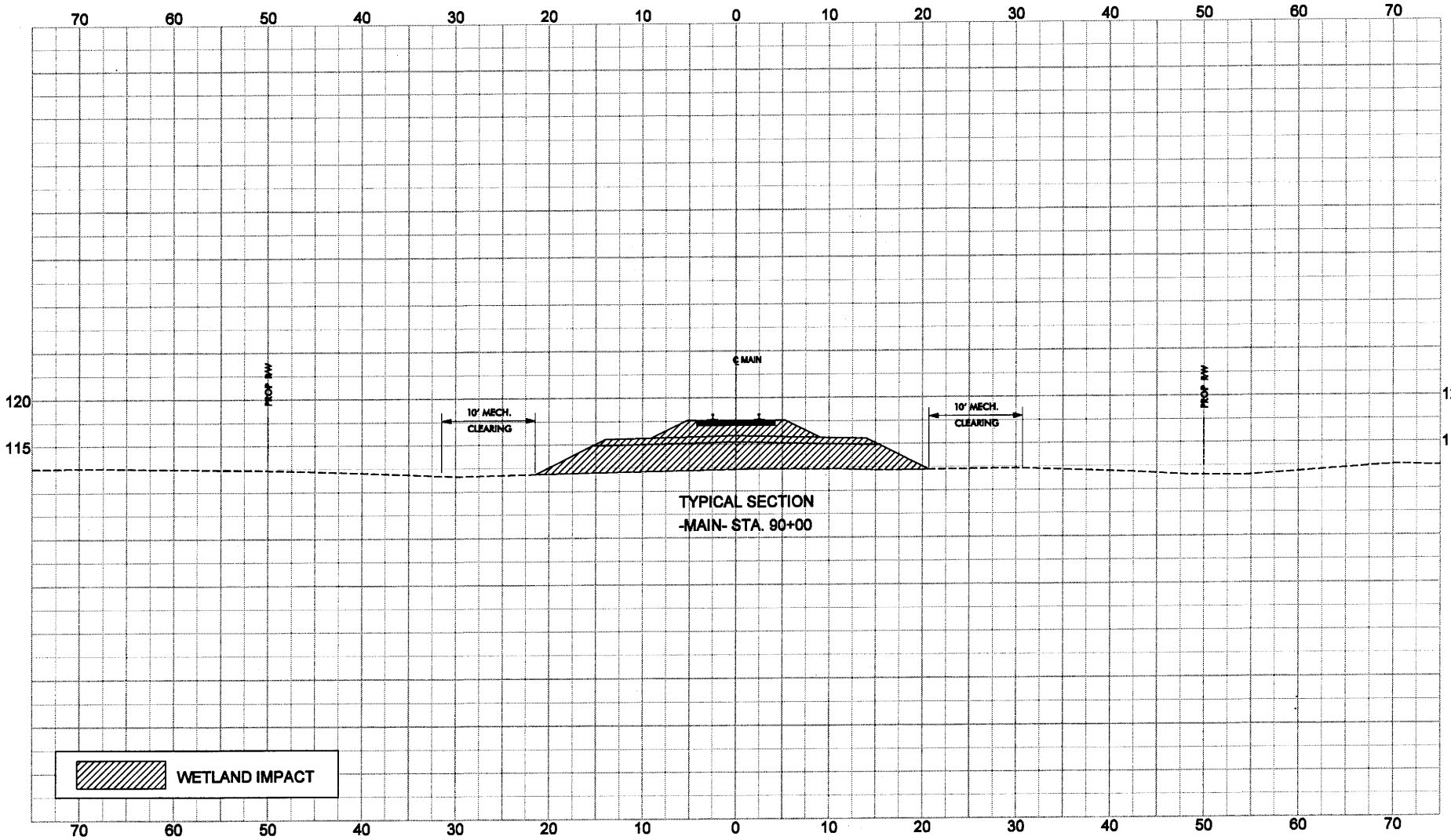
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 7A
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-05B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1555

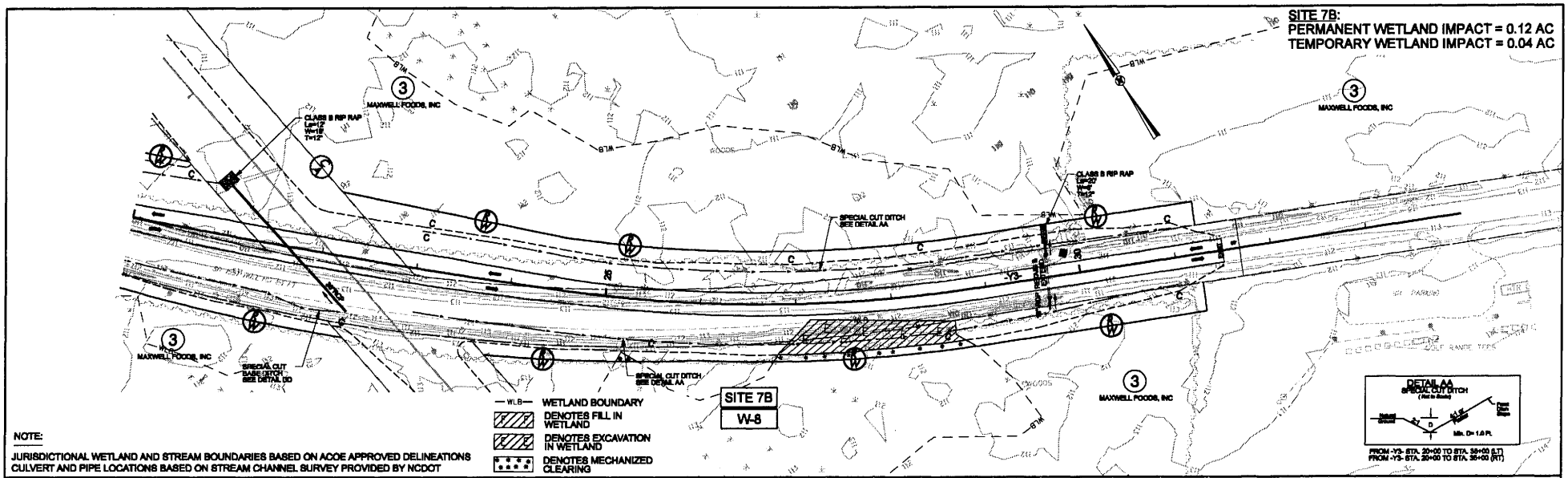
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 7A
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-05C
SCALE: 1" = 10'
SHEET NO:

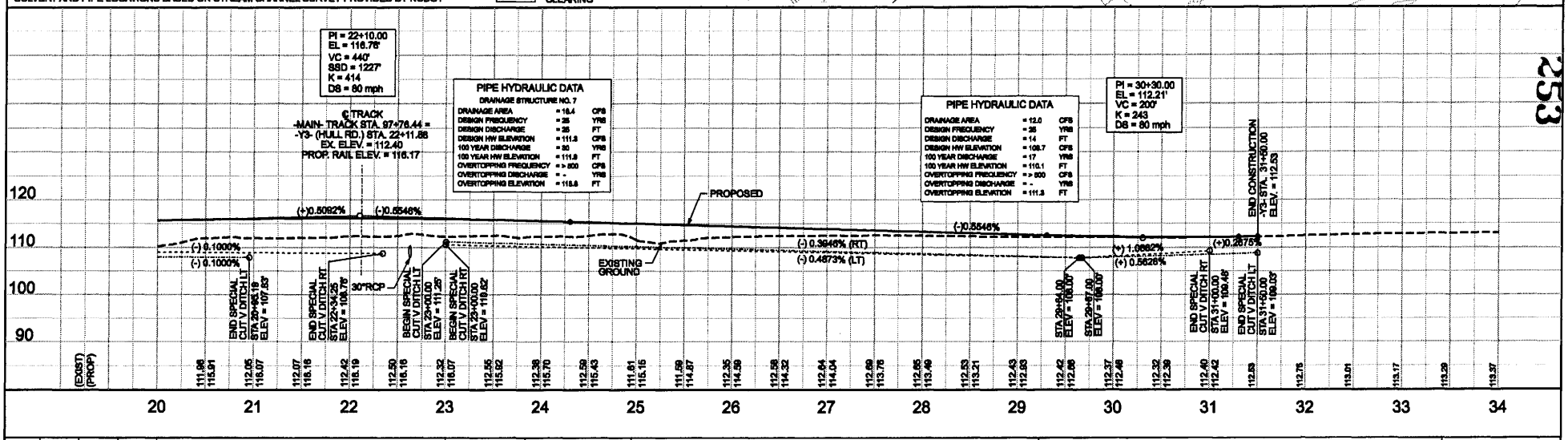
252

SITE 7B:
PERMANENT WETLAND IMPACT = 0.12 AC
TEMPORARY WETLAND IMPACT = 0.04 AC



NOTE:

JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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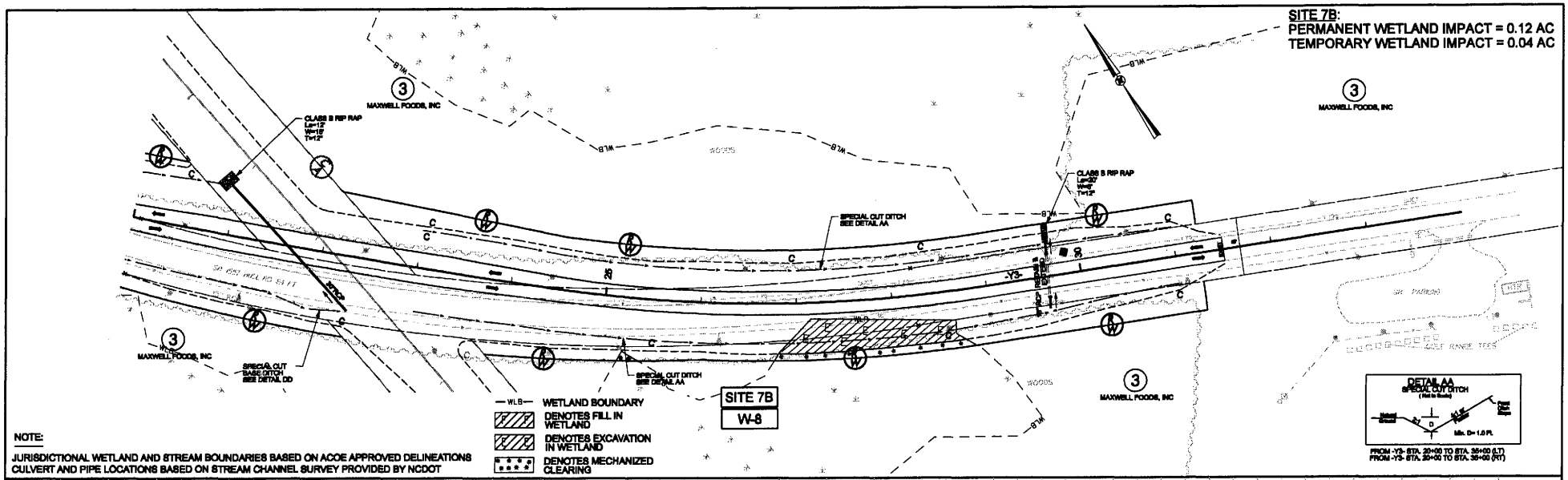
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

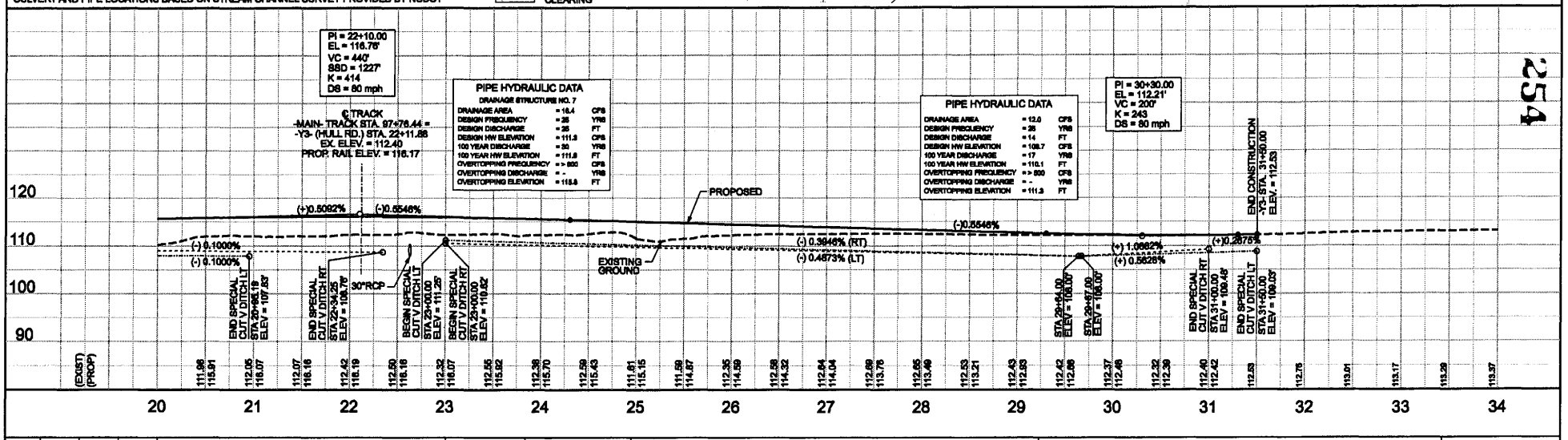
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 7B
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-06A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

SITE 7B:
PERMANENT WETLAND IMPACT = 0.12 AC
TEMPORARY WETLAND IMPACT = 0.04 AC



NOTE:
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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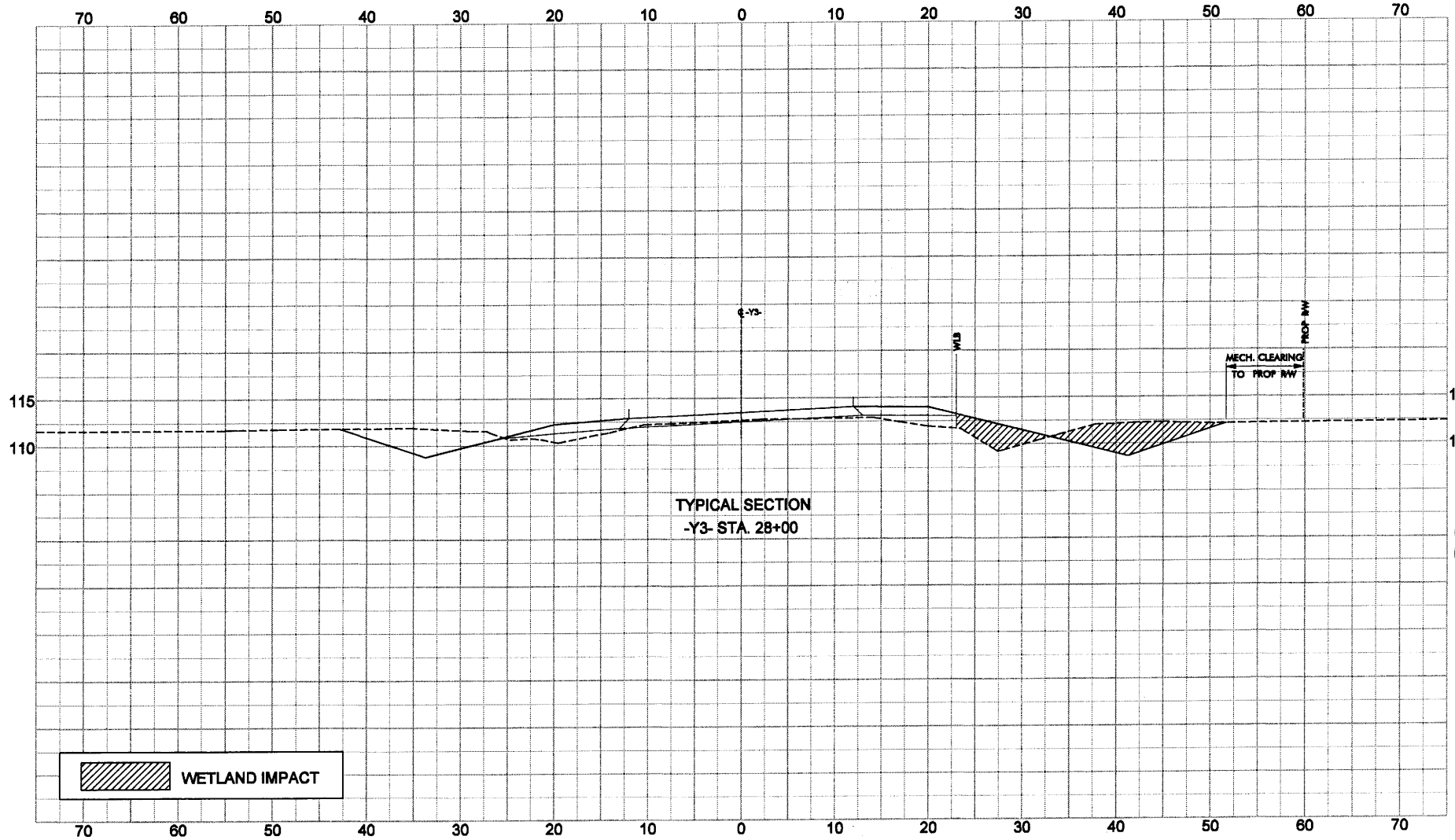
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.O.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
0-1884

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 7B
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-068
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



255

REV. NO	DATE	BY	APP. BY	DESCRIPTION

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DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27608
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 7B
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-06C
SCALE: 1" = 10'
SHEET NO:

SITE 8:
PERMANENT WETLAND IMPACT = 0.92 AC
TEMPORARY WETLAND IMPACT = 0.38 AC

SITE 8
W-9
W-10

"TRANSPARK JCT"

"GTP"

TOE PROTECTION SEE DETAIL I EST 340 SY PSRM

TOE PROTECTION SEE DETAIL I EST 112 SY PSRM

4' LAT. BASE DITCH SEE DETAIL D

4' BASE TAIL DITCH S=-1.10% SEE DETAIL R

CLASS B RIP RAP

MAIN TRACK

5 WALTER POOLE REALTY, INC.

5 WALTER POOLE REALTY, INC

WLB

TDE

NOTE:

SEE DWG. NO. W-07C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT

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

DETAIL D
LATERAL BASE DITCH (Not to Scale)
Min. D= 2.0 Ft. B= 4.0 Ft. b= 8.0 Ft.
FROM -MAIN- STA. 113+00 TO STA. 120+00 (LT)

DETAIL I
TOE PROTECTION (Not to Scale)
Type of Liner= PSRM
FROM -MAIN- STA. 105+00 TO STA. 119+00 (LT)

DETAIL R
STANDARD BASE DITCH (Not to Scale)
Min. D= Varies B= 4.0 Ft.
-MAIN- STA. 115+00 (RT)

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 8

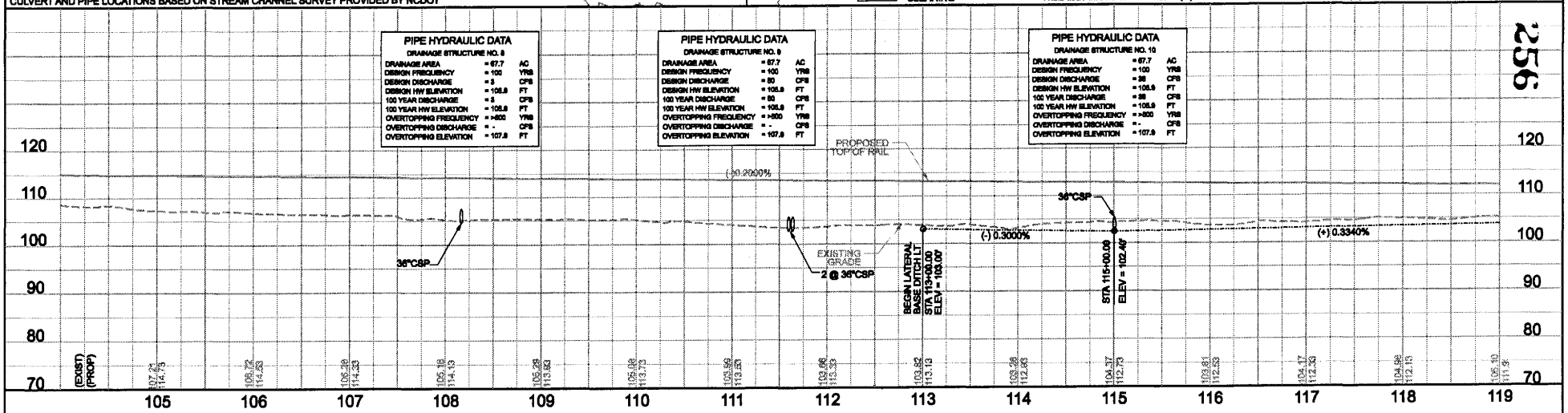
DRAINAGE AREA	= 67.7	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 3	CFS
DESIGN HW ELEVATION	= 105.8	FT
100 YEAR DISCHARGE	= 3	CFS
100 YEAR HW ELEVATION	= 105.8	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 107.8	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 9

DRAINAGE AREA	= 67.7	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 50	CFS
DESIGN HW ELEVATION	= 105.8	FT
100 YEAR DISCHARGE	= 50	CFS
100 YEAR HW ELEVATION	= 105.8	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 107.8	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 10

DRAINAGE AREA	= 67.7	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 36	CFS
DESIGN HW ELEVATION	= 105.8	FT
100 YEAR DISCHARGE	= 36	CFS
100 YEAR HW ELEVATION	= 105.8	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 107.8	FT



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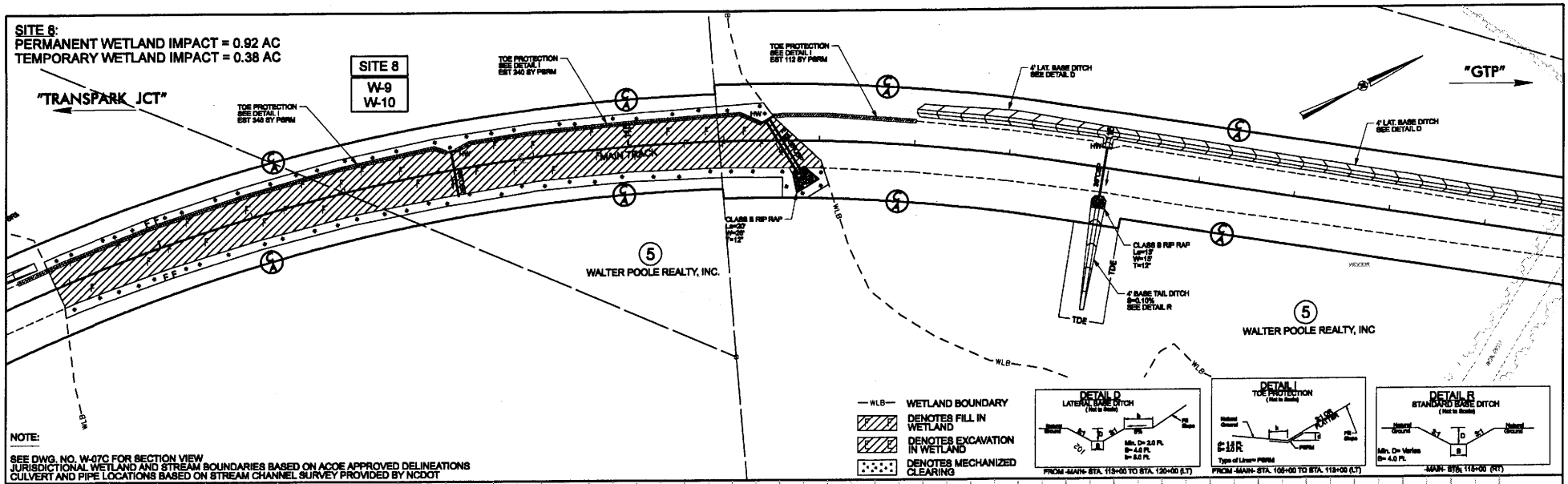
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1584

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 8
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-07A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



NOTE:

SEE DWG. NO. W-07C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 8

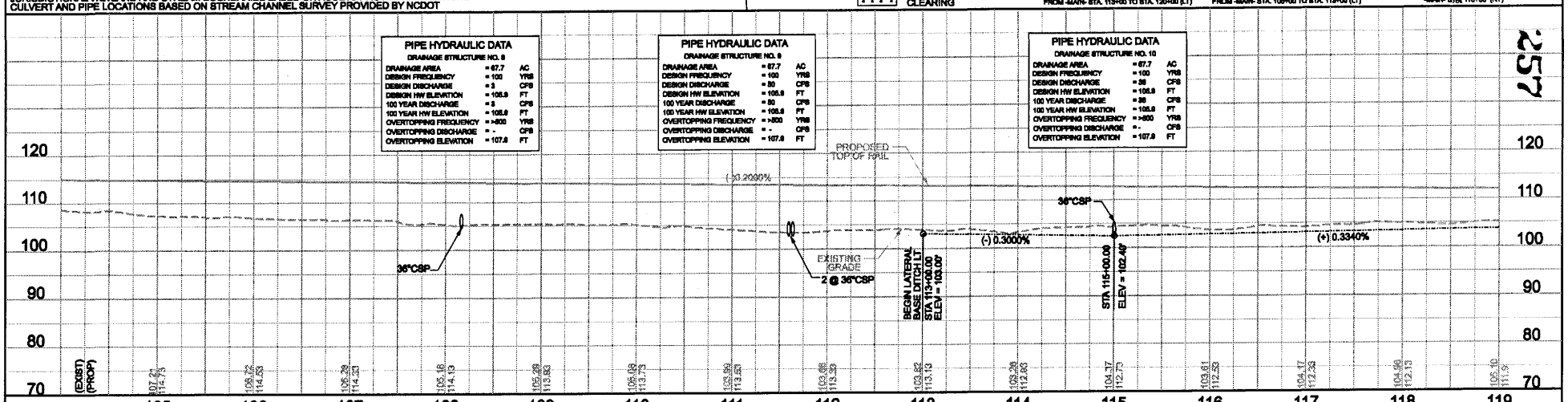
DRAINAGE AREA	= 67.7	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 3	CFS
DESIGN HW ELEVATION	= 108.8	FT
100 YEAR DISCHARGE	= 3	CFS
100 YEAR HW ELEVATION	= 108.8	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 107.8	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 9

