



N.J.A.C. Tit 5, Ch 21 - RSIS

Residential Site Improvement Standards

Subchapter 1 – General Guidelines

Subchapter 2 – Application and Review

Subchapter 3 – Exceptions, Waivers etc.

Subchapter 4 - Streets and Parking

Litwornia Associates has studied Streets and Parking

For

West Essex Highlands – Residential Application

To the West Orange Planning Board



N.J.A.C. Tit 5, Ch 21 - RSIS

- RSIS

5:21-1.5 Scope and Applicability

(a) These rules shall govern any site improvements carried out or intended to be carried out or required to be carried out in connection with any application for residential subdivision, site plan approval, or variance before any Planning Board or Zoning Board of Adjustment created pursuant to the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.); or in connection with any other residential development approval required or issued by any municipality or agency or instrumentality thereof.

(b) Except as is otherwise specifically provided, **these rules shall control all matters concerning the construction, alteration, addition, repair, removal, demolition, maintenance, and use of any site improvements constructed by a developer in connection with residential development.** Except as otherwise required by rules or other permit requirements of the Department of Environmental Protection regarding stormwater management, the rules are to be interpreted as the minimum required to ensure public health and safety, and the maximum that may be required in connection with residential development.



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5:21-1.5 Scope and Applicability

(c) These rules shall apply to all site improvement work and appurtenant construction including streets, roads, parking facilities, sidewalks, drainage structures, grading, and utilities which are undertaken by a developer in connection with residential development or use.



5:21-1.7 Administration and Enforcement

- (a) Wherever a municipality has enacted an ordinance which requires subdivision and/or site plan approval pursuant to N.J.S.A. 40:55D-37, then the planning board of such municipality shall ensure that the plans and plats for any residential development subject to review under such ordinance **comply with the requirements of these rules (RSIS) before issuing a preliminary or final approval.**



West Essex Highlands – Application in West Orange Township, Essex County, NJ

- 496 Apartments
- 1 Clubhouse
- Access road Warner – OVAL
- Branch roads Kuzik and Road D to Building D
- Building A, B, and C on Kuzik
- No approved emergency access
- Attached Roads are currently Private! Not on West Orange Master Plan, shown private on Tax Maps

