

PRIVATE CROSSING SAFETY INITIATIVE (PCSI)

NORTH CAROLINA RAILROAD/NORFOLK SOUTHERN
RALEIGH TO CHARLOTTE

CROSSING RE-EVALUATION & RECOMMENDATIONS



SUPPLEMENTAL REPORT

Prepared for



Project No: P-4405

Prepared by



December 2009

**PRIVATE CROSSING SAFETY INITIATIVE
(PCSI)**

SUPPLEMENTAL REPORT

NORTH CAROLINA RAILROAD/NORFOLK SOUTHERN

Prepared for

**RAIL DIVISION
ENGINEERING & SAFETY BRANCH
NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION**

Project P-4405

DECEMBER 2009

Prepared by

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**PRIVATE CROSSING SAFETY INITIATIVE (PCSI)
NCDOT TIP Project P-4405
SUPPLEMENT to the OCTOBER 2003 REPORT**

**PREPARED for the NCDOT RAIL DIVISION
ENGINEERING & SAFETY BRANCH**

December 2009

On April 28, 2009 members of the NCDOT Rail Division, Engineering & Safety Branch staff met with staff from Gannett Fleming (GF) and Rail Safety Consultants (RSC) to discuss those private grade crossings of the Norfolk Southern Railroad (NCRS corridor) from Raleigh to Charlotte that remain open. All of the crossings discussed were evaluated as part of a previous study completed by GF in October of 2003. Since the date of the initial study, 7 crossings have been closed or are scheduled to be closed. Several of the remaining crossings were recommended for long-term closure.

After considerable discussion by the Project Team, several crossings were identified as candidates for additional evaluation including preparation of concept plans and cost estimates if a reasonable and feasible alternative could be developed that would allow for the closure of the crossing. The purpose of this effort is to eliminate as many of the remaining private grade crossings as possible in order to safe up the railroad for the eventual introduction of High Speed Passenger Trains operating at 90 MPH between Raleigh and Charlotte. Currently, passenger trains are limited to 79 MPH. Higher operating speeds resulting from significant track improvements along the corridor can result in as much as a one-hour reduction in travel time between the two cities.

All costs shown below have been escalated to **2012 dollars at 3.5% per annum.** Also, please note that all projects described/discussed below are subject to further investigation, design and the NEPA process.

Crossings identified and the charge to GF/RSC concerning each is as follows:

1. **Wake County - Crossing 734 754 R/MP H 71.11/Progress Energy** – develop a concept plan and cost estimate to provide alternative access to Tower View Road in the Town of Cary.

GF submitted a concept plan to TTA showing a gravel driveway across TTA property to access the Progress Energy substation. TTA responded with proposal that would provide for the construction of a roadway on TTA property built to accommodate a future park and ride lot and rail station stop planned by TTA. In exchange for the NCDOT constructing the roadway, TTA would grant permanent access to the substation for Progress. Due to the cost to construct and the uncertainty of the TTA plan for the park and ride lot a concept plan and cost

estimate have been developed to construct a gravel driveway along the TTA alignment to access the substation and a cell tower site owned by Cary.

The total estimated project cost is \$244,000 – See Sheet 1 with cost estimate in the appendix.

2. **Orange County – Crossing 735 199Y/MP H 48.49/5300 Old Hillsborough Rd (Gordon Thomas Dr)** – develop a concept plan and cost estimate to provide alternative access to Paschall Drive.

This project provides a public roadway to NCDOT Secondary Roads standards approximately 3800 feet long.

The total estimated project cost is \$686,000 – See Sheet 2 and cost estimate in the appendix.

3. **Orange County – Crossing 726 305F/MP H 47.62/Greenbrier Dr** – update cost estimate and concept plan. Evaluate for possible combination with 2 above.

This project provides a public roadway to NCDOT Secondary Roads standards approximately 700 feet long.

The total estimated project cost is \$200,000 – See Sheet 3 with cost estimate in the appendix.

4. **Orange County – Crossing 735 189T/MP H 43.89/Byrdsville Rd** – develop concept plan and cost estimate for alternative access to SR 1893.

This project provides approximately 1500 feet of new secondary road to provide access to all properties served by the crossing.

The total estimated project cost is \$400,000 – See Sheet 4 with cost estimate in the appendix.

5. **Orange County – Crossing 735 160V/MP H 41.82/Partin’s Trailer Park** – develop concept plan including flattening the railroad curve. Develop cost estimate for acquiring all property remaining south of railroad after curve realignment.

In evaluating this project in light of the land costs, a feasible alternative to provide alternate access to the remaining parcels was developed. This access would be to S. Church Street/SR 1009 via Orange Grove Street/SR 1006.

This project includes cost to acquire additional r/w for NCRR to accommodate an alignment to handle 90 mile/hour train operating speeds as well as providing

alternate access for the remaining property. A secondary road of approximately 1300 linear feet will be required.

The total estimated project cost is \$422,000 – See Sheet 5 with cost estimate in the appendix.

6. **Orange County** – Crossing 735 148N/MP H 38.85/Frank E. Freeman – develop concept plan for curve realignment and cost estimate for total take of property.

This project is projected to be a total take as reasonable and feasible alternate access is not available. The site is bordered by large undeveloped tracts belonging to Duke University and Minnie D. Davis. Realigning the railroad curve and maintaining the NCRR 200-foot corridor will require a taking from both adjacent properties.

The total estimated project cost is \$280,000 – See Sheet 6 with cost estimate in the appendix.

7. **Orange County** – Crossing 735 147G/MP H 38.23/Andrew B. Lloyd – prepare cost estimate for a total take including relocation expenses.

This is a large tract of farm land (206 acres) valued at over \$1 million. Acquisition of this property does not appear reasonable and feasible. The Division of Highways is evaluating the possibility of access to this property from the US 70/I-85 connector which, if provided, will allow the crossing to be closed at no cost to the project.

The total estimated project cost is \$7,500 – See Sheet 7 with cost estimate in the appendix.

8. **Alamance County** – Crossing 736 180K/MP H 28.58/Logan E. Crutchfield – develop concept plan for curve realignment and cost estimate for total take of property.

The estimated cost to acquire the Crutchfield property, relocate the owner and remove the mobile home is \$90,000. The cost to acquire the additional r/w to the east (5 parcels) for the railroad realignment is \$60,000 for a total project cost of \$150,000.

See Sheet 8 in the appendix.

9. **Alamance County** – Crossing 735 466A/MP H 28.21/James D. Norris – develop concept plan for curve realignment and cost estimate for a total take of property.

Additional r/w costs associated with curve realignment are shown in 9 above. The estimated cost to acquire the Norris property is \$90,000.

See Sheet 8 in the appendix.

- 10. Guilford County – Crossing 904 413T/MP H 9.50/Carl C. Barber** – develop concept plan and cost estimate for alternative access to Frieden Church Road.

The developed concept calls for a gravel driveway on a 25-foot permanent easement from the rear of the Barber property to Frieden Church Road for a total length of approximately 1400 feet. Two alternatives for access to Frieden Church Rd were developed; however, the total length for each is virtually the same, so only one cost estimate is included in the appendix.

The estimated project cost is \$232,000 – See Sheets 9 & 9A with cost estimate in the appendix.

- 11. Guilford County – Crossing 722 974C/MP H 7.40/Long & Patterson** – develop concept plan and cost estimate for a parallel frontage road connecting to McLeansville Road at Frieden Church Road. As an alternative, develop cost estimate for a total take of both properties.

The build concept calls for a 16-foot driveway on a 25-foot easement approximately 1050 feet long.

The total estimated project cost is \$166,000 – See Sheet 10 with cost estimate in the appendix.

To purchase both parcels, relocate the homeowners and demolish the structures is estimated to cost \$300,000 if alternative access proves unfeasible.

- 12. Rowan County – Crossing 724 363U/MP 336.54/W. Pat Sloop** – develop concept plan and cost estimate for alternative access.

This project provides for the construction of approximately 650 linear feet of new secondary road connecting to SR 1526 as well as a driveway connection to the existing driveway.

The total estimated project cost is \$190,000 – See Sheet 11 with cost estimate in the appendix.

- 13. Rowan County – Crossing 724 366P/MP 337.52/Reid Farm Road** – develop concept plan and cost estimate for alternative access to Trexler Road.

This project provides for the construction of approximately 1200 linear feet of new secondary road connecting to Trexler Road/SR 2599.

The total estimated project cost is \$262,000 – See Sheet 12 with cost estimate in the appendix.

- 14. Cabarrus County – Crossing 715 329N/MP 363.28/Gladys H. Doster** – develop concept plan and cost estimate for alternative access to Saddle Creek Road. As an alternative, develop cost estimate for total take of property.

A review of existing conditions shows that a possible connection through the Saddle Creek project to Shamrock Drive is no longer viable in that a large warehouse facility now blocks the pathway.

Since this report was initially issued in September, representatives of the Rail Division and GF have met with representatives of the Cabarrus Co Schools and the Doster family to discuss access through the grounds of the Harrisburg Elementary School. School representatives expressed a willingness to recommend access but cautioned that the School Board and the County Commissioners would have to give the final approval. GF has prepared a plan and cost estimate and forwarded same to school system staff and the Doster family for review. The estimated project cost is \$56,000.

Should an agreement with Cabarrus Co not prove feasible, the estimated cost to acquire the Doster properties, relocate the owner/tenants and demolish the structures is \$880,000.

See Sheet 13 in the appendix.

- 15. Cabarrus and Mecklenburg Counties/Caldwell Road Area Crossing Study** – this portion of the study includes two public grade crossings in Cabarrus County and four private grade crossings in Mecklenburg County. The involved crossings include:

- Cabarrus – Xing 715 332W/MP 365.24/Caldwell Rd/Public
- Cabarrus – Xing 715 334K/MP 365.62/Millbrook Rd/Public
- Mecklenburg – Xing 917 037B/MP 365.90/City of Charlotte/Private
- Mecklenburg – Xing 715 335S/MP 366.29/Duke Energy/Private
- Mecklenburg – Xing 715 336Y/MP 366.61/Cochrane Farm/Private
- Mecklenburg – Xing 715 338M/MP 367.00/Stroup Farm/Private

The project consists of a grade separation at Caldwell Road and a series of connector roads on the south side of the NCRR right-of-way connecting to Millbrook Road and the four private crossings listed above. The Caldwell Road overpass will be designed to thoroughfare standards (4 lanes) and the connector roads that comprise the remainder of the project will be designed to either Town of Harrisburg or City of Charlotte standards depending on location. However, as

part of the project's initial phase, it is recommended that a two-lane roadway be extended from the end of Caldwell Park Drive to Stoup Farm. This roadway would provide sufficient access to all property served until such time as further development takes place. Amenities such as bike lanes, curb & gutter, planting strips, sidewalks and utility strips could be added through the land development process. A right-of-way adequate to accommodate all of the amenities (estimated at 71 feet) would be acquired in the initial phase and the bridge (or culvert as the case may be) at Back Creek would be built to accommodate a 3-lane roadway with bike lanes and sidewalks on each side.

Upon completion of the project, six grade crossings of the railroad will be eliminated.

The estimated cost of the project is \$12,000,000 – See Sheets 14-16 with cost estimates in the appendix. These estimates represent complete build-out of the project; however, a phase-one option would include bridges at final configuration and 2-lane roadway sections with additional capacity and amenities added as warranted.

ACTION PLAN

The following actions by the Rail Division are proposed in order to implement the projects described above:

I. Projects involving construction of new Secondary Roads and/or new Private Driveways:

1. Authorize Gannett Fleming (GF) staff, with assistance from the designated Rail Division Project Engineer, to meet with Division of Highways (DOH) staff in Divisions 5, 7 & 9 and the Rail Division Environmental & Planning Branch (EPB) Rail Project Development Engineer to present project concept plans and alternatives for review and comment.
2. GF will advise the Rail Division of those projects deemed feasible by DOH staff and the EPB and in turn, the Rail Division will authorize GF to procure survey data and prepare preliminary construction plans.
3. Upon selection of the alternatives, review concepts with NS and NCRB and see funding or in-kind contribution based on railroad formula, cost-benefit or policy. Develop craft crossing closure agreement terms for development of a crossing closure agreement by the agreement consultants and facilitate execution.
4. Upon completion of preliminary plans, authorize Right-of-Way Branch staff in each Division to make preliminary contact with impacted property owners to determine level of cooperation (willing/unwilling seller). Rail Division and GF staff will provide assistance to the R/W staff.
5. For those projects where property owners indicate a willingness to negotiate a settlement for required r/w, authorize the Rail Division EPB to prepare the appropriate environmental document.
6. For those projects where the initial contact by R/W Branch personnel indicates that eminent domain proceedings may be required, authorize the Rail Division EPB to prepare the appropriate environmental document.
7. Upon completion of environmental documents, authorize the EPB to hold public workshops as mandated under DOT and NEPA procedures.
8. Upon approval of the environmental document for each project, authorize GF to advance the project preliminary plans to the r/w acquisition phase and submit to the R/W staff in each Division for acquisition.
9. Upon completion of r/w acquisition, GF will complete final plans and submit same to the appropriate Division for construction.
10. Upon completion of construction and acceptance by the DOH, authorize Norfolk Southern to remove the related grade crossing.

II. Proposed Property Buy-out Projects:

1. Authorize the appropriate R/W Branch staff, with assistance from the Rail Division designated Project Engineer and GF, to make initial contact with the property owner to determine willingness to sell.
2. Determine if crossing can be eliminated upon acquisition or if it can be gated/locked until such time as the property can be disposed of either by transfer or sale.
3. Review proposal with NS and NCRR and seek funding or in-kind contribution based on railroad formula, cost-benefit analysis or policy. Develop draft crossing, crossing closure or access agreement terms for development of an agreement by the agreement consultants and facilitate execution.
4. Authorize EPB to prepare appropriate environmental document.
5. Upon approval of the environmental document, authorize the R/W Branch to acquire the property and relocate owner (if required) under standard procedures.
6. Authorize NS to remove related grade crossing or gate accordingly as per agreement.

III. Proposed Caldwell Road Area Crossings (Cabarrus & Mecklenburg Counties) Project:

1. Authorize GF to present project concept to Town of Harrisburg and City of Charlotte officials for review and comment.
2. Review concept with NS and NCRR and seek funding or in-kind contribution based on railroad formula, cost-benefit or policy.
3. Authorize GF to arrange and conduct a project scoping meeting to include staff from DOH, Rail Division, Charlotte, Harrisburg and others as may be appropriate.
4. Following scoping meeting, GF to submit proposal to Rail Division for authorization to begin project surveys and preparation of preliminary plans.
5. Authorize EPB to begin preparation of the appropriate environmental document assuming eminent domain procedures.
6. Develop draft crossing closure and project agreement terms for development of an agreement by the agreement consultants and facilitate execution.
7. Upon completion of the draft environmental document, EPB to hold public workshop(s) as required.
8. GF to meet with Rail Division to determine funding availability as per ARRA, etc.
9. GF to complete project r/w plans and submit same to R/W Branch for acquisition.
10. Upon completion of r/w acquisition, GF to complete final project construction plans and submit to DOH for letting as a standard TIP project.

