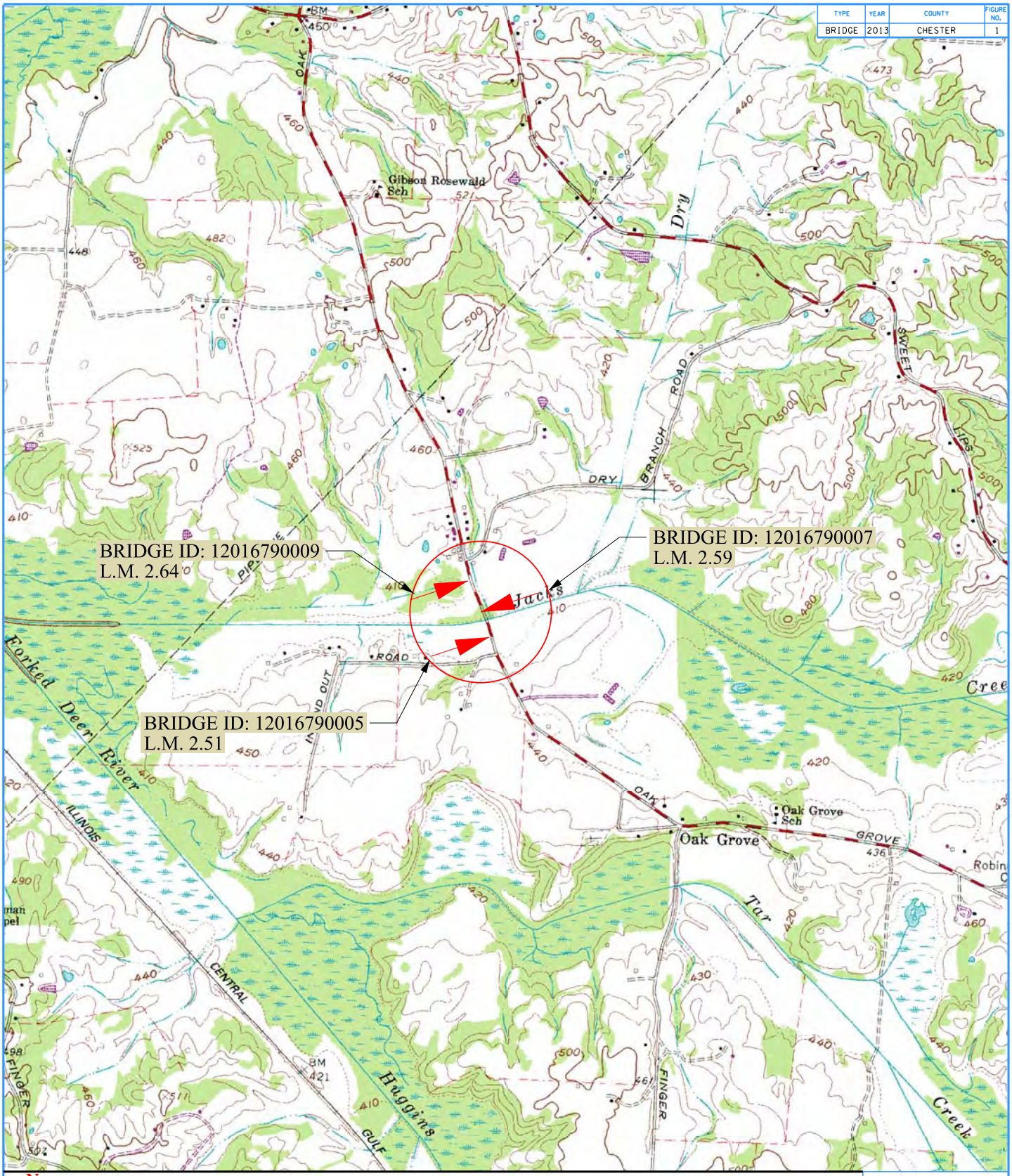
TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION INVESTMENT REPORT
Special Bridge Replacement Program
LOCAL ROUTE 1679(Talley Store Road)
Bridge over Jacks Creek (Overflow), Log Mile 2.51
Bridge over Jacks Creek (Main Channel), Log Mile 2.59
Bridge over Jacks Creek (Overflow), Log Mile 2.64
Chester County
PIN 040307.00

PREPARED BY THE CORRADINO GROUP
for the
Strategic Transportation Investments Division

Approved by _____ *Date* 9-3-14 *Approved by* _____ *Date* 9/2/14
Chief of Environment and Planning *Deputy Commissioner and Chief Engineer*

Approved by:	Signature	DATE
TRANSPORTATION DIRECTOR STRATEGIC TRANSPORTATION INVESTMENTS DIVISION	Steve Allen	8-14-14
ENGINEERING DIRECTOR DESIGN DIVISION	Jennifer Lloyd	8-22-14
ENGINEERING DIRECTOR STRUCTURES DIVISION	Wayne J. Seger	9-2-14



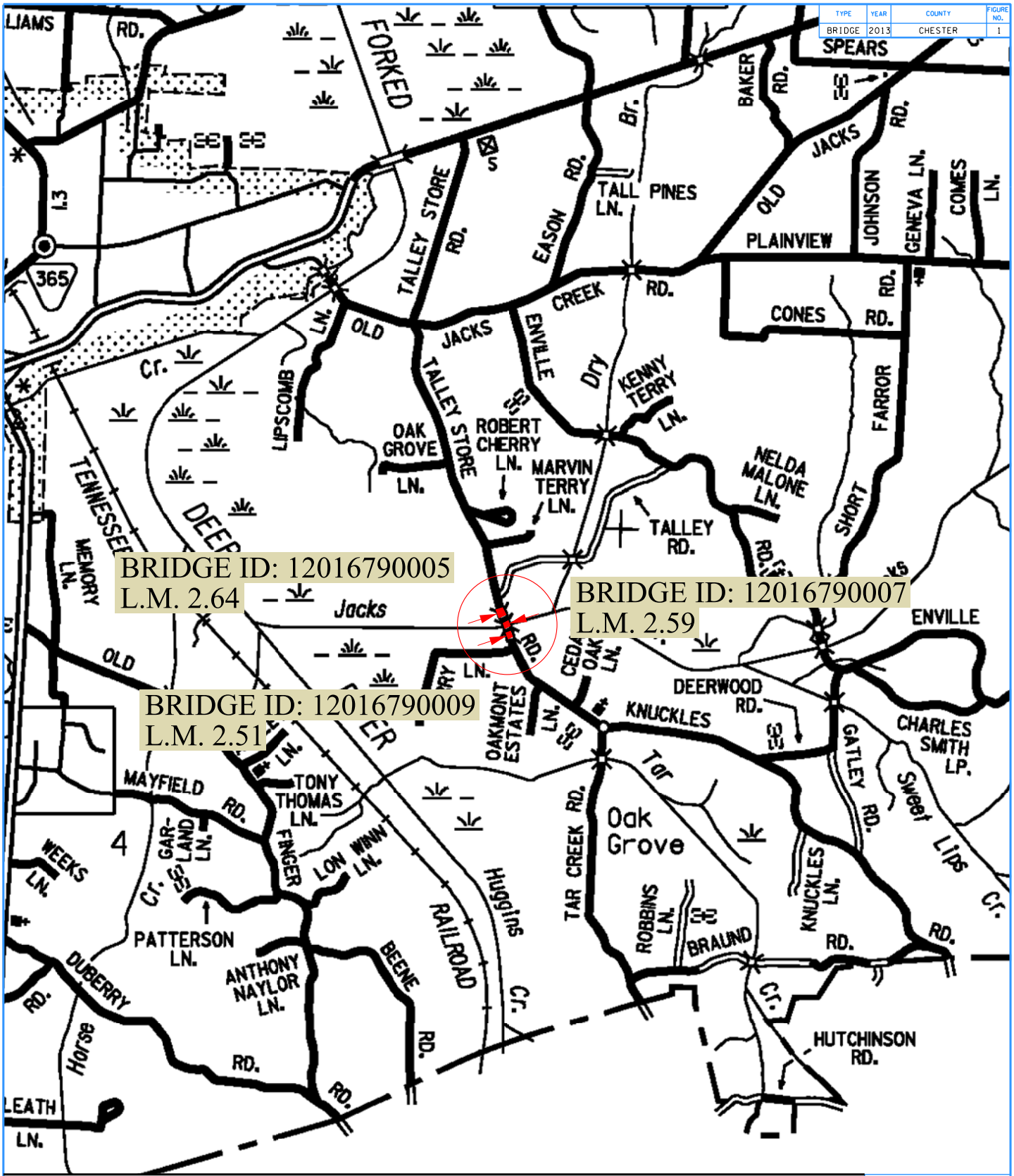
TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

AREA MAP



TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT MAP

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

AERIAL MAP

TRANSPORTATION PLANNING WORKSHEET
BRIDGE REPLACEMENT ANALYSIS, NEEDS, AND COSTS

County: Chester Route: Talley Store Rd. (Local Route 01679) Log Mile: 2.51
Feature Crossed: Jacks Creek System: Local Route
Functional Class: Rural Minor Collector Bridge ID: 12016790005

EXISTING CONDITIONS

2016 AADT: 940 App. Cross Section: 18'/24'/44' No. Lanes: 2
Approach Alignment: Tangent Year Built: 1991 Load Limit: 10 Tons
Width (out to out): 24' 7" Sidewalks: Right -- Left -- Length: 95'
No. Spans: Approach: -- Main: 5
Substructure: P.C.C.S Vertical Clearance: 8' Sufficiency Rating: 33.9
Other: Overflow channel, A utility line is sagging between the spans, along the west side of the bridge.

PROPOSED IMPROVEMENTS

STANDARDS FROM RD01-TS- 2 Type of Work: Replace
Design Year: 2036 Design AADT: 1,220 Terrain Rolling ADL (F): -- (R): --
Project Length: 2440 ft Bridge Length: 100 ft Approach Length: --
Design Speed (MPH): 40 Posted Speed (MPH): N/A --
Approach Width: 22'/30'/As Needed Bridge Width (O to O): 31.5 ft No. Lanes: 2
Structure Type: Girder

MAINTENANCE OF TRAFFIC

Option 1: New Alignment

Temporary Detour: Temporary Runaround: Stage Construct:
Alternate Route: Relocate Local Route 01679 40 feet to the west.
Remarks: Due to new alignment, Existing Local Route 01679 can stay open to traffic during construction.

Option 2A: Widen Existing (Stage Construction)

Temporary Detour: Temporary Runaround: Stage Construct: x
Alternate Route: Relocate Local Route 01679 11 feet to the west.
Remarks: During the stage construction Phase 1, a 10 ft. lane will be left open on the existing route. During Phase 2 an 11 ft. lane will be open. Temporary traffic signals will be installed for single lane operations.

Option 2B: Widen Existing (Detour - Preferred Option)

Temporary Detour: x Temporary Runaround: Stage Construct:
Alternate Route: Relocate Local Route 01679 11 feet to the west.
Remarks: The roadway will be closed and a detour installed. Access to Terry Lane must be maintained.

FIELD INVESTIGATION

Remarks: The lane width will increase from 18 feet to 22 feet. The proposed alignment will be shifted west and the grade will increase 2 feet.
Field Investigation by: Kenny Elrod, Howard Blankenship, Burt Hutchins, Jason Moody, Lisa Reaney
David Duncan (TDOT); Jerry King, Butch Farley, John Malow, Jerry Austin (CCHD); Jon Storey, Travis Lloyd (Corradino)

TRANSPORTATION PLANNING WORKSHEET
BRIDGE REPLACEMENT ANALYSIS, NEEDS, AND COSTS

County: Chester Route: Talley Store Rd. (Local Route 01679) Log Mile: 2.59
Feature Crossed: Jacks Creek System: Local Route
Functional Class: Rural Minor Collector Bridge ID: 12016790007

EXISTING CONDITIONS

2016 AADT: 940 App. Cross Section: 18'/24'/44' No. Lanes: 2
Approach Alignment: Tangent Year Built: 1960 Load Limit: 15 Tons
Width (out to out): 21' 7" Sidewalks: Right -- Left -- Length: 85'
No. Spans: Approach: -- Main: 4
Substructure: P.C.C.S Vertical Clearance: 6'6" Sufficiency Rating: 44.9
Other: Main Channel, Utility line had broke loose from the bridge at all spans, on west side of bridge.

PROPOSED IMPROVEMENTS

STANDARDS FROM RD01-TS- 2 Type of Work: Replace
Design Year: 2036 Design AADT: 1,220 Terrain Rolling ADL (F): -- (R): --
Project Length: 2440 ft Bridge Length: 95 ft Approach Length:
Design Speed (MPH): 40 Posted Speed (MPH): N/A
Approach Width:* 22'/30'/As Needed Bridge Width (O to O): 31.5 ft No. Lanes: 2
Structure Type: Girder

MAINTENANCE OF TRAFFIC

Option 1: New Alignment
Temporary Detour: Temporary Runaround: Stage Construct:
Alternate Route: Relocate Local Route 01679 40 feet to the west.
Remarks: Due to new alignment, Existing Local Route 01679 can stay open to traffic during construction.

Option 2A: Widen Existing (Stage Construction)
Temporary Detour: Temporary Runaround: Stage Construct: x
Alternate Route: Relocate Local Route 01679 11 feet to the west.
Remarks: During the stage construction Phase 1, a 10 ft. lane will be left open on the existing route. During Phase 2 an 11 ft. lane will be open. Temporary traffic signals will be installed for single lane operations.

Option 2B: Widen Existing (Detour - Preferred Option)
Temporary Detour: x Temporary Runaround: Stage Construct:
Alternate Route: Relocate Local Route 01679 11 feet to the west.
Remarks: The roadway will be closed and a detour installed. Access to Terry Lane must be maintained.

FIELD INVESTIGATION

Remarks: The lane width will increase from 18 feet to 22 feet. The proposed alignment will be shifted west and the grade will increase 2 feet.