Site Plan

Bldg A 122 units – 671 ADT

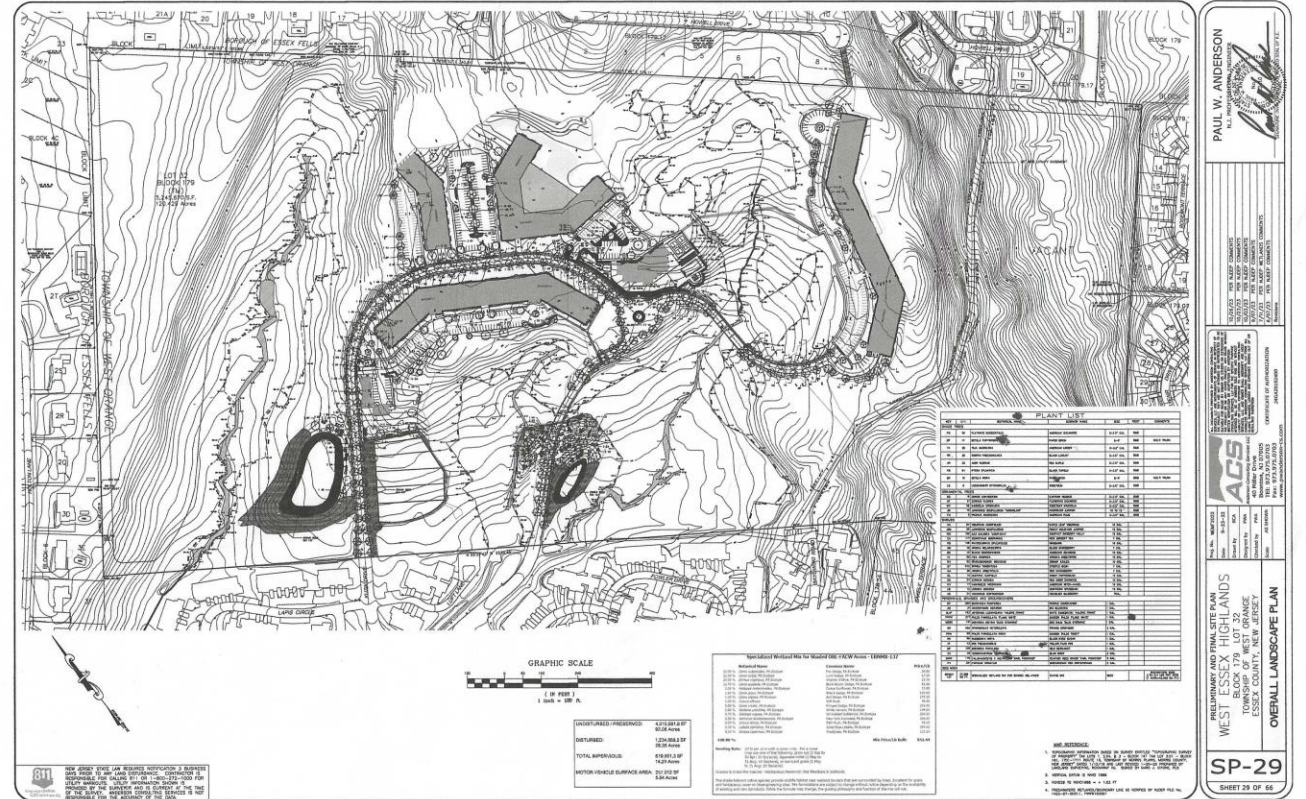
Bldg B 69 units – 380 ADT

Bldg C 139 units – 764 ADT

Bldg D 166 units – 913 ADT

Total 496 units – 2377 ADT

Clubhouse





N.J.A.C. Tit 5, Ch 21 - RSIS

- RSIS defines allowable units
- RSIS limits daily trips “ADT” depending on road designation
- Road designation determines ADT
- Type of residence determines ADT per unit per RSIS
- RSIS is the law in NJ and supersedes any township land development ordinances or county authority.

RSIS Table 4.1

- **AVERAGE DAILY MOTOR VEHICLE TRAFFIC TRIP GENERATION (ADT)**

• PER DWELLING UNIT ¹	LAND USE ² PEAK RATE
• Single-family detached housing	10.1
• Townhouse	5.9
• Low-rise apartment	7.2
• Mid-rise apartment	5.5
• High-rise apartment	5.0
• Senior Adult Housing – Detached	3.7
• Senior Adult Housing – Attached	3.5

- NOTES: ¹The trip generation rates listed are guidelines only. The actual use of trip generation rates is derived by the use of regression analysis and should be computed only by professionals proficient in the use of the ITE Trip Generation manual. The “Land Use” definitions are based on the ITE manual, with slight modifications to address inconsistencies contained within the ITE manual.
- SOURCE: Institute of Transportation Engineers, Trip Generation (Washington, D.C.: ITE, 2003), 7th Edition. The peak ADT rates take into consideration Saturday and Sunday rates, as well as weekday rates.

West Essex Highlands – Application in West Orange Township, Essex County, NJ

- RSIS limits number of units by traffic ADT limits
- MultiUnit housing on Cul-de-sac limit is based on trips per unit 5.5 and ADT allowed - 1000 ADT
- 1000 ADT divided by 5.5=188 units allowed. 496 units-182 = 314 units.
- **Application exceeds the rules by 314 units.**
- **Existing development on Oval Road exceeds rules by 300 – 182 = 118 apartment units and 72 single family houses.**
(314+112+72 = 498 units)
- **Combined: 498 housing units exceed the law (rules)**
- **The Planning Board does not have the authority to overrule the NJAC rules - application should be rejected.**



N.J.A.C. Tit 5, Ch 21 - RSIS

- RSIS defines road design
- Sidewalks with ADA provisions required on both sides of street
- Road slopes/sidewalks limited to ADA slope limit $< 5\%$
- Sight distances at intersections

West Essex Highlands – Application in West Orange Township, Essex County, NJ

- RSIS limits number of units
- MultiUnit housing on Cul-de-sac limit is based on trips per unit 5.5 and ADT allowed - 1000 ADT
- 1000 ADT divided by 5.5 = 182 units
- **Application exceeds the rules by 314 units.**
- **Existing development on Warner Road exceeds rules by 112 apartment units.**
- **Combined: 426 units exceed the law (rules)**

West Essex Highlands – Application in West Orange Township, Essex County, NJ

- RSIS limits number of units and ADT
- **Trips per RSIS with additional 496 units doubles at Warner Road to Oval Road and Oval Road to Eagle Rock Avenue during peak hours AM and PM.**
- **AM now at 163 tph to 337 tph with additional units per ITE**