RANKING OF PROJECTS PROPOSED AS PART OF A SUPPLEMENTAL REPORT TO THE PRIVATE CROSSING SAFETY INITIATIVE (PCSI) PROJECT

NCDOT RAIL DIVISION TIP Project P-4405

December 8, 2009

On September 1, 2009, Gannett Fleming, Inc. issued a Supplemental Report to the October 2003 report pertaining to evaluations and recommendations of private grade crossings along the North Carolina Railroad corridor with Norfolk Southern as the operating railroad, from Raleigh to Charlotte. The report contained recommendations, concept plans and cost estimates for 18 private grade crossings of the railroad and two public crossings. The two public crossings were included in the report because they are directly connected to recommendations to close four private crossings in Mecklenburg County.

Several criteria were used in developing the rankings described below. These criteria included:

- Accident history/Accident potential
- Traffic volume
- Crossing condition
- Crossing angle
- Sight distance
- Crossing safety devices
- Feasibility/Cost of proposed improvements
- Future development potential

Of the above criteria, the potential for future accidents resulting from existing and future traffic volume were mainly used in selecting the final rankings.

On October 19th, Gannett Fleming and Rail Safety Consultant staff met in Raleigh with Rail Division staff to review the report. As a result of that meeting, some revisions to the report have been made. These revisions and discussions have also led to revisions in the recommendations for construction priority. These revisions are reflected below.

RECOMMENDED PRIORITY CONSTRUCTION PROJECTS

- 1. Caldwell Road Area Crossing Study Projects – Cabarrus and Mecklenburg Counties/Division 10** – this project is the most costly of those included in the

Supplemental Report but if implemented, will eliminate future train/vehicle crashes along a 1.75 mile segment of the railroad. Also, the area served by the four private crossings listed below has substantial future development potential which, if implemented without the project, will cause a significant increase in future crash potential.

Caldwell Rd/SR 1173 was identified in a separate study prepared in 1997 as a future candidate for a grade separation. Since that time, traffic volumes on Caldwell Road have increased significantly (2600 VPD in 1997 vs. 7300 VPD in 2006) due to heavy commercial and residential development in the area. While traffic volumes are not nearly as significant on Millbrook Rd/SR 1182, the crossing provides access to a ready-mixed concrete plant with a large number of truck-mounted concrete mixers crossing the track each day. The high potential for a significant crash occurring at either of these locations makes the proposed grade separation at Caldwell Road and the connection to and the closure of the Millbrook crossing a priority 1 project.

Added to the above, the four private crossings located south of the Millbrook crossing in Mecklenburg County serve a large area of mostly undeveloped land that is under significant development pressure. As part of the grade separation project, the properties served by the four grade crossings would be connected to Caldwell Road via a parallel frontage road which would then allow for the closure of the private crossings.

The NCDOT should enter into cost sharing agreements with the Town of Harrisburg, the City of Charlotte, NCR and NS to fund, design and build the project. Upon completion only Caldwell Road would remain on the State System. The Millbrook connector/frontage road would ultimately become part of the Town of Harrisburg system and the parallel roadway in Mecklenburg Co would become part of the City of Charlotte system. Agreements should also be negotiated with the City of Charlotte, Duke Energy, Cochrane Farm and Stroup Farm for the sharing of costs associated with the parallel road in that its construction provides a significant increase in land value due to the provision of public access.

The crossings included in this recommendation are:

- **Cabarrus – Xing 715 332W/MP 365.24/Caldwell Rd/Public**
- **Cabarrus – Xing 715 334K/MP 365.62/Millbrook Rd/Public**
- **Mecklenburg – Xing 917 037B/MP 365.90/City of Charlotte/Private**
- **Mecklenburg – Xing 715 335S/MP 366.29/Duke Energy/Private**
- **Mecklenburg – Xing 715 336Y/MP 366.61/Cochrane Farm/Private**
- **Mecklenburg – Xing 715 338M/MP 367.00/Stroup Farm/Private**

Project Requirements

- Planning & Environmental Document with alternatives analysis
- Preliminary & Final Plans

- Right-of-way acquisition
 - Utility relocation
 - Cost sharing agreements
 - NCRR/NS agreements
 - TIP Project/Construction Administration by DOH
 - Degree of Difficulty – High
 - Probability of Implementation - Medium
2. **Gladys H. Doster/715 329N/MP 363.28/Cabarrus County/Division 10** – the property served by this crossing was originally recommended for buyout and relocation. However, since the Supplemental Report was issued in September, a meeting was held on-site with representatives of Cabarrus Co. Schools and members of the Doster family to discuss access to the property via the grounds of the Harrisburg Elementary School. School representatives expressed a willingness to allow the access assuming approval from the School Board and the County Commission. GF is preparing a concept plan and cost estimate to be presented to project stakeholders for review and comment. Assuming the concept is approved, GF will request authorization to proceed with surveying and design and preparation of documents acceptable to the School Board and Co. Commission for approval.
3. **Greenbrier Drive/726 305F/MP H 47.62/Orange County/Division 7** – this crossing currently serves 8 residential parcels, 7 of which are developed. A minimal standard public roadway to be funded, built and maintained by the NCDOT is recommended. The new access road would connect to Spruce Pine Trail and then to Hillsborough Rd/SR 1710 and then the crossing could be closed. Given the scope of the project, it could be built as well as maintained by Division 7.

Project Requirements

- Planning & Environmental Document with alternatives analysis
 - Preliminary & Final Plans
 - Right-of-way acquisition
 - Possible utility relocation
 - Construction Administration by Division
 - Future Secondary Road status
 - Degree of Difficulty – Low
 - Probability of Implementation - High
4. **5300 Old Hillsborough Rd/Gordon Thomas Dr/ 735 199Y/MP H 48.49/Orange County/Division 7** – this crossing currently serves 6 residential units, however, if the proposed roadway is built as shown in concept, an additional 6 residential units and several undeveloped tracts of land would then have public access. These additional properties are currently accessed by a private driveway on easement.

A minimal standard public roadway to be funded, built and maintained by the NCDOT is recommended. The new access road would connect to Couch Mountain Rd/SR 1716 and then the private crossing could be closed. Given the scope of the project, it could be built as well as maintained by Division 7.

Project Requirements

- Planning & Environmental Document with alternatives analysis
- Preliminary & Final Plans
- Right-of-way acquisition
- Possible utility relocation
- Construction Administration by Division
- Future Secondary Road status
- Degree of Difficulty – Medium
- Probability of Implementation - Medium

5. **Reid Farm Rd/724 366P/MP 337.52/Rowan County/Division 9** – this crossing serves a large farming operation as well as 4 residential units. A minimal standard public roadway to be funded, built and maintained by the NCDOT is recommended. The new access road would connect to Trexler Road/SR 2599 and then to Peach Orchard Rd and then the private crossing could be closed. Given the scope of the project, it could be built as well as maintained by Division 9.

Project Requirements

- Environmental Document
- Preliminary & Final Plans
- Right-of-way acquisition
- Possible utility relocation
- Construction Administration by Division
- Future Secondary Road status
- Degree of Difficulty – Low
- Probability of Implementation - Medium

6. **Long & Patterson/722 974C/MP H 7.40/Guilford County/Division 7** – this crossing serves two residential structures which could be accessed via a new driveway connecting to Ranhurst Rd/SR 2898 opposite its intersection with Friedan Church Road/SR 2746. In that a driveway easement (25' recommended) will need to be acquired from two adjacent parcels, it is recommended that the NCDOT acquire the easement. The driveway could then be built by the Division or an agreement reached with the property owners for them to have construction responsibility. All maintenance responsibility would belong to Long & Patterson or the owners of record.

Project Requirements

- Environmental Document
- Final Plans

- Right-of-way acquisition
- Construction Administration by Division or Private
- Private maintenance
- Degree of Difficulty – Low
- Probability of Implementation - High

7. Carl C. Barber/904 413T/MP H 9.50/Guilford County/Division 7 – this crossing serves one permanent and one mobile residential structure off Carmon Rd/SR 2755. It is recommended that a new driveway on a 25-foot easement be constructed across adjacent property to access Friedan Church Rd/SR 2746. In that an easement from two adjacent parcels will be required, it is recommended that the NCDOT obtain the easement. The driveway could then be constructed by the Division or an agreement reached with the Barbers for them to build it. All maintenance responsibility would belong to the Barbers or owner of record.

Project Requirements

- Environmental Document
- Final Plans
- Right-of-way acquisition
- Construction Administration by Division or Private
- Private maintenance
- Degree of Difficulty – Low
- Probability of Implementation - Medium

8. W. Pat Sloop/724 363U/MP 336.54/Rowan County/Division 9 – this crossing serves a farm with one permanent and one mobile residential unit. The recommendation includes a new public road connecting to Henderson Grove Church Rd/SR 1526 and a relocation of the Sloop driveway.

A minimal standard public roadway to be funded, built and maintained by the NCDOT from Henderson Grove Church Rd to the Sloop property line is recommended. The agreement with the Sloops should reimburse them for expenses incurred in relocating the driveway to connect to the new road.

Project Requirements

- Environmental Document
- Preliminary & Final Plans
- Right-of-way acquisition
- Construction Administration by Division
- Future Secondary Road Status
- Private maintenance on driveway segment
- Degree of Difficulty – Low
- Probability of Implementation - High

- 9. Progress Energy/734 754R/MP H 71.11/Wake County/Division 5** – in that this is a commercial crossing involving transport of heavy electrical equipment, it would normally be ranked much higher on the priority list; however, the existing crossing is gated and locked and requires both a driver and a spotter to negotiate. With these controls in place, it is ranked number **9**.

A heavy-duty driveway across adjacent property connecting to Tower View Court in Cary is recommended. Due to a permanent easement being required across the adjacent Public Transportation Authority (doing business as Triangle Transit Authority) property, it is recommended that the NCDOT acquire the easement. The NCDOT should fund the driveway construction as well as any modifications to the security fencing around the substation but let Progress Energy handle all design, permitting and construction.

Project Requirements

- Environmental Document
- Right-of-way acquisition
- Private design, construction & maintenance
- Degree of Difficulty – Low
- Probability of Implementation - High

- 10. Andrew B. Lloyd/735 147G/MP H 38.23/Orange County/Division 7** – this crossing provides access to a large farming operation. If the Division of Highways determines that a driveway permit can be issued to access this property from the US 70/I-85 Connector, then the NCDOT should enter into an agreement with Mr. Lloyd (or owner of record) to reimburse him for all costs associated with the new driveway in exchange for closing the crossing.

Project Requirements

- Agreement with Mr. Lloyd to close crossing and build driveway to Connector.
- Degree of Difficulty – Low
- Probability of Implementation - High

- 11. Byrdsville Road/735 189T/MP H 43.89/Orange County/Division 7** – this project would normally rank much higher due to the large number of homes currently served as well as the possible increase in residential structures. However, the crossing is protected by automatic warning devices (gates/flashers) resulting in a lower ranking.

In 2003, 67 residential units were served with the potential for the area served by the crossing to increase to one hundred homes or more. As units are added, then traffic on the grade crossing increases with the resultant increase in crash potential. Although this is one of two private crossings along the railroad to be protected by automatic warning devices, data shows that crashes still occur at similarly protected crossings.

A minimal standard public roadway to be funded, built and maintained by the NCDOT is recommended. The new access road connecting to SR 1893 allows for the crossing to be closed. Given the scope of the project, it could be built as well as maintained by Division 7.

Project Requirements

- Planning & Environmental Document with alternatives analysis
- Preliminary & Final Plans
- Right-of-way acquisition
- Possible utility relocation
- Construction Administration by Division
- Future Secondary Road status
- Degree of Difficulty – Medium
- Probability of Implementation - Medium

12. Partin's (Formerly Terrell's) Trailer Park/735 160V/MP H 41.82/Orange County/Division 7 – while this crossing served 4 permanent structures and 12 mobile homes at the time of the initial PCSI analysis, if the railroad is realigned in this area, a significant number of the units will be acquired leaving only two permanent structures and 4 mobile units based on current mapping. The angle of the crossing, its condition and sight distance also were factors in this ranking; however, since the initial evaluation in 2003, the crossing has been upgraded with the addition of automatic warning devices resulting in the proposed ranking.

A minimal standard public roadway to be funded, built and maintained by the NCDOT is recommended. The new access road would connect to Orange Grove St/SR 1006 and then to S. Church St/SR 1009 and then the private crossing could be closed. Given the scope of the project, it could be built as well as maintained by Division 7.

Project Requirements

- Environmental Document
- Preliminary & Final Plans
- Right-of-way acquisition
- Possible utility relocation
- Construction Administration by Division
- Future Secondary Road status
- Degree of Difficulty – Low
- Probability of Implementation – High

SUMMARY

Given that the Caldwell Road Area project will require a long lead time to design, permit and acquire right-of-way, it is recommended, should funding become available, that work begin simultaneously in several Divisions. Divisional rankings are as follows:

Division 5

1. Progress Energy

Division 7

1. Greenbrier Drive
2. 5800 Old Hillsborough Road
3. Long & Patterson
4. Carl C. Barber
5. Andrew B. Lloyd
6. Byrdsville Road
7. Partin's (Terrell's) Trailer Park

Division 9

1. Reid Farm Road
2. W. Pat Sloop

Division 10

1. Gladys H. Doster
2. Caldwell Road Area Projects

RECOMMENDED PROPERTY PURCHASE

The two properties recommended for buyout and relocation discussed below are located in areas without feasible alternative access. They are also located in areas where the railroad is proposed to be realigned. The Freeman property is ranked first because initial contact has been made with Mr. Freeman and he has indicated a willingness to sell.

1. **Frank E. Freeman/735 148N/MP H 38.85/Orange County/Division 7** – this crossing serves a single residential structure with no reasonable or feasible alternative access. Should the NCDOT/NCRR purchase the property, then Duke University which owns the adjacent Duke Forest should be a prime candidate to purchase the remainder of the property once the limits of the curve realignment are known.
2. **Roberts (736 180K/MP H 28.58) & Crutchfield (735 466A/MP H 28.21)/Alamance County/Division 7** – the Roberts crossing serves a single

mobile residential unit. The Crutchfield crossing serves a large vacant tract. To realign the railroad curve in this area will also require acquisition of r/w from 5 parcels east of the Roberts crossing.