Field Investigation by: Kenny Elrod, Howard Blankenship, Burt Hutchins, Jason Moody, Lisa Reaney
David Duncan (TDOT); Jerry King, Butch Farley, John Malow, Jerry Austin (CCHD); Jon Storey, Travis Lloyd (Corradino)

TRANSPORTATION PLANNING WORKSHEET
BRIDGE REPLACEMENT ANALYSIS, NEEDS, AND COSTS

County: Chester Route: Talley Store Rd. (Local Route 01679) Log Mile: 2.64
Feature Crossed: Jacks Creek System: Local Route
Functional Class: Rural Minor Collector Bridge ID: 12016790009

EXISTING CONDITIONS

2016 AADT: 940 App. Cross Section: 18'/24'/44' No. Lanes: 2
Approach Alignment: Tangent Year Built: 1955 Load Limit: 15
Width (out to out): 21' 3" Sidewalks: Right -- Left -- Length: 60'
No. Spans: Approach: 0 Main: 4
Substructure: Prestressed Vertical Clearance: 5' 1" Sufficiency Rating: 59.2
Other: Overflow Channel

PROPOSED IMPROVEMENTS

STANDARDS FROM RD01-TS- 2 Type of Work: Replace
Design Year: 2036 Design AADT: 1,220 Terrain Level ADL (F): -- (R): --
Project Length: 2440 ft Bridge Length: 70 ft Approach Length:
Design Speed (MPH): 40 Posted Speed (MPH): N/A
Approach Width:* 22'/30'/As Needed Bridge Width (O to O): 31.5 ft No. Lanes: 2
Structure Type: Girder

MAINTENANCE OF TRAFFIC

Option 1: New Alignment
Temporary Detour: Temporary Runaround: Stage Construct:
Alternate Route: Relocate Local Route 01679 40 feet to the west.
Remarks: Due to new alignment, Existing Local Route 01679 can stay open to traffic during construction.

Option 2A: Widen Existing (Stage Construction)
Temporary Detour: Temporary Runaround: Stage Construct: x
Alternate Route: Relocate Local Route 01679 11 feet to the west.
Remarks: During the stage construction Phase 1, a 10 ft. lane will be left open on the existing route. During Phase 2 an 11 ft. lane will be open. Temporary traffic signals will be installed for single lane operations.

Option 2B: Widen Existing (Detour - Preferred Option)
Temporary Detour: x Temporary Runaround: Stage Construct:
Alternate Route: Relocate Local Route 01679 11 feet to the west.
Remarks: The roadway will be closed and a detour installed. Access to Terry Lane must be maintained.

FIELD INVESTIGATION

Remarks: The lane width will increase from 18 feet to 22 feet. The proposed alignment will be shifted west and the grade will increase 2 feet.

Field Investigation by: Kenny Elrod, Howard Blankenship, Burt Hutchins, Jason Moody, Lisa Reaney
David Duncan (TDOT); Jerry King, Butch Farley, John Malow, Jerry Austin (CCHD); Jon Storey, Travis Lloyd (Corradino)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION
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505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-2208

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

MEMORANDUM

TO: Strategic Transportation Investments Division

FROM: Jonathan Storey, PE, PTOE
The Corradino Group

DATE: August 6, 2014

SUBJECT: **TPR Field Review (Special Bridge Replacement Program)**
Talley Store Road (Route 01679) Bridges over Jacks Creek
Log Mile 2.51, Bridge ID 12016790005,
Log Mile 2.59, Bridge ID 12016790007,
Log Mile 2.64, Bridge ID 12016790009,
Henderson, Chester County, TN
PIN 040307.00

A field review was held for the above referenced project on January 10, 2013. Those in attendance included:

Name	Agency	Phone	E-mail
Kenny Elrod	TDOT Hydraulics	615-741-5290	Ken.Elrod@tn.gov
Howard Blankenship	TDOT Survey	731-935-0137	Glen.Blankenship@tn.gov
Lisa Reaney	TDOT Strategic Transportation Investments Division	615-741-0967	Lisa.Reaney@tn.gov
Burt Hutchins	TDOT Design	731-935-0142	Burt.Hutchins@tn.gov
Jason Moody	TDOT Traffic	731-935-0183	Jason.D.Moody@tn.gov
David Duncan	TDOT Strategic Transportation Investments Division	615-532-6131	David.A.Duncan@tn.gov
Jerry King	Chester Co. Highway Department.	731-989-7311	Kingoftheroad10@hotmail.com
Butch Farley	Chester Co. Highway Department.	731-989-7311	

Name	Agency	Phone	E-mail
John Malon	Chester Co. Highway Department.	731-989-7311	
Jerry Austin	Chester Co. Highway Department.	731-989-7311	
Jonathan Storey	The Corradino Group	615-372-6972	jstorey@corradino.com
Travis Lloyd	The Corradino Group	615-372-6972	tlloyd@corradino.com

Talley Store Road has a base year (2016) AADT of 940 vehicles per day (vpd) and a design year (2036) of 1,220 vpd. Talley Store Road is functionally classified as a rural collector. There is no posted speed limit along the roadway. Talley Store Road consists of two (2) travel lanes that are nine (9) feet wide. Three (3) bridges are located on a ¼ mile long segment of Talley Store Road that spans a floodplain/wetland. The ¼ mile segment is at a lower elevation than the remainder of the roadway and local officials note this segment is susceptible to flooding. The three (3) bridges are located within seven hundred and fifty (750) feet of each other. The middle bridge, at L.M. 2.59, spans the main channel of Jacks Creek. The other two bridges, at L.M. 2.51 and 2.64, span overflow channels of Jacks Creek. A gas line is located along the east (northbound) side of the existing roadway. A Wetlands Reserve Program Easement Boundary Marker is also located on the east side of the existing roadway.

The existing bridge at Log Mile (L.M.) 2.51 is ninety-five (95) feet long, consisting of five (5) spans at nineteen (19) feet, with an out to out width of 24 feet 7 inches. This bridge spans an overflow channel of Jacks Creek. The sufficiency rating for this bridge is 33.9. The load limit is ten (10) tons. The 10-year and 100-year discharges and depths of flow for the drainage basin were determined using the appropriate regression equations. It was determined that the 10-year flow depth is 12.4 feet and the 100-year flow depth is 14.8 feet. Both of these depths are higher than the available vertical clearance of 8 feet.

The existing bridge at Log Mile (L.M.) 2.59 is eighty-six (86) feet long, consisting of four (4) spans, three at nineteen (19) feet and one at twenty nine (29) feet, with an out to out width of 21 feet 7 inches. This bridge spans the main channel of Jacks Creek. The sufficiency rating for this bridge is 44.9. The load limit is fifteen (15) tons. The 10-year and 100-year discharges and depths of flow for the drainage basin were determined using the appropriate regression equations. It was determined that the 10-year flow depth is 12.4 feet and the 100-year flow depth is 14.8 feet. Both of these depths are higher than the available vertical clearance of 6 feet 6 inches.

The existing bridge at Log Mile (L.M.) 2.64 is sixty (60) feet long, consisting of four (4) spans at fifteen (15) feet, with an out to out width of 21 feet 3 inches. This bridge spans an overflow channel of Jacks Creek. The sufficiency rating for this bridge is 59.2. The load limit is fifteen (15) tons. The 10-year and 100-year discharges and depths of flow for the drainage basin were determined using the appropriate regression equations. It was determined that the 10-year flow depth is 12.4 feet and the 100-year flow depth is 14.8 feet. Both of these depths are higher than the available vertical clearance of 5 feet 1 inch.

Due to their conditions, all three (3) bridges along this segment of Talley Store Road are in need of replacement. As per TDOT Hydraulic Design Section recommendations, the grade will be increased approximately two (2) feet to accommodate the anticipated deeper bridge girders and to better accommodate the design-year flows. Due to the close proximity of the three (3) bridges and the existing narrow roadway, it is not feasible to raise the grade on existing alignment and build each bridge individually while maintaining traffic. The bridge approaches could not tie to existing elevations in the short distances. Therefore, it is proposed that all three (3) bridges be constructed at the same time. Access to Terry Lane must be maintained throughout the construction project, as it is a dead end roadway. Due to its close proximity to the bridge at L.M. 2.51, Terry Lane has been shifted south. This is recommended to accommodate the grade change of the proposed bridge improvement.

The proposed bridge at L.M. 2.51, which serves as an overflow bridge over Jacks Creek, will consist of an out-to-out width of thirty-one and a half (31.5) feet to accommodate a proposed approach roadway width of twenty two (22) feet, as specified in Standard Drawing RD01-TS-2 for a rural collector. The proposed structure is a one hundred (100)-foot long girder bridge made up of two (2) fifty (50) foot spans. Based on the regression equations, both the 10-year and 100-year flow depths will overtop the proposed structure. However, if this were to occur the entire surrounding roadway and area around the bridge would be overtopped as well. It should also be noted that the regression equations do not take into account the vast storage capacity of the surrounding floodplain/wetland.

The proposed bridge at L.M. 2.59, which spans the main channel over Jacks Creek, will consist of an out-to-out width of thirty-one and a half (31.5) feet to accommodate a proposed approach roadway width of twenty two (22) feet, as specified in Standard Drawing RD01-TS-2 for a rural collector. The proposed structure is a ninety-five (95)-foot long girder bridge made up of two (2) twenty-five (25) foot spans and one forty-five (45) foot span. Based on the regression equations, both the 10-year and 100-year flow depths will overtop the proposed structure. However, if this were to occur the entire surrounding roadway and area around the bridge would be overtopped as well. It should also be noted that the regression equations do not take into account the vast storage capacity of the surrounding floodplain/wetland.

The proposed bridge at L.M. 2.64, which serves as an overflow bridge over Jacks Creek, will consist of an out-to-out width of thirty-one and a half (31.5) feet to accommodate a proposed approach roadway width of twenty two (22) feet, as specified in Standard Drawing RD01-TS-2 for a rural collector. The proposed structure is a seventy (70)-foot long girder bridge made up of two (2) thirty-five (35) foot spans. Based on the regression equations, both the 10-year and 100-year flow depths will overtop the proposed structure. However, if this were to occur the entire surrounding roadway and area around the bridge would be overtopped as well. It should also be noted that the regression equations do not take into account the vast storage capacity of the surrounding floodplain/wetland.

The following three (3) construction options were investigated to construct the new bridges:

Option	**Estimated Cost**	**ROW Acq'd. (Acres)**	**ROW Impacts (Tracts)**	**Time to Construct (Years)**
Option 1: New Alignment	$3,013,000	4.2	5	1.5
Option 2A: Widen Existing, Stage Construct	$2,746,000	1.3	5	3.0
Option 2B: Widen Existing, Detour	$2,683,000	1.3	5	1.5

For all of the Options, Talley Store Road through the floodplain/wetland will be designed to meet the TDOT criteria provided in Standard Drawing RD01-TS-2 for a design speed of 40 miles per hour. All of the options shift the alignment west. Utilizing the existing centerline and widening symmetrically would likely impact the Wetlands Reserve Program Easement Boundary Property located to the east. The Wetlands Reserve Program property would be impacted due to the proposed grade change, additional cross section width of the bridges, and improved side-slopes recommended to meet current standards. Additionally, an underground gas line is located along the eastern side of the roadway. Therefore, all options maintain the existing eastern right-of-way line and widen to the west. On the site visit, local officials noted the roadway could be closed, but it is not favorable, as this is a primary route in Chester County. In an effort to balance costs, convenience to motorists, and impacts, three (3) options were developed for this report: Option 1: New Alignment, Option 2A: Widen Existing, Stage Construct; Option 2B: Widen Existing, Detour.

Option 1: New Alignment shifts the alignment of Talley Store Road west approximately forty (40) feet. The existing roadway will remain open during construction of the new bridges to maintain traffic. The grade of the relocated roadway will be increased throughout this ¼-mile segment through the floodplain/wetland. When construction of the new alignment segment of Talley Store Road is completed, it is recommended to scarify and obliterate the existing road bed to mitigate the floodplain/wetland loss. The estimated total cost for the required approach roadway work, utility relocations, bridge replacements, right-of-way, and preliminary engineering costs for all three (3) bridges associated with Option 1 is $3,013,000. Chester County will be responsible for matching funds of twenty percent (20%), which is equal to $603,000. Option 1 is estimated to require 4.2 acres of additional right-of-way, impact 5 property tracts, and take 1.5 years to construct.

Option 2A: Widen Existing, Stage Construct shifts the centerline of Talley Store Road west approximately eleven (11) feet. The existing roadbed will remain in place. The roadbed will be widened to the west to avoid impacting the Wetlands Reserve Program property and underground gas line. The grade of the shifted roadway will be increased throughout this ¼-mile segment through the floodplain/wetland. One (1) lane of traffic will be maintained along Talley Store Road through the construction area. Signals on either end of the floodplain will indicate whether northbound or southbound traffic can utilize the one (1) available traffic lane. The estimated total cost for the required approach roadway work, utility relocations, bridge replacements, right-of-way, and preliminary engineering costs for all three (3) bridges associated with Option 2A is $2,746,000. Chester County will be responsible for matching funds of twenty percent (20%), which is equal to $549,000. Option 2A is estimated to require 1.3 acres of additional right-of-way, impact 5 property tracts, and take three (3) years to construct.

Option 2B: Widen Existing, Detour also shifts the centerline of Talley Store Road west approximately eleven (11) feet. The existing roadbed will remain in place. The roadbed will be widened to the west to avoid impacting the Wetlands Reserve Program property and underground gas line. The grade of the shifted roadway will be increased throughout this ¼-mile segment through the floodplain/wetland. Talley Store Road through the floodplain/wetland will be closed during construction. Motorists will be detoured around the construction zone via Knuckles Road, Deerwood Road, Gately Road, Enville Road, and Talley Road. The maximum detour length is 5.6 miles. With an estimated detour route speed of thirty (30) miles per hour, the detour would take approximately eleven (11) minutes. The estimated total cost for the required approach roadway work, utility relocations, bridge replacements, right-of-way, and preliminary engineering costs for all three (3) bridges associated with Option 2B is $2,683,000.

Chester County will be responsible for matching funds of twenty percent (20%), which is equal to $537,000. Option 2B is estimated to require 1.3 acres of additional right-of-way, impact 5 property tracts, and take 1.5 years to construct.

Additionally, an option was investigated to bridge the entire ¼ mile long wetland/floodplain. This option is estimated to cost $6,436,000. This is over twice the cost of the other options investigated. Due to budgetary considerations, this option is no longer being considered.

