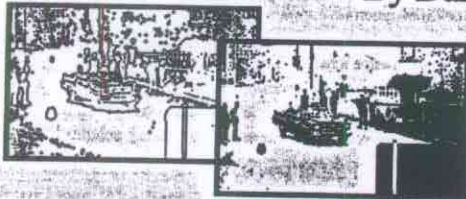


A Comparison of the Official Reconstructions of the John F. Kennedy Assassination

By Daryll Weatherly



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The official Warren Commission records contain two distinct shot scenarios for the assassination of President Kennedy that differ considerably from what it put in its report. And in fact, the scenarios differ considerably from all common interpretations of the extant film record. In particular:

1. Each scenario includes a third shot hitting the limousine at a point 30-45 feet further down Elm St than where the car is depicted in frame Z313 (commonly referred to as the "head shot" frame).
2. Each scenario places the second shot hitting the limousine at a point at least 40 feet further down Elm St. than where the car is depicted in frame Z240, which is commonly accepted as showing Governor John Connally already shot.
3. One scenario includes time calculations that put the second and third shots much closer together than the first and second.

The first of these points has been known for a long time. Several early books on the assassination pointed out that the FBI and Secret Service reports to the Warren Commission indicated three shots hitting the limousine with no missed shot, and no "single bullet" hitting two men.

The early authors either missed or ignored other severe conflicts between, on one hand, the FBI and Secret Service shot scenarios, and on the other, the Com-

The information in this article is based upon an early study done for Harrison Edward Tyngstone's next book **KILLING KENNEDY And the Hoax of the Century**, due for a Fall 1995 publication. The book will expand upon and update the information contained in this article - including a startling revelation about a film of the assassination of President John Fitzgerald Kennedy which has never before been viewed by the American public!

mission version, which was seemingly based on the Zapruder, Nix, and Muchmore films.

The official bodies reenacted the crime several times, starting within a few days of the assassination at the latest. The FBI's November 29, 1963 report on the assassination indicates that a Secret Service agent John Howlett conducted a study involving a surveyor and one or more films on or before that date.¹ Chester Breneman, a surveyor, recalled a study performed for LIFE magazine on November 25,² and Robert West, the Dallas County Surveyor in 1963, thinks that work started the afternoon of the assassination.³

An extensive reenactment was performed by the FBI and Secret Service on December 5, 1963. The surviving records of this reenactment are the photographs comprising Commission Exhibit 875 (17H870-895), and the survey plat CE 585, which appears (vastly reduced in size) on 17H262.

The Commission also used two more survey plats, CE 882 and CE 883, and printed tiny reproductions of these (17H901). CE's 882 and 883 are nearly identical with each other. Both are different from CE 585 in that they show more details of structures in the plaza than CE 585.

Exhibits 882 and 883 are dated May 31, 1964, and

are associated with the May 24, 1964 reenactment conducted by the Warren Commission. CE 585 is dated December 5, 1963 and has a note saying "revised 2/7/64".

CE 585 has a scale of 1 inch = 20 feet and can be reproduced at the National Archives. The other two plats are in 1 inch = 10 feet scale, and, according to the Archives, are too large to reproduce.

CE 585 and CE 875

CE 585 depicts Houston and Elm Streets with elevation contours on the paved areas. Along the limousine path, starting at the Main/Houston intersection, are markings at 25 foot intervals. These are denoted 0+00, 0+25, 0+50, 0+75, 1+00, and so on. Station 2+50 is the first one west of the Houston/Elm intersection, and is almost directly south of the Depository window. Station 7+25 is the last one before Elm St. goes under the bridge.

The station numbers also occur on CE's 882 and 883, along with the elevation contours. CE 884 (17H902), a block of Zapruder film frame numbers, distances, and angles (for shot trajectories), includes station numbers to locate the supposed locations of the President depicted in certain Z frames.

For some reason, CE 585 shows a pattern of road stripes on Elm St. which differs from the pattern shown on CE's 882 and 883. CE 585 shows 13 pairs of stripes between Houston St. and the bridge, while the other two plats have 12 pairs.