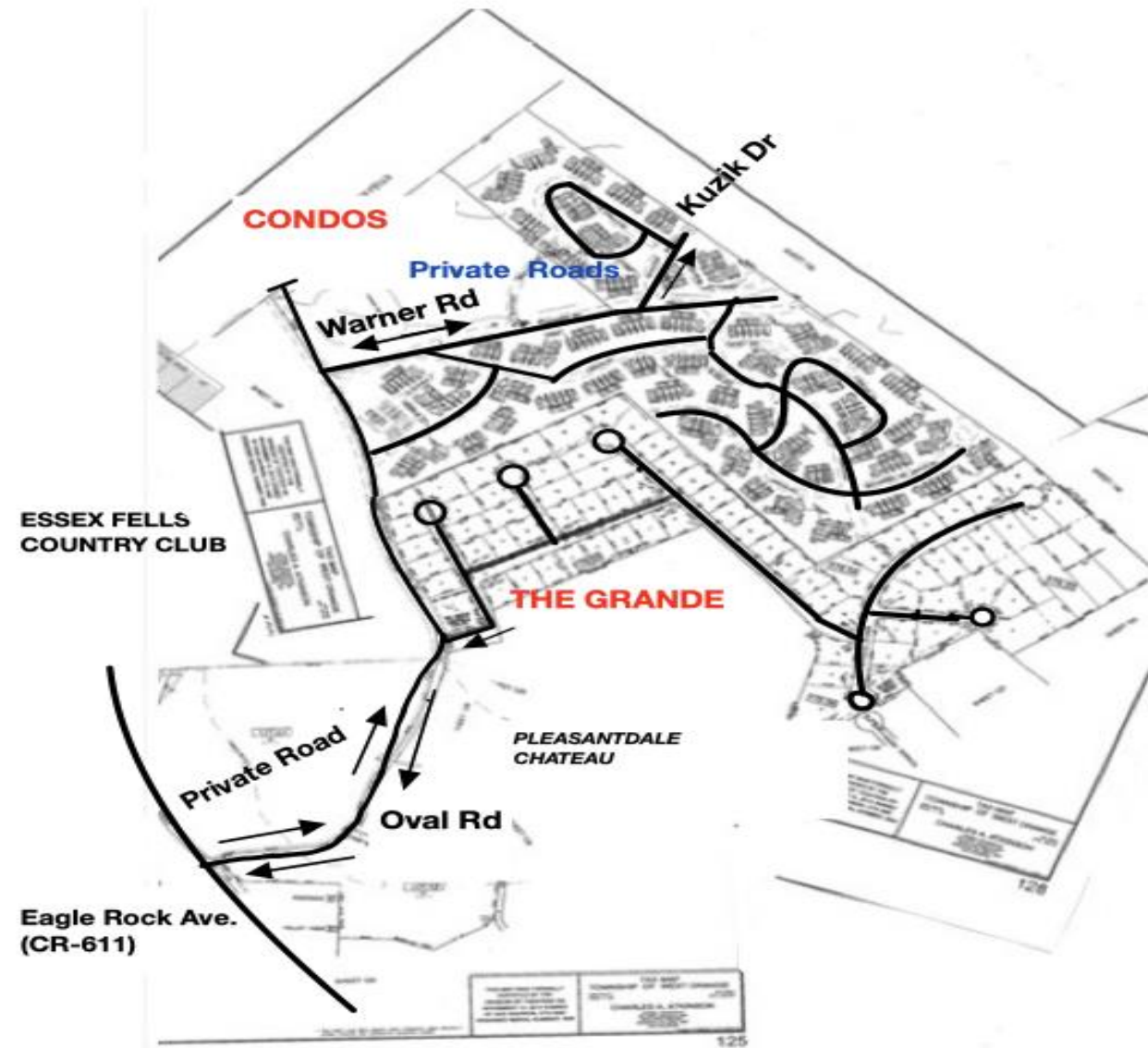
N.J.A.C. Tit 5, Ch 21 - RSIS

- RSIS ADT limits developers' development size:
- A Multiunit Cul-de-sac allows 1000 ADT, This application requires 2728 using RSIS factors, the existing 300 apartment units already use 1650 ADT plus the 72 single family homes contribute 727 more.
- The total above is 5105 which exceeds what minor collector roads are limited to at 3500 ADT and the Multiunit Cul-de-sac limit of 1000 ADT. This traffic load is all on Oval Road and Eagle Rock Ave intersection.
- Oval Road and Warner Roads are private, and those owners are not part of this application.
- Since Warner Road owners are not part of this application then this **application should not be considered** on a road the applicants do not own.

