

Design and Feasibility Report

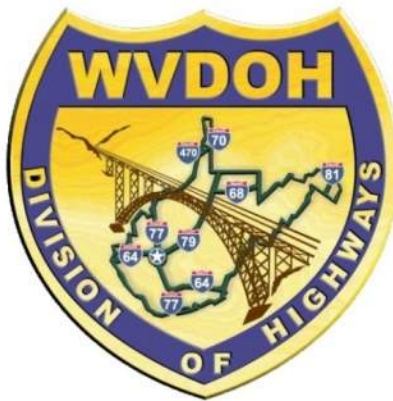
New Cumberland – WV Route 2 Improvements

Madison Street and Chester Street

Intersection and Road Widening

Hancock County

April 2017



Prepared by:

West Virginia Department of Transportation
Division of Highway
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Initial Design Section
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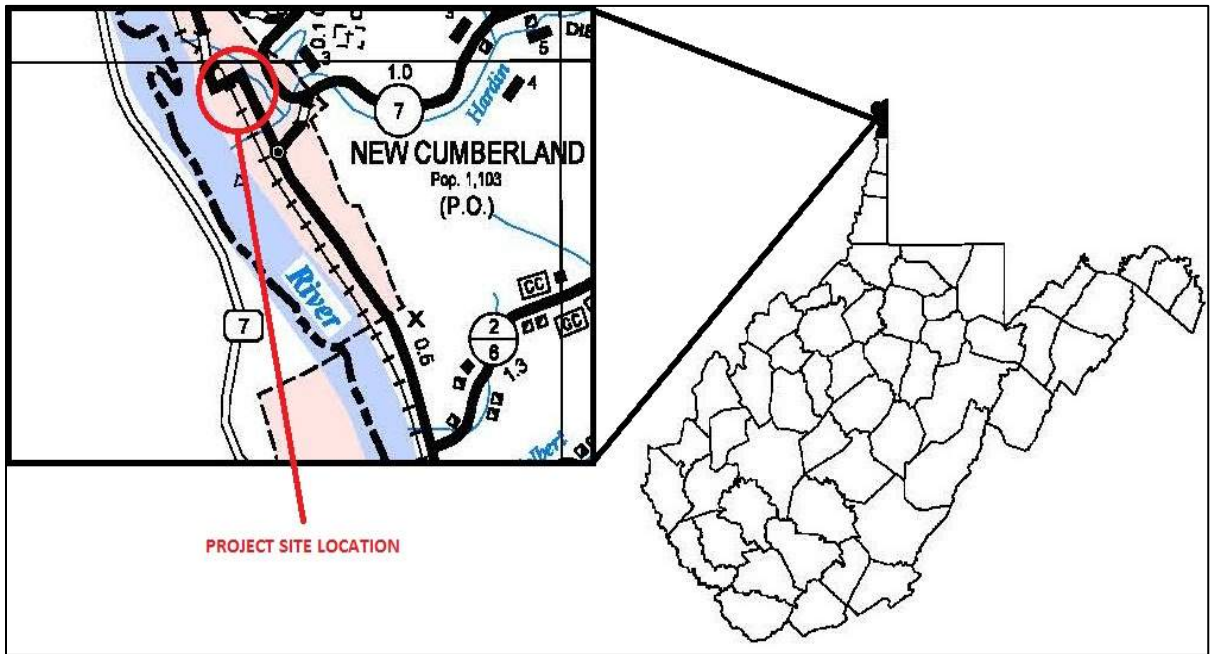
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Executive Summary

- **Alternative No. 1 includes 1,200 feet of roadway construction including widening and intersection improvements. This alternative has a future estimated capital cost of \$3,912,000 in 2019 dollars.**
- **Alternative No. 2 includes 975 feet of roadway construction including widening and a new alignment of Madison Street. This alternative has a future estimated capital cost of \$4,213,000 in 2019 dollars.**
- **Alternative No. 3 includes 1,075 feet of roadway construction including widening and a new alignment of Madison Street. This alternative has a future estimated capital cost of \$4,906,000 in 2019 dollars.**
- **Alternative No. 4 includes 1,925 feet of roadway construction including widening and new roadway construction to bypass the intersection of Madison and Chester Street. This alternative has a future estimated capital cost of \$7,355,000 in 2019 dollars.**
- **Alternative No. 5A includes 6,450 feet of a new alignment for WV 2 traffic. This alternative includes widening and new roadway construction. This alternative has a future estimated capital cost of \$17,609,000 in 2019 dollars.**
- **Alternative No. 6 includes various 4-Lane alternatives that were evaluated in a 2004 design study. These alternatives bypassed the city of New Cumberland and range in cost from \$73 million to \$159 million in 2019 dollars.**

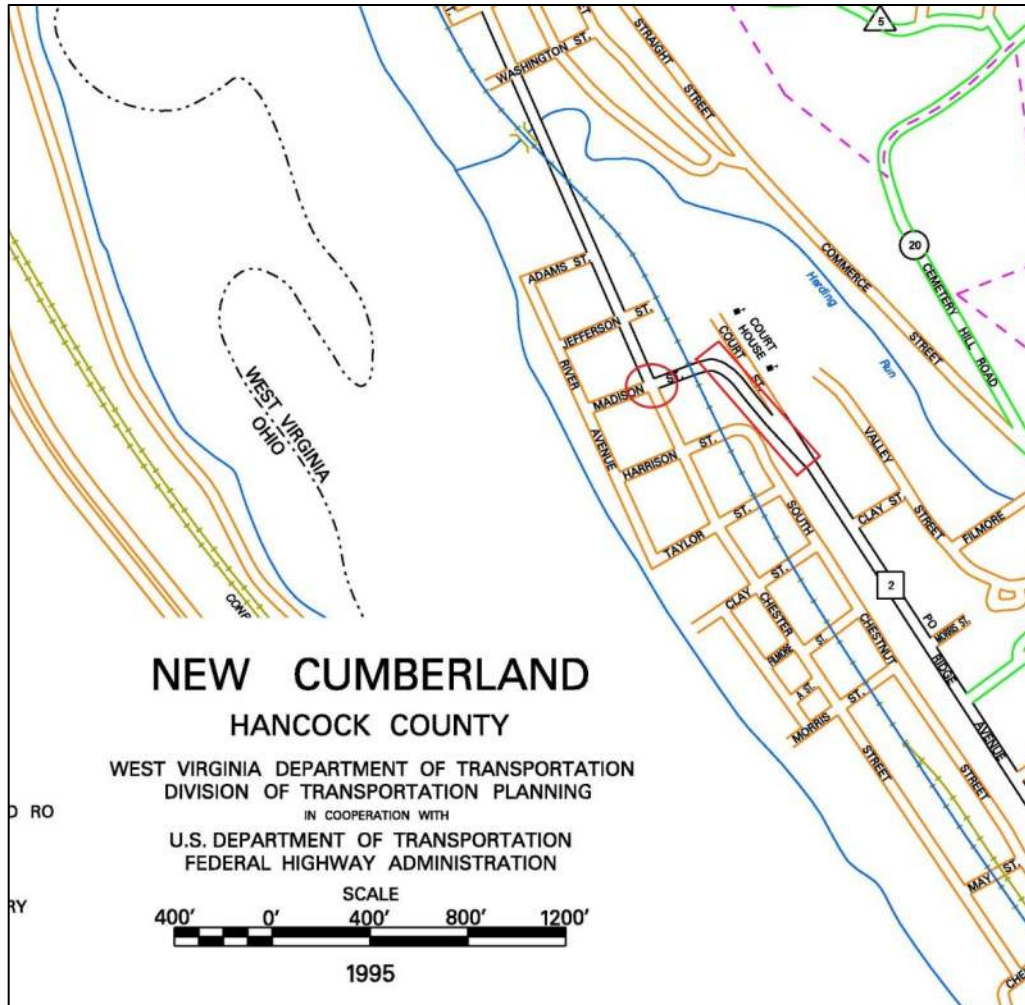
Background and Purpose

The purpose of this study is to evaluate a section of existing West Virginia Route (WV) 2 located in New Cumberland, Hancock County. The existing section of road which is of the most concern extends from Jefferson Street to Court Street following WV 2. This section of WV 2 is approximately 1,200 feet long and is located between mileposts 7.85 and 8.08. Engineers from the West Virginia Division of Highways conducted a site visit of the subject road and met with District Six personnel to determine the problems and scope of the project.



Location Map

Two main concerns were noted along this section of roadway. The first concern is the geometry of the road near milepost 7.91. An intersection between Chester Street and Madison Street creates a 90-degree turn and this reverses to create another 90-degree turn up Ridge Avenue on WV 2. These turns can make it difficult for large trucks to navigate without running onto the sidewalk. The second concern is located along a section of road between mileposts 7.95 and 8.08. This section of road is narrow, measuring 16 feet in some places. A combination of these two areas and the significant amount of large truck traffic that navigates this route causes some concern for pedestrian safety.



City Map with Noted Areas of Concern

The West Virginia Division of Highways’ Initial Design Section has been asked to study and develop preliminary estimates for possible solutions to these areas of concern. The purpose of this study is to evaluate the feasibility and construction costs for mitigating these sections of WV 2.

Scope

The scope of this study was limited to the existing alignment and any parallel route that could better serve WV 2 traffic. Three alternatives were developed that would focus on the existing route and adjacent properties. Another alternative would consider using parts of existing WV 2, but bypassing the curves. Finally, due to local interest in upgrading another route through town, another alternative looked at the possibility of improving South Chester

Street and South Chestnut Street. A study on a four-lane bypass of New Cumberland was completed in 2004. A total bypass of New Cumberland is outside the scope of this report, but the information from the 2004 report has been referenced in this study for a cost comparison.

Depth

The depth of analysis was limited by the timeframe for completing the draft report. A limited study was performed utilizing information that could be collected in a reasonable time period; this includes data collected during the site visit and available in existing databases. For this study, construction estimates were based on aerial topographic mapping of 1 inch = 200 feet scale provided by the Survey and Mapping Section. This level of mapping was more than adequate for the development of this level of study. Enough conventional survey information was collected to gather preliminary right of way and utility information. No detailed survey data was collected for Alternatives No. 6. Turning movements and ESAL information was collected for design considerations in the final report.

Method

The initial site visit was conducted on February 26, 2013, to assess the situation and develop a scope for the project. A cursory review of the existing roadway and surrounding area was made to determine the problem areas. Time was taken to observe traffic at the intersection of Madison and Chester Street. Possible detour routes and alternate truck routes were considered.

After the scope of the project was developed, multiple alignments were evaluated using the available mapping and 2004 design study. For Alternatives No. 1 thru 5 plan sheets were developed, cross section and quantity estimates were developed and the latest item estimates were used to develop a cost. Also, Auto Track was used to simulate the turning radius of an Interstate Semitrailer (WB-67) which typically hauls a 53-foot trailer. This information has been used to develop the minimum necessary roadway width needed for the 90-degree turns on Madison Street. Right of way and Utility estimates were based on conventional survey data. For Alternative No. 5A, a general alignment was laid out and used to estimate quantities. Unlike the October 2014 Study, the alignment for this Alternative was moved away from the river bank due to comments received at a public meeting and construction

concerns due to the river bank and narrow conditions created by a large industrial building. As mentioned, the four-lane bypass alternatives were taken from a 2004 study and costs were updated for inflation.

Results

Existing Conditions

West Virginia State Route (WV) 2 is a north-south highway that extends from Huntington, WV to the northern panhandle of the State in Hancock County. The route generally follows the Ohio River on the western edge of the State. Various sections of the route have been upgraded to four-lanes and other sections are scheduled to be upgraded from two-lanes to four-lanes in the future. While the section of WV 2 that passes through New Cumberland had been considered for a four-lane bypass, this project is not scheduled for completion and presently remains unfunded.

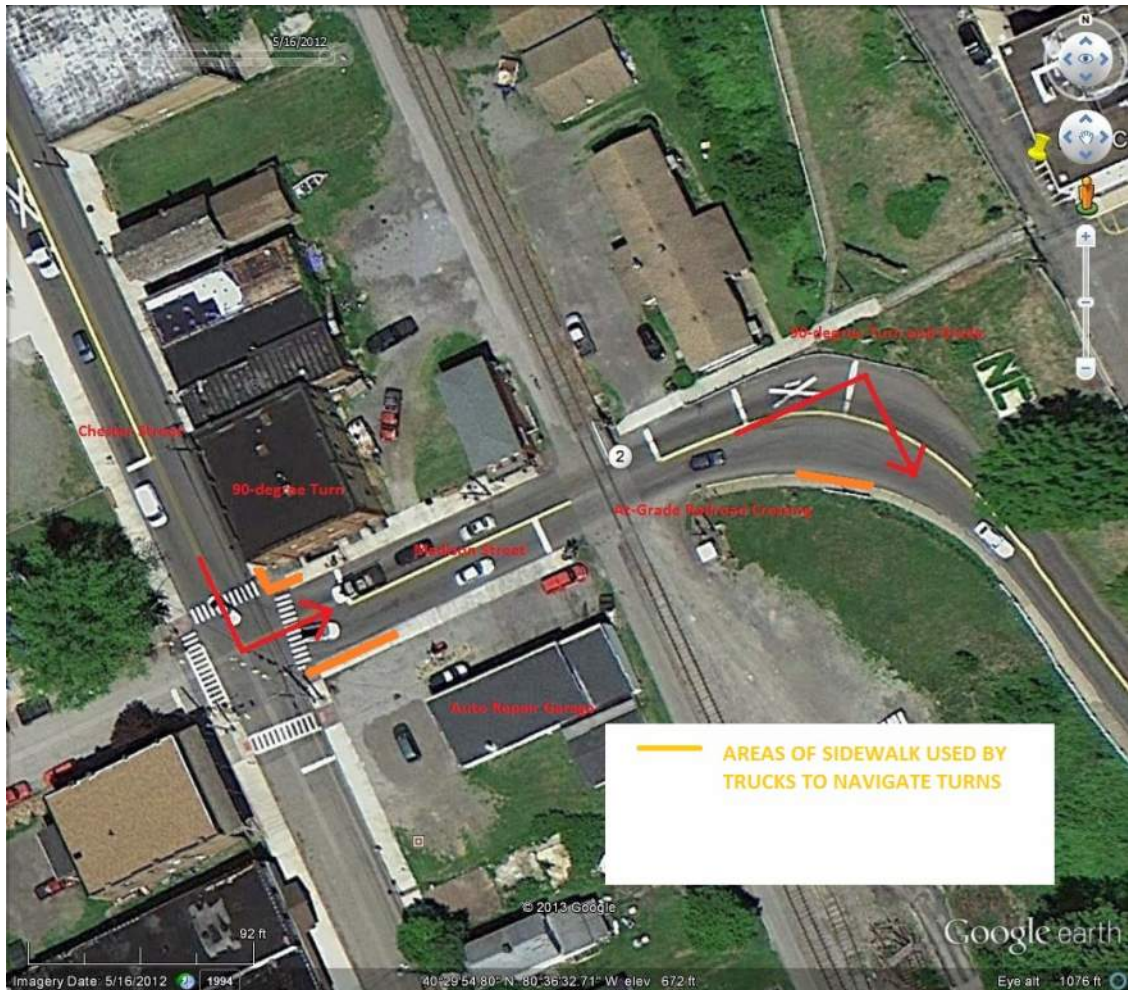
New Cumberland is a small town along the Ohio River in Hancock County. Like most towns along the Ohio River, WV 2 runs through the town and makes up some of the city streets in town. This portion of WV 2 is functionally classified as a Rural Principle Arterial in rolling terrain. The speed limit is posted at 25 mph in the area of concern.

Traffic consists of all types of vehicles including commercial carriers, buses, and mail carriers. Traffic data was provided by the Traffic Analysis Section and indicates that the Average Daily Traffic (ADT) on WV 2 in the vicinity of this intersection is 6,630 vehicles per day (VPD). The 2033 design year ADT would be 7,290 VPD. Based on these traffic count numbers, the amount of truck traffic is 4% of the peak hour traffic. This seems low compared to field observations, but the percentage of truck traffic is relatively lower during the peak hour due to the increase of passenger car and bus traffic. Between 9 AM and 10 AM the truck traffic was 10% of the traffic.

As mentioned, the area of concern is a 1,200 foot long section of WV 2 between Jefferson Street and Court Street in town. Two problem areas were noted in this stretch of road. The first concern¹ is two 90-degree reverse turns. The first turn is created by the intersection of Madison and Chester Street. The second turn is created by a perpendicular railroad crossing and hillside which forces the roadway to turn up a significant grade. The at-grade railroad

¹ See Figure 1

crossing is not gated and in service. A train was observed using the tracks during the site visit.



Due to the number of Interstate Semitrailers (WB-67) that use WV 2, these curves make it difficult for trucks to navigate without driving onto the sidewalks. While visiting the site, many trucks were observed navigating the turn at Madison and Chester Street. Every truck going south from Chester to Madison Street climbed the sidewalk on the south side of Madison Street near the automobile repair garage. It appears this garage has closed based on subsequent visits to the site in 2016.



Truck navigating the intersection of Chester and Madison Street

Trucks heading north from Madison to Chester Street did not have as much problem navigating the turn due to the stop bar for southbound traffic being set so far back from the intersection. However, there was evidence that trucks have climbed the sidewalk on the north corner of Madison and Chester Street right in front of a building entrance. The evidence includes tire tracks and missing delineator posts. These areas could be hazardous to any pedestrians using the designated crosswalks or sidewalks.



Truck tire marks on the north corner sidewalk of Madison and Chester Street

The second overall area of concern is the section of WV 2 from these turns south to the intersection of Court Street², which is called Ridge Avenue. This is a straight section of roadway with a significant grade. The road is bordered by a stone retaining wall to the east and a sidewalk and wooden fence to the west. The main concern on this portion of road is the width of the traveled way which is only 16 feet. When two trucks pass on this narrow road the south bound truck will ride the sidewalk to allow room for the northbound truck which has to cross the centerline. Again, this could be hazardous to pedestrians and is damaging the sidewalk.

The City of New Cumberland has hired a consultant to study the relocation of this sidewalk to improve safety and meet ADA guidelines. A schematic plan for this new sidewalk can be seen in Appendix C. For the purposes of this report, it was assumed that this project would be completed by the city and no sidewalk would be needed along WV 2 leading up to Court Street. Based on subsequent site visits, this project has not been started.

Existing Right of Way and Utilities

Based on information found on available tax maps existing WV 2 has varying right of way widths. Chester Street, north of Madison Street, has 55 feet of right of way. Madison Street, east of Chester Street, has 50 feet of right of way. Ridge Avenue narrows down to a 30 foot right of way. Any other areas outside of existing WV 2, such as Alternatives No. 4, 5A, and 6 do not have existing right of way.

Utilities vary along the project. Available survey data shows electric, gas, water, sewer, and storm water lines running underground at various points. Also electric, telephone, and television cable lines span over the project area supported by poles. Light poles are also located in the footprint of the project. An ungated at-grade railroad crossing is located on this portion of road.

Design Considerations

The design guidelines used for this study are based on WV 2 being classified as a Rural Principal Arterial located in rolling terrain. While this road is classified as a rural route it is more like an urban route when considering the city streets and terrain. As mentioned, the

² See Figure 1A

latest traffic information shows a 2033 ADT of 7,290 VPD. The following table provides a summary of the design criteria used for this study based on AASHTO’s “Geometric Design of Highways and Streets 2004” and the West Virginia Division of Highway’s Design Directives.:

<i>Design Criteria Description</i>	Design Criteria
<i>Terrain Type</i>	Rolling
<i>Roadway Classification</i>	Rural Principal Arterial
<i>Design Speed</i>	25 mph (AASHTO)
<i>Minimum K for Crest Curve</i>	12 (AASHTO)
<i>Minimum K for Sag Curve</i>	26 (AASHTO)
<i>Minimum Lane Width</i>	12 feet (DD-601)
<i>Minimum Shoulder Width (each side)</i>	8 feet (DD-601)
<i>Minimum Radii for Design Speed (e=0.08)</i>	134 feet (DD-603 Ex. 3-27)
<i>Maximum Grade</i>	9% (AASHTO Ex. 7-10)

As mentioned, evidence of safety concerns was present in the scope of the project. Crash data for the last three years, April 2010 to April 2013, was gathered in the project area. Based on the most recent data, there have been 11 crashes reported on WV 2 between mile post 7.85 and 8.08.

Based on AASHTO guidelines, an edge-of-traveled-way design for a WB-67 Interstate Semitrailer navigating a 90-degree turn would need a 125-foot radius offset by 4.5 feet and 135 feet of taper. Due to the conditions it would be difficult to meet this design radius without significant right of way impacts. As mentioned, Auto Track has been used to simulate the situation and minimize the edge-of-traveled-way design.

Public Right of Way Accessibility Guidelines (PROWAG)

Based on the proposed alternatives, it has been assumed that any proposed construction or reconstruction would ensure that access for persons with disabilities is provided to the same degree of convenience, connection, and safety afforded the general public. It has been assumed that any necessary curb ramps would be constructed on the new sidewalk to meet the desired criteria and added into the cost estimates.

Geotechnical Overview

A geotechnical engineer did not visit the site, but performed a limited record search for existing geotechnical information. Based on WVGES mapping, New Cumberland is built in a flood plain consisting of Cenozoic alluvial deposits of sand, gravel, silt and clay. The road embankment is likely to be built out of fill consisting of this material. Mining has occurred north of the site, but is not located within city limits and should not be a concern.

For the suggested retaining wall structures, we recommend core borings be drilled a minimum of 10 foot into rock at 100 foot spacing intervals.

Based on this preliminary geotechnical review, we did not see any geotechnical problems that would negatively impact the proposed alternatives; however, we would like to include the possible option of an MSE wall rather than a piling wall because historically MSE walls have been more economical in a fill situation.

Environmental Overview

It has not yet been determined what type of environmental document will be used for Environmental Section clearance of the National Environmental Policy Act (NEPA) and related requirements.

The following checklist represents the potential environmental concerns known at the time of completion of this design study report. As more information is obtained potential impacts or concerns may change.