Preferred Option

Option 2B: Widen Existing, Detour was selected as the preferred option. Option 2B will close Talley Store Road, detour traffic, and replace all three (3) structures at the same time. The advantages of this option are:

- a shorter construction time,
- minimizes environmental effects,
- allows the bridge substructures to be placed without being restricted by the old bridges,
- and it is the least expensive.

TENNESSEE D.O.T.
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

TERRY LANE

95 FT. STRUCTURE
31.5 FT. TOTAL BRIDGE WIDTH
2 @ 11 FT. LANES

70 FT. STRUCTURE
31.5 FT. TOTAL BRIDGE WIDTH
2 @ 11 FT. LANES

100 FT. STRUCTURE
31.5 FT. TOTAL BRIDGE WIDTH
2 @ 11 FT. LANES

UTILITY POLE

END IMPROVEMENTS

END IMPROVEMENTS

PROP. R.O.W.

RE-LOCATED
TERRY LANE

UNDERGROUND GAS LINE

BRIDGE ID: 12016790009
L.M. 2.64

RE-LOCATED
LOCAL ROUTE 01679
(TALLEY STORE ROAD)

BRIDGE ID: 12016790007
L.M. 2.59

UNDERGROUND
TELEPHONE LINE

BRIDGE ID: 12016790005
L.M. 2.51

EXISTING LOCAL
ROUTE 01679
(TALLEY STORE RD.)

BEGIN IMPROVEMENTS

EXIST R.O.W.

0' 200' 400' 600'

N

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

OPTION 1:
NEW
ALIGNMENT

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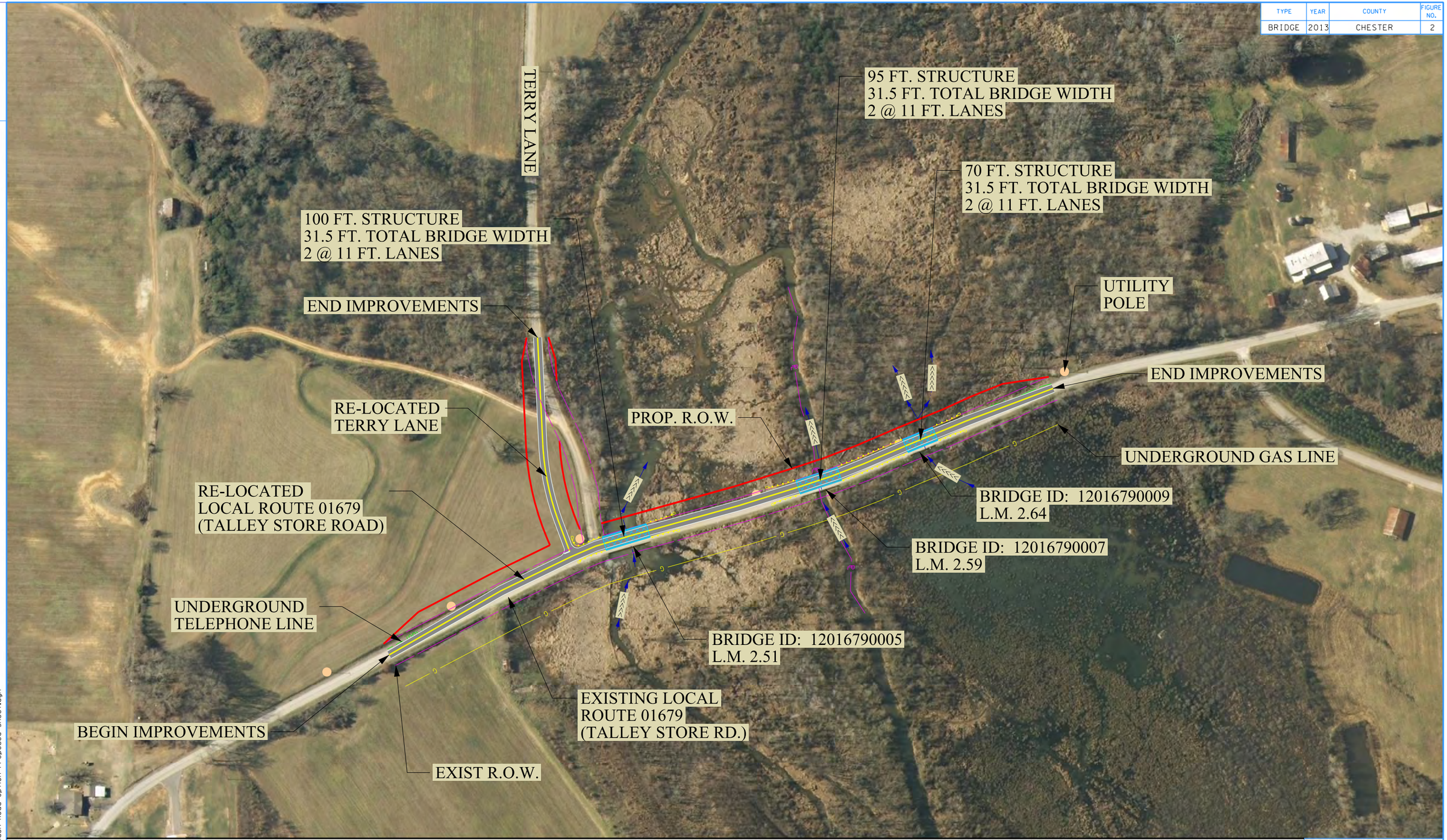
TENNESSEE D.O.T.
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	2



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TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

OPTION 2: WIDEN EXISTING

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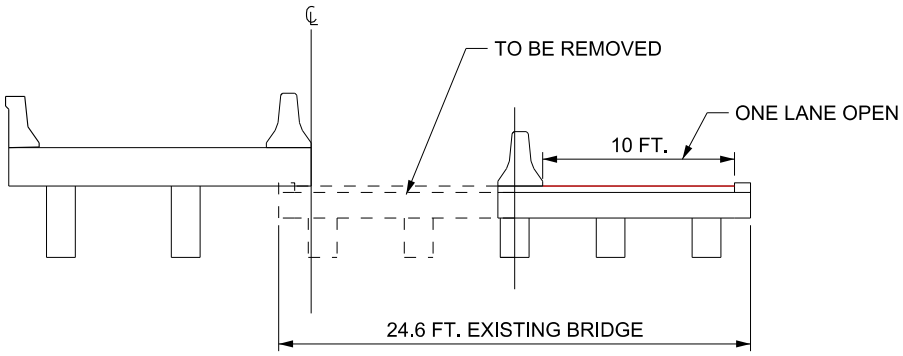
OPTION 2A: WIDEN EXISTING, STAGE CONSTRUCTION

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

PHASE ONE



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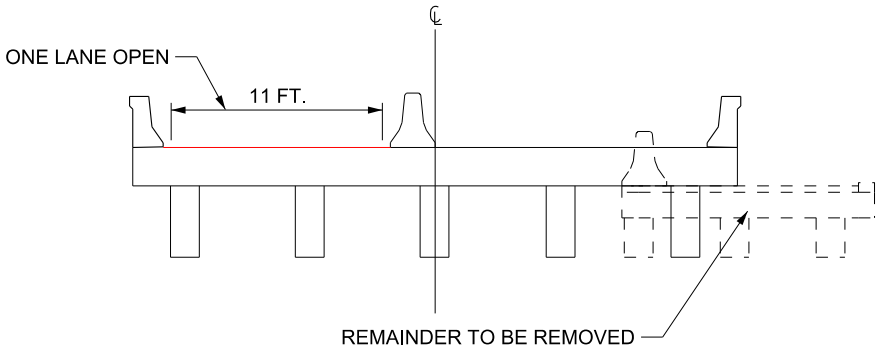
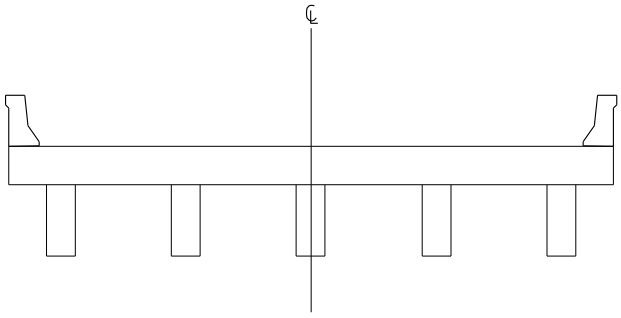


COMPLETED PROPOSED STRUCTURE



TOTAL WIDTH PROPOSED BRIDGE = 31.5 FT.

0 5' 10'

SCALE 1 IN. = 10 FT.

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 (TALLEY STORE ROAD) CHESTER COUNTY
BRIDGE OVER JACKS CREEK @ L.M. 2.51
BRIDGE ID 12016790005

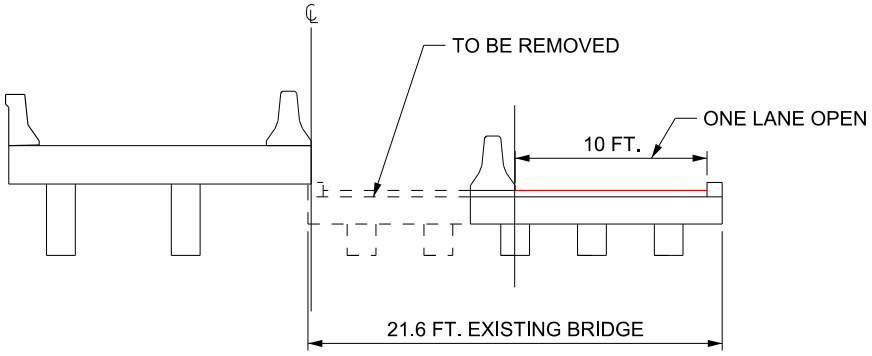
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

OPTION 2A: STAGE CONSTRUCTION DETAIL

OPTION 2A: WIDEN EXISTING, STAGE CONSTRUCTION

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

PHASE ONE



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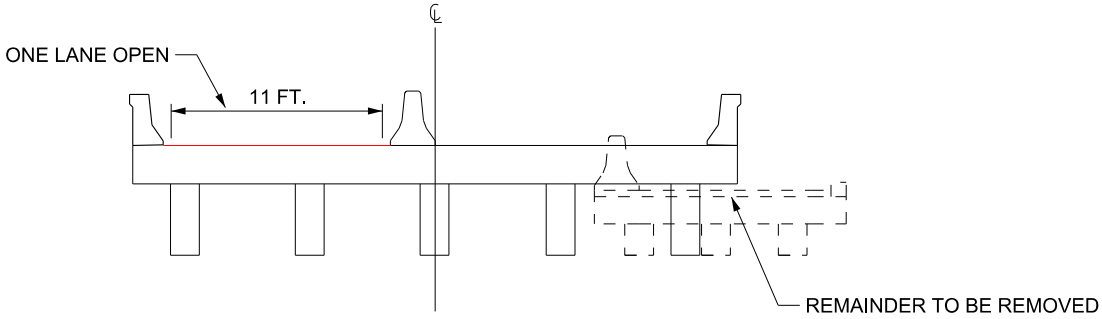
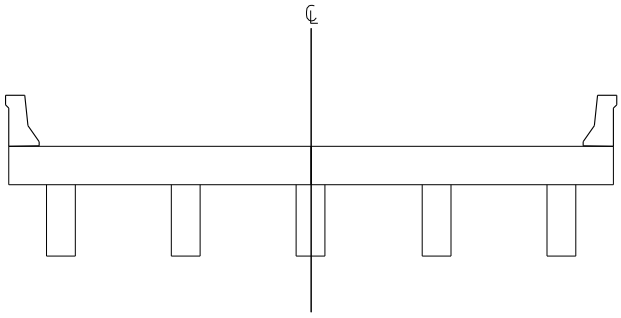


COMPLETED PROPOSED STRUCTURE



TOTAL WIDTH PROPOSED BRIDGE = 31.5 FT.

0 5' 10'

SCALE 1 IN. = 10 FT.

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 (TALLEY STORE ROAD) CHESTER COUNTY
BRIDGE OVER JACKS CREEK @ L.M. 2.59
BRIDGE ID 12016790007

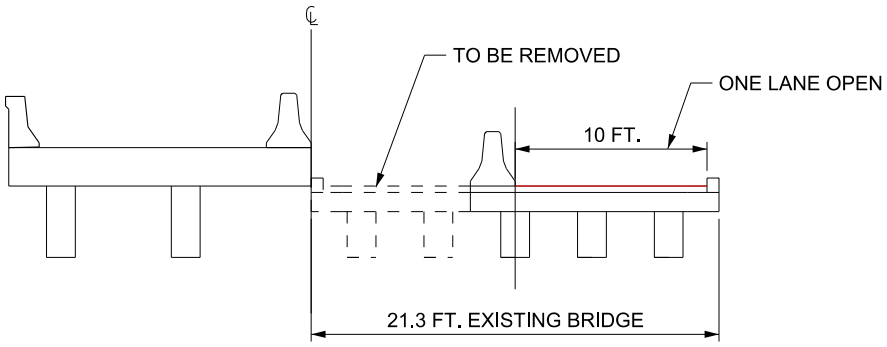
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

OPTION 2A: STAGE CONSTRUCTION DETAIL

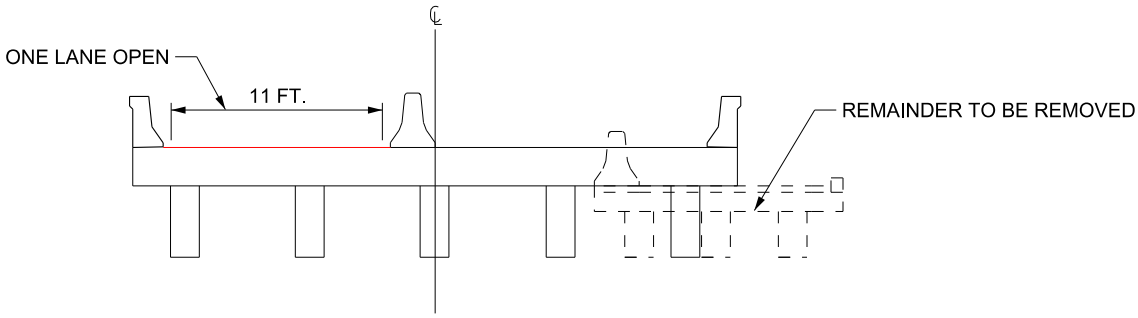
OPTION 2A: WIDEN EXISTING, STAGE CONSTRUCTION

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

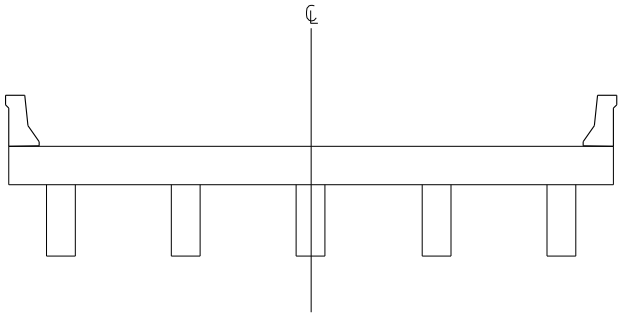
PHASE ONE



PHASE TWO



COMPLETED PROPOSED STRUCTURE



TOTAL WIDTH PROPOSED BRIDGE = 31.5 FT.