Tax Map 125
Eagle Rock –
Oval Road
existing
300 condos, 72
houses
current ADT
2377 trips

Figure 1 - Existing Interior Private Roadways

PB-24-01

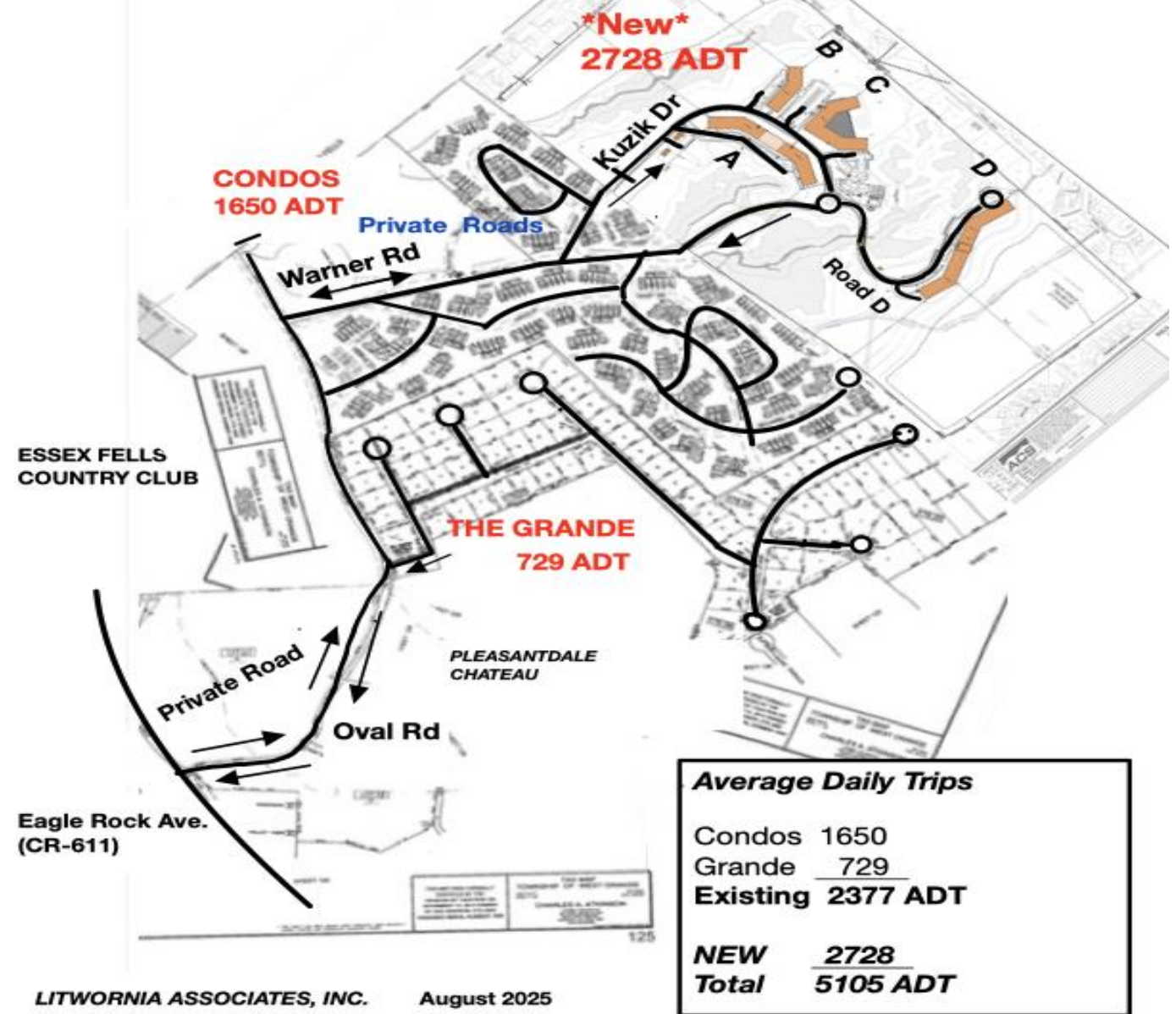


New
Additional 496
apartments
on Warner Rd
Future ADT
5105 trips

Figure 2 - Average Daily Trips (ADT)

