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Traffic Impact Analysis for Proposed Residential Multi-family Development
at Sea Gull Village

pg. 16

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TRAFFIC IMPACT ANALYSIS
FOR
PROPOSED RESIDENTIAL MULTI-FAMILY DEVELOPMENT

SEA GULL VILLAGE
TOWNSHIP OF COLTS NECK
MONMOUTH COUNTY

Prepared By:



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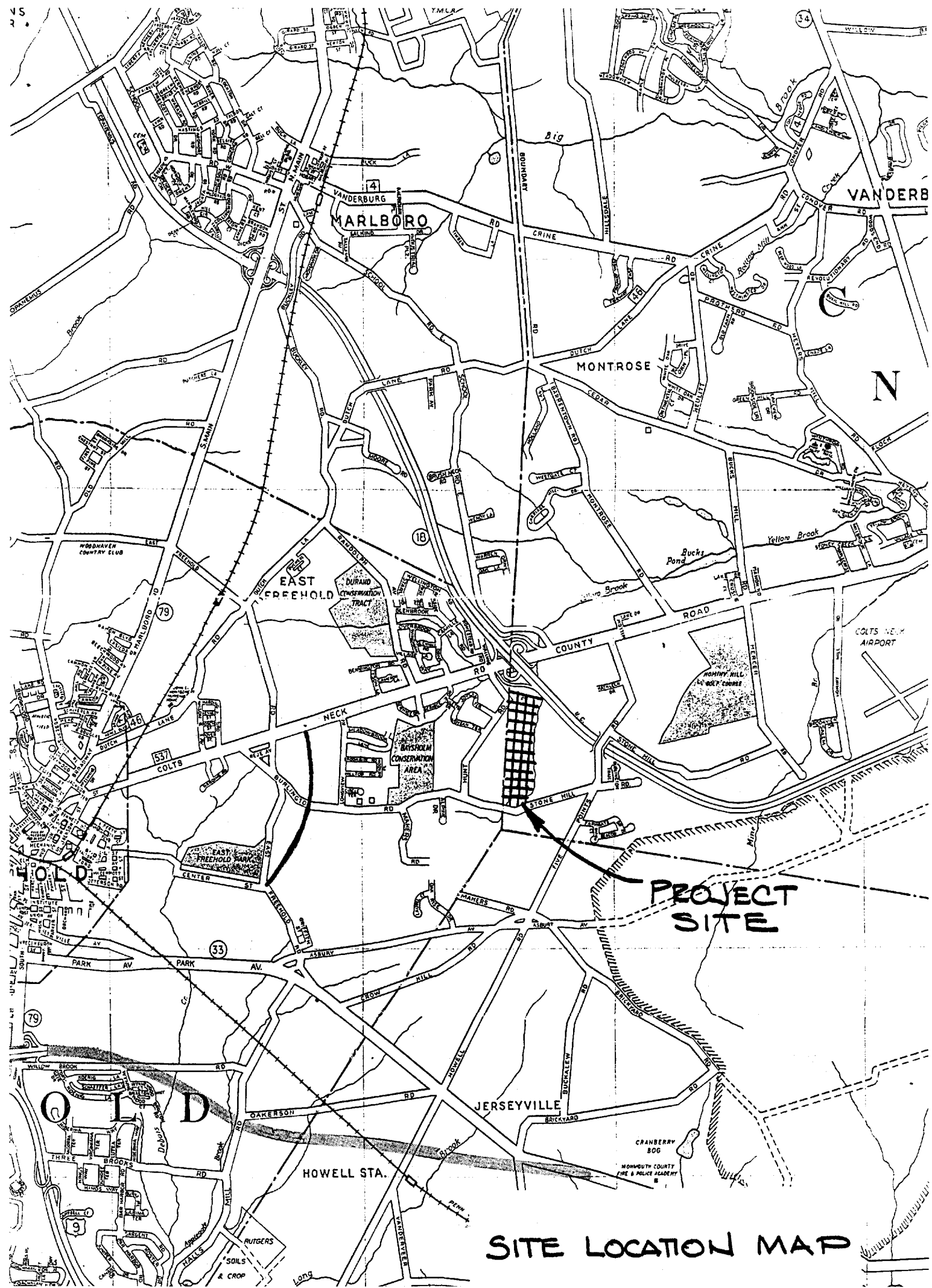
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INTRODUCTION

