CHARLOTTESVILLE-ALBEMARLE TRANSPORTATION COALITION, INC.

A Tale of Two Roads

1997 North Grounds Connector & 2012 Leonard Sandridge Road

Refer to maps/plans at end of narrative for clarity.

Background:

On June 12, 1986, the Charlottesville-Albemarle Bypass Committee (composed of representatives from Charlottesville City Council and Planning Commission, Albemarle County Board of Supervisors and Planning Commission, and staff) released its final report recommending a series of projects to accommodate future area traffic needs. Among these recommendations was *"construction of an interchange on the U.S. 250 Bypass to serve the north grounds of the University of Virginia."* This report was accepted by the Board of Supervisors on September 10, 1986 and sent to VDOT on September 11, 1986.

The Commonwealth Transportation Board (CTB) resolutions of November 15, 1990 and December 19, 1991 stated that *"access to North Grounds at the University of Virginia [should be developed] as soon as possible."* In a March 31, 1993 letter to Leonard Sandridge (Senior Vice President, UVA) Jack Hodge (Chief Engineer, VDOT) stated, *"The North Grounds access facility will begin with access to existing Route 29/250 located just east of St. Anne's- Belfield School .... The location of the connection of the North Grounds facility to Route 29/250 allows for future connection of this facility to the Alternative 10 alignment …"* Clearly, VDOT was planning to construct an access facility to the North Grounds of UVA from the existing Route 29/250 Bypass before construction of the Alternative 10 Bypass.

Apparently, VDOT's concern with impacts on St. Anne's - Belfield Lower School, the Westover property, and University Village, and with the redesign/reconstruction of the Route 29/250 interchange caused a shift of the Bypass' southern terminus further east, tying in with the proposed North Grounds Connector and making it a part of the southern terminus interchange instead of a separate intersection. In a July 26, 1994 letter to Hodge, Sandridge concurred with this decision stating, *"It makes sense to delay the design of the limited access road to the North Grounds until Line 10 is designed."*

As a result of requests from the Canterbury Hills Neighborhood Association in February 1994, including those made at the February 13, 1994 Location Public Hearing on the termini revisions, the CTB agreed, in its March 16, 1995 resolution, to revise the northern and southern termini of the Bypass and to relocate the proposed North Grounds Connector farther away from the Canterbury Hills neighborhood and closer to the University's North Grounds. This caused a greater impact to UVA's Darden Business School and the Law School. In his March 3, 1994 letter to Robert Garland (Secretary, Canterbury Hills Association) Hodge stated, *"This shift was done in an effort to reduce the impacts to the Canterbury Hills area as much as possible ... There are several problems associated with shifting the alignment even closer to the North Grounds Complex … The terrain and drainage area would require a design which*

would virtually eliminate any usable land for The University to develop parking facilities or additional expansion of the School of Business." A Parsons Brinckerhoff meeting summary dated December 14, 1995 acknowledged that *"Shifting Route 250 to the south [away from Canterbury Hills] will take more land from the University of Virginia …and generally minimizes the impact on …Canterbury Hills Subdivision."*

On April 11, 1997, Thomas Saunders, III (UVA Darden School Foundation Trustee) wrote to Hovey Dabney (Rector, UVA) and John Casteen, III (President, UVA) stating the Darden School Foundation's unanimous agreement that the *"[North Grounds Connector] will have an extremely negative impact on the Darden School's environment and the Foundation's ability to support the School's needs at the level anticipated."* The Trustees requested that the University *"join us in delaying the process at all appropriate levels until a thorough study can be completed taking fully into consideration the concerns the Darden School has with respect to this project and its long term implications for the School and the North Grounds Community."* The letter further stated, *"key leaders of the Law School Community (Foundation and Alumni Association) agree with our position and will officially act on this resolution at their upcoming meeting now scheduled to begin May 1, 1997."*

Accordingly, on April 15, 1997, Joseph Carter, Jr. (President, UVA Law School Foundation) wrote to the Chairman and members of the CTB his belief that *"this project appears to have a very negative impact on the Law School as well as the Darden School …"* and his *"hope that the [CTB] will postpone official action on the interchange and connector road for additional study in conjunction with interested parties on the North Grounds and at the University."*

On April 16, 1997, Sandridge wrote to Robert Martinez, Secretary of Transportation, suggesting that the northbound access ramps be located *"as far distant as is possible from the new Darden School of Business and law School …Every possible aesthetic measure should be taken to preserve and enhance the University's considerable investment in the setting and appearance of its new Darden School of Business and the Law School …[including] acoustic buffering using sound walls faced with materials compatible with those historically in use at the University"* and the *"intent that access from the Bypass to the North Grounds Connector be controlled by the University."*

On April 17, 1997, the CTB adopted the design of the Route 29 Bypass in a resolution which also stated, *"Modification to the North Grounds Connector road … shall be no wider than 33'-0" curb to curb, and its right of way no wider than would be appropriate for a roadway of that width; The northbound access ramps "E" and "F" to the Route 250 Bypass [shall be] revised to be relocated northward as close as is physically possible to the new alignment of the Route 250 Bypass, i.e., as far distant as is possible from the new Darden School of Business and Law School; [and]*

Every possible aesthetic measure [shall be] taken to preserve and enhance the University's considerable investment in the setting and appearance of its new Darden School of Business and the Law School, including visual buffering using plant materials of appropriate size and scale, and density of coverage, as well as acoustic buffering using sound walls faced with materials compatible with those historically in use at the University. In addition, any stormwater detention ponds which may be required in the vicinity of the University as a result of the new Bypass or the North Grounds Connector road shall be

designed in conformance with the principles of the University's Water Resources Management plan. Concurrence from the Board of Visitors, of the University of Virginia, with the proposed design modifications on or before July 15, 1997."

