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September 7, 2006

Croton Watershed Clean Water Coalition
9 Old Corner Road
Bedford, NY 10506
Attn: Dr. Marian Rose

Re: Patterson Crossing
Town of Patterson/Town of Kent, New York

Dear Dr. Rose:

Adler Consulting is a Traffic Engineering and Transportation Planning firm located in White Plains, NY, with much experience in planning for and the review of commercial developments such as Patterson Crossing. Our firm is pleased to provide the necessary Traffic Engineering Services to the Croton Watershed Clean Water Coalition for the review of this 406,000 sf retail center, proposed to be located in the southwest quadrant of the interchange of I-84 with NY Route 311, in Putnam County, NY. We have reviewed Chapter 4.8 of the DEIS, the transportation section, but have not had the opportunity to review Appendix K of the DEIS to verify the accuracy of all of the technical calculations and analyses conducted for the traffic study, upon which the information presented in Section 4.8 of the DEIS are based. The following are our conclusions and recommendations regarding the proposed action, as presented in Section 4.8 of the DEIS.

A. Project's Significant Adverse Traffic Impacts

Based on a review of the information presented in the DEIS (which, parenthetically, significantly underestimates the volume of traffic likely to be added to the surrounding roadways), it is clear that the proposed 406,000 sf. retail center will not be a viable entity and will result in congestion along NY Route 311 from NY Route 52 to NY Route 164 for the following reasons:

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- **The development will add more traffic to the surrounding roadway network than projected** - The traffic analysis performed for the DEIS assumes that only 75 percent of the traffic generated by the development will be “new trips” (page 4.8-37) added to the roadways in the study area. It assumes that the remaining 25 percent of development traffic will come from motorists already passing the Site on NY Route 311 who will be attracted to the center (“passby trips”, page 4.8-36). The volume of traffic on NY Route 311 is wholly insufficient to justify a passby credit of this magnitude. It is unrealistic to expect that one in six motorists passing the center on Route 311 during the weekday evening peak hour are going to drop in to the center and one in three motorists passing on Rt. 311 during the Saturday peak hour will do so, which is what the data provided in the DEIS projects. (Based on our experience, a 15 percent pass-by credit during the weekday peak hour and a 10 percent pass-by credit during the Saturday peak hour, representing a drop-in rate of one in eleven on weekdays and one in eight on Saturdays, are more realistic values). Since a smaller percentage of development traffic will be passby traffic, a larger proportion will be non-pass-by traffic, which will be added to the surrounding roadways. Thus, the center will generate more traffic than projected in the DEIS.
- **It is unlikely that the necessary improvements to provide acceptable traffic flow will be completed** - The DEIS documents that “problems relating to poorly operating intersections in the vicinity of the proposed project exist under current conditions” (page 4.8-54). The DEIS continues by identifying improvements at eight of the existing intersections, none of which are specifically programmed to be completed in the foreseeable future (at best there might be some rehabilitation work on Route 311 for which “design would occur in 2010 and construction sometime thereafter” - page 4.8-22). The applicant’s commitment to implementing the necessary mitigating measures at these intersections is limited to participating “in a significant way in the funding of intersection improvements in the area” (page 4.8-54). Without the applicant’s commitment to fully fund the improvements, it is likely that these measures will not be implemented, at least not until well after the development has been completed and sold to another party. Then, after years of hearing about the congestion and more years programming funds, it is foreseeable that the State will eventually make some improvements which the taxpayers will end up bankrolling.

