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October 23, 2019

VIA EMAIL

Town of Cortlandt Planning Board
1 Heady Street
Cortlandt Manor, NY 10567

Re: Gasland Cortlandt
AKRF Review Comments
MC Project No. 19003182A

Dear Members of the Planning Board:

We understand that AKRF provided conditional approval of the findings of the Traffic Impact Study and based on our meeting on September 30, 2019 with the New York State Department of Transportation (NYSDOT), we have updated our report to reflect the preferred improvement measures. Also, in response to the other technical comments outlined in the September 5, 2019 memorandum from AKRF to the Planning Board, we note the following responses:

1. The discussion of the analysis results and summary/conclusion of the TIS should indicate that while the northbound left-turn movement and southbound approach at the intersection of Route 6 and Bear Mountain Parkway westbound on/off-ramps/Sinclair gas station currently operate at poor levels of service during all peak periods, with the Proposed Project these significant impacts would be unmitigated without the installation of a traffic signal.

Response: At the intersection of Route 6 and Bear Mountain Parkway westbound on/off ramp, there are currently peak hour delays. The Gasland project will add some traffic to this location, which during peak hours would equate to less than 3% of the Total Intersection Volume through the intersection. Since the intersection does not satisfy the warrants required for signalization, the Applicant will implement several signing and safety related improvements at this location as outlined in Section III-G of the updated traffic study. It should be noted that the Cortlandt Crossing project will be continuing to monitor this intersection for possible signalization as part of their approval requirements.



2. There are discrepancies between the proposed striping at the intersection of Route 6 and the Bear Mountain Parkway eastbound ramp/site driveway. The site plan shows three exclusive lanes (left- tum, though, right-tum) exiting the site. However, the capacity analysis analyzes either a left-tum, and shared through/right-tum configuration or a left-tum, shared left-tum/through, and right-tum configuration. In addition, the southbound Bear Mountain Parkway ramp approach is striped as a left-tum only and right-tum only lane, however there are through movements proposed to the gas station.

Response: *The Applicant has proposed relocating and reconstructing the existing site drive and will provide a signal controlled two-lane exit from the site. Also, as part of the project improvements, it will include roadway widening and the necessary traffic signal upgrades as per NYSDOT requirements and shown conceptually on Drawing CP-1R. The final details will then be part of the NYSDOT Highway Work Permit plans.*

3. It should be noted that if dual left-turns are proposed out of either the site driveway, or from the off-ramp as discussed as potential improvements in the TIS, split phasing would be necessary.

Response: *NYSDOT determined that the restriping to allow dual left-turns from the eastbound off ramp would be beneficial, and a split phase operation will be implemented as part of the improvements. The planned improvements have been expanded to include a separate right turn lane exiting the ramp to further reduce queues and better serve the existing right turn traffic.*

4. A truck tum analysis should be conducted showing the southbound and northbound left-turns occurring concurrently as would be the case with the potential removal of split phasing. In addition, if a dual left-turn is desired out of the site driveway, a truck turn analysis should be conducted to confirm the movements can occur concurrently with the proposed site driveway geometry.

Response: *A truck turning analysis was prepared as part of the site plan set.*

5. There are discrepancies between the NYSDOT signal timing plan and the Synchro inputs at the intersection of Jacobs Hill Road and Route 6. Please confirm the offsets for all peak hours. In addition, there should be no recall for the southbound Jacobs Plaza approach. It should be noted that these revisions do not affect the findings of the report.



Response: The final signal offsets for the Route 6/Jacobs Hill Road intersection will be finalized based on the traffic signal configuration at the Route 6 eastbound on/off ramp intersection. As noted, these minor adjustments will not change any of the findings of the current report.

6. The proposed striping and crosswalks shown on the conceptual improvement plans should be included in the revised site plans. In addition, the sidewalk and crosswalk across the entrance only right-turn driveway should be parallel to Route 6 and located directly adjacent to the roadway to provide better sight distance of crossing pedestrians to motorists. Truck turning diagrams for all feasible movements to/from the site as well as within the site for fueling trucks/refuse should be provided with the revised site plans.

Response: The striping and repositioning of crosswalks are shown on the revised Conceptual Access Improvement Plan. The truck turning diagrams have been provided as part of the site plan set.

In addition, AKRF defers to the Town and NYSDOT on the following items:

7. The extension of the Route 6 ATCS system to include the intersections of Route 6 with Locust Avenue, the Bear Mountain Parkway eastbound ramps/site driveway and Jacobs Hill Road/Parkway Drive in order to provide one continuous ATCS system.