The proposed development consists of the construction of 800 condominium/townhouse units. The project site is known as Lot 2, Block 41.01 containing 74.23 acres and is surrounded by undeveloped land. Mine Brook is along the easterly property line, Route 18 Freeway's southbound on-ramp is along the northerly property line, the municipal boundary line with Freehold Township is the westerly property line, and Stone Hill Road is the southerly property line.

Access to the development will be from Hunt Road and Stone Hill Road. The major access point will be a "T" intersection with Hunt Road at the northwesterly corner of the property. A second access point will be a "T" intersection with Stone Hill Road at the southwestesrly corner of the property. Presently both Hunt Road and Stone Hill Road carry a minor amount of traffic.



SITE LOCATION MAP

EXISTING CONDITIONS

The site is in close proximity to a major roadway network which consists of adequate Municipal, County and State roadways. State Highway 18, County Route 537, Five Points Road, Stone Hill Road and Hunt Road all have adequate capacity to handle the increased traffic from this development.

Hunt Road is a two lane roadway. There is some existing and under-construction single family housing along Hunt Road. The roadway varies in width from 24' to 30'. Curbing and sidewalk only exist where recent construction has occurred on the westerly side of the road.

Stone Hill Road is also a two lane roadway which varies in width from 22' to 26' in the vicinity of the proposed development. There are only a few single family houses along Stone Hill Road in this area. No curbing or sidewalk exists except in the vicinity of Stone Hill Road's intersection with Hunt Road.

There were no posted speed limits for either Hunt Road or Stone Hill Road.

SCOPE OF STUDY

In order to properly evaluate the traffic impact of the proposed development, the following was accomplished:

1. A site inspection was made and traffic pattern observed;
2. Manual traffic counts were taken to identify existing traffic volumes;
3. Physical conditions of roadways and surrounding land uses were noted as they affect traffic operations;
4. A capacity analysis of the two proposed intersections was performed to determine their anticipated level of service during peak hours.

Estimates of traffic to be generated by this development were based on a review of studies published nationally by the Institute of Transportation Engineers. I.T.E. Land Use Code 220, Apartments, was utilized for trip generation rates since it closely relates to the proposed use and had the largest number of studies. Existing traffic volumes were projected to the year 1990 utilizing a 2.5% growth rate per year.

TRAFFIC

The following items were reviewed in order to determine the distribution of the generated trips from this development:

1. Surrounding roadway network;
2. Existing roadway traffic distribution patterns;
3. Employment centers;
4. Consumer centers;
5. Drivers characteristics.

After a review of the above items, it is anticipated that 65% of the traffic generated from the development will utilize the proposed roadway that will intersect with Hunt Road. The distribution of the additional Hunt Road traffic is anticipated to be 85% to the north and 15% to the south. The remaining 35% of the total development traffic will utilize the proposed roadway that will intersect with Stone Hill Road. The distribution of the additional Stone Hill Road traffic is anticipated to be 60% to the east and 40% to the west. The following is a breakdown of all traffic generated from the proposed development and the distribution of same as outlined above:

A.M. PEAK HOUR

Entering Site 0.1 trips per dwelling unit	=	80
Southbound Hunt Road		44
Northbound Hunt Road		8
Westbound Stone Hill Road		17

A.M. PEAK HOUR (cont'd)

Eastbound Stone Hill Road	11
Exiting Site 0.4 trips per dwelling unit =	320
Southbound Hunt Road	31
Northbound Hunt Road	177
Westbound Stone Hill Road	45
Eastbound Stone Hill Road	67

P.M. PEAK HOUR

Entering Site 0.4 trips per dwelling unit =	320
Southbound Hunt Road	177
Northbound Hunt Road	31
Westbound Stone Hill Road	67
Eastbound Stone Hill Road	45
Exiting Site 0.2 trips per dwelling unit =	160
Southbound Hunt Road	16
Northbound Hunt Road	88
Westbound Stone Hill Road	22
Eastbound Stone Hill Road	34

All of the aforementioned figures were combined with existing traffic volumes which were projected to the year 1990. These peak hour turning movements are indicated on the following four figures.