To the extent that I am able to check, it appears that CE's 882 and 883 show the actual road stripe pattern apparent in the CE 885 photos. Robert West's recollection is that he only measured the exact positions of the stripes for the May 31 map, and that what is shown on CE 585 is not necessarily the correct road stripe pattern.⁴

CE 585 has three X's drawn in the center lane of Elm St. They are numbered 1,2,3 going westward and apparently stand for three shots hitting the limousine. Their approximate locations, with respect to the stations, are respectively 3+81 (6 feet from 3+75, toward 4+00), 4+43, and 4+95.

The December 5th reconstruction photos (Warren Commission Volume 17, pages 873-895) show a car positioned at various stations as follows:

Page	Station	Page	Station	Page	Station
873	0+00	881	3+00	889	4+75
874	0+50	882	3+25	890	X # 3 *
875	1+00	883	3+50	891	5+50 +
876	1+50	884	3+75	892	5+25 +
877	2+00	885	4+00	893	5+75
878	2+25	886	4+25	894	6+00
879	2+50	887	X # 2 **	895	6+25
880	2+75	888	4+50		

* (next to 5+00) ** (between 4+25 and 4+50) + (order reversed)

The introduction to this exhibit states that the car is placed for each picture with the rear bumper over one of the station marks. The above correspondence can be verified visually by comparing the position of the car with respect to the road stripes in each picture, to the position of the station marks with respect to the same stripes. Keep in mind that CE 882 (the 5/31/64 plat) apparently has the proper pattern of road stripes.

The introduction to the exhibit also states that location X#3 and station 5+00 are within four feet of each other, so one picture suffices for both. Location X#2 was apparently far enough from station 3+75 to justify a separate picture.

Note, by the way, the switched order of the two photos depicting the stations following the third shot.

The photographs that show the car at locations X#2 and X#3 also seem to depict the rear bumper at the indicated point on the street. (The statement that X#3 is four feet from station 5+00 supports this.) Presumably, the location of the car in the reconstruction is intended to mimic the location of the Presidential limousine, with the rear bumpers coinciding. So one should add about six feet to the station locations of the X's to get stations 3+87, 4+49, and 5+01 as the approximate locations of Kennedy and Connally at the time of these three shots.

From the CE 884 block of figures, the interval Z210 to Z225 corresponds to the interval between stations 3+73.4 and 3+88.3 on the street, so the location of X#1 is consistent with the eventual Commission conclusion that a shot hit the President while he was out of Zapruder's view behind the sign. For the other two shots, there is wide disagreement between their placement according to the 12/5/63 reconstruction, and just about everyone's interpretations of the Zapruder film.

On the CE 884 block, frame Z240 corresponds to (President located at) station 4+02.3, and in both the single-bullet and separate-shot versions of the official

story, not to mention most of the multiple-gunmen scenarios, Connally has already been hit at this point. This is about 41 feet short of the spot at which the 12/5/63 plat places the rear bumper of the car at the impact of the second shot (and about 47 feet short of where Kennedy and Connally actually would have been). From Zapruder's vantage point, station 4+02.3 would be to the left of the nearest lamppost, and station 4+43 (and 4+49) would be to the right of this lamppost.

Again referring to the CE 884 block, frame Z313 corresponds to station 4+65.3 as the position of the President at the third shot. This is about 30 feet short of the spot at which the CE 585 plat places the rear bumper of the car at the impact of the third shot, and about 36 feet short of where Kennedy would have been.

The CE 585 plat includes a diagram of the trajectories of the hypothetical shots (essential parts reproduced on the next page). Each location on the street is