- **The Site has inadequate access which will block traffic on Route 311 -** Access to the Site is provided at a single driveway. A review of the intersection capacity analyses presented in the DEIS reveals that the intersection of the driveway with NY Route 311 is projected to be operating at 90 percent of capacity during the typical Saturday afternoon peak hour. These calculations are based upon the assumption that 270 of the 835 vehicles already passing the Site on Route 311 in the peak hour will drop into the Site (thereby reducing the volume of through traffic passing the Site, when, in reality, it is expected that only 125 vehicles will do so). Thus, an additional 145 vehicles will be passing through the intersection on Route 311 during this time period. Furthermore, some Saturdays will see less traffic activity at the center while others will see more. Indeed, the DEIS projects that traffic volumes at the center will be “about 16 percent higher during the holiday season” (page 4.8-38) than on a typical Saturday afternoon. Clearly, with the driveway projected to be operating within 10 percent of capacity on a normal Saturday, and traffic volumes projected to be 16 percent higher than normal during the holiday shopping season, and accounting for more-non-pass-by traffic, the intersection of the solitary Site driveway will not have sufficient capacity to accommodate the projected vehicular demand and congestion will ensue.
- **Disruptions to the Site’s solitary access will be enormously disruptive to residents of Echo Road and Concord Road and so inconvenient to visitors to the center as to undermine its viability -** The Site’s solitary access driveway is approximately 1,300 feet long and is projected to carry approximately 17,000 vehicles per day. Invariably, there will be interruptions to service on the driveway. When this occurs, all vehicles on the Site will have to be directed to Echo Road, Concord Road to exit and, presumably, vehicles will not be allowed to enter the Site until the passable conditions are restored on the Site driveway. Both Echo Road and Concord Road appear to be less than 20 feet wide and are unsuitable to accommodate the thousand or so vehicles that will need to evacuate the site or to allowing emergency vehicles to get in to the Site. The residents of this dense residential neighborhood will be overwhelmed on such occasions. Furthermore, the retail center’s reputation will be tarnished if access to the development is disrupted in such a manner. It is for such reasons that current planning and engineering design requires that a second, fully-functional driveway be provided for developments of even a moderate size, let alone one as large as Patterson Crossing.

- **The Site's main north/south internal roadway is inadequate to accommodate the size of the development** - The DEIS asserts that an additional 10 percent of Site-generated traffic will occur on-Site (page 4.8-43). In fact, studies indicate that the internal trip generation for a project such as that proposed will be six times that projected. Using the same Institute of Transportation Engineers (ITE) trip generation equations which were used in the DEIS to determine that the 406,000 sf development would generate 2,152 trips during the Saturday peak hour, it is calculated that each of the individual store complexes (assuming each to be 101,500 sf in size) would generate 875 trips and, thus, cumulatively, would generate 3,500 trips. Therefore, the volume of internal traffic would be the cumulative total (3,500 trips) minus the external trips (2,152 trips), an additional 1,348 trips, not the 215 trips projected in the DEIS.

In reviewing the analyses of the internal intersections, it was noted that the turnaround at the north end of the main egress road was projected to experience a maximum queue of three vehicles. With the extra internal trip traffic described above and during the peak holiday season, it is likely that the queue on the turnaround will spill back into the southbound through lane entering the Site and block access to the development. In reviewing the analyses of the internal intersections of the electronics stores and the sporting goods stores with the main access road, it was noted that the analyses assumed only one vehicle would turn left out of either driveway to go to the stores in the rear on the Site. With the unrealistic expectation that there will be only a single left-turning vehicle and that internal traffic will be only 10 percent of the external traffic, the DEIS analyses indicate that each of these approaches would operate at 40 percent to 46 percent of capacity during the peak Saturday Hour. Left-turns at unsignalized intersections are critical and the internal traffic activity is expected to be six times the value evaluated. If even a small volume of traffic turns left out of these driveways, it is apparent that they will fail and extensive queues will form, particularly when the additional internal and holiday season traffic are appropriately accounted for.

Based on these considerations, it is apparent that the proposed circulation system, consisting primarily of the use of one main access road, is insufficient to serve the needs of the Site, with the result that it is expected that a substantial portion of visitors to the center would use the service road on the east side of the Site.

In summary, the application is unworkable because there is no commitment to fund the necessary off-site highway improvements to support the development and the development's on-site transportation infrastructure is significantly undersized for the proposed 406,000 sf of retail space. Consequently, the application, as proposed will have a significant adverse impact on area traffic operating conditions and should be denied.