PB-24-01

Existing (2377) + WEHI Proposed Development Total = 5105 ADT



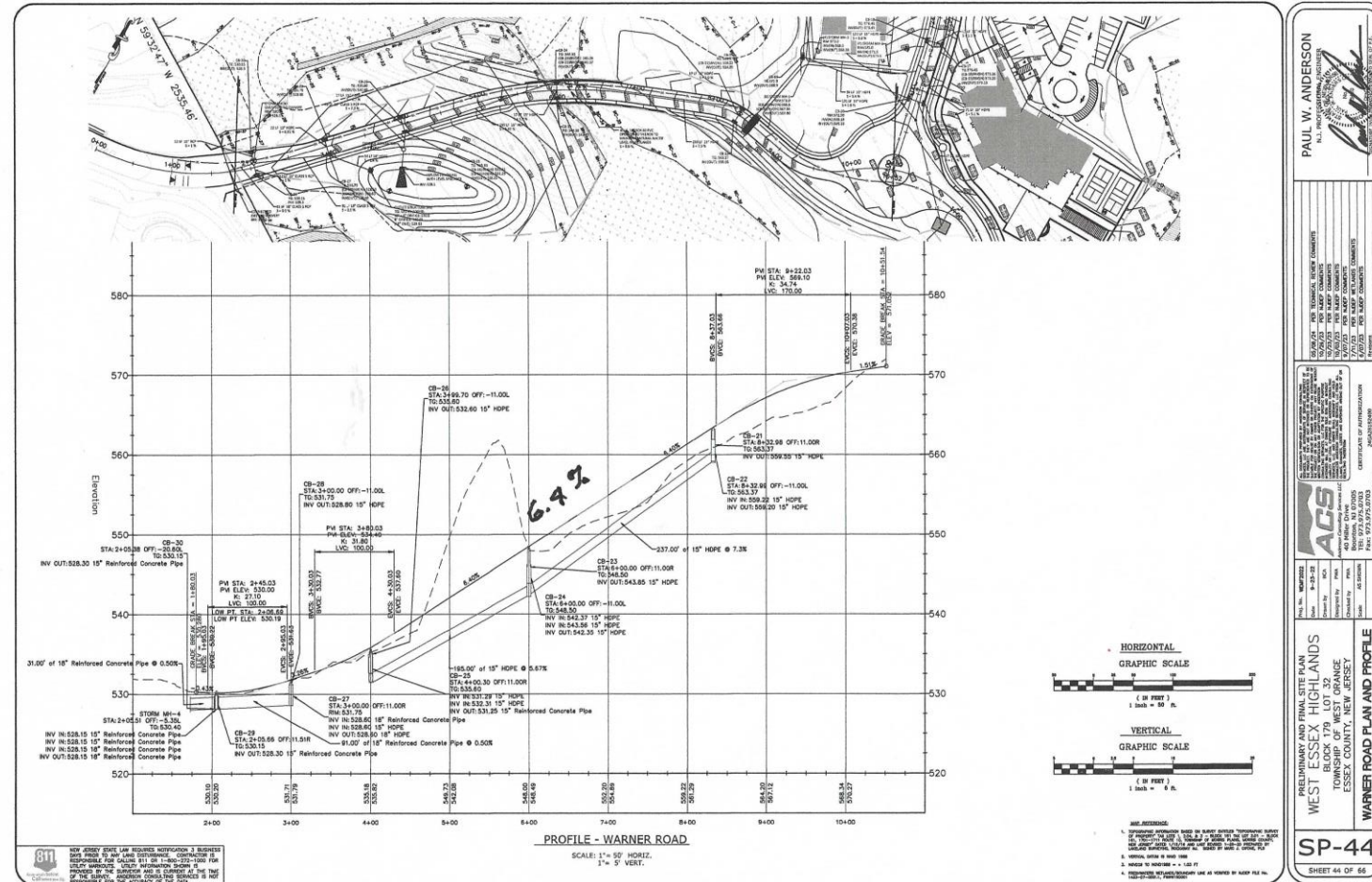
Emergency Egress

- Time to exit 1000 cars
- Assume 5 mph
- Minimum time if police control Oval Road onto Eagle Rock is estimated at 50 minutes but if cars are spread apart further than one every 20' then 100 minutes is the high time.
- An RSIS limited Cul-de-sac would exit in 10 to 20 minutes
- The RSIS limits were developed to provide safety to residents. This application exceeds safety limits.