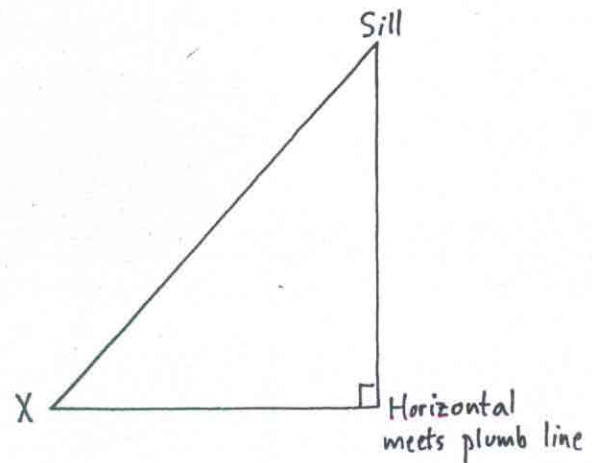
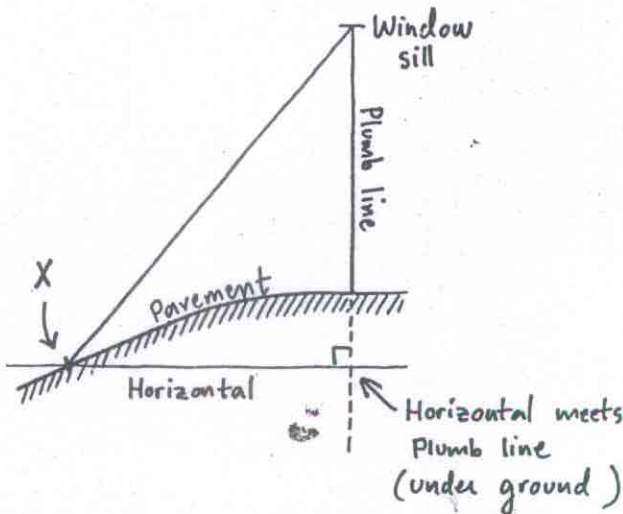
there was no effort made in this reconstruction to approximate the positions of the occupants of the car.

There is a small anomaly in this diagram. The elevation given for X#2 on the actual plat is 419.07, whereas the location of this mark with respect to the elevation contours suggests the actual elevation is 419.70. I think this is a simple error in transposing digits, and that 419.70 is the correct figure.

It is worth noting that the diagram compresses three dimensions into two, and so does not represent an exact view of the scene from any point in the Plaza. The corner of the Depository and the four marked spots on the pavement are not in a line with each other.

The three figures for each shot were probably obtained in this order:

1. Elevation of the marked point on the street, likely taken from an existing survey plat.
2. Distance from that point to the window ledge.



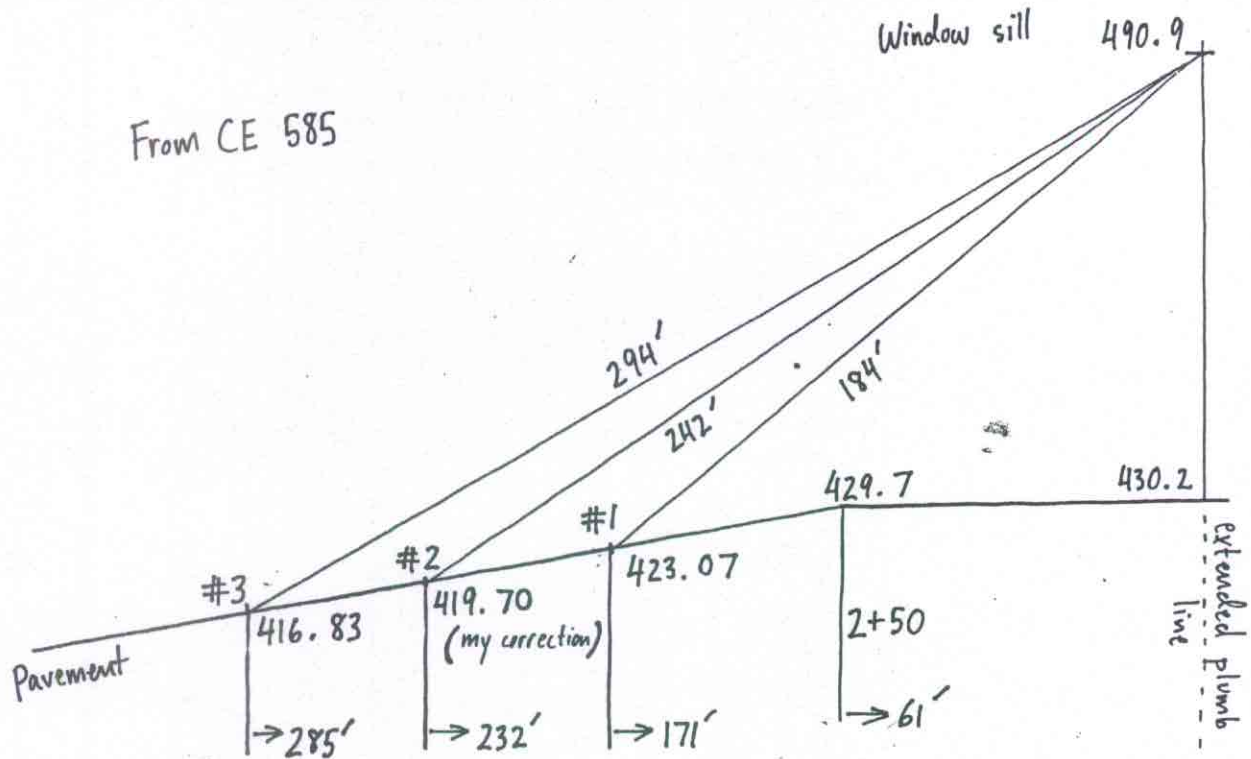
given an elevation, a distance to the Depository window, and a horizontal distance to whatever point is directly below the window and at the same elevation as the location on the street.