Should the NCDOT/NCRR purchase the Roberts and Crutchfield properties, then Duke University again should be a prime candidate to purchase the property remainders and incorporate same into the adjacent Duke Forest.

RNP 11/03/2009

Private Crossing Safety Initiative – Master List
Includes Caldwell Road Area Crossing Study Project

COUNT	XING NO.	WARNING DEVICES	OWNER OR STREET NAME (as of 10/2003)	COUNTY	MILEPOST	OPR. RR	RECOMMENDATION	STATUS	ESTIMATED COST
1	630652H	CROSSBUCKS	Recreational Ventures, Inc.	WAKE	S 162.25	NS/CXST	Close/Alt. Access*	Closure under discussion	
2	630659F	CROSSBUCKS	Public Service Co. of NC	WAKE	S 163.82	NS/CXST	Close/Alt. Access*	Closure Fall 2009	Project Under Construction - \$450,000
3	630660A	CROSSBUCKS	First State Comm., Inc.	WAKE	S 164.02	NS/CXST	Close/Alt. Access*	Xbucks, stop and pvt xings signs	Propose NS move gate to eastern side. Likely no alternative access available since building road would require major relocation of tower wires, etc.
4	734754R	XBUCKS/STOP	Progress Energy	WAKE	H 71.11	NS	Close/Alt. Access*	Gate and lock installed	Estimated cost for alternate access - \$244,000
5	734751V	Gates/Flashers	Long Beverage, Inc.	WAKE	H 67.75	NS	None	Non standard signs removed	
6	736173A		Northern Telecom Inc.	DURHAM	H 63.98	NS	Closed	Crossing removed	
7	726293N	Gates/Flashers	IBM, Inc. (#3)	DURHAM	H 62.34	NS	Complete	Gate and lock in place (gates/flashers remain)	
8	736223B	Gates/Flashers	Sanmina/Duke (IBM #2)	DURHAM	H 61.80	NS	Close/Alt. Access	Closed	
9	734740H	Gates/Flashers	IBM, Inc. (#1)	DURHAM	H 61.58	NS	Complete	Gate and lock in place (gates/flashers remain)	
10	735206G	Gates/Flashers	W. Durham Lumber Co.	DURHAM	H 52.56	NS	NCRRIP Proposal	Gates/Flashers (no change)	
11	735199Y	CROSSBUCKS	5300 Old Hillsborough Rd (Now Gordon Thomas Drive)	ORANGE	H 48.49	NS	New Xbucks/Stop	Xbucks, stop and pvt xings signs	Estimated cost for alternative access - \$686,000
12	726305F	CROSSBUCKS	Greenbrier Drive	ORANGE	H 47.62	NS	New Xbucks/Stop	Xbucks, stop and pvt xings signs	Estimated Cost for alternate access - \$200,000
13	735189T	Gates/Flashers	Byrdsville Road	ORANGE	H 43.89	NS	None	Gates/Flashers (no change)	Estimated Cost for alternate access - \$400,000
14	735160V	Gates/Flashers	Partin's Trailer Park	ORANGE	H 41.82	NS	Gates/Flashers	Gates/Flashers installed 7/12/2005	Estimated cost for alternate access and additional NCRR r/w - \$422,000
15	735148N	CROSSBUCKS	Frank E. Freeman & Wife	ORANGE	H 38.85	NS	New Xbucks/Stop	Xbucks, stop and pvt xings signs	Estimated Cost to acquire including additional NCRR right-of-way - \$280,000
16	735147G	CROSSBUCKS	Andrew B. Lloyd & Wife	ORANGE	H 38.23	NS	Close/Alt. Access	Xbucks, stop & pvt xing signs; access from Ben Johnson Rd gated	Driveway to US 70/I-85 Connector - \$7,500
17	736180K	CROSSBUCKS	Logan E. Crutchfield & Wife	ALAMANCE	H 28.58	NS	New Xbucks/Stop	Xbucks, stop and pvt xings signs	Estimated cost to acquire - \$150,000 including additional NCRR r/w (5 parcels)
18	735466A	CROSSBUCKS	James D. Norris & Wife	ALAMANCE	H 28.21	NS	New Xbucks/Stop	Xbucks	Estimated cost to acquire - \$90,000
19	904413T	CROSSBUCKS	Carl C. Barber & Wife	GUILFORD	H 9.50	NS	Crossbucks	Xbucks	Estimated cost for alternate access - \$232,000
20	722977X	CROSSBUCKS	Bullard & Black	GUILFORD	H 8.61	NS	New Xbucks/Stop	Xbucks, stop and pvt xings signs	This crossing to be closed as part of the Carmon Rd realignment project.
21	722974C	CROSSBUCKS	Long & Patterson	GUILFORD	H 7.40	NS	New Xbucks/Stop	Xbucks, stop and pvt xings signs	Estimated cost for alternate access \$166,000
22	722973V	CROSSBUCKS	NW Tree & Stone, Co.	GUILFORD	H 7.15	NS	Stop Sign Study	To Be Closed (See Rankin Fryar)	NCDOT to continue closure project.
23	722972N	XBUCKS/STOP	Robert Rankin Fryar	GUILFORD	H 6.77	NS	New Xbucks/Stop	Gates/Flashers to be installed; pending agreement	NCDOT to continue gate/flasher project.
24	722963P	XBUCKS/STOP	Thomas & Howard Inc.	GUILFORD	H 4.25	NS	Close/Alt. Access	Xbucks/stop signs (Alt access to Maxfield Rd underway)	NCDOT to continue project to construct alternative access.
25	722353G	CROSSBUCKS	City of High Point	GUILFORD	295.18	NS	Clear Sight Lines	Gate/lock in place	No action required.

COUNT	XING NO.	WARNING DEVICES	OWNER OR STREET NAME (as of 10/2003)	COUNTY	MILEPOST	OPR. RR	RECOMMENDATION	STATUS	ESTIMATED COST
26	904230A	GATE & LOCK	206 Albertson Road	DAVIDSON	303.95	NS	None	Gate/lock in place; stop & pvt xing signs one side	No action required.
27	722313J	GATE & LOCK	Randall T. Byerly	DAVIDSON	313.96	NS	None	Gate/lock in place; Xbucks, stop & pvt xing signs	No action required.
28	910616L	CROSSBUCKS	N. C. Wildlife Commission	DAVIDSON	325.20	NS	Crossbucks	Xbucks, stop and pvt xings signs	No action required.
29	722196R	CROSSBUCKS	Yadkin, Inc./Pittsburg, PA	DAVIDSON	327.05	NS	Crossbucks	Xbucks, stop and pvt xings signs	No action required.
30	904231G		NC Finishing Plant	ROWAN	328.10	NS	Gate & Lock	Closed and xing removed	Closed.
31	724363U	CROSSBUCKS	Ms. W. Pat Sloop	ROWAN	336.54	NS	New Xbucks/Stop	Xbucks (no change)	Estimated cost for alternate access - \$262,000
32	724364B	CROSSBUCKS	A. & Q. Chunn	ROWAN	337.06	NS	Gate & Lock	Gate and lock in place, xbucks, stop and pvt xing signs	No action required. Gate/lock to remain.
33	724366P	CROSSBUCKS	Reid Farm Road	ROWAN	337.52	NS	New Xbucks/Stop	Xbucks, stop & pvt xing signs	Estimated cost for alternate access - \$220,000
34	724375N		Universal Forest Prod, Inc.	ROWAN	340.61	NS	Gate & Lock	Closed and xing removed	Closed.
35	724377C	CROSSBUCKS	Ethel Lane	ROWAN	341.39	NS	Stop Sign Study	Xbucks, stop & pvt xing signs one side; Alt Access Pending	NCDOT alternative access project underway.
36	724378J	CROSSBUCKS	Juke Box Road	ROWAN	341.54	NS	Stop Sign Study	Xbucks, stop & pvt xing signs one side; Alt Access Pending	NCDOT alternative access project underway.
37	715322R	CROSSBUCKS	NS Maint. Access	CABARRUS	358.08	NS	Gate & Lock	Gate and lock in place, xbucks, stop and pvt xing signs	No action required.
38	904189K	NONE	NS Maint Access	CABARRUS	360.10	NS	Gate & Lock	Gate and lock in place, stop and pvt xing signs	No action required.
39	715329N	CROSSBUCKS	Ms. Gladys H. Doster	CABARRUS	363.28	NS	New Xbucks/Stop	Xbucks, stop & pvt xing signs	Estimated cost for alternate access - \$56,000
40	917037B	XBUCKS/STOP	City of Charlotte	MECK.	365.90	NS	Close as part of Caldwell Road Area Crossing Study which includes Caldwell Road Xing 715 332W/MP 365.24 & Millbrook Rd Xing 715 334K/MP 365.62	Gate and lock in place; Xbucks	Total Project Cost \$12,000,000
41	715335S	CROSSBUCKS	Duke Power Co.	MECK.	366.29	NS	None	Gate and lock in place	See 917 037B
42	715336Y	CROSSBUCKS	Elma Cochrane et al	MECK.	366.61	NS	New Xbucks/Stop	Xbucks, stop & pvt xing signs	See 917 037B
43	715338M	Gates/Flashers	J. B. Stroup, Jr. & Wife	MECK.	367.00	NS	None	Gates/Flashers	See 917 037B
44	715340N		IP Merryhue Farms, LLC	MECK.	368.08	NS	Close	Closed and xing removed	Closed
45	715344R		8400 Old Concord Road	MECK.	369.92	NS	Close	Closed and xing removed	Closed
46	715388R	NONE	NS Maint Access	MECK.	375.64	NS	None	None (no change)	No action required.

NS ACCESS/CONTROL
NEAR TERM CLOSURE
LONG TERM CLOSURE

APPENDIX

GANNETT FLEMING, INC.
ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
(704) 375-2438 FAX (704) 332-9361

PROJECT: Progress Energy Alternate Access
CONCEPT PLAN With Conc. Entrance and Stone Driveway

NUMBER: NCDOT Project P-4405

PRELIMINARY **\$244,000**

ESTIMATOR: RWM/RNP/BC/ACJ December 21, 2009

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$9,000.00	\$9,000.00
2	225	Unclassified Excavation	3,400 CY	\$9.00	\$30,600.00
3	300	Foundation Conditioning Material, Minor Structures	30 TN	\$25.00	\$750.00
4	310	15" R.C. Pipe Culvert, Class III	212 LF	\$25.00	\$5,300.00
5	310	15" End Section	1 EA	\$500.00	\$500.00
6	310	Storm Drainage Allowance	1 LS	\$15,000.00	\$15,000.00
7	520	Aggregate Base Course	2,400 TN	\$25.00	\$60,000.00
8	840	Masonry Drainage Structures, Catch Basin, Std. 840.01	5 EA	\$1,500.00	\$7,500.00
9	840	Masonry Drainage Structures, Manhole, Std. 840.51	2 EA	\$1,500.00	\$3,000.00
10	840	Frame with Grate and Hood, Std. 840.03	5 EA	\$500.00	\$2,500.00
11	840	Ring and Cover, Std. 840.54	2 EA	\$500.00	\$1,000.00
12	846	2"-6" Concrete Curb and Gutter	20 LF	\$20.00	\$400.00
13	848	Concrete Wheelchair Ramp	36 SY	\$75.00	\$2,700.00
14	848	4" Concrete Sidewalk	20 SY	\$30.00	\$600.00
15	848	6" Concrete Drive Ramp	90 SY	\$60.00	\$5,400.00
16	880	Seeding and Mulching	2 AC	\$3,000.00	\$6,000.00
17	893	Erosion Control Allowance	1 LS	\$15,000.00	\$15,000.00
18	953	Traffic Control/Pavement Marking/Signage Allowance	1 LS	\$2,000.00	\$2,000.00
19	SP	Pipe Gate with Lock	1 LS	\$1,500.00	\$1,500.00
20	SP	Segmental Block Retaining Wall	900 SF	\$30.00	\$27,000.00