Environmental Concerns	YES	NO	MAYBE
Historic Resource Concerns	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Archaeology Concerns	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetland Concerns	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Residential/Business Concerns	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mussel Survey Necessary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Endangered Species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public Involvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 4 (f) Issues	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FHWA Approval of CE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Historic Resource Concerns & Section 4 (f) issues: Historic buildings near and possibly within the project area.

Public Involvement: Public meeting is necessary.³

Alternatives

Alternative No. 1⁴

This alternative would improve the existing 90-degree turns by widening on the existing alignment. Based on the Auto Track simulation, Chester Street at Station 0+75 would taper out to make a wider intersection at Madison Street. This would create a 52 feet wide entrance onto Chester Street from Madison Street. However, this would also create an offset intersection for vehicles traveling south on Chester Street past the Madison intersection. This should not be difficult for vehicles to navigate with adequate warning. Between Stations 3+00 and 5+00 the traveled way would be widened to the right side creating a 37 foot wide traveled way between the two 90-degree turns. The existing sidewalk on the right side of the road would have to be removed and a new sidewalk constructed. This would require taking part of the lot in front of the auto garage bay doors. It is assumed that this proposed sidewalk would tie-in with the city's proposed Station Hill Sidewalk. By widening this section of road the edge of the northbound lane would be shifted approximately 8 feet from the existing curb on the northern side of the road. This would allow northbound trucks room for a greater turning radius to avoid running on the sidewalk on the northeast corner of the Chester Street intersection. Around Station 5+00 the next 90-degree curve leading up to Court Street would be widened and the existing sidewalk removed. The majority of the widening would be on the inside of the turn and would add up to 12 feet in additional width to help trucks navigate this curve without crossing over the centerline.

³ A public meeting informational workshop was held on May 29, 2014; see Appendix E for information.

⁴ See Figures 3, 3A and 3B

To the south of this curve, approximately 600 feet of widening would be needed between Stations 6+00 and 12+00. Preliminary information suggests that the stone wall on the eastern side of the existing roadway may be historic. To avoid impacting this wall widening of this portion of road would be on the western side, which is the same side as the existing sidewalk. To avoid significant earthwork and chasing the slope of the hill it has been assumed that a 600 foot long piling wall would be constructed along the western side of the road to support the road widening. As mentioned earlier, no sidewalk would be replaced on this portion of road due to sidewalk plans of the city.

As mentioned, the proposed typical section would consist of a minimum of two (2) 12-foot lanes and 2-foot curb and gutter. The length of construction would be 1,200 feet and it has been assumed that the grade of Ridge Avenue would remain unchanged.

Maintenance of traffic during construction should not be a problem at the intersections; however, maintaining two-lanes of traffic on Ridge Avenue would be impossible due to the narrow width of the existing roadway. This roadway would allow only one lane of traffic to use Ridge Avenue at a time. Therefore, northbound and southbound traffic would have to alternate use of Ridge Avenue during construction, which would cause significant congestion. Another option during construction would be to enter into an agreement with the city and sign a detour route along Chester Street and Industrial Road. This route could be used for southbound traffic only and let north bound traffic use Ridge Avenue or all traffic could be detoured onto this route.

Maintaining pedestrian traffic during construction would be difficult. Presently, pedestrians have access to a sidewalk along Ridge Avenue. Although it is steep in areas, persons with disabilities could also use this sidewalk. Once the sidewalk is removed for construction, pedestrians would have limited access to get from the downtown area up to Court Street where the court house and school are located. The only other access point is a steep set of stairs near the turn up Ridge Avenue at Station 5+50. These steps would not allow access for some persons with disabilities. It should be noted that if north and south bound traffic is detoured then it would be possible to keep part of Ridge Avenue open to pedestrian traffic while it is being widened. The other possible option would be to provide adequate bus service to access Court Street.

After construction is complete traffic would be maintained in the same method as currently used. A traffic light at the corner of Madison and Chester Street would still be required to allow alternating use of the intersection. Ideally, it would improve the

intersection if WV 2 traffic was not stopped by a traffic light. Based on the present layout, northbound trucks could still not make a turn at this intersection without crossing in front of oncoming southbound traffic.

Pedestrian access would be limited after construction is complete, due to the removal of the sidewalk along Ridge Avenue. The City would need to complete its sidewalk relocation to allow access for pedestrians.

Based on the proposed improvements and the need for some additional right of way and temporary construction easements, this alternative would impact approximately 9 parcels of land and city property. The impacts are minor and would not directly impact any buildings.

Multiple utilities would be impacted; some are within existing right of way and some are not. Approximately 14 light poles would be directly impacted by the roadway widening. With some of these light poles there would need to be 560 feet of underground electric lines moved from within our existing right of way. Three signal poles supporting the traffic signals at the intersection of Madison and Chester Street would have to be moved. Four utility poles, two of which appear to be outside the existing right of way, would have to be relocated along with the supported lines. Approximately 380 feet of storm drain is located under Madison Street and water and gas lines cross the street near the railroad tracks. While the railroad tracks are not gated, one of the railroad crossing signal poles would have to be moved due to the widening.

The estimated construction cost of Alternative No. 1 is:

Roadway	\$ 1,833,600.00
Engineering & Contingency	\$ 238,400.00
Construction Total	\$ 2,072,000.00
Future Value ⁵	\$ 2,282,000.00
NEPA Services	\$ 600,000.00
Preliminary Engineering	\$ 300,000.00
Right of Way	\$ 205,000.00
Utilities	\$ 525,000.00
Total	\$ 3,912,000.00

⁵ Note: Future value of construction cost using compound interest { $FV = PV(1+i)^n$ } has been calculated from the estimate date of December 2016 to construction period midpoint of May 2019, using inflation rate of 4%.

Alternative No. 2⁶

This alternative would improve the existing 90-degree turns by shifting the portion of the road between them approximately 70 feet south of the existing alignment. This would also allow the radius of the intersection of Madison and Chester Street to be improved without impacting the 2 story brick building north of the intersection. This would allow northbound trucks room for a greater turning radius to avoid running on the sidewalk on the northeast corner of the Chester Street intersection. Based on Auto Track a 55 foot wide traveled way in the center of this new curve would be needed. New sidewalk would be constructed on each side of the new road. It is assumed that this proposed sidewalk would tie-in with the cities proposed Station Hill Sidewalk. The alignment of the new road would maintain a perpendicular crossing at the railroad tracks. Around Station 25+00 the next 90-degree curve leading up to Court Street would be widened out to 52 feet to help trucks navigate this curve without crossing over the centerline.

By moving the new road alignment Ridge Hill would be shortened. To avoid impacting the historic wall widening of this portion of road would be on the western side, which is the same side as the existing sidewalk. To avoid significant earthwork and chasing the slope of the hill it has been assumed that a 450 foot long piling wall would be constructed along the western side of the road to support the road widening. As mentioned earlier, no sidewalk would be replaced on this portion of road due to sidewalk plans of the city.

As mentioned, the proposed typical section would consist of a minimum of two (2) 12-foot lanes and 2-foot curb and gutter. The length of construction would be 975 feet and it has been assumed that the grade of Ridge Avenue would remain unchanged.

Maintenance of traffic during construction should be similar to the method described in Alternative No. 1. Maintaining two-lanes of traffic on Ridge Avenue would be impossible due to the narrow width of the existing roadway. This would cause significant congestion during construction. Traffic would either alternate the use of Ridge Avenue or a detour route along Chester Street and Industrial Road would be needed.

Maintenance of pedestrian traffic would be difficult during construction. Presently, pedestrians have access to a sidewalk along Ridge Avenue. Although it is steep in areas, persons with disabilities could also use this sidewalk. Once the sidewalk is removed for

⁶ See Figures 4, 4A, and 4B

construction, pedestrians would have limited access to get from the downtown area up to Court Street where the court house and school are located. The only other access point is the stairs mentioned in Alternative No. 1. This would not allow access for some persons with disabilities. It should be noted that if north and south bound traffic is detoured then it would be possible to keep part of Ridge Avenue open to pedestrian traffic while it is being widened. The other possible option would be to provide adequate bus service to access Court Street.

After construction is complete traffic could be improved by allowing WV 2 vehicles to not be impeded by a stop light. The traffic signal could be removed and South Chester along with West Madison Street could be controlled by stop signs. A pedestrian crossing would still be needed that would stop WV 2 traffic for pedestrians to cross the street.

Pedestrian access would be limited after construction is complete, due to the removal of the sidewalk along Ridge Avenue. The City would need to complete its sidewalk relocation to allow access for pedestrians.

Based on the proposed improvements and the need for some additional right of way and temporary construction easements, this alternative would impact approximately 10 parcels of land and city property. These more severe impacts would include direct impacts to a business and two-story house.

Multiple utilities would be impacted; some are within existing right of way and some are not. Approximately 9 light poles would be directly impacted by the realignment of the roadway and widening. With some of these light poles there would need to be 560 feet of underground electric lines moved from within our existing right of way. Three signal poles supporting the traffic signals at the intersection of Madison and Chester Street would have to be removed. Five utility poles, two of which appear to be outside the existing right of way, would have to be relocated along with the supported lines. Approximately 380 feet of storm drain is located under Madison Street and would need to be moved or connected to the new roadway. Water, sewer and gas lines would be impacted by the new roadway alignment. A gas main would also be impacted by the new alignment. While the railroad tracks are not gated, the railroad crossing would have to be moved due to the new alignment.

The estimated construction cost of Alternative No. 2 is:

Roadway	\$ 1,826,100.00
Engineering & Contingency	<u>\$ 237,400.00</u>
Construction Total	\$ 2,063,500.00
Future Value ⁵	\$ 2,273,000.00
NEPA Services	\$ 600,000.00
Preliminary Engineering	\$ 300,000.00
Right of Way	\$ 515,000.00
Utilities	<u>\$ 525,000.00</u>
Total	\$ 4,213,000.00

Alternative No. 3⁷

This alternative, like Alternative No. 1, would improve the existing 90-degree turns by widening the existing roadway and turns. Instead of creating a skewed intersection and widening to the south, this alternative would improve the inside radius at the intersection of Madison and Chester Street. This would allow the radius of the intersection of Madison and Chester Street to be improved, but would severely impact the 2 story brick building north of the intersection. This would allow northbound trucks room for a greater turning radius to avoid running on the sidewalk on the northeast corner of the Chester Street intersection. New sidewalk would be constructed on each side of the new road. It is assumed that this proposed sidewalk would tie-in with the city's proposed Station Hill Sidewalk. The alignment of the new road would maintain a perpendicular crossing at the railroad tracks. Around Station 35+00 the next 90-degree curve leading up to Court Street would be widened out to 52 feet to help trucks navigate this curve without crossing over the centerline.

To the south of this curve, approximately 600 feet of widening would be needed between Stations 36+00 and 42+00. Preliminary information suggests that the stone wall on the eastern side of the existing roadway may be historic. Widening of this portion of road would be on the western side to avoid impacting this wall. To avoid significant earthwork and chasing the slope of the hill it has been assumed that a 600 foot long piling wall would be constructed along the western side of the road to support the road widening. As mentioned earlier, no sidewalk would be replaced on this portion of road due to sidewalk plans of the city.

⁷ See Figures 5, 5A and 5B

As mentioned, the proposed typical section would consist of a minimum of two (2) 12-foot lanes and 2-foot curb and gutter. The length of construction would be 1,075 feet and it has been assumed that the grade of Ridge Avenue would remain unchanged.

Maintenance of traffic during construction should be similar to the method described in Alternative No. 1. Maintaining two-lanes of traffic on Ridge Avenue would be impossible due to the narrow width of the existing roadway. This would cause significant congestion during construction. Traffic would either alternate the use of Ridge Avenue or a detour route along Chester Street and Industrial Road would be needed.

Maintenance of pedestrian traffic would be difficult during construction. Presently, pedestrians have access to a sidewalk along Ridge Avenue. Although it is steep in areas, persons with disabilities could also use this sidewalk. Once the sidewalk is removed for construction, pedestrians would have limited access to get from the downtown area up to Court Street where the court house and school are located. The only other access point is a steep set of stairs near at the turn up Ridge Avenue. This would not allow access for persons with disabilities. It should be noted that if north and south bound traffic is detoured then it would be possible to keep part of Ridge Avenue open to pedestrian traffic while it is being widened. The other possible option would be to provide adequate bus service to access Court Street.

After construction is complete traffic could be improved by allowing WV 2 vehicles to not be impeded by a stop light. The traffic signal could be removed and South Chester along with West Madison Street could be controlled by stop signs. A pedestrian crossing would still be needed that would stop WV 2 traffic for pedestrians to cross the street.

Pedestrian access would be limited after construction is complete, due to the removal of the sidewalk along Ridge Avenue. The City would need to complete its sidewalk relocation to allow access for pedestrians.

Based on the proposed improvements and the need for some additional right of way and temporary construction easements, this alternative would impact approximately 11 parcels of land and city property. These more severe impacts would include direct impacts to a historic building/business and two-story house.

Multiple utilities would be impacted; some are within existing right of way and some are not. Approximately 12 light poles would be directly impacted by the roadway widening. With some of these light poles there would need to be 560 feet of underground electric lines moved from within our existing right of way. Three signal poles supporting the traffic signals

at the intersection of Madison and Chester Street would be removed. Three utility poles, within our right of way, would have to be relocated along with the supported lines. Approximately 380 feet of storm drain is located under Madison Street and water and gas lines cross the street near the railroad tracks. While the railroad tracks are not gated, one of the railroad crossing signal poles would have to be moved due to the widening.

The estimated construction cost of Alternative No. 3 is:

Roadway	\$ 1,784,300.00
Engineering & Contingency	<u>\$ 232,000.00</u>
Construction Total	\$ 2,016,300.00
Future Value ⁵	\$ 2,221,000.00
NEPA Services	\$ 600,000.00
Preliminary Engineering	\$ 300,000.00
Right of Way	\$ 1,060,000.00
Utilities	<u>\$ 725,000.00</u>
Total	\$ 4,906,000.00

Alternative No. 4⁸

This alternative would improve the existing 90-degree turns by creating a bypass of this portion of the road. This new portion of road would begin at mile point 8.13, the south end of an existing WV 2 bridge. The new road would track southeast and run parallel to the railroad tracks for approximately 1,200 feet. To avoid impacting buildings northeast of the new portion of road due to the cut slope, a piling wall would be needed between Stations 51+00 and 53+75. This new roadway would intersect the existing Ridge Avenue at a tangent. A T-intersection would be created with the intersection of Madison Street.

From this point, existing Ridge Avenue would be widened to avoid impacting the historic wall as described in the previous alternatives. To avoid significant earthwork and chasing the slope of the hill it has been assumed that a 550 foot long piling wall would be constructed along the western side of the road to support the road widening. As mentioned earlier, no sidewalk would be replaced on this portion of road due to sidewalk plans of the city.

⁸ See Figures 6, 6A, 6B, 6C, and 6D



Alternative No. 4 - Proposed bypass of problem turns

Two different typical sections would be used for this alternative. The new portion of bypass road that would be constructed between Stations 41+50 and 54+00 would have a different typical. For estimation purposes, two (2) 12-foot lanes and 4-foot shoulders were used on this section of new road. The proposed typical section would consist of a minimum of two (2) 12-foot lanes and 2-foot curb and gutter for Ridge Avenue. The length of construction would be 1,925 feet and it has been assumed that the grade of Ridge Avenue would remain unchanged.

Maintenance of traffic during construction should not be a problem. The bypass section between Stations 41+50 and 54+00 could be constructed while traffic is maintained on the existing portion of road. Again, maintaining two-lanes of traffic on Ridge Avenue would be impossible due to the narrow width of the existing roadway. This will allow only one lane of traffic to use Ridge Avenue at a time. Therefore, northbound and southbound traffic would have to alternate use of Ridge Avenue during construction, which would cause significant congestion. Another option during construction would be to enter into an agreement with the city and sign a detour route along Chester Street and Industrial Road.

Maintenance of pedestrian traffic would be difficult during construction. Presently, pedestrians have access to a sidewalk along Ridge Avenue. As mentioned in the previous alternatives, once it is removed the pedestrians would have limited access. It should be noted that if north and south bound traffic is detoured then it would be possible to keep part of Ridge Avenue open to pedestrian traffic while it is being widened. The other possible option would be to provide adequate bus service to access Court Street.

After construction is complete traffic would WV 2 traffic would no longer need to navigate the intersection of Madison and Chester Street. Madison Street would create a T-intersection with the new WV 2 alignment. It is assumed that this T-intersection would be controlled by a stop condition for Madison Street Traffic.

Pedestrian access would be limited after construction is complete, due to the removal of the sidewalk along Ridge Avenue. The City would need to complete its sidewalk relocation to allow access for pedestrians.

Based on the proposed improvements and the need for some additional right of way and temporary construction easements, this alternative would impact approximately 14 parcels of land and city property. These more severe impacts would include direct impacts to nine buildings which includes at least one business.

Multiple utilities would be impacted; some are within existing right of way and some are not. Due to time constraints and the scope of work, there was no utility information collected by the survey crew for the new bypass section from Ridge Avenue to the new intersection with WV 2. The utility costs are based on visual observations of the proposed alignment. This was used to calculate the utilities for Alternative No. 4 along with some additional known costs. It should be noted that this alternative impacts a pump station located between the railroad tracks and the Hardin Run.

The estimated construction cost of Alternative No. 4 is:

Roadway	\$ 3,173,500.00
Engineering & Contingency	\$ 412,500.00
Construction Total	\$ 3,586,000.00
Future Value ⁵	\$ 3,950,000.00
NEPA Services	\$ 600,000.00
Preliminary Engineering	\$ 500,000.00
Right of Way	\$ 1,480,000.00
Utilities	\$ 825,000.00
Total	\$ 7,355,000.00

Alternative No. 5A⁹

Based on environmental concerns and information received from the community leaders of New Cumberland, Alternative No. 5 in the “New Cumberland-WV Route 2 Madison Street and Chester Street Intersection and Road Widening Design and Feasibility Report” dated October 2014 has been reconsidered for this report. A more detailed survey of this alignment has been acquired and used to develop an alternate route for WV 2 traffic traveling through New Cumberland. This alternative would be more than an intersection improvement, which has been the main focus of this project. This alternative would create a permanent, separate route from the existing WV 2 route for traffic. Therefore, this would be considered a higher type facility and would be designed as such. The alignment of this alternative needed to be changed some for this study and wider typical sections have been used for this newly designated Alternative No. 5A.

The total length of this proposed route would be approximately 6,450 feet. This proposed route is composed of city streets and private property and would have to be added to the State route system. A lot of this route would be new construction even though it generally follows existing streets. The proposed roadway would begin at the existing intersection of WV 2 and South Chestnut Street south of New Cumberland. The new roadway would follow the general alignment of South Chestnut Street north approximately 3,000 feet and then run west across the existing Norfolk Southern Railroad tracks. A new at-grade crossing would need installed on these tracks and the cost has been accounted for in the utility estimate. It should also be noted that the Railroad Company would require the removal of one crossing, at a

⁹ See Figures 7A thru 7J

minimum, for this new crossing. The proposed roadway would then turn north again and follow existing Chester Street up to the intersection of Madison and Chester Street.

For estimation purposes, two different typical sections were used for this alternative. From Station 502+00 to 537+50, it was assumed that full depth construction of two (2) 12-foot lanes and 8-foot paved shoulders would be needed to safely accommodate the volume of traffic that currently uses WV 2. Station 537+50 is located at an intersection with Pottery Road (Industrial Road) and Cronin Street. North of this intersection, the proposed roadway follows an existing city street with more urban features. The typical would consist of two (2) 12-foot lanes, 5-foot paved shoulders and 2-foot curb and gutter along with 5-foot sidewalks on each side of the road. For estimation purposes, it was assumed that full depth construction of this road would be needed up to Station 554+00. From this Station to the end of the project the same typical was assumed but full depth construction would not be needed. Twenty four (24) feet of the existing road would be milled and overlaid with full depth construction of the shoulders and the addition of curb, gutter, and sidewalks. For estimation purposes, intersections and curb cuts were only included on existing city streets that intersected the proposed roadway. Additional access points would likely be needed for various private driveways and garages, these would have to be determined for final design.

Maintenance of traffic should not be a problem with this alternative. Existing WV 2 traffic would use the current route during construction of the proposed route. Local traffic in the vicinity of the proposed route would have various options for avoiding construction areas due to the layout of local streets; however, access to homes and businesses along the proposed route would have to be maintained.

Based on the proposed alignment and the need for some additional right of way, this alternative would impact approximately 85 parcels of land, city property, and require a new railroad crossing. For estimation purposes it was assumed this would include direct impacts to approximately twelve buildings and two baseball fields.

Multiple utilities would be impacted and all of them would be outside the existing right of way. A survey was performed to determine utilities for this alternative; however, a section of the roadway was moved from what was originally surveyed and impacted utilities had to be estimated for approximately 1,600 feet of the roadway based on visual observations. This was used to calculate the utility cost for Alternative No. 5A along with some additional known costs, including a sewage treatment plant.

The estimated construction cost of Alternative No. 5A is:

Roadway	\$ 6,975,700.00
Engineering & Contingency	\$ 906,900.00
Construction Total	\$ 7,882,600.00
Future Value ⁵	\$ 8,682,000.00
NEPA Services	\$ 600,000.00
Preliminary Engineering	\$ 900,000.00
Right of Way	\$ 5,074,000.00
Utilities	\$ 2,353,000.00
Total	\$ 17,609,000.00

Alternative No. 6¹⁰

In 2004 a Design Study was completed that studied various WV 2 bypasses around New Cumberland. This Consultant study looked at five four-lane alternatives that bypassed New Cumberland to the east. Another alternative went through New Cumberland generally following between existing WV 2 and the railroad tracks.

The following is a summary of the 2004 estimated capital cost for each alternative and an updated future value cost using a compounded inflation rate of 4%.