Strictly speaking, the lines labeled 294', 242', and 184' do not represent exact shot trajectories. The lines connect the window sill with points on the pavement directly under the rear bumper of the car. Apparently,

3. Horizontal distance to the plumb line extending down from the window ledge, obtained from the right triangle relation.

4. Distance to the window and horizontal distance then rounded off to the nearest foot.

The numbers are internally consistent given that order of calculation, since the range of possible extremes for the distance to the window ledge, later



rounded to the nearest foot, always gives a range of possible extremes for the horizontal distance that includes the stated distance after roundoff (see the table next page).

The point of being picky about these figures is to show that they aren't just made up out of the thin air. They represent actual measurements made at the scene and must be based on something.

Was the Zapruder film used in the December 5th reenactment? How could it not have been used? Was it the same film that we have today or a substantially different film?

It is clear enough from CE 585 that the reenactment to which it relates involved use of a film shot from the concrete post where Zapruder stood. The post is marked on the plat, which otherwise shows none of the concrete structures in the Plaza. The signs and lamp-posts which are in view in parts of the film are marked on the map, and the three yellow stripes on the south curb of Elm St. are also marked. These stripes are visible, as far as I know, only in the Zapruder film and in later photos taken from the same pedestal.

If the Zapruder, Nix, and Muchmore films were available to the official agencies at the time of the December 5th reenactment, as the record seems to show, then reason indicates that they must have been used. There is ample documentation that the May 31, 1964 reenactment used these films. How, then, could the two reenactments differ so much in their placement of the limousine at the time of the fatal shot to Kennedy's head? Did the films change between reenactments?

The location of the limousine at the second shot, according to CE's 585 and 875, corresponds to its location in frames 285-290 in today's Zapruder film. These are frames in which only Connally's head is visible. The field of view shifts upward starting around Z275.

A few days (at most) after the assassination, television newscaster Dan Rather viewed the Zapruder film and gave two on-air "narrations" of what it showed. His descriptions suggest that he saw Connally hit while turned around, facing the President, which corresponds with Zapruder frames 285-290. The following two quotes are from the Richard Trask book *Pictures of the Pain*:³

Calculations from CE 585 data

Elevation difference	#1 :	490.9 - 416.83 = 74.07
(Vertical line)	#2 :	490.9 - 419.70 = 71.20
	#3 :	490.9 - 423.07 = 67.83

If the window-to-pavement distances are rounded off from figures that have one decimal place, then consideration of the possible extremes gives :

#1 $(184.4)^2 - (67.83)^2 = 29402.451$, $\sqrt{29402.451} = 171.47$
 $(183.6)^2 - (67.83)^2 = 29108.051$, $\sqrt{29108.051} = 170.61$

Both extremes round off to 171.