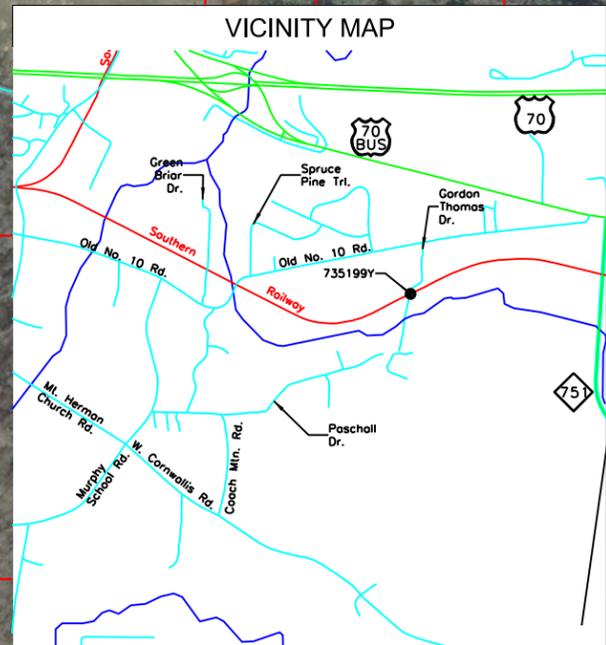
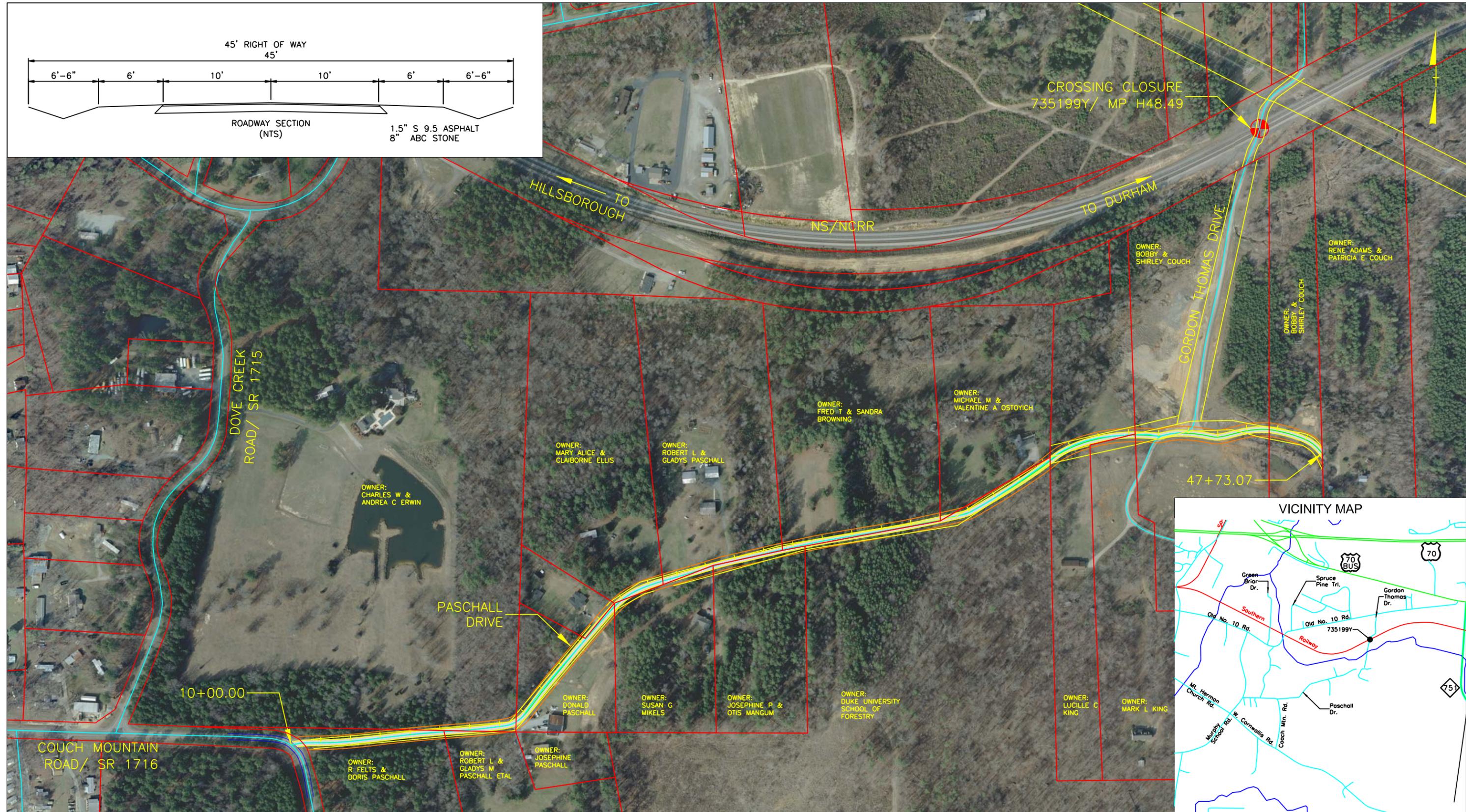
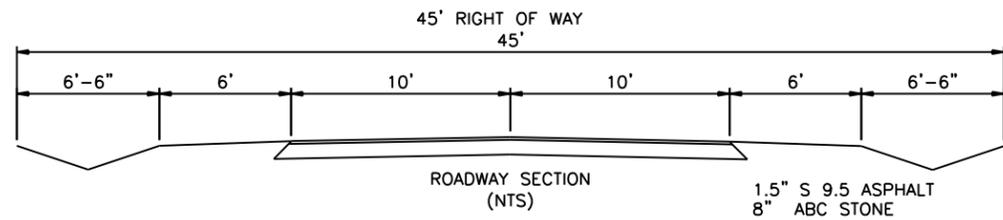
Subtotal	\$195,750.00
10 % Contingency	\$19,575.00

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
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				Contract Sum	\$215,325.00
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SAY \$215,000

Right of Way	
Engr & Survey	\$26,000
Environmental (PCE)	\$3,000
Total	\$244,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
 301 S. McDOWELL STREET SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT	PRIVATE CROSSING SAFETY INITIATIVE		
TITLE	735199Y/ MP H48.49 GORDON THOMAS DRIVE		
LOCATION	ORANGE COUNTY	DRAWING	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=300'
			SHEET 2

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: Gordon Thomas Drive Alternate Access
CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$686,000**

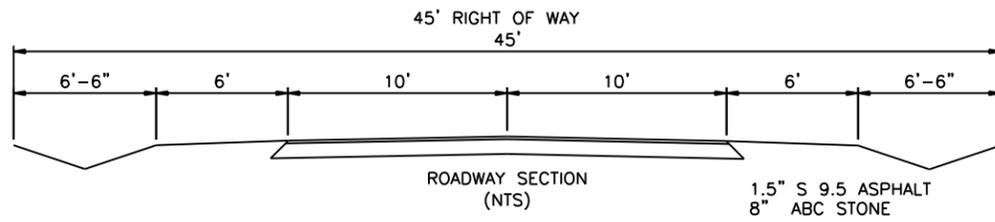
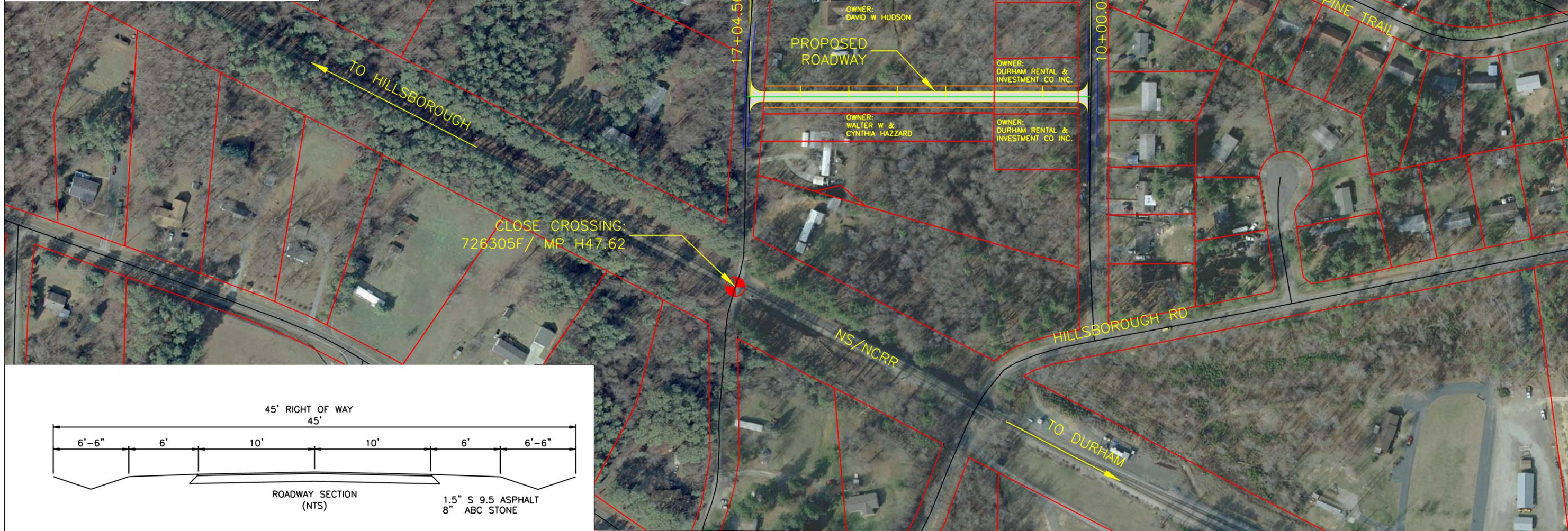
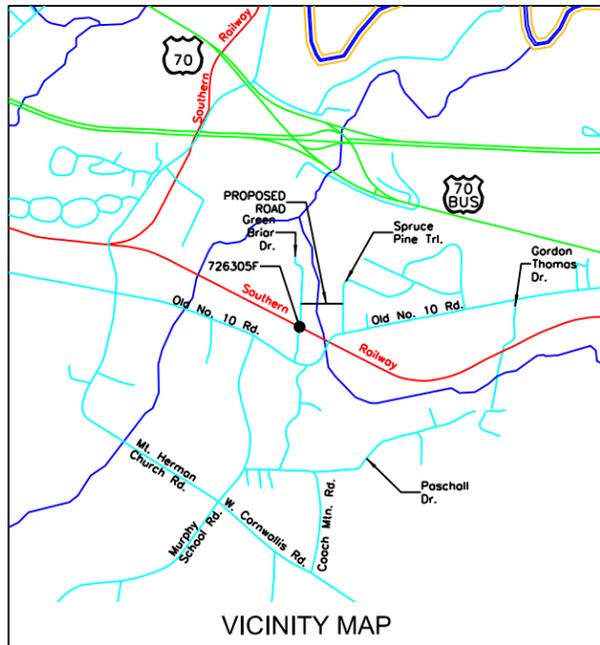
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$14,000.00	\$14,000.00
2	226	Comprehensive Grading	1 LS	\$65,000.00	\$65,000.00
3	310	Storm Drainage Allowance	1 LS	\$15,000.00	\$15,000.00
4	520	Aggregate Base Course	4,070 TN	\$25.00	\$101,750.00
5	545	Incidental Stone Base	75 TN	\$35.00	\$2,625.00
6	610	Bituminous Concrete Surface Course, Type S9.5C	745 TN	\$60.00	\$44,700.00
7	620	Asphalt Binder for Plant Mix	50 TN	\$450.00	\$22,500.00
8	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
9	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
10	880	Seeding and Mulching	4.4 AC	\$3,000.00	\$13,200.00
11	893	Erosion Control Allowance	1 LS	\$5,000.00	\$5,000.00
12	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
13	1205	Pavement Marking Lines, 4", paint, yellow	7600 LF	\$0.75	\$5,700.00
14	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$294,075.00
15 % Contingency	\$44,111.25
Contract Sum	\$338,186.25

SAY **\$338,000**

Right of Way	\$195,000
Engr & Survey	\$68,000
Environmental (LCE)	\$85,000
Total	\$686,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT	PRIVATE CROSSING SAFETY INITIATIVE		
TITLE	726305F/ MP H47.62 GREEN BRIAR DRIVE		
LOCATION	ORANGE COUNTY	DRAWING	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=200'
			SHEET 3

PROJECT: Green Brier Alternate Access
CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$200,000**

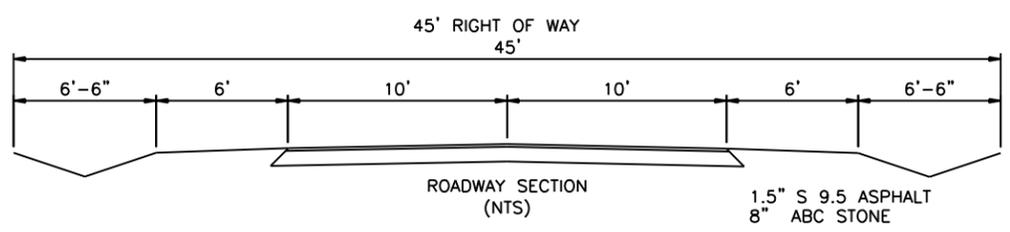
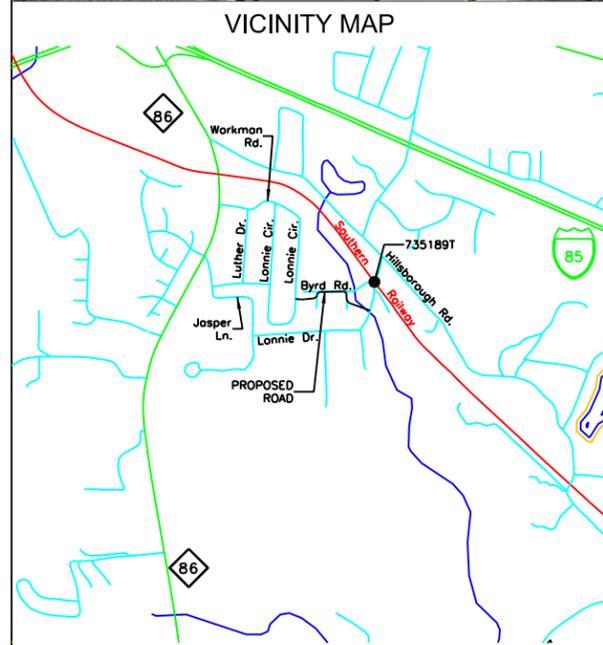
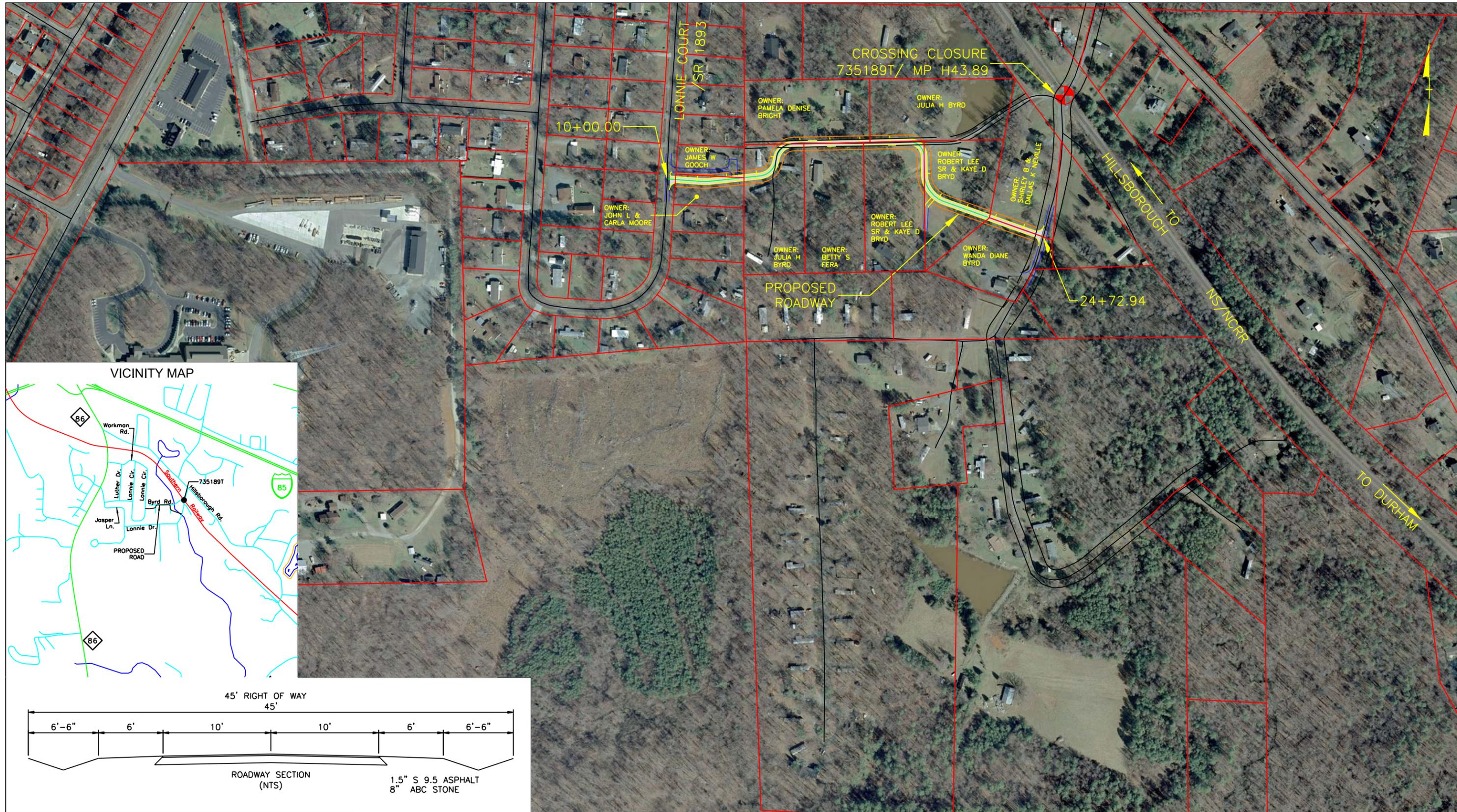
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$3,000.00	\$3,000.00
2	226	Comprehensive Grading	1 LS	\$20,000.00	\$20,000.00
3	310	Storm Drainage Allowance	1 LS	\$5,000.00	\$5,000.00
4	520	Aggregate Base Course	750 TN	\$25.00	\$18,750.00
5	545	Incidental Stone Base	25 TN	\$35.00	\$875.00
6	610	Bituminous Concrete Surface Course, Type S9.5C	140 TN	\$60.00	\$8,400.00
7	620	Asphalt Binder for Plant Mix	10 TN	\$400.00	\$4,000.00
8	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
9	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
10	880	Seeding and Mulching	0.8 AC	\$3,000.00	\$2,400.00
11	893	Erosion Control Allowance	1 LS	\$2,500.00	\$2,500.00
12	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
13	1205	Pavement Marking Lines, 4", paint, yellow	1400 LF	\$0.75	\$1,050.00
14	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$70,575.00
15 % Contingency	\$10,586.25
Contract Sum	\$81,161.25