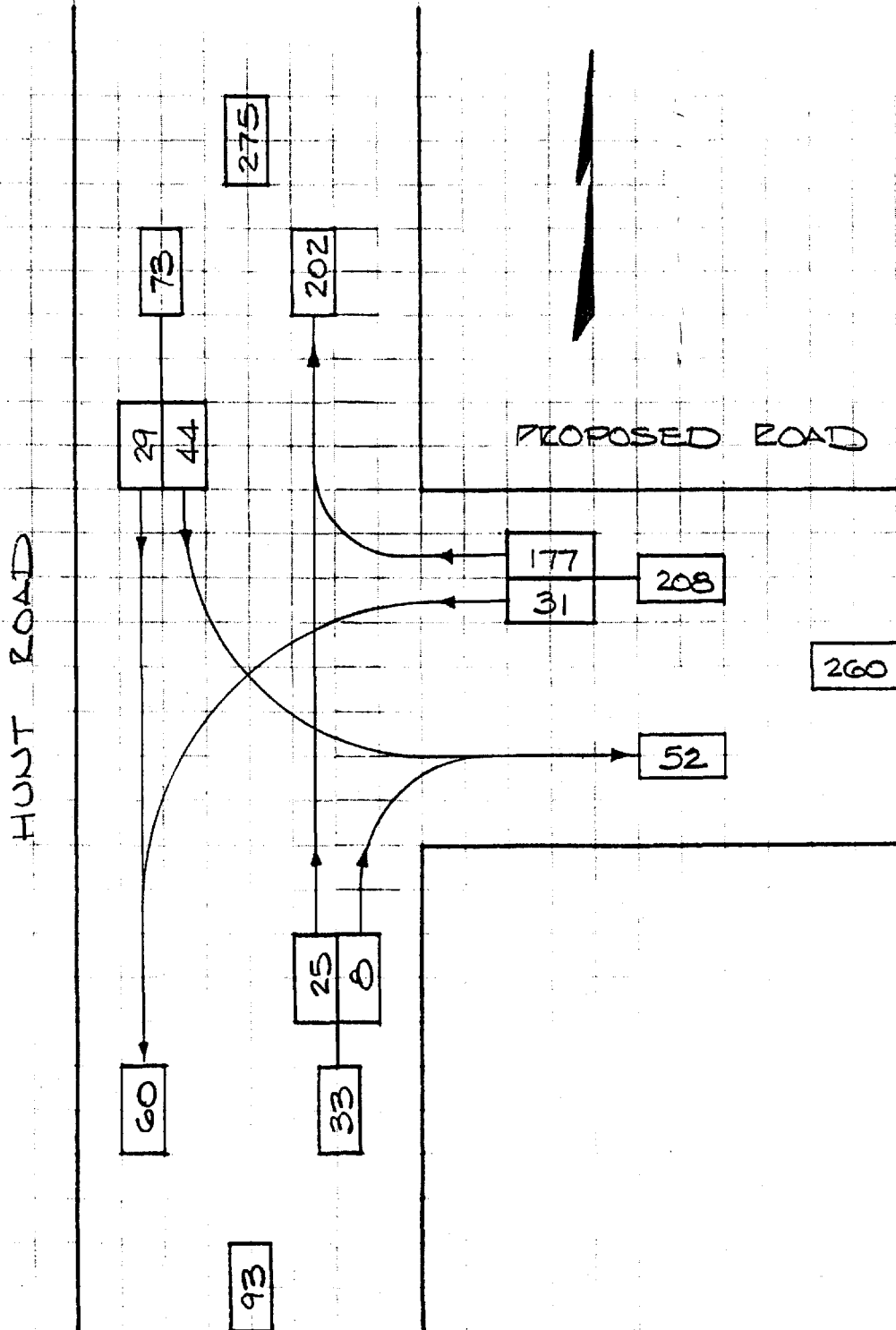
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DATE 10-9-84 METHOD OF COUNT MANUAL BY R.H.M.