On January 15, 1998, the CTB passed a resolution approving the design of the North Grounds Connector as a 4-lane road (not the 2-lane road approved by the CTB in its April 17, 1997 resolution).

North Grounds Connector (NGC):

The 1997 "*Plan & Profile of Proposed State Highway"* provides details and information on the footprint of the NGC. The notation "*Begin Limits of Work*" on Massie Rd. is about 315' south of the present stoplight at the UVA North Grounds Gym as shown in Figure 1. The distance from this NGC beginning point on Massie Rd. to the center of the proposed bridge over the existing Rt. 29/250 Bypass is approximately one-half mile for the four-lane roadway. However, the NGC construction stops about 269' before the proposed bridge over the existing Rt. 29/250 Bypass, and the proposed Rt. 29 Bypass construction starts at this point, as indicated in Figures 2, 3, & 4. The proposed 220' bridge over the existing Rt. 29/250 Bypass has four lanes. There are two stoplights, one about 112' from the south end and one 123' from the north end of this bridge. At least six references to the "*Route 29 Construction Baseline*" are shown on the south side of this bridge in Figures 3 & 4.

From the stoplight north of the proposed bridge over the existing Rt. 29/250 Bypass, the proposed Rt. 29 Bypass (one lane) continues north near St. Anne's Belfield School. Ramp A is the three tiered flyover carrying the two lane NB proposed Rt. 29 Bypass traffic to join the proposed Rt. 29 Bypass. Ramp B carries the two lane SB proposed Rt. 29 Bypass traffic from the proposed Bypass to join existing Rt. 29/250 SB-WB.

Thus, the **1997 Plans for the proposed Rt. 29 Bypass are very clear in identifying the beginning and the ending of the construction of the NGC – and therefore the beginning of the proposed Rt. 29 Bypass as a point approximately 269' south of the proposed bridge over the existing Rt. 29/250 Bypass**.

Also, it is clear that this 1997 design takes the NB traffic from existing Rt. 29/250 onto the flyover Ramp A and thence to the proposed Rt. 29 Bypass without a significant reduction in speed. Likewise, the proposed Rt. 29 Bypass SB traffic would merge into the existing SB-WB Rt. 29/250 via Ramp B. The SB proposed Rt. 29 Bypass traffic headed to UVA, EB Rt. 250 or Faulconer Dr. (STAB) would proceed on the proposed Rt. 29 Bypass to the stoplight just before the proposed bridge over the existing Rt. 29/250 Bypass.

Leonard Sandridge Road (LSR):

This road was formerly known as the North Grounds Connector. After the Southern Environmental Law Center (SELC) 1998 Rt. 29 Bypass lawsuit against VDOT and the FHWA over environmental issues

and its resolution with the publication of the 2003 Supplemental Environmental Impact Statement, the actual construction of the proposed Bypass was still blocked by the Charlottesville-Albemarle Metropolitan Planning Organization's resolution against allocating any federal funds. Thus, there was a lull in enthusiasm for the proposed Bypass. Since LSR was incorporated into the 1997 Bypass plans, possibilities for a UVA outlet onto the existing Rt. 29/250 Bypass were very dim for a few years.

Then, the University got its desired roadway to ease congestion in the North Grounds area as an estimated $4.1 million component of the John Paul Jones Arena construction cost. The LSR construction was completed in January 2006 – about five months ahead of schedule. The Charlottesville City Council gave approval to the road only if there would be no stoplight on the existing Rt. 29/250 Bypass – thus, the present design allows only east-bound traffic to enter and exit onto the existing Rt. 29/250 Bypass. With a design speed of 25 mph, the one-half mile LSR has two 12 feet wide lanes.

Presently, additions to the current LSR are incorporated into the latest proposed Rt. 29 Bypass design by the Design-Build contractor Skanska-Branch, made public in July 2012. Some of the details of this latest modified design of LSR are stated below.

The 2012 "*Plan & Profile of Proposed State Highway: Design-Build Project*" dated April 17, 2012 and labeled "*Preliminary Plans*" provides details and information on the footprint of the additions to LSR. The notation "*Begin Project Sta. 7+60 [760'] Leonard Sandridge Road*" is located about 620' south of the present Rt. 250 Bypass EB lane (See Figure 5). The roadway indicates two lanes at the "Begin" point. Approximately ~160' north from this "Begin" point toward the existing Rt. 29/250 Bypass the plans indicate four lanes on LSR, with one of these lanes intersecting at about Sta. 9+50 from Ramp D for vehicles headed into the North Grounds from the existing EB/NB Rt. 29/250 Bypass.

At ~Sta. 11+45 there is a stoplight, at which there are two additional lanes intersecting with LSR from Ramp D for traffic headed NB onto the proposed Bypass or for traffic headed to Faulconer Dr. and STAB by crossing the proposed bridge over the existing Rt. 29/250 Bypass and exiting WB on Ramp A-Spur at a second stoplight at about Sta. 14+90. The two stoplights are approximately 345' apart. All of the Ramp D traffic headed north at the first stoplight would, after turning left, immediately encounter an uphill 11.36% grade on LSR for ~173' to the beginning of the bridge, where the grade changes to 4.26% for approximately the next 500'.

Between the two stoplights there is one SB lane and two NB lanes and a 104' long bridge (Sta. 13+22.7 to Sta. 14+26.5) over the existing Rt. 29/250 Bypass EB/WB traffic. Notations at Sta. 17+00 indicate that LSR proceeds at least this far north, with one lane SB and two lanes NB to the proposed Rt. 29 Bypass. There is no notation about where LSR ends.