SAY **\$81,000**

Right of Way	\$40,000
Engr & Survey	\$19,000
Environmental (CE)	\$60,000
Total	\$200,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT	PRIVATE CROSSING SAFETY INITIATIVE		
TITLE	735189T/ MP H43.89 BYRDSVILLE ROAD		
LOCATION	ORANGE COUNTY	DRAWING	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=300'
			SHEET 4

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: Byrdsville Road Alternate Access
CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$400,000**

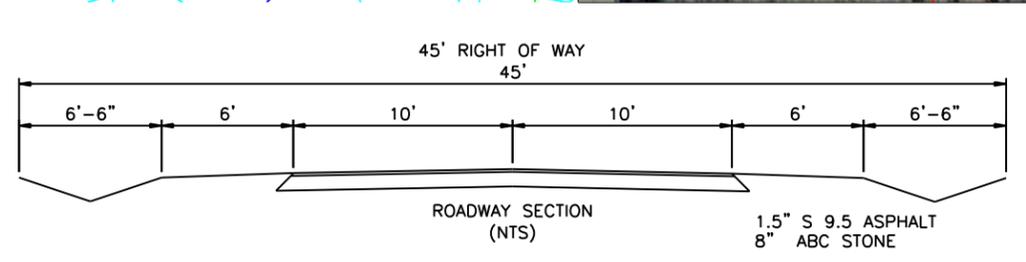
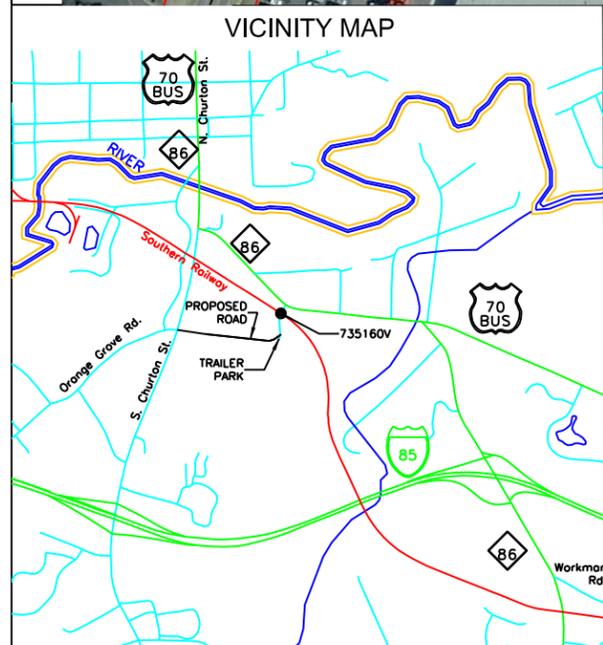
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$6,000.00	\$6,000.00
2	226	Comprehensive Grading	1 LS	\$27,000.00	\$27,000.00
3	310	Storm Drainage Allowance	1 LS	\$15,000.00	\$15,000.00
4	520	Aggregate Base Course	1,560 TN	\$25.00	\$39,000.00
5	545	Incidental Stone Base	100 TN	\$35.00	\$3,500.00
6	610	Bituminous Concrete Surface Course, Type S9.5B	290 TN	\$60.00	\$17,400.00
7	620	Asphalt Binder for Plant Mix	20 TN	\$450.00	\$9,000.00
8	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
9	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
10	880	Seeding and Mulching	1.7 AC	\$3,000.00	\$5,100.00
11	893	Erosion Control Allowance	1 LS	\$5,000.00	\$5,000.00
12	953	Traffic Control Allowance	1 LS	\$1,000.00	\$1,000.00
13	1205	Pavement Marking Lines, 4", paint, yellow	2950 LF	\$0.75	\$2,212.50
14	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$134,312.50
15 % Contingency	\$20,146.88
Contract Sum	\$154,459.38

SAY **\$154,000**

Right of Way	\$130,000
Engr & Survey	\$31,000
Environmental (LCE)	\$85,000
Total	\$400,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		735160V/ MP H41.82 LILLIE MARIE PARTIN	
LOCATION	ORANGE COUNTY	DRAWING	
DGN BY	RAILROAD NORFOLK SOUTHERN	ISSUE	
DWN BY	VAL SEC	SHEET 5	
CHK BY	DATE NOV 2009	SCALE 1"=200'	

PROJECT: Partin's Trailer Park Alternate Access
 CONCEPT PLAN

NUMBER: NCDOT Project P-4405

PRELIMINARY **\$422,000**

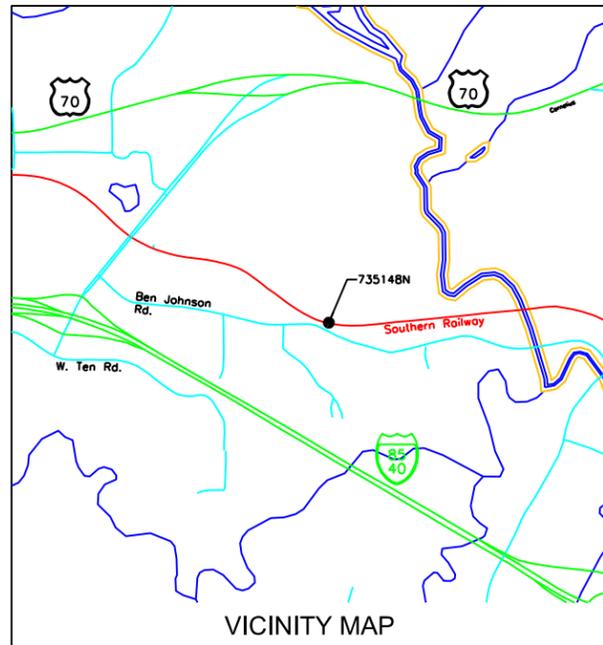
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$6,000.00	\$6,000.00
2	226	Comprehensive Grading	1 LS	\$30,000.00	\$30,000.00
3	310	Storm Drainage Allowance	1 LS	\$4,000.00	\$4,000.00
4	520	Aggregate Base Course	1,560 TN	\$25.00	\$39,000.00
5	610	Bituminous Concrete Surface Course, Type S9.5B	275 TN	\$60.00	\$16,500.00
6	620	Asphalt Binder for Plant Mix	20 TN	\$400.00	\$8,000.00
7	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
8	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
9	880	Seeding and Mulching	1.6 AC	\$3,000.00	\$4,800.00
10	893	Erosion Control Allowance	1 LS	\$4,000.00	\$4,000.00
11	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
12	1205	Pavement Marking Lines, 4", paint, yellow	2800 LF	\$0.75	\$2,100.00
13	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$119,000.00
15 % Contingency	\$17,850.00
Contract Sum	\$136,850.00

SAY **\$137,000**

Right of Way- Road	\$50,000
Right of Way-Track	\$145,000
Engr & Survey	\$30,000
Environmental (CE)	\$60,000
Total	\$422,000



EST ACQUISITION COST:

TOTAL TAKE: FREEMAN - \$265,000
 ADDITIONAL NCRR R/W - \$15,000
\$280,000



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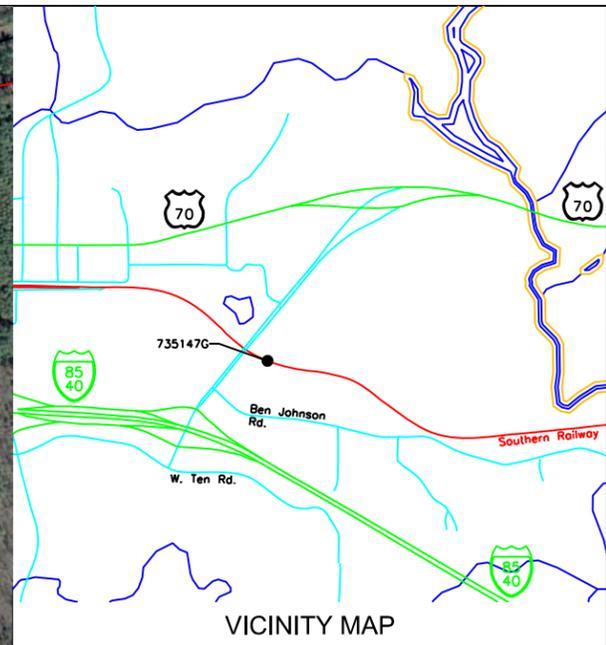
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1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
 301 S. McDOWELL STREET SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		735148N/ MP H38.85 FRANK E. FREEMAN	
LOCATION	ORANGE COUNTY	DRAWING	
DGN BY	RAILROAD NORFOLK SOUTHERN	ISSUE	
DWN BY	VAL SEC	SHEET	
CHK BY	DATE NOV 2009	SCALE 1"=100'	6



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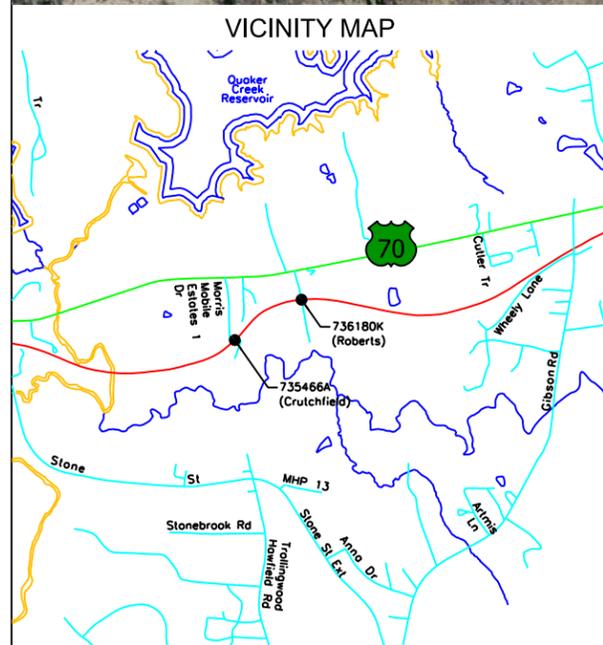
REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
 301 S. McDOWELL STREET SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		735147G/ MP H38.23 ANDREW B LLOYD	
LOCATION	ORANGE COUNTY	DRAWING	
DGN BY	RAILROAD NORFOLK SOUTHERN	ISSUE	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE NOV 2009	SCALE 1"=400'	SHEET 7



EST ACQUISITION COST:

TOTAL TAKE: NORRIS -	\$90,000
TOTAL TAKE: CRUTCHFIELD -	\$110,000
ADDITIONAL NCRR R/W -	\$60,000
Total	\$260,000

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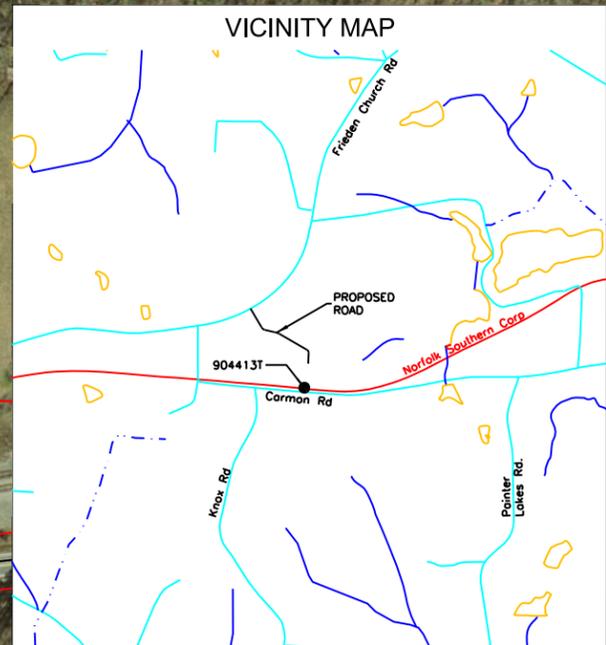
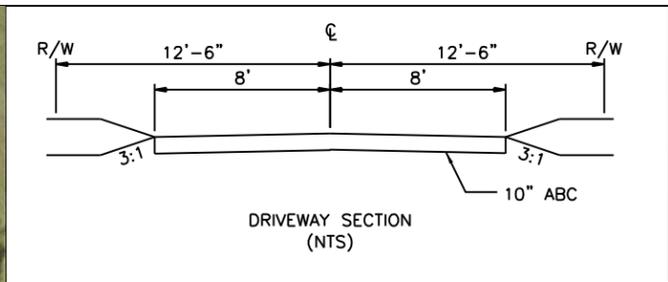
REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		736180K/ MP H28.58 (NORRIS) 735466A/ MP H28.21 (CRUTCHFIELD)	
LOCATION		ALAMANCE COUNTY	DRAWING
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC		ISSUE
CHK BY	DATE	NOV 2009	SCALE 1"=300'
			SHEET 8