Response: The Adaptive Traffic Signal Control (ATCS) System proposed as part of the project will include the intersections of Route 6 and the Bear Mountain Parkway eastbound ramps, Route 6 and the Jacobs Hill Road/Parkway Hill Drive intersection, and also the Route 6/Locust Avenue intersection as per Town and NYSDOT requirements.

8. The inclusion of three driveways to access the site, two of which are located in close proximity along Route 6. The site driveways provide optimum flexibility and access to the site for various vehicles, however, does not align with NYSDOT's access management initiative.

Response: The site currently has multiple access drives and the proposed site plan will relocate/reconstruct the Route 6 easterly driveway and modify the westerly driveway for right turns entry-only to accommodate truck deliveries and allow easy access for vehicles approaching from the west. The existing Parkway Drive driveway is being closed.



9. The use of Synchro Percentile Delay Methodology to evaluate the existing signalized intersections and the proposed improvements in the study area. Synchro Percentile Delay Methodology is designed to model coordination and actuation in detail and is therefore recommended as actuation and/or coordination improvements are proposed.

Response: The Synchro Percentile Delay Methodology, which was provided in the most recent submission to the Town, will be used for the final signal design including coordination and actuation details.

If you have any questions regarding the above, please do not hesitate to contact us.

Very truly yours,

MASER CONSULTING P.A.

A handwritten signature in black ink, appearing to read 'Philip J. Grealy', is written over the printed name.

Philip J. Grealy, Ph.D., P.E.
Principal/Department Manager

PJG/ces
Enclosures

REV	DATE	DESCRIPTION
1	9/11/19	REVISED PER NYSDOT INPUT.
2	10/02/19	REVISED PER NYSDOT MEETING ON 9/30/19.
3	10/17/19	ADDED BACKSPLATES AND ADDITIONAL OFF-RAMP LANE.

PRELIMINARY

PRELIMINARY CONCEPT PLAN
 FOR
GASLAND CORTLANDT
 (LEFT TURN ALTERNATE)
 U.S. ROUTE 6
 TOWN OF CORTLANDT
 WESTCHESTER COUNTY
 NEW YORK