At approximately Sta. 20+00 one lane from the SB proposed Rt. 29 Bypass exit onto SB Ramp A, which in turn, intersects with the existing WB/SB Rt. 29/250 Bypass (See Figure 6). At Sta. 27+50, the first notations north of the proposed bridge over the existing Rt.29/250 Bypass that actually designates the proposed Rt. 29 Bypass lanes are labeled "*US 29 Bypass SB & US 29 Bypass NB",* and this designation continues northward to the northern terminus.

However, **no definitive location can be determined from the plans as to the exact intersection of Leonard Sandridge Road and the proposed Rt. 29 Bypass**.

"*Attachment 2.5, Minimum Roadway Design Criteria Table*" (Addendum 3, Part 2 Atachments 3/27/2012) states that the Functional Class of the proposed Rt. 29 Bypass is "*Urban, Other Principal Arterial,*" has a maximum grade of 6% and a design speed of 60 mph. However, the Functional Class for Leonard Sandridge Road is "*Local Street System,*" which has a maximum grade of 15% (GS-8) and a design speed of 30 mph. Thus, it is obvious that a major reason that LSR is now designed to cross over the existing Rt. 29/250 Bypass is so that an 11.36% grade can be utilized on the south side of the proposed bridge to give NB traffic access to the proposed Rt. 29 Bypass. This greatly contrasts with the 1997 design plans.

In summary, this arrangement will require all traffic headed north onto the proposed Rt. 29 Bypass to exit onto Ramp D of the southern interchange and proceed to the first stoplight at LSR. After making a sharp left turn, vehicles encounter an uphill +11.36% grade for ~162' to the proposed bridge over the existing Rt. 29/250 Bypass, then a +4.26% grade for another ~163' over the proposed bridge to the second stoplight (which is also on the +4.26% grade) before proceeding for ~300' on the same +4.26% grade before a slight downhill grade.

Now imagine one of the heavily loaded (≥ 80,000 lbs.) tractor trailer trucks travelling on the current Rt. 29/259 Bypass (**a Highway of National Significance and a Principal Arterial**) and turning northbound onto the proposed Rt. 29 Bypass by exiting onto Ramp D at the southern interchange, then coming up to the first stoplight on Leonard Sandridge Road (**a Local Street System road**). The tractor trailer would stop on an uphill 2.0% grade on Ramp D. According to three different trucking company representatives, in order to negotiate a left turn, the truck would have to be in the right-hand lane of the two left-turn lanes, and any vehicle in the left lane would be certainly be scraped or hit by the turning truck. But starting from a stopped position and trying to accelerate up the 162' of an 11.36% grade and then another 163' of a 4.26% grade to the second stoplight takes a considerably longer time compared to automobiles – and quite likely two cycles of the stoplights would be required. All three of the trucking companies' representatives stated that they would not route any of their heavy trucks to take this road due to congestion and safety issues. A plot of the elevation profile for LSR showing the stoplights and grades encountered is very informative (See Figure 7).

The Lynchburg-Danville community should be informed that all of their **north-bound through traffic would have to take a detour of one-half mile onto a ramp and a Local Street System road, which includes two stoplights, an 11.36% grade for 162', and a 4.26% grade for ~500' – before entering onto the proposed Rt. 29 Bypass**.

Comparison of Two Design Plans for a UVA Connector Road to the Rt. 250/29 Bypass

WHAT	North Grounds Connector 1997-2003 Plans	Leonard Sandridge Road 2012 Plans
Functional Class	**Local Street System**	**Local Street System**
Type traffic proposed to carry	**Local**	**Local + NB through traffic to proposed Rt. 29 Bypass**
Distance from: Beginning of the proposed NG Connector work TO Center line of proposed bridge over Rt. 29/250 Bypass	**~2,535' south of bridge**	**~615' south of bridge**
Distance from: Beginning of the proposed Rt. 29 Bypass project TO Center line of proposed bridge over Rt. 29/250 Bypass	**~374' south of bridge**	**~400' to ~1,400' north of bridge** [Sta. 1,375 to 1,750 – 2,750]
Total length of the UVA Connector Road project	**2,162' (~0.4 mi.)** [Sta. 15,105.00 to 15,764.12]	**~1,000' to ~2,000'** [Sta. 760.00 to ~1,750 – 2,750]
Number of traffic lanes for UVA Connector Road	**4**	**2** [At "Begin" point Sta. 7+60] **3** [Sta. ~ **4** [Sta. 7+60 to ~8+50]
Length of proposed Bridge over the existing Rt. 29/250 Bypass	**220'**	**104'**
Design speed	**30 mph**	**30 mph**
Number of Stoplights at Southern Terminus	**2**	**2**
Distance between two stoplights at Southern Terminus	**444'**	**345'**
Average time of travel between stoplights – from stopped vehicle	**15 sec @ 20 avg mph** **30 sec @ 10 avg mph** **60 sec @ 5 avg mph**	**~12 sec @ 20 avg mph** **~24 sec @ 10 avg mph** **~47 sec @ 5 avg mph**
Projected Total Traffic count for proposed Rt. 29 Bypass - 2036 (Min. Roadway Design Criteria Table 3/2012)	-	**32,300 vpd**
Projected Total Traffic count for proposed Rt. 29 Bypass - 2040 (EA Noise Rept. 8/2012 & Bypass Traffic Tech. Rept. 8/2012)	-	**27,798 vpd**
Projected Trailer (heavy)Trucks count per day on Bypass **2036** **2040**	-	**9% = 2,907** **3% x .75 = 625**
Rate of Projected Trailer Trucks count per 15 hr on Bypass **2036** **2040**	-	**19 sec/trk or 3.2 trk/min** **86 sec/trk or 0.69 trk/min**
Maximum grades encountered at Southern Interchange by proposed Rt. 29 Bypass Traffic	**NB +4.50% for ~240'** (Ramp A - Flyover) **SB -4.91% for ~460'** (Ramp B to Rt.29/250Bypass)	**NB +11.34% for ~173'** (LSR) **SB -6.15% for ~225'** (Ramp B)