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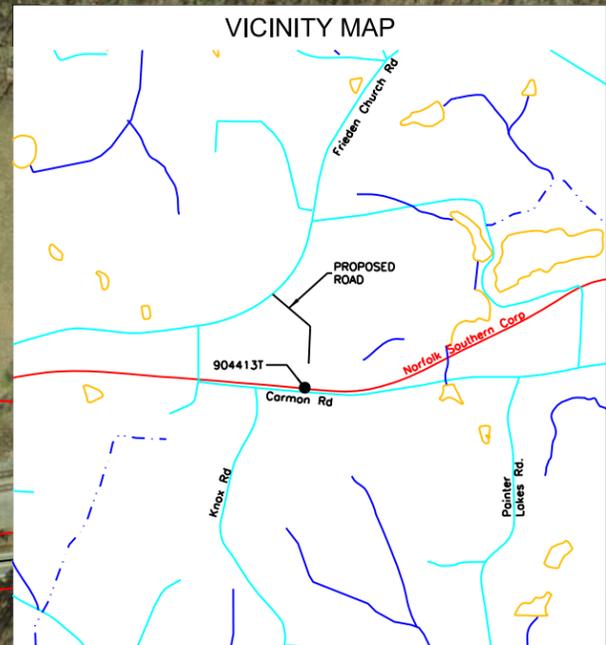
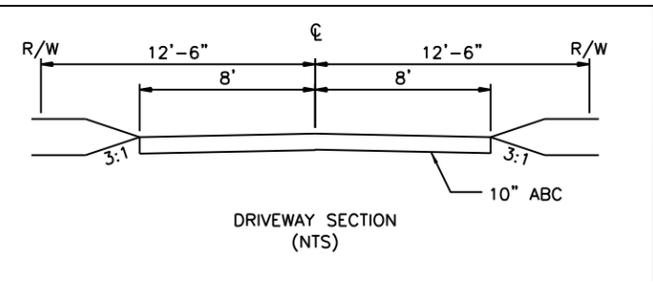
REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		904413T/ MP H9.50 CARL C. BARBER & WIFE - ALT 1	
LOCATION	GUILFORD COUNTY	DRAWING	
DGN BY	RAILROAD NORFOLK SOUTHERN	ISSUE	
DWN BY	VAL SEC	SCALE	1"=200'
CHK BY	DATE NOV 2009	SHEET	9



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		904413T/MP H9.50 - ALT CARL C. BARBER & WIFE - ALT 2	
LOCATION	GUILFORD COUNTY	DRAWING	
DGN BY	RAILROAD NORFOLK SOUTHERN	ISSUE	
DWN BY	VAL SEC	SCALE	1"=200'
CHK BY	DATE NOV 2009	SHEET	9A

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: Barber Alternate Access
 CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$232,000**

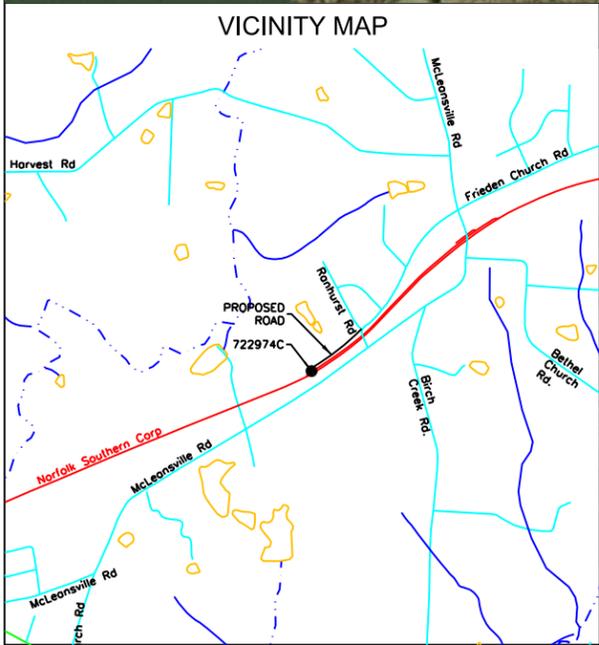
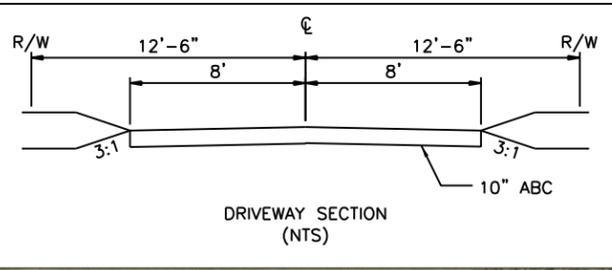
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$5,000.00	\$5,000.00
2	226	Comprehensive Grading	1 LS	\$50,000.00	\$50,000.00
3	310	Storm Drainage Allowance	1 LS	\$2,500.00	\$2,500.00
4	520	Aggregate Base Course	1,625 TN	\$25.00	\$40,625.00
5	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
6	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
7	880	Seeding and Mulching	1.7 AC	\$3,000.00	\$5,100.00
8	893	Erosion Control Allowance	1 LS	\$2,500.00	\$2,500.00
9	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
10	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$110,325.00
15 % Contingency	\$16,548.75
Contract Sum	\$126,873.75

SAY **\$127,000**

Right of Way	\$20,000
Engr & Survey	\$25,000
Environmental (CE)	\$60,000
Total	\$232,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT	PRIVATE CROSSING SAFETY INITIATIVE		
TITLE	722974C/ MP H7.40 BETTY SUE G LONG JUDY B PATTERSON		
LOCATION	GUILFORD COUNTY	DRAWING	
DGN BY	RAILROAD	NORFOLK SOUTHERN	ISSUE
DWN BY	VAL	SEC	ISSUE
CHK BY	DATE	NOV 2009	SHEET 10
	SCALE	1"=200'	

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: Long and Patterson Alternate Access
 CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$166,000**

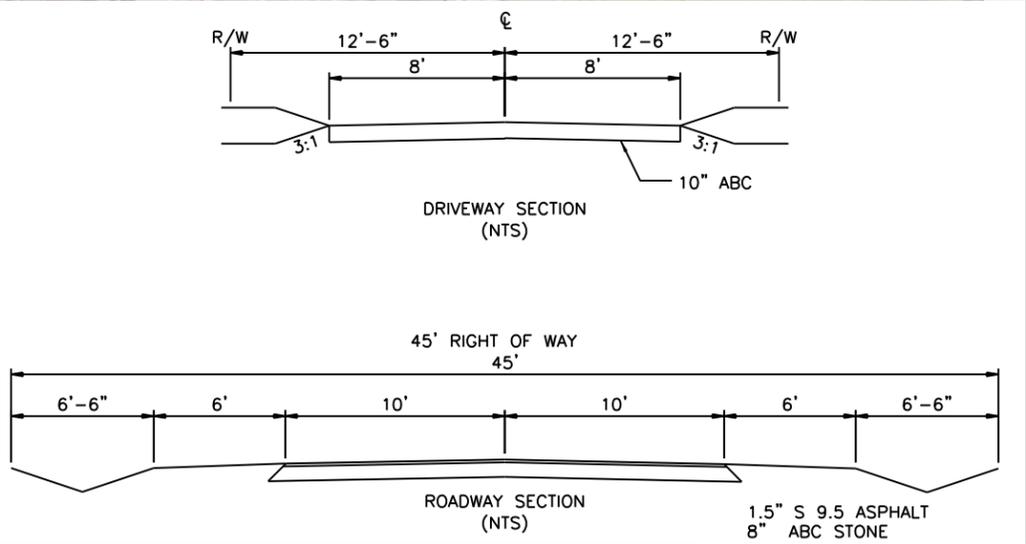
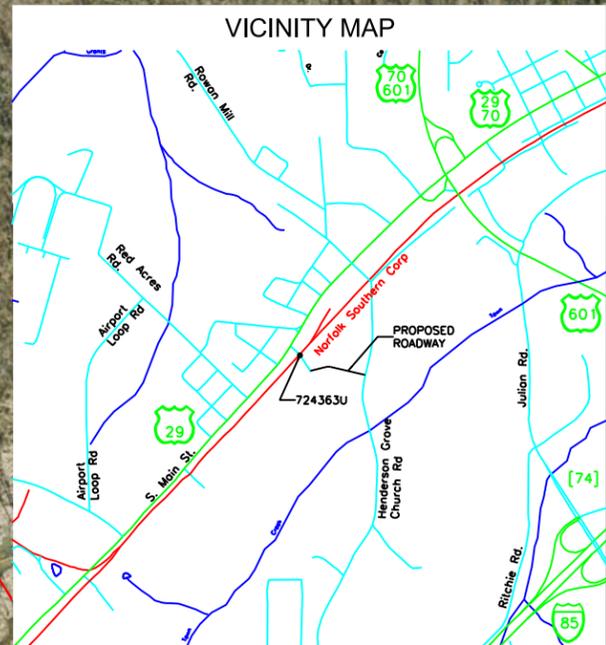
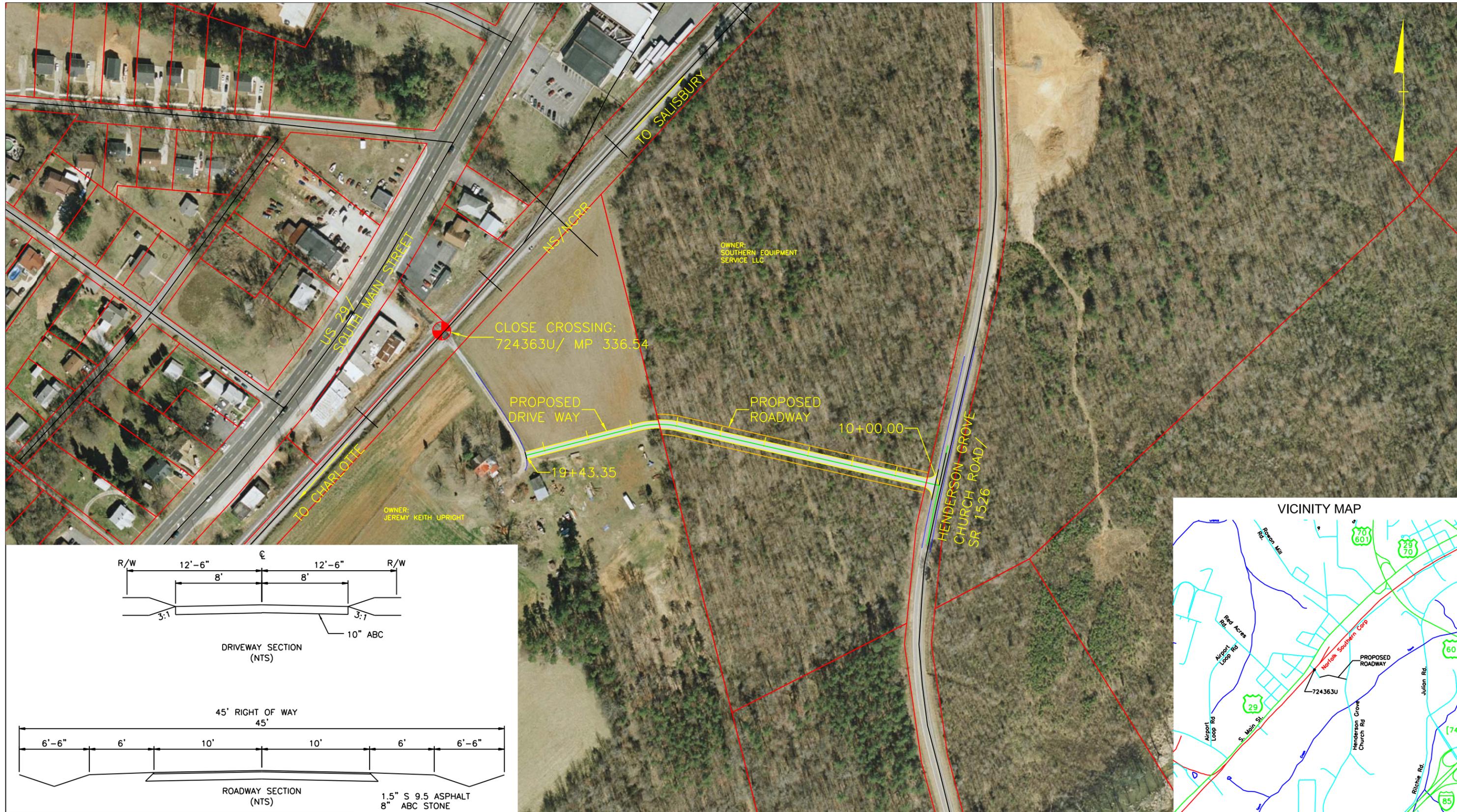
ESTIMATOR: RWM/RNP July 22, 2009

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$3,000.00	\$3,000.00
2	226	Comprehensive Grading	1 LS	\$15,000.00	\$15,000.00
3	300	Bedding Material, Pipe Culvert	7 TN	\$25.00	\$175.00
4	310	36" R.C. Pipe Culverts, Class III	50 LF	\$100.00	\$5,000.00
5	520	Aggregate Base Course	1,120 TN	\$25.00	\$28,000.00
6	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
7	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
8	880	Seeding and Mulching	1.2 AC	\$3,000.00	\$3,600.00
9	893	Erosion Control Allowance	1 LS	\$2,500.00	\$2,500.00
10	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
11	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$61,875.00
15 % Contingency	\$9,281.25
Contract Sum	\$71,156.25

SAY **\$71,000**

Right of Way	\$20,000
Engr & Survey	\$15,000
Environmental (CE)	\$60,000
Total	\$166,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
 301 S. McDOWELL STREET SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		724363U/ MP 336.54 W. PAT SLOOP	
LOCATION		SALISBURY, NC; ROWAN COUNTY	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=200'
		SHEET 11	

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: W. Pat Sloop Alternate Access
CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$190,000**