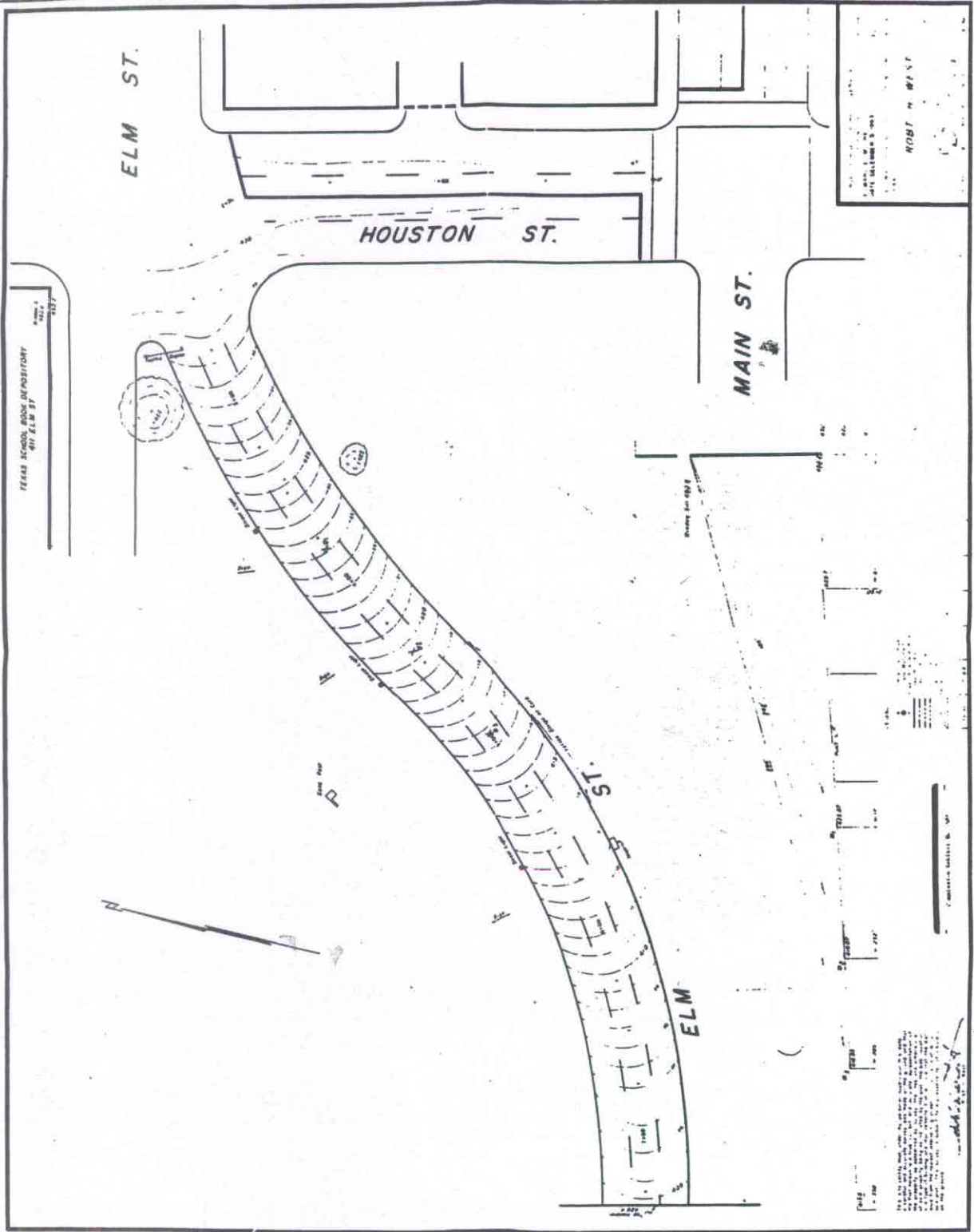
#2 $(242.4)^2 - (71.20)^2 = 53688.32$, $\sqrt{53688.32} = 231.71$
 $(241.6)^2 - (71.20)^2 = 53301.12$, $\sqrt{53301.12} = 230.87$