4-Lane Alternatives	Project Length (mi)	2004 Capital Cost Estimate	2019 Capital Cost Estimate
Alternative A	3.15	\$ 64,268,000	\$ 107,648,286
Alternative B	3.50	\$ 73,688,000	\$ 123,426,696
Alternative C	3.58	\$ 77,534,000	\$ 129,868,710
Alternative D	4.39	\$ 95,016,000	\$ 159,150,893
Alternative E	4.16	\$ 75,319,000	\$ 126,158,606
Alternative F	2.89	\$ 43,593,000	\$ 73,017,859

No-Build Alternative

The final alternative is to maintain the status quo and make no significant improvements. While evidence of trucks running onto the sidewalk were noted on both sides of the intersections there were northbound trucks observed navigating the intersection of Chester and Madison Street without climbing the sidewalk. However, all southbound trucks did drive onto the sidewalk on the southern side of Madison Street. While, this could be a safety

¹⁰ See Figure 8

concern for pedestrians, no determination of the number of pedestrians that typically use these sidewalks could be made.

Conclusions

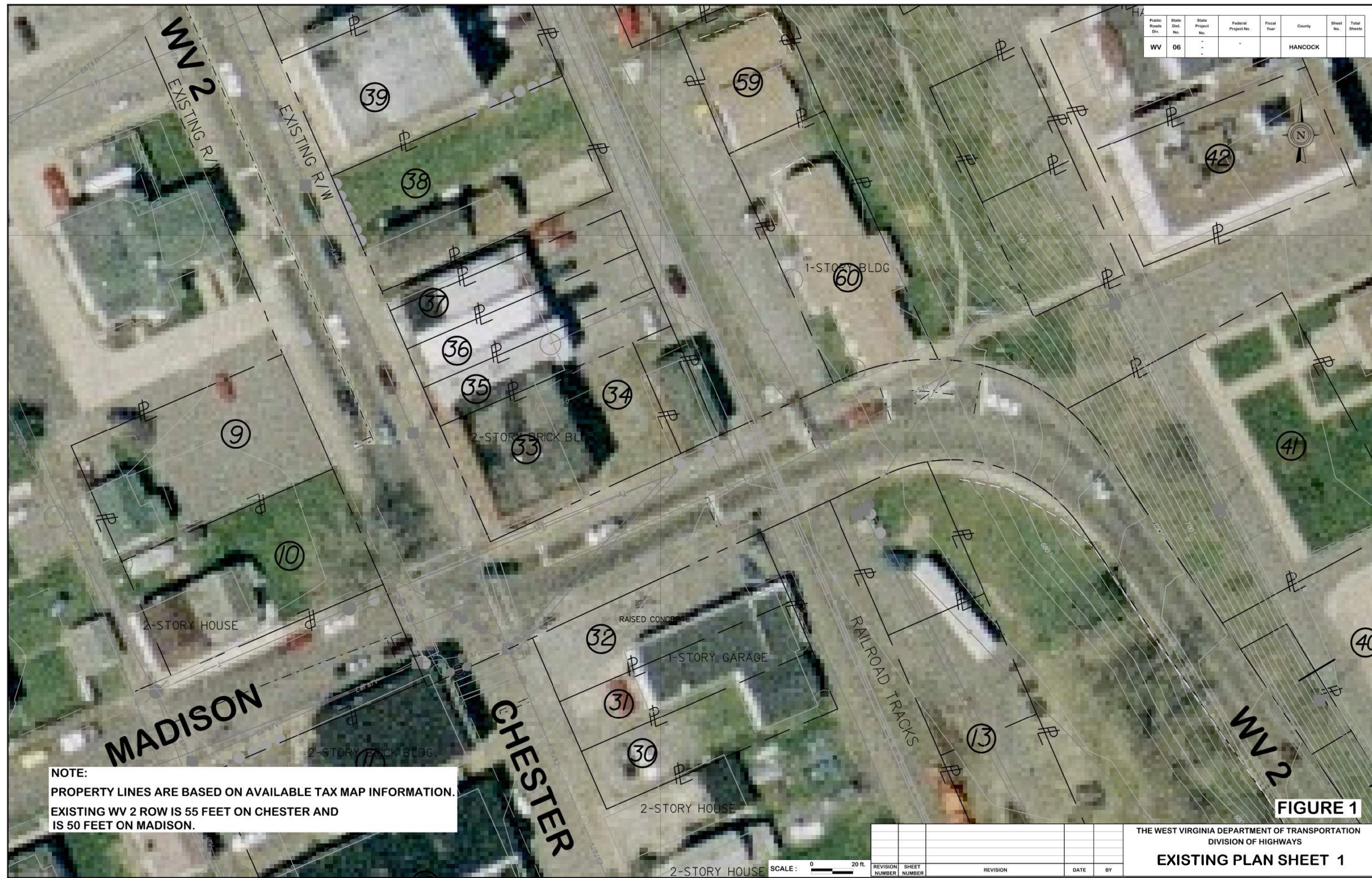
From an engineering perspective, any of these alternatives are feasible and would serve to improve the situation for large trucks and pedestrians in the area. The estimated construction cost varies with the level of improvement. The following table is a summary of the alternatives:

Alternative No.	1	2	3	4	5A	6
Length(feet)	1,200	975	1,075	1,925	6,450	
Impacts	Minor	Medium	Medium	Severe	Severe	
NEPA Svcs(x1,000)	\$ 600	\$ 600	\$ 600	\$ 600	\$ 600	
Engineering(x1,000)	\$ 300	\$ 300	\$ 300	\$ 500	\$ 900	
ROW/Utilities(x1,000)	\$ 730	\$ 1,040	\$ 1,785	\$ 2,305	\$ 7,427	
Construction(x1,000)	\$ 2,072	\$ 2,064	\$ 2,016	\$ 3,586	\$ 7,883	
2019 Total Cost(x1,000)	\$ 3,912	\$ 4,213	\$ 4,906	\$ 7,355	\$ 17,609	
Concerns	Offset I/S	Building Impacts	Building Impacts	Impacts/City Park	Impacts/New RR Crossing/Flooding /Baseball fields	See Information in Report

Based on the original scope of this project, Alternatives No. 1, 2, and 3 would improve the situation at Chester and Madison Street by allowing more room for trucks to navigate these turns. However, this alone cannot guarantee that a truck would not drive onto any sidewalks in the vicinity. This can only be managed by moving the traffic out of these intersection turns. Alternatives No. 4 and 5 both accomplish this by moving WV 2 traffic out of these turns. As both of these accomplish the same goal and Alternative No. 4 does it at a significantly lower estimated cost, we feel this should be the preferred alternative. Based on available information, it is recommended that Alternative No. 4 be considered the preferred alternative at an estimated capital cost of \$7,355,000.

APPENDIX “A”

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		



NOTE:
 PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.
 EXISTING WV 2 ROW IS 55 FEET ON CHESTER AND IS 50 FEET ON MADISON.

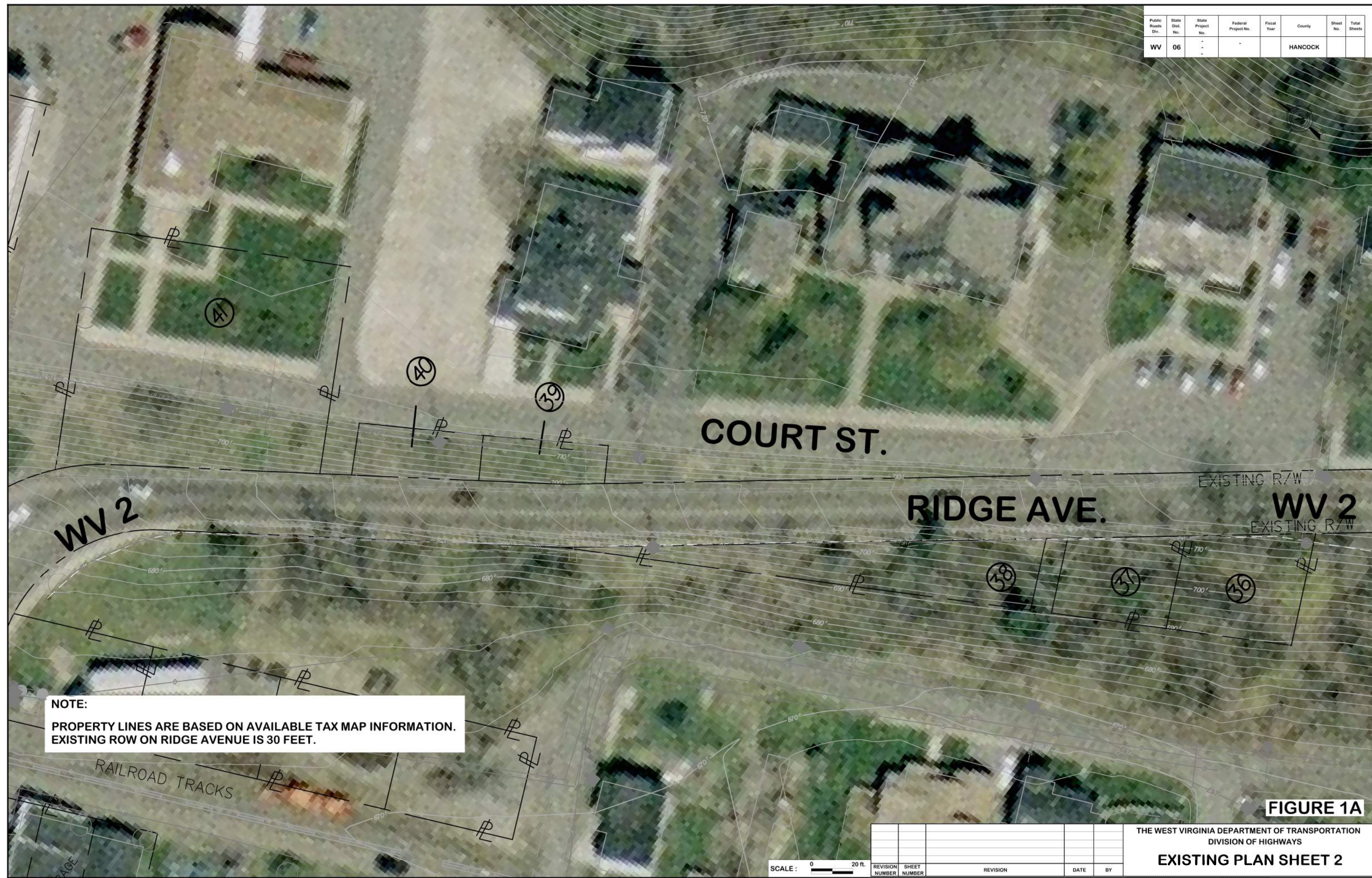
FIGURE 1

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
EXISTING PLAN SHEET 1

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

SCALE: 0 20 ft.

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		



NOTE:
 PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.
 EXISTING ROW ON RIDGE AVENUE IS 30 FEET.

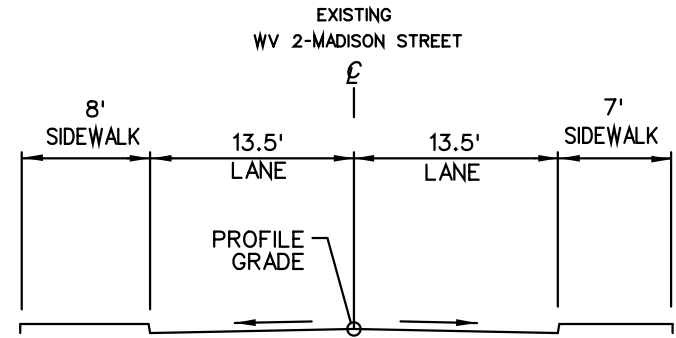
FIGURE 1A

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

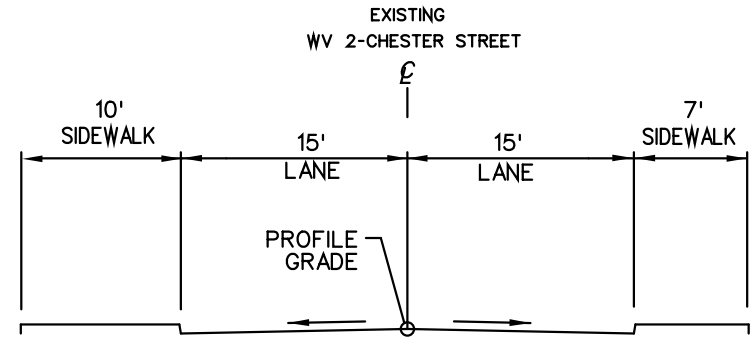
THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
EXISTING PLAN SHEET 2

Public Roads Div.	State No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W.V.	6				HANCOCK		



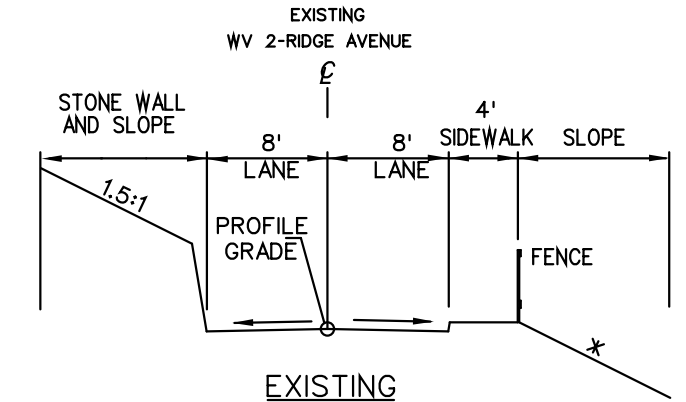
EXISTING

EXISTING WV 2 - MADISON STREET - TYPICAL SECTION



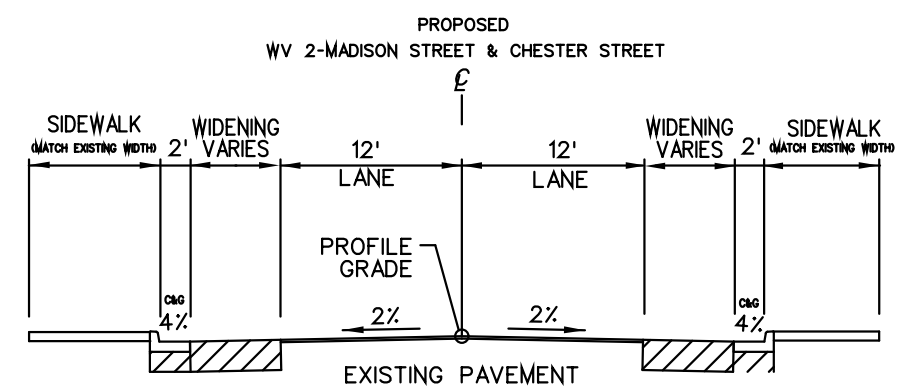
EXISTING

EXISTING WV 2 - CHESTER STREET - TYPICAL SECTION



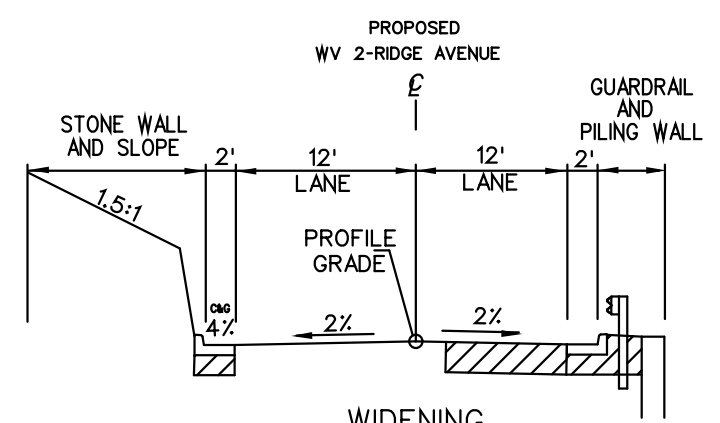
EXISTING

EXISTING WV 2 - RIDGE AVENUE - TYPICAL SECTION



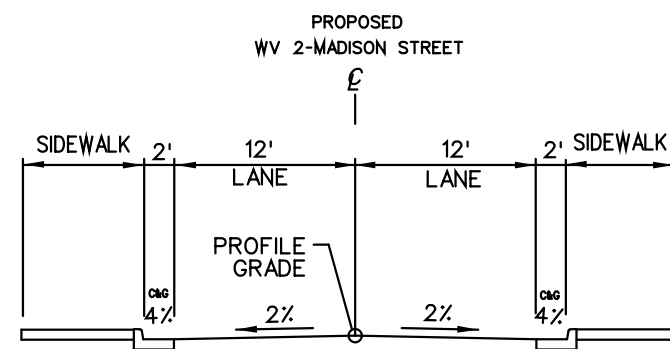
WIDENING

PROPOSED WV 2 - MADISON & CHESTER STREET - TYPICAL SECTION



WIDENING

PROPOSED WV 2 - RIDGE AVENUE - TYPICAL SECTION



NEW CONSTRUCTION

PROPOSED WV 2 - MADISON STREET - TYPICAL SECTION

**FIGURE 2
ALT. NO. 1-4**

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
WV 2 TYPICAL SHEET

* SLOPE VARIES

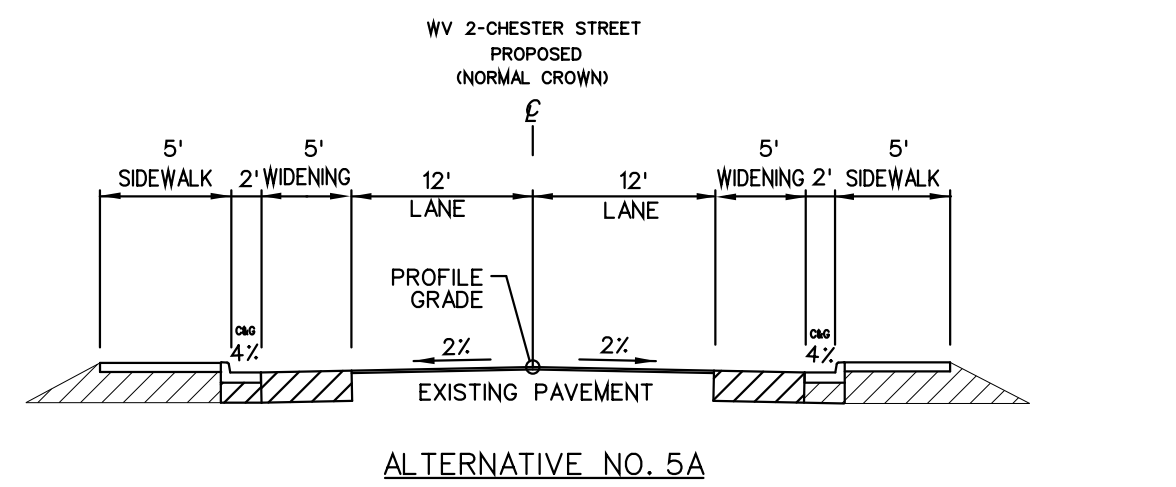
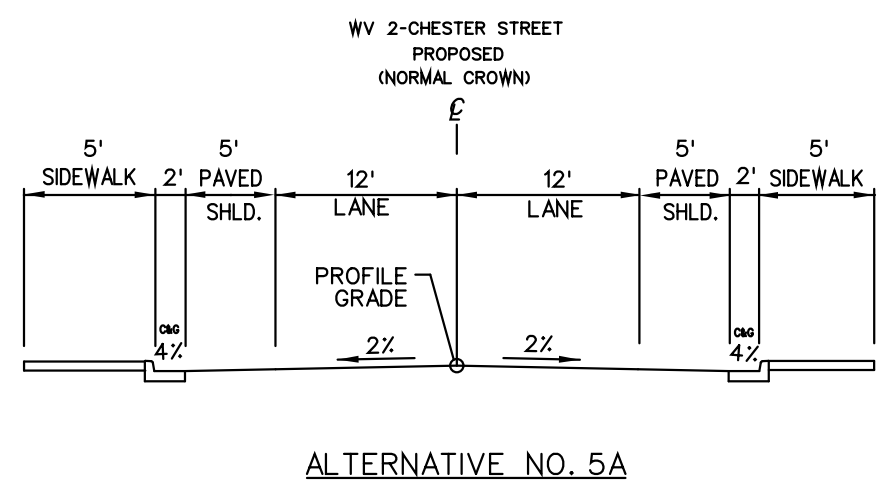
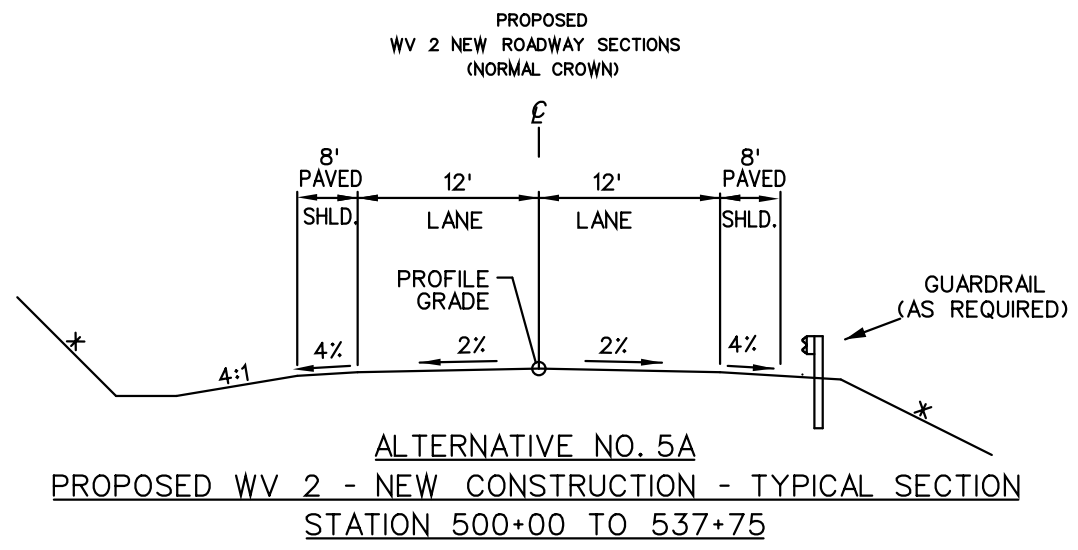
SCALE: 0 NTS

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

29-MAR-2017

DESIGN STUDY PROJECT STATE COMMISSION WV 2 IMPROVEMENT PLAN, No. 28-2017-07-05

Public Roads Div.	State No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W.V.	6	U215-2-6.20		-	HANCOCK		