WEATHER INTERMITT LIGHT RAIN TRAFFIC CONTROL STOP SIGN

PEAK TIME PERIOD 7:30 TO 8:30 COMPILED BY R.M.M.



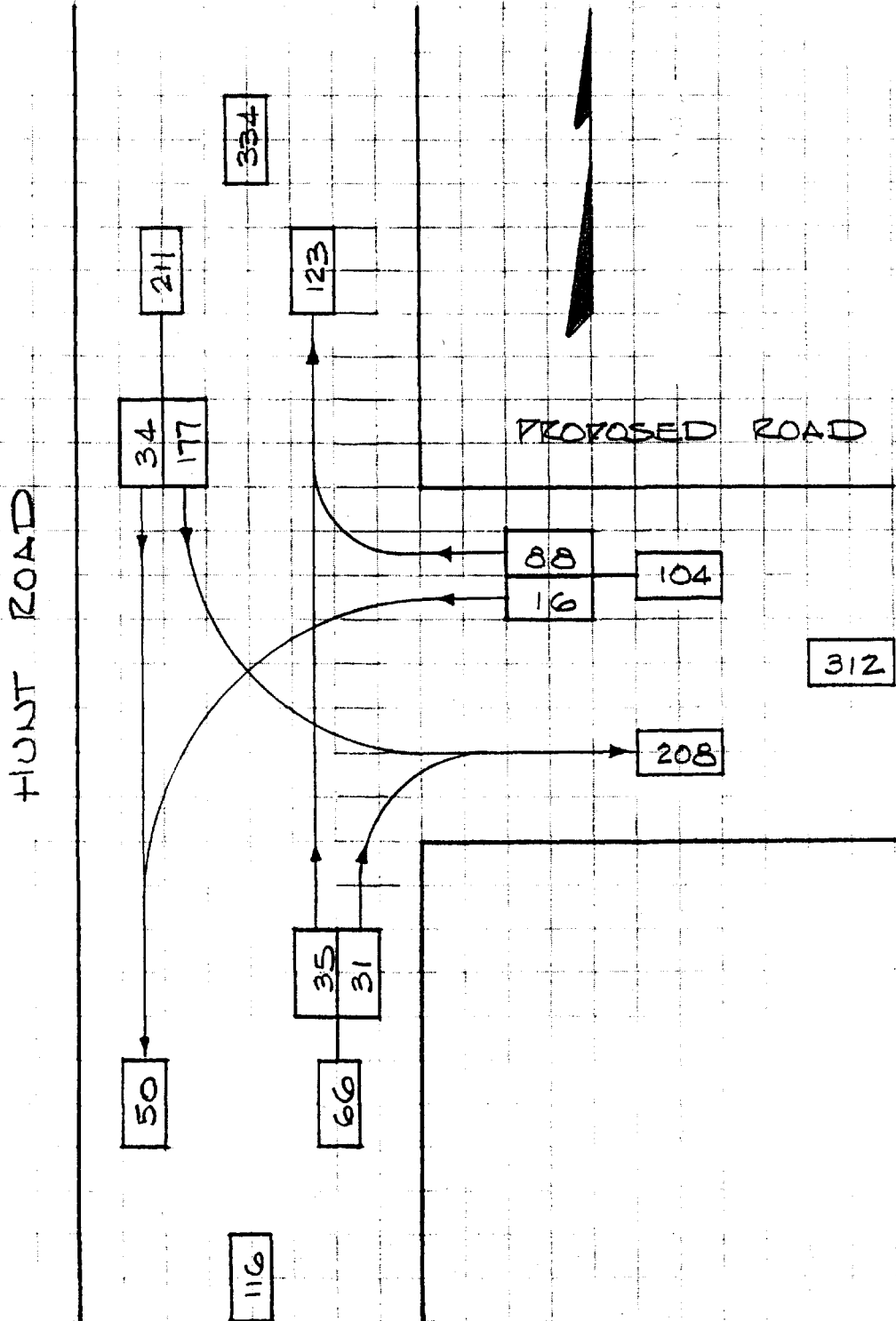
1990 AM PEAK HOUR

TURNING MOVEMENTS

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DATE 10-9-84 METHOD OF COUNT MANUAL BY R.H.M.
 WEATHER CLEAR TRAFFIC CONTROL STOP SIGN
 PEAK TIME PERIOD 4:15 TO 5:15 COMPILED BY R.M.M.