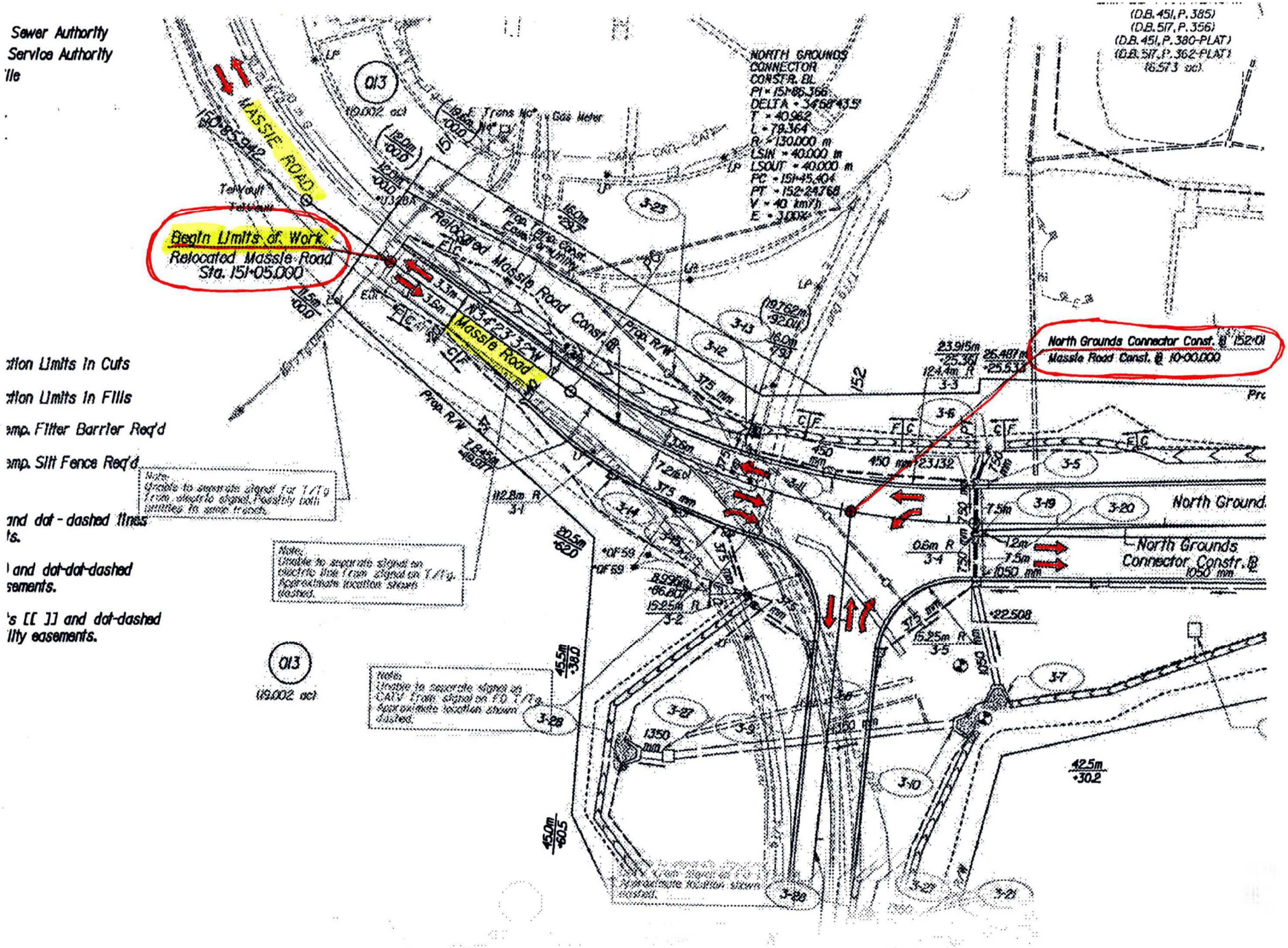
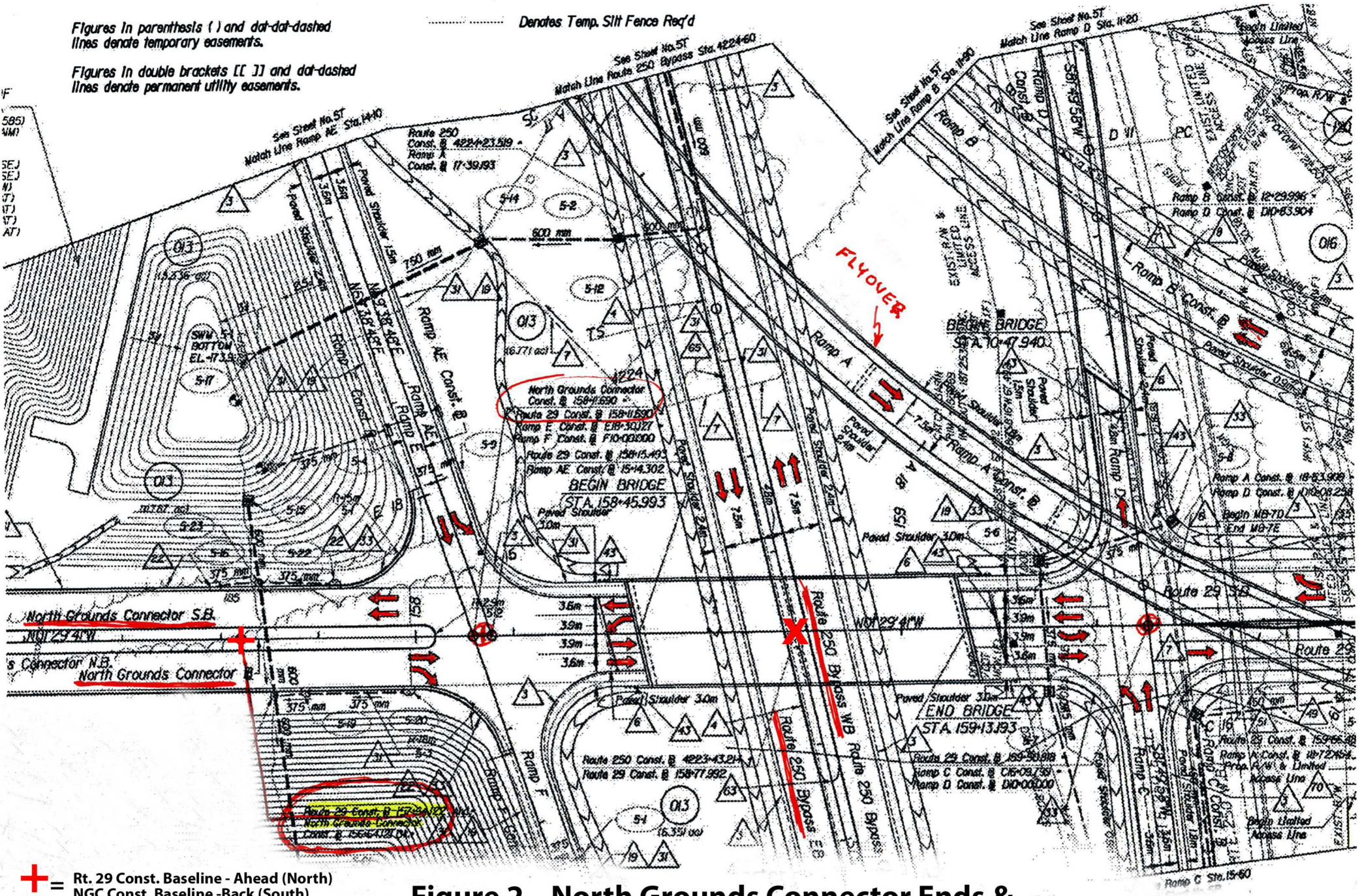