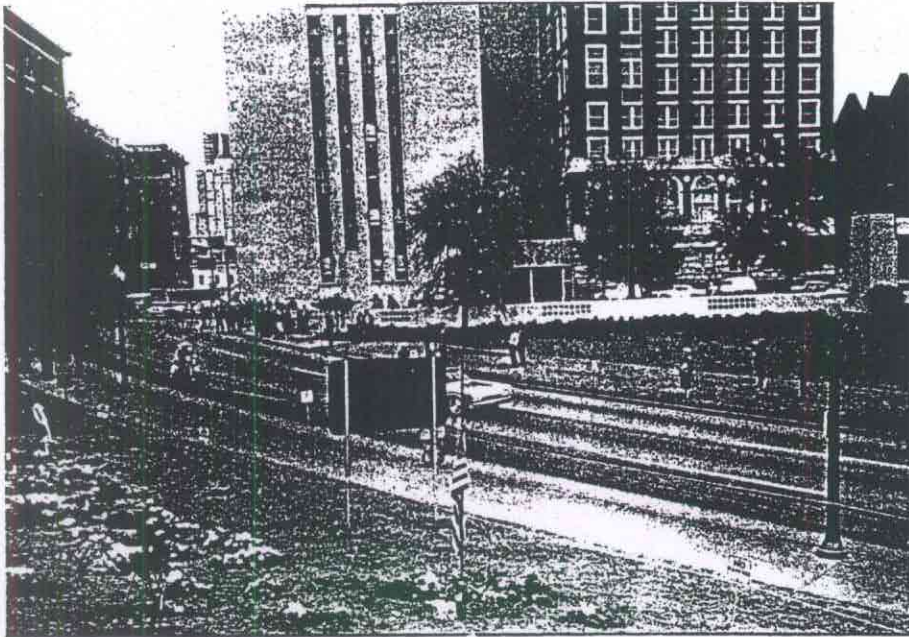
Upper extreme rounds off to 232.

#3 $(294.4)^2 - (74.07)^2 = 81184.995$, $\sqrt{81184.995} = 284.93$
 $(293.6)^2 - (74.07)^2 = 80714.595$, $\sqrt{80714.595} = 284.10$

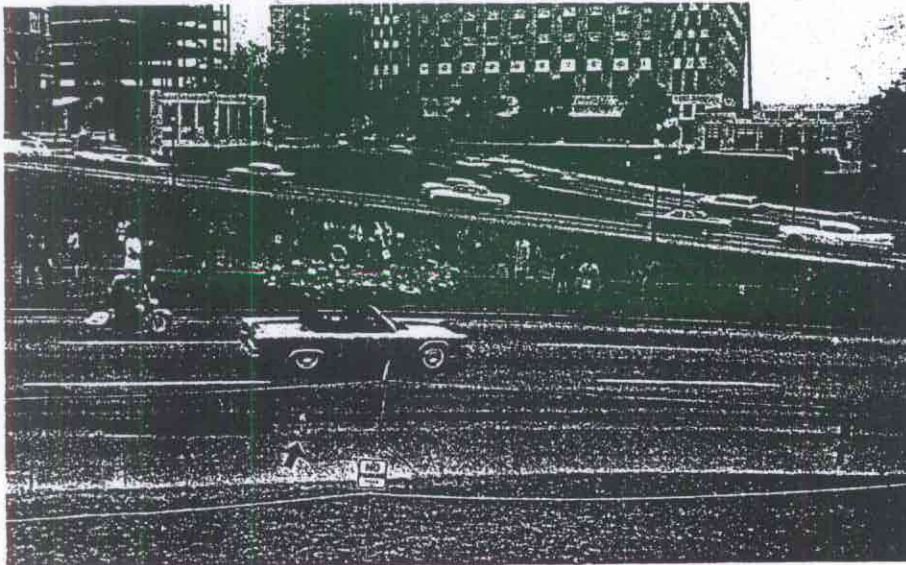
Upper extreme rounds off to 285.