11-JAN-2017

* SLOPE VARIES

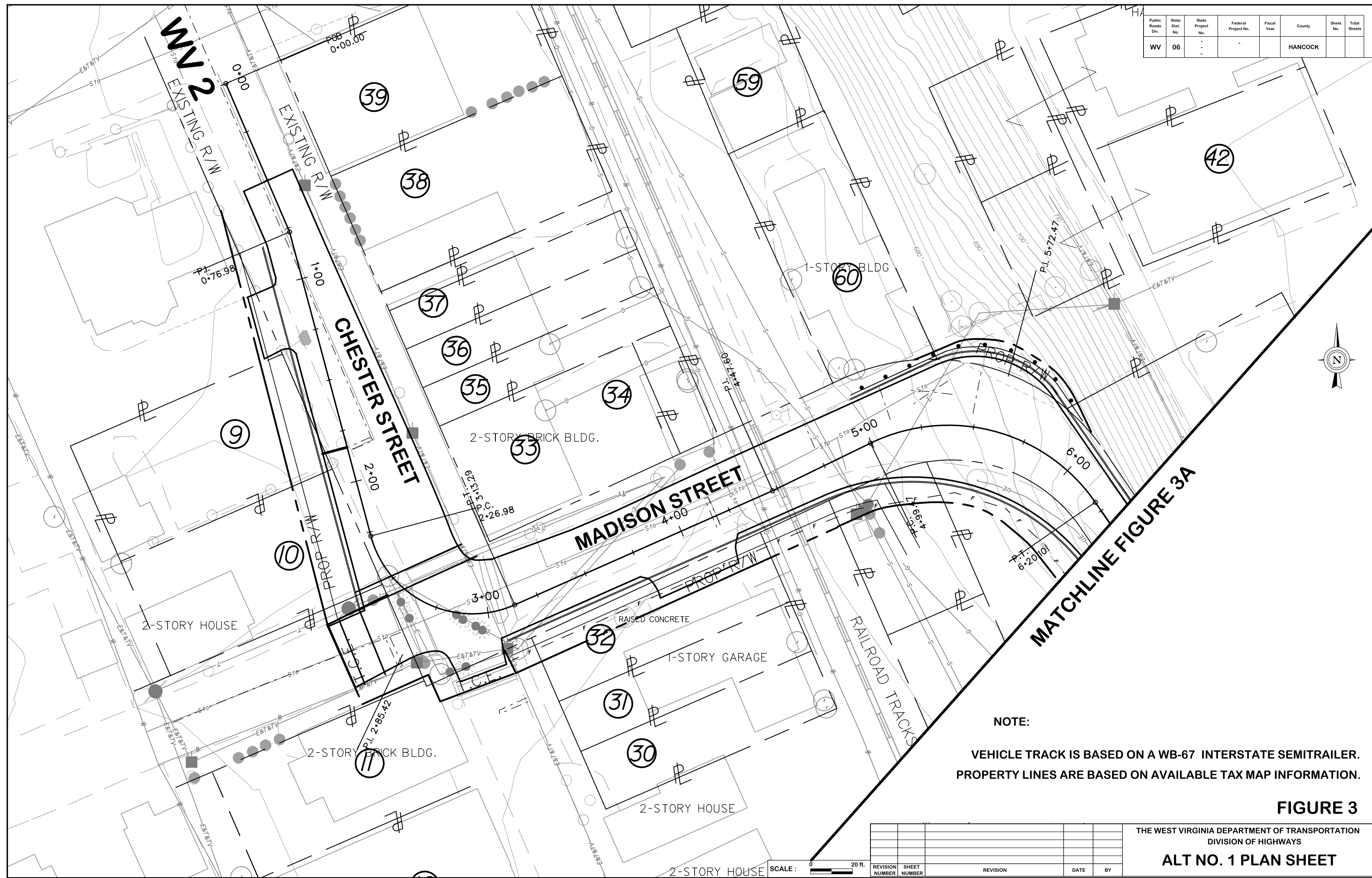
SCALE: 0 [bar] NTS

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
WV 2-ALT. NO. 5A TYP. SHEET

FIGURE 2A

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		



MATCHLINE FIGURE 3A

NOTE:

VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

FIGURE 3

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

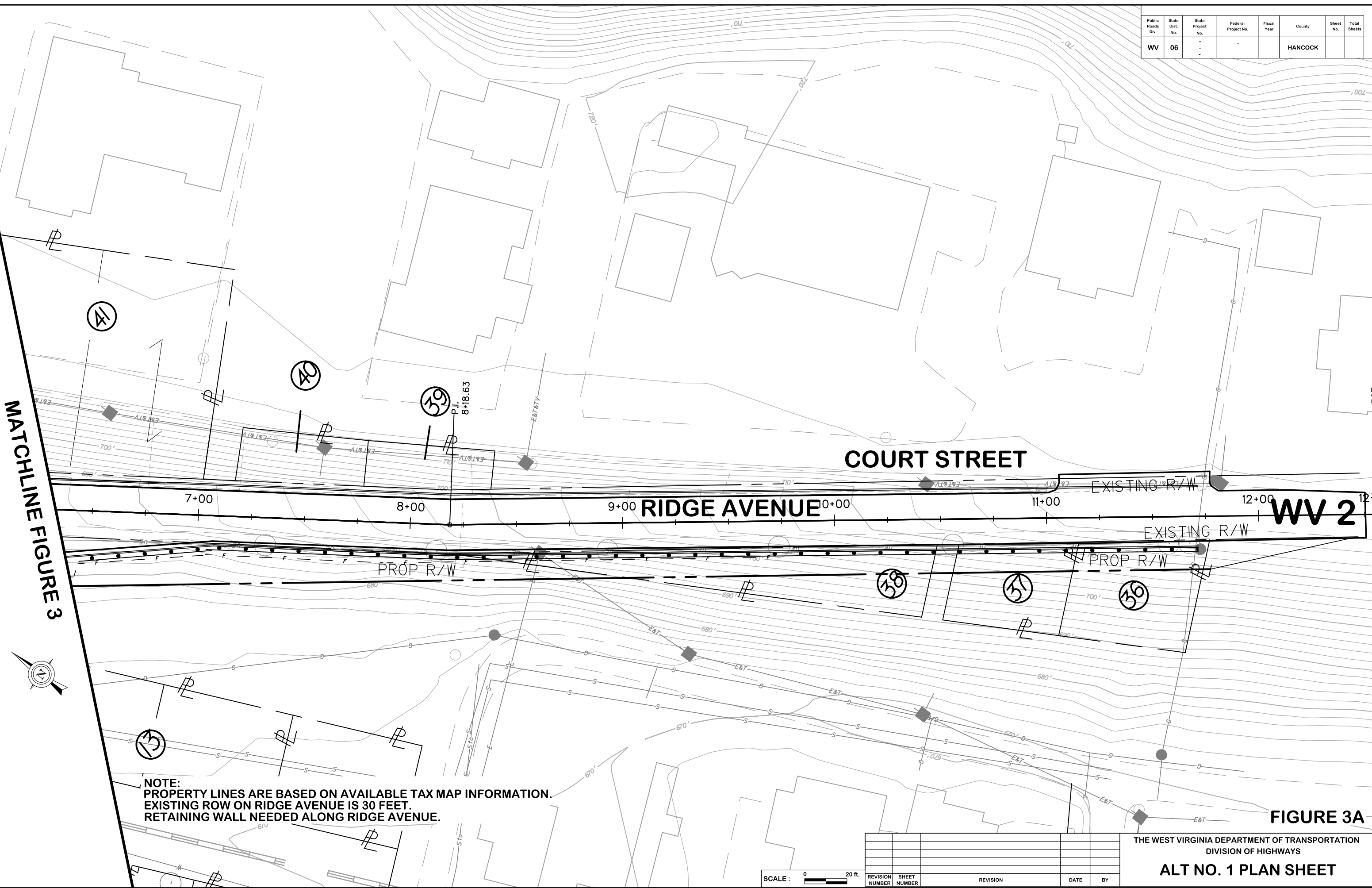
ALT NO. 1 PLAN SHEET

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

SCALE: 0 20 ft.

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		

MATCHLINE FIGURE 3



WV 2

NOTE:
PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.
EXISTING ROW ON RIDGE AVENUE IS 30 FEET.
RETAINING WALL NEEDED ALONG RIDGE AVENUE.

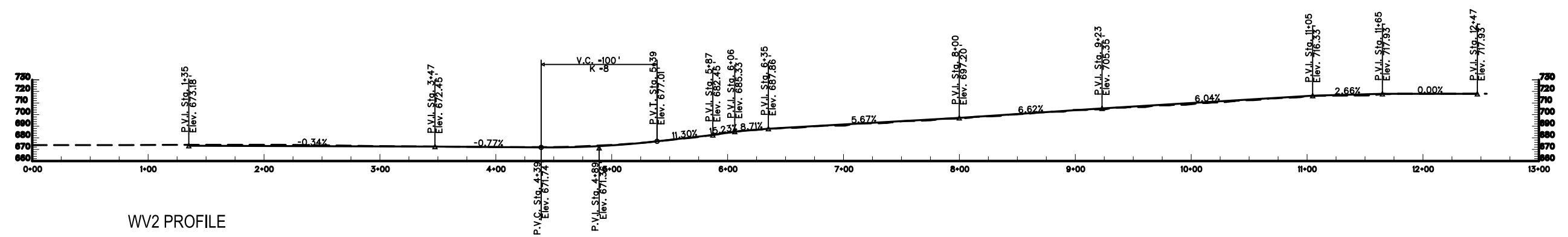
FIGURE 3A

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 1 PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W.V.	06	-	-	-	HANCOCK	---	---



WV2 PROFILE

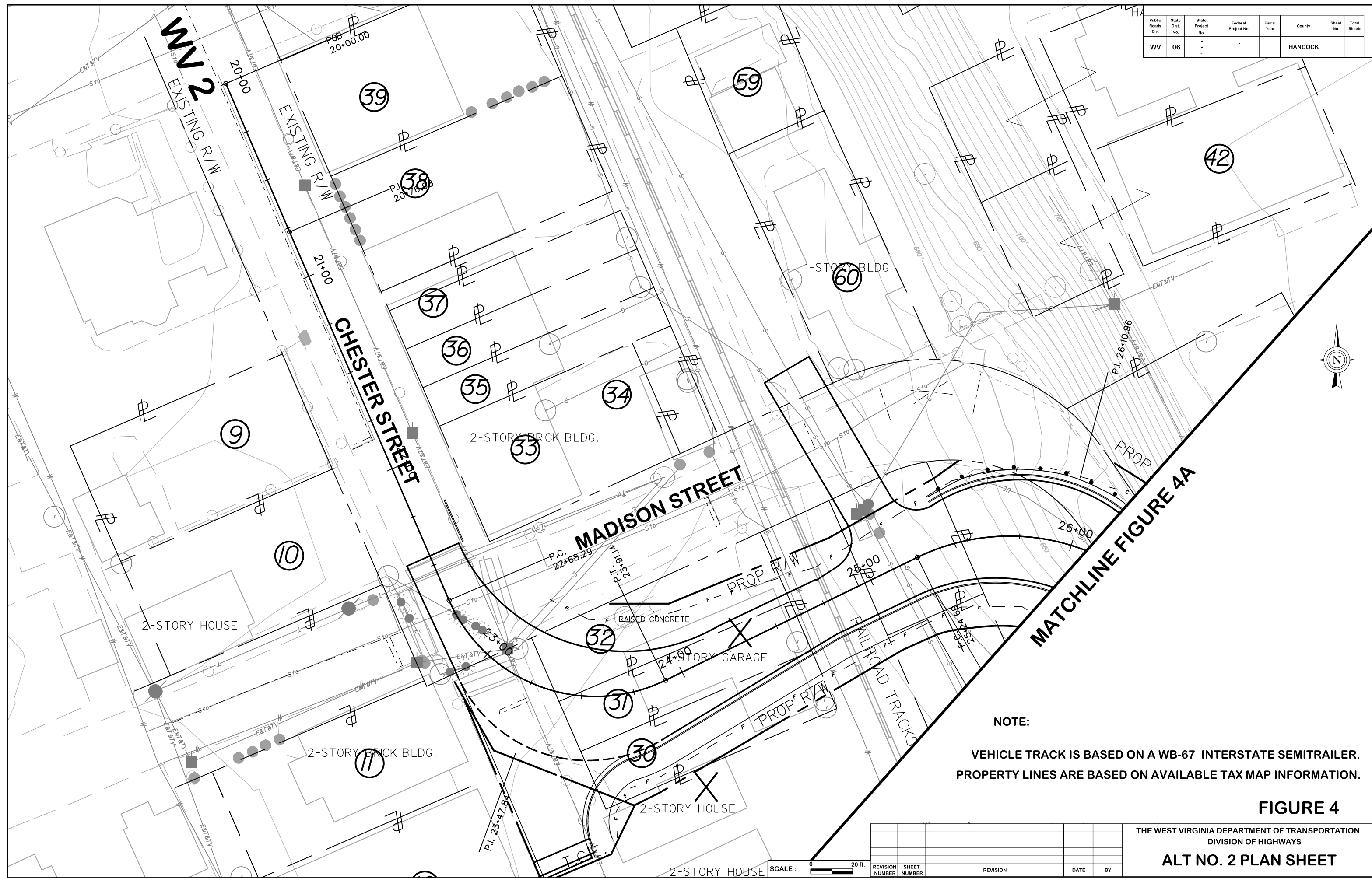
FIGURE 3B

SCALE : 0 50 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 1 PROFILE SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK	-	-



NOTE:

VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

FIGURE 4

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

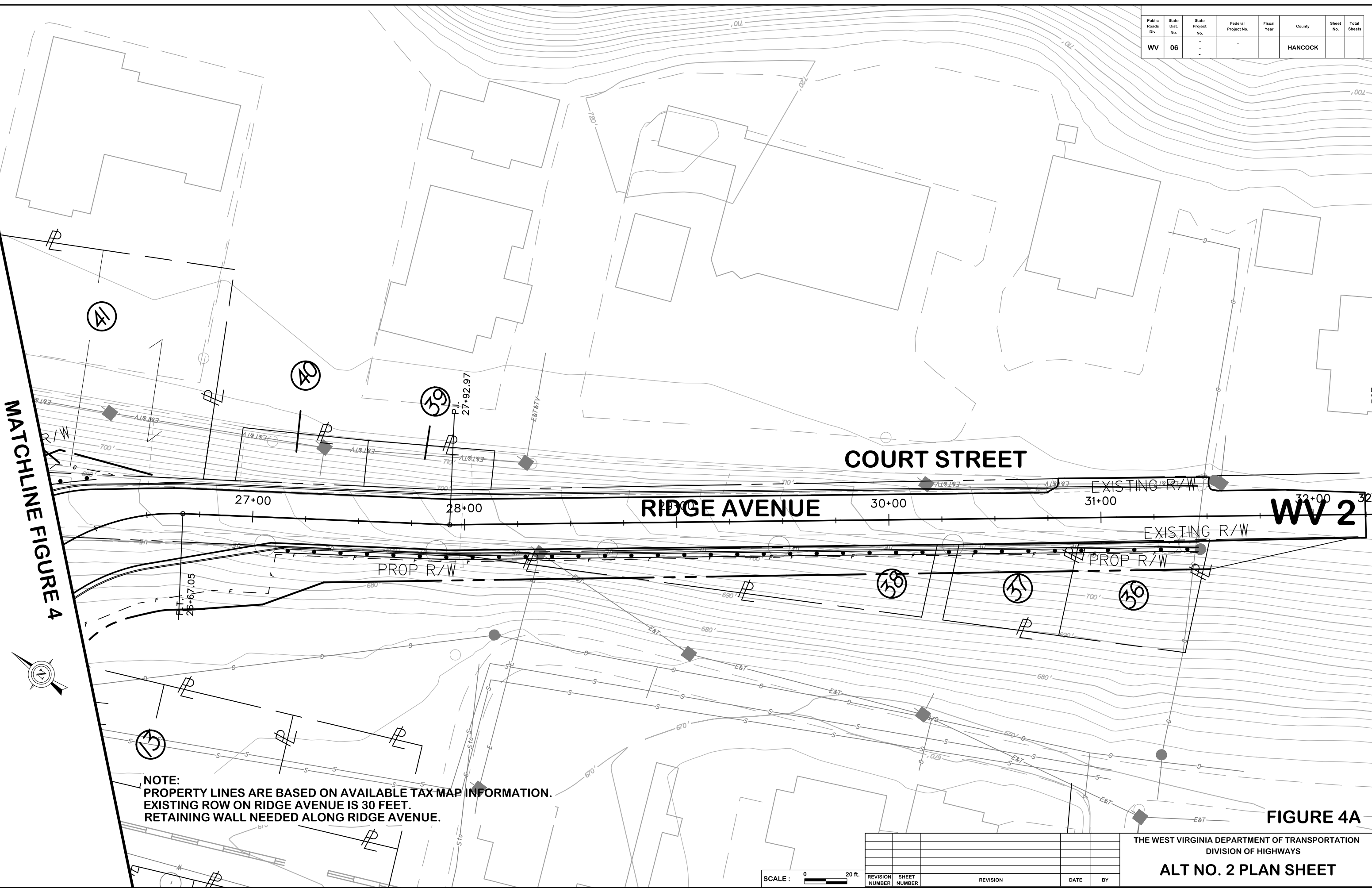
ALT NO. 2 PLAN SHEET

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

SCALE: 0 20 ft.

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK	-	-

MATCHLINE FIGURE 4



WV 2

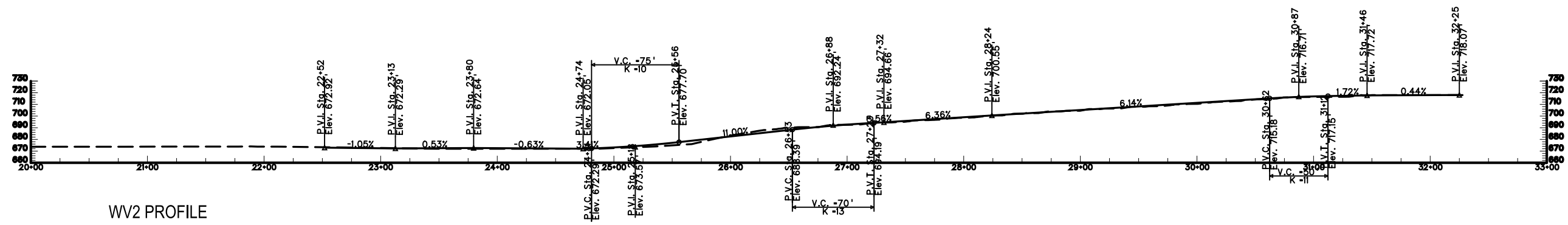
FIGURE 4A

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 2 PLAN SHEET

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W.V.	06	-			HANCOCK	---	---



W2 PROFILE

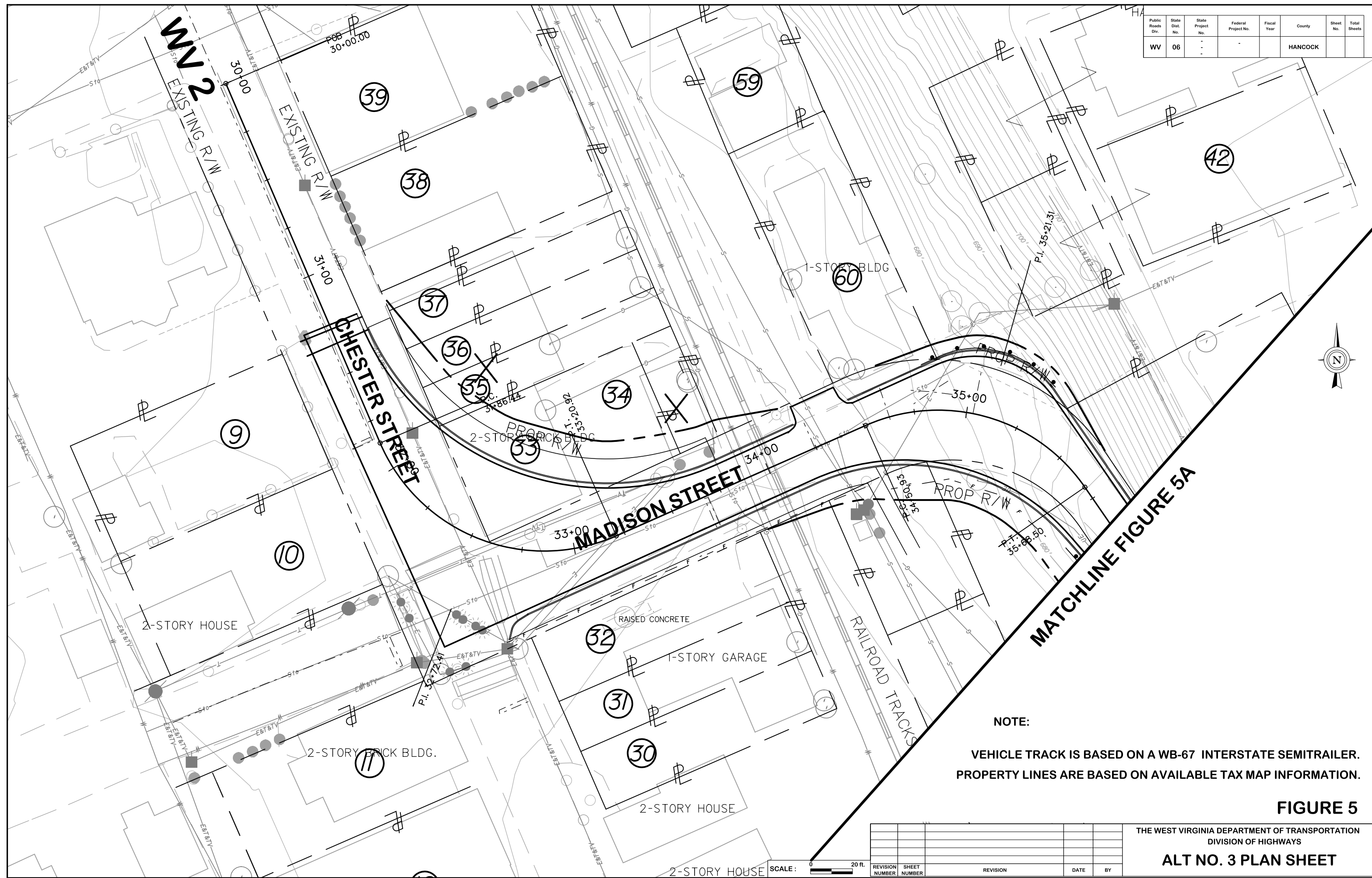
FIGURE 4B

SCALE : 0 50 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 2 PROFILE SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK	-	-