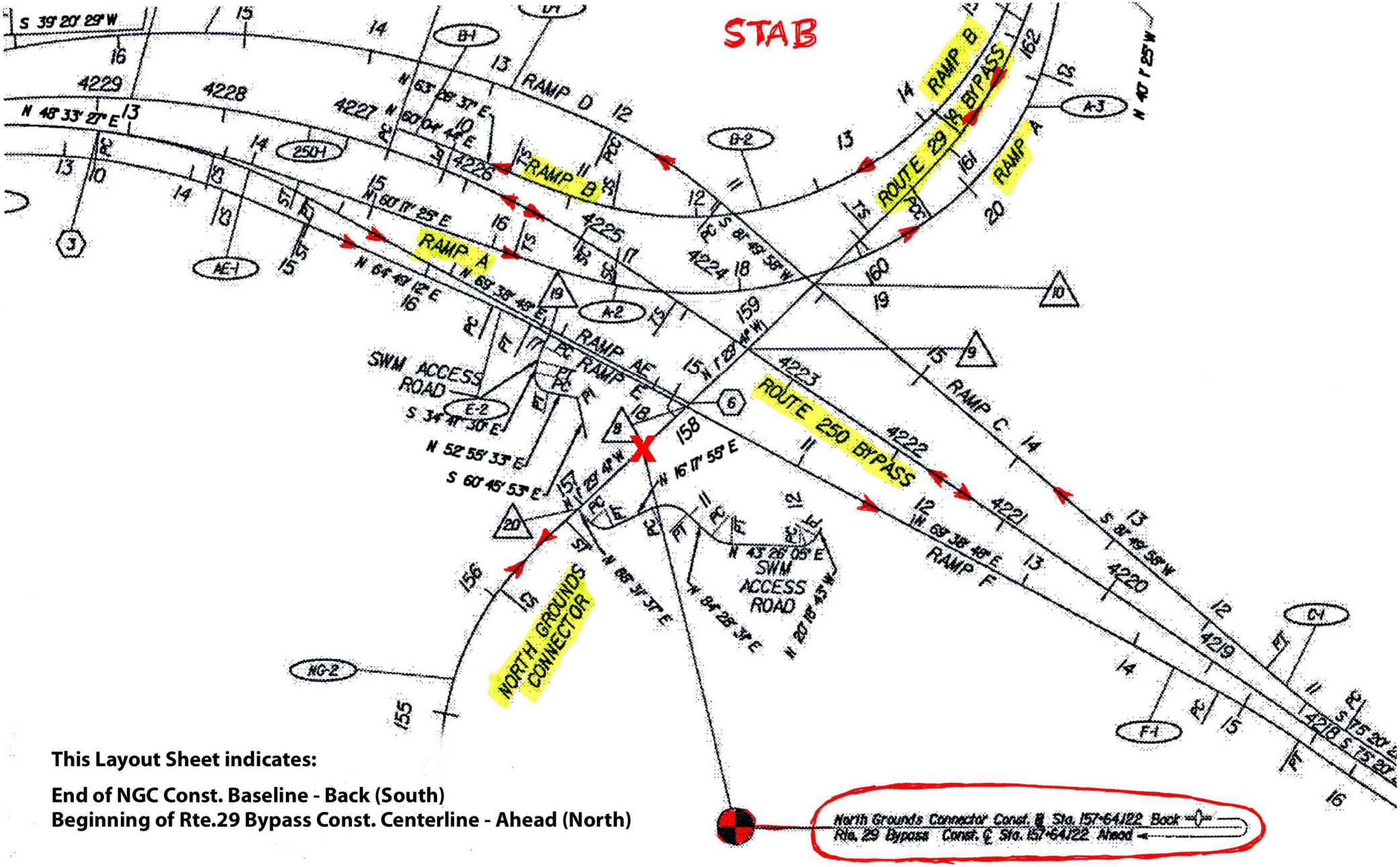
Figure 1. North Ground Connector - Begin Work at Massie Rd.
1997 Plans (Sheet 5- p. 156)