0 5' 10'

SCALE 1 IN. = 10 FT.

TRANSPORTATION INVESTMENT REPORT

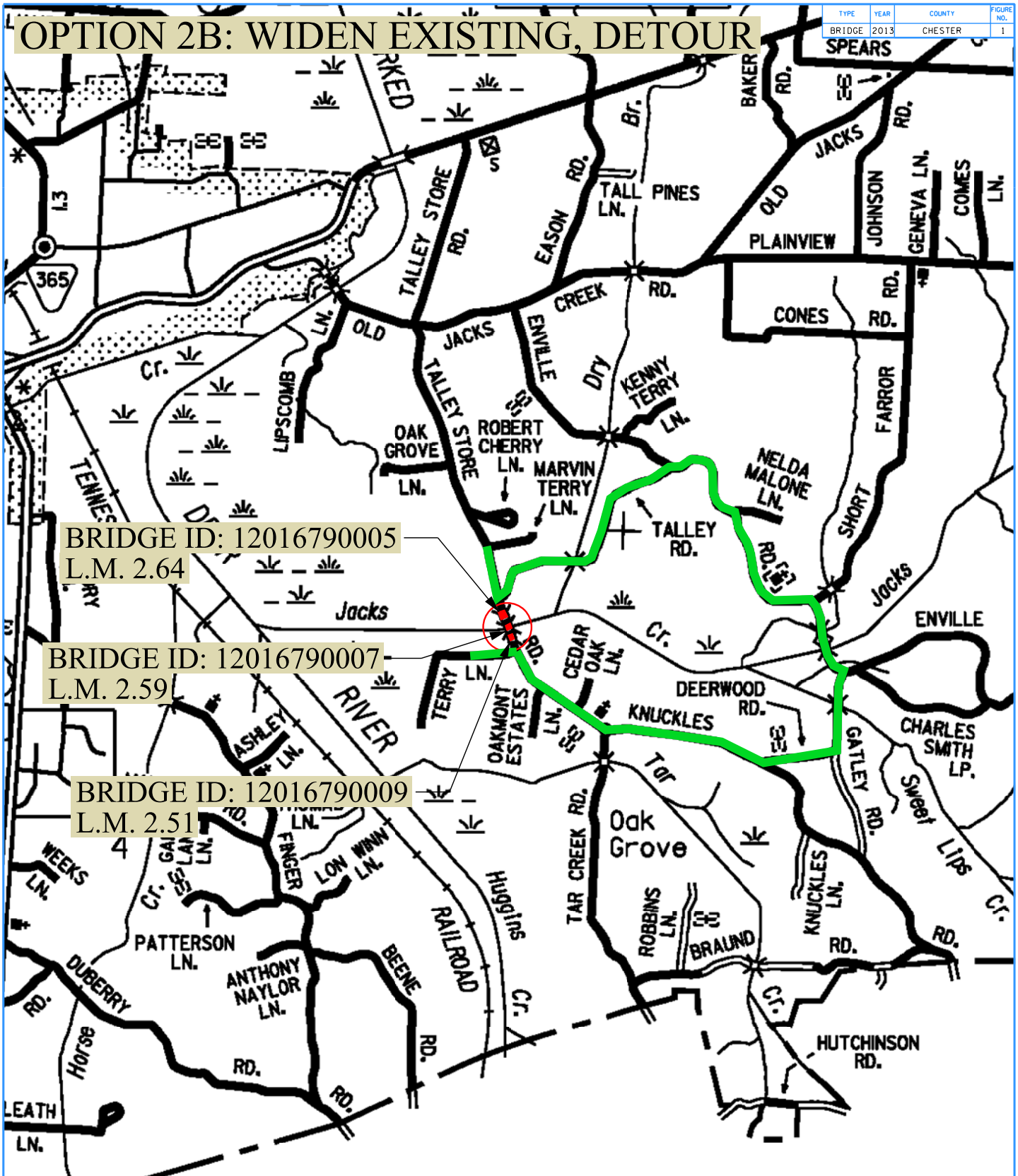
LOCAL ROUTE 01679 (TALLEY STORE ROAD) CHESTER COUNTY
BRIDGE OVER JACKS CREEK @ L.M. 2.64
BRIDGE ID 12016790009

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

OPTION 2A: STAGE CONSTRUCTION DETAIL

OPTION 2B: WIDEN EXISTING, DETOUR

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1



N

0 2000' 4000'

SCALE 1 IN. = 4000 FT.

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

OPTION 2B: DETOUR MAP

CHECK LIST OF DETERMINANTS FOR LOCATION STUDY

If any of the following facilities or ESE categories are located within the project area or corridor, place an "x" in the blank opposite the item. Where more than one alternate is to be considered, place its letter designation in the blank.

1.	Agricultural land usage		
2.	Airport (existing or proposed)		
3.	Commercial area, shopping center		
4.	Floodplains		X
5.	Forested land		X
6.	Historical, cultural, or natural landmark		
7.	Industrial park, factory		
8.	Institutional usages		
	a. School or other educational institution		
	b. Church or other religious institution (Cemetery)		
	c. Hospital or other medical facility		
	d. Public building, e.g., fire station		
	e. Defense installation		
9.	Recreation usages		
	a. Park or recreational area		
	b. Game preserve or wildlife area		
10.	Residential establishment		
11.	Urban area, town, city, or community		
12.	Waterway, lake, pond, river, stream, spring		X
	Permit required: Coast Guard		
	Section 404	X	
	TVA Section 26a review		
	NPDES	X	
	Aquatic Resource Alteration	X	
13.	Other		
14.	Location coordinated with local officials		X
15.	Railroad crossings		
16.	Hazardous materials site		

TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

PROJECT NO.: 99109-1453-04 ROUTE: 01679
COUNTY: Chester CITY: Henderson
PROJECT PIN NUMBER: 040307.00
PROJECT DESCRIPTION: Bridge Replacement, Talley Store Rd., Bridge over Jacks Creeks
Beg. L.M. 2.51 - End L.M. 2.64

DIVISION REQUESTING:

MAINTENANCE	☐	PAVEMENT DESIGN	☐
PLANNING	☒	STRUCTURES	☐
PROG. DEVELOPMENT & ADM.	☐	SURVEY & DESIGN	☐
PUBLIC TRANS. & AERO.	☐	TRAFFIC SIGNAL DESIGN	☐
		OTHER	☐

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION:
PROJECTED LETTING DATE:

TRAFFIC ASSIGNMENT:

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
940	2016	1,220	134	11	2036	65-35	1	1		

REQUESTED BY: NAME Lisa Reaney DATE 10/29/12
DIVISION Planning
ADDRESS 10th Floor, JK Polk Bldg
Nashville, TN 37243

REVIEWED BY: TONY ARMSTRONG Tony Armstrong DATE 10-30-12
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: DUDLEY DANIEL DATE 30 Oct 12
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

This Traffic Based on 2012 Cycle Count. The Future Traffic is based on Growth Rate from the ADAM Computer Program.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

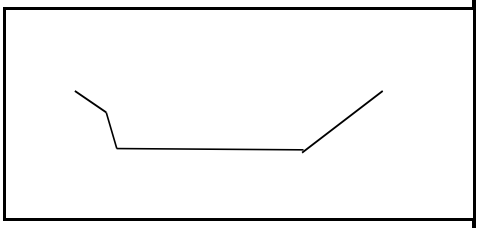
NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS. (REV. 4/10/12)

SITE INSPECTION

INSPECTION MADE BY: Jon Storey BRIDGE ID: 12016790005 COUNTY: Chester
Date: 2/22/13 Route Name: Talley Store Rd. (Local Route 01679) Stream Name: Jacks Creek @ L.M. 2.51

CHANNEL

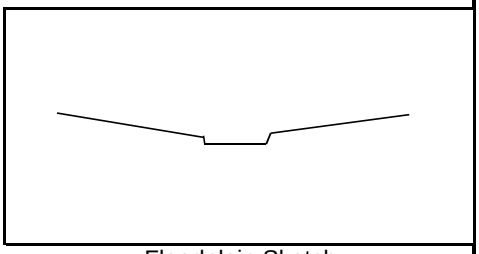
Approx depth and width of channel: Horizontal: 77' Vertical: 8'
Depth of normal flow: 3' In Reservoir: ☐ Yes ☑ No
Depth of Ordinary High Water: 5'
Type of material in stream bed: Silt
Type of vegetation on banks: Low Growth, Timber
"N" factor of the channel: 0.06
Are channel banks stable: ☑ Yes ☐ No
If the streambed is gravel: D_{30} = -- D_{85} = --
Skew of the channel with the roadway: 90 °



Channel Shape Sketch

FLOODPLAIN

Is the skew same as the channel? ☑ Yes ☐ No
Is it symmetrical about the channel? ☑ Yes ☐ No
Type of vegetation in the floodplain and "N" factors
Left U.S.: Light Brush/Trees: 0.05 Right U.S.: Light Brush/Trees: 0.05
Left D.S.: Light Brush/Trees: 0.05 Right D.S.: Light Brush/Trees: 0.05
Are roadway approaches lower than the structure? ☐ Yes ☑ No
Are there any buildings in the floodplain? ☐ Yes ☑ No
Approx. floor elevations: 409
Flood information from local residents:
(elevations & dates) The bridge overtops and gets closed every couple of years.



Floodplain Sketch

EXISTING STRUCTURE

Length: 95' No. of spans: 5 Structure type: P.C.C.S No. of lanes: 2 Skew: 90 °
Width (out to out): 24' 7" Width (curb to curb): 22' 11" Approach: ☑ paved ☐ graveled
Sidewalks on Structure: ☐ Yes ☑ No Bridgerail type: Concrete Bridgerail height = 10"
Superstructure depth: 2' 2" Finished Grade to low girder = 1' 4" Girder depth = N/A
Are any substructures in the channel? ☑ Yes ☐ No Vertical Clearance= 8'
Indications of overtopping: Local inspectors stated that bridge overtops
High water marks: None observed at site visit
Local scour: ☐ Yes, ☑ No
Any signs of stream ☐ aggradation or ☐ degradation? None
Any drift or drift potential? ☐ Yes, ☑ No
Any obstructions (pipes,stock fences,etc.)? None observed

PROPOSED STRUCTURE

Option 1: New Location Option 2: Replacement
Bridge length: 100 ft Bridge type: Girder Span arrangement: 2 @ 50 ft Skew: 90 °
Bridge width: 31.5 ft Sidewalks: N/A Design Speed (MPH): 40 ADT (2036) = 1,220
Proposed grade: Raise Grade 2 feet
Maintenance of Traffic: Option 1: Maintain existing route Option 2A: One-lane route
Option 2B: Detour

Cost of proposed Structure: $150 per ft^2 X 100 / 31.5 length (ft) / width (ft) Cost = $472,500
Cost of bridge removal: $15 per ft^2 X 95 / 24.6 length (ft) / width (ft) Cost = $35,100
Detour structure: Type and size = -- Cost =

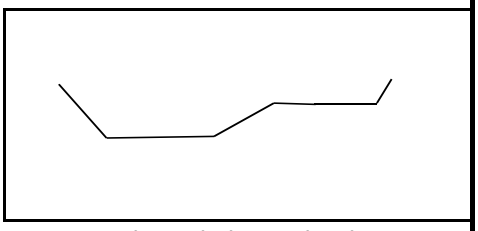
Total Structure Cost = $507,600

SITE INSPECTION

INSPECTION MADE BY: Jon Storey BRIDGE ID: 12016790007 COUNTY: Chester
Date: 2/4/13 Route Name: Talley Store Rd. (Local Route 01679) Stream Name: Jacks Creek @ L.M. 2.59

CHANNEL

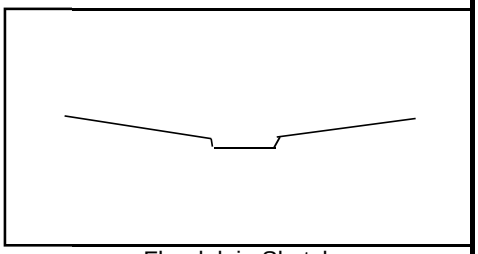
Approx depth and width of channel: Horizontal 57' Vertical: 6'
Depth of normal flow: 3 In Reservoir: ☐ Yes ☑ No
Depth of Ordinary High Water: 5
Type of material in stream bed: Sand
Type of vegetation on banks: Low Growth, Timber
"N" factor of the channel: 0.06
Are channel banks stable: ☑ Yes ☐ No
If the streambed is gravel: D_{30} = -- D_{85} = --
Skew of the channel with the roadway: 90 °



Channel Shape Sketch

FLOODPLAIN

Is the skew same as the channel? ☑ Yes ☐ No
Is it symmetrical about the channel? ☑ Yes ☐ No
Type of vegetation in the floodplain and "N" factors
Left U.S.: Light Brush/Trees - 0.05 Right U.S.: Light Brush/Trees - 0.05
Left D.S.: Light Brush/Trees - 0.05 Right D.S.: Light Brush/Trees - 0.05
Are roadway approaches lower than the structure? ☐ Yes ☑ No
Are there any buildings in the floodplain? ☐ Yes ☑ No
Approx. floor elevations: 405
Flood information from local residents:
(elevations & dates) The bridge overtops and gets closed every couple of years.