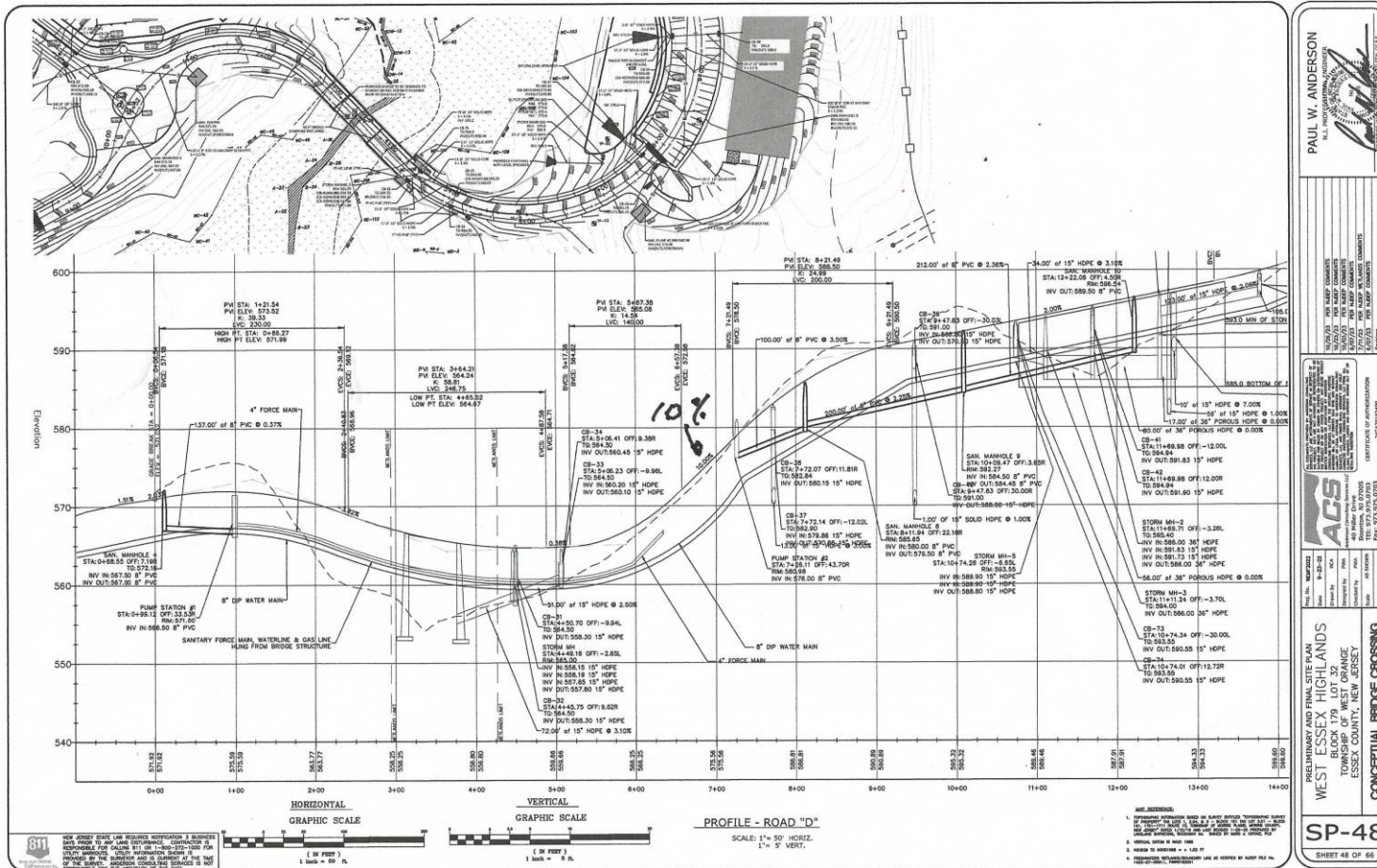
West Essex Highlands – Application in West Orange Township, Essex County, NJ

- Application shows non ADA compliant sidewalks on all streets
- Sidewalks on only one side in large portions of each street.
- Application shows 10% slopes far exceeding RSIS and ADA on large portions of each street.
- Sidewalks lack ADA required passing and turning width every 200'
- **Application exceeds the ADA rules by 100%.**
- **No De-minimus exceptions are allowed when above limits by 10% or more.**
- **See drawings to follow.....**