NOTE:

VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

FIGURE 5

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

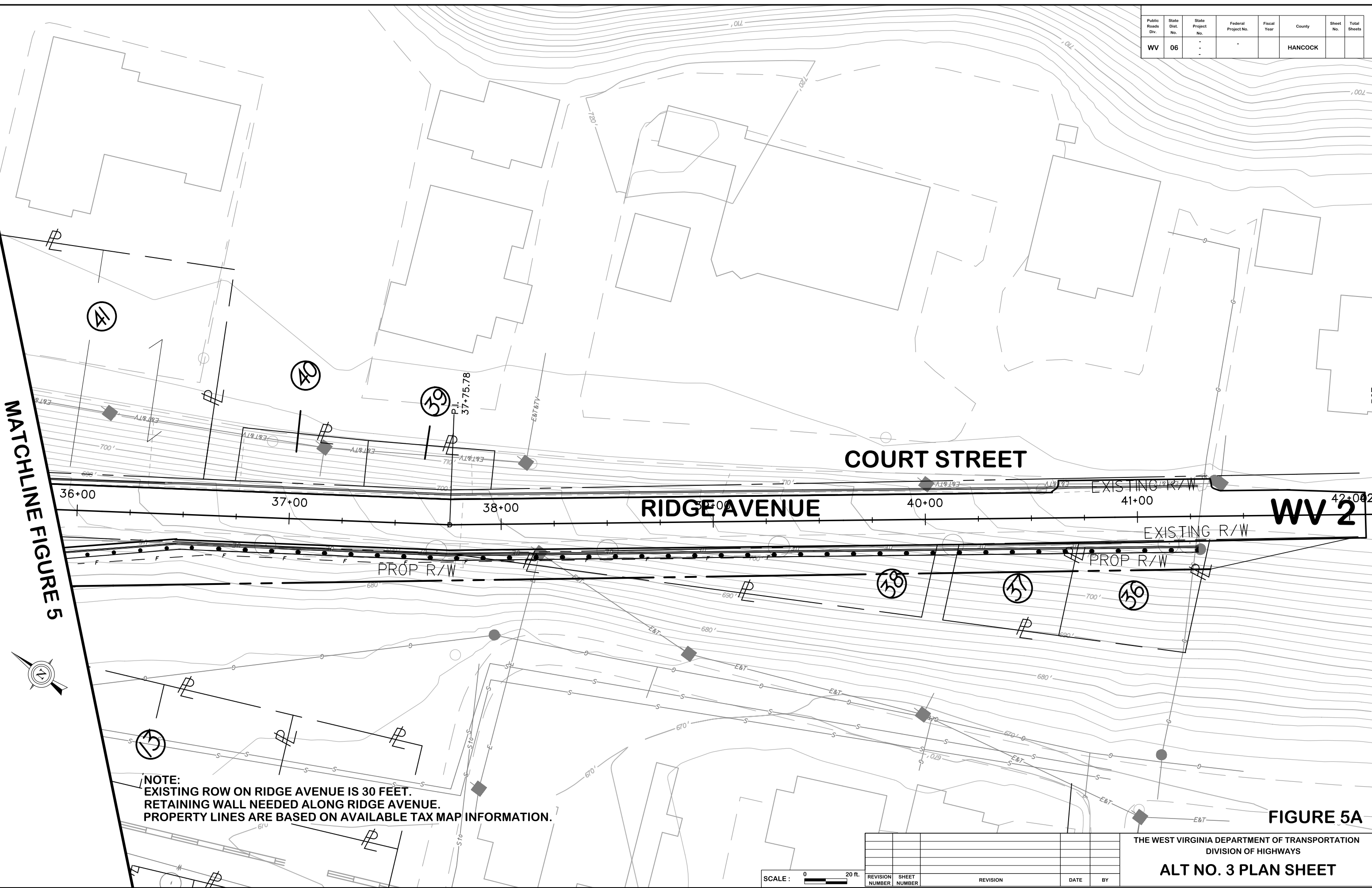
ALT NO. 3 PLAN SHEET

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

SCALE: 0 20 ft.

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK	-	-

MATCHLINE FIGURE 5



NOTE:
 EXISTING ROW ON RIDGE AVENUE IS 30 FEET.
 RETAINING WALL NEEDED ALONG RIDGE AVENUE.
 PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

WV 2

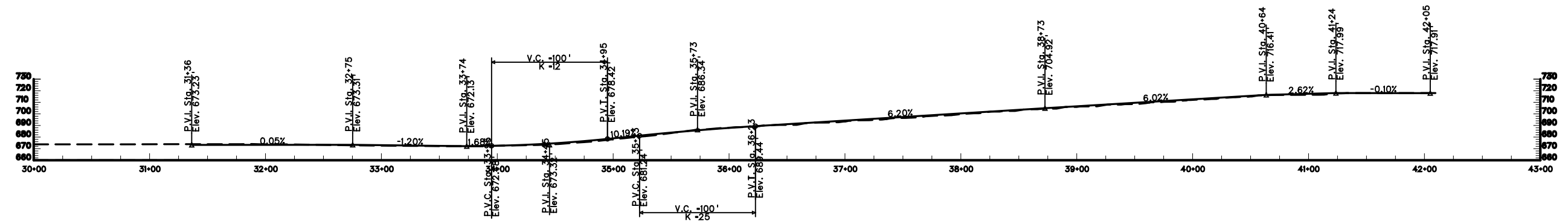
FIGURE 5A

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT NO. 3 PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W.V.	06	-			HANCOCK	---	---



W2 PROFILE

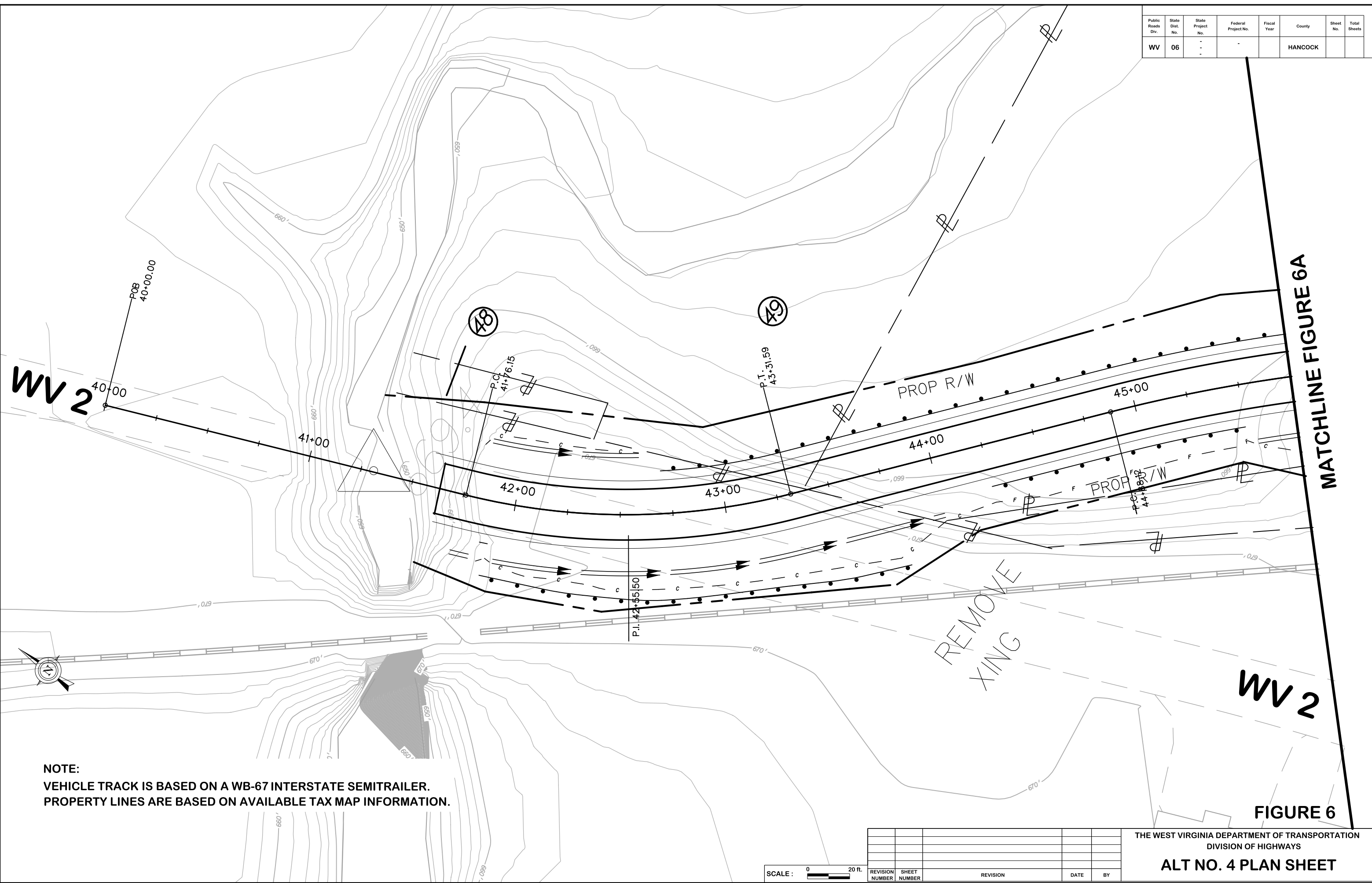
FIGURE 5B

SCALE : 0 50 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 3 PROFILE SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK	-	-



NOTE:
 VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
 PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT NO. 4 PLAN SHEET

FIGURE 6

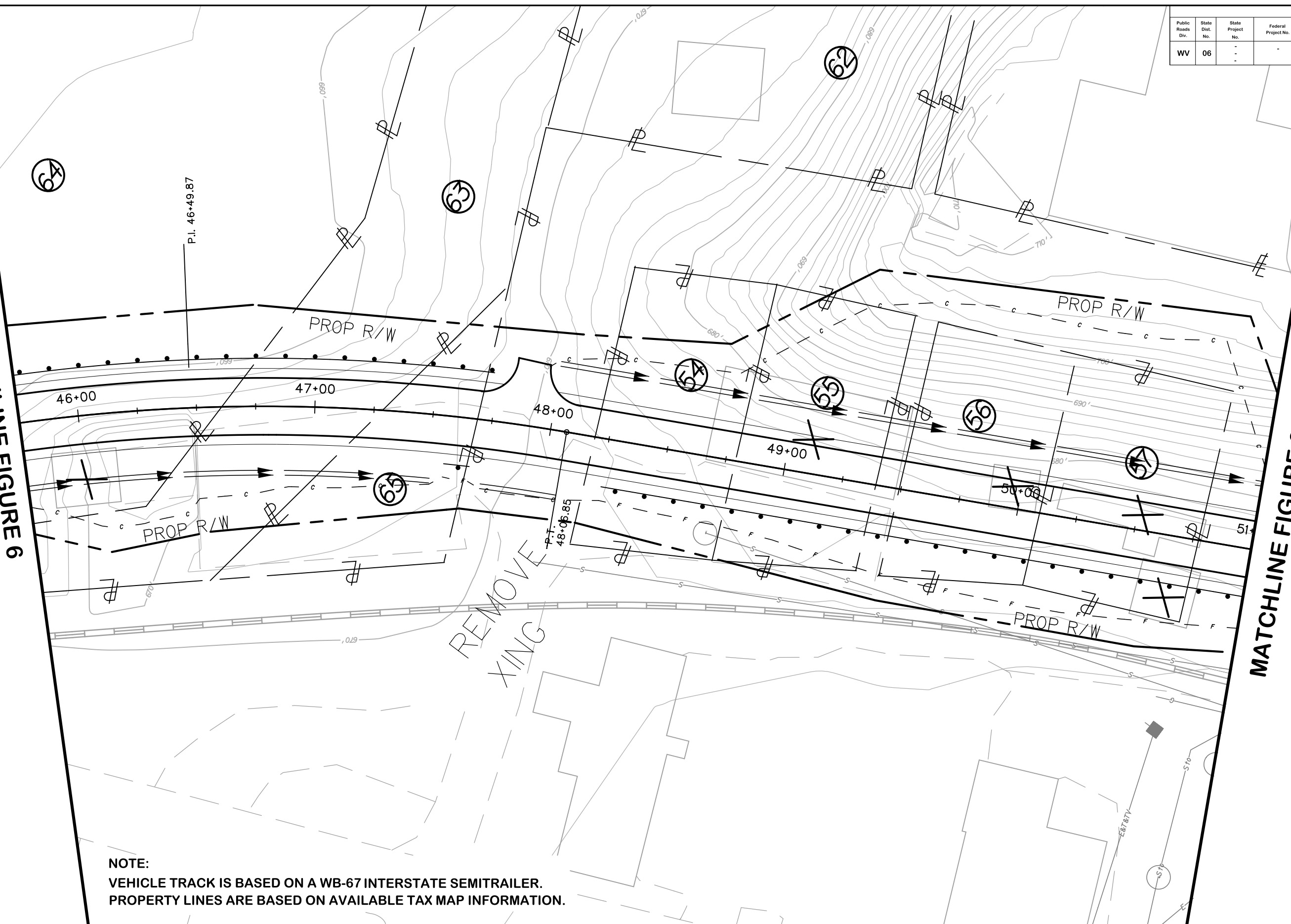
MATCHLINE FIGURE 6A

WV 2

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-		HANCOCK		

MATCHLINE FIGURE 6

MATCHLINE FIGURE 6B



NOTE:
 VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
 PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.



FIGURE 6A

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT NO. 4 PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		

MATCHLINE FIGURE 6A

MATCHLINE FIGURE 6C

WV 2

WV 2

PROP R/W

PROP R/W

RAILROAD TRACKS

HANCOCK COUNTY
COURTHOUSE

NOTE:
VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

FIGURE 6B

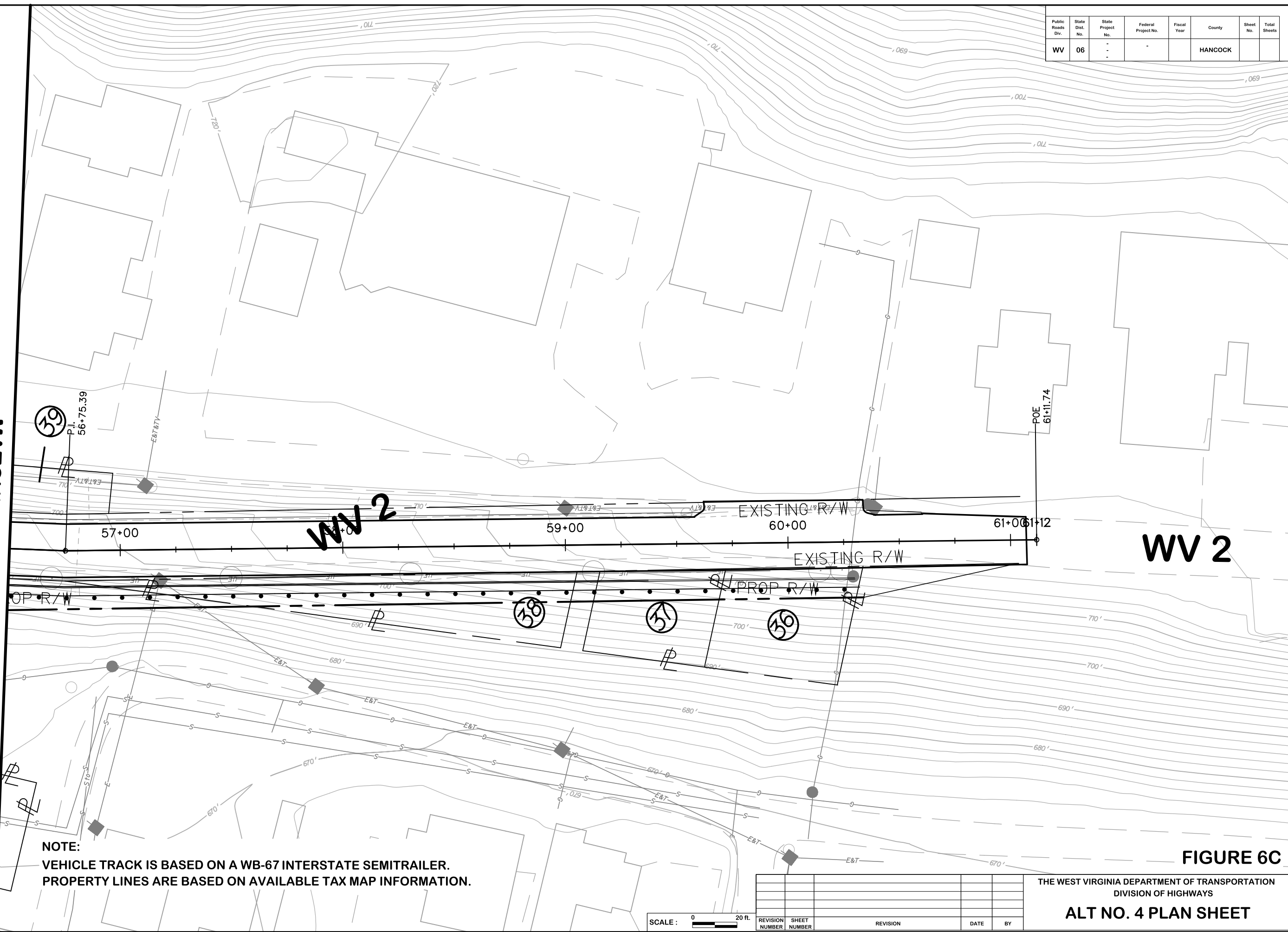
THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 4 PLAN SHEET

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		

MATCHLINE FIGURE 6B



NOTE:
 VEHICLE TRACK IS BASED ON A WB-67 INTERSTATE SEMITRAILER.
 PROPERTY LINES ARE BASED ON AVAILABLE TAX MAP INFORMATION.

FIGURE 6C

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT NO. 4 PLAN SHEET

SCALE: 0 20 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W.V.	06	-	-	-	HANCOCK	---	---