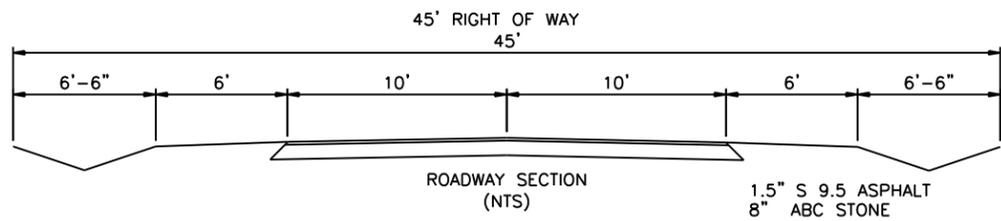
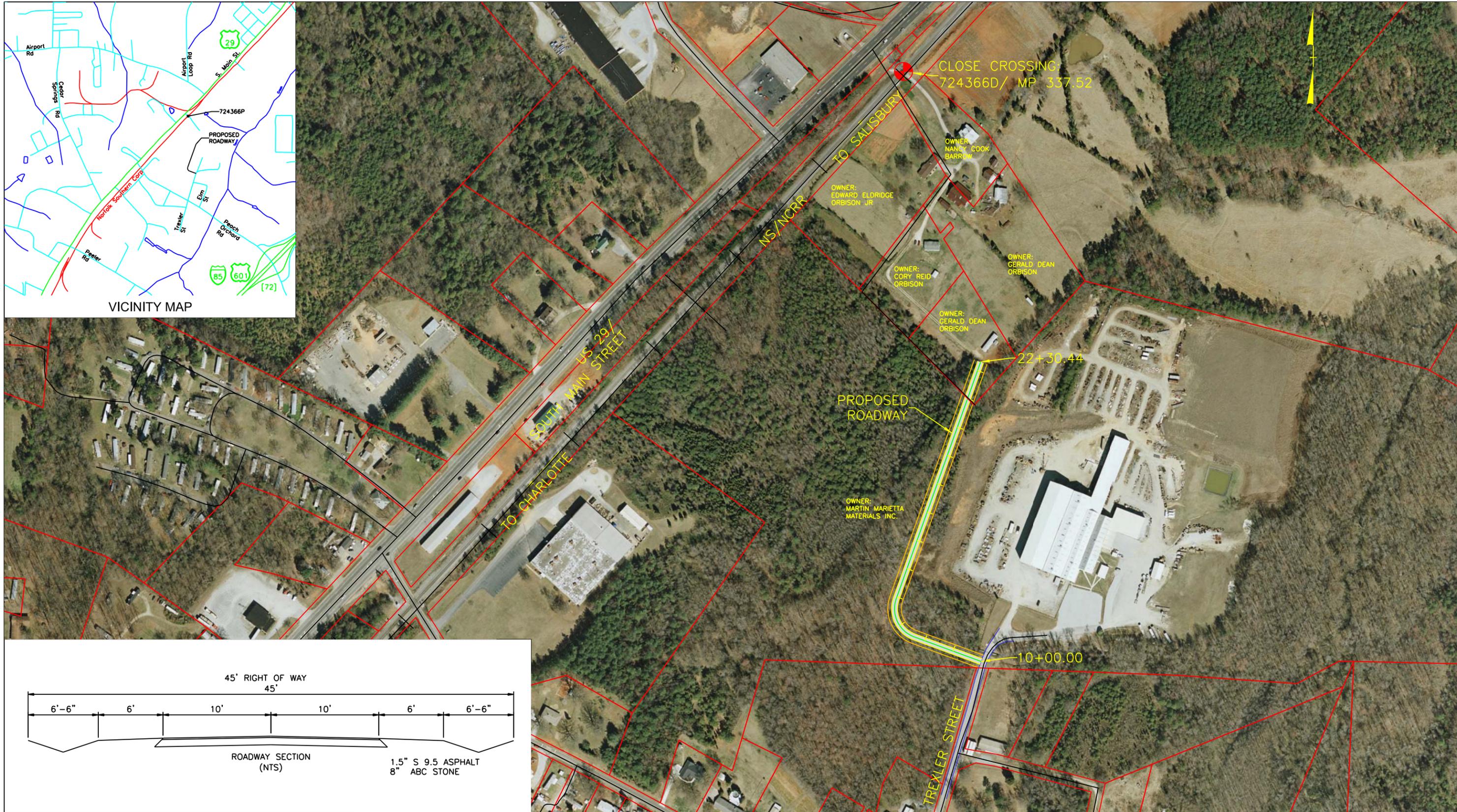
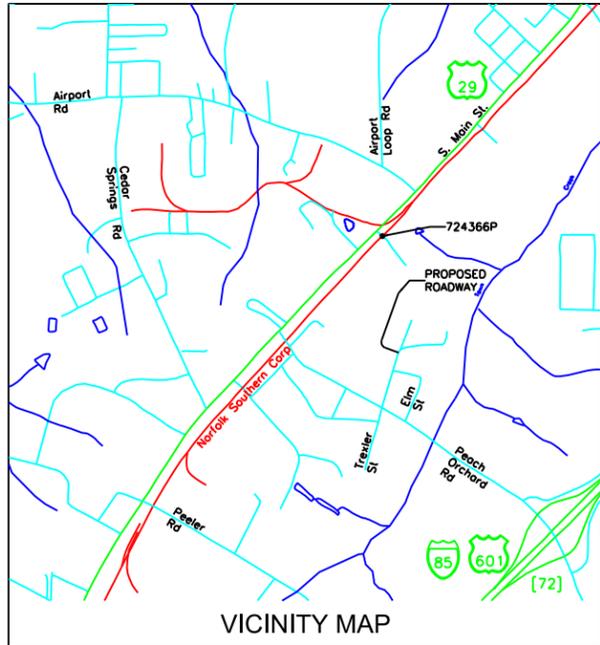
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$4,000.00	\$4,000.00
2	226	Comprehensive Grading	1 LS	\$20,000.00	\$20,000.00
3	310	Storm Drainage Allowance	1 LS	\$3,000.00	\$3,000.00
4	520	Aggregate Base Course	1,030 TN	\$25.00	\$25,750.00
5	610	Bituminous Concrete Surface Course, Type S9.5B	130 TN	\$60.00	\$7,800.00
6	620	Asphalt Binder for Plant Mix	9 TN	\$400.00	\$3,600.00
7	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
8	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
9	880	Seeding and Mulching	1.1 AC	\$3,000.00	\$3,300.00
10	893	Erosion Control Allowance	1 LS	\$3,000.00	\$3,000.00
11	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
12	1205	Pavement Marking Lines, 4", paint, yellow	1300 LF	\$0.75	\$975.00
13	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$76,025.00
15 % Contingency	\$11,403.75
Contract Sum	\$87,428.75

SAY **\$87,000**

Right of Way	\$25,000
Engr & Survey	\$18,000
Environmental (CE)	\$60,000
Total	\$190,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE:

PROJECT	PRIVATE CROSSING SAFETY INITIATIVE		
TITLE	724366P/ MP 337.52 REID FARM ALTERNATE ACCESS		
LOCATION	SALISBURY, NC; ROWAN COUNTY		DRAWING
DGN BY	RAILROAD NORFOLK SOUTHERN		
DWN BY	VAL SEC		ISSUE
CHK BY	DATE	SCALE	SHEET
	NOV 2009	1"=300'	12

PROJECT: Reid Farm Alternate Access
 CONCEPT PLAN

NUMBER: _____

PRELIMINARY **\$262,000**

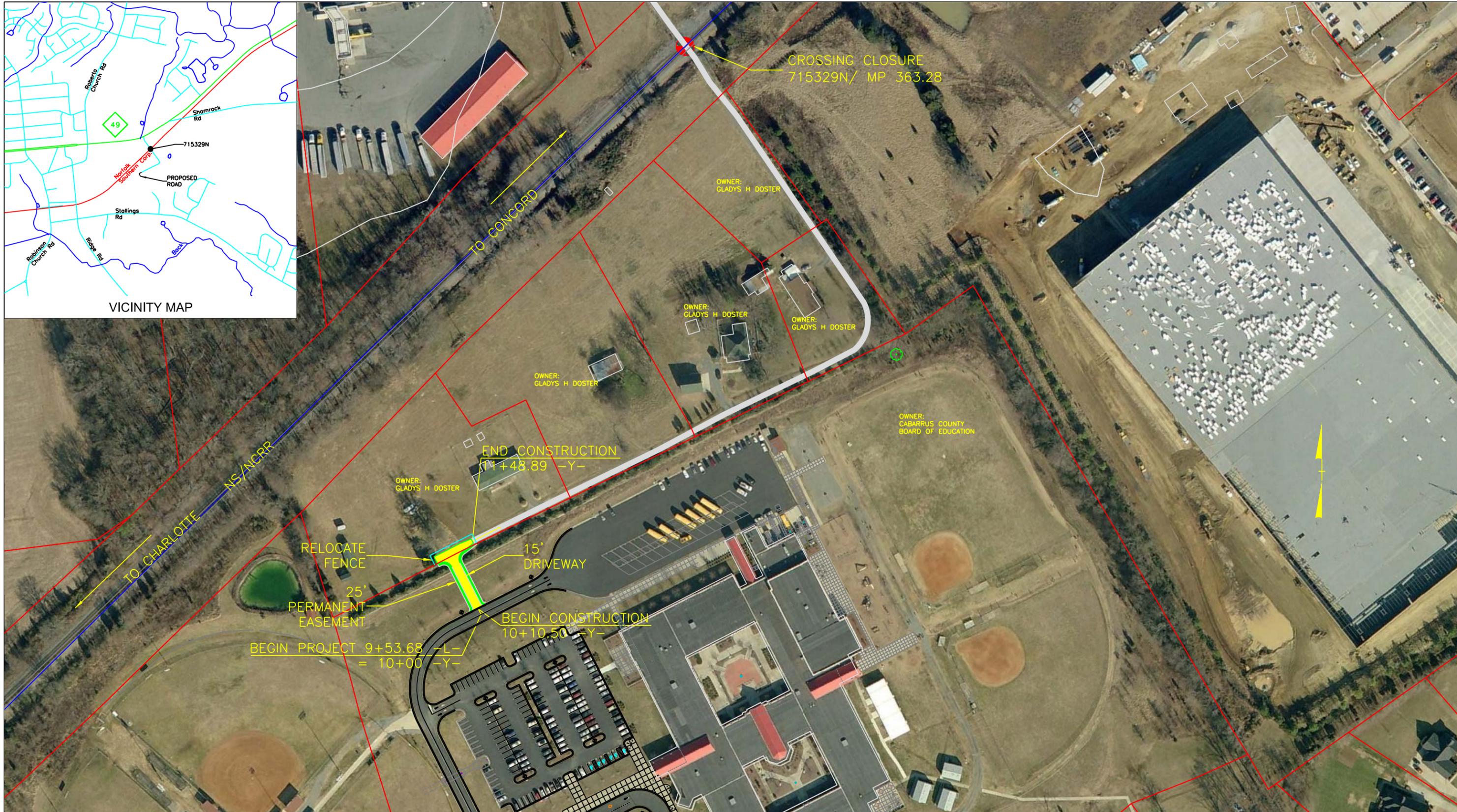
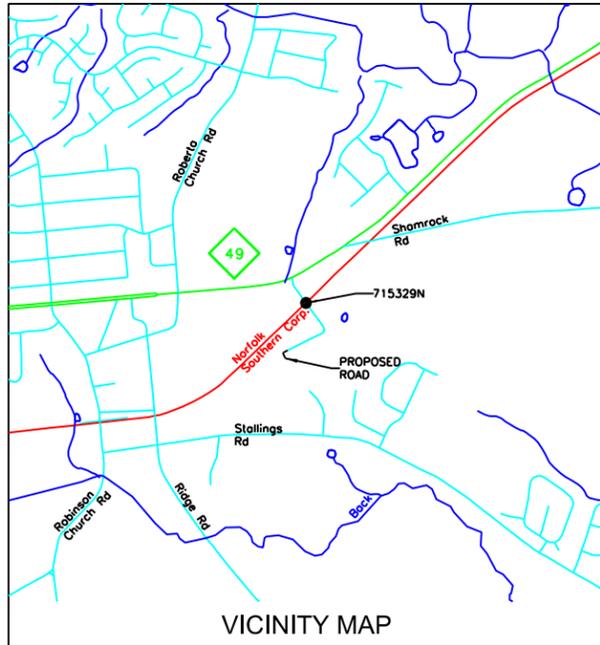
ESTIMATOR: RWM/RNP

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$6,000.00	\$6,000.00
2	226	Comprehensive Grading	1 LS	\$50,000.00	\$50,000.00
3	310	Storm Drainage Allowance	1 LS	\$3,500.00	\$3,500.00
4	520	Aggregate Base Course	1,400 TN	\$25.00	\$35,000.00
5	610	Bituminous Concrete Surface Course, Type S9.5B	245 TN	\$60.00	\$14,700.00
6	620	Asphalt Binder for Plant Mix	17 TN	\$400.00	\$6,800.00
7	862	Steel Beam Guardrail	40 LF	\$20.00	\$800.00
8	862	Terminal End Section	4 EA	\$600.00	\$2,400.00
9	880	Seeding and Mulching	2.2 AC	\$3,000.00	\$6,600.00
10	893	Erosion Control Allowance	1 LS	\$3,500.00	\$3,500.00
11	953	Traffic Control Allowance	1 LS	\$500.00	\$500.00
12	1205	Pavement Marking Lines, 4", paint, yellow	2500 LF	\$0.75	\$1,875.00
13	1264	End of Road Marker	6 EA	\$150.00	\$900.00

Subtotal	\$132,575.00
15 % Contingency	\$19,886.25
Contract Sum	\$152,461.25

SAY **\$152,000**

Right of Way	\$20,000
Engr & Survey	\$30,000
Environmental (CE)	\$60,000
Total	\$262,000



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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		715329N/ MP 363.28 GLADYS H DOSTER	
LOCATION		CABARRUS COUNTY	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=150'
		SHEET 13	

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 914
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: Doster-Harrisburg Driveway
 NUMBER: NCDOT Project P-4405

Preliminary **\$56,000**

ESTIMATOR: RNP/RWM/ACJ December 2, 2009

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$2,000.00	\$2,000.00
2	226	Grading	1 LS	\$4,000.00	\$4,000.00
3	310	Storm Drainage Allowance	1 LS	\$500.00	\$500.00
4	520	Aggregate Base Course	112 TN	\$25.00	\$2,800.00
5	545	Incidental Stone Base	10 TN	\$35.00	\$350.00
6	610	Bituminous Concrete Surface Course, Type S9.5B	34 TN	\$60.00	\$2,040.00
7	620	Asphalt Binder for Plant Mix	3 TN	\$410.00	\$1,230.00
8	867	Fence Reset	30 LF	\$10.00	\$300.00
9	880	Seeding and Mulching	0.14 AC	\$2,500.00	\$350.00
10	893	Erosion Control Allowance	1 LS	\$500.00	\$500.00
11	953	Traffic Control Plan Allowance	1 LS	\$250.00	\$250.00
12	SP	Sliding Gate	1 LS	\$23,000.00	\$23,000.00