1990 PM PEAK HOUR
 TURNING MOVEMENTS

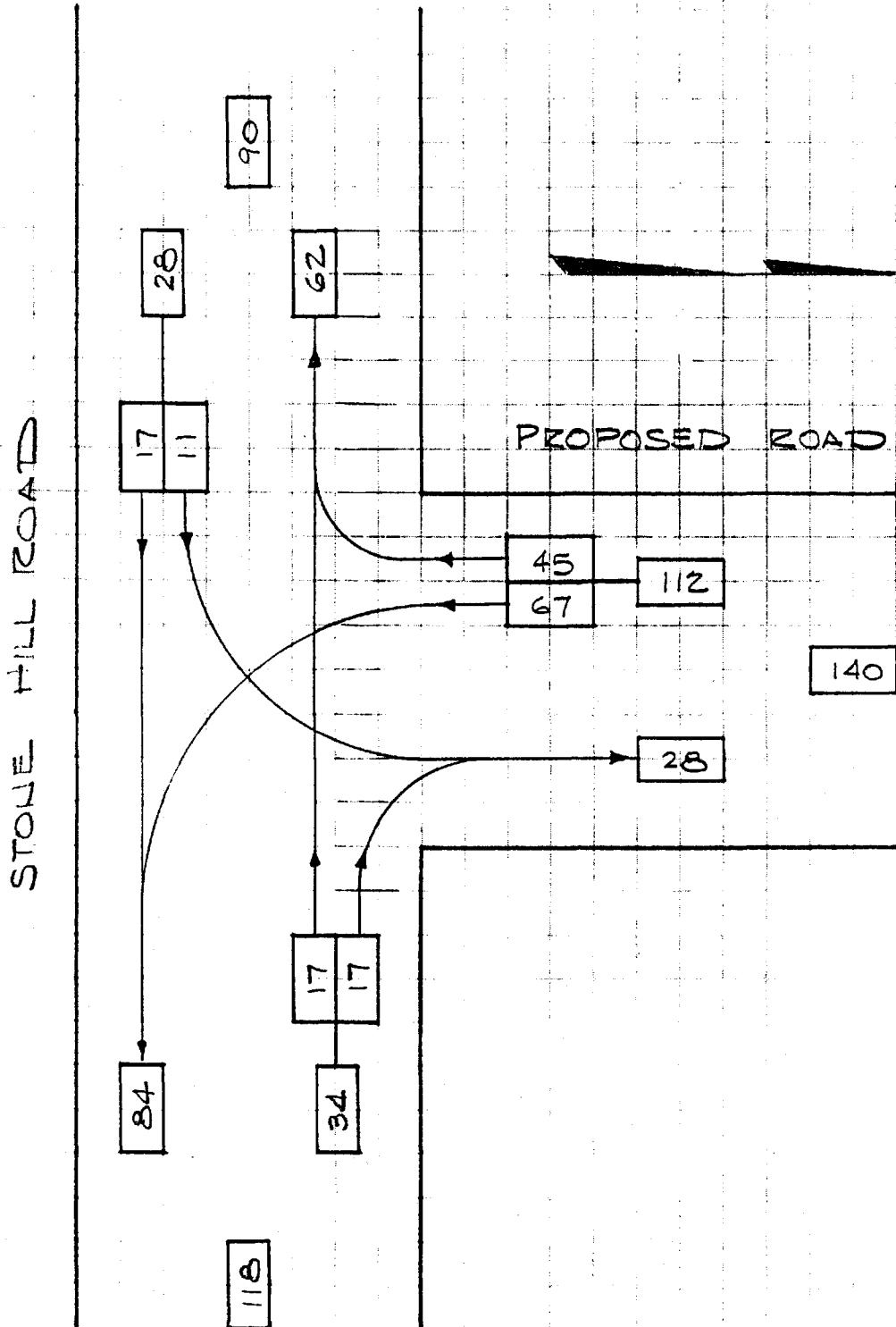
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DATE 10-9-84 METHOD OF COUNTY MANUAL BY R.M.M.