DRAINAGE AREA	= 67.7	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 50	CFS
DESIGN HW ELEVATION	= 108.8	FT
100 YEAR DISCHARGE	= 50	CFS
100 YEAR HW ELEVATION	= 108.8	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 107.8	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 10

DRAINAGE AREA	= 67.7	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 38	CFS
DESIGN HW ELEVATION	= 108.8	FT
100 YEAR DISCHARGE	= 38	CFS
100 YEAR HW ELEVATION	= 108.8	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 107.8	FT



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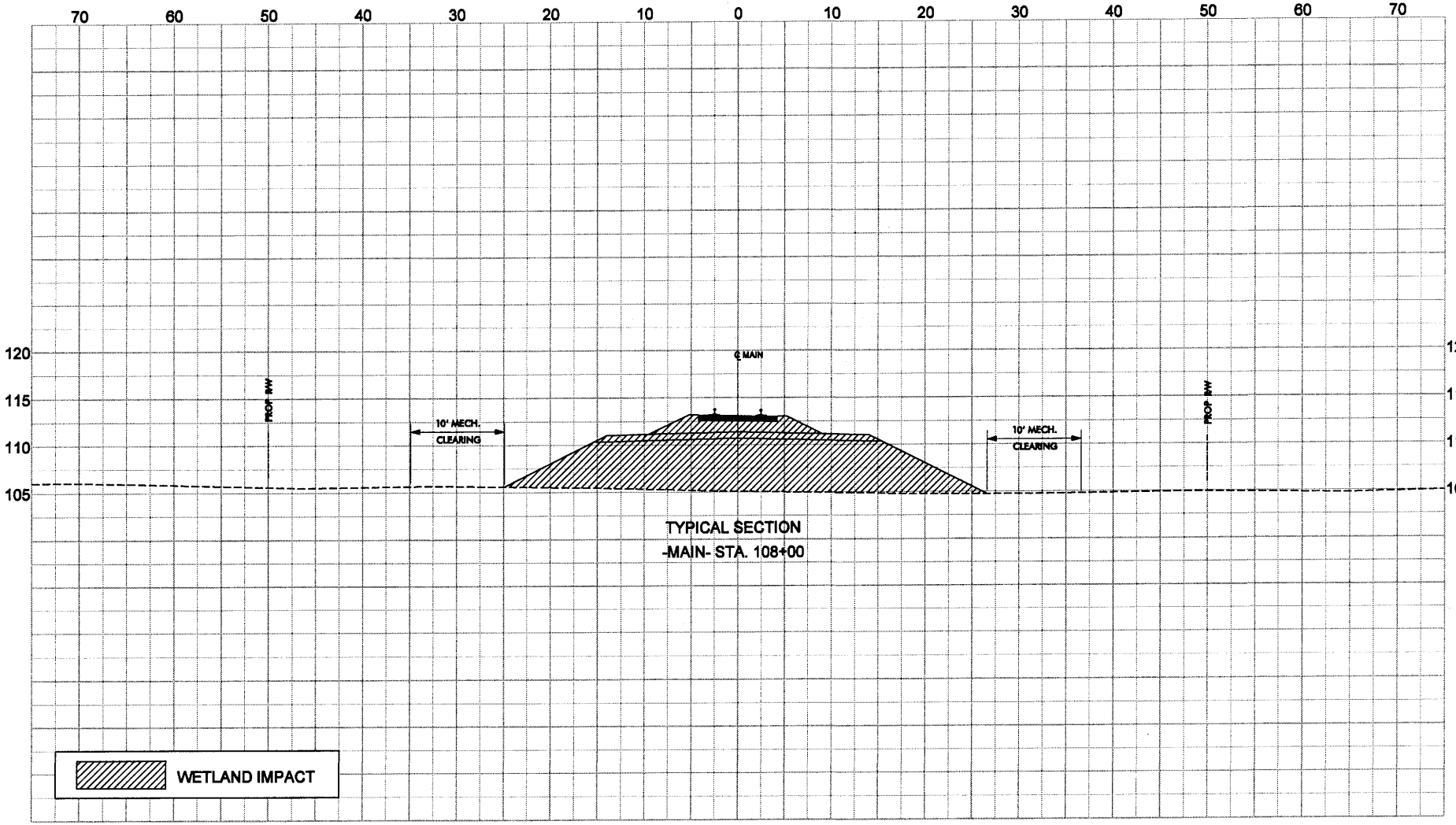
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.O.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 8
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-07B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



258

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

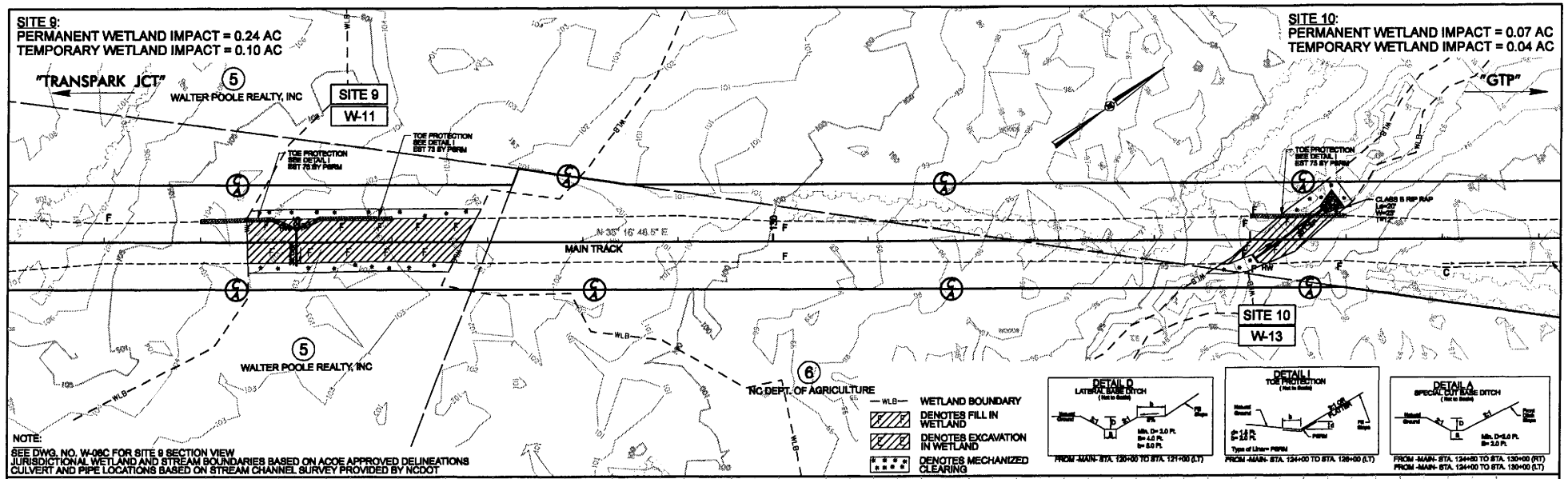
ENGINEERING AND SAFETY BRANCH
CAPITAL YARD
1553 MAIL SERVICE CENTER
RALEIGH, NC 27699-1553

HNTB
HNTB NORTH CAROLINA, P.C.
249 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

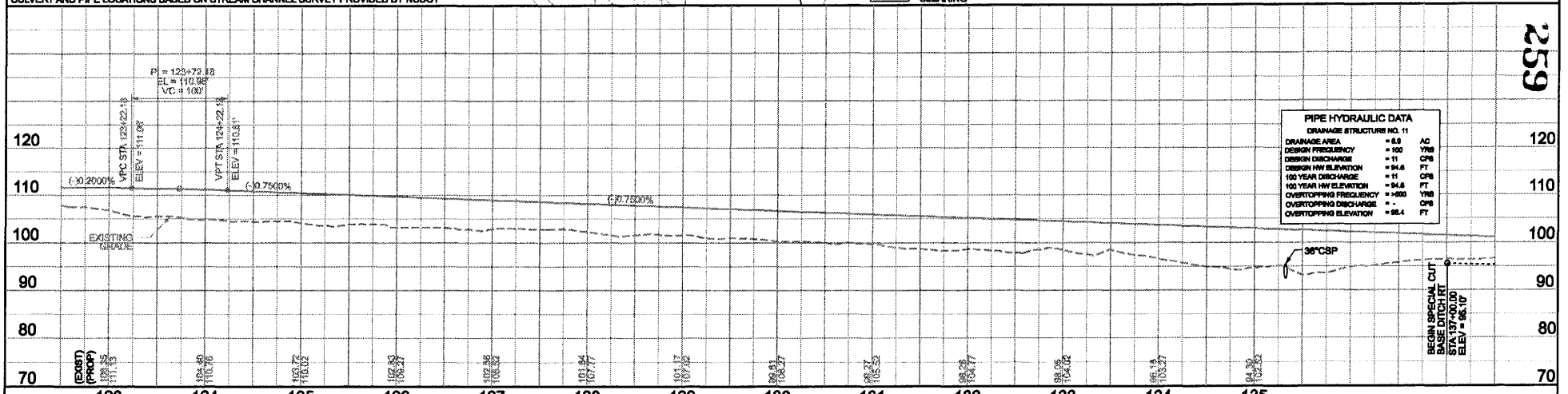
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 8
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-07C
SCALE: 1" = 10'
SHEET NO:



NOTE:
SEE DWG. NO. W-08C FOR SITE 9 SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 11

DRAINAGE AREA	= 6.9	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 11	CFS
DESIGN HW ELEVATION	= 94.6	FT
100 YEAR DISCHARGE	= 11	CFS
100 YEAR HW ELEVATION	= 94.6	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 98.4	FT

259

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

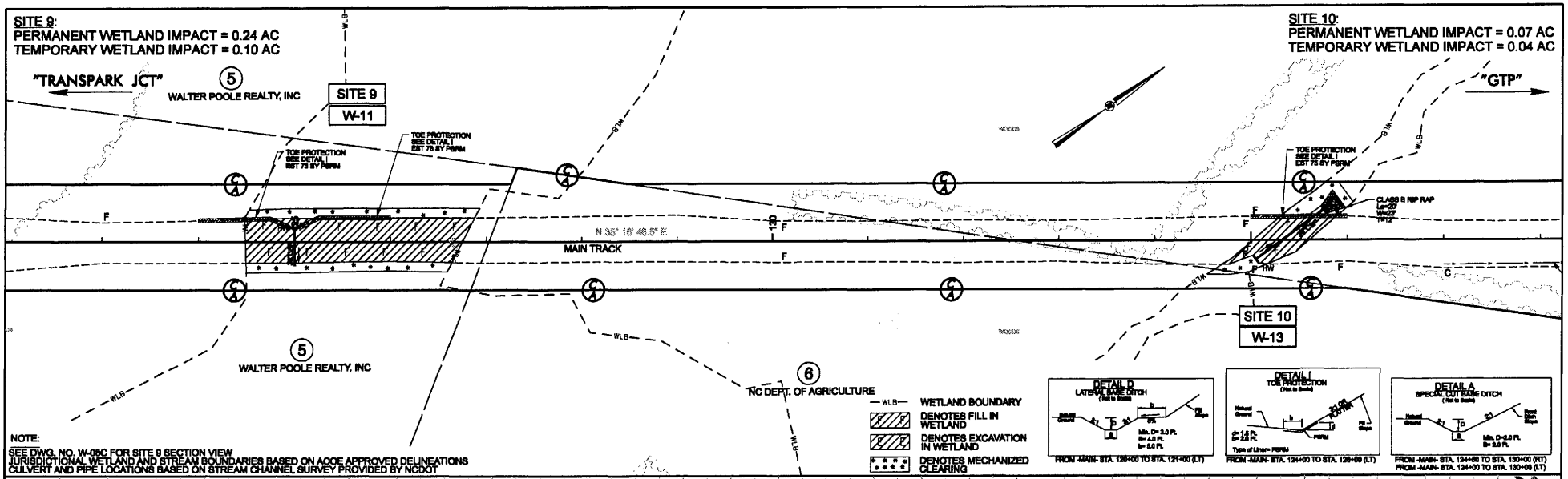
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 9 & 10

KINSTON, NC

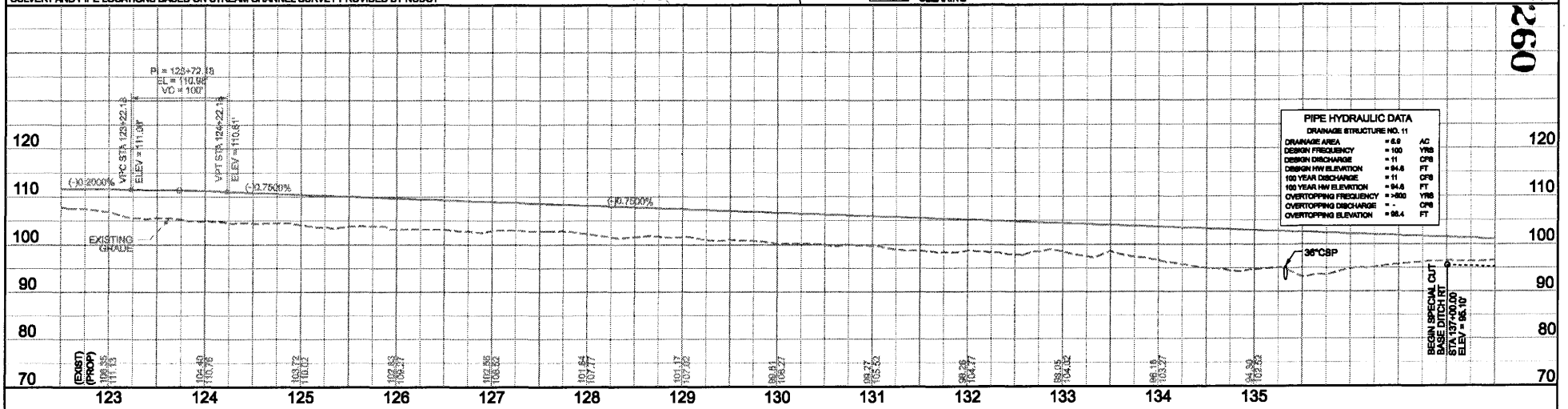
PROJECT NUMBER: 44875
DRAWING NO: W-08A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

SITE 9:
PERMANENT WETLAND IMPACT = 0.24 AC
TEMPORARY WETLAND IMPACT = 0.10 AC

SITE 10:
PERMANENT WETLAND IMPACT = 0.07 AC
TEMPORARY WETLAND IMPACT = 0.04 AC



NOTE:
SEE DWG. NO. W-08C FOR SITE 9 SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 11

DRAINAGE AREA	= 6.9	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 11	CFS
DESIGN HW ELEVATION	= 94.6	FT
100 YEAR DISCHARGE	= 11	CFS
100 YEAR HW ELEVATION	= 94.6	FT
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING ELEVATION	= 98.4	FT

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
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ENGINEERING AND SAFETY BRANCH
CAPITAL YARD
MAIL SERVICE CENTER
RALEIGH, NC 27699-1553

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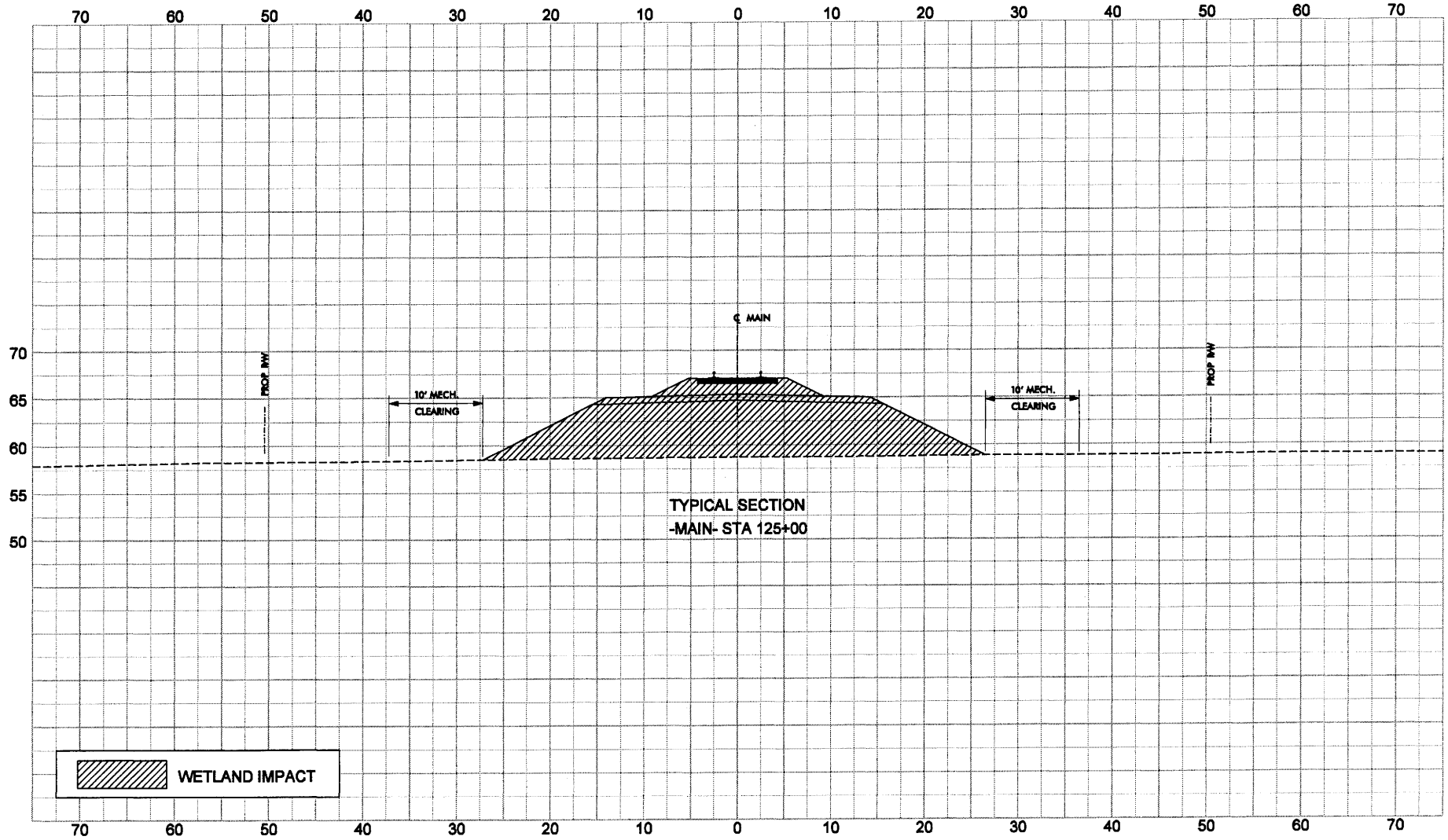
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 9 & 10
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-08B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
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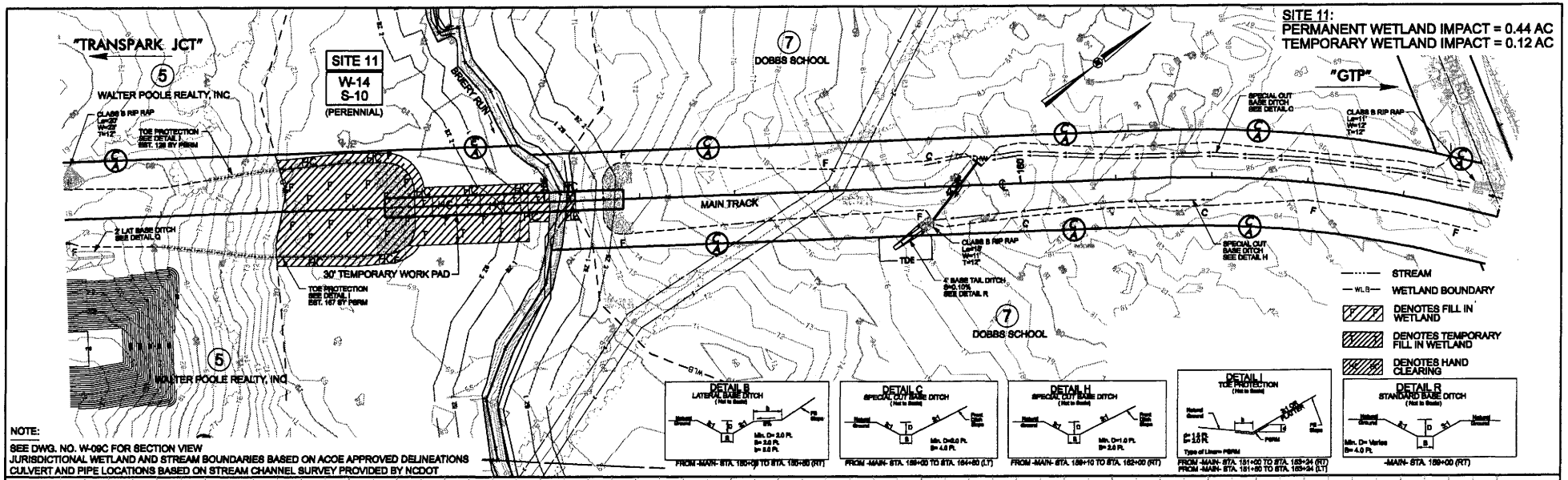
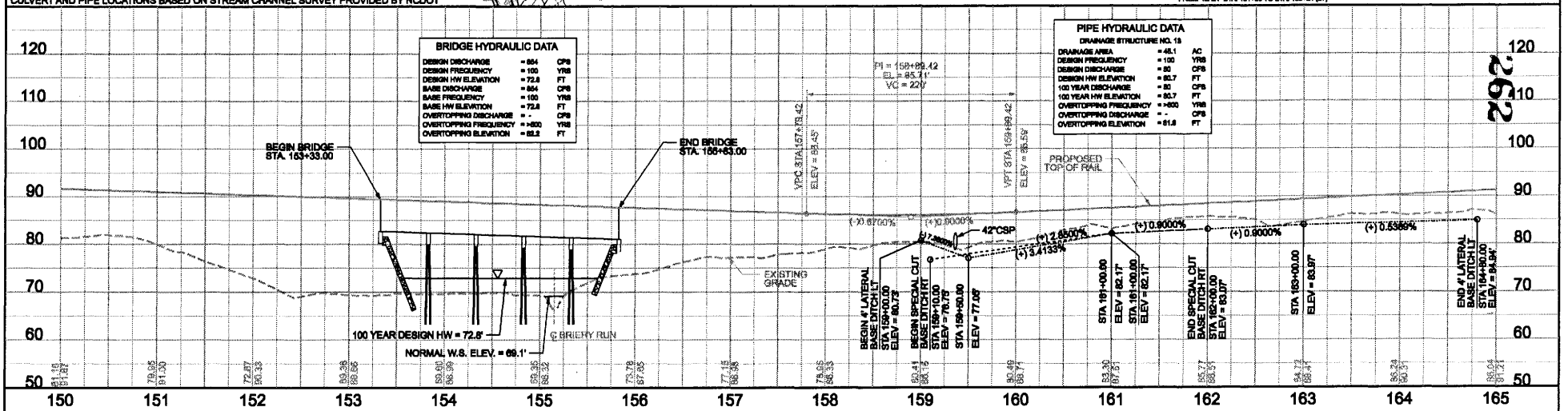
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 9
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-06C
SCALE: 1" = 10'
SHEET NO:



NOTE:
SEE DWG. NO. W-09C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



262

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

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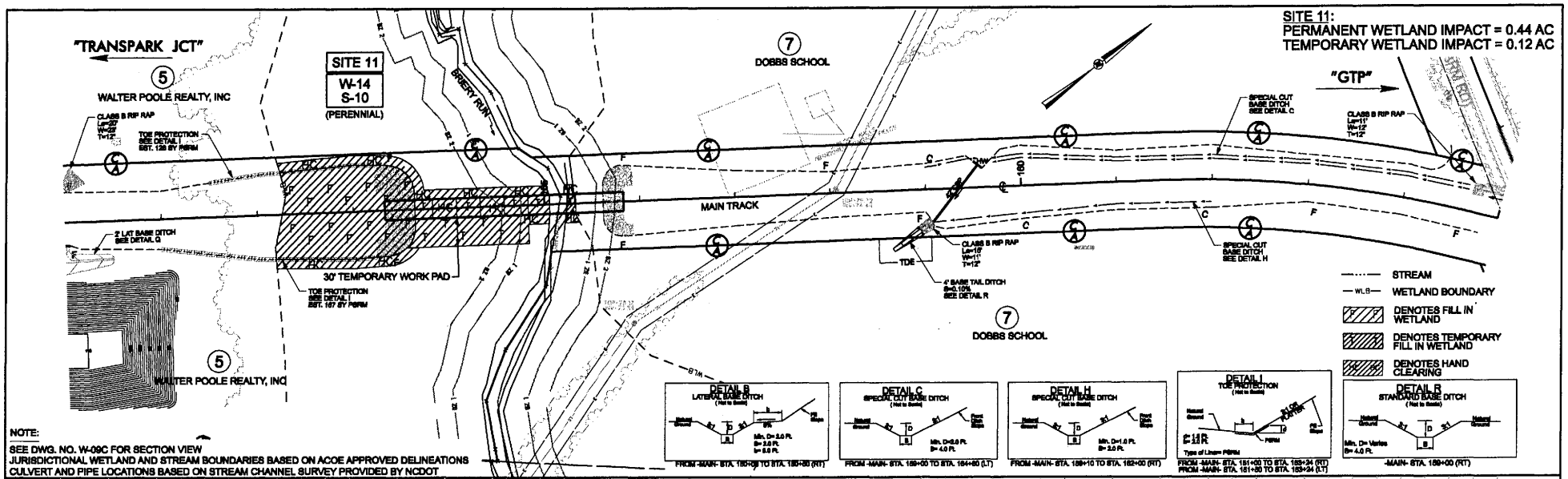
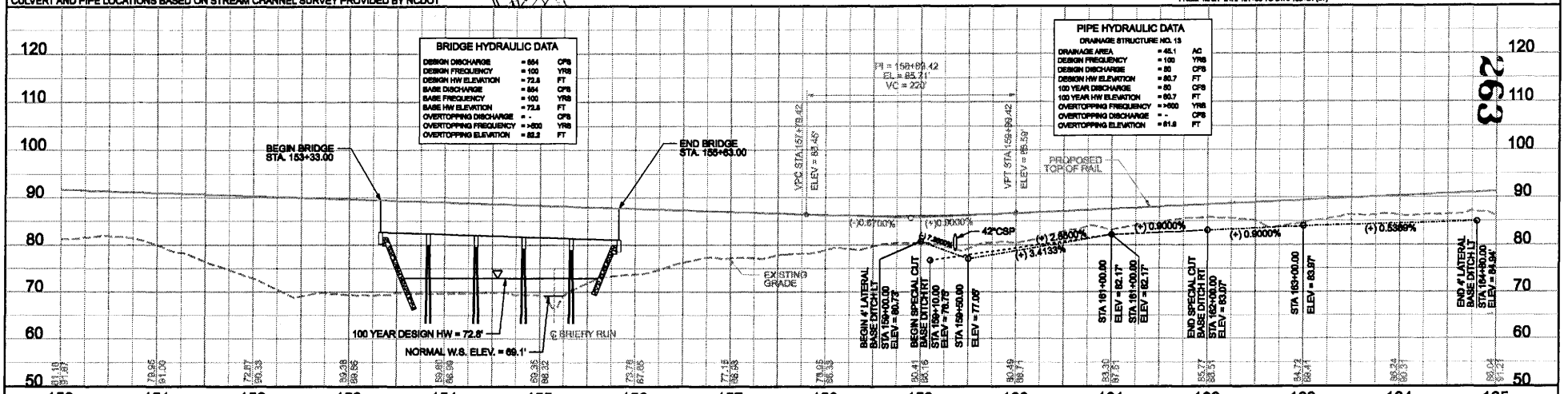
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 11
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-09A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



NOTE:
SEE DWG. NO. W-09C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



263

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

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949 E. Six Forks Road, Suite 200
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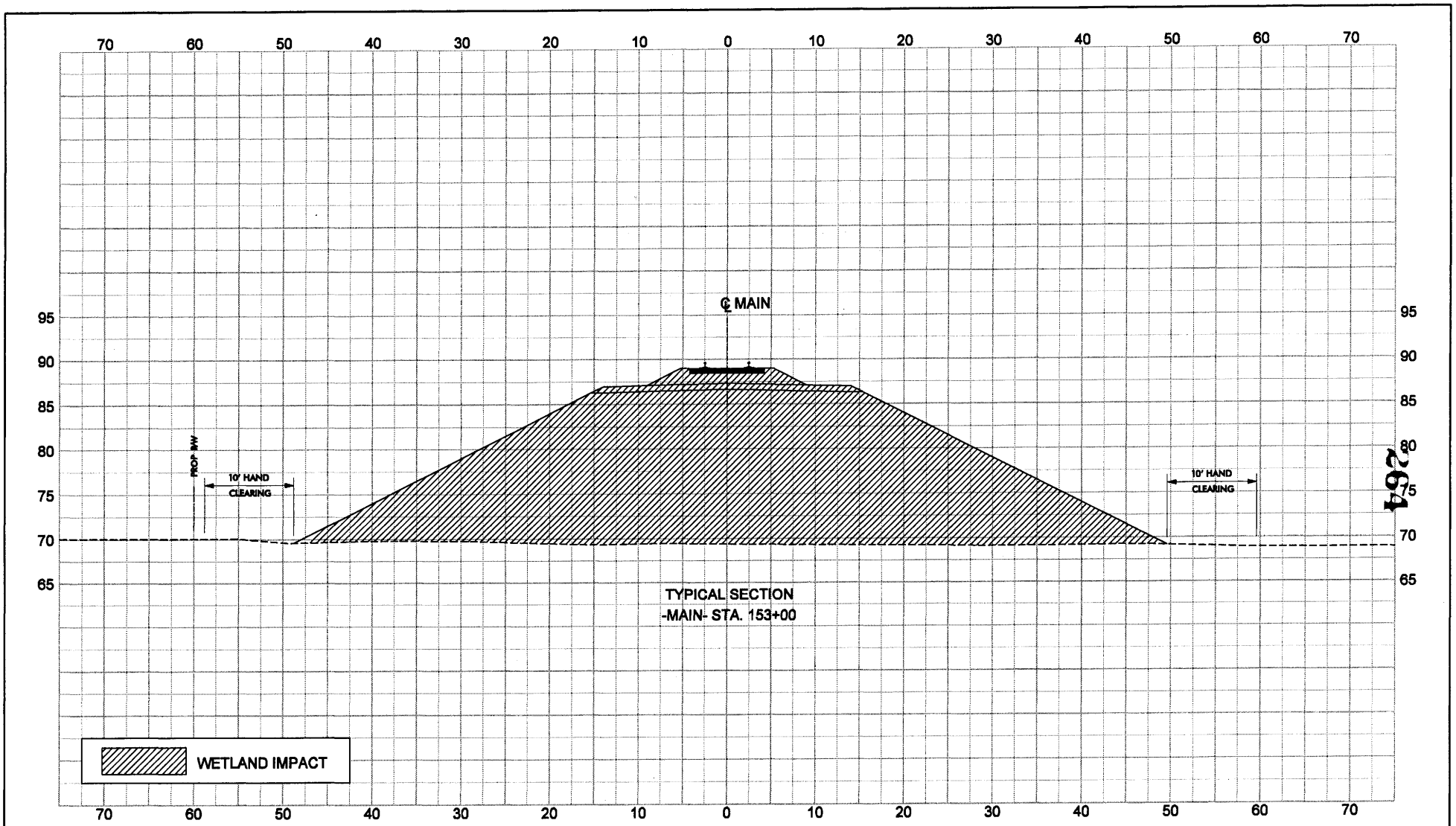
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 11
KINSTON, NC

PROJECT NUMBER: 44675
DRAWING NO: W-09B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



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CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
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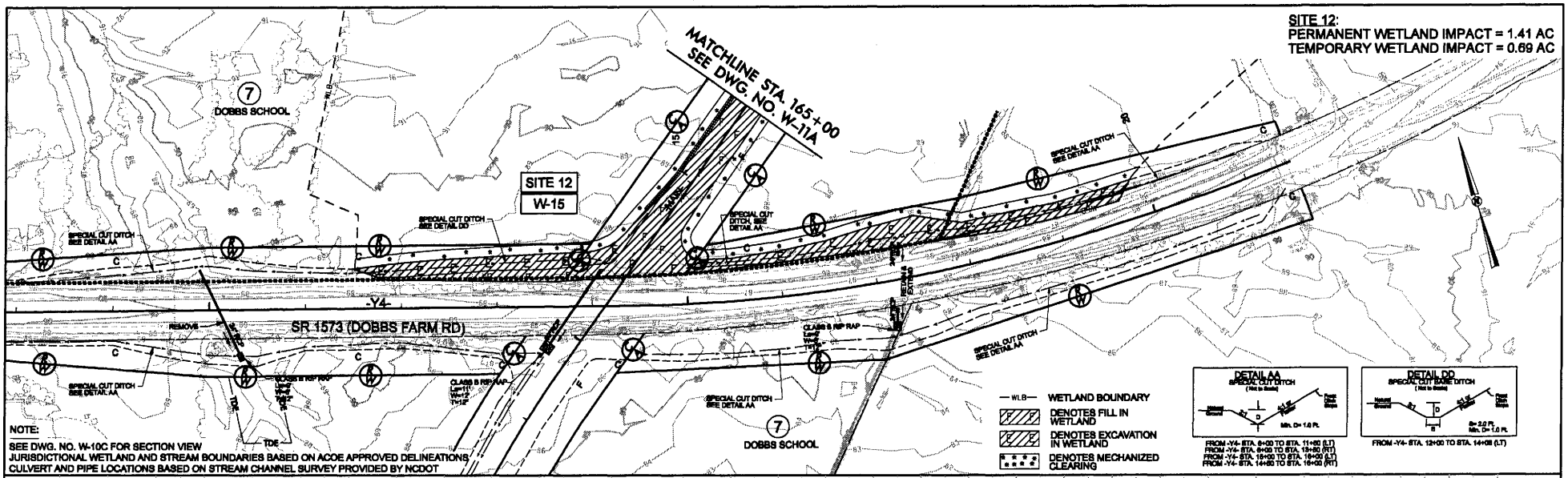
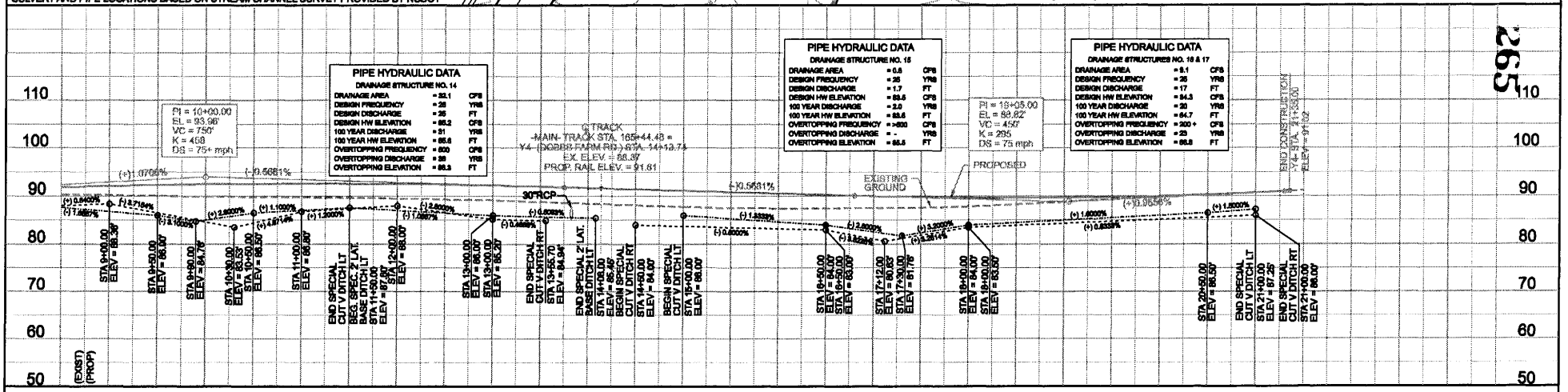
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 11
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-09C
SCALE: 1" = 10'
SHEET NO:





265

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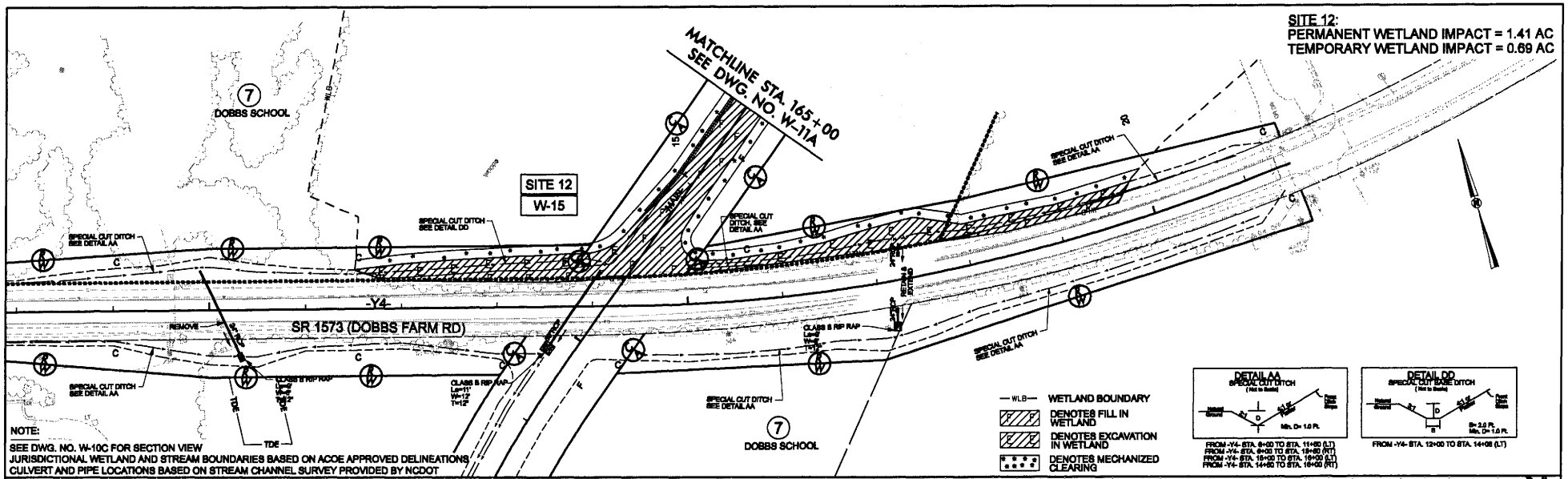
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

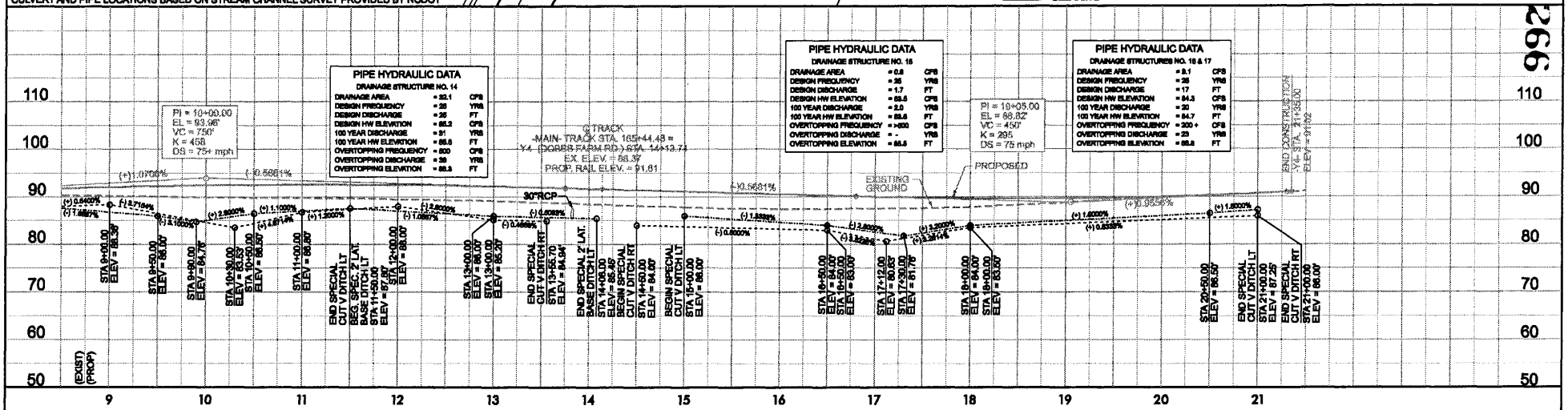
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 12
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO.: W-10A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO.:

SITE 12:
PERMANENT WETLAND IMPACT = 1.41 AC
TEMPORARY WETLAND IMPACT = 0.69 AC



NOTE:
SEE DWG. NO. W-10C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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C-1554

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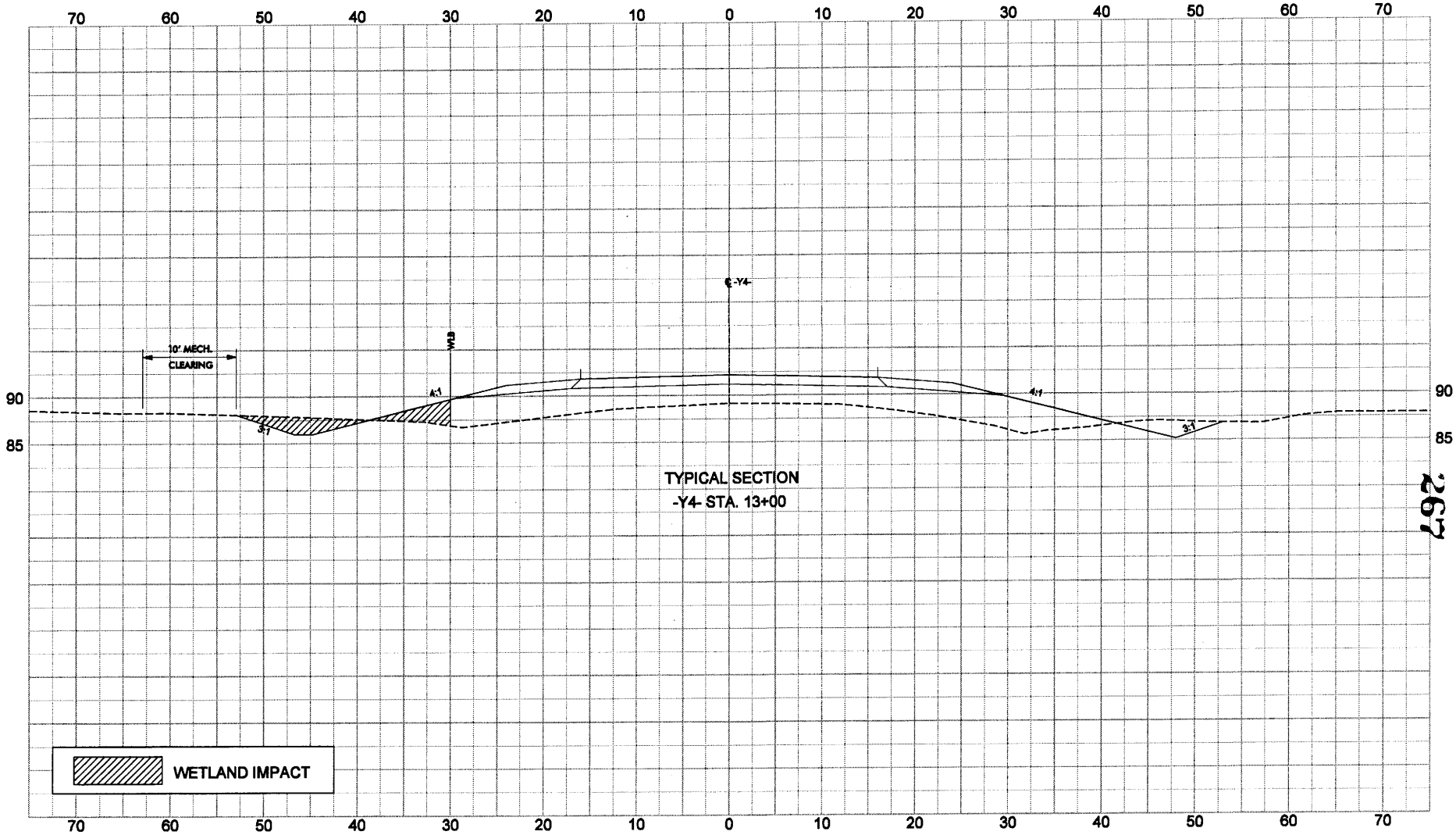
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 12
KINSTON, NC

PROJECT NUMBER: 44675
DRAWING NO: W-10B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 30'
SHEET NO:



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DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
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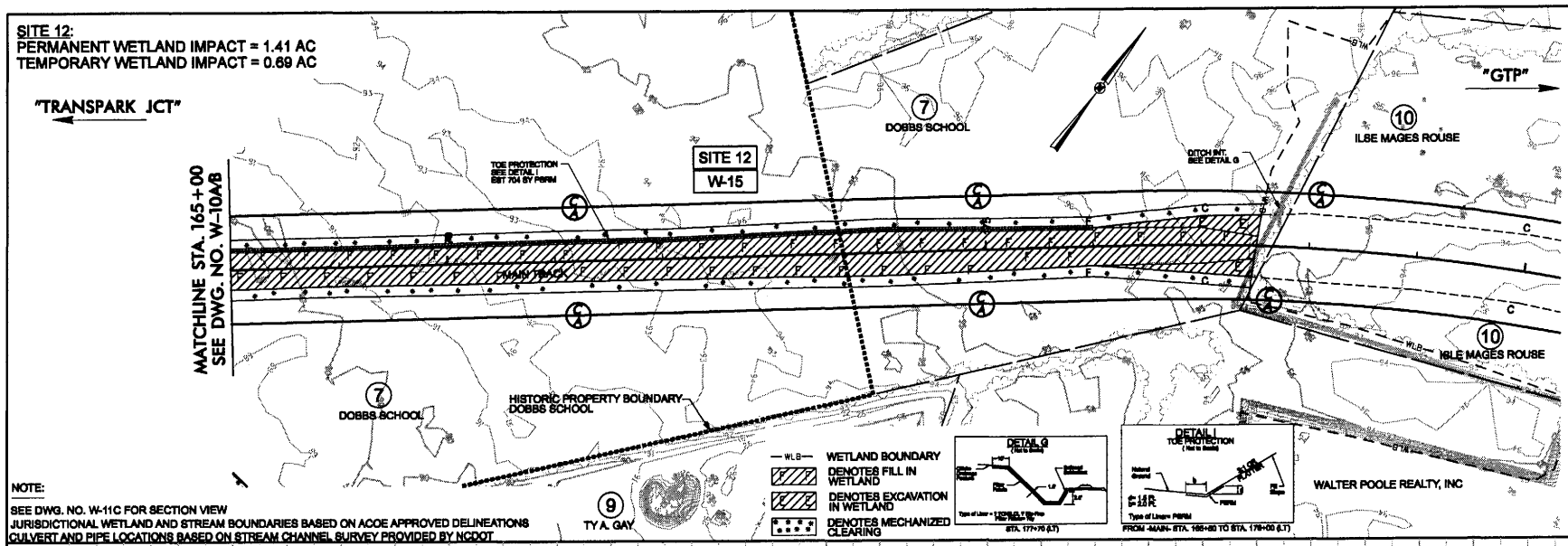
C-1554

GTP Rail Access

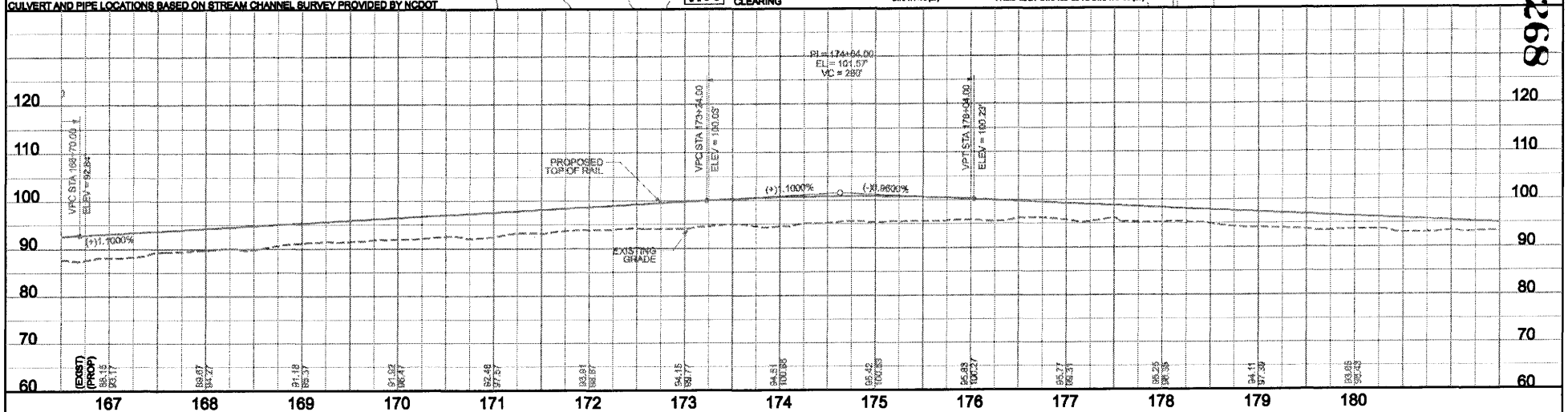
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 12
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-10C
SCALE: 1" = 10'
SHEET NO:

SITE 12:
PERMANENT WETLAND IMPACT = 1.41 AC
TEMPORARY WETLAND IMPACT = 0.69 AC



NOTE:
SEE DWG. NO. W-11C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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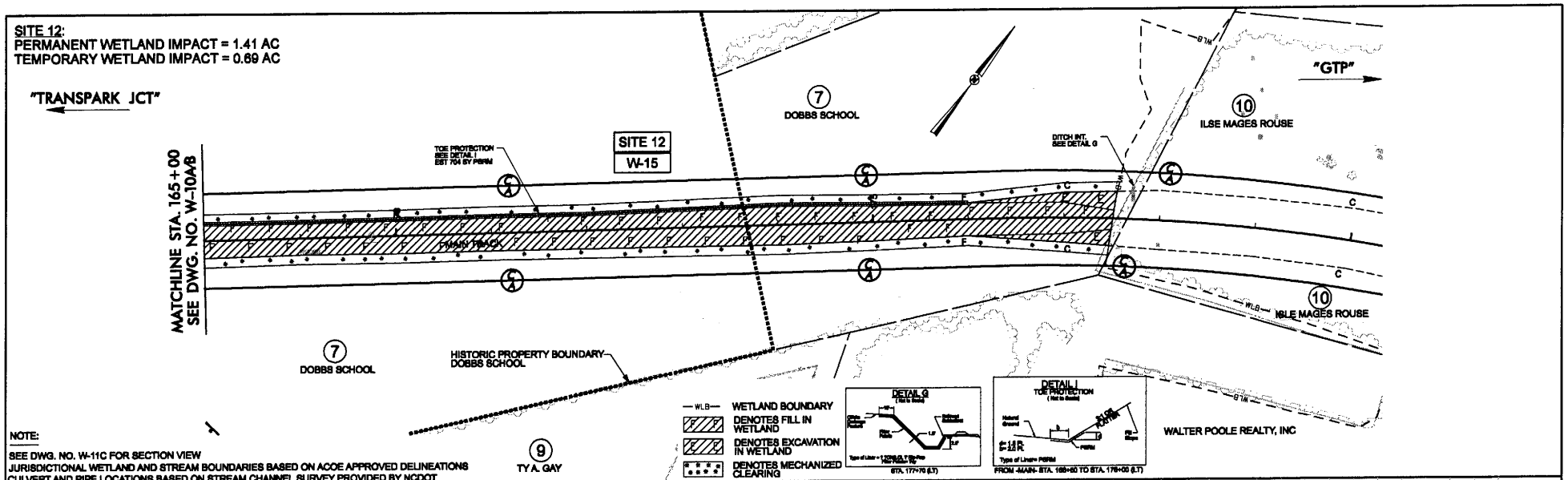
Raleigh, North Carolina 27608
C-1584

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 12
KINSTON, NC

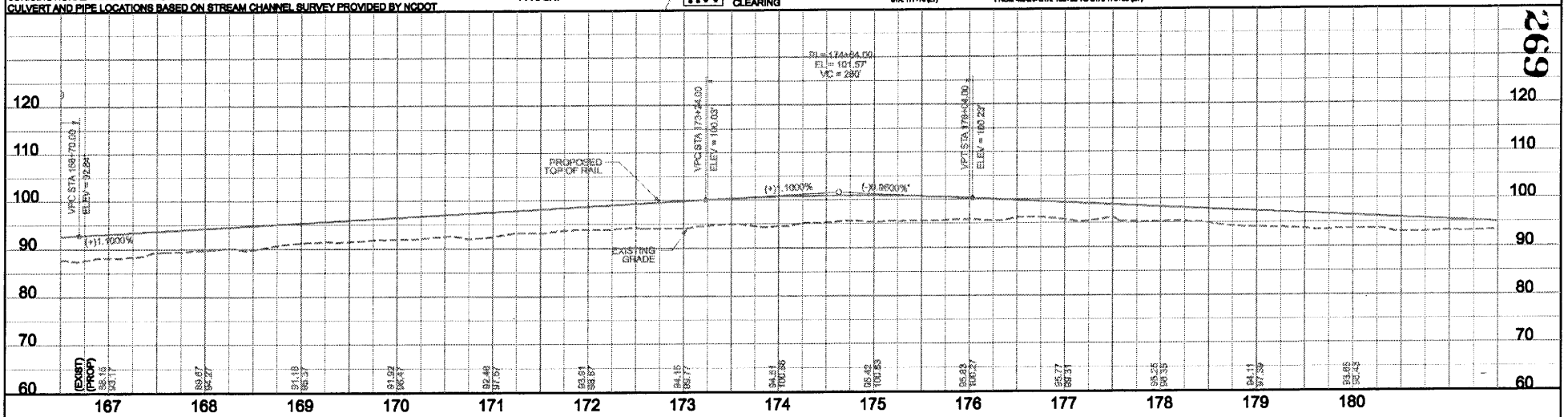
PROJECT NUMBER: 44875
DRAWING NO: W-11A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

SITE 12:
PERMANENT WETLAND IMPACT = 1.41 AC
TEMPORARY WETLAND IMPACT = 0.69 AC



NOTE:

SEE DWG. NO. W-11C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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DESIGNED BY: JAB
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DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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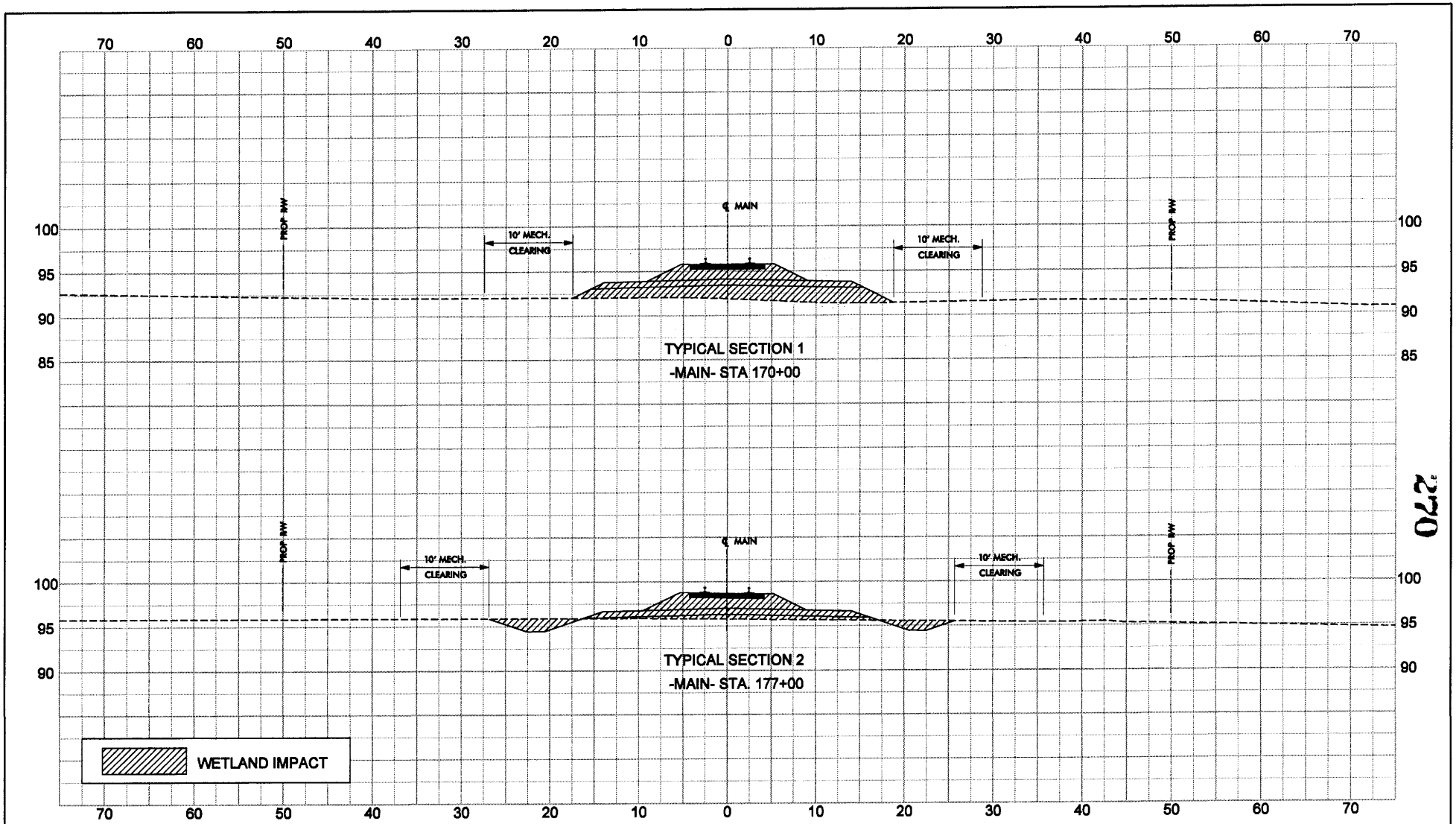
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 12
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-11B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
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DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
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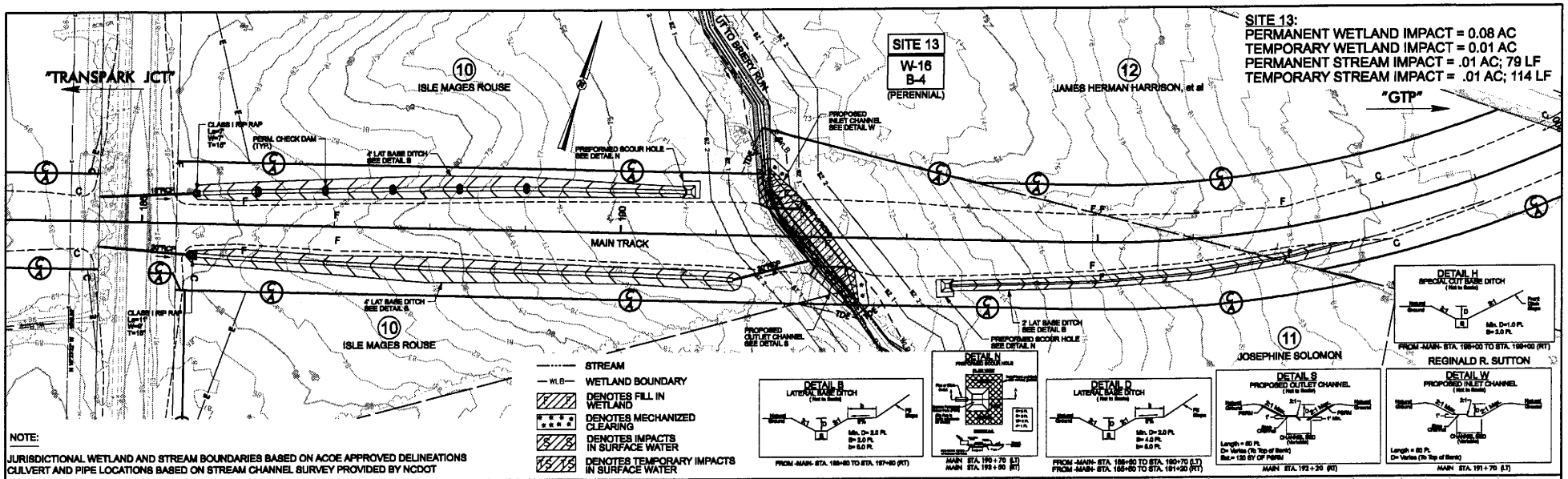
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 12
KINSTON, NC

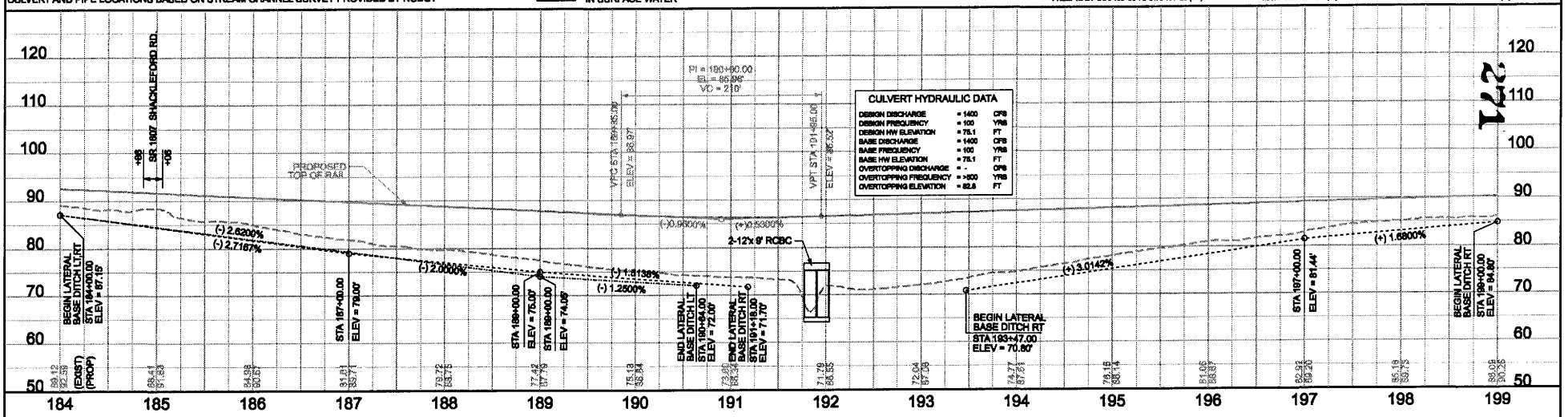
PROJECT NUMBER: 44875
DRAWING NO: W-11C
SCALE: 1" = 10'
SHEET NO:

270



NOTE:

JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



CULVERT HYDRAULIC DATA		
DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 75.1	FT
BASE DISCHARGE	= 1400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 75.1	FT
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 82.6	FT

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

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DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
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Raleigh, North Carolina 27609
C-1524

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 13
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-12A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

SITE 13:
PERMANENT WETLAND IMPACT = 0.08 AC
TEMPORARY WETLAND IMPACT = 0.01 AC
PERMANENT STREAM IMPACT = .01 AC; 79 LF
TEMPORARY STREAM IMPACT = .01 AC; 114 LF

SITE 13
W-16
B-4
(PERENNIAL)

"TRANSPARK JCT"

"GTP"

10 ISLE MAGES ROUSE

12 JAMES HERMAN HARRISON, et al

11 JOSEPHINE SOLOMON

REGINALD R. SUTTON

UT TO BRENT RUN

MAIN TRACK

CLASS I RIP RAP
PERM. CHECK DAM (TYP.)
4' LAT BASE DITCH SEE DETAIL B
PREFORMED SCOUR HOLE SEE DETAIL H
PROPOSED INLET CHANNEL SEE DETAIL W
PROPOSED OUTLET CHANNEL SEE DETAIL S
2' LAT BASE DITCH SEE DETAIL B

STREAM
WETLAND BOUNDARY
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL B LATERAL BASE DITCH (Not to Scale)
Min. D= 2.0 Ft. B= 3.0 Ft. b= 5.0 Ft.
FROM -MAIN- STA. 189+80 TO STA. 197+80 (RT)

DETAIL N PREFORMED SCOUR HOLE (Not to Scale)
MAIN STA. 190+70 (LT)
MAIN STA. 192+50 (RT)

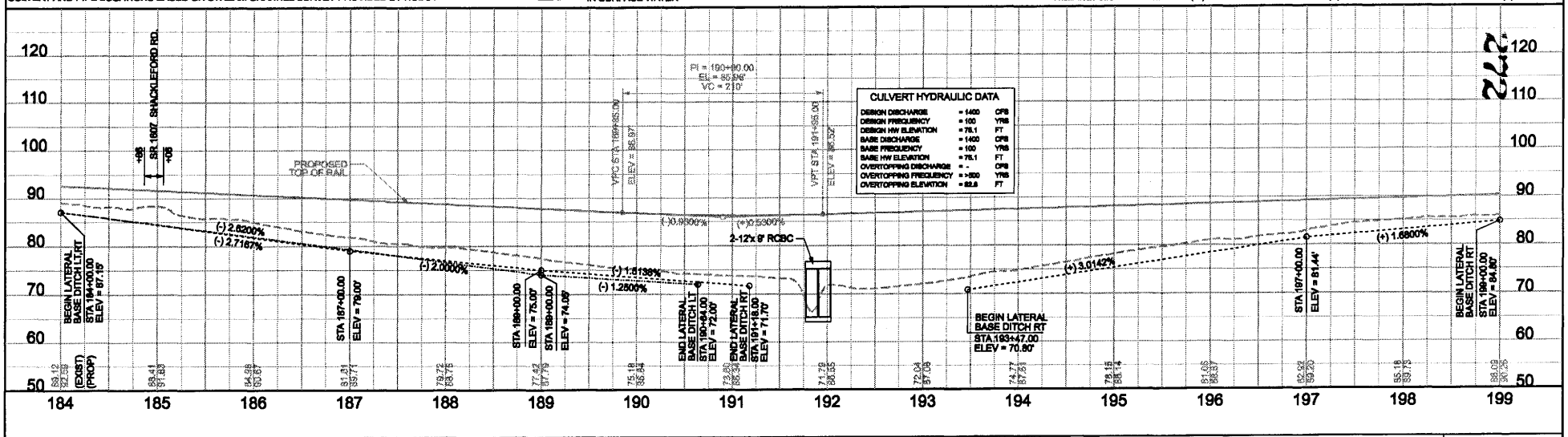
DETAIL D LATERAL BASE DITCH (Not to Scale)
Min. D= 2.0 Ft. B= 4.0 Ft. b= 6.0 Ft.
FROM -MAIN- STA. 188+80 TO STA. 190+70 (LT)
FROM -MAIN- STA. 188+80 TO STA. 191+20 (RT)

DETAIL S PROPOSED OUTLET CHANNEL (Not to Scale)
Length = 60 Ft.
D= Varies (To Top of Bank)
Est.= 120 SY OF RIPRAP
MAIN STA. 192+20 (RT)

DETAIL W PROPOSED INLET CHANNEL (Not to Scale)
Length = 60 Ft.
D= Varies (To Top of Bank)
MAIN STA. 191+70 (LT)

DETAIL H SPECIAL CUT BASE DITCH (Not to Scale)
Min. D= 1.0 Ft. B= 2.0 Ft.
FROM -MAIN- STA. 189+00 TO STA. 189+00 (RT)

NOTE:
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 78.1	FT
BASE DISCHARGE	= 1400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 78.1	FT
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 82.6	FT

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
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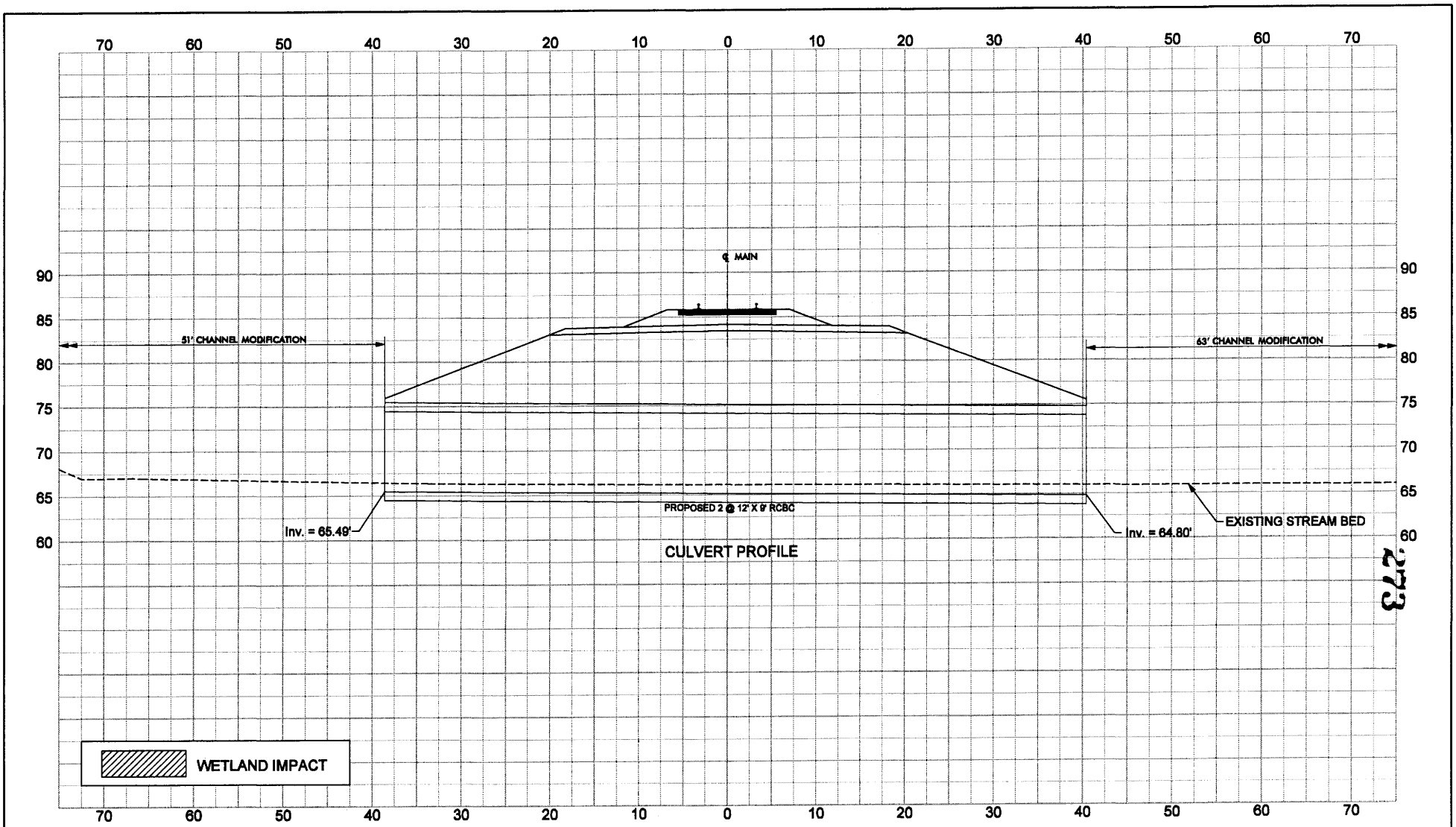
C-1584

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 13
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-12B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



273

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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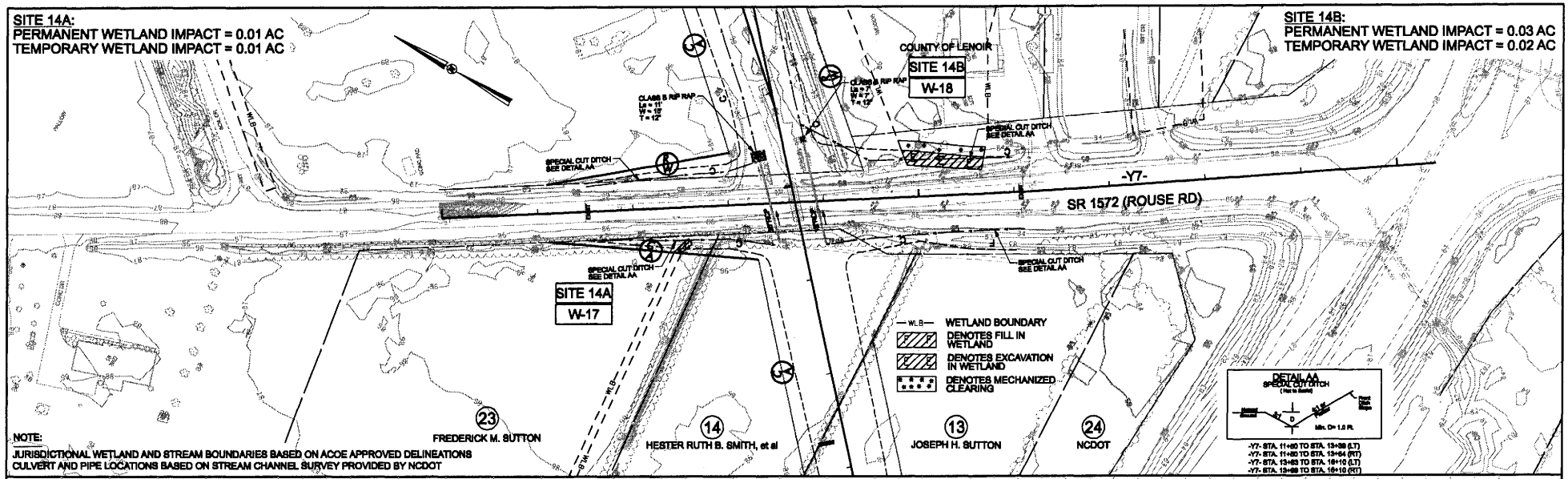
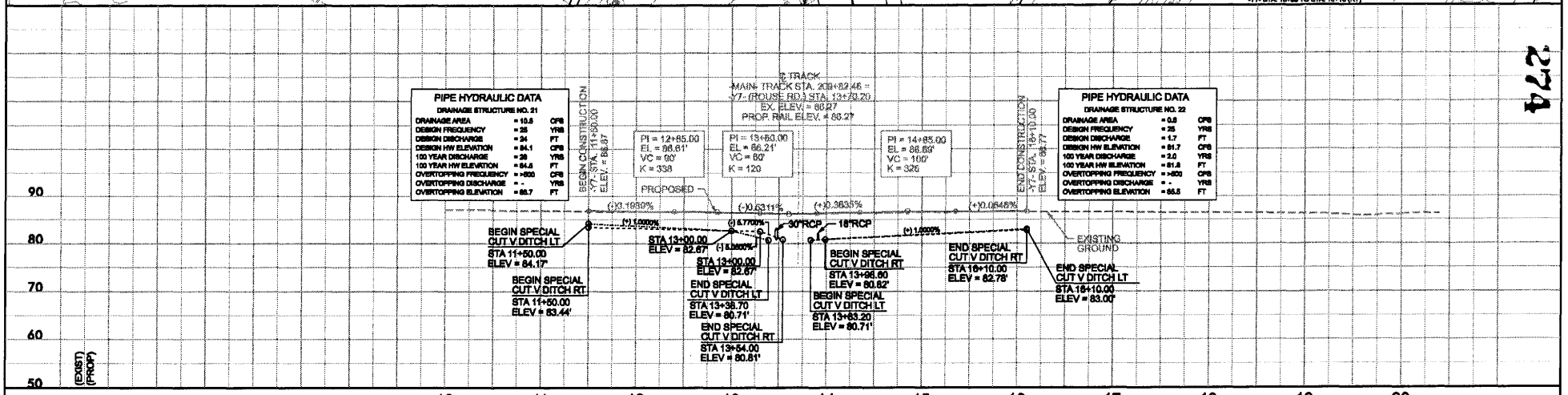
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
CULVERT PROFILE
SITE 13
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-12C
SCALE: 1" = 10'
SHEET NO:





REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

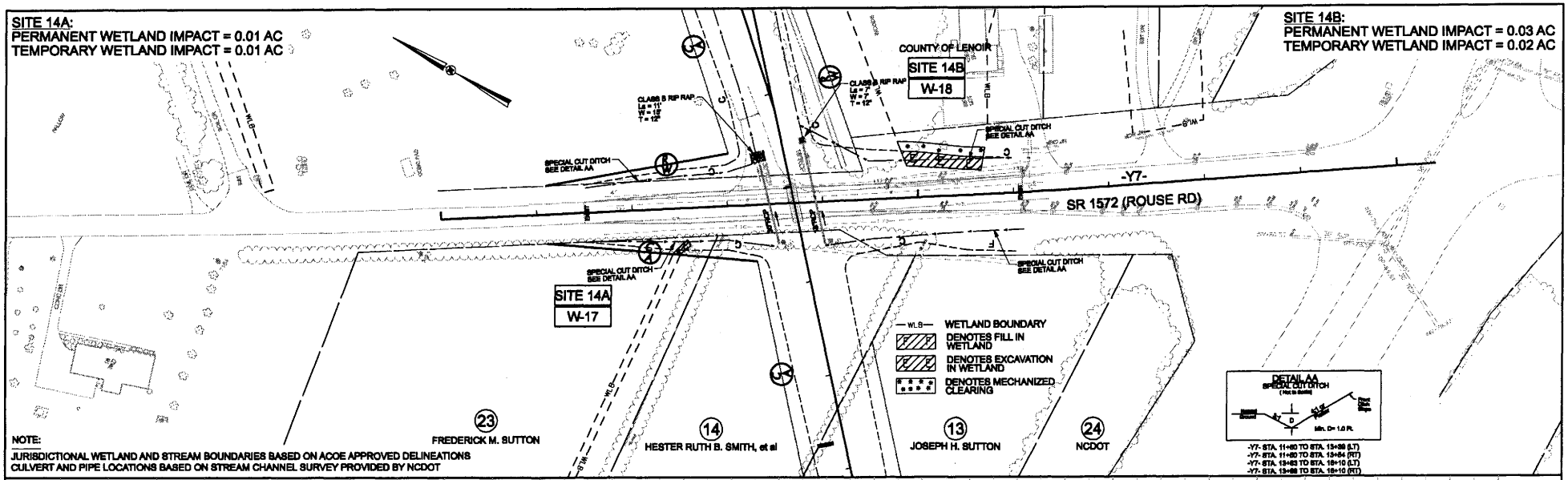
HNTB
HNTB NORTH CAROLINA, P.O.
949 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1662

GTP Rail Access

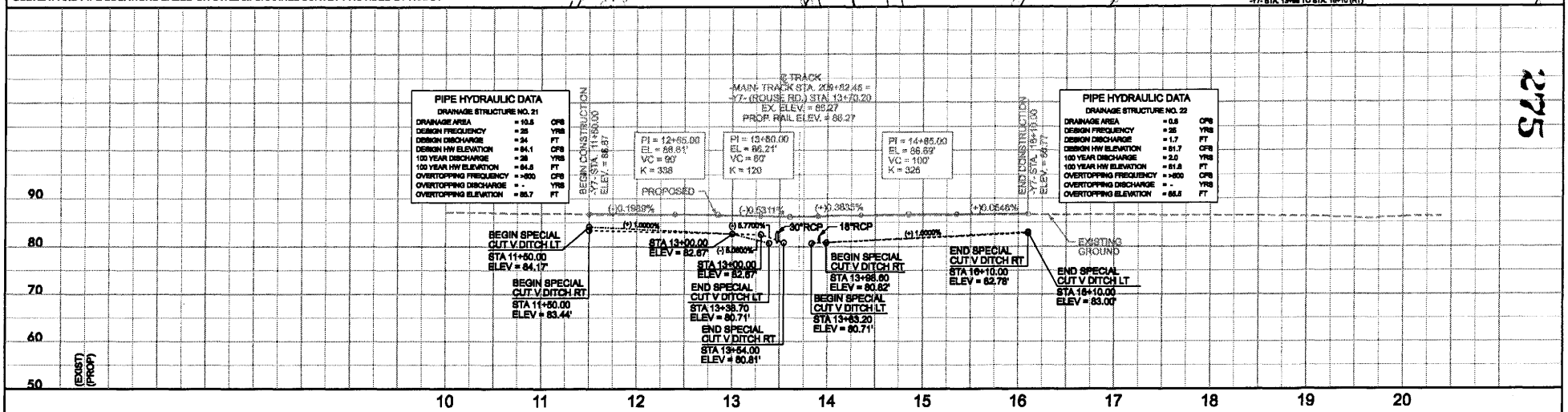
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 14A & 14B
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-13A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

274



NOTE:
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



275

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

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DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

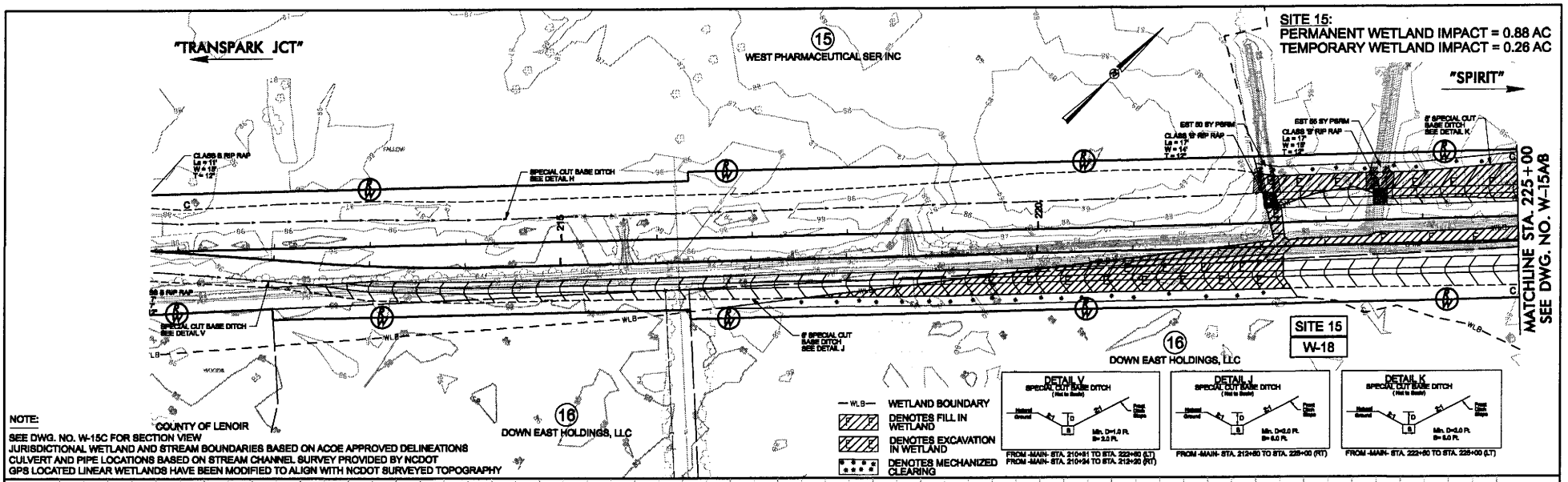
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

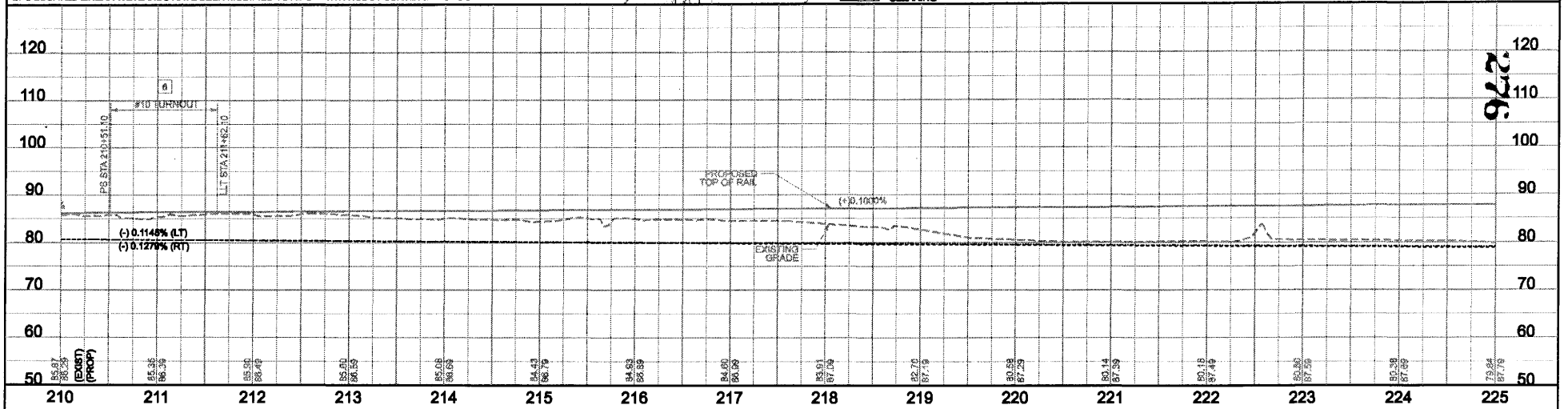
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITES 14A & 14B

KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-13B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



NOTE:
SEE DWG. NO. W-15C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY



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NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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Raleigh, North Carolina 27608
C-1662

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 15
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-14A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

276

SITE 15:
PERMANENT WETLAND IMPACT = 0.88 AC
TEMPORARY WETLAND IMPACT = 0.26 AC

"TRANSPARK JCT"

"SIDING"

"SPIRIT"

15
WEST PHARMACEUTICAL SER INC

16
DOWN EAST HOLDINGS, LLC

COUNTY OF LENOIR

CLASS B RIP RAP
Ls = 11'
W = 15'
T = 12"

SPECIAL CUT BASE DITCH
SEE DETAIL H

SPECIAL CUT BASE DITCH
SEE DETAIL V

B SPECIAL CUT
BASE DITCH
SEE DETAIL J

EST 60 SY PSRM
CLASS 'B' RIP RAP
Ls = 17'
W = 14'
T = 12"

EST 55 SY PSRM
CLASS 'B' RIP RAP
Ls = 17'
W = 15'
T = 12"

B' SPECIAL CUT
BASE DITCH
SEE DETAIL K

MATCHLINE STA. 225+00
SEE DWG. NO. W-15A/B

SITE 15
W-18

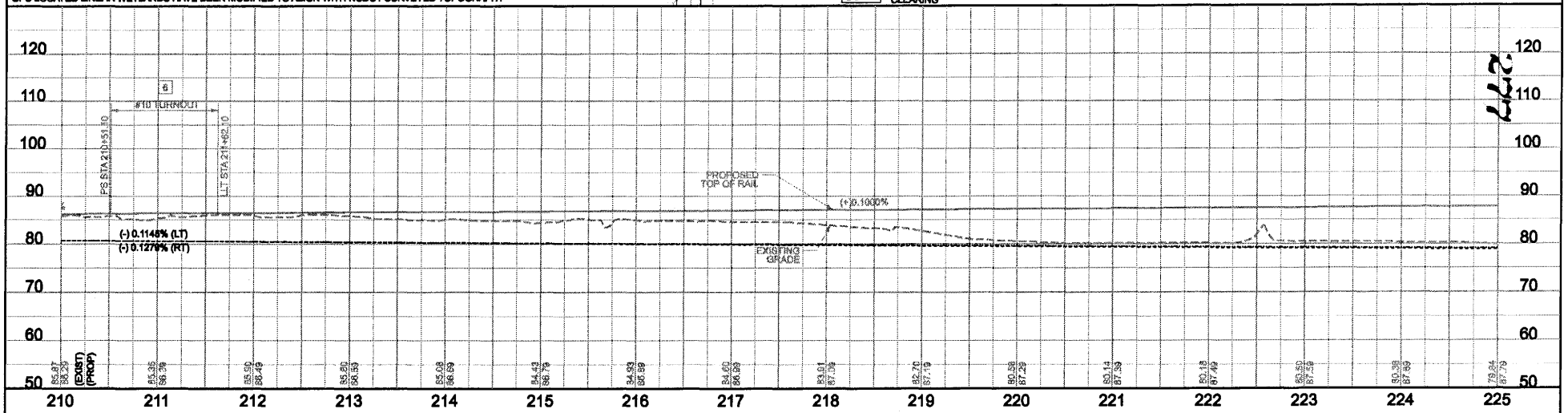
NOTE:
SEE DWG. NO. W-15C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY

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

DETAIL V
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground
Front Slope
Min. D=1.0 Ft.
B= 3.0 Ft.
FROM -MAIN- STA. 210+31 TO STA. 222+80 (LT)
FROM -MAIN- STA. 210+24 TO STA. 212+20 (RT)

DETAIL J
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground
Front Slope
Min. D=0.0 Ft.
B= 0.0 Ft.
FROM -MAIN- STA. 212+80 TO STA. 225+00 (RT)

DETAIL K
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground
Front Slope
Min. D=0.0 Ft.
B= 8.0 Ft.
FROM -MAIN- STA. 222+80 TO STA. 225+00 (LT)



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DATE: JUNE 17, 2009

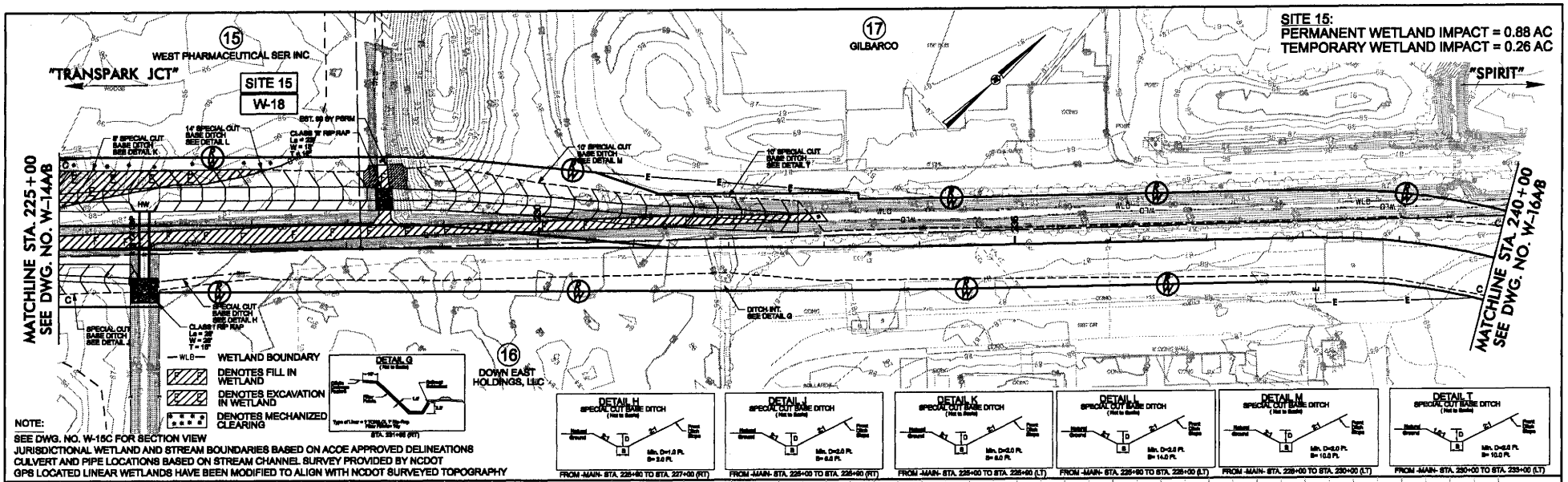
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
848 E. 6th Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1584

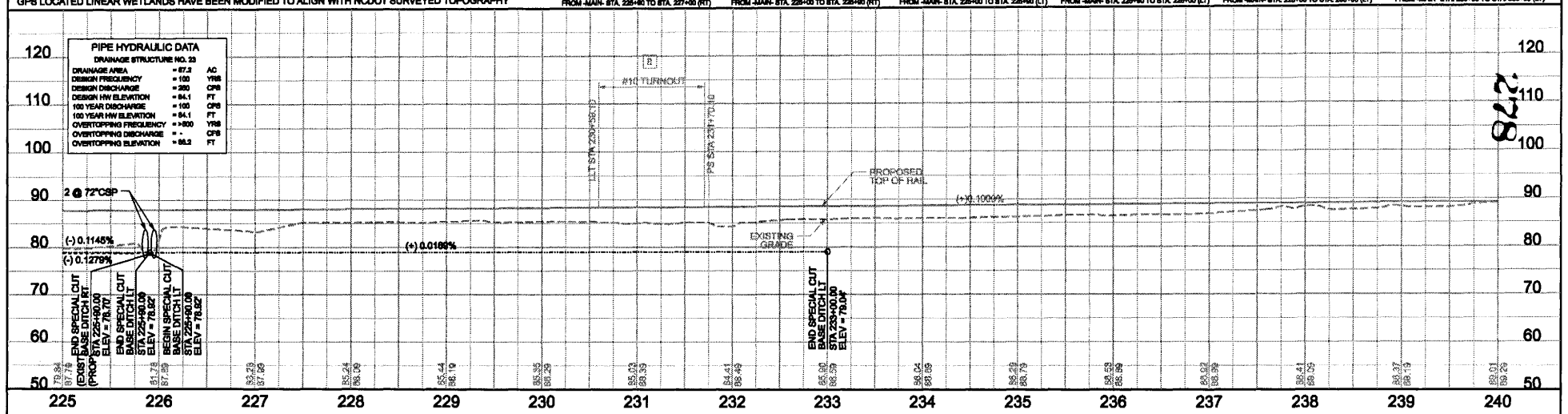
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 15
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-14B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



NOTE:
SEE DWG. NO. W-15C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY



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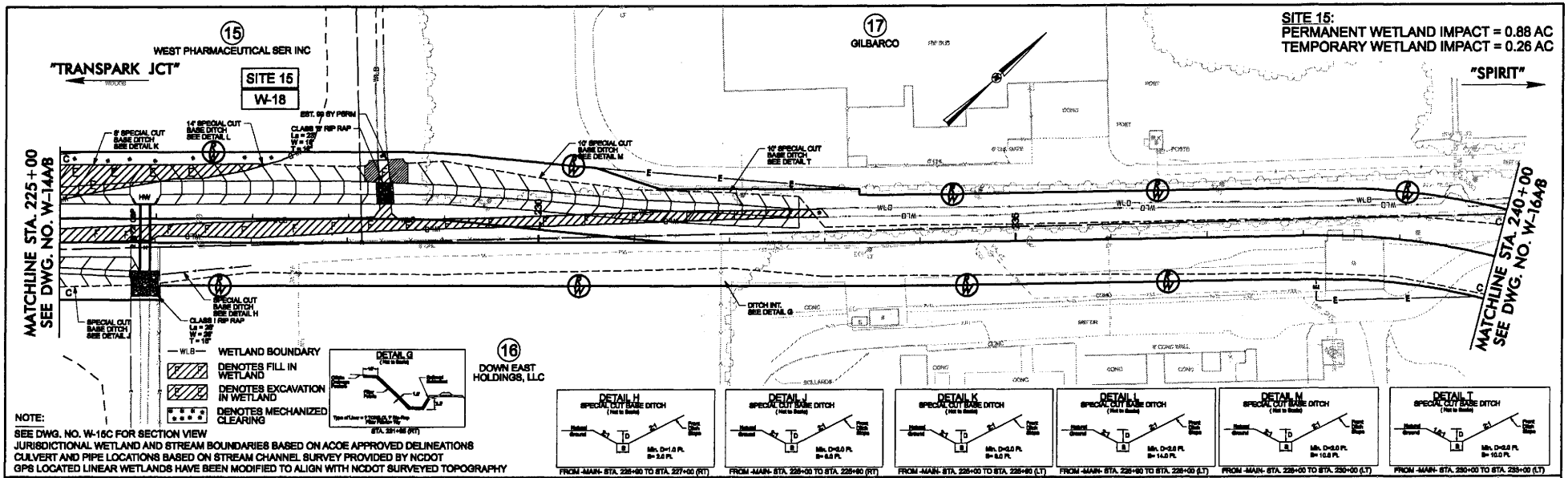
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.O.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
0-1884

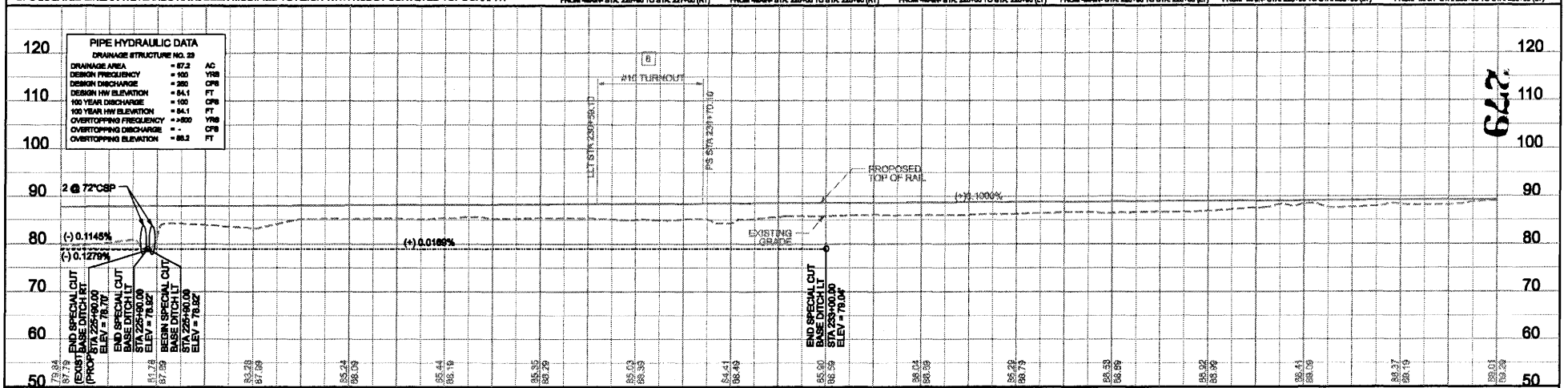
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 15
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-15A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



NOTE:
SEE DWG. NO. W-15C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT
GPS LOCATED LINEAR WETLANDS HAVE BEEN MODIFIED TO ALIGN WITH NCDOT SURVEYED TOPOGRAPHY



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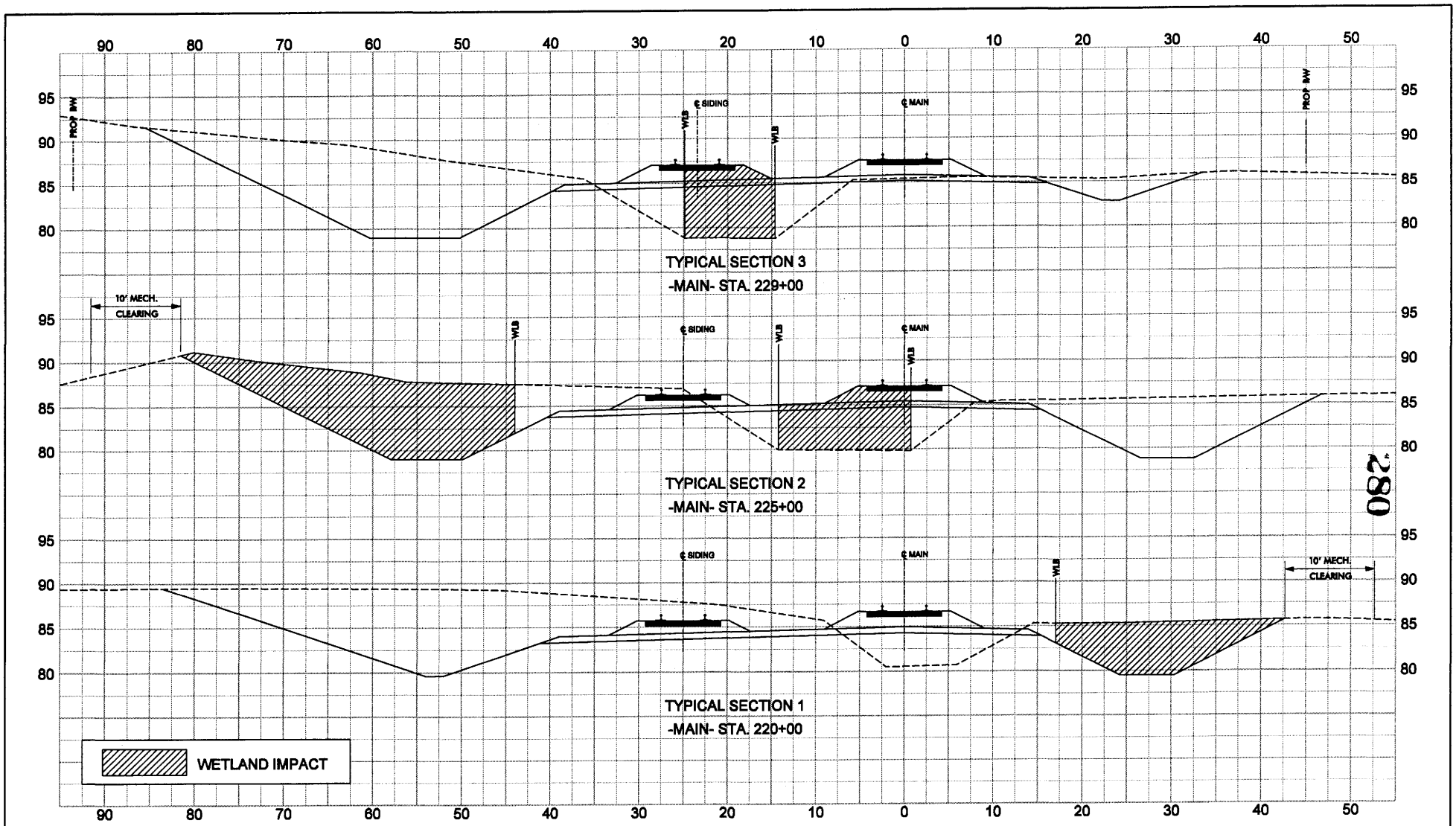
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.O.
248 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 15
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-15B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