Floodplain Sketch

EXISTING STRUCTURE

Length: 86' No. of spans: 4 Structure type: P.C.C.S No. of lanes: 2 Skew: 90 °
Width (out to out): 21' 7" Width (curb to curb): 20' Approach: ☑ paved ☐ graveled
Sidewalks on Structure: ☐ Yes ☑ No Bridgerail type: Concrete Bridgerail height = 9"
Superstructure depth: 2' 2' Finished Grade to low girder = 1' 5" Girder depth = N/A
Are any substructures in the channel? ☑ Yes ☐ No Vertical Clearance= 6'
Indications of overtopping: Local inspectors stated that bridge overtops
High water marks: None observed at site visit
Local scour: ☐ Yes, ☑ No
Any signs of stream ☐ aggradation or ☐ degradation?
Any drift or drift potential? ☐ Yes, ☑ No
Any obstructions (pipes,stock fences,etc.)? None Observed

PROPOSED STRUCTURE

Option 1: New Location Option 2: Replacement
Bridge length: 95 ft Bridge type: Girder Span arrangement: 2 @ 25 , 1 @ 45 ft Skew: 90 °
Bridge width: 31.5 ft Sidewalks: N/A Design Speed (MPH): 40 ADT (2036) = 1,220
Proposed grade: Raise grade 2 ft Proposed alignment: Shifted 50 ft west
Maintenance of Traffic: Option 1: Maintain existing route Option 2A: One-lane route
Option 2B: Detour

Cost of proposed Structure: $150 per ft^2 X 95 / 31.5 length (ft) / width (ft) Cost = $448,900
Cost of bridge removal: $15 per ft^2 X 86 / 21.6 length (ft) / width (ft) Cost = $27,800
Detour structure: Type and size = Cost =

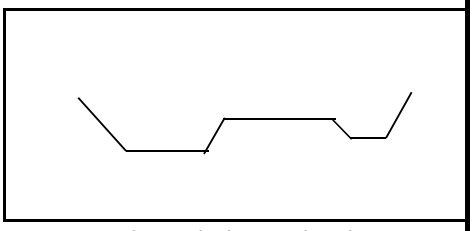
Total Structure Cost = $476,700

SITE INSPECTION

INSPECTION MADE BY: Jon Storey BRIDGE ID: 12016790009 COUNTY: Chester
Date: 2/22/13 Route Name: Talley Store Rd. (Local Route 01679) Stream Name: Jacks Creek @ L.M. 2.64

CHANNEL

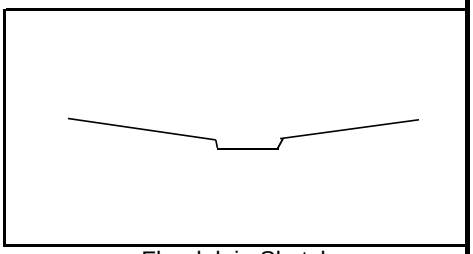
Approx depth and width of channel: Horizontal: 57' Vertical: 5' 1"
Depth of normal flow: 3' In Reservoir: ☐ Yes ☑ No
Depth of Ordinary High Water: 5'
Type of material in stream bed: Sand
Type of vegetation on banks: Low Growth, Timber
"N" factor of the channel: 0.06
Are channel banks stable: ☑ Yes ☐ No
If the streambed is gravel: D_{30} = -- D_{85} = --
Skew of the channel with the roadway: 90 °



Channel Shape Sketch

FLOODPLAIN

Is the skew same as the channel? ☑ Yes ☐ No
Is it symmetrical about the channel? ☑ Yes ☐ No
Type of vegetation in the floodplain and "N" factors
Left U.S.: Light Brush/Trees - 0.05 Right U.S.: Light Brush/Trees - 0.05
Left D.S.: Light Brush/Trees - 0.05 Right D.S.: Light Brush/Trees - 0.05
Are roadway approaches lower than the structure? ☐ Yes ☑ No
Are there any buildings in the floodplain? ☐ Yes ☑ No
Approx. floor elevations: 410
Flood information from local residents:
(elevations & dates) --



Floodplain Sketch

EXISTING STRUCTURE

Length: 60 No. of spans: 4 Structure type: Prestressed No. of lanes: 2 Skew: 90 °
Width (out to out): 21' 3" Width (curb to curb): 20' 4" Approach: ☑ paved ☐ graveled
Sidewalks on Structure: ☐ Yes ☑ No Bridgerail type: Concrete Bridgerail height = 9"
Superstructure depth: 1' 9' Finished Grade to low girder = 1' 4" Girder depth = 12"
Are any substructures in the channel? ☐ Yes ☑ No Vertical Clearance= 5' 1"
Indications of overtopping: Local inspectors stated that bridge overtops
High water marks: None observed
Local scour: ☐ Yes, ☑ No
Any signs of stream ☐ aggradation or ☐ degradation?
Any drift or drift potential? ☐ Yes, ☑ No
Any obstructions (pipes,stock fences,etc.)? Utility conduit has broke away from the west side of bridge, and is now on and covered by the ground

PROPOSED STRUCTURE

Option 1: New Location Option 2: Replacement
Bridge length: 70 ft Bridge type: Girder Span arrangement: 2 @ 35' Skew: 90 °
Bridge width: 31.5 ft Sidewalks: N/A Design Speed (MPH): 40 ADT (2036) = 1,220
Proposed grade: Raise grade 2 ft Proposed alignment: Shifted 40 ft west
Maintenance of Traffic: Option 1: Maintain existing route Option 2A: One-lane route
Option 2B: Detour

Cost of proposed Structure: $150 per ft^2 X 70 / 31.5 length (ft) / width (ft) Cost = $330,800
Cost of bridge removal: $15 per ft^2 X 60 / 21.3 length (ft) / width (ft) Cost = $19,100
Detour structure: Type and size = Cost =

Total Structure Cost = $349,900

Bridge TPR Flow Calculations
For Hydrologic Area 4
Area > 186 Acres

County: Chester
Bridge ID: 12016790005
Route: Talley Store Rd. (Local Route 01679)
Feature Crossed: Jacks Creek
Log Mile: 2.51 - 2.64

By: JHS
Date: 1/9/13
PIN: 040307.00

DRAINAGE BASIN*

Measurement from quad =	37,248	acres
Contributing Drainage Area, CDA = acres/640 =	58.20	sq. mi.

USGS REGRESSION EQUATIONS FOR FLOW*

Q_2 = 431(CDA)^0.529 =	3,699	cfs
Q_5 = 615(CDA)^0.545 =	5,633	cfs
Q_{10} = 735(CDA)^0.554 =	6,983	cfs
Q_{25} = 883(CDA)^0.563 =	8,702	cfs
Q_{50} = 991(CDA)^0.568 =	9,967	cfs
Q_{100} = 1100(CDA)^0.573 =	11,290	cfs

DEPTH OF FLOW EQUATIONS*

10-Year Flood Depth = 6.98(CDA)^0.142 =	12.4	ft
100-Year Flood Depth = 9.24(CDA)^0.116 =	14.8	ft

AREAS*

Existing Area Below Low Chord =	1,320	ft^2
Proposed Area Below Low Chord =	1,809	ft^2
Proposed 10-Year Flood Area, A_{10} =	1,809	ft^2
Proposed 100-Year Flood Area, A_{100} =	1,809	ft^2

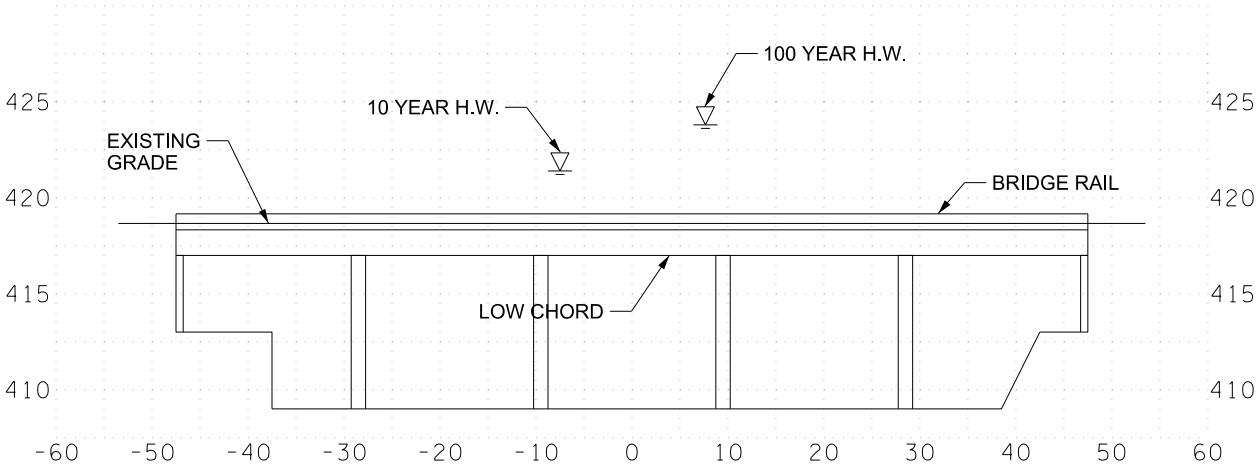
VELOCITIES*

Proposed 10-Year Flood Velocity, $V_{10} = Q_{10}/A_{10}$ =	3.9	fps
Proposed 100-Year Flood Velocity, $V_{100} = Q_{100}/A_{100}$ =	6.2	fps

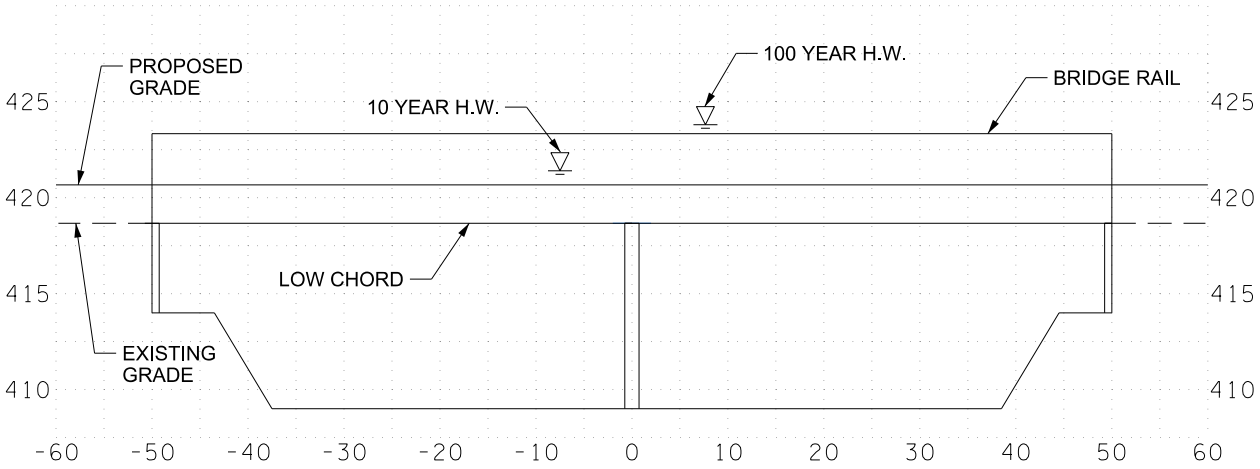
*Flows and areas are for all three bridges combined, 1 Main Channel and 2 Overflow Channels

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



0 5' 10'

SCALE 1 IN. = 10 FT.

TRANSPORTATION INVESTMENT REPORT

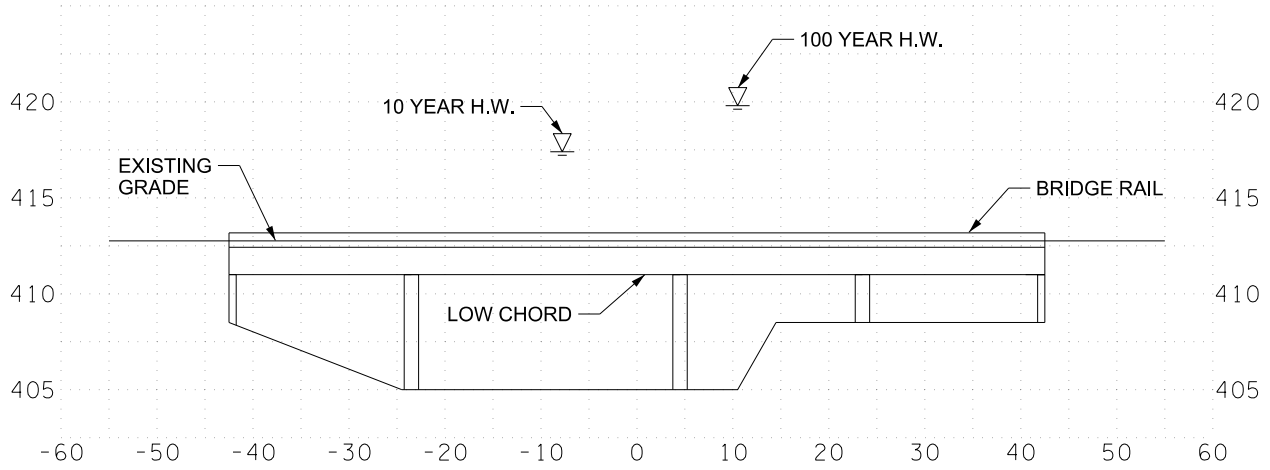
LOCAL ROUTE 01679 (TALLEY STORE ROAD) CHESTER COUNTY
BRIDGE OVER JACKS CREEK @ L.M. 2.51
BRIDGE ID 12016790005

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

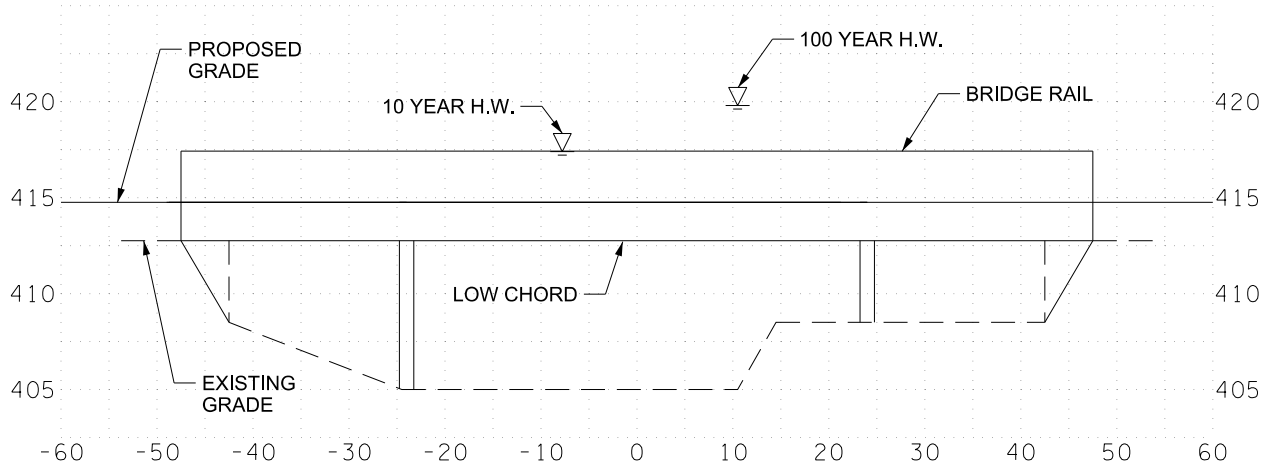
BRIDGE SECTIONS

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



0 5' 10'

SCALE 1 IN. = 10 FT.