WEATHER INTERMITT LIGHT RAIN TRAFFIC CONTROL STOP SIGN

PEAK TIME PERIOD 7:30 TO 8:30 COMPILED BY R.M.M.



1990 AM PEAK HOUR

TURNING MOVEMENTS

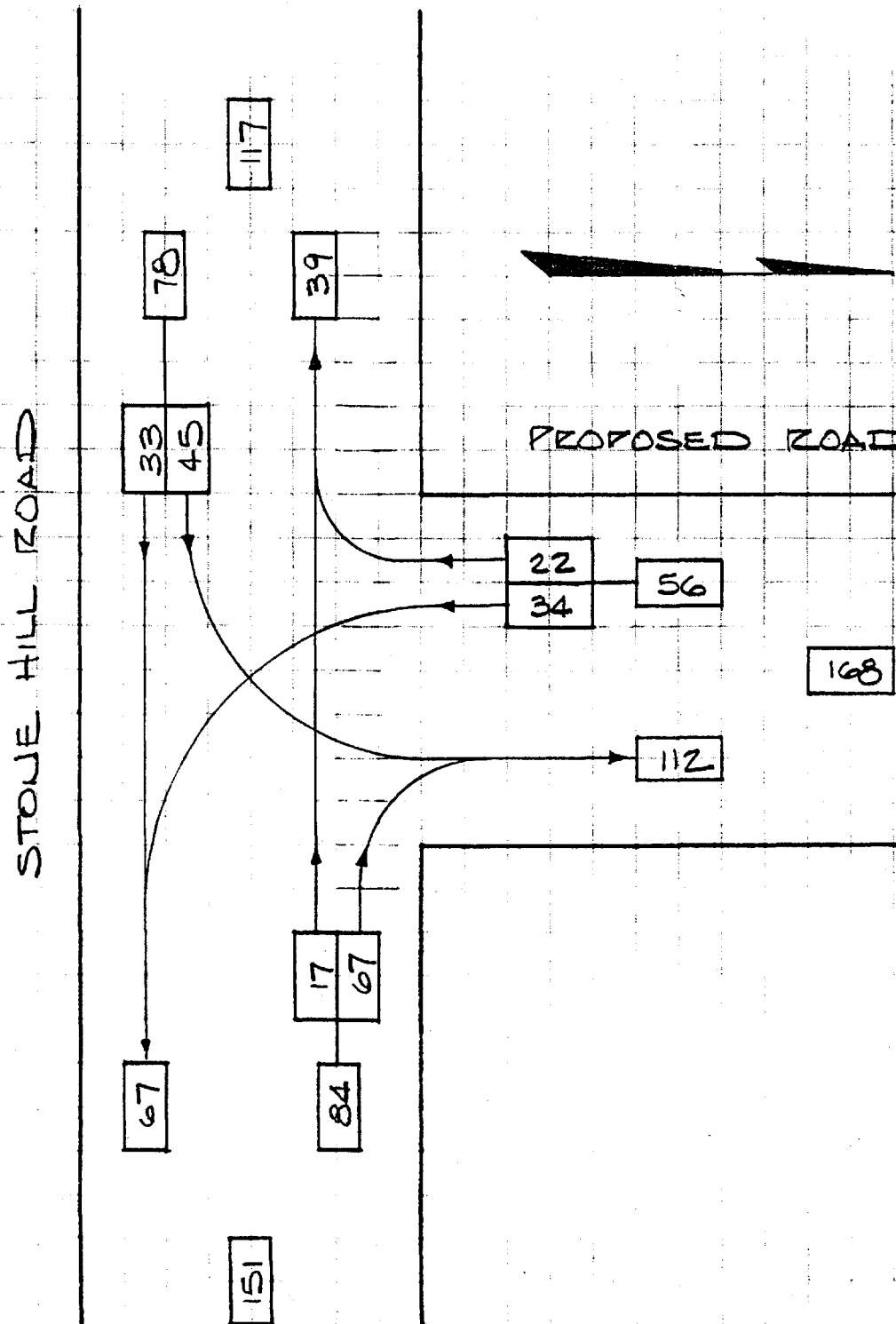
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WEATHER CLEAR TRAFFIC CONTROL STOP SIGN