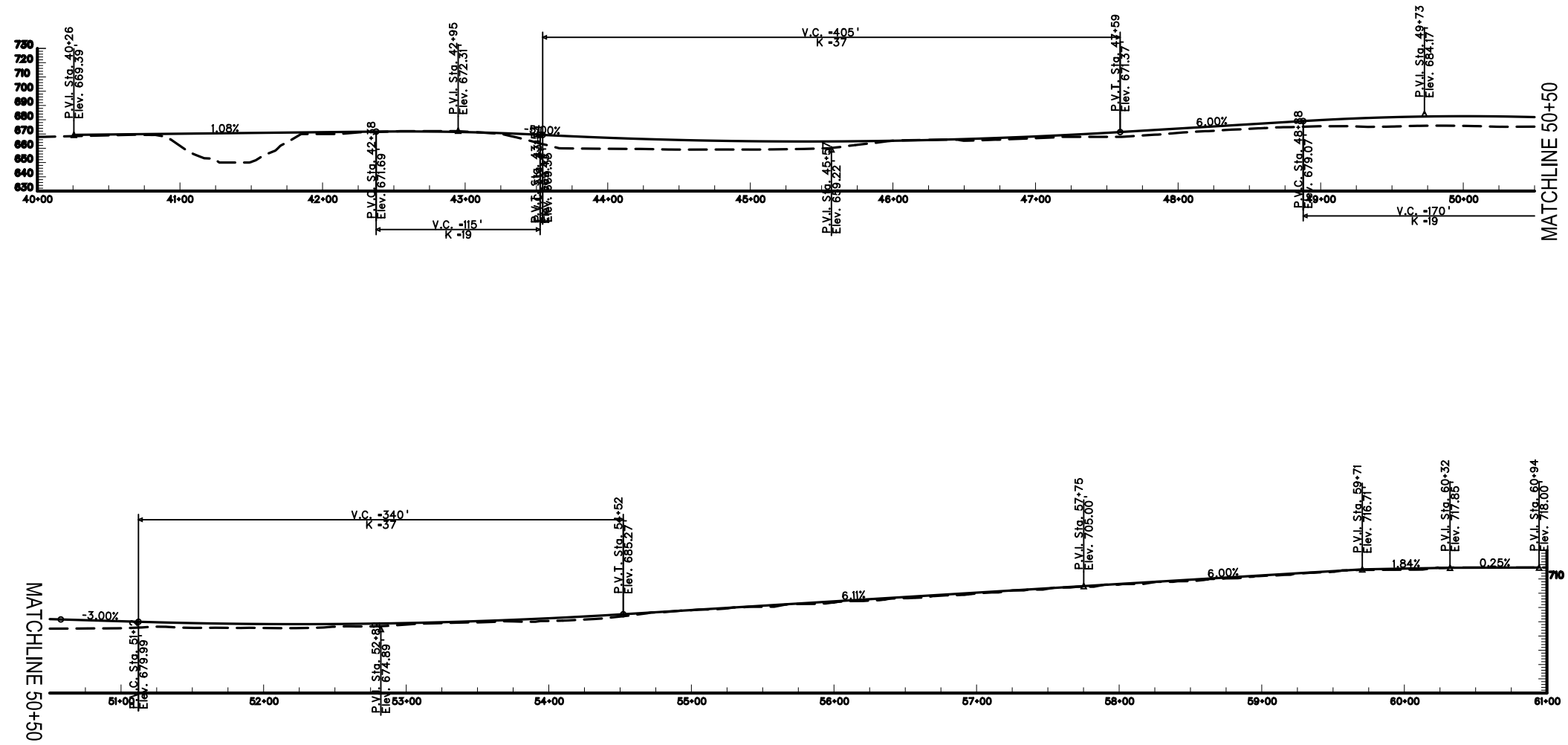


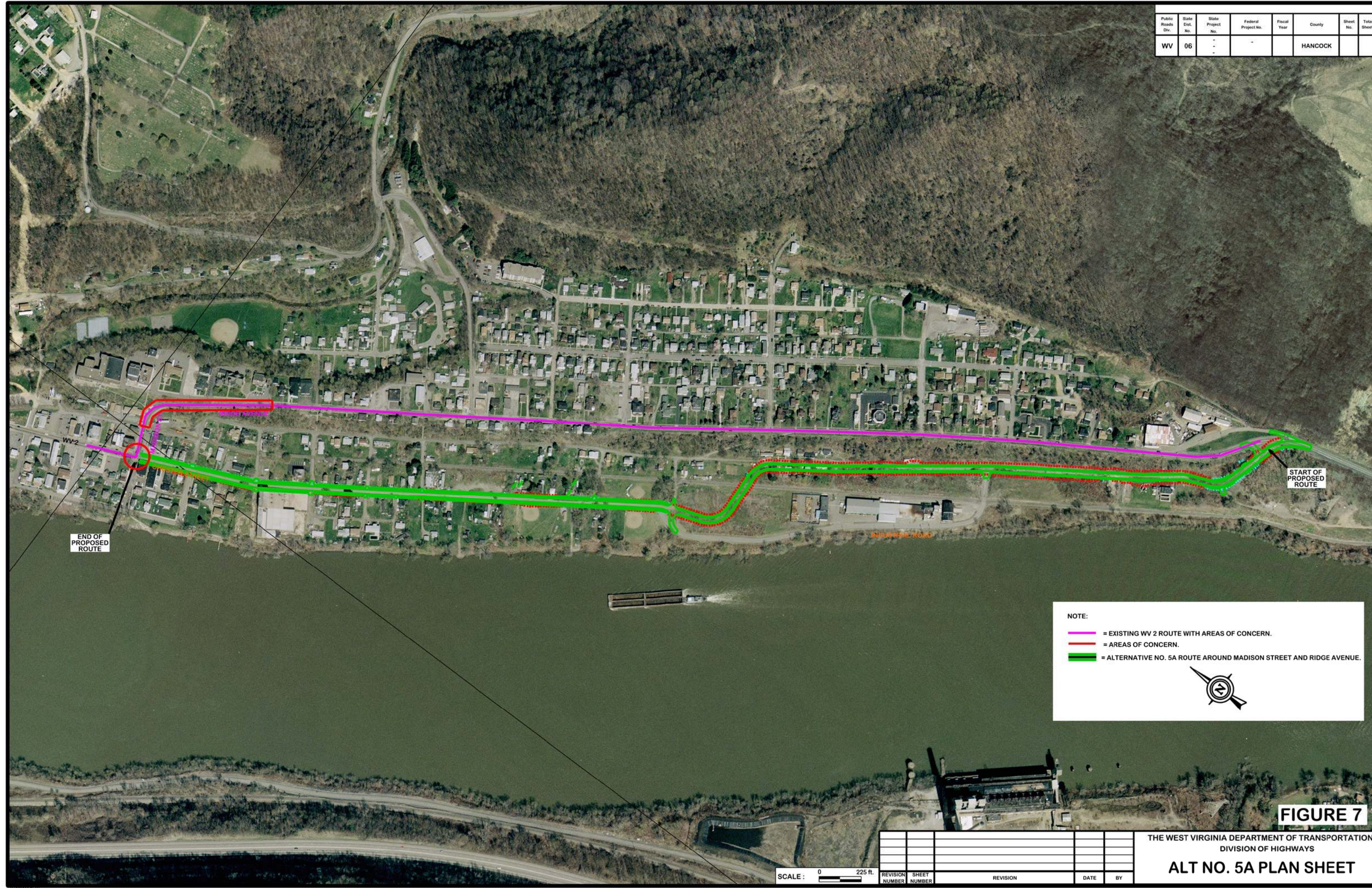
FIGURE 6D

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 4 PROFILE SHEET

SCALE : 0 50 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
WV	06	-	-	-	HANCOCK		



WV-2
END OF PROPOSED ROUTE

START OF PROPOSED ROUTE

MILLSTONE ROAD

NOTE:

- = EXISTING WV 2 ROUTE WITH AREAS OF CONCERN.
- = AREAS OF CONCERN.
- = ALTERNATIVE NO. 5A ROUTE AROUND MADISON STREET AND RIDGE AVENUE.




FIGURE 7

SCALE: 0 225 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:
 WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.

FIGURE 7A

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:
 WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
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 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.

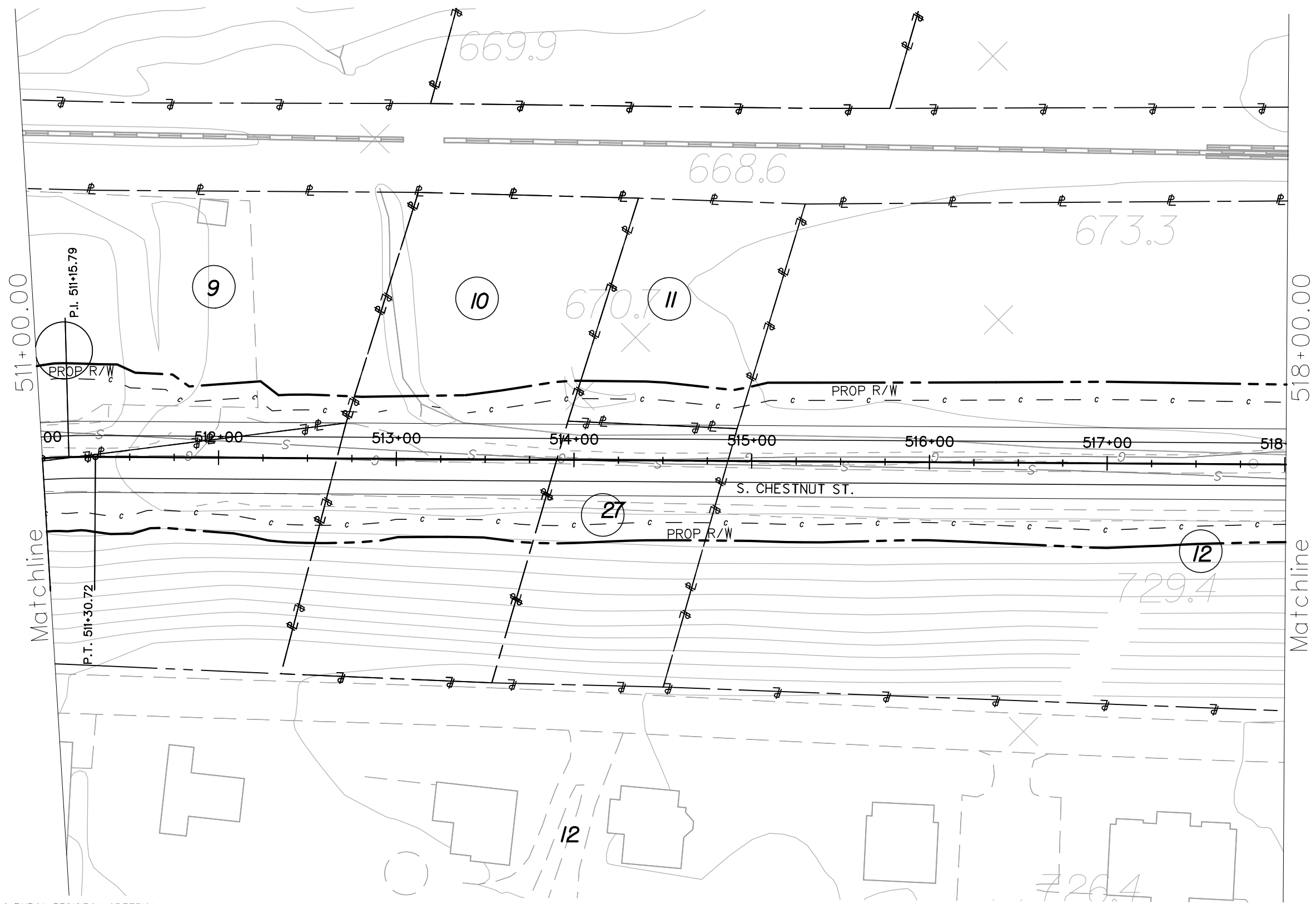
SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

FIGURE 7B

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06		U215-2-6.20	-	HANCOCK		



NOTES:
 WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.

FIGURE 7C

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		

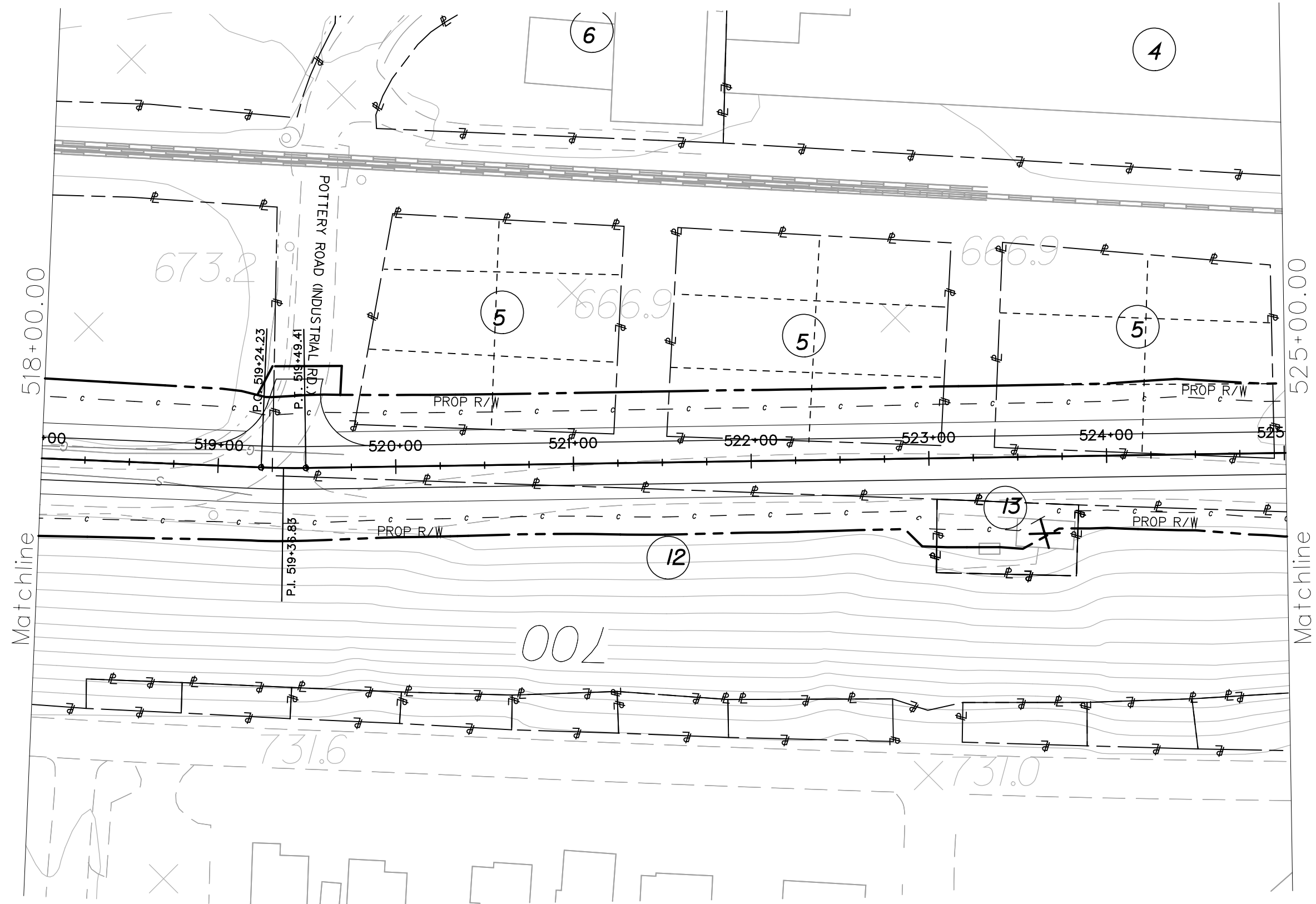


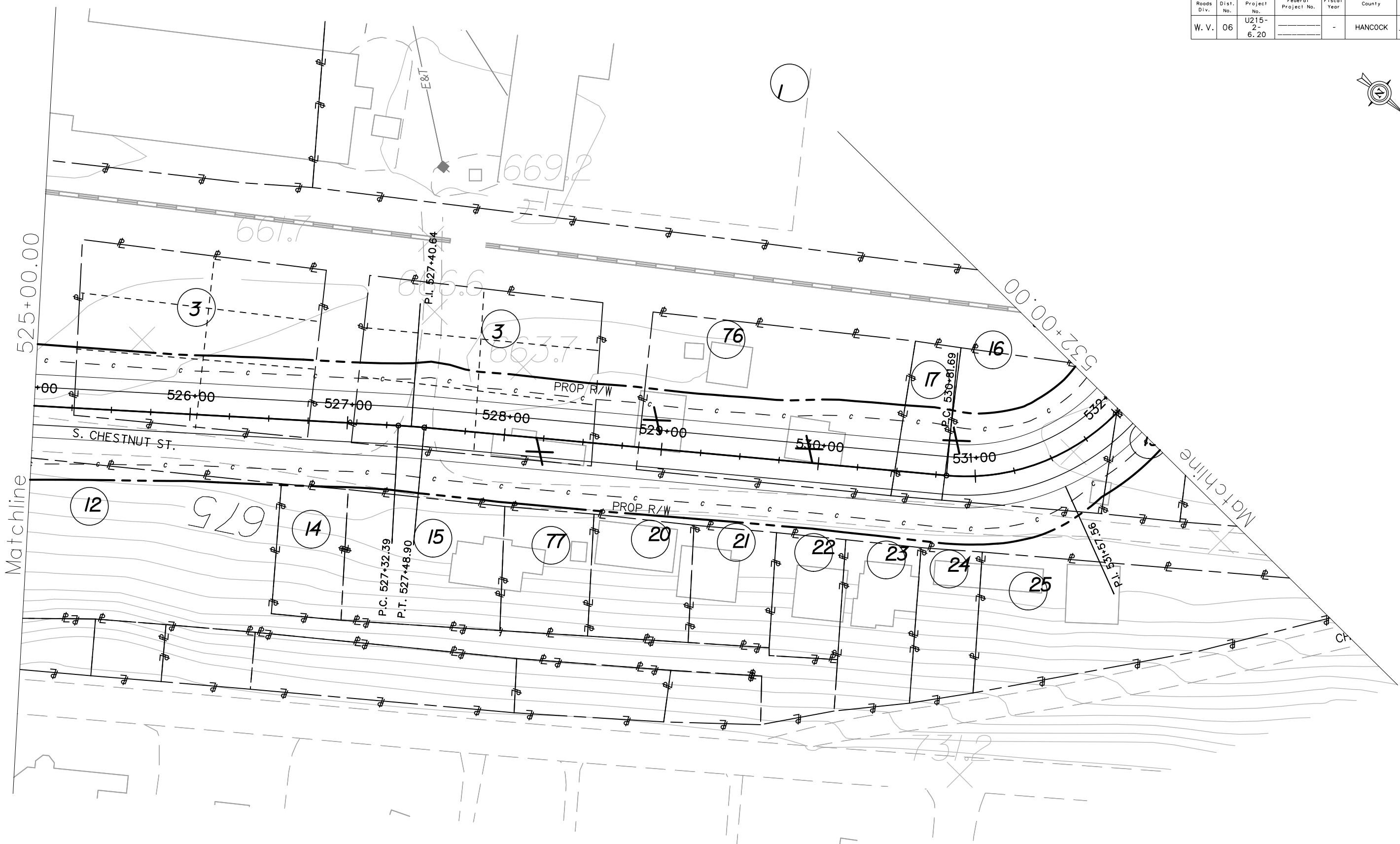
FIGURE 7D

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:

WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.

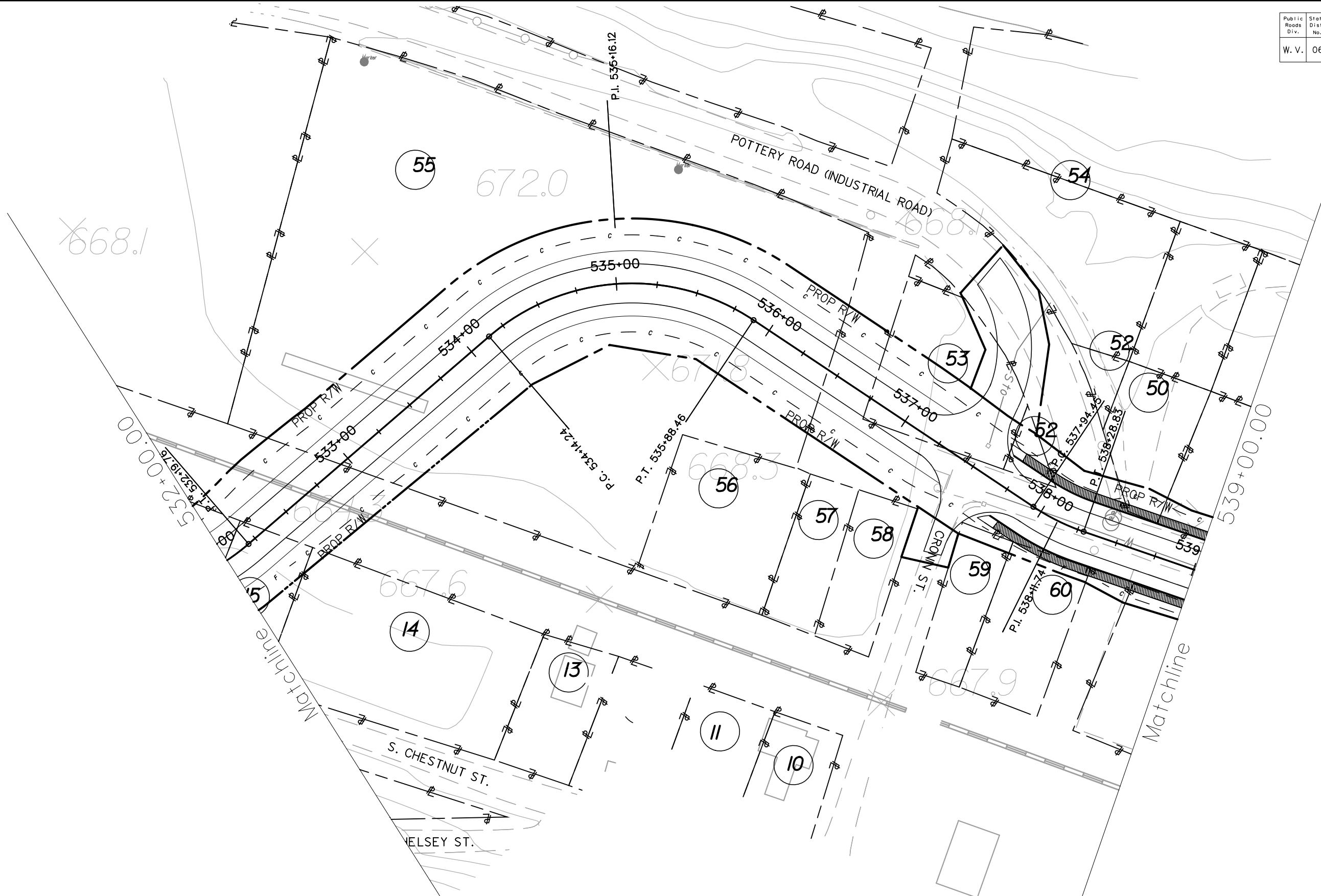
FIGURE 7E

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



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 WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.
 SIDEWALKS DENOTED AS =

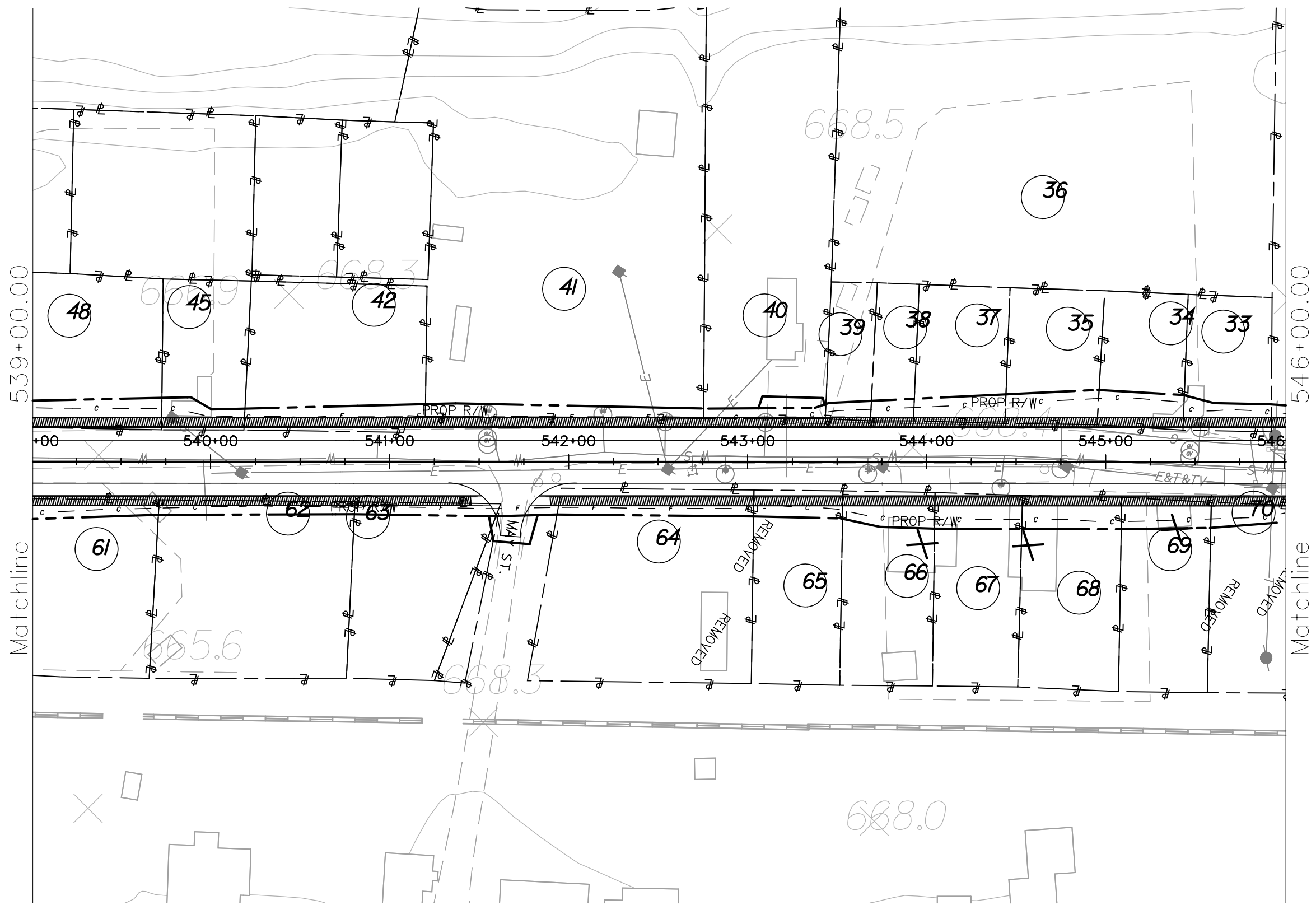
FIGURE 7F

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:

- WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
- 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
- PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.
- SIDEWALKS DENOTED AS -

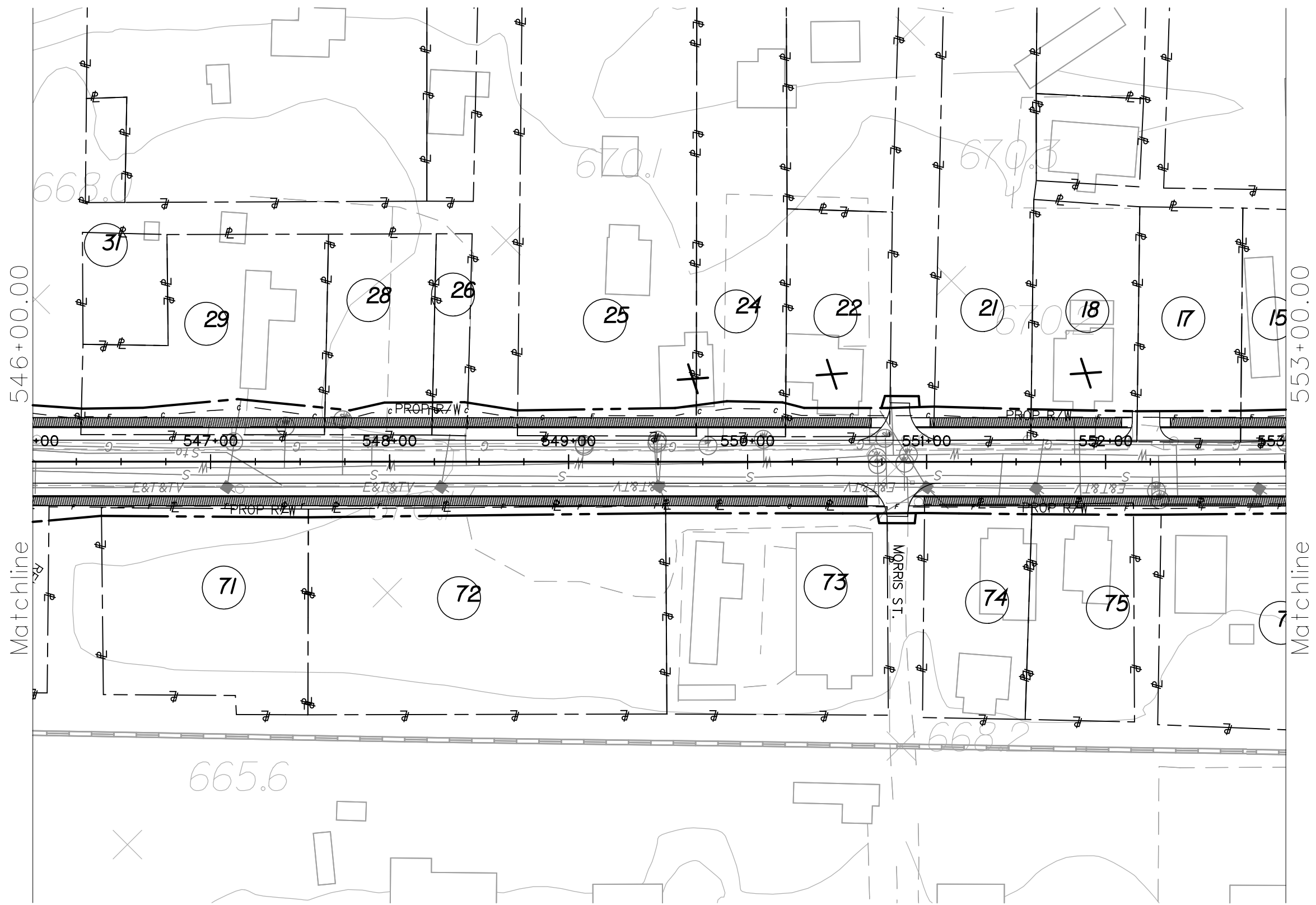
FIGURE 7G

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:
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 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.
 SIDEWALKS DENOTED AS =

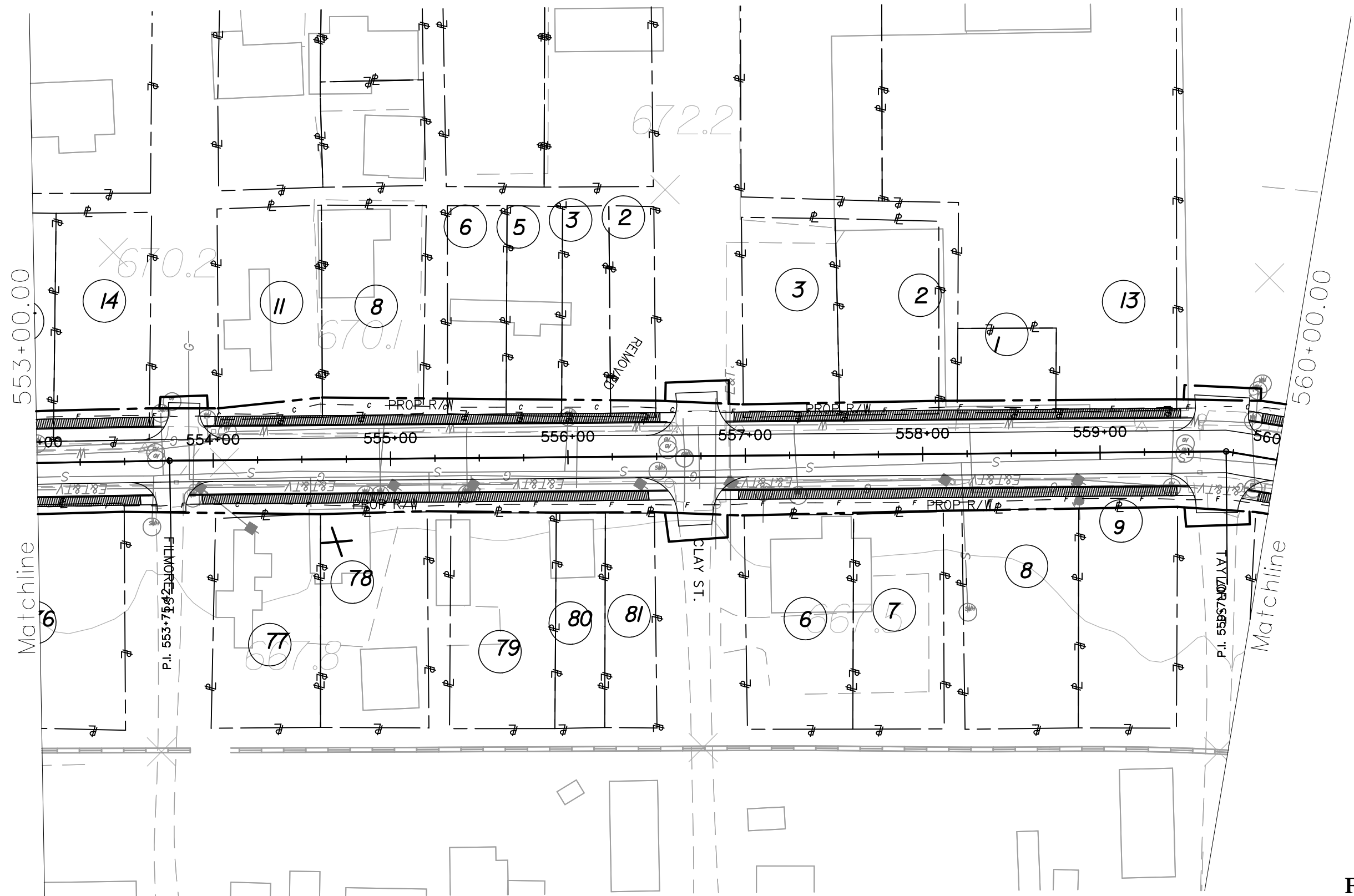
FIGURE 7H

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:
 WV 2 IS CLASSIFIED AS A RURAL PRINCIPAL ARTERIAL.
 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.
 SIDEWALKS DENOTED AS -

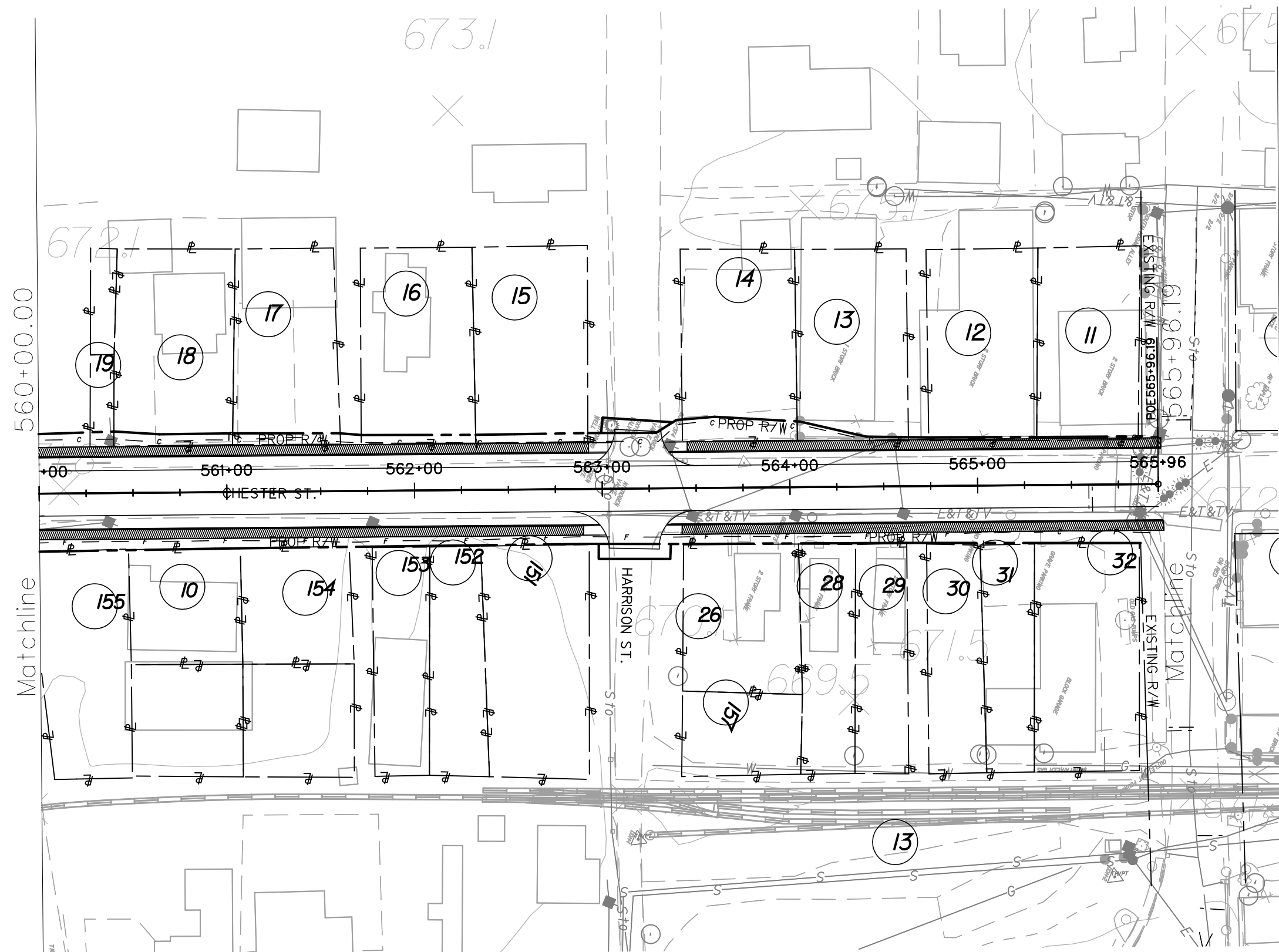
SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

FIGURE 71

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	06	U215-2-6.20		-	HANCOCK		



NOTES:
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 2033 AVERAGE DAILY TRAFFIC ESTIMATED TO BE 7,290 VPD.
 PROPERTY LINES AND PARCEL INFORMATION ARE BASED ON AVAILABLE TAX MAPS.
 SIDEWALKS DENOTED AS =

FIGURE 7J

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
ALT. NO. 5A PLAN SHEET

SCALE : 0 30 ft.

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

UTILITIES ENCOUNTERED
 VERIZON WEST VIRGINIA, INC
 ALLEGHENY POWER (ELECTRIC)
 ALLEGHENY POWER (GAS)
 HANCOCK COUNTY P.S.D. (SANITARY)
 TOMLINSON P.S.D. (WATER)
 CITY OF NEW CUMBERLAND (WATER)
 NORFOLK SOUTHERN RAILROAD

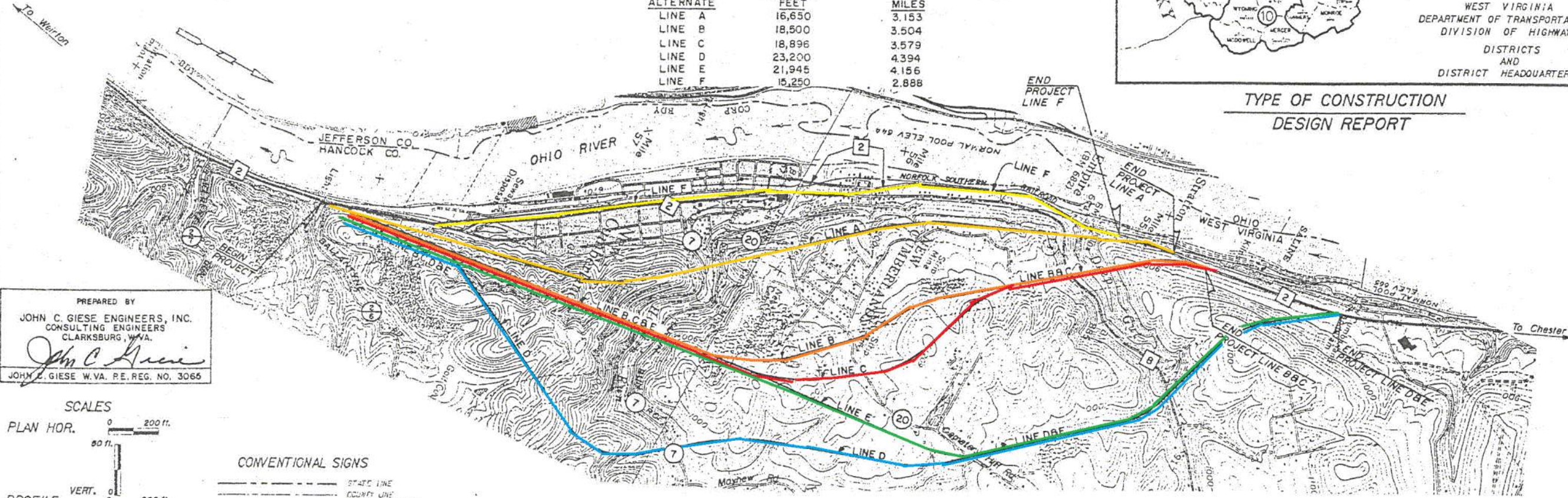
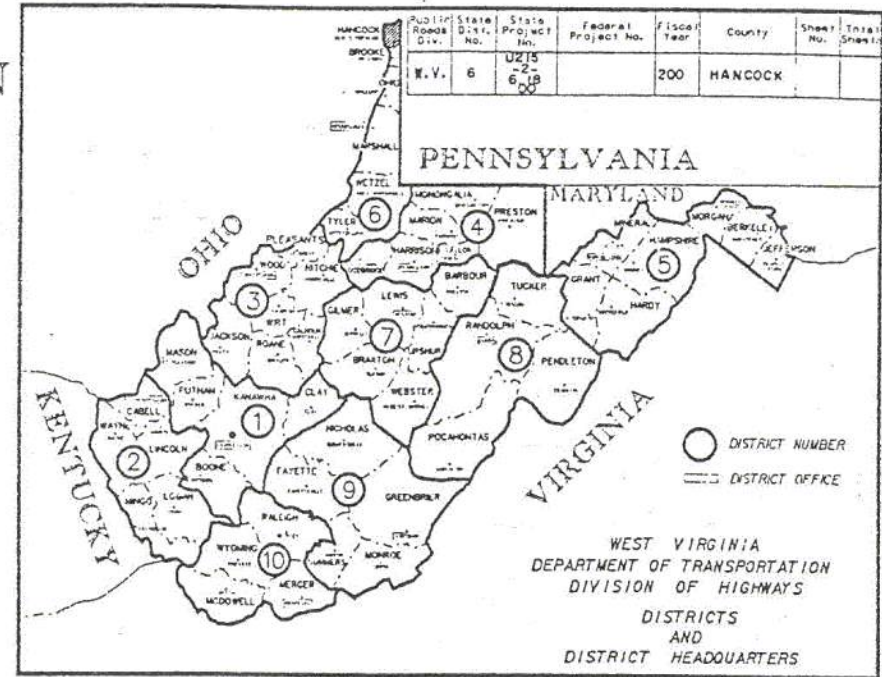
WEST VIRGINIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

PLAN AND PROFILE FOR DESIGN REPORT
 OF
 STATE HIGHWAY

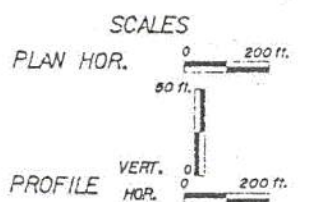
FEDERAL PROJECT NO.
 STATE PROJECT NO. U215-2-6.18 00
 W.V. ROUTE NO. 2

CLAY & NEW CUMBERLAND CORPORATION DISTRICTS
 HANCOCK COUNTY

ALTERNATE	LENGTH FEET	MILES
LINE A	16,650	3.153
LINE B	18,500	3.504
LINE C	18,896	3.579
LINE D	23,200	4.394
LINE E	21,945	4.156
LINE F	15,250	2.888



PREPARED BY
 JOHN C. GIESE ENGINEERS, INC.
 CONSULTING ENGINEERS
 CLARKSBURG, W.V.A.
John C. Giese
 JOHN C. GIESE W.V.A. P.E. REG. NO. 3066



- CONVENTIONAL SIGNS
- STATE LINE
 - COUNTY LINE
 - CORPORATION LINE
 - RAIL LINE
 - PROPERTY LINE
 - EXISTING FENCE
 - PROPOSED FENCE
 - EDGE OF STREAM
 - PROPOSED GRAVEL HALL
 - EXISTING GRAVEL HALL
 - RAILROAD
 - GAS LINE
 - WATER LINE
 - TELEPHONE LINE
 - ELECTRIC LINE
 - TELEPHONE POLE
 - POWER POLE
 - COMBINED POWER AND TELEPHONE POLE
 - TREE
 - SHRUB
 - RIGHT OF WAY MARKER

DESIGN DESIGNATION

A.D.T. (2009) 5800
A.D.T. (2025) 8900
D.H.V. (X=10%) 890
D 55/45
T (DMV) 590
V 55 MPH

LAYOUT SCALE 0 1000 FT.