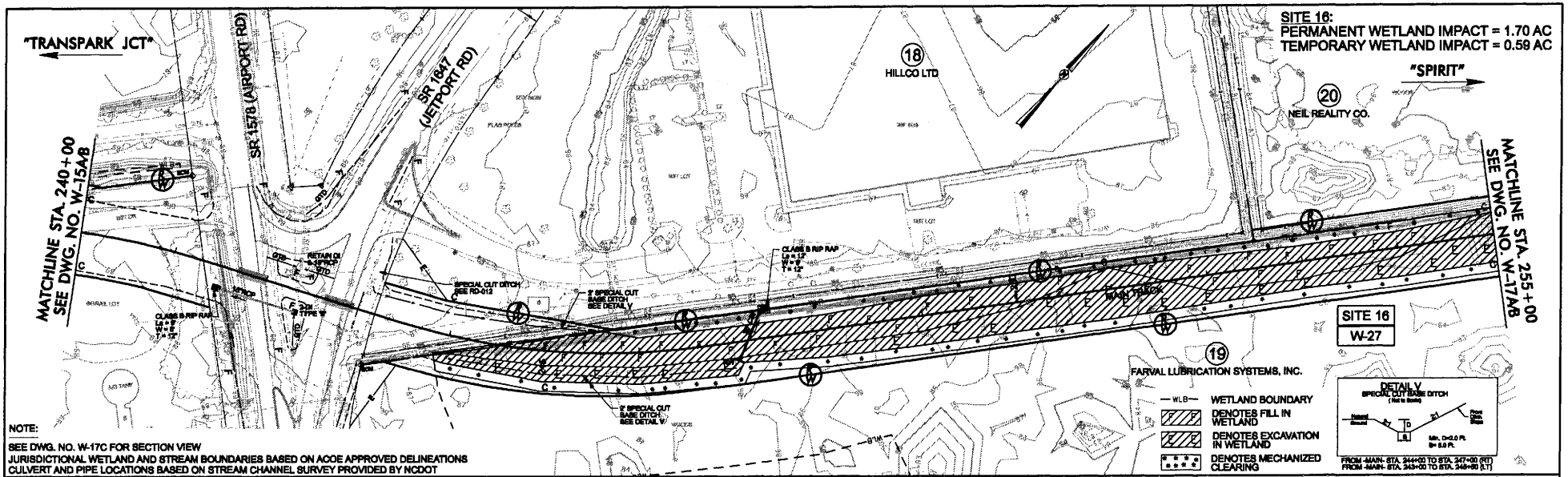
HNTB
HNTB NORTH CAROLINA, P.C.
849 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 15
KINSTON, NC

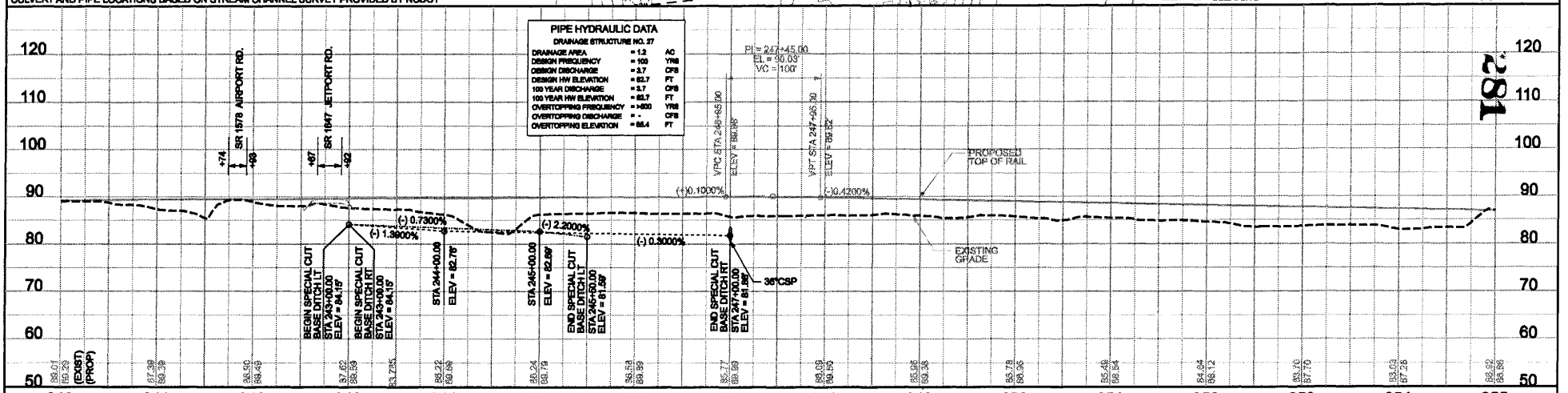
PROJECT NUMBER: 44875
DRAWING NO: W-15C
SCALE: 1" = 10'
SHEET NO:

280



NOTE:

SEE DWG. NO. W-17C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



281

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
0-1884

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 16
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-16A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

SITE 16:
PERMANENT WETLAND IMPACT = 1.70 AC
TEMPORARY WETLAND IMPACT = 0.59 AC

"TRANSPARK JCT"

"SPIRIT"

MATCHLINE STA. 240+00
SEE DWG. NO. W-15A/B

MATCHLINE STA. 255+00
SEE DWG. NO. W-17A/B

SR 1578 (AIRPORT RD)

SR 1647 (JETPORT RD)

18 HILLCO LTD

20 NEIL REALITY CO.

19 FARVAL LUBRICATION SYSTEMS, INC.

MAIN TRACK

SPECIAL CUT DITCH SEE RD-012

2' SPECIAL CUT BASE DITCH SEE DETAIL V

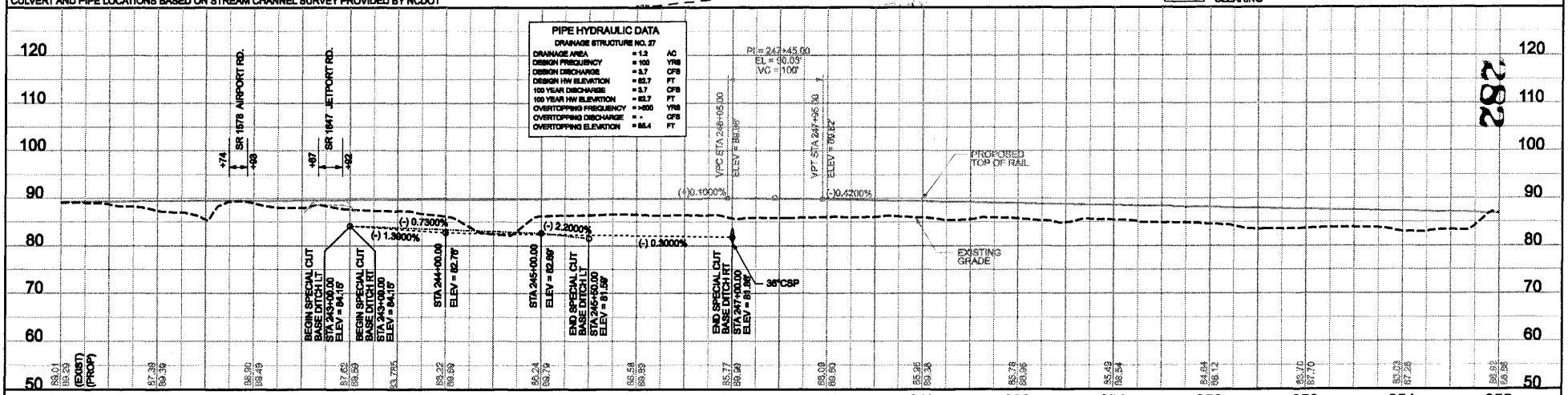
CLASS B RIP RAP

SITE 16
W-27

NOTE:

SEE DWG. NO. W-17C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT

WLB WETLAND BOUNDARY
DENOTES FILL IN WETLAND
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING



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NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

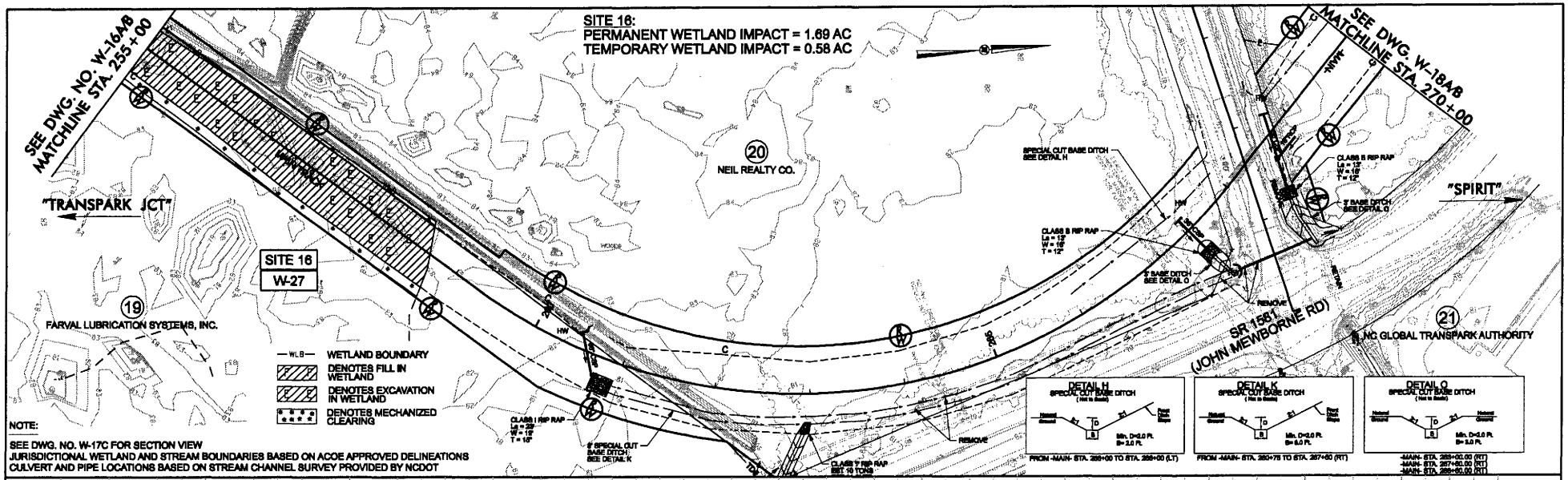
HNTB
HNTB NORTH CAROLINA, P.C.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27608
C-1662

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 16
KINSTON, NC

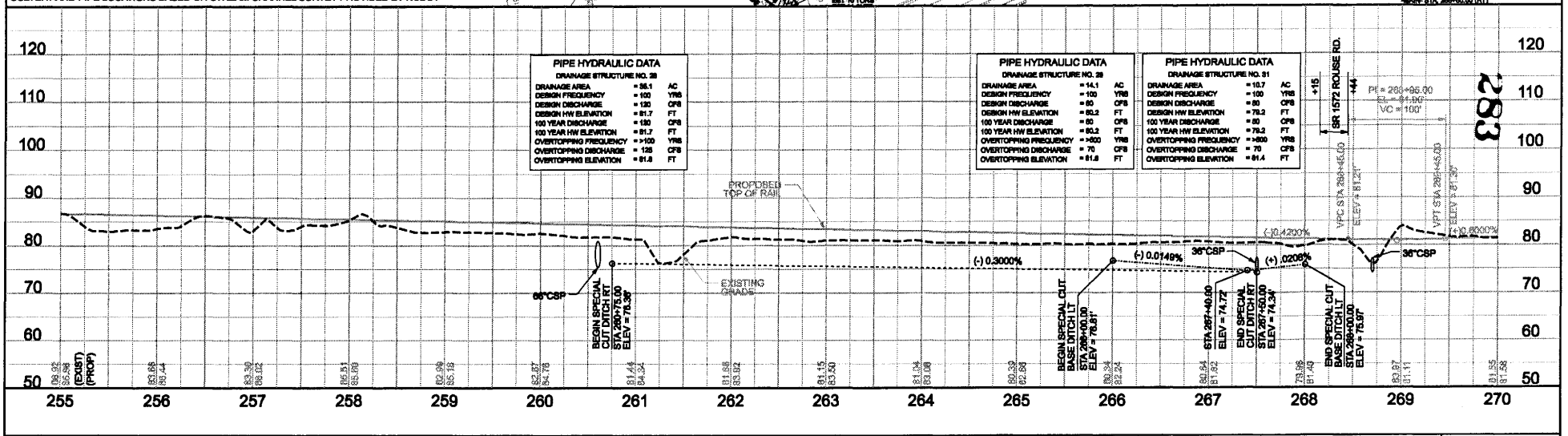
PROJECT NUMBER: 44875
DRAWING NO: W-16B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

282



NOTE:

SEE DWG. NO. W-17C FOR SECTION VIEW
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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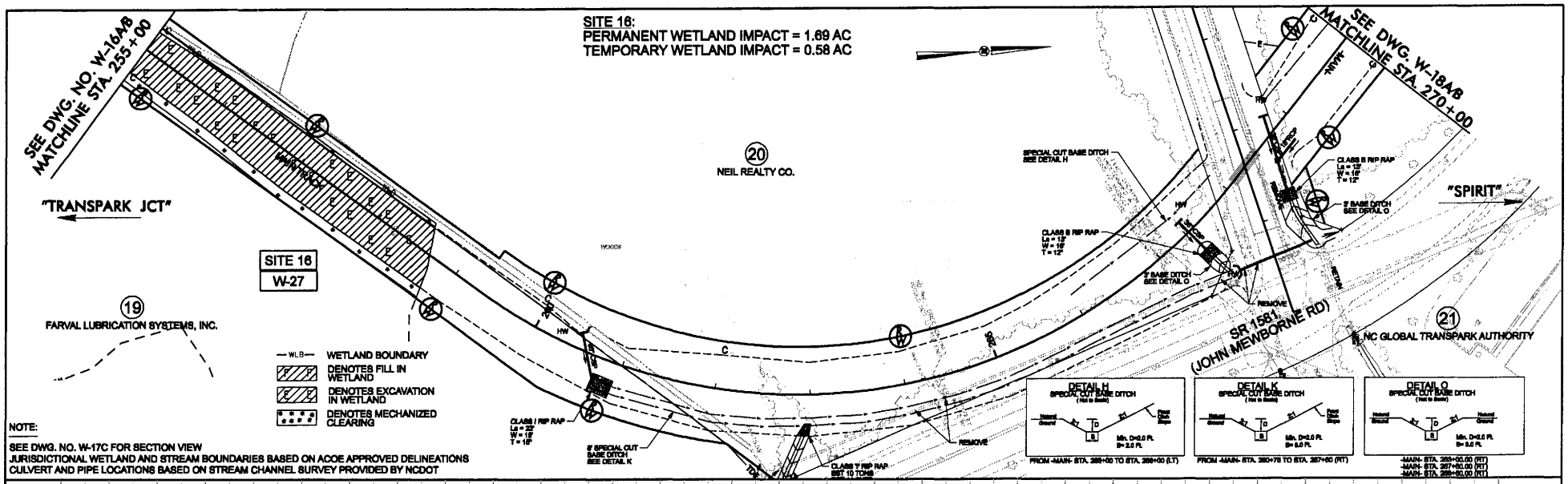
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

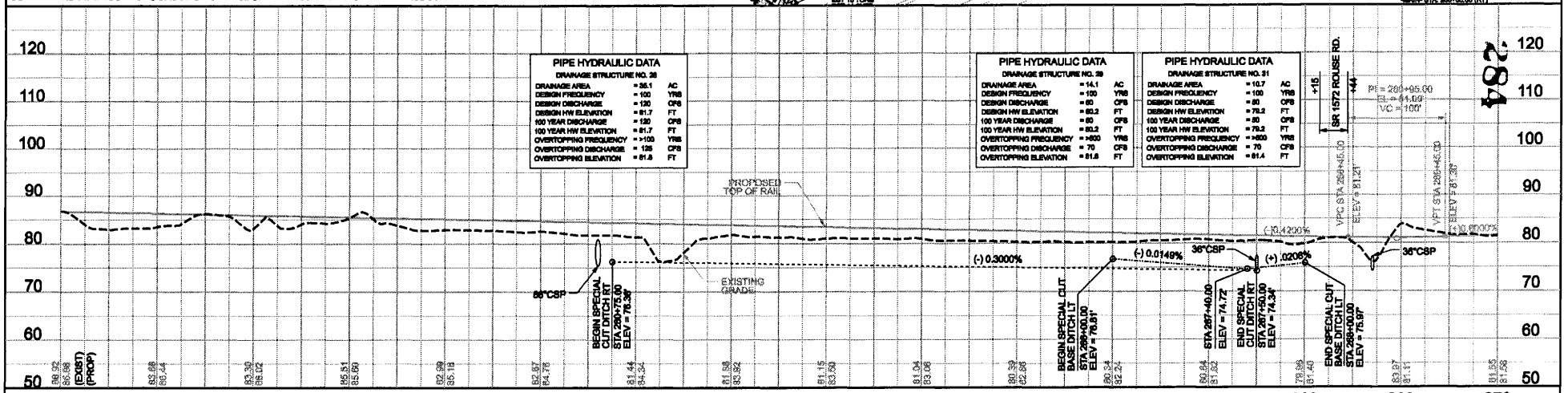
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 16
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-17A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:





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DATE: JUNE 17, 2009

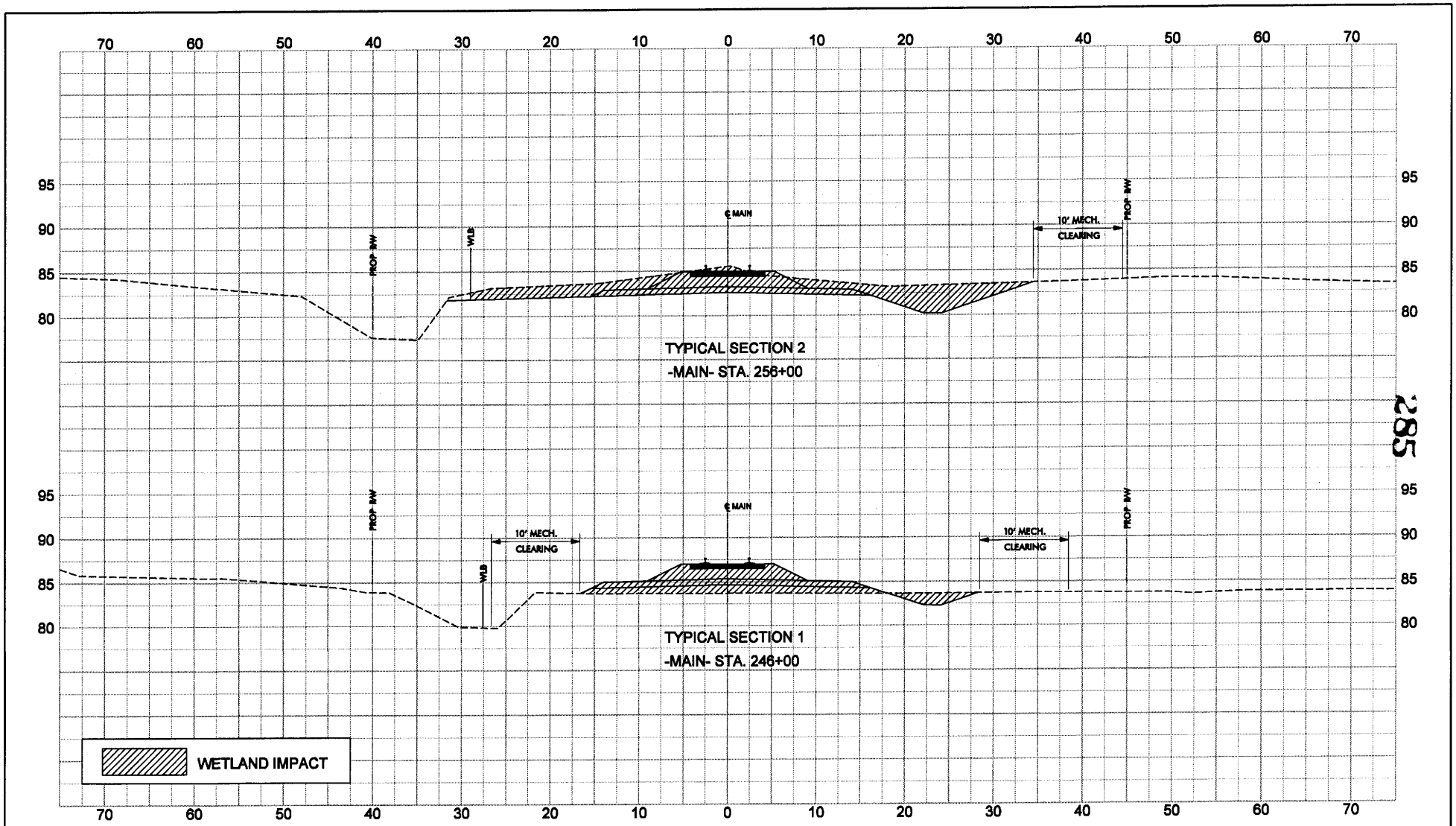
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 16
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-17B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



285

REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: CPV
CHECKED BY: JKK
DATE: JUNE 17, 2009

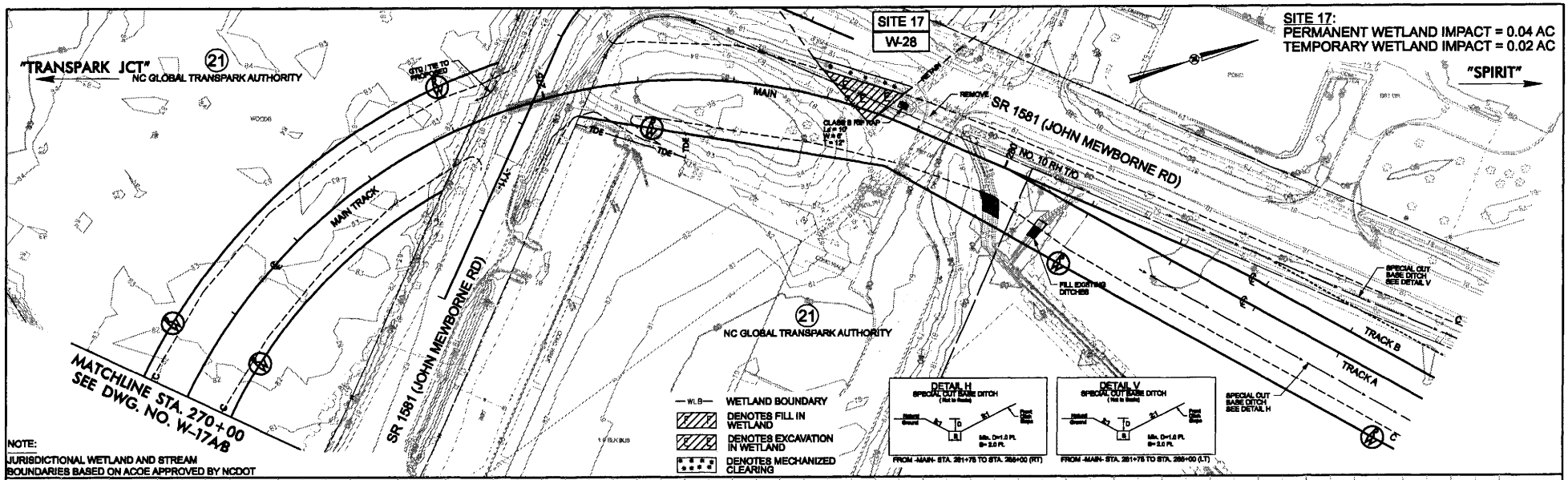
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27608
C-1554