PEAK TIME PERIOD 4:30 TO 5:30 COMPILED BY R.M.M.



1990 PM PEAK HOUR
TURNING MOVEMENTS

CAPACITY ANALYSIS

The impact of traffic is best expressed in terms of its effect on the capacity of a roadway or the intersections between roadways. The capacity of intersections is generally the controlling factor, providing the greatest limitations on traffic flow. An accepted method of evaluating the capacity of unsignalized intersections is provided in Transportation Research Board Circular 212. The methodology for evaluating capacity of intersections provides a range of levels of service, from "A", representing the best condition with no backups or congestion, to "F", representing a total breakdown in operation accompanied by extensive delays and congestion. Generally a Level of Service "C" is recognized as a minimum design goal. Level of Service "C" represents average traffic delays during the peak hour of operation with a delay, at times, of up to 30 seconds before a vehicle can enter the road system.

An analysis of both proposed intersections reveals that during the A.M. and P.M. peak hours all turning movements, except one, operate at a Level of Service "A". Vehicles making a left from the proposed road onto Hunt Road during the P.M. peak hour will have some difficulty, since this movement will operate at a Level of Service "C".

The number of vehicles making the left turn onto Hunt Road during the P.M. peak hour is only 16. The heavy left turn from Hunt Road into the development is what causes the lighter movement which is stop sign-controlled to have a Level of Service "C."

When considering a two-lane roadway, the measure of level of service is related to the potential operating speed for a specific segment of roadway which in turn is determined by available passing sight distance, freedom to maneuver, traffic interruptions and the basic roadway configuration. From the drivers point of view, lower traffic volumes naturally result in higher levels of service. Therefore, it can be said that for any roadway, the level of service varies inversely with traffic volumes or density. The Highway Capacity Manual identifies six levels of service ranging from "A," which represents low volumes with corresponding high travel speeds, to "F," which describes the movement of traffic under forced flow conditions at low speeds. Under existing conditions both Hunt Road and Stone Hill Road operate at a Level of Service "A." Both roadways will continue to operate at a Level of Service "A" after full development.

SITE IMPROVEMENT RECOMMENDATIONS

The traffic analysis was predicated on providing the following lane configuration at the two new intersections:

Hunt Road Southbound - 2 lanes (through traffic; left turn)

Hunt Road Northbound - 1 lane

Proposed Road Westbound - 2 lanes (left turn; right turn)

Proposed Road Eastbound - 1 lane

Stone Hill Road & Proposed Road - All One Lane Approaches

It is recommended that the proposed roadway intersect Stone Hill Road approximately 250' from the westerly property line. This would place the proposed roadway at the existing high point on Stone Hill Road. Designing the proposed roadway at this point location will ensure adequate sight distances.

The location for the intersection of the proposed road with Hunt Road is limited due to available property. The new roadway will intersect Hunt Road approximately 500' north of Jayson Terrace. Hunt Road at this location has a center line curve radius of approximately 350'. There is adequate sight distance along Hunt Road to permit the new intersection at this location. As part of the site improvements the easterly side of Hunt Road will have to be properly cleared of vegetation to ensure adequate sight distance.

CONCLUSIONS

The traffic generated from the proposed development can safely ingress and egress from the site. Our analysis indicated a Level of Service "A" at the two proposed intersections for 98% of the traffic generated from the proposed development.

There is sufficient capacity in the existing roadway network that surrounds the site to absorb the additional traffic from this development. From a traffic impact analysis, the site is at a good location due to the network of State, County and Municipal Roadways that are immediately adjacent to the site.