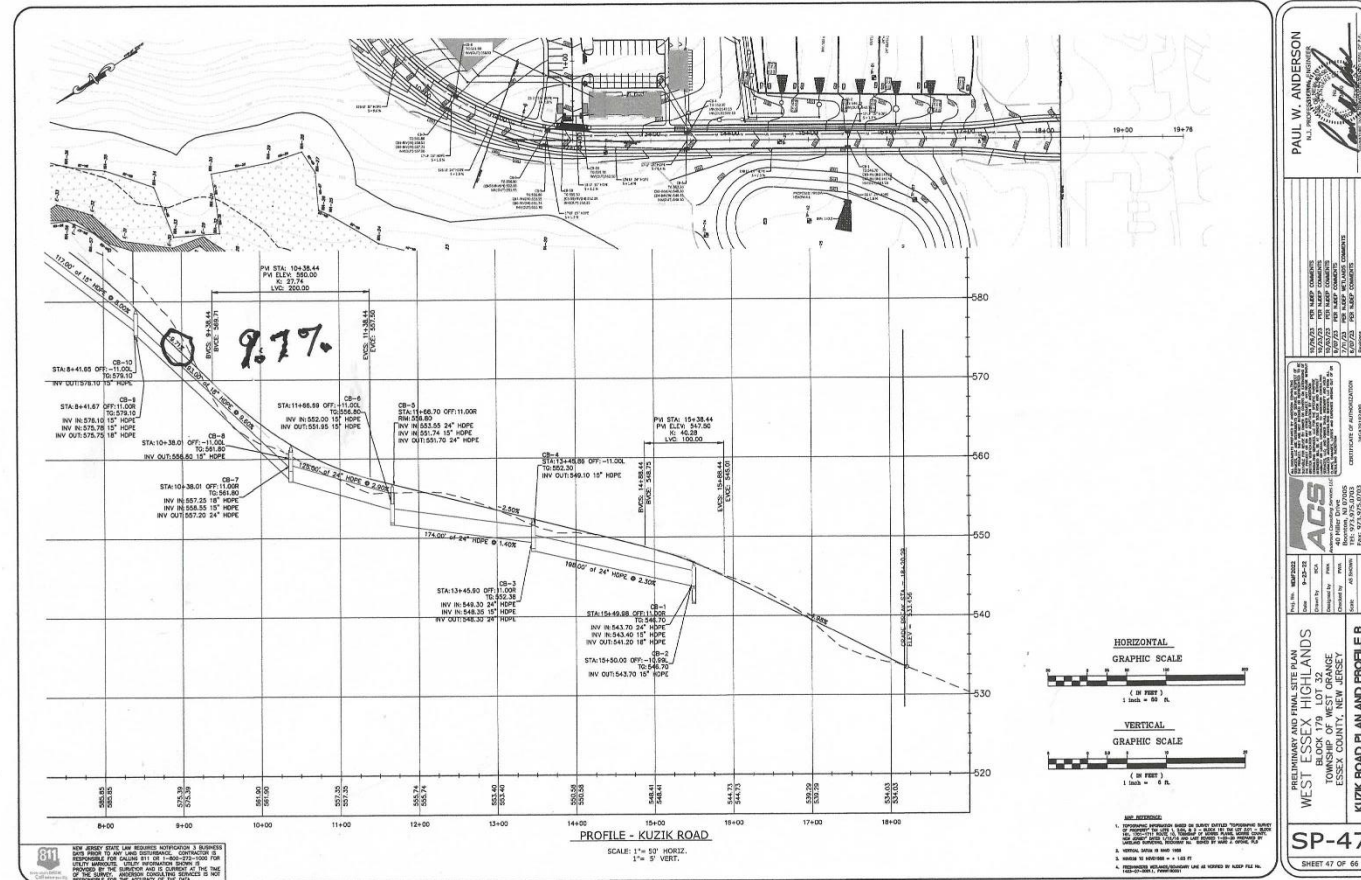
Profile Warner Road – SP44



Profile Road “D” – SP-48



Profile Kuzik Road – SP-47



West Essex Highlands – Application in West Orange Township, Essex County, NJ

- RSIS and access
- Emergency access is required for fire trucks, ambulances, auto accidents, tree blockage – there is none.
- Proposed access to Howell Road not approved by both towns as this is a township borderline. Deed restrictions prohibit road thru lots. Terrain is also too steep.
- Location is through parking circle on top of steep hill. Cars backing out of head in parking will block egress blindly.
- Egress into existing neighborhood has minimal access already.
- Parking on sloped curve and parking lot entry at slope/curve as plan shows is dangerous.

Site Plan Application Issues

- Applicant needs current survey
- Survey and site plan lack meets and bounds
- Application lacks warrant analysis for Eagle Rock Avenue – Oval Road signal
- Application lacks plan for turning queues at Oval onto Eagle Rock Ave and Eagle Rock Ave onto Oval Road
- Turning queues not sized for ADT
- The inclusion of EV parking may preclude the use of tandem parking



N.J.A.C. Tit 5, Ch 21 – RSIS – EV's

- Federal and State Guidelines for EV charging station require 15% of parking be ready to operate and
- A third of them operable.
- EV stations can't be counted in parking provided because many more users can be residents than the required operating stations and users must rotate in and out to non EV parking
- No credits can be taken for standard parking because then residents would be short required parking for each residential unit.
- Application is far short of required EV parking as CME noted in their memo to the Planning Board

West Essex Highlands – Application in West Orange Township, Essex County, NJ

- Eagle Rock Avenue and Oval Road signal issues:
 - County involvement required but none noted.
 - Additional right of way space may be required to fit the turning lanes.
 - A separate contract is required since applicant removed the construction of the traffic signal and warrant analysis from the applicant

West Essex Highlands – Application in West Orange Township, Essex County, NJ

- Application lacks plan for construction vehicles – heavily loaded with trees, rock and building materials
- Application lacks plan for water and sewer pipe routing which should be on public streets of which there are none.
- The utilities must be run at code required depths and rock is within that depth. Blasting will be necessary.
- Basins proposed will also require blasting.
- Blasting will cause structural damage to the foundations of existing residences – will applicant repair any and all cracked foundations?