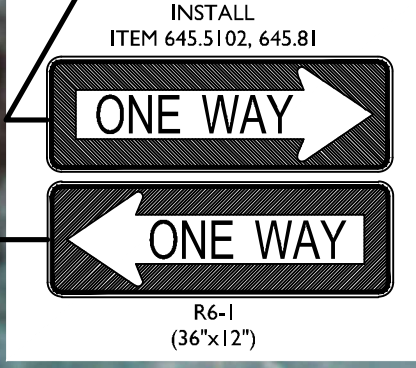
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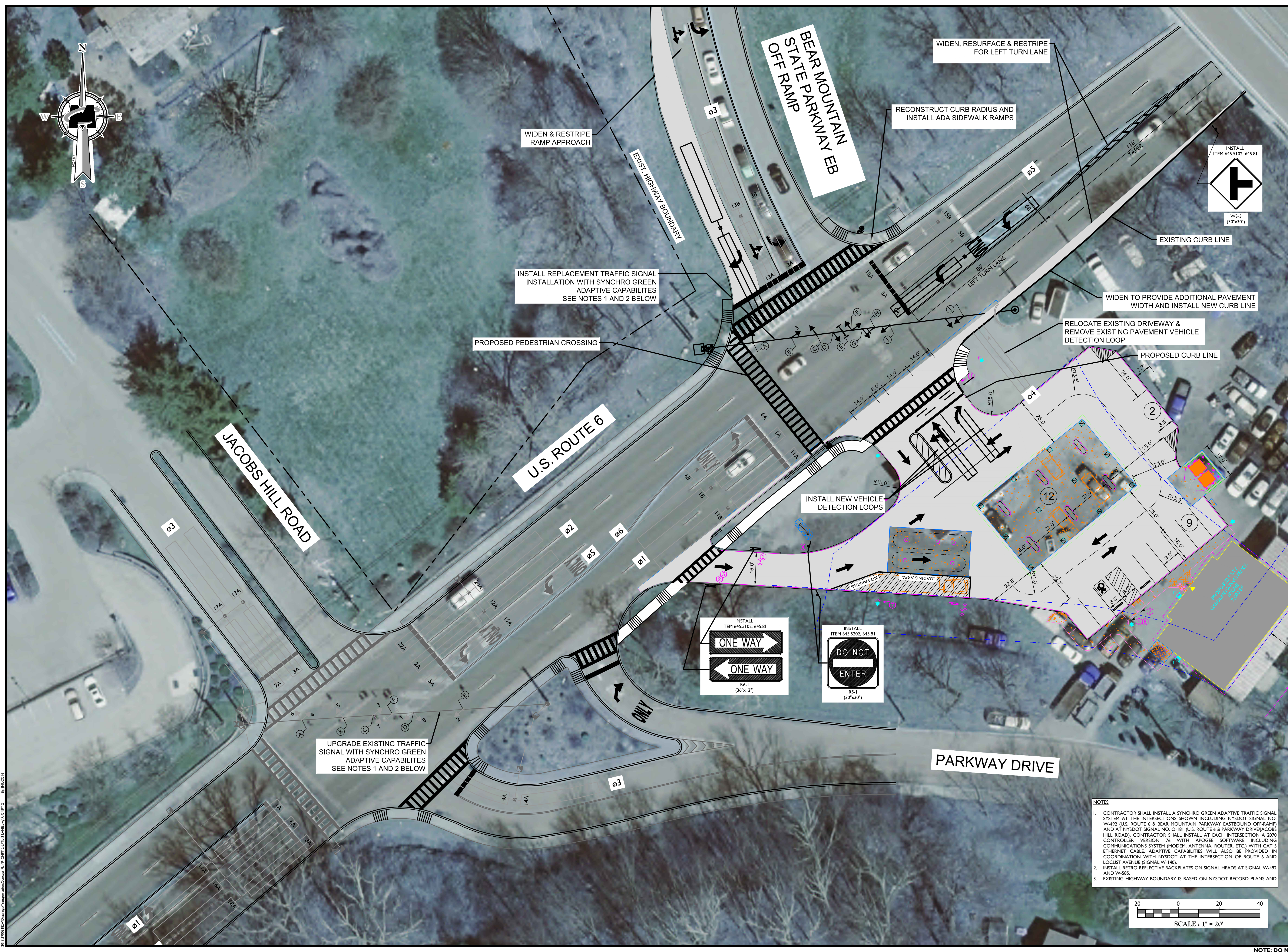
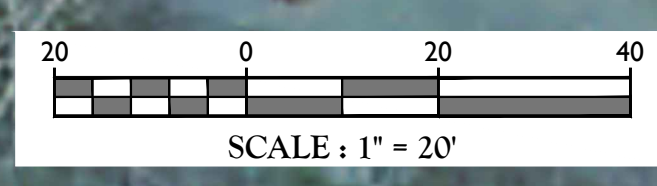
SCALE: AS SHOWN	DATE: 6/6/19	DRAWN BY: JFH	CHECKED BY: PJG.
PROJECT NUMBER: 19003182A	DRAWING NAME: R-CNPT 24FTL-3 LANE		

SHEET TITLE:
CONCEPTUAL IMPROVEMENT PLAN

SHEET NUMBER:
CIP-1R-3 LANE



- NOTES:**
- CONTRACTOR SHALL INSTALL A SYNCHRO GREEN ADAPTIVE TRAFFIC SIGNAL SYSTEM AT THE INTERSECTIONS SHOWN INCLUDING NYSDOT SIGNAL NO. W-492 (U.S. ROUTE 6 & BEAR MOUNTAIN PARKWAY EASTBOUND OFF-RAMP) AND AT NYSDOT SIGNAL NO. O-181 (U.S. ROUTE 6 & PARKWAY DRIVE/JACOBS HILL ROAD). CONTRACTOR SHALL INSTALL AT EACH INTERSECTION A 2070 CONTROLLER VERSION 76 WITH APOGEE SOFTWARE INCLUDING COMMUNICATIONS SYSTEM (MODEM, ANTENNA, ROUTER, ETC.) WITH CAT 5 ETHERNET CABLE. ADAPTIVE CAPABILITIES WILL ALSO BE PROVIDED IN COORDINATION WITH NYSDOT AT THE INTERSECTION OF ROUTE 6 AND LOCUST AVENUE (SIGNAL W-140).
 - INSTALL RETRO REFLECTIVE BACKPLATES ON SIGNAL HEADS AT SIGNAL W-492 AND W-555.
 - EXISTING HIGHWAY BOUNDARY IS BASED ON NYSDOT RECORD PLANS AND



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