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

RECOMMENDED DESIGNER

RECOMMENDED FOR APPROVAL STATE HIGHWAY ENGINEER

APPROVED COMMISSIONER OF HIGHWAYS

I HEREBY CERTIFY THAT THIS IS A CORRECT COPY OF THE PLANS OF PROJECT U215-2-6.18 00

EXECUTIVE SECRETARY

PROJECT NO. U215-2-6.18 00

FIGURE 8

APPENDIX “B”

New Cumberland - WV 2
Alternative No. 1
Existing Alignment

ROADWAY	Estimated Cost	
	Actual	Rounded
Clearing and Grubbing	\$ 7,900.00	\$ 7,900.00
Earthwork	\$ 91,593.00	\$ 91,600.00
HMA Wearing & Base	\$ 203,452.96	\$ 203,500.00
Aggregate (Base & Sh)	\$ 28,931.33	\$ 28,900.00
Subgrade	\$ 18,921.61	\$ 18,900.00
Drainage	\$ 211,818.18	\$ 211,800.00
M.O.T.	\$ 133,569.70	\$ 133,600.00
Erosion Control	\$ 12,500.00	\$ 12,500.00
Retaining Walls	\$ 600,000.00	\$ 600,000.00
Sidewalks w/ Curb Ramps	\$ 56,002.26	\$ 56,000.00
All Other Items	\$ 381,584.35	\$ 381,600.00
Mobilization	\$ 87,313.67	\$ 87,300.00
Total Roadway Construction	\$ 1,833,587.07	\$ 1,833,600.00

	Estimated Cost	
	Actual	Rounded
Roadway	\$ 1,833,587.07	\$ 1,833,600.00
E&C (13%)	\$ 238,366.32	\$ 238,400.00
	<u>\$ 2,071,953.39</u>	<u>\$ 2,072,000.00</u>
Future Value	\$2,281,875.61	\$2,282,000.00
NEPA Services	\$600,000.00	\$600,000.00
Pre Engineering	\$ 300,000.00	\$300,000.00
Utilities	\$ 525,000.00	\$525,000.00
R/W	\$ 205,000.00	\$ 205,000.00
Total	<u>\$3,911,875.61</u>	<u>\$3,912,000.00</u>

New Cumberland - WV 2
Alternative No. 2
 South Alignment

ROADWAY	Estimated Cost	
	Actual	Rounded
Clearing and Grubbing	\$ 7,900.00	\$ 7,900.00
Earthwork	\$ 97,680.00	\$ 97,700.00
HMA Wearing & Base	\$ 217,094.42	\$ 217,100.00
Aggregate (Base & Sh)	\$ 40,933.88	\$ 40,900.00
Subgrade	\$ 30,241.83	\$ 30,200.00
Drainage	\$ 208,664.77	\$ 208,700.00
M.O.T.	\$ 120,101.20	\$ 120,100.00
Erosion Control	\$ 12,500.00	\$ 12,500.00
Retaining Walls	\$ 600,000.00	\$ 600,000.00
Sidewalks w/ Curb Ramps	\$ 36,018.12	\$ 36,000.00
All Other Items	\$ 367,956.14	\$ 368,000.00
Mobilization	\$ 86,954.52	\$ 87,000.00
Total Roadway Construction	\$ 1,826,044.88	\$ 1,826,100.00

	Estimated Cost	
	Actual	Rounded
Roadway	\$ 1,826,044.88	\$ 1,826,100.00
E&C (13%)	\$ 237,385.83	\$ 237,400.00
	<u>\$ 2,063,430.72</u>	<u>\$ 2,063,500.00</u>
Future Value	\$ 2,272,489.46	\$ 2,273,000.00
NEPA Services	\$ 600,000.00	\$ 600,000.00
Pre Engineering	\$ 300,000.00	\$ 300,000.00
Utilities	\$ 525,000.00	\$ 525,000.00
R/W	\$ 515,000.00	\$ 515,000.00
Total	<u>\$ 4,212,489.46</u>	<u>\$ 4,213,000.00</u>

New Cumberland - WV 2
Alternative No. 3
North Alignment

ROADWAY	Estimated Cost	
	Actual	Rounded
Clearing and Grubbing	\$ 7,900.00	\$ 7,900.00
Earthwork	\$ 97,680.00	\$ 97,700.00
HMA Wearing & Base	\$ 171,677.72	\$ 171,700.00
Aggregate (Base & Sh)	\$ 25,313.84	\$ 25,300.00
Subgrade	\$ 16,445.20	\$ 16,400.00
Drainage	\$ 205,899.62	\$ 205,900.00
M.O.T.	\$ 123,331.20	\$ 123,300.00
Erosion Control	\$ 12,500.00	\$ 12,500.00
Retaining Walls	\$ 600,000.00	\$ 600,000.00
Sidewalks w/ Curb Ramps	\$ 55,068.58	\$ 55,100.00
All Other Items	\$ 383,491.82	\$ 383,500.00
Mobilization	\$ 84,965.40	\$ 85,000.00
Total Roadway Construction	\$ 1,784,273.38	\$ 1,784,300.00

	Estimated Cost	
	Actual	Rounded
Roadway	\$ 1,784,273.38	\$ 1,784,300.00
E&C (13%)	\$ 231,955.54	\$ 232,000.00
	<u>\$ 2,016,228.92</u>	<u>\$ 2,016,300.00</u>
Future Value	\$ 2,220,505.35	\$ 2,221,000.00
NEPA Services	\$ 600,000.00	\$ 600,000.00
Pre Engineering	\$ 300,000.00	\$ 300,000.00
Utilities	\$ 725,000.00	\$ 725,000.00
R/W	\$ 1,060,000.00	\$ 1,060,000.00
Total	<u>\$ 4,905,505.35</u>	<u>\$ 4,906,000.00</u>

New Cumberland - WV 2
Alternative No. 4
 Bypass alignment

ROADWAY	Estimated Cost	
	Actual	Rounded
Clearing and Grubbing	\$ 59,250.00	\$ 59,300.00
Earthwork	\$ 524,849.80	\$ 524,800.00
HMA Wearing & Base	\$ 332,749.34	\$ 332,700.00
Aggregate (Base & Sh)	\$ 73,383.57	\$ 73,400.00
Subgrade	\$ 52,846.10	\$ 52,800.00
Drainage	\$ 287,500.00	\$ 287,500.00
M.O.T.	\$ 133,358.00	\$ 133,400.00
Erosion Control	\$ 25,000.00	\$ 25,000.00
Retaining Walls	\$ 870,000.00	\$ 870,000.00
All Other Items	\$ 623,357.75	\$ 623,400.00
Mobilization	\$ 151,114.73	\$ 151,100.00
Total Roadway Construction	\$ 3,133,409.29	\$ 3,133,400.00

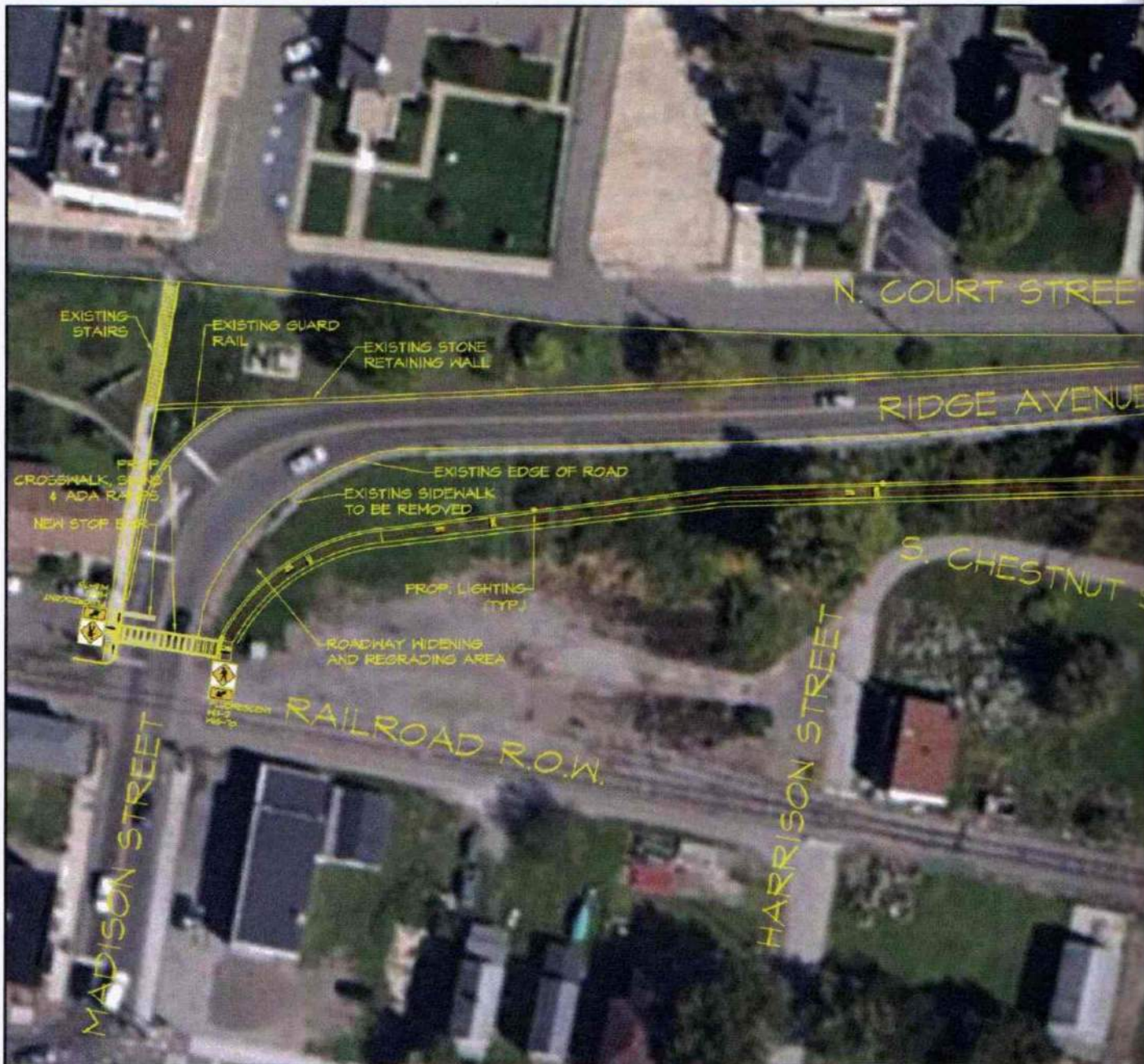
	Estimated Cost	
	Actual	Rounded
Roadway	\$ 3,173,409.29	\$ 3,173,500.00
E&C (13%)	\$ 412,543.21	\$ 412,500.00
	<u>\$ 3,585,952.49</u>	<u>\$ 3,586,000.00</u>
Future Value	\$ 3,949,267.19	\$ 3,950,000.00
NEPA Services	\$ 600,000.00	\$ 600,000.00
Pre Engineering	\$ 500,000.00	\$ 500,000.00
Utilities	\$ 825,000.00	\$ 825,000.00
R/W	\$ 1,480,000.00	\$ 1,480,000.00
Total	<u>\$ 7,354,267.19</u>	<u>\$ 7,355,000.00</u>

WV 2 - NC Alternative No. 5A
New road alignment on Chester St

	Estimated Cost	
<u>ROADWAY</u>	Actual	
CLEARING AND GRUBBING	\$ 160,000.00	\$ 160,000.00
EARTHWORK	\$ 515,500.00	\$ 515,500.00
HMA WEARING & BASE	\$ 1,555,713.12	\$ 1,555,700.00
AGGREGATE	\$ 368,056.77	\$ 368,000.00
SUBGRADE	\$ 247,168.79	\$ 247,200.00
DRAINAGE	\$ 1,178,619.29	\$ 1,178,600.00
M.O.T.	\$ 283,291.78	\$ 283,300.00
SIGN & PAVE MARKINGS	\$ 100,000.00	\$ 100,000.00
ROADWAY LIGHTING	\$ 250,000.00	\$ 250,000.00
EROSION CONTROL	\$ 52,000.00	\$ 52,000.00
SIDEWALK,CURB & GUTTER	\$ 825,358.18	\$ 825,400.00
ALL OTHER ITEMS	\$ 1,236,790.13	\$ 1,236,800.00
MOBILIZATION	\$ 203,174.94	\$ 203,200.00
TOTAL ROADWAY CONSTRUCTION	\$ 6,975,673.00	\$ 6,975,700.00

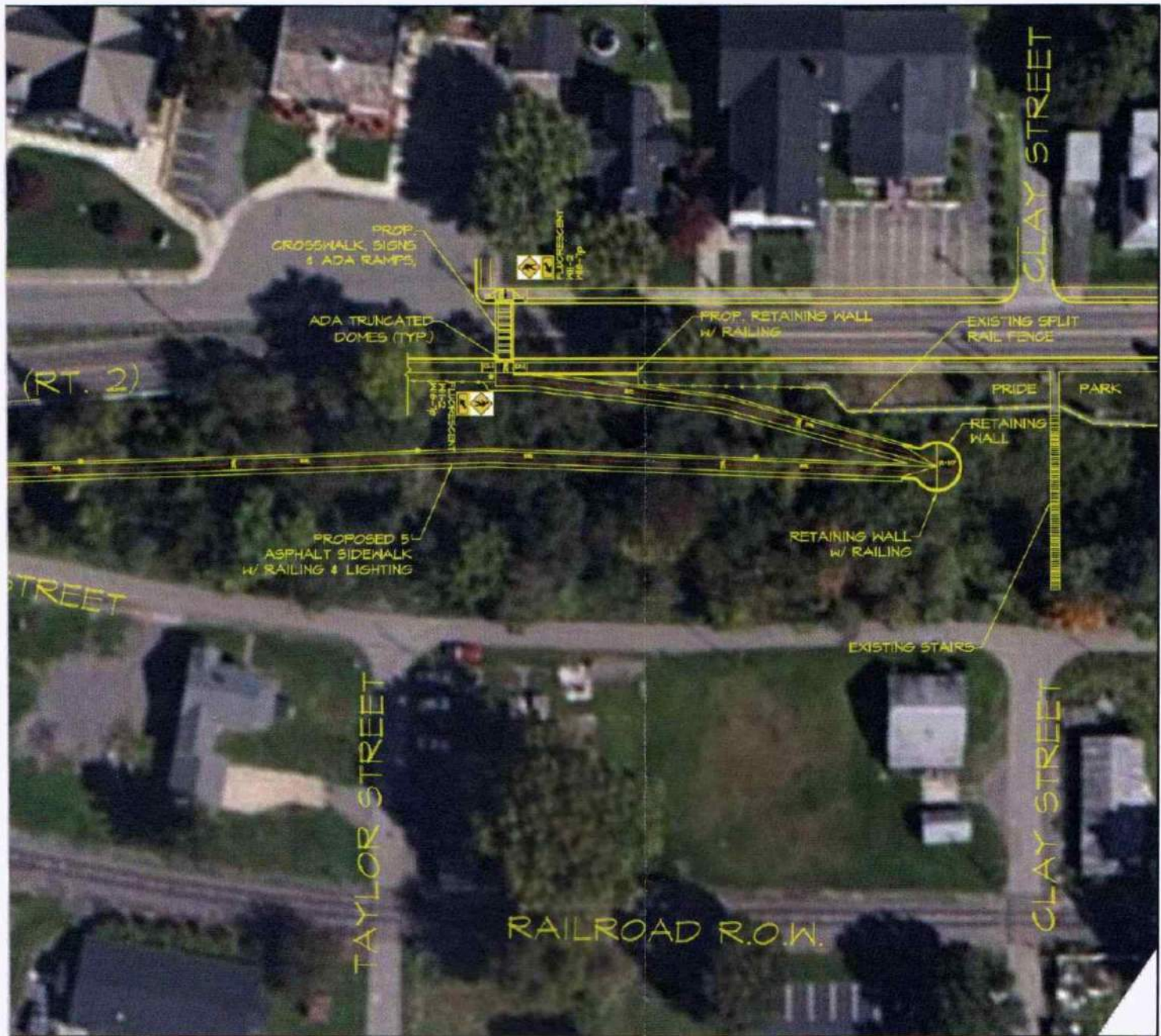
	Estimated Cost	
	Actual	
Roadway	\$ 6,975,673.00	\$ 6,975,700.00
E&C (13%)	\$ 906,837.49	\$ 906,900.00
	<u>\$ 7,882,510.49</u>	<u>\$ 7,882,600.00</u>
Future Value	\$ 8,681,135.65	\$ 8,682,000.00
NEPA Services	\$ 600,000.00	\$ 600,000.00
Pre Engineering	\$ 900,000.00	\$ 900,000.00
Utilities	\$ 2,352,875.00	\$ 2,353,000.00
R/W	\$ 5,074,000.00	\$ 5,074,000.00
Total	<u>\$ 17,608,010.65</u>	<u>\$ 17,609,000.00</u>

APPENDIX “C”



QUANTITIES.

1. 5' ASPHALT SIDEWALK- 1,065 L.F. (3,438 S.F.)
2. SIDEWALK RAILING- 1,023 L.F.
3. ADA RAMP CONC.- 423 S.F.
4. ADA RAMP TRUNCATED DOMES- 64 S.F.
5. CROSSWALK SIGNS- 4 E.A.
6. CONC. SIDEWALK REPAIR- 264 S.F.
7. SIDEWALK LIGHTING (150' o.c.)- 7 E.A.



SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

DRAFT
NOT FOR CONSTRUCTION



NO.	DATE	REVISION		DATE
		DESCRIPTION	BY	

SITE PLAN
STATION HILL SIDEWALK RELOCATION
NEW GARDENBURG, WEST VIRGINIA

PLANNING NO.
C1.1
SHEET NUMBER
27122034

CI
NOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
48 DORLEY STREET, SUITE 202
MORGANTOWN, WV 26501
PHONE (304) 296-3611
FAX (304) 296-8046
WWW.CI.COM

APPENDIX “D”



Looking north at Chester Street



Looking north across Madison Street at historic building impacted in Alt. No. 3



Looking north at property impacted by Alternative No. 1



Chester Street



Garage Business impacted by Alternative No. 2



Looking south at Chester Street



Looking south at WV 2 railroad crossing



Ridge Avenue near Court Street at end of project



Properties and Buildings impacted by Alternative No. 4



Properties and Buildings impacted by Alternative No. 4



Chester Street impacted by Alternative No. 5A

APPENDIX “E”

Field Review

A field review for the subject project was held on May 30, 2013, at the intersection. The following is a list of attendees:

1. Mark White DDC
2. Harry Bradley DDC
3. Kevin Kaufman D-6
4. James Witherow D-6
5. Chuck Bartley DR
6. Gary Scott DDR
7. Richard Blackwell City of New Cumberland
8. Shawn Marks City of New Cumberland
9. Linda McNeil New Cumberland Mayor Elect
10. Tim Turley Local Business Owner
11. Randy Swartzmiller House of Delegates
12. Bob Vidas Hancock County Commission

A draft copy of the design study was sent out for comments on May 15, 2013, and a draft copy was also sent to Right of Way Division and the Utilities Section for estimates to be returned by June 15, 2013. Comments for this study were received at the field review or by email/memorandum. The following is a summary of the comments received.

Comments:

Mr. Lonnie Mills, Geotechnical Section

1. Provided a geotechnical overview for this design study.
 - *Incorporated into final report.*

Mr. Gary Scott, Review Section – Utilities

1. Provided utility and railroad estimates for alternatives.
 - *Incorporated into final report.*

Mr. Chuck Bartley, Right of Way Division

1. Provided right of way estimates for alternatives.
 - *Incorporated into final report.*

Mr. Randy Epperly, Environmental Section

1. Provided environmental overview for this design study.
 - *Incorporated into final report.*

New Cumberland City Council Meeting

A meeting of the City Council for the subject project was held on April 15, 2014, in New Cumberland. The following is a list of the attendees and a summary of the meeting:

1. Regional Coordinator for US Senator Joe Manchin III
2. Senator Rocky Fitzsimmons
3. Senator Jack Yost
4. Linda McNeil New Cumberland Mayor
5. Will White City of New Cumberland
6. Brian Webster City of New Cumberland
7. Miriam Hess City of New Cumberland
8. Shawn Marks City of New Cumberland
9. Judith Bartley City of New Cumberland
10. Tom Badgett D-6
11. Danny Sikora D-6
12. Mark Edge D-6
13. Paul Hicks D-6
14. Jay Wallace D-6
15. Mark White DDC
16. Rany Epperly DDE
17. Steve Boggs DDC

OPEN DISCUSSION

- RT 2. Safety issues with truck traffic on station hill and making turn at traffic light
- Rt 2 south bound lane base failures heavy trucks causing base failures
- Utility poles SB being hit
- Potential of trucks going over hill striking natural gas pump station

- Mark White presented design report from May 15, 2013 and announced public workshop on May 29 2014 from 4pm to 7 pm at the Rockefeller Center. Flyers handed out. Mark and team also discussed environmental issues and high cost alt. 5 along river. Mayor asked if this could still be discussed at public meeting.

- Mayor asked if trucks could be routed to Ohio Rt 7 ,the answer was that this is WV route and trucks can't be prohibited.

- Short term repairs to Rt 2 south where base repairs are needed. Estimated \$147,000. To be programmed by district.

- The city was encouraged to enforce the speed and try and prevent the reckless truck driving. With limited police staff the mayor will call upon the Sheriff and State Police.

- Overall meeting was very positive by all parties as well as support by delegate Randy Swartzmiller who regretfully could not attend.

Public Meeting

A public meeting for the subject project was held on May 29, 2014, at the Rockefeller Center in New Cumberland. The following is a summary of the comments received during the comment period:

WV2/New Cumberland Summary of Public Comments

There were a total of 55 comments from the WV 2/New Cumberland public meeting. The following is a breakdown of the alternatives favored:

- *Alternative One*- 0
- *Alternative Two*- 0
- *Alternative Three*- 8- All had the exact same wording and mostly came from the same family.
- *Alternative Four*- 5
- *Alternative Five*- 32
- *Alternative Four or Five*- 4

Some of the comments were that Alternative #5 is the most logical, straightest, and was a permanent fix while the others are temporary. There were multiple comments that #5 is needed because Ridge Avenue (Rt. 2) is slipping and traffic needs to be taken off of it, particularly trucks. One comment suggested that the flooding is no longer an issue along Alternative #5 route.

Other comments suggested that #4 is the better solution because it is cheaper than #5 but there were concerns about relocating businesses along Alternative #4.

The mayor submitted 2 comments and would like to see an alternative along South Chestnut St. and not #5. The County Commission favored #5 and then #4 as its second choice. The MPO favored #4. Delegate Swartzmiller feels #5 is the best solution but #4 is more feasible.

One comment proposed, with a sketch, a different alternative by taking the railyard and making a straight shot along South Chestnut and North Chestnut.

Other comments did not favor a proposed alternative but stressed that the town needs improved and widened roads.

Alternative No. 5A

This alternative was developed based on Alternative No. 5 (October 2014 Report) due to environmental concerns and comments received at the public meeting. More detailed survey was acquired and a more detailed estimate has been developed.

Mr. Chris Miller, Right of Way Division

1. Provided updated right of way estimates for Alternative No. 5A.
 - *Incorporated into final report.*

Mr. Anthony Carovillano, Engineering Division

1. Provided updated utility relocation estimates for Alternative No. 5A.
 - *Incorporated into final report.*
2. Noted that railroad (Norfolk Southern) will require the removal of one crossing, at a minimum, for every new crossing requested.
 - *Point noted.*
3. Noted that the existing railroad crossings on WV 2 at Madison Street and north of this crossing, are scheduled to be upgraded later in 2017.
 - *Point noted.*