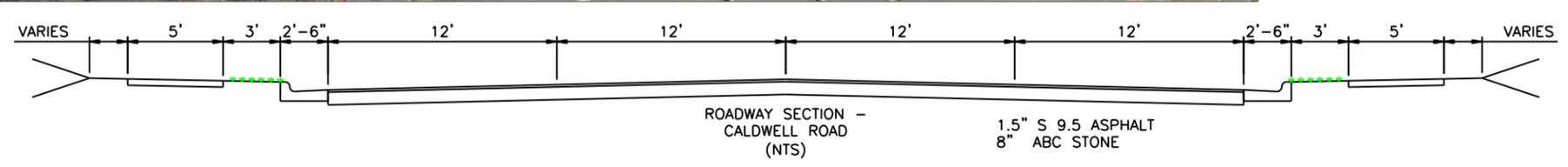
Subtotal	\$37,320.00
15 % Contingency	\$5,598.00
Contract Sum	\$42,918.00

SAY \$43,000

Est. Const. Cost	\$43,000
Est. R/W Cost	\$3,500
Util. Reloc. Cost	\$0
Env Doc	\$3,000
Sur/Engr	\$6,500
TOTAL	\$56,000
SAY	\$56,000



LEGEND:
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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		715332W/ MP 365.24 CALDWELL RD/ SR 1173	
LOCATION		CABARRUS COUNTY	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=200'
			SHEET 14

GANNETT FLEMING, INC.
ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
(704) 375-2438 FAX (704) 332-9361

PROJECT: Mecklenburg-Cabarrus Grade Crossing Elimination Project
Caldwell Road (SR 1173) (4 lanes at 10% slope Including Bridge)

NUMBER: Concept Estimate

PRELIMINARY **\$4,425,000**

ESTIMATOR: RWM/RNP June 2, 2009

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$134,000.00	\$134,000.00
2	225	Unclassified Excavation	50 CY	\$10.00	\$500.00
3	2230	Borrow	50,000 CY	\$15.00	\$750,000.00
4	310	Storm Drainage Allowance	1 LS	\$107,500.00	\$107,500.00
5	545	Incidental Stone Base	150 TN	\$35.00	\$5,250.00
6	610	Bituminous Concrete Surface Course, Type S9.5C	500 TN	\$60.00	\$30,000.00
7	610	Bituminous Concrete Intermediate Course, Type I19.0C	510 TN	\$60.00	\$30,600.00
8	610	Bituminous Concrete Base Course, Type B25.0C	1,250 TN	\$60.00	\$75,000.00
9	620	Asphalt Binder for Plant Mix	140 TN	\$370.00	\$51,800.00
10	846	2'-6" Concrete Curb and Gutter, Std. 846.01	1600 LF	\$16.00	\$25,600.00
11	848	4" Concrete Sidewalk, Std. 848.01	900 SY	\$30.00	\$27,000.00
12	848	Concrete Wheel Chair Ramps	40 SY	\$75.00	\$3,000.00
13	880	Seeding and Mulching	2 AC	\$3,000.00	\$6,000.00
14	893	Erosion Control Allowance	1 LS	\$50,000.00	\$50,000.00
15	953	Traffic Control & Pavement Marking/Signage Allowance	1 LS	\$45,000.00	\$45,000.00
16	SP	Railroad Flagging	1 LS	\$10,000.00	\$10,000.00
17	SP	Public Utility Relocation/Adjustment	1 LS	\$2,000.00	\$2,000.00
18	SP	Bridge	8900 SF	\$165.00	\$1,468,500.00
19	SP	Private Utility Relocation (By Others)	1 LS	\$10,000.00	\$10,000.00
20	SP	Close four existing railroad crossings (By Others)	0 LS		\$0.00

Subtotal	\$2,831,750.00
25 % Contingency	\$707,937.50

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
					Contract Sum \$3,539,687.50
					20 % Engr/Survey/EA \$707,937.50
					Right of Way Cost \$175,000.00
					Total Estimated Cost \$4,422,625.00
					SAY \$4,425,000

GANNETT FLEMING, INC.
ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
(704) 375-2438 FAX (704) 332-9361

PROJECT: Mecklenburg-Cabarrus Grade Crossing Elimination Project
Caldwell Park Drive/Millbrook/McLeod/County Line (Including Bridge over Creek)

NUMBER: Concept Estimate

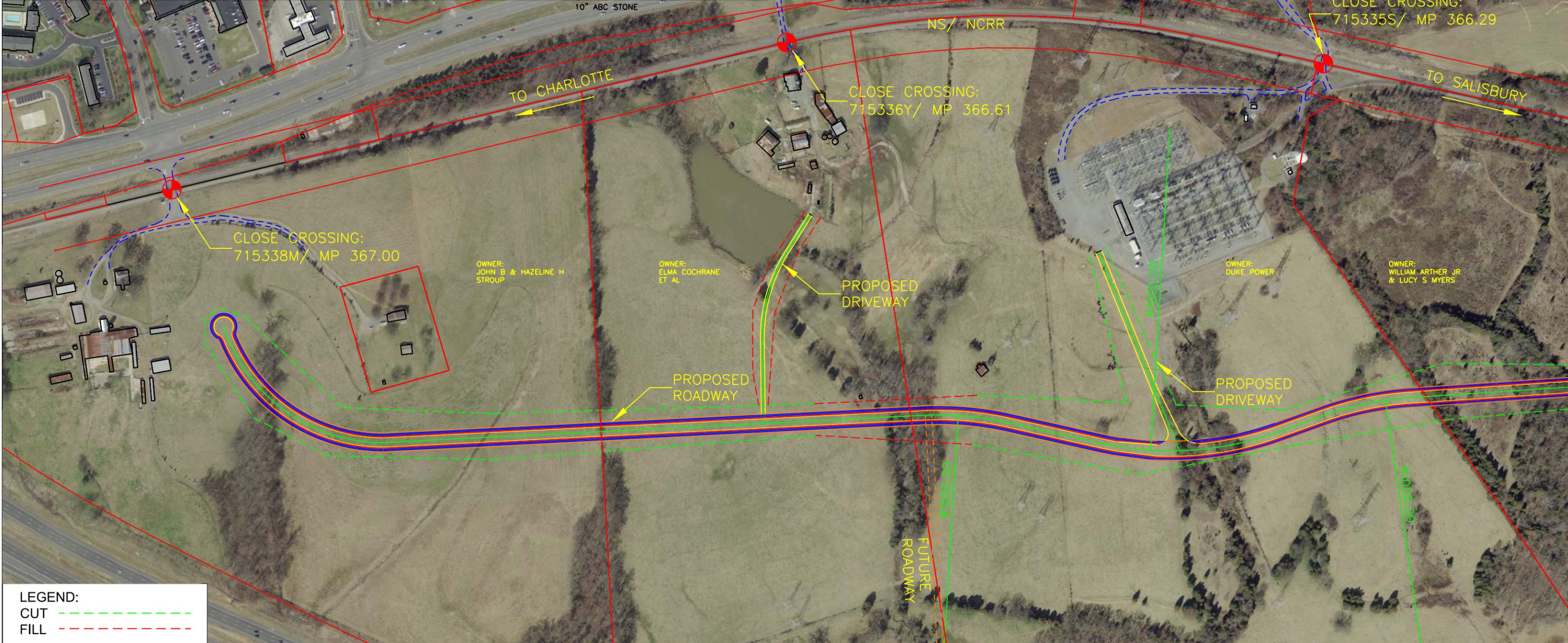
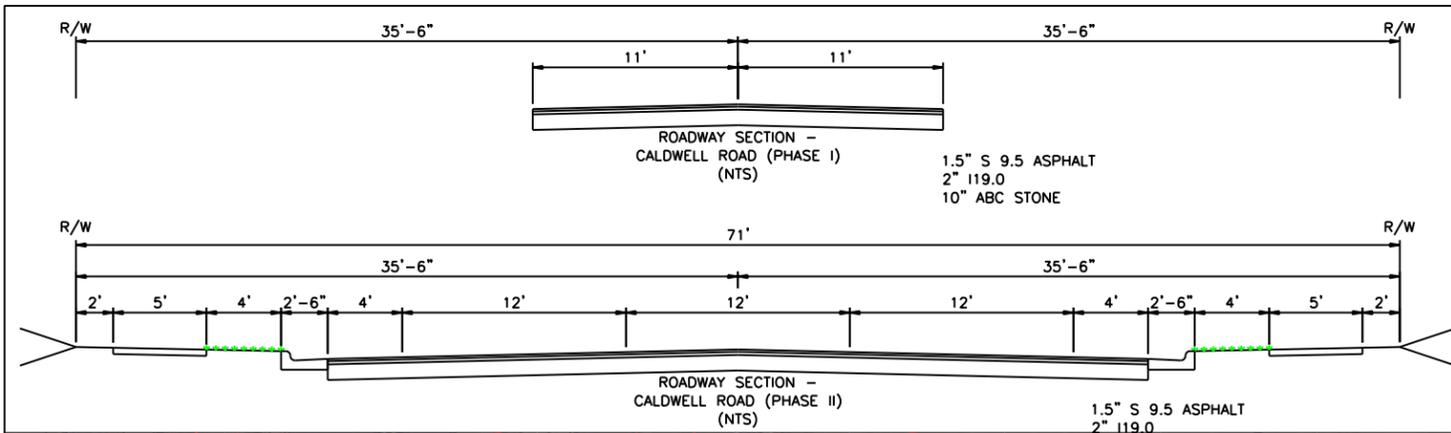
PRELIMINARY **\$3,750,000**

ESTIMATOR: RWM/RNP June 2, 2009

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$98,000.00	\$98,000.00
2	225	Unclassified Excavation	8,200 CY	\$10.00	\$82,000.00
3	310	Storm Drainage Allowance	1 LS	\$95,000.00	\$95,000.00
4	520	Aggregate Base Course	5,000 TN	\$30.00	\$150,000.00
5	545	Incidental Stone Base	150 TN	\$35.00	\$5,250.00
6	610	Bituminous Concrete Surface Course, Type S9.5C	700 TN	\$60.00	\$42,000.00
7	610	Bituminous Concrete Intermediate Course, Type I19.0C	950 TN	\$60.00	\$57,000.00
8	620	Asphalt Binder for Plant Mix	100 TN	\$370.00	\$37,000.00
9	846	2'-6" Concrete Curb and Gutter, Std. 846.01	5400 LF	\$16.00	\$86,400.00
10	848	4" Concrete Sidewalk, Std. 848.01	3000 SY	\$30.00	\$90,000.00
11	848	Concrete Wheel Chair Ramps	107 SY	\$75.00	\$8,025.00
12	867	Fence Reset	1000 LF	\$10.00	\$10,000.00
13	880	Seeding and Mulching	5 AC	\$3,000.00	\$15,000.00
14	893	Erosion Control Allowance	1 LS	\$37,000.00	\$37,000.00
15	953	Traffic Control & Pavement Marking/Signage Allowance	1 LS	\$20,000.00	\$20,000.00
16	SP	Bridge (2 Lanes) Over Back Creek	7400 SF	\$165.00	\$1,221,000.00
17	SP	Public Utility Relocation/Adjustment	1 LS	\$2,000.00	\$2,000.00
18	SP	Private Utility Relocation (By Others)	1 LS	\$5,000.00	\$5,000.00
19	SP	Close one existing railroad crossing (By Others)	1 LS		\$0.00

Subtotal	\$2,060,675.00
25 % Contingency	\$515,168.75
Contract Sum	\$2,575,843.75

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
				20 % Engr/Survey/EA	\$515,168.75
				Right of Way Cost	\$665,000.00
				Total Estimated Cost	\$3,756,012.50
				SAY	\$3,750,000.00



LEGEND:
CUT - - - - -
FILL - - - - -

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REV	BY	DATE	DESCRIPTION
1	PJK	11-18-2009	DRAWING UPDATES



GANNETT FLEMING, INC.
301 S. McDOWELL STREET SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204
PHONE: 704-375-2438 FAX: 704-332-9361

DATE: _____

PROJECT		PRIVATE CROSSING SAFETY INITIATIVE	
TITLE		715335S/ MP 366.29 (DUKE POWER CO.) 715336Y/ MP 366.61 (COCHRANE) 715338M/ MP 367.00 (STROUP)	
LOCATION		MECKLENBURG COUNTY	
DGN BY	RAILROAD	NORFOLK SOUTHERN	
DWN BY	VAL SEC	ISSUE	
CHK BY	DATE	NOV 2009	SCALE 1"=300'
		SHEET 16	

GANNETT FLEMING, INC.
 ROADWAY, DRAINAGE AND SITE IMPROVEMENT PROJECTS
 ENGINEER'S ESTIMATE

301 S. McDOWELL STREET
 SUITE 1008
 CHARLOTTE, NORTH CAROLINA 28204
 (704) 375-2438 FAX (704) 332-9361

PROJECT: Mecklenburg-Cabarrus Grade Crossing Elimination Project
 Stroup Farm Blvd.- County Line to End

NUMBER: Concept Estimate

PRELIMINARY **\$2,675,000**

ESTIMATOR: RWM/RNP June 2, 2009

Item No.	Sect. No.	Item Description	Quantity and Unit	Unit Price	Amount
ROADWAY ITEMS					
1	800	Mobilization	1 LS	\$79,000.00	\$79,000.00
2	226	Comprehensive Grading	1 LS	\$16,000.00	\$16,000.00
3	225	Unclassified Excavation	8,000 CY	\$10.00	\$80,000.00
4	310	Storm Drainage Allowance	1 LS	\$80,000.00	\$80,000.00
5	545	Incidental Stone Base	250 TN	\$35.00	\$8,750.00
6	610	Bituminous Concrete Surface Course, Type S9.5C	1,600 TN	\$60.00	\$96,000.00
7	610	Bituminous Concrete Intermediate Course, Type I19.0C	1,750 TN	\$60.00	\$105,000.00
8	610	Bituminous Concrete Base Course, Type B25.0C	7,400 TN	\$60.00	\$444,000.00
9	620	Asphalt Binder for Plant Mix	670 TN	\$370.00	\$247,900.00
10	846	2'-6" Concrete Curb and Gutter, Std. 846.01	13300 LF	\$16.00	\$212,800.00
11	848	4" Concrete Sidewalk, Std. 848.01	5900 SY	\$30.00	\$177,000.00
12	848	6" Concrete Drive Ramp	32 SY	\$40.00	\$1,280.00
13	880	Seeding and Mulching	15 AC	\$3,000.00	\$45,000.00
14	893	Erosion Control Allowance	1 LS	\$32,000.00	\$32,000.00
15	953	Traffic Control & Pavement Marking/Signage Allowance	1 LS	\$30,000.00	\$30,000.00
16	SP	Private Utility Relocation (By Others)	1 LS	\$10,000.00	\$10,000.00
17	SP	Close four existing railroad crossings (By Others)	1 LS		\$0.00

Subtotal	\$1,664,730.00
25 % Contingency	\$416,182.50
Contract Sum	\$2,080,912.50
20 % Engr/Survey/EA	\$416,182.50
Right of Way Cost	\$175,000.00
Total Estimated Cost	\$2,672,095.00
SAY	\$2,675,000.00