TABLE 4.2 RESIDENTIAL STREET HIERARCHY DEFINITIONS

• RESIDENTIAL ACCESS**

- Lowest order, other than rural street type, of residential streets. Provides frontage for access to lots and carries traffic with destination or origin on the street itself. Designed to carry the least amount of traffic at the lowest speed. All, or the maximum number of housing units, shall front on this class of street.
- *Residential access streets of “loop” configuration, that is two ways out, should be designed so no section conveys an ADT greater than 1,500. Each half of a loop street may be classified as a single residential access street, but the total traffic volume generated on the loop street should not exceed 1,500 ADT, nor should it exceed 750 ADT at any point of traffic concentration.
- **Application lacks two ways out and ADT is far higher than 1500. Appliation should be rejected as it does not conform to RSIS**

TABLE 4.2 RESIDENTIAL STREET HIERARCHY DEFINITIONS

- **RESIDENTIAL NEIGHBORHOOD****

- A type of residential access street conforming to traditional subdivision street design, and providing access to building lots fronting on a street, and parking on both sides of street.
- **Applicant may choose either the RESIDENTIAL ACCESS or the RESIDENTIAL NEIGHBORHOOD street type for new streets. See section 4.8(b) for specific right-of-way and cartway width requirements for new streets that are a continuation of an existing street.

TABLE 4.2 RESIDENTIAL STREET HIERARCHY DEFINITIONS

• MINOR COLLECTOR

- Middle order of residential street. Provides frontage for access to lots and carries traffic of adjoining residential access streets.
- Designed to carry somewhat higher traffic volumes than lower order streets such as rural and residential access streets, with traffic limited to motorists having origin or destination within the immediate neighborhood. Is not intended to carry regional traffic.
- Each half of a loop-configured minor collector may be classified as a single minor collector street, but the total traffic volume conveyed on the loop should not exceed 3,500 ADT, nor should it exceed 1,750 ADT at any point of traffic concentration.
- Oval Road is not a minor collector because it does not meet RSIS requirements.
- **This application far exceeds these street designations and application should therefore be rejected.**

TABLE 4.2 RESIDENTIAL STREET HIERARCHY DEFINITIONS

• Cul-de-sac

- Marginal access street A rural street is a street that serves dwellings on lots that are one acre or greater, AND primarily serves as access to abutting building lots, AND has no on-street parking, AND has lot-to-street access designed so vehicles do not back out of lots onto the street. Rural streets shall only connect to rural streets, rural lanes, or mixed-use collectors. However, a rural street shall not connect two mixed-use collectors.
- A rural lane is a street that serves dwellings on lots that are two acres or greater, AND primarily serves as access to abutting building lots, AND has no on-street parking, AND has lot-to-street access designed so vehicles do not have to back out of lots onto the street Rural lanes shall only connect to rural streets, rural lanes, or mixed-use collectors. However, a rural lane shall not connect two mixed-use collectors.
- A service road that provides a secondary means of access to lots. On the same level as residential access street, but different standards apply. No parking shall be permitted; alleys should be designed to discourage through traffic.
- A street with a single means of ingress and egress and having a turnaround, the design of which may vary. A divided-type entrance roadway to at least the first cross street, with median of sufficient width to ensure freedom of continued emergency access by lanes on one side, shall not be considered part of a Cul-de-sac. Parking lots with a single means of ingress and egress shall not be included within the definition of cul-de-sac.
- Cul-de-sac had ADT limit of 250.
- **This application far exceeds this street designation and application should therefore be rejected.**

TABLE 4.2 RESIDENTIAL STREET HIERARCHY DEFINITIONS

- **Multifamily access Cul-de-sac**
- A street with a single means of ingress and egress, which serves multifamily development, that provides a means for vehicles to turn around.
- **AVERAGE DAILY TRAFFIC (maximum) 1000 ADT**
- **Existing 300 condo units already exceeds ($300 \times 5.5 = 1650$ ADT)**
- **This application at $496 \times 5.5 = 2728$ ADT**
- **This application far exceeds this street designation and ADT limit in RSIS therefore application should be rejected.**

N.J.A.C. 5:21-4.20

RSIS

- Site easements on vertical and horizontal curves shall be required and determined based on the sight distance requirements contained in AASHTO's A Policy on Geometric Design of Highways and Streets, taking into consideration the speed limits established by the government agency having jurisdiction. Residential access, residential neighborhood, and rural street design shall be based on a speed limit of 25 miles per hour. Minor collector street design shall be based on a speed limit of 30 miles per hour.
- Major collector design shall be based on a speed limit of 30 miles per hour or five miles over the anticipated posted speed limit, whichever is higher.
- **Sight distances on Road "D" are dangerously short due to the road slope and curvature therefore the application should be rejected.**



Times Up – The End

- **Conclusion**
- **Application should be rejected!**