+ = Rt. 29 Const. Baseline - Ahead (North)
NGC Const. Baseline -Back (South)

X = Center of Bridge over Rt. 29/250 Bypass

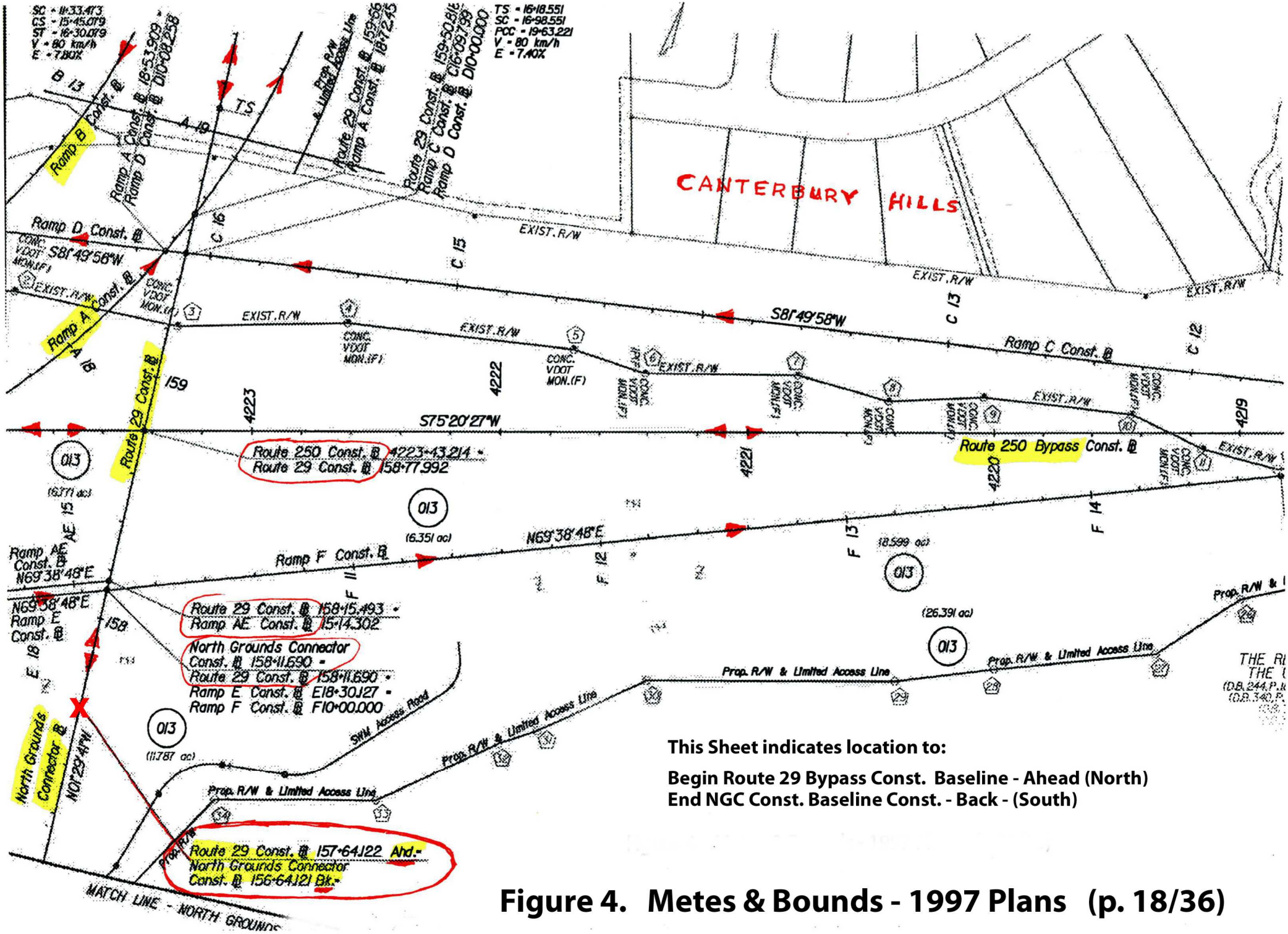
Figure 2. North Grounds Connector Ends & Proposed Rt. 29 Bypass Begins - 1997 Plans (Sheet3 - p. 6/56)



This Layout Sheet indicates:

End of NGC Const. Baseline - Back (South)
Beginning of Rte.29 Bypass Const. Centerline - Ahead (North)

Figure 3. Alignment Layout Sheet - 1997 Plans (p. 13/36)



This Sheet indicates location to:

Begin Route 29 Bypass Const. Baseline - Ahead (North)
End NGC Const. Baseline Const. - Back - (South)

Figure 4. Metes & Bounds - 1997 Plans (p. 18/36)