B. Comments to be addressed in A Supplemental Environmental Impact Statement (SEIS)

Because the traffic study for Patterson Crossing underestimated the volume of traffic that will be added to the surrounding roadway network and for the many other reasons outlined below, it is our recommendation that the entire traffic study be revised and resubmitted as part of an SEIS, along with any other information that may have been misrepresented in the DEIS:

- The revised Traffic Impact Study should include a revised analysis to reflect a 15 percent pass-by credit during the weekday peak hour and a 10 percent pass-by credit during the Saturday peak hour.
- The SEIS should contain a commitment from the applicant to fund completion of the necessary mitigating measures. Alternatively, the resolution of approval for the subject property should require that certificates-of-occupancy for the development will be conditioned upon the completion of these improvements by others.
- The SEIS should either propose a second driveway to access the Site or dramatically reduce the size of the project to a level which can be sustained by a single driveway and which is consistent with current engineering and planning philosophies.
- The revised Traffic Impact Study should include a revised analysis to determine whether the internal intersections will have sufficient capacity to accommodate the additional internal traffic and holiday-season traffic (previously described and including left-turns on the electronics and sporting goods store approaches to the main access road) to ensure that the Site's main access road will not fail and prevent motorists from using it to enter or exit the facility.

- The revised Traffic Impact Study should analyze the signalized intersection of Towners Road with NY Route 52 since 19 percent of Site traffic is projected to pass through this important intersection.
- Similarly, since more half of the traffic generated by the project is projected to use I-84 to get to and from the Site, the revised Traffic Impact Study should contain ramp capacity analyses of the I-84 ramps to and from Route 311 (particularly those on the south side of Route 311).
- The revised Traffic Impact Study should specifically identify potential remedial measures at each of the following locations, which appear to be less safe presently (and thus, have the potential to be impacted by project traffic) based on their elevated accident rates, relative to the volume of traffic they serve:
 - ▶ NY Route 311 at Terry Hill Road (it appears that wet pavement is a correctable feature);
 - ▶ NY Route 311 at Ludington Court (a very low volume street with 4 accidents);
 - ▶ NY Route 311 at the I-84 ramps;
 - ▶ NY Route 52 from milepost 1035 to 1038 (6 accidents/10th of a mile);
 - ▶ NY Route 52 from milepost 1042 to 1044 (5.5 accidents/10th of a mile);
 - ▶ NY Route 52 at Towners Road;
 - ▶ NY Route 52 from milepost 1048 to 1050 (6 accidents/10th of a mile);

It is suggested that a review of the individual accident reports (Form MV 104) available from the Milbrook office of the New York State Police Accident Records Bureau would provide the best information upon which to base this evaluation.

- The revised Traffic Impact Study should contain a revised analysis of the intersection of NY Route 311 with NY Route 52, where there is effectively only one lane on westbound NY Route 311 as it approaches NY Route 52. The DEIS analysis incorrectly assumed that there were full left- and right-turn lanes on the causeway approach to NY Route 52.

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- ▶ The revised Traffic Impact Study should contain a revised analysis of the intersection of Horse Pound Road with NY Route 52 indicating that 19 percent of Site traffic is passing through the intersection. The DEIS analysis assumed that 10 percent of project traffic would materialize on NY Route 52 somewhere between Barrett Hill Road and Horse Pound Road.
- ▶ The revised Traffic Impact Study should contain a revised analysis of the intersection of NY Route 311 with NY Route 164 indicating that 10 percent of Site traffic will travel to and from Patterson, Putnam Lake and the western portions of New Fairfield on NY Route 164. Based on our analysis, it is estimated that the difference between the 3% used and the 10% recommended will come from the west on I-84 (15%-5 %=10%) and the east on I-84 (42%-2 %=40%).

Until these additional analyses are provided, it will not be possible to accurately quantify the proposed development's traffic impact.

We trust that this information will assist you in better understanding the scope of this project. If you have any questions, please feel free to contact us.

Sincerely,
Adler Consulting
Transportation Planning & Traffic Engineering, PLLC



John Canning, P.E., P.T.O.E.
Senior Associate