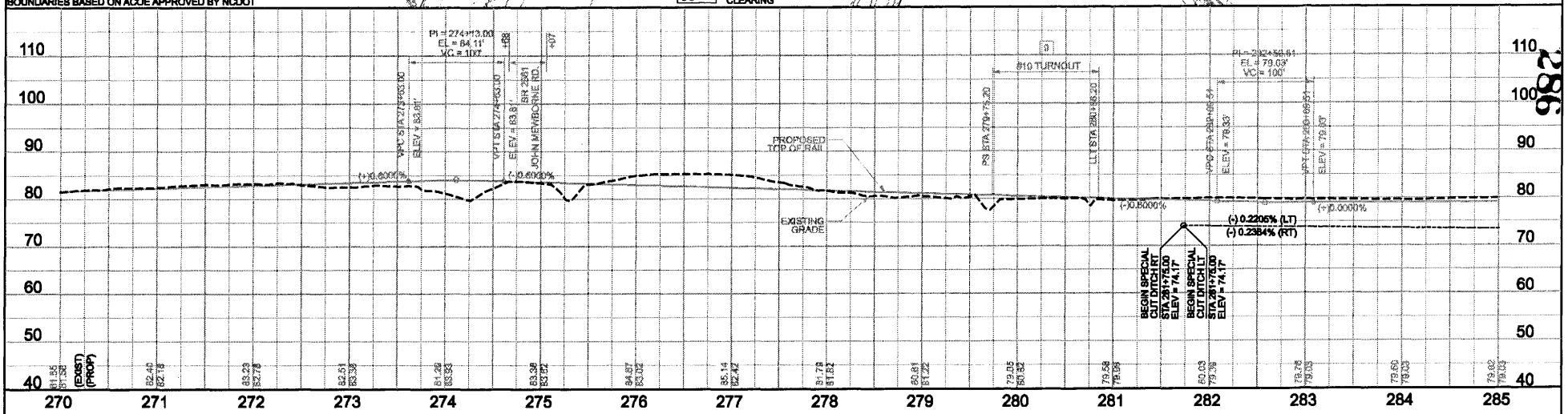
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
TYPICAL SECTION
SITE 16
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-17C
SCALE: 1" = 10'
SHEET NO:



NOTE:
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED BY NCDOT



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CHECKED BY: JKK
DATE: JUNE 17, 2009

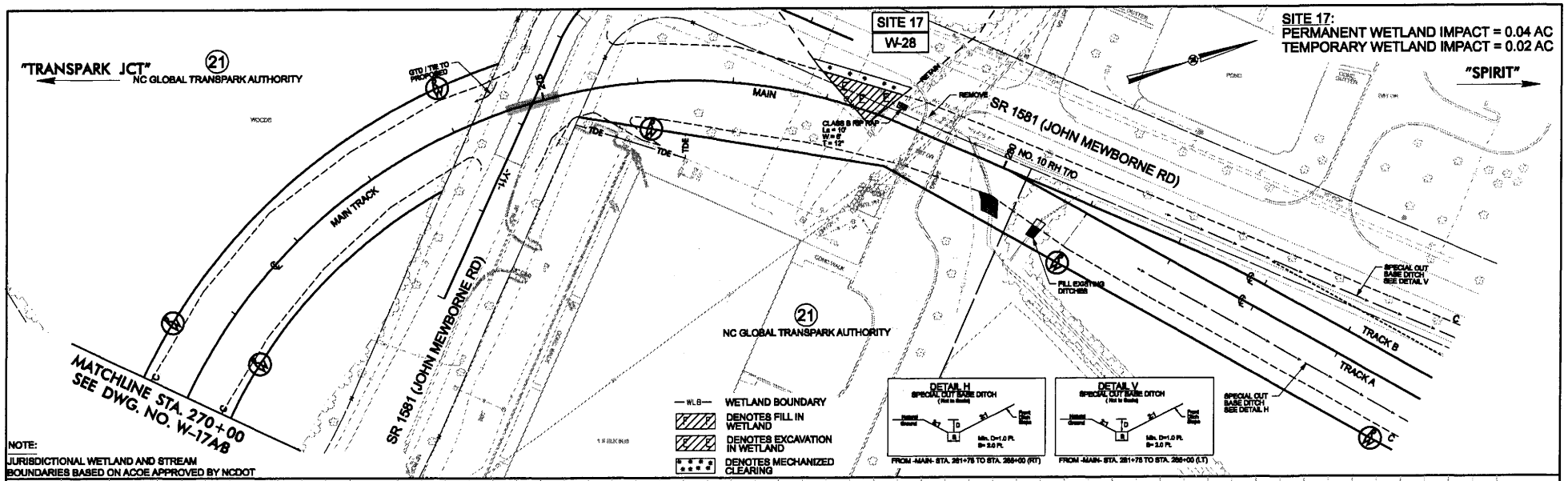
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
948 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1664

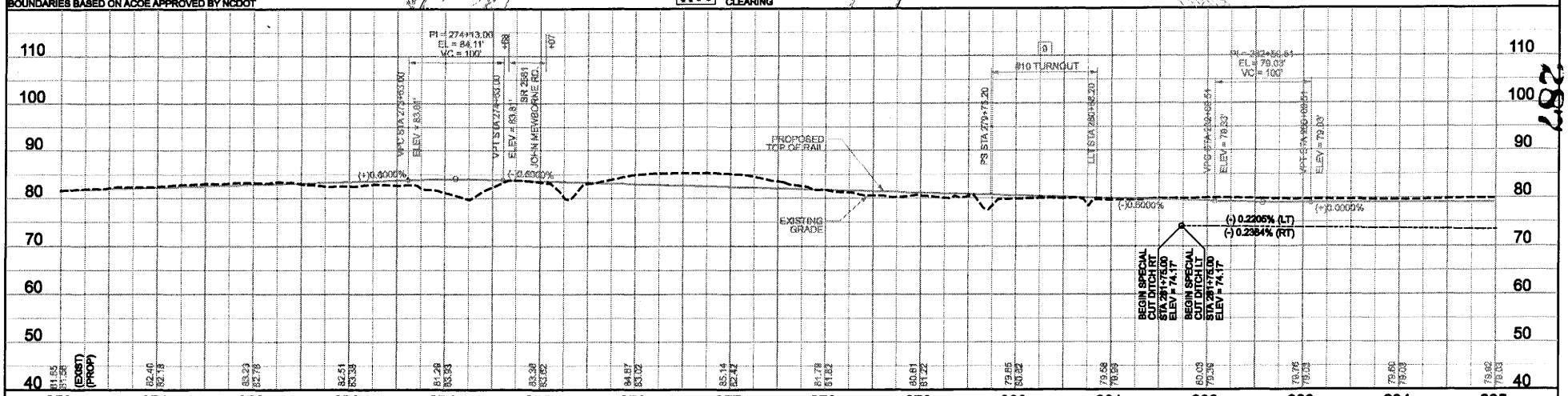
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 17
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-18A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



NOTE:
JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED BY NCDOT



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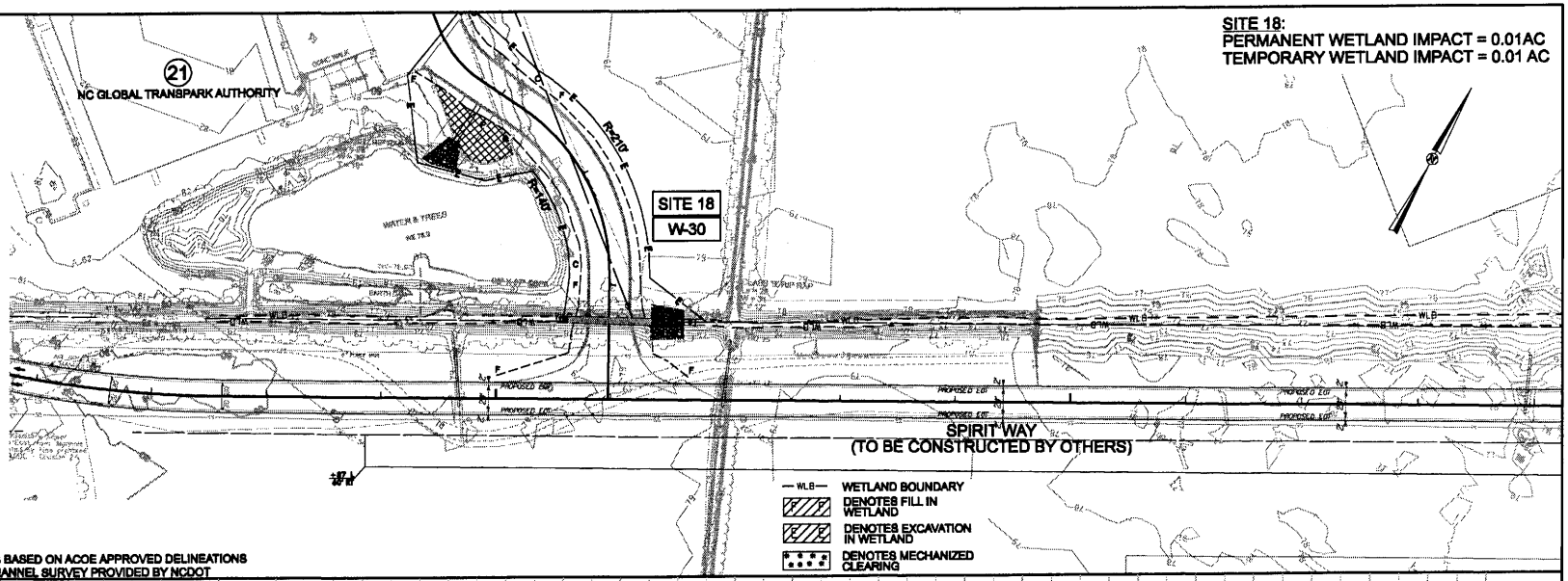
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 17
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-18B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



NOTE:

JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT

(EXIST)
(PROP)

288

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1584

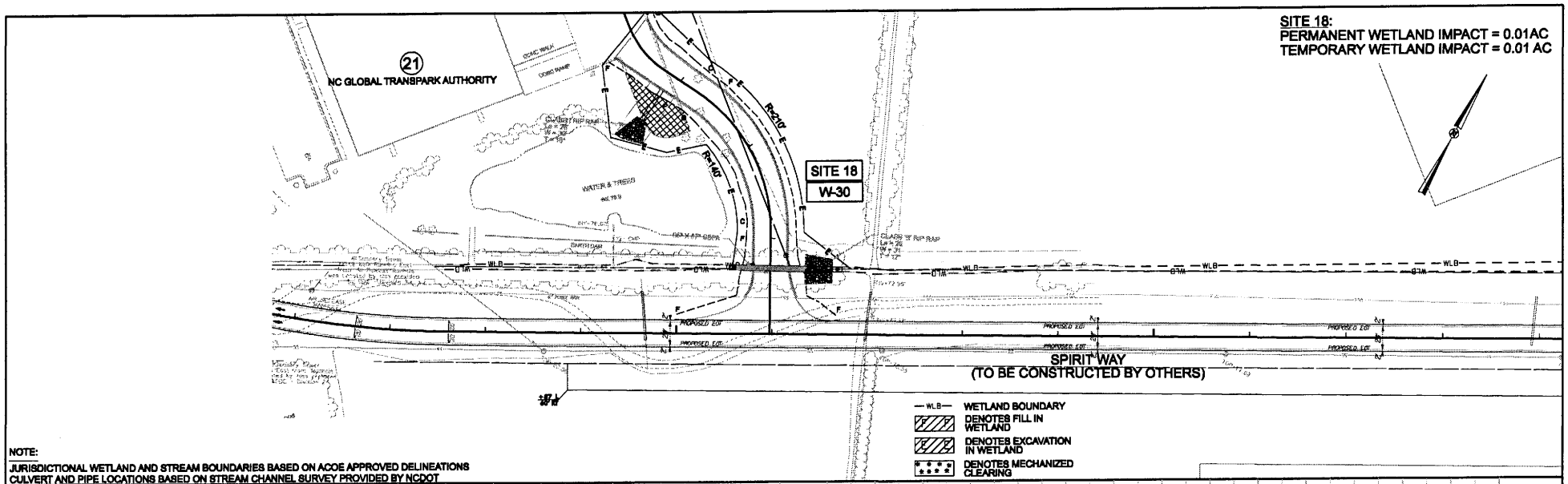
GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS

SITE 18

KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-19A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



NOTE:

JURISDICTIONAL WETLAND AND STREAM BOUNDARIES BASED ON ACOE APPROVED DELINEATIONS
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT

289

(EXIST)
(PROP)

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: JAB
DRAWN BY: PER
CHECKED BY: JKK
DATE: JUNE 17, 2009

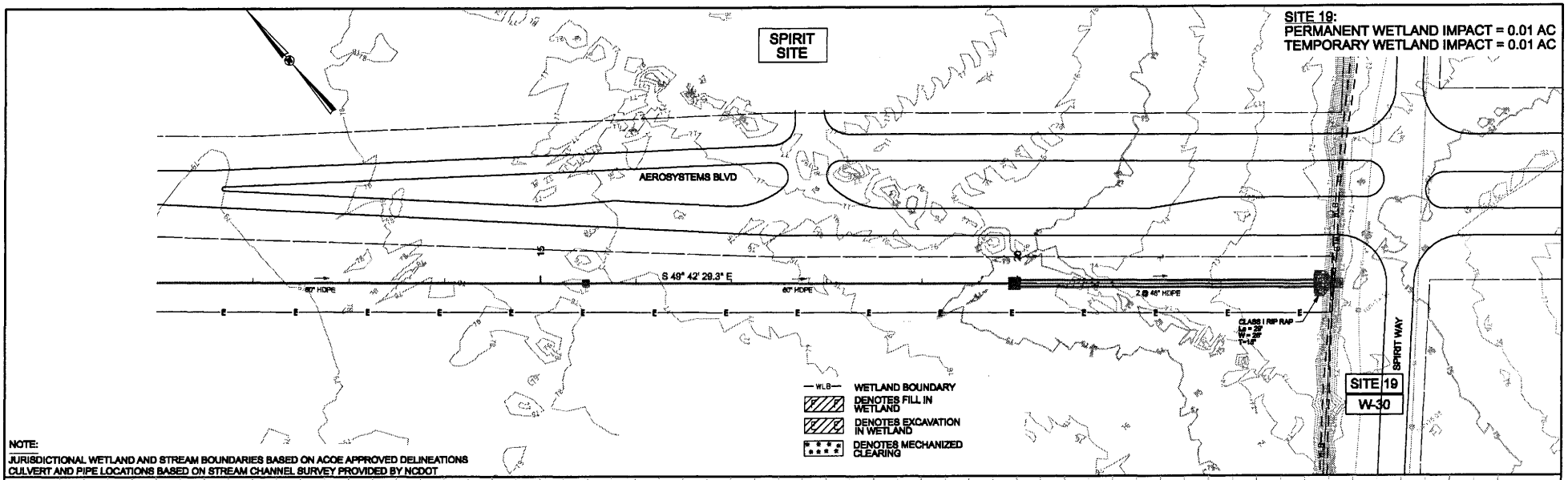
NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
0-1584

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 18
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-19B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



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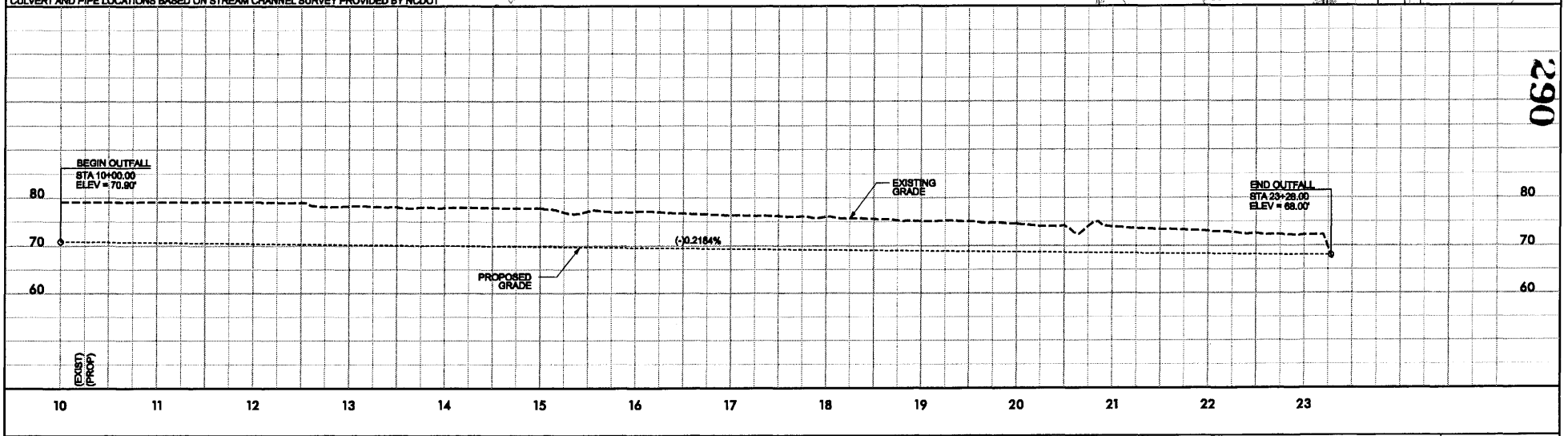

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NC DEPARTMENT OF TRANSPORTATION
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Raleigh, North Carolina 27609
C-1554

GTP Rail Access

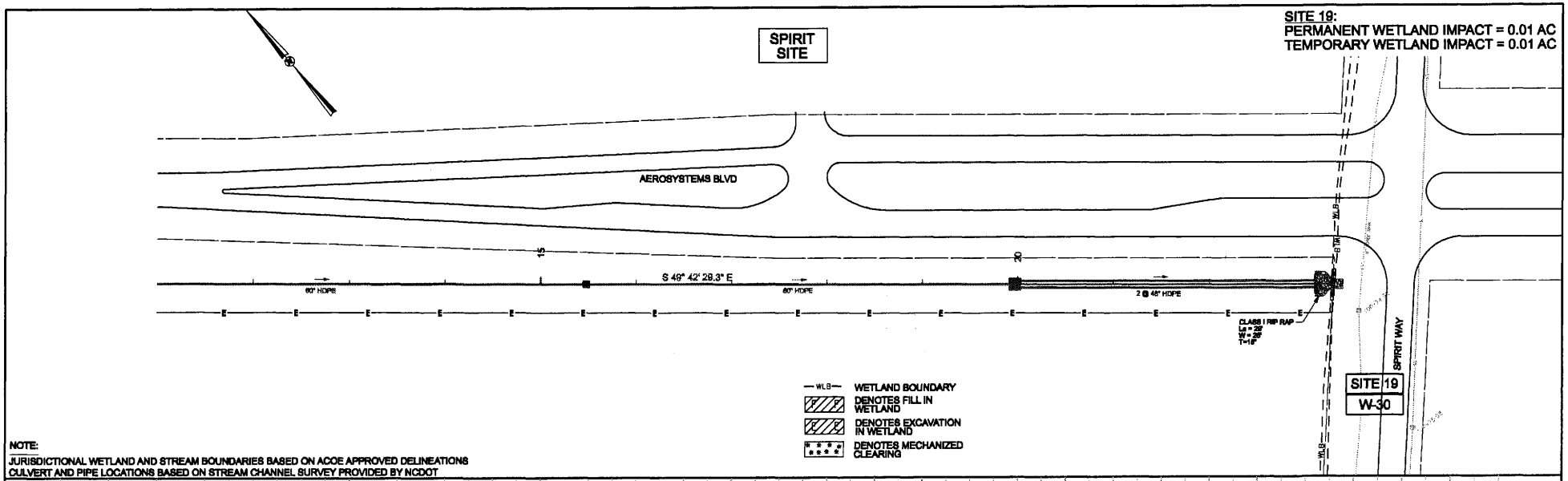
NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS

SITE 19

KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-20A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

290



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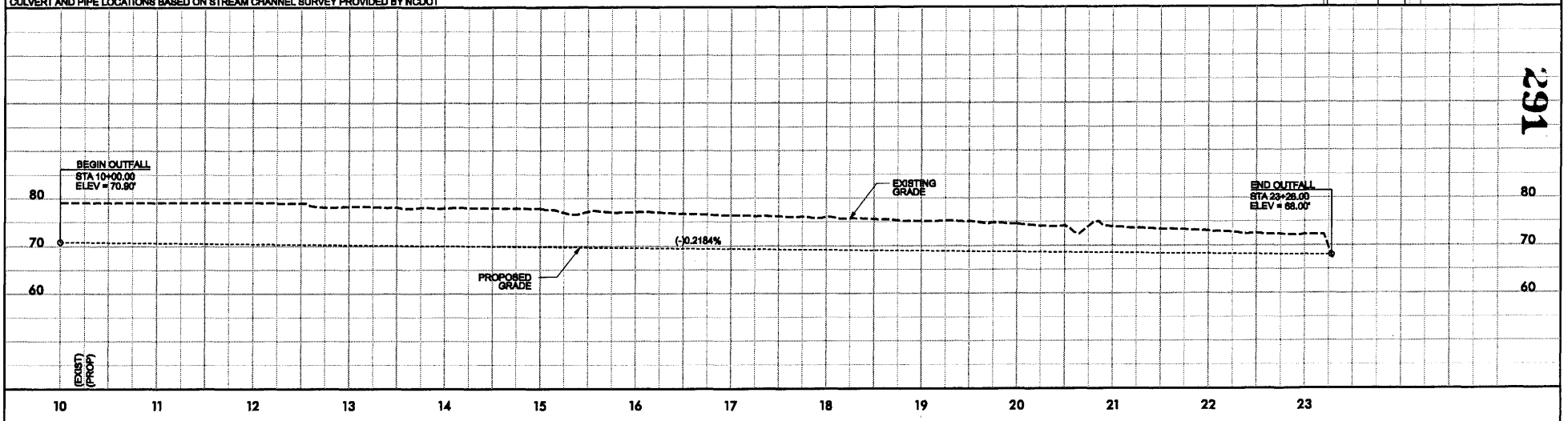
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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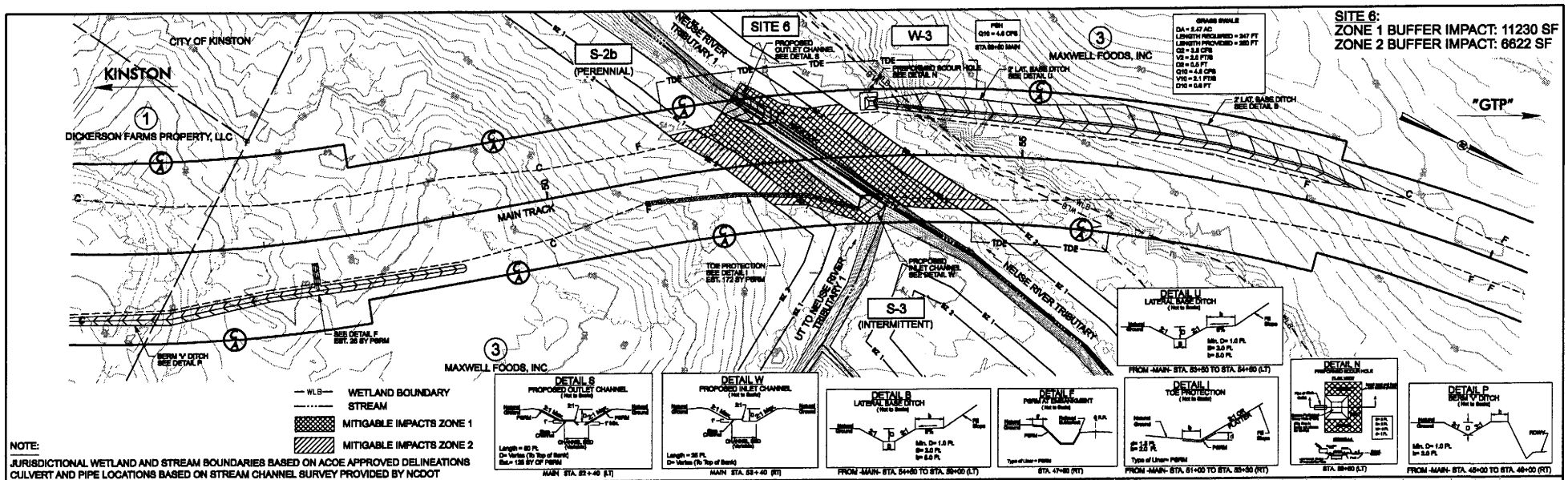
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
STREAM & WETLAND IMPACTS
SITE 19
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: W-20B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



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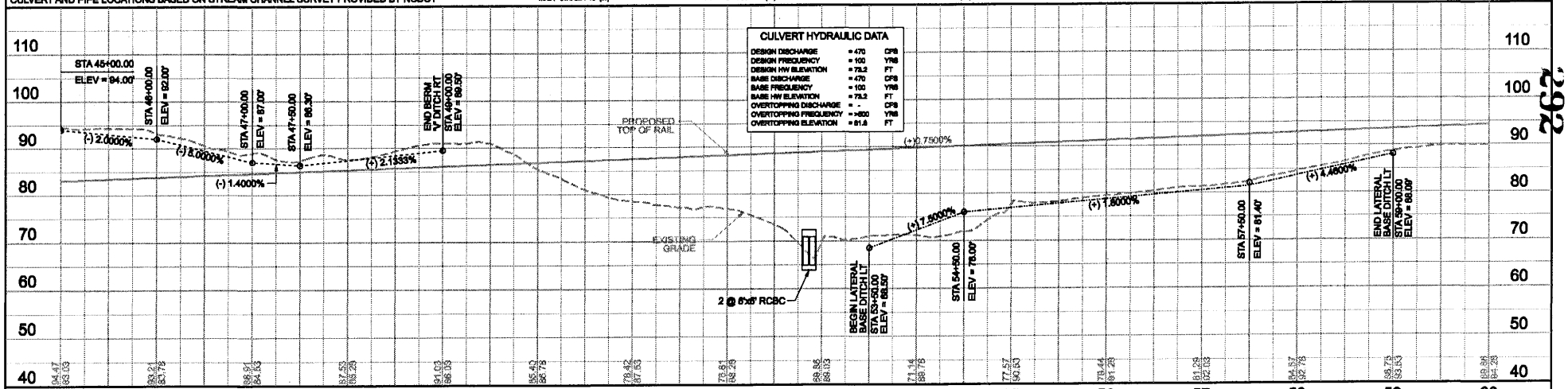
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



