

COMMITTEE OF THE WHOLE- APRIL 20, 2009

BLOCK 40 SOUTH TRANSPORTATION MANAGEMENT / SIDEWALK MASTER PLAN WARD 1

The Commissioner of Engineering and Public Works recommends that the Block 40 South Transportation Management / Sidewalk Master Plan prepared by Sernas Transtech be approved subject to detailed design.

Economic Impact

There is no economic impact associated with this report.

Communications Plan

Not applicable.

Purpose

The purpose of this report is to provide Council with an overview of the proposed traffic calming measures and sidewalk locations within the Block 40 South.

Background - Analysis and Options

At its meeting of April 24, 2006, Council approved the Block Plan for Block 40 South subject to number of conditions which were to be addressed in conjunction with the approval of the draft plans of subdivision including:

“That a Transportation Management Plan be prepared to the satisfaction of the Engineering Department.

That detailed traffic calming and control analysis be completed for the primary roads abutting school sites, This analysis and study should examine the feasibility of lay-bys and other solutions to provide safe access to the school sites.”

In response to the above Council direction, Block 40 South traffic consultant (Sernas Transtech) prepared a comprehensive transportation management and sidewalk plan in consultation with Development / Transportation Engineering and Engineering Services Departments.

It is important to note that specific traffic calming measures are influenced by local conditions and every newly-constructed subdivision is different. These community differences make it difficult to establish specific traffic calming requirements for all new developments. The purpose of traffic calming in new developments is to preserve streets to their intended function. It should also be recognized that the benefits of traffic calming in new developments are hard to quantify and technically justify even though measures may be desirable to implement.

Proposed Traffic Calming Measures

Based on a thorough review of the proposed road network in the Block 40 South plan, the traffic consultant identified potential areas of concern with respect to pedestrian safety, assessed various traffic calming features that might address the potential areas of concern, and recommended measures that present the “best fit” for the affected areas. The consultant used the “Canadian Guide to Neighbourhood Traffic Calming” published by the Transportation Association of Canada (TAC) and the Canadian Institute of Transportation Engineers (ITE) as the primary guide for reviewing and selecting the most appropriate traffic calming measures. Also, specific City of Vaughan design standards were used to guide the consultant’s recommendations.

The resultant Block 40 South Transportation Management / Sidewalk Master Plan is illustrated on Attachment No. 1 to this report and a brief description and location for each proposed traffic calming measure is provided below.

Curb Extensions

A curb extension is a horizontal intrusion of the curb into the roadway resulting in a narrower section of roadway. The purpose of a curb extension is to reduce vehicle speeds, reduce crossing distance for pedestrians (if applicable), increase pedestrian visibility (if applicable), and prevent parking close to an intersection.

Within the Block 40 South, curb extensions are proposed at the following locations:

- both sides of Staton Avenue east of Trammel Drive
- both sides of Stanton Avenue east of Ironside Drive
- north side of Stanton Avenue, between Revere Crescent
- both sides of Street '4', north of Street '20' (along Linear Park frontage)
- west side of Street '4', between Street '19' and Street '20'
- east side of Lawford Road, north of District Centre
- north side of Chatfield Drive, between Street '13' and Headwind Blvd.
- north side Hansard Drive, between Street '43' and Street '42'
- east side of Hansard Drive approximately mid-block between north and south Hansard Drive
- both sides of Greenbrooke Drive, Headwind Blvd. and Ironside Drive along Linear Park frontage
- at the intersection of Street '15' and Headwind Blvd.
- at the intersection of Street '15' and Ironside Drive
- at the intersection of Trammel Drive and Hansard Drive
- at the intersection of Trammel Drive and Lindbergh Drive
- at the intersection of Street '19' and Street '20'

Raised and Mountable Median Island

A raised median island is an elevated median constructed along a centreline of a two-way roadway, narrowing the width of the travel lane in each direction. A mountable centre median has the same purpose and intent as a raised median island; to reduce vehicle speeds. The difference between the two features is that the elevation of a raised median island is sufficiently low so that passenger vehicles can cross over them easily and they do not restrict access to driveways.

Within the Block 40 South, raised and mountable medians are proposed at the following locations:

- on Stanton Avenue at Weston Road (raised median followed by mountable)
- on Stanton Avenue at Templewood Crescent / Lawford Road intersection (east side of intersection mountable median, west side raised median)
- on Street '4' at Chatfield Drive (raised medians)
- on Chatfield Drive at Weston Road (raised median followed by mountable)
- on Chatfield Drive at Sedgewick Place and Dundonnell Place (raised medians)

Lay-by Lanes

With lay-by parking, vehicles are permitted to park on the residential streets parallel to the curb, thereby reducing the width of the roadway available for vehicle travel. The effects of permitting lay-by parking are reductions in vehicle speeds and possible reduction in short-cutting or through traffic. The provision of lay-by lanes near schools and parks also minimizes illegal standing or parking.

For Block 40 South there are two lay-by types envisioned. The first one is as per City of Vaughan standard with physically separated parking area (with depressed curb) from travel portion of a roadway. The second version envisions a reduced overall roadway pavement width of 11.5 metres with pavement markings delineating the parking lay-by. In addition to pavement markings, curb extensions will be provided on both sides of the lay-by parking further separating parking area from the travel lanes. The width for parking is 2.