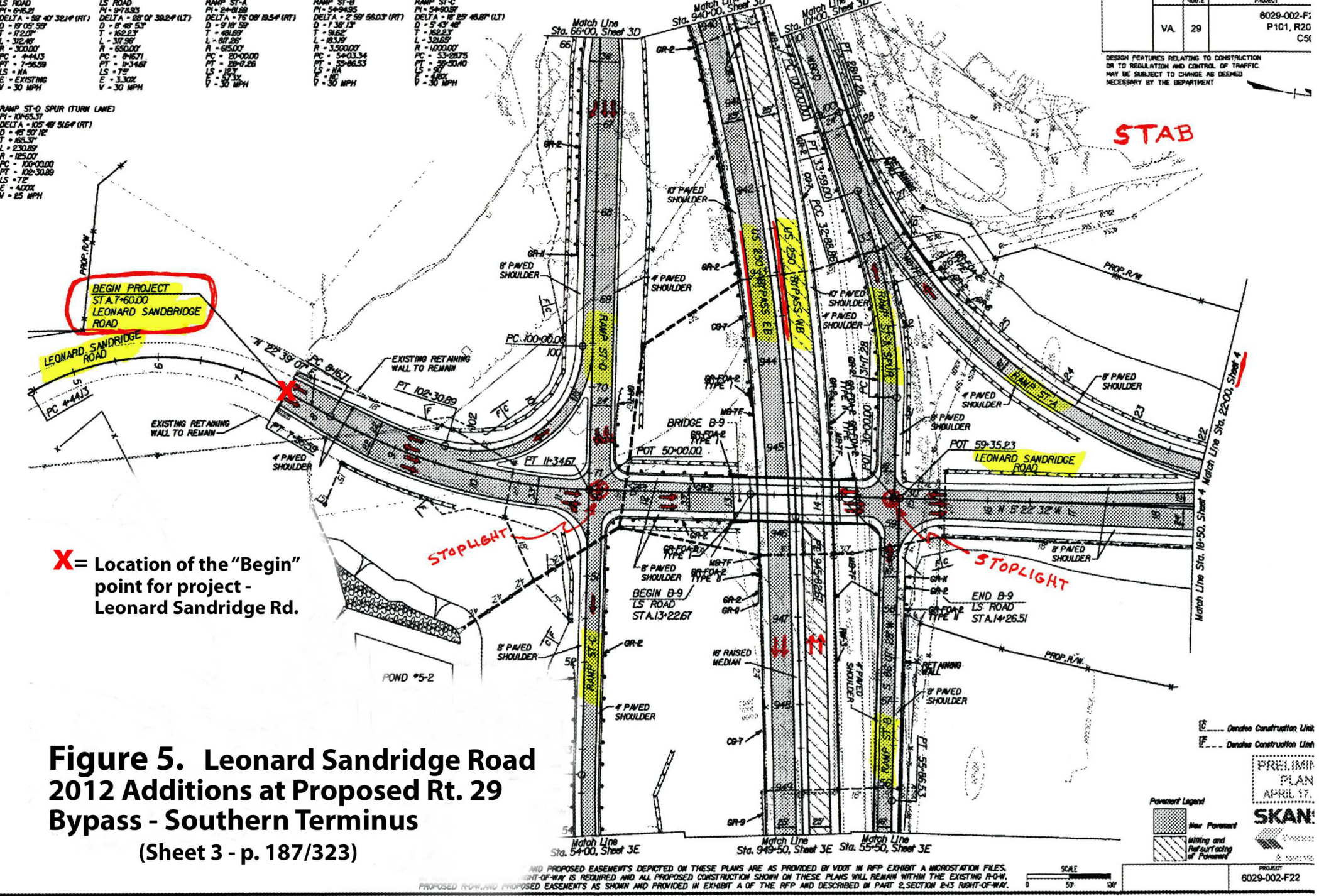


Figure 5. Leonard Sandridge Road 2012 Additions at Proposed Rt. 29 Bypass - Southern Terminus

(Sheet 3 - p. 187/323)

(SHEET 3 – p.187/323)