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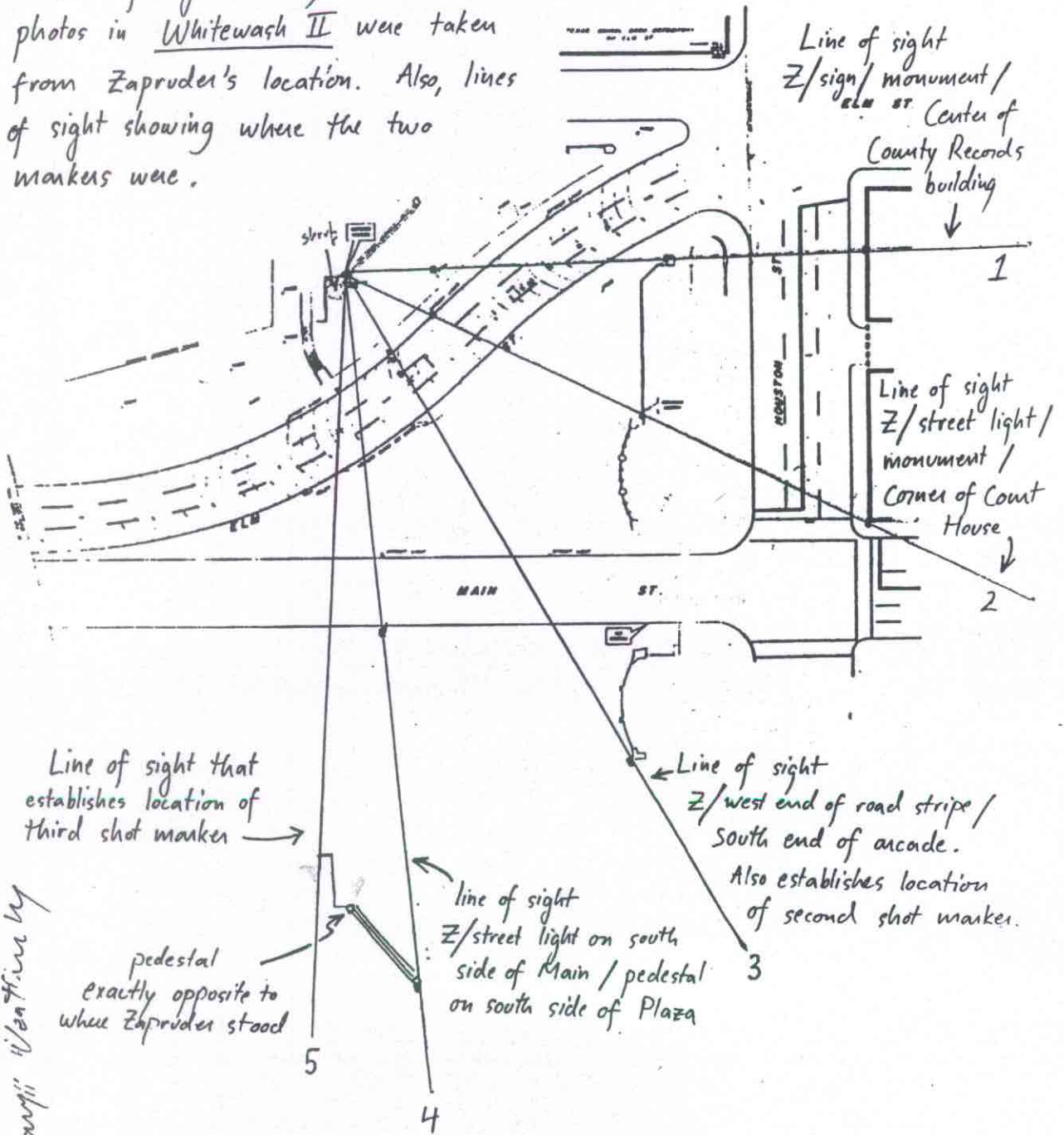




Secret Service reconstruction of positions of Presidential car at first (above) and second and third shots (road markers), like FBI's, says Governor Connally was hit by a separate bullet. This denies the basic conclusion of the Report.



Lines of sight showing that the two photos in Whitewash II were taken from Zaprunder's location. Also, lines of sight showing where the two markers were.



Darius Ventura by