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NC DEPARTMENT OF TRANSPORTATION
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848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1884

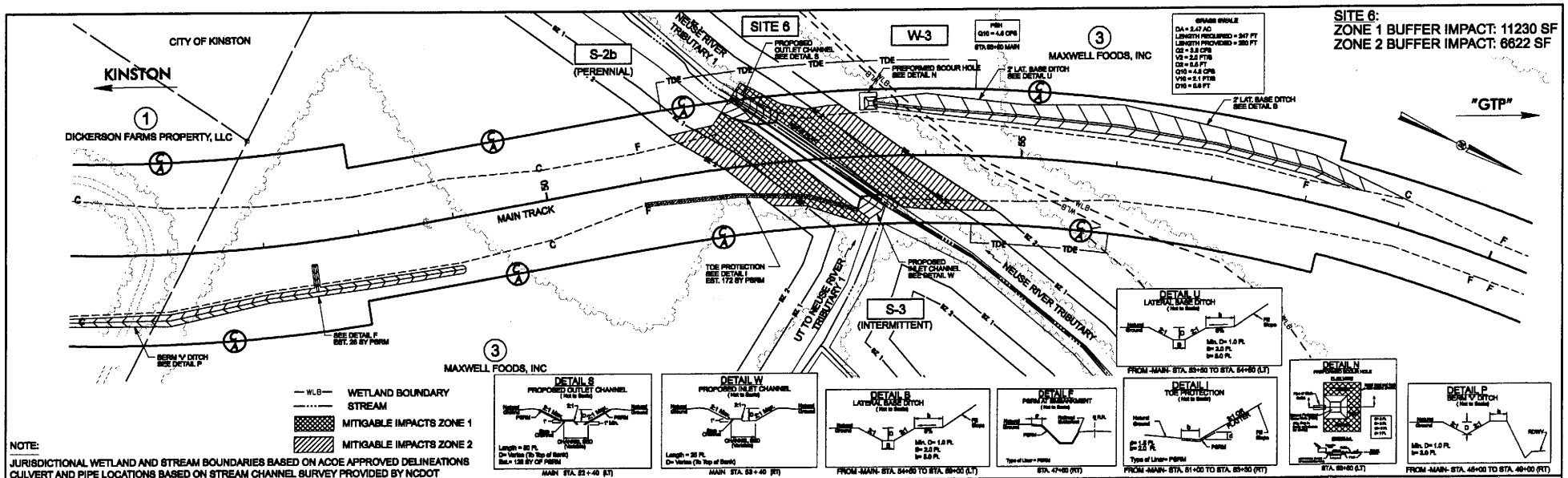
GTP Rail Access

NCGTP RAIL ACCESS
BUFFER IMPACTS
SITE 6
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: B-01A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

292

SITE 6:
ZONE 1 BUFFER IMPACT: 11230 SF
ZONE 2 BUFFER IMPACT: 6622 SF



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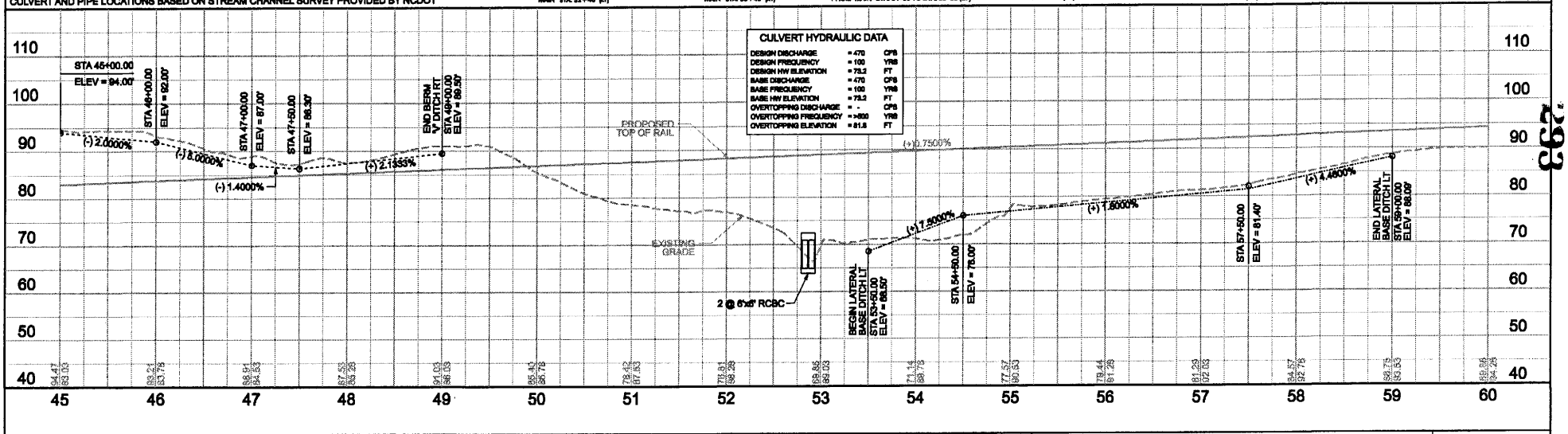
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 470	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 73.2	FT
BASE DISCHARGE	= 470	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 73.2	FT
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 81.8	FT

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RAIL DIVISION

HNTB
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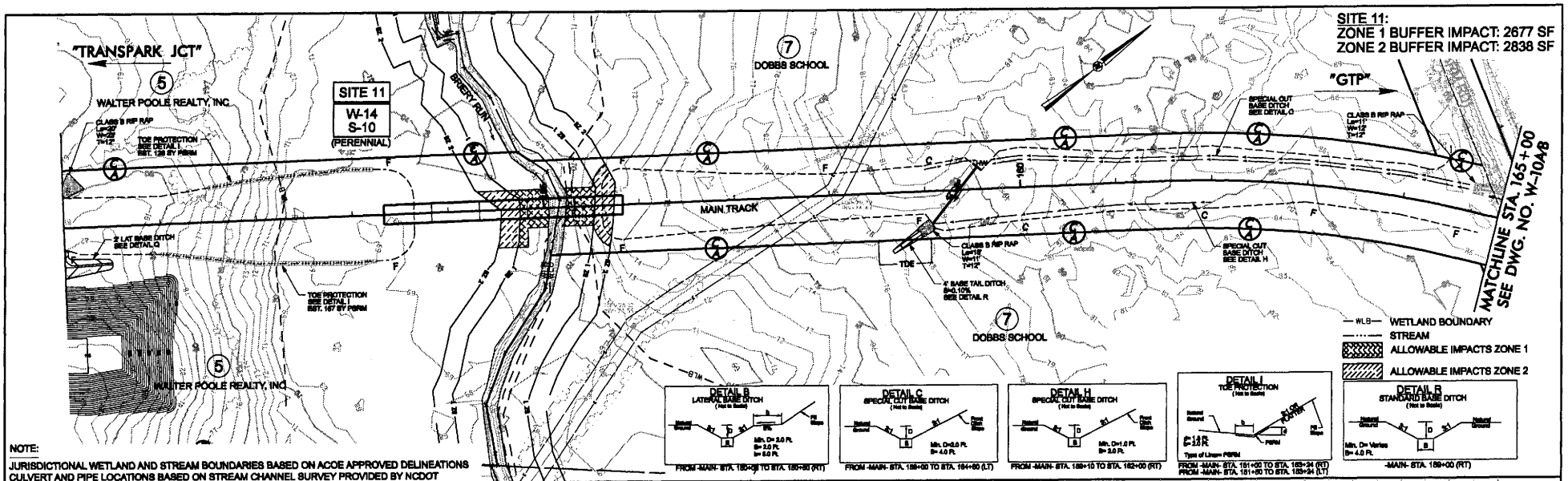
949 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
BUFFER IMPACTS
SITE 6
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: B-01B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:



NOTE:
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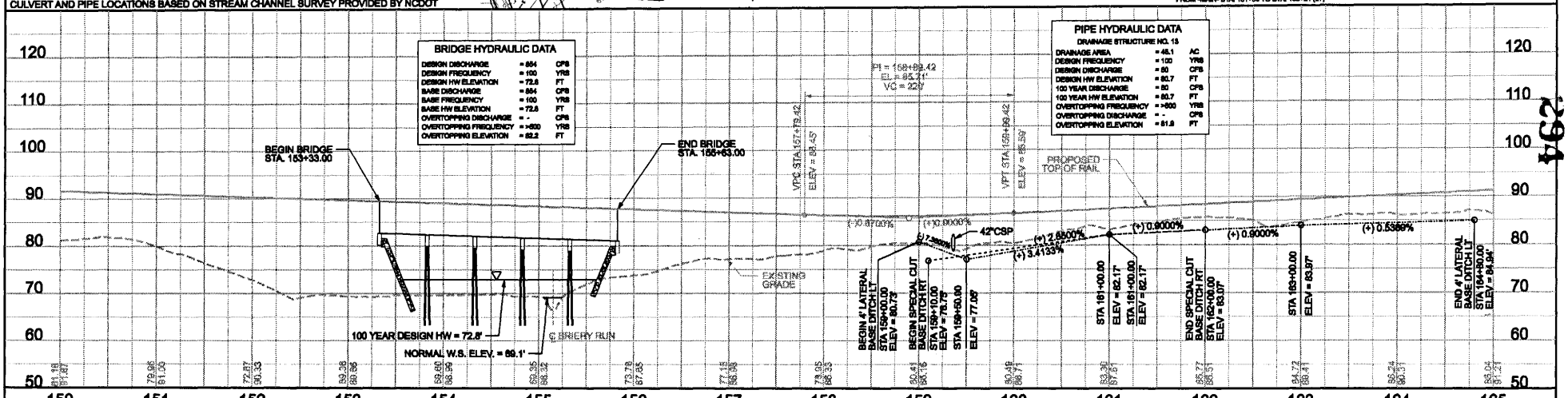

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NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

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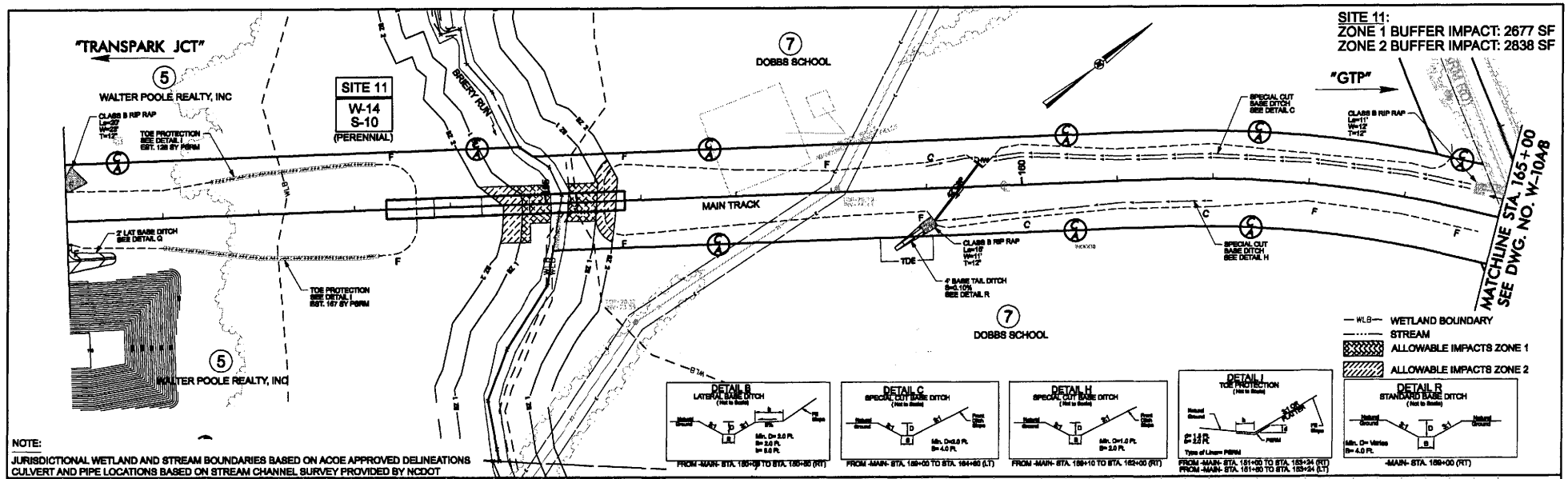
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1584

GTP Rail Access

NCGTP RAIL ACCESS
BUFFER IMPACTS
SITE 11
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: B-02A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



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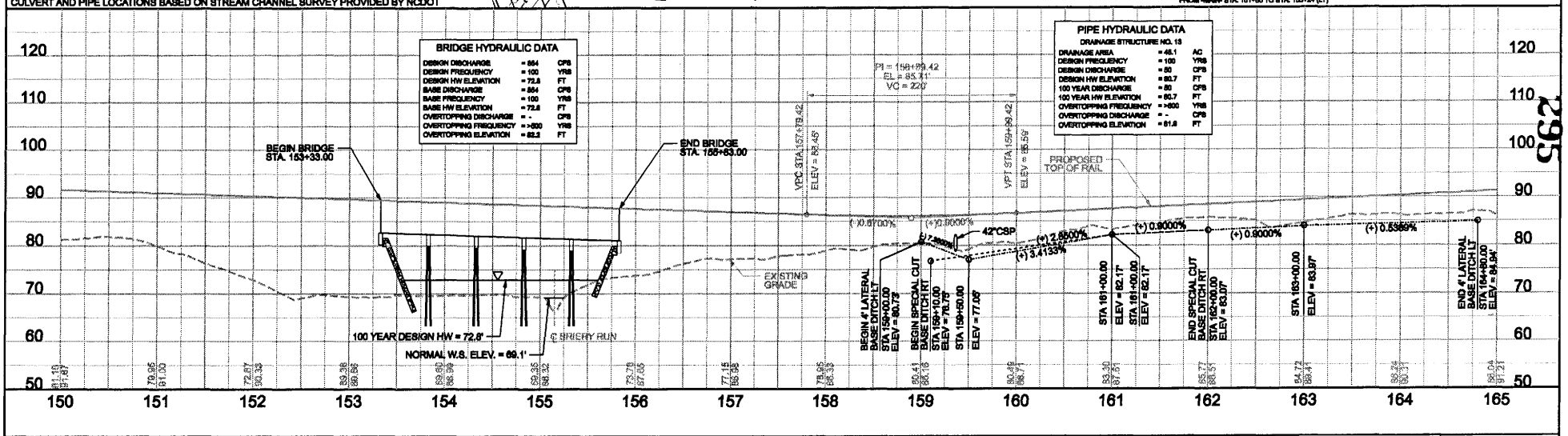

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RAIL DIVISION

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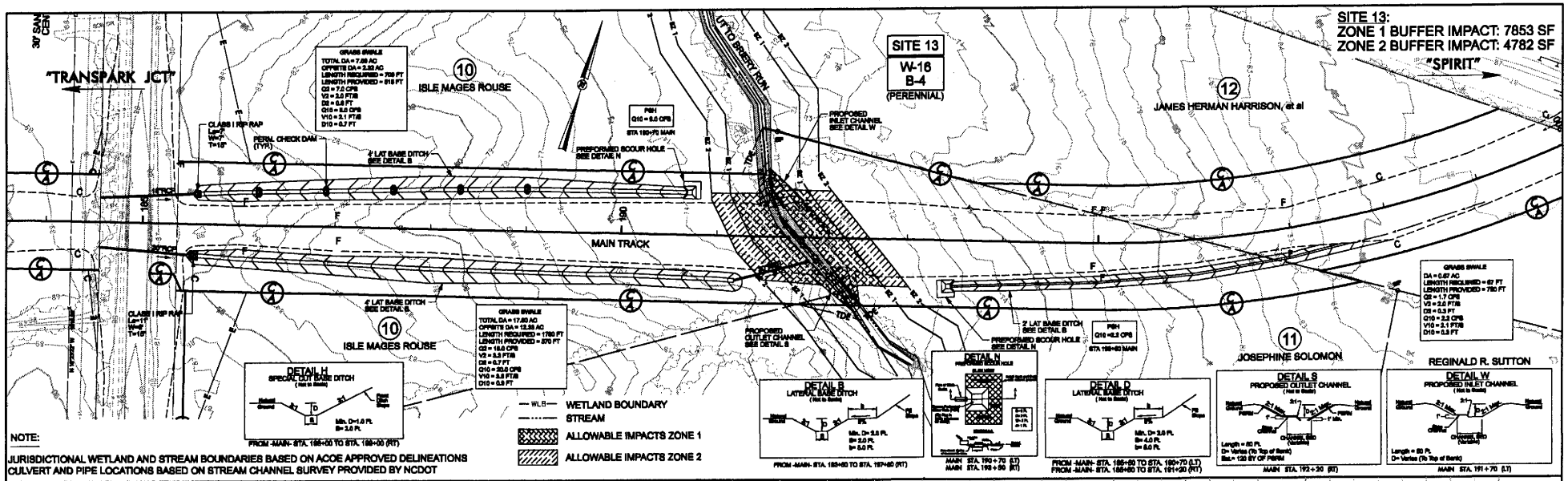
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
0-1554

GTP Rail Access

NCGTP RAIL ACCESS
BUFFER IMPACTS
SITE 11
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: B-02B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:



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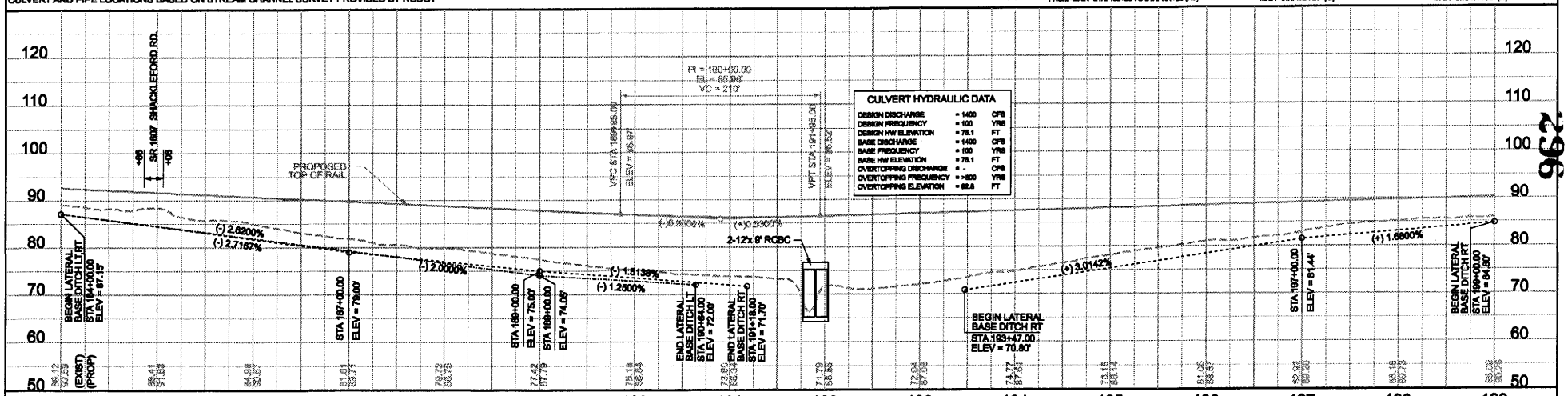

CULVERT HYDRAULIC DATA		
DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 78.1	FT
BASE DISCHARGE	= 1400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 78.1	FT
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 82.8	FT

REV. NO.	DATE	BY	APP. BY	DESCRIPTION

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DATE: JUNE 17, 2009

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION
ENGINEERING AND SAFETY BRANCH
CAPITAL TAB
1554 M.S. SERVICE CENTER
RALEIGH, NC 27699-1554

HNTB
HNTB NORTH CAROLINA, P.C.
848 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

GTP Rail Access

NCGTP RAIL ACCESS
BUFFER IMPACTS
SITE 13
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: B-03A
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=20'
SHEET NO:

SITE 13:
ZONE 1 BUFFER IMPACT: 7853 SF
ZONE 2 BUFFER IMPACT: 4782 SF

"TRANSPARK JCT"

"SPIRIT"

SITE 13
W-16
B-4
(PERENNIAL)

10 ISLE MAGES ROUSE

12 JAMES HERMAN HARRISON, et al

11 JOSEPHINE SOLOMON

REGINALD R. SUTTON

MAIN TRACK

UT TO BRIERY RUN

PROPOSED INLET CHANNEL SEE DETAIL W

PROPOSED OUTLET CHANNEL SEE DETAIL S

PREFORMED SCOUR HOLE SEE DETAIL N

4' LAT BASE DITCH SEE DETAIL B

2' LAT BASE DITCH SEE DETAIL B

PERM. CHECK DAM (TYP.)

CLASS I RIP RAP

GRASS SWALE
TOTAL DA = 7.89 AC
OFFSITE DA = 3.32 AC
LENGTH REQUIRED = 709 FT
LENGTH PROVIDED = 910 FT
Q2 = 7.0 CFS
V2 = 2.0 FT/S
D2 = 0.6 FT
Q10 = 9.0 CFS
V10 = 2.1 FT/S
D10 = 0.7 FT

GRASS SWALE
TOTAL DA = 17.60 AC
OFFSITE DA = 13.85 AC
LENGTH REQUIRED = 1766 FT
LENGTH PROVIDED = 870 FT
Q2 = 18.0 CFS
V2 = 3.3 FT/S
D2 = 0.7 FT
Q10 = 20.0 CFS
V10 = 3.5 FT/S
D10 = 0.8 FT

GRASS SWALE
DA = 0.67 AC
LENGTH REQUIRED = 67 FT
LENGTH PROVIDED = 760 FT
Q2 = 1.7 CFS
V2 = 2.0 FT/S
D2 = 0.3 FT
Q10 = 3.2 CFS
V10 = 2.1 FT/S
D10 = 0.5 FT

PSH
Q10 = 6.0 CFS
STA 190+70 MAIN

PSH
Q10 = 6.2 CFS
STA 189+60 MAIN

DETAIL H
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D=1.0 Ft.
B= 3.0 Ft.
FROM -MAIN- STA. 188+00 TO STA. 189+00 (RT)

DETAIL B
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2.0 Ft.
B= 3.0 Ft.
b= 5.0 Ft.
FROM -MAIN- STA. 189+60 TO STA. 187+60 (RT)

DETAIL N
PREFORMED SCOUR HOLE
(Not to Scale)
MAIN STA. 190+70 (LT)
MAIN STA. 193+80 (RT)

DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2.0 Ft.
B= 4.0 Ft.
b= 8.0 Ft.
FROM -MAIN- STA. 195+80 TO STA. 190+70 (LT)
FROM -MAIN- STA. 195+80 TO STA. 191+20 (RT)

DETAIL S
PROPOSED OUTLET CHANNEL
(Not to Scale)
Length = 80 Ft.
D= Varies (To Top of Bank)
Bot.= 120 BY OF PERM
MAIN STA. 192+20 (RT)

DETAIL W
PROPOSED INLET CHANNEL
(Not to Scale)
Length = 80 Ft.
D= Varies (To Top of Bank)
MAIN STA. 191+70 (LT)

WL8 WETLAND BOUNDARY
STREAM
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

NOTE:
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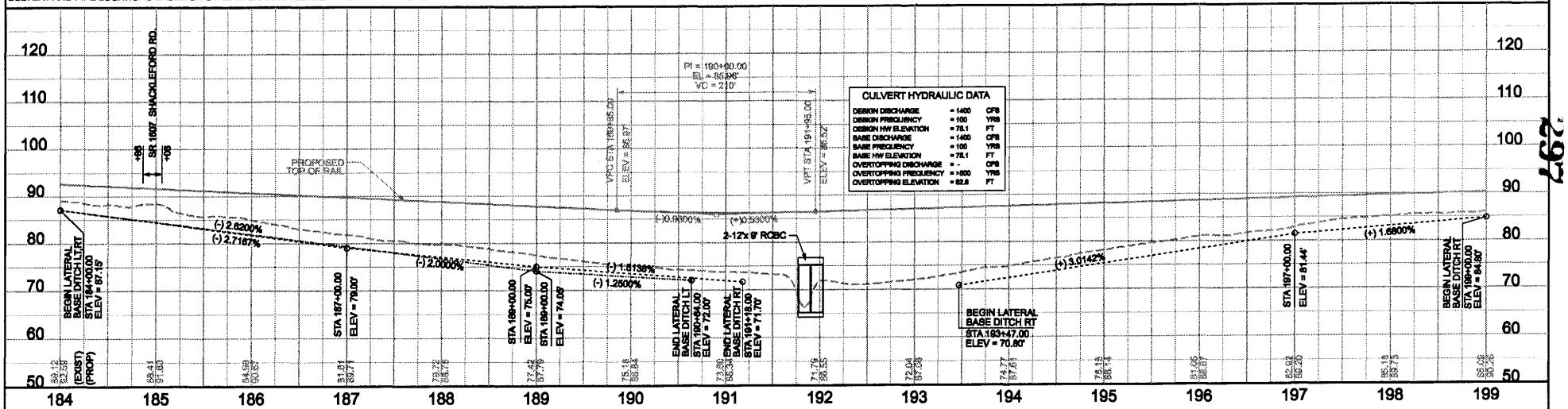
CULVERT AND PIPE LOCATIONS BASED ON STREAM CHANNEL SURVEY PROVIDED BY NCDOT



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 75.1	FT
BASE DISCHARGE	= 1400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 75.1	FT
OVERTOPPING DISCHARGE	= -	CFS
OVERTOPPING FREQUENCY	= >500	YRS
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BUFFER IMPACTS
SITE 13
KINSTON, NC

PROJECT NUMBER: 44875
DRAWING NO: B-03B
SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"= 20'
SHEET NO:

297