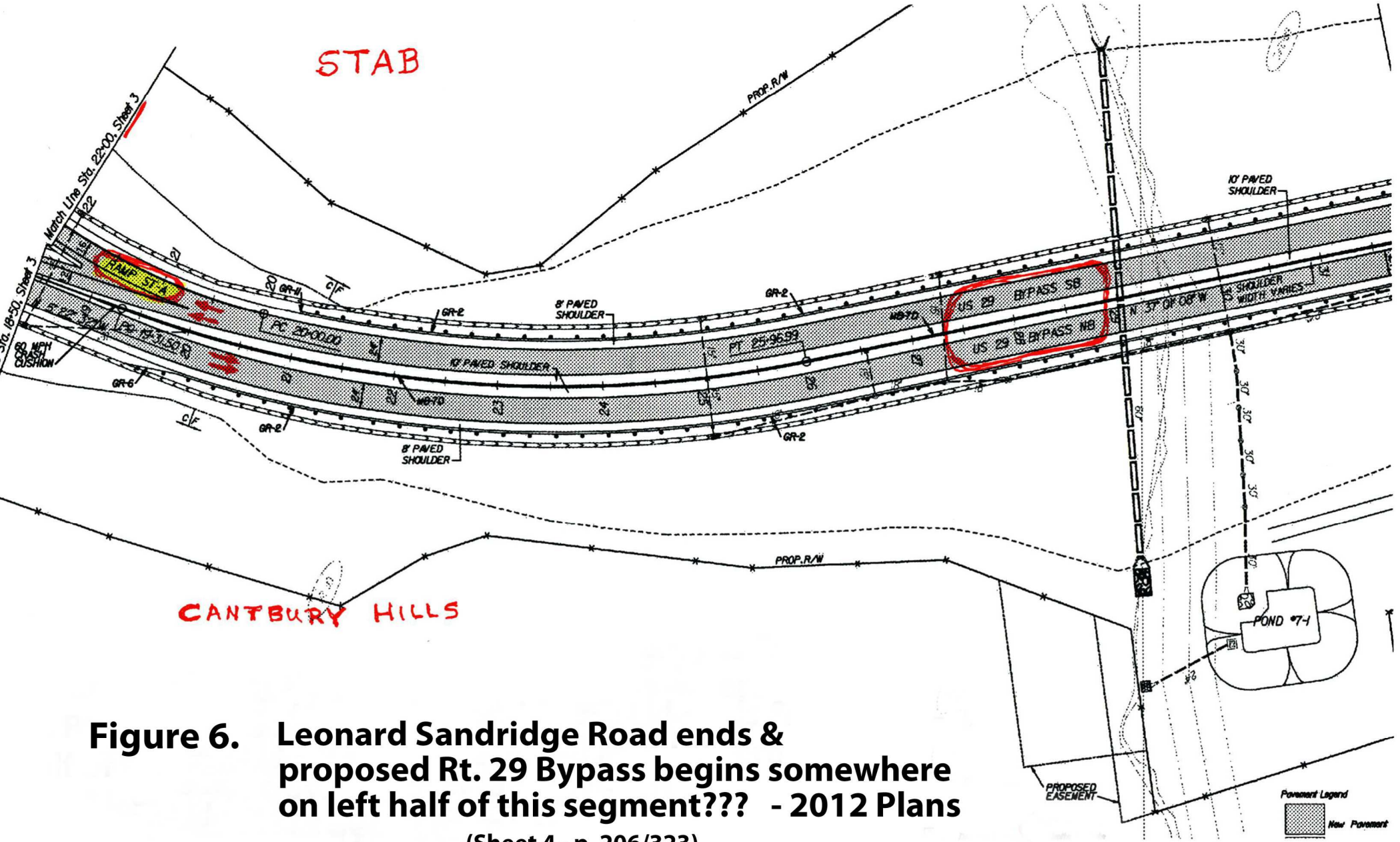


Figure 6. Leonard Sandridge Road ends & proposed Rt. 29 Bypass begins somewhere on left half of this segment??? - 2012 Plans

(Sheet 4 - p. 206/323)

Elevation of Proposed Leonard Sandridge Rd. NB
Southern Terminus -- Connects to Proposed Rt. 29 Bypass

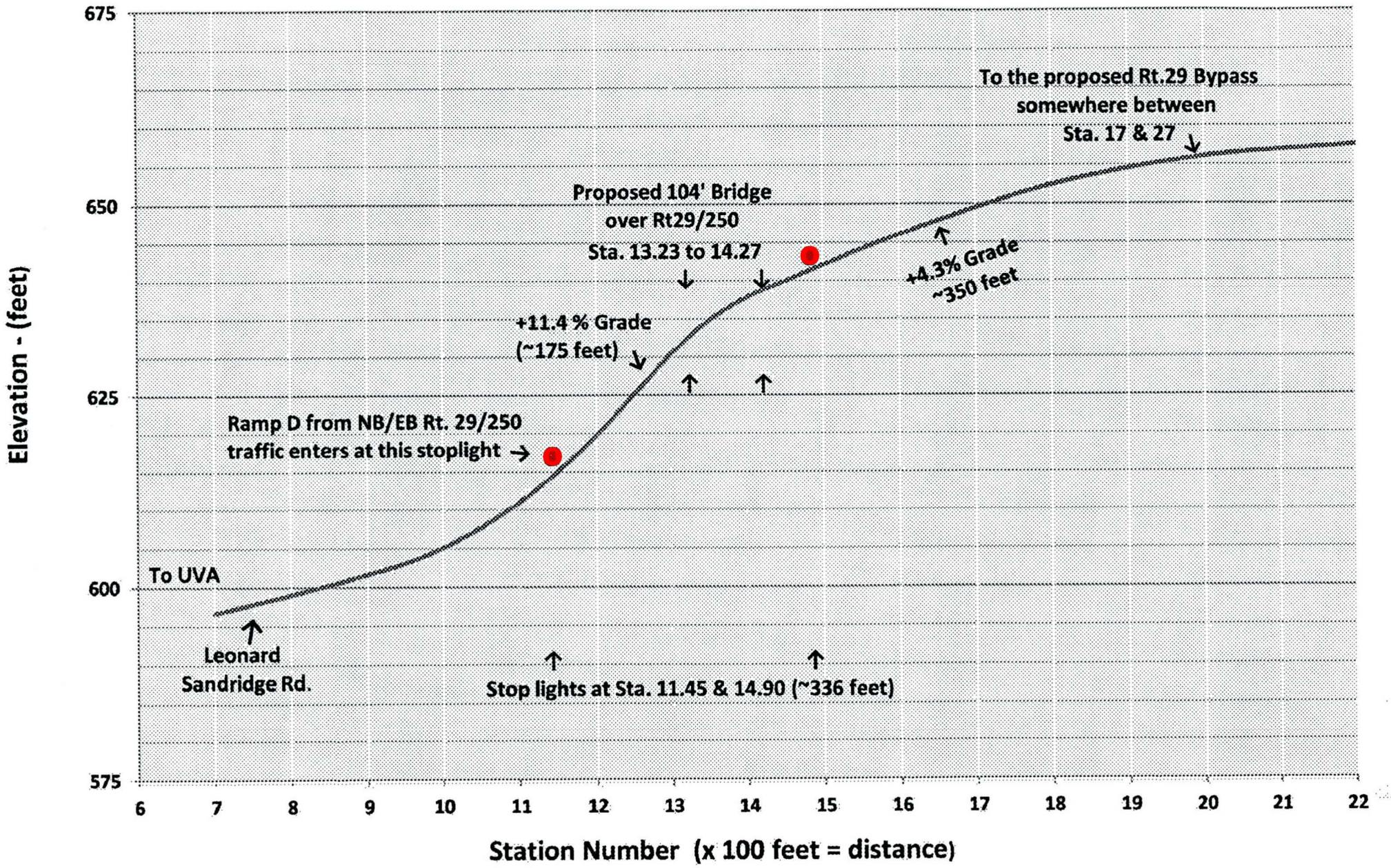


Figure 7. Proposed Elevation of Leonard Sandridge Rd.