

Town of Hamden Engineering Department

To: Chairman, Hamden Traffic Authority

Copy to: Thomas Wydra, Chief of Police

From: Robert H. Brinton, Jr., P.E., Town Engineer RHB

Subject: Proposed New Haven Housing Authority Road Intersections with Woodin Street
(Wilmot Road at Elliot Drive and Augustine Street at Belden Road)

Date: September 10, 2014

I reviewed the revised plans for the proposed intersections that were submitted on 08/29/14, plans submitted 08/06/14 that show intersection sight distances at Wilmot Road and Woodin Street and vehicle left turning paths at the two proposed intersections, and the traffic study dated 05/30/14 and addenda dated 07/15/14 (4-way intersection at Elliot Drive), 08/11/14 (accident data on Woodin Street), 09/05/14 (stop sign warrants on Woodin Street at Augustine Drive and Belden Road), and 09/09/14 (morning and afternoon peak hour capacity analyses for the Woodin/Elliot/Wilmot and Woodin/Belden/Augustine intersections for existing and proposed conditions), as well as a transmittal letter from the applicant's attorney dated 08/29/14. The applicant is the New Haven Housing Authority and its developer the Michaels Development Company. I have the following engineering comments:

1. Wilmot Road (New Haven) is proposed to intersect with Woodin Street approximately 0.5 miles west of the Wilmot Road (Hamden) intersection. For the purposes of this memo, I will refer to Wilmot Road (New Haven) as Wilmot Road. The traffic study refers to the proposed road intersecting Woodin Street across from Belden Road as Ribicoff Drive; however, it is shown as Augustine Street on the plans.
2. The traffic study specifically addresses traffic impacts from the proposed Ribicoff Cottages in New Haven (south of Woodin Street between Belden Brook and Thorpe Drive) and a proposed road connection to Woodin Street across from Belden Road. The traffic study does include information on traffic expected to be generated from the other parts of the New Haven Housing Authority's West Rock development, including expected traffic using the proposed Wilmot Road intersection with Woodin Street across from Elliot Drive, which is shown as background traffic in the study. According to the study, the West Rock development consists of 335 housing units and 9,200 square feet of commercial space.
3. The traffic study indicates that the existing stop sign controlled (minor road approach only) intersection of Elliot Drive with Woodin Street currently operates at a Level of Service (LOS) A [less than 10 seconds of average delay per vehicle], with essentially no delay for Woodin Street traffic. The proposed stop sign controlled (minor road approaches only) intersection of Wilmot Road and Elliot Drive with Woodin Street will operate at a LOS A. The average delay per vehicle at the intersection will increase from 0.2 to 4.1 seconds in peak hour traffic.

4. The existing stop sign controlled (minor road approach only) intersection of Belden Road with Woodin Street operates at a LOS A during peak hour traffic, with essentially no delay for Woodin Street traffic. The 09/05/14 and 09/09/14 addenda to the traffic study indicate that the proposed all-way stop control intersection at Woodin Street, Belden Road, and Augustine Street will operate at a LOS A. The average delay per vehicle at the intersection will increase from 0.9 to 8.2 seconds in peak hour traffic.

5. A plan was submitted demonstrating that the proposed Wilmot Road intersection has the required intersection sight distance for a 40 mph design speed (445 feet). Stop signs are proposed on Woodin Street at Belden Road and Augustine Street because the proposed intersection does not have adequate intersection sight distance (225 feet where 445 feet is required).

6. The traffic study indicates that the signalized intersection of Woodin Street with Pine Rock Avenue operates at LOS D in the morning and LOS C in the afternoon peak hours in both existing and proposed conditions. The proposed development and road connections will result in an increase in eastbound traffic on Woodin Street approaching Pine Rock Avenue of 92 vehicles per hour (from 203 to 295 vehicles in the peak morning hour). The average vehicle delay at this intersection will increase by 2.7 seconds, from 42.9 to 45.6 seconds.

7. The traffic counts included in the study indicate that the average vehicle speed on Woodin Street (west of West Side Drive) is 34 mph, the design or 85th percentile speed (85% of vehicles are at or below this speed, 15% exceed it) is 40 mph, and 5% of traffic exceeds 44 mph. The traffic counts indicate that the existing average daily traffic on Woodin Street (west of West Side Drive) is 2,170 vehicles per day.

8. The applicant is withdrawing its current application for residential driveways west of the proposed Wilmot Road intersection with Woodin Street, in response to Hamden's comments that some of them do not have safe stopping sight distances (250 and 298 feet where 340 feet is required) due to the measured traffic speeds and the grade and profile of Woodin Street going up the hill west of the intersection. It is anticipated that the applicant will reapply for driveway permits west of Wilmot Road at a later date. No applications for residential driveways between Thorpe Drive and Augustine Street have been submitted yet.

9. The applicant is currently seeking approval from the Hamden Traffic Authority for the proposed road connections of Wilmot Road and Woodin Street at Elliot Drive and of Augustine Street and Woodin Street at Belden Road. Pavement markings and signs for crosswalks are shown for both intersections to provide pedestrian access between the New Haven Housing Authority development and the existing sidewalk on the north side of Woodin Street. Stop signs are proposed on Woodin Street at the Augustine Street and Belden Road intersection (all-way stop control), due to inadequate intersection sight distances on Woodin Street (225 feet when 445 feet is required).