TRANSPORTATION INVESTMENT REPORT

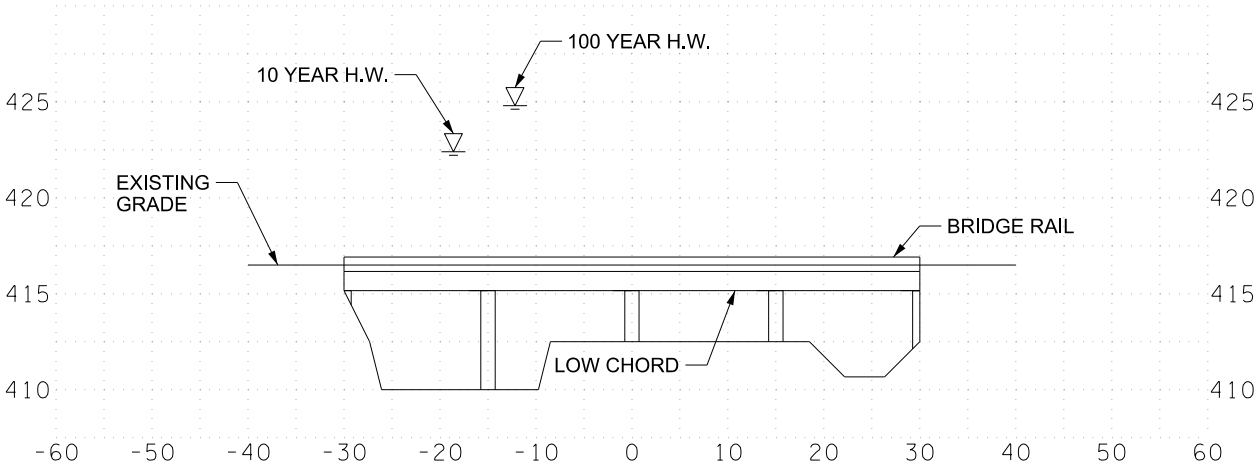
LOCAL ROUTE 01679 (TALLEY STORE ROAD) CHESTER COUNTY
BRIDGE OVER JACKS CREEK @ L.M. 2.59
BRIDGE ID 12016790007

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

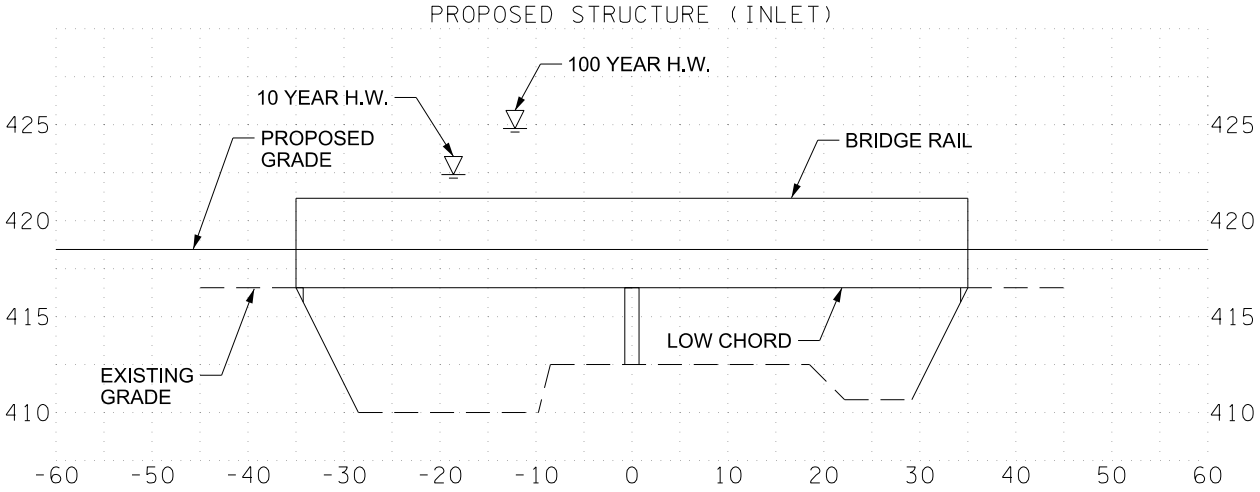
BRIDGE SECTIONS

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	1

EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



0 5' 10'

SCALE 1 IN. = 10 FT.

TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 (TALLEY STORE ROAD) CHESTER COUNTY
BRIDGE OVER JACKS CREEK @ L.M. 2.64
BRIDGE ID 12016790009

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

BRIDGE SECTIONS

OPTION 1: NEW ALIGNMENT

Route:	**Local Route 01679 (Talley Store Road)**
Description:	**Special Bridge Replacement Program**
	L.M. 2.51, L.M. 2.59, L.M. 2.64
County:	**Chester**
Length:	**0.378 Miles**
Date:	**June 17, 2013**

DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
Right-of-Way	$ 11,000	$ -	$ 44,000	$ 55,000
Clearing and Grubbing	$ 1,000	$ -	$ 3,000	$ 4,000
Earthwork	$ 32,000	$ -	$ 130,000	$ 162,000
Railroad Crossing or Separation	$ -	$ -	$ -	$ -
Drainage	$ -	$ -	$ -	$ -
Utilities	$ 18,000	$ -	$ 72,000	$ 90,000
Structures	$ 267,000	$ -	$ 1,067,000	$ 1,334,000
Pavement Removal	$ 7,000	$ -	$ 26,000	$ 33,000
Paving	$ 65,000	$ -	$ 261,000	$ 326,000
Roadway and Pavement Appurtenances	$ -	$ -	$ -	$ -
Retaining Walls	$ -	$ -	$ -	$ -
Topsoil	$ 3,000	$ -	$ 10,000	$ 13,000
Seeding	$ 1,000	$ -	$ 3,000	$ 4,000
Sodding	$ -	$ -	$ -	$ -
Rip-Rap or Slope Protection	$ -	$ -	$ -	$ -
Fencing	$ -	$ -	$ -	$ -
Signing	$ -	$ -	$ 1,000	$ 1,000
Pavement Markings	$ 1,000	$ -	$ 3,000	$ 4,000
Lighting	$ -	$ -	$ -	$ -
Signalization	$ -	$ -	$ -	$ -
Guardrail	$ 5,000	$ -	$ 22,000	$ 27,000
Pay Item Quantity Adjustment (15%)[1]	$ 62,000	$ -	$ 246,000	$ 308,000
Maintenance of Traffic	$ 2,000	$ -	$ 8,000	$ 10,000
Mobilization (5%)	$ 24,000	$ -	$ 95,000	$ 119,000
CONSTRUCTION COST (rounded)	$ 498,000	$ -	$ 1,992,000	$ 2,490,000
Engineering and Contingency (10%)	$ 50,000	$ -	$ 199,000	$ 249,000
TOTAL CONSTRUCTION COST (rounded)	$ 548,000	$ -	$ 2,191,000	$ 2,739,000
Preliminary Engineering (10%)	$ 55,000	$ -	$ 219,000	$ 274,000
PROJECT COST [2, 3](rounded)	**$ 603,000**	**$ -**	**$ 2,410,000**	**$ 3,013,000**

[1] *For estimating purposes pay items are adjusted for fluctuation of cost based on quantity.*

[2] *For estimating future project costs, a compounded inflation rate of 10% should be applied from the date of this estimate.*

[3] *Local agency is responsible for a 20% match (80:20 Funding).*

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 1: New Alignment

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
Right-of-Way							
		Lump Sum	N/A		$ -	$ 55,000	4.2 Acres, 5 Tracts: see separate calculations. $5,000 per tract for incidentals
Clear and Grubbing							
201-01	4.2	Acres	$ 1,000.00		$ 4,200	$ 4,000	Area inside prop. R.O.W.
Earthwork							
203-01	15796	CY	$ 3.56	$ 56,234			Excavation (Cut)
203-03	33643	CY	$ 2.51	$ 84,444			Borrow (Fill)
		+25% Factor		$ 21,111			Fill in the Flodplain Factor (cost = 1.25% of total fill)
		Total			$ 161,789	$ 162,000	
Pavement Removal							
202-03.01	4880	SY	$ 6.81	$ 33,233	$ 33,233	$ 33,000	
Utilities							
		Lump Sum	N/A	$ 90,000	$ 90,000	$ 90,000	See separate calculations
Structures							
	8348	SF	$ 150.00	$ 1,252,125			Estimate for simple bridges
	5466	SF	$ 15.00	$ 81,990			Estimate for bridge removal
		Total			$ 1,334,115	$ 1,334,000	
Paving							
	53680	SF	$ 6.08	$ 326,386			arterial street asphalt paving - see separate calcs
		Total			$ 326,386	$ 326,000	Note: Doubled due to grade change and extra pavement for the lifts.
Maintenance of Traffic							
	1	Each	$ 10,000.00		$ 10,000	$ 10,000	Estimate $10,000 for all three bridges
Topsoil							
203-07	1356	CY	$ 9.63		$ 13,054	$ 13,000	
Seeding							
801-01	146400	SF	$ 22.68		$ 4,150	$ 4,000	sq. ft to be seeded/1000 x 1.25 = units. Unit price in units
Signing							
	0.462	Mile	$ 2,000.00	$ 924.24			$1000/mile rural or $2000/mile urban (or $250/sign for
					$ 924	$ 1,000	

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 1: New Alignment

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
Pavement Marking							
716-13.06	1.848	L.M.	$ 2,030.80	$ 3,753.90			Edgelines & Centerlines, Spray Thermo 60 mil (4")
716-02.05	12	LF	$ 10.94	$ 131.28			Stop Lines
					$ 3,885	$ 4,000	
Guardrail							
705-02.02	824	LF	$ 15.66	$ 12,907			Guardrail (End Terminals Not Included in Price)
705-04.04	8	Each	$ 1,823.22	$ 14,586			Guardrail Terminal (Type 21)
		Total			$ 27,493	$ 27,000	
Total:						**$ 2,063,000**	

Route Utility Cost Estimate Calculations

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 1: New Alignment

Item	Quantity	Unit	Unit Cost	Total Cost	Description/Quantity Calculation
Gas Line - 4"-100 lb Pressure Line		FT	$ 50	$ -	
Gas Line - 6"-30 lb Pressure Line		FT	$ 35	$ -	
Water Line - 12"		FT	$ 66	$ -	
Water Line - 6"		FT	$ 35	$ -	
Sewer Line		FT	$ 22	$ -	
Telephone Line (Underground)	2000	FT	$ 35	$ 70,000	
Street Light		Each	$ 1,765	$ -	
Utility (Power) Pole	6	Each	$ 2,500	$ 15,000	
Cable TV Pole Attachment		Each	$ 1,000	$ -	If no better data, 1 pole every 100 yards

Total: **$ 90,000**

Route R.O.W. Cost Estimate Calculations

Estimated Right-of-Way Costs

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 1: New Alignment

Average Cost per Acre			**$**	**5,000**
Land Cost				
Estimated Right-of-Way Acquistion (Acres)		4.20		
Estimated R.O.W. Cost	$	21,000		
Estimated Family Displacement Property Cost	$	-		
Unfactored Right-of-Way Land Costs	$	21,000		
Right-of-Way Cost (including contingencies =1.43 x unfactored cost)			$	30,000
Incidentals				
Estimated Right-of-Way Tracts Affected		5		
Incidental Expenses per Tract	$	5,000		
Incidental Expenses			$	25,000
Relocation Payments				
Residence Relocations		0		
Estimated Cost per Relocation	$	22,500		
Relocation Payments			$	-
Total R.O.W. Costs			**$**	**55,000**

OPTION 2A: WIDEN EXISTING, STAGE CONSTRUCTION

Route:	**Local Route 01679 (Talley Store Road)**
Description:	**Special Bridge Replacement Program**
	L.M. 2.51, L.M. 2.59, L.M. 2.64
County:	**Chester**
Length:	**0.298 Miles**
Date:	**June 17, 2013**

DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
Right-of-Way	$ 7,000	$ -	$ 27,000	$ 34,000
Clearing and Grubbing	$ -	$ -	$ 1,000	$ 1,000
Earthwork	$ 10,000	$ -	$ 41,000	$ 51,000
Railroad Crossing or Separation	$ -	$ -	$ -	$ -
Drainage	$ -	$ -	$ -	$ -
Utilities	$ 12,000	$ -	$ 48,000	$ 60,000
Structures	$ 267,000	$ -	$ 1,067,000	$ 1,334,000
Pavement Removal	$ 6,000	$ -	$ 22,000	$ 28,000
Paving	$ 55,000	$ -	$ 219,000	$ 274,000
Roadway and Pavement Appurtenances	$ -	$ -	$ -	$ -
Retaining Walls	$ -	$ -	$ -	$ -
Topsoil	$ 2,000	$ -	$ 7,000	$ 9,000
Seeding	$ 1,000	$ -	$ 2,000	$ 3,000
Sodding	$ -	$ -	$ -	$ -
Rip-Rap or Slope Protection	$ -	$ -	$ -	$ -
Fencing	$ -	$ -	$ -	$ -
Signing	$ -	$ -	$ 1,000	$ 1,000
Pavement Markings	$ 1,000	$ -	$ 3,000	$ 4,000
Lighting	$ -	$ -	$ -	$ -
Signalization	$ 9,000	$ -	$ 34,000	$ 43,000
Guardrail	$ 6,000	$ -	$ 22,000	$ 28,000
Pay Item Quantity Adjustment (15%)[1]	$ 56,000	$ -	$ 225,000	$ 281,000
Maintenance of Traffic	$ 2,000	$ -	$ 8,000	$ 10,000
Mobilization (5%)	$ 22,000	$ -	$ 86,000	$ 108,000
CONSTRUCTION COST (rounded)	$ 454,000	$ -	$ 1,815,000	$ 2,269,000
Engineering and Contingency (10%)	$ 45,000	$ -	$ 182,000	$ 227,000
TOTAL CONSTRUCTION COST (rounded)	$ 499,000	$ -	$ 1,997,000	$ 2,496,000
Preliminary Engineering (10%)	$ 50,000	$ -	$ 200,000	$ 250,000
PROJECT COST [2, 3](rounded)	**$ 549,000**	**$ -**	**$ 2,197,000**	**$ 2,746,000**

[1] ***For estimating purposes pay items are adjusted for fluctuation of cost based on quantity.***

[2] ***For estimating future project costs, a compounded inflation rate of 10% should be applied from the date of this estimate.***

[3] ***Local agency is responsible for a 20% match (80:20 Funding).***

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 2A: Widen Existing, Stage Construction

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
Right-of-Way							
		Lump Sum	N/A		$ -	$ 34,000	1.29 Acres, 5 Tracts: see separate calculations. $5,000 per tract for incidentals
Clear and Grubbing							
201-01	1.29	Acres	$ 1,000.00		$ 1,287	$ 1,000	Area inside prop. R.O.W.
Earthwork							
203-01	1447	CY	$ 3.56	$ 5,151			Excavation (Cut)
203-03	14601	CY	$ 2.51	$ 36,649			Borrow (Fill)
		+25% Factor		$ 9,162			Fill in the Flodplain Factor (if widening, cost = 1.25% of total fill)
		Total			$ 50,962	$ 51,000	
Pavement Removal							
202-03.01	4092	SY	$ 6.81	$ 27,867	$ 27,867	$ 28,000	
Utilities							
		Lump Sum	N/A	$ 60,000	$ 60,000	$ 60,000	See separate calculations
Structures							
	8348	SF	$ 150.00	$ 1,252,125			Estimate for simple bridges
	5466	SF	$ 15.00	$ 81,990			Estimate for bridge removal
		Total			$ 1,334,115	$ 1,334,000	
Paving							
	45012	SF	$ 6.08	$ 273,683			arterial street asphalt paving - see separate calcs
		Total			$ 273,683	$ 274,000	Note: Doubled due to grade change and extra pavement for the lifts.
Maintenance of Traffic							
	1	Each	$ 10,000.00		$ 10,000	$ 10,000	Estimate $10,000 for all three bridges
Topsoil							
203-07	959	CY	$ 9.63		$ 9,231	$ 9,000	
Seeding							
801-01	103528	SF	$ 22.68		$ 2,935	$ 3,000	sq. ft to be seeded/1000 x 1.25 = units. Unit price in units
Signing							
	0.388	Mile	$ 2,000.00	$ 775.00			$1000/mile rural or $2000/mile urban (or $250/sign for
					$ 775	$ 1,000	
Pavement Marking							
716-13.06	1.908	L.M.	$ 2,030.80	$ 3,875.44			Edgelines & Centerlines, Spray Thermo 60 mil (4")
716-02.05	12	LF	$ 10.94	$ 131.28			Stop Lines
					$ 4,007	$ 4,000	

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 2A: Widen Existing, Stage Construction

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
Signalization							
730-40	2	Each	$ 21,610.31		$ 43,221	$ 43,000	per temporary traffic signal
Guardrail							
705-02.02	847	LF	$ 15.66	$ 13,256			Guardrail (End Terminals Not Included in Price)
705-04.04	8	Each	$ 1,823.22	$ 14,586			Guardrail Terminal (Type 21)
		Total			$ 27,842	$ 28,000	
Total:						**$ 1,880,000**	

Route Utility Cost Estimate Calculations

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 2A: Widen Existing, Stage Construction

Item	Quantity	Unit	Unit Cost	Total Cost	Description/Quantity Calculation
Gas Line - 4"-100 lb Pressure Line		FT	$ 50	$ -	
Gas Line - 6"-30 lb Pressure Line		FT	$ 35	$ -	
Water Line - 12"		FT	$ 66	$ -	
Water Line - 6"		FT	$ 35	$ -	
Sewer Line		FT	$ 22	$ -	
Telephone Line (Underground)	1550	FT	$ 35	$ 54,000	
Street Light		Each	$ 1,765	$ -	
Utility (Power) Pole	4	Each	$ 2,500	$ 10,000	
Cable TV Pole Attachment		Each	$ 1,000	$ -	If no better data, 1 pole every 100 yards

Total: **$ 60,000**

Route R.O.W. Cost Estimate Calculations

Estimated Right-of-Way Costs

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 2A: Widen Existing, Stage Construction

Average Cost per Acre			**$**	**5,000**
Land Cost				
Estimated Right-of-Way Acquistion (Acres)		1.29		
Estimated R.O.W. Cost	$	6,000		
Estimated Family Displacement Property Cost	$	-		
Unfactored Right-of-Way Land Costs	$	6,000		
Right-of-Way Cost (including contingencies =1.43 x unfactored cost)			$	9,000
Incidentals				
Estimated Right-of-Way Tracts Affected		5		
Incidental Expenses per Tract	$	5,000		
Incidental Expenses			$	25,000
Relocation Payments				
Residence Relocations		0		
Estimated Cost per Relocation	$	22,500		
Relocation Payments			$	-
Total R.O.W. Costs			**$**	**34,000**

OPTION 2B: WIDEN EXISTING, DETOUR

Route:	**Local Route 01679 (Talley Store Road)**
Description:	**Special Bridge Replacement Program**
	L.M. 2.51, L.M. 2.59, L.M. 2.64
County:	**Chester**
Length:	**0.298 Miles**
Date:	**June 17, 2013**

DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
Right-of-Way	$ 7,000	$ -	$ 27,000	$ 34,000
Clearing and Grubbing	$ -	$ -	$ 1,000	$ 1,000
Earthwork	$ 10,000	$ -	$ 41,000	$ 51,000
Railroad Crossing or Separation	$ -	$ -	$ -	$ -
Drainage	$ -	$ -	$ -	$ -
Utilities	$ 12,000	$ -	$ 48,000	$ 60,000
Structures	$ 267,000	$ -	$ 1,067,000	$ 1,334,000
Pavement Removal	$ 6,000	$ -	$ 22,000	$ 28,000
Paving	$ 55,000	$ -	$ 219,000	$ 274,000
Roadway and Pavement Appurtenances	$ -	$ -	$ -	$ -
Retaining Walls	$ -	$ -	$ -	$ -
Topsoil	$ 2,000	$ -	$ 7,000	$ 9,000
Seeding	$ 1,000	$ -	$ 2,000	$ 3,000
Sodding	$ -	$ -	$ -	$ -
Rip-Rap or Slope Protection	$ -	$ -	$ -	$ -
Fencing	$ -	$ -	$ -	$ -
Signing	$ -	$ -	$ 1,000	$ 1,000
Pavement Markings	$ 1,000	$ -	$ 3,000	$ 4,000
Lighting	$ -	$ -	$ -	$ -
Signalization	$ -	$ -	$ -	$ -
Guardrail	$ 6,000	$ -	$ 22,000	$ 28,000
Pay Item Quantity Adjustment (15%)[1]	$ 55,000	$ -	$ 219,000	$ 274,000
Maintenance of Traffic	$ 2,000	$ -	$ 8,000	$ 10,000
Mobilization (5%)	$ 21,000	$ -	$ 85,000	$ 106,000
CONSTRUCTION COST (rounded)	$ 443,000	$ -	$ 1,774,000	$ 2,217,000
Engineering and Contingency (10%)	$ 44,000	$ -	$ 178,000	$ 222,000
TOTAL CONSTRUCTION COST (rounded)	$ 488,000	$ -	$ 1,951,000	$ 2,439,000
Preliminary Engineering (10%)	$ 49,000	$ -	$ 195,000	$ 244,000
PROJECT COST [2, 3](rounded)	**$ 537,000**	**$ -**	**$ 2,146,000**	**$ 2,683,000**

[1] *For estimating purposes pay items are adjusted for fluctuation of cost based on quantity.*

[2] *For estimating future project costs, a compounded inflation rate of 10% should be applied from the date of this estimate.*

[3] *Local agency is responsible for a 20% match (80:20 Funding).*

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 2B: Widen Existing, Detour

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
Right-of-Way							
		Lump Sum	N/A		$ -	$ 34,000	1.29 Acres, 5 Tracts: see separate calculations. $5,000 per tract for incidentals
Clear and Grubbing							
201-01	1.29	Acres	$ 1,000.00		$ 1,287	$ 1,000	Area inside prop. R.O.W.
Earthwork							
203-01	1447	CY	$ 3.56	$ 5,151			Excavation (Cut)
203-03	14601	CY	$ 2.51	$ 36,649			Borrow (Fill)
		+25% Factor		$ 9,162			Fill in the Flodplain Factor (if widening, cost = 1.25% of total fill)
		Total			$ 50,962	$ 51,000	
Pavement Removal							
202-03.01	4092	SY	$ 6.81	$ 27,867	$ 27,867	$ 28,000	
Utilities							
		Lump Sum	N/A	$ 60,000	$ 60,000	$ 60,000	See separate calculations
Structures							
	8348	SF	$ 150.00	$ 1,252,125			Estimate for simple bridges
	5466	SF	$ 15.00	$ 81,990			Estimate for bridge removal
		Total			$ 1,334,115	$ 1,334,000	
Paving							
	45012	SF	$ 6.08	$ 273,683			arterial street asphalt paving - see separate calcs
		Total			$ 273,683	$ 274,000	Note: Doubled due to grade change and extra pavement for the lifts.
Maintenance of Traffic							
	1	Each	$ 10,000.00	$ 10,000			Estimate $10,000 for detour signing & maintenance
					$ 10,000	$ 10,000	
Topsoil							
203-07	959	CY	$ 9.63		$ 9,231	$ 9,000	
Seeding							
801-01	103528	SF	$ 22.68		$ 2,935	$ 3,000	sq. ft to be seeded/1000 x 1.25 = units. Unit price in units
Signing							
	0.388	Mile	$ 2,000.00	$ 775.00			$1000/mile rural or $2000/mile urban (or $250/sign for
					$ 775	$ 1,000	
Pavement Marking							
716-13.06	1.908	L.M.	$ 2,030.80	$ 3,875.44			Edgelines & Centerlines, Spray Thermo 60 mil (4")
716-02.05	12	LF	$ 10.94	$ 131.28			Stop Lines

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 2B: Widen Existing, Detour

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
					$ 4,007	$ 4,000	
Guardrail							
705-02.02	847	LF	$ 15.66	$ 13,256			Guardrail (End Terminals Not Included in Price)
705-04.04	8	Each	$ 1,823.22	$ 14,586			Guardrail Terminal (Type 21)
		Total			$ 27,842	$ 28,000	
Total:						**$ 1,837,000**	

Route Utility Cost Estimate Calculations

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 2B: Widen Existing, Detour

Item	Quantity	Unit	Unit Cost	Total Cost	Description/Quantity Calculation
Gas Line - 4"-100 lb Pressure Line		FT	$ 50	$ -	
Gas Line - 6"-30 lb Pressure Line		FT	$ 35	$ -	
Water Line - 12"		FT	$ 66	$ -	
Water Line - 6"		FT	$ 35	$ -	
Sewer Line		FT	$ 22	$ -	
Telephone Line (Underground)	1550	FT	$ 35	$ 54,000	
Street Light		Each	$ 1,765	$ -	
Utility (Power) Pole	4	Each	$ 2,500	$ 10,000	
Cable TV Pole Attachment		Each	$ 1,000	$ -	If no better data, 1 pole every 100 yards

Total: **$ 60,000**

Route R.O.W. Cost Estimate Calculations

Estimated Right-of-Way Costs

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 2B: Widen Existing, Detour

Average Cost per Acre			**$**	**5,000**
Land Cost				
Estimated Right-of-Way Acquistion (Acres)		1.29		
Estimated R.O.W. Cost	$	6,000		
Estimated Family Displacement Property Cost	$	-		
Unfactored Right-of-Way Land Costs	$	6,000		
Right-of-Way Cost (including contingencies =1.43 x unfactored cost)			$	9,000
Incidentals				
Estimated Right-of-Way Tracts Affected		5		
Incidental Expenses per Tract	$	5,000		
Incidental Expenses			$	25,000
Relocation Payments				
Residence Relocations		0		
Estimated Cost per Relocation	$	22,500		
Relocation Payments			$	-
Total R.O.W. Costs			**$**	**34,000**

BRIDGE AT LOG MILE 2.51 (1/10/13)

BRIDGE NUMBER

NORTH INLET SIDE LOOKING WEST TOWARDS THE BRIDGE

SOUTH INLET SIDE LOOKING WEST TOWARDS THE BRIDGE

INLET SIDE LOOKING EAST UPSTREAM

OUTLET SIDE LOOKING EAST TOWARDS THE BRIDGE

OUTLET SIDE LOOKING WEST DOWNSTREAM

SOUTH APPROACH LOOKING NORTH TOWARDS THE BRIDGE

LOOKING AT SOUTH APPROACH AWAY FROM BRIDGE

NORTH APPROACH LOOKING SOUTH TOWARDS THE BRIDGE

LOOKING AT NORTH APPROACH AWAY FROM THE BRIDGE

IMPASSABLE DURING HIGH WATER SIGN

BRIDGE AT LOG MILE 2.59 (1/10/13)

BRIDGE NUMBER

NORTH INLET SIDE LOOKING WEST TOWARDS THE BRIDGE

SOUTH INLET SIDE LOOKING WEST TOWARDS THE BRIDGE

INLET SIDE LOOKING EAST UPSTREAM

NORTH OUTLET SIDE LOOKING EAST TOWARDS THE BRIDGE

SOUTH OUTLET SIDE LOOKING EAST TOWARDS THE BRIDGE

OUTLET SIDE LOOKING WEST DOWNSTREAM

SOUTH APPROACH LOOKING NORTH TOWARDS THE BRIDGE

LOOKING AT SOUTH APPROACH AWAY FROM THE BRIDGE

NORTH APPROACH LOOKING SOUTH TOWARDS THE BRIDGE

LOOKING AT NORTH APPROACH AWAY FROM THE BRIDGE

UNDERGROUND TELEPHONE SIGN

WETLANDS RESERVE PROGRAM EASEMENT BOUNDARY ON EAST SIDE

BRIDGE AT LOG MILE 2.64 (1/10/13)

BRIDGE NUMBER

NORTH INLET SIDE LOOKING WEST TOWARDS THE BRIDGE

SOUTH INLET SIDE LOOKING WEST TOWARDS THE BRIDGE

INLET SIDE LOOKING EAST UPSTREAM LEFT

INLET SIDE LOOKING EAST UPSTREAM RIGHT

NORTH OUTLET SIDE LOOKING EAST TOWARDS THE BRIDGE

SOUTH OUTLET SIDE LOOKING EAST TOWARDS THE BRIDGE

OUTLET SIDE LOOKING WEST DOWNSTREAM LEFT

OUTLET SIDE LOOKING WEST DOWNSTREAM RIGHT

SOUTH APPROACH LOOKING NORTH TOWARDS THE BRIDGE

LOOKING AT SOUTH APPROACH AWAY FROM THE BRIDGE

NORTH APPROACH LOOKING SOUTH TOWARDS THE BRIDGE

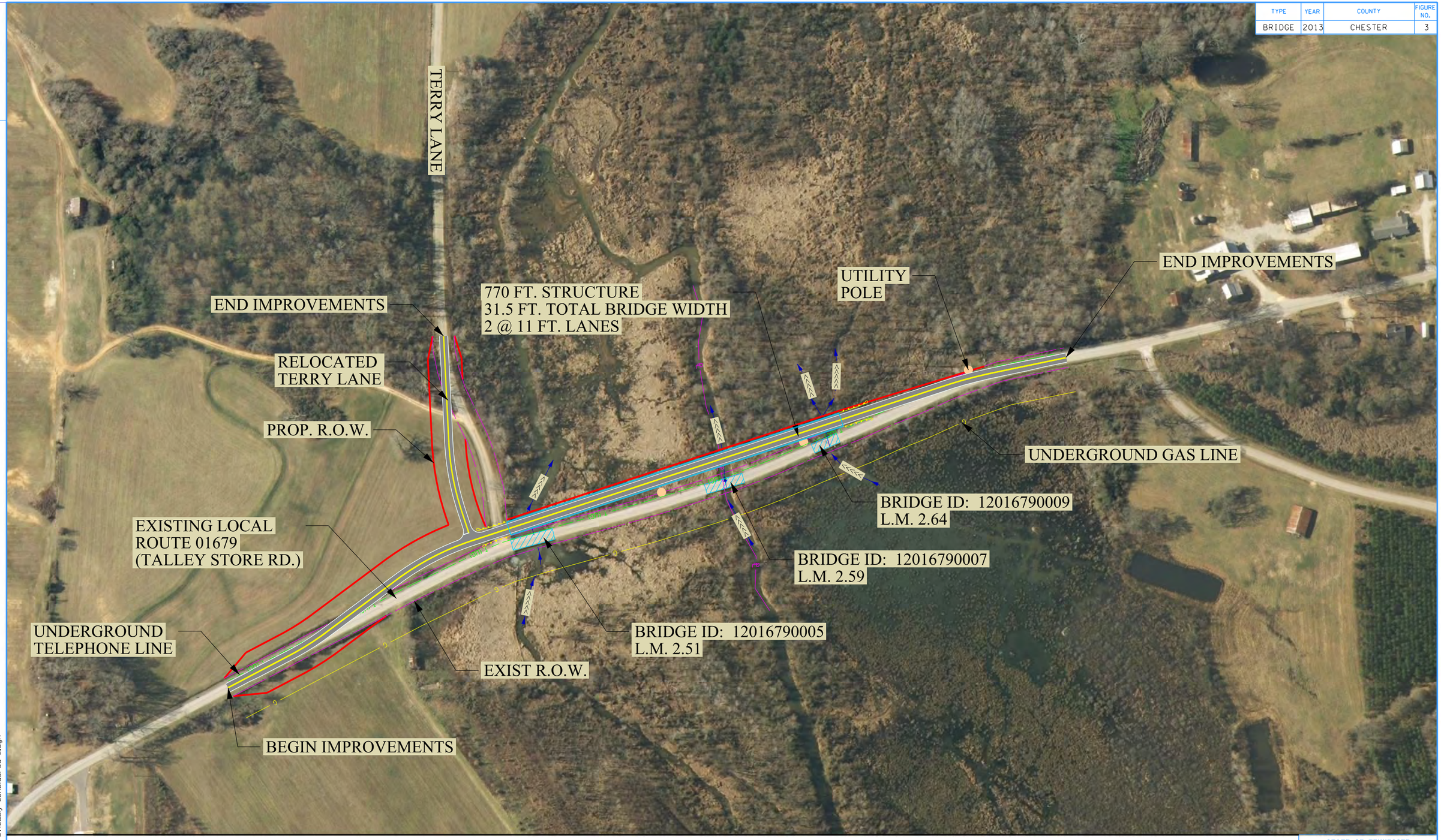
LOOKING AT NORTH APPROACH AWAY FROM THE BRIDGE

PRIVATE PROPERTY SIGN ON WEST SIDE OF ROAD

OPTION PREVIOUSLY CONSIDERED

TENNESSEE D.O.T.
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION
FILE NO.

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2013	CHESTER	3



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TRANSPORTATION INVESTMENT REPORT

LOCAL ROUTE 01679 TALLEY STORE ROAD
BRIDGES AT L.M. 2.51, L.M. 2.59, L.M. 2.64
CHESTER COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

BRIDGE ENTIRE FLOODPLAIN

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OPTION 3: BRIDGE ENTIRE FLOODPLAIN

Route: Local Route 01679 (Talley Store Road)

Description: Special Bridge Replacement Program

County: Chester

Length: 0.249 Miles

Date: June 17, 2013

DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
Right-of-Way	$ 8,000	$ -	$ 34,000	$ 42,000
Clearing and Grubbing	$ -	$ -	$ 2,000	$ 2,000
Earthwork	$ 19,000	$ -	$ 76,000	$ 95,000
Railroad Crossing or Separation	$ -	$ -	$ -	$ -
Drainage	$ -	$ -	$ -	$ -
Utilities	$ 12,000	$ -	$ 48,000	$ 60,000
Structures	$ 744,000	$ -	$ 2,976,000	$ 3,720,000
Pavement Removal	$ 7,000	$ -	$ 26,000	$ 33,000
Paving	$ 74,000	$ -	$ 297,000	$ 371,000
Roadway and Pavement Appurtenances	$ -	$ -	$ -	$ -
Retaining Walls	$ -	$ -	$ -	$ -
Topsoil	$ 2,000	$ -	$ 10,000	$ 12,000
Seeding	$ -	$ -	$ 2,000	$ 2,000
Sodding	$ -	$ -	$ -	$ -
Rip-Rap or Slope Protection	$ -	$ -	$ -	$ -
Fencing	$ -	$ -	$ -	$ -
Signing	$ -	$ -	$ 1,000	$ 1,000
Pavement Markings	$ 1,000	$ -	$ 3,000	$ 4,000
Lighting	$ -	$ -	$ -	$ -
Signalization	$ -	$ -	$ -	$ -
Guardrail	$ 2,000	$ -	$ 9,000	$ 11,000
Pay Item Quantity Adjustment (15%)[1]	$ 131,000	$ -	$ 522,000	$ 653,000
Maintenance of Traffic	$ 12,000	$ -	$ 48,000	$ 60,000
Mobilization (5%)	$ 51,000	$ -	$ 202,000	$ 253,000
CONSTRUCTION COST (rounded)	$ 1,064,000	$ -	$ 4,255,000	$ 5,319,000
Engineering and Contingency (10%)	$ 106,000	$ -	$ 426,000	$ 532,000
TOTAL CONSTRUCTION COST (rounded)	$ 1,170,000	$ -	$ 4,681,000	$ 5,851,000
Preliminary Engineering (10%)	$ 117,000	$ -	$ 468,000	$ 585,000
PROJECT COST [2, 3] (rounded)	**$ 1,287,000**	**$ -**	**$ 5,149,000**	**$ 6,436,000**

[1] *For estimating purposes pay items are adjusted for fluctuation of cost based on quantity.*

[2] *For estimating future project costs, a compounded inflation rate of 10% should be applied from the date of this estimate.*

[3] *Local agency is responsible for a 20% match (80:20 Funding).*

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 3: Bridge Entire Floodplain

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
Right-of-Way							
		Lump Sum	N/A		$ -	$ 42,000	2.33 Acres, 5 Tracts: see separate calculations. $5,000 per tract for incidentals
Clear and Grubbing							
201-01	2.33	Acres	$ 1,000.00		$ 2,332	$ 2,000	Area inside prop. R.O.W.
Earthwork							
203-01	15796	CY	$ 3.56	$ 56,234			Excavation (Cut)
203-03	12279	CY	$ 2.51	$ 30,819			Borrow (Fill)
		+25% Factor		$ 7,705			Fill in the Flodplain Factor (cost = 1.25% of total fill)
		Total			$ 94,758	$ 95,000	
Pavement Removal							
202-03.01	4880	SY	$ 6.81	$ 33,233	$ 33,233	$ 33,000	
Utilities							
		Lump Sum	N/A	$ 60,000	$ 60,000	$ 60,000	See separate calculations
Structures							
	24255	SF	$ 150.00	$ 3,638,250			Estimate for simple bridges
	5466	SF	$ 15.00	$ 81,990			Estimate for bridge removal
		Total			$ 3,720,240	$ 3,720,000	
Paving							
	60995	SF	$ 6.08	$ 370,863			arterial street asphalt paving - see separate calcs
		Total			$ 370,863	$ 371,000	Note: Doubled due to grade change and extra pavement for the lifts.
Maintenance of Traffic							
	1	Each	$ 50,000.00	$ 50,000			Estimate $50,000 for M.O.T. detour
	1	Each	$ 10,000.00	$ 10,000			Estimate $10,000 for all three bridges
					$ 60,000	$ 60,000	
Topsoil							
203-07	1290	CY	$ 9.63		$ 12,419	$ 12,000	
Seeding							
801-01	86480	SF	$ 22.68		$ 2,452	$ 2,000	sq. ft to be seeded/1000 x 1.25 = units. Unit price in units
Signing							
	0.462	Mile	$ 2,000.00	$ 924.24			$1000/mile rural or $2000/mile urban (or $250/sign for
					$ 924	$ 1,000	
Pavement Marking							
716-13.06	1.848	L.M.	$ 2,030.80	$ 3,753.90			Edgelines & Centerlines, Spray Thermo 60 mil (4")

County: Chester
Route: 01679 (Talley Store Road)
Option: Option 3: Bridge Entire Floodplain

Item	Quantity	Unit	2011 Unit Cost	Sub-Total	Total Cost	Rounded Cost	Description/Quantity Calculation
716-02.05	12	LF	$ 10.94	$ 131.28			Stop Lines
					$ 3,885	$ 4,000	
Guardrail							
705-02.02	258	LF	$ 15.66	$ 4,034			Guardrail (End Terminals Not Included in Price)
705-04.04	4	Each	$ 1,823.22	$ 7,293			Guardrail Terminal (Type 21)
		Total			$ 11,327	$ 11,000	
Total:						**$ 4,413,000**	

Route Utility Cost Estimate Calculations

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 3: Bridge Entire Floodplain

Item	Quantity	Unit	Unit Cost	Total Cost	Description/Quantity Calculation
Gas Line - 4"-100 lb Pressure Line		FT	$ 50	$ -	
Gas Line - 6"-30 lb Pressure Line		FT	$ 35	$ -	
Water Line - 12"		FT	$ 66	$ -	
Water Line - 6"		FT	$ 35	$ -	
Sewer Line		FT	$ 22	$ -	
Telephone Line (Underground)	1314	FT	$ 35	$ 46,000	
Street Light		Each	$ 1,765	$ -	
Utility (Power) Pole	4	Each	$ 2,500	$ 10,000	
Cable TV Pole Attachment		Each	$ 1,000	$ -	If no better data, 1 pole every 100 yards

Total: **$ 60,000**

Route R.O.W. Cost Estimate Calculations

Estimated Right-of-Way Costs

Route: 01679 (Talley Store Road)
County: Chester
Option: Option 3: Bridge Entire Floodplain

Average Cost per Acre			**$**	**5,000**
Land Cost				
Estimated Right-of-Way Acquistion (Acres)		2.33		
Estimated R.O.W. Cost	$	12,000		
Estimated Family Displacement Property Cost	$	-		
Unfactored Right-of-Way Land Costs	$	12,000		
Right-of-Way Cost (including contingencies =1.43 x unfactored cost)			$	17,000
Incidentals				
Estimated Right-of-Way Tracts Affected		5		
Incidental Expenses per Tract	$	5,000		
Incidental Expenses			$	25,000
Relocation Payments				
Residence Relocations		0		
Estimated Cost per Relocation	$	22,500		
Relocation Payments			$	-
Total R.O.W. Costs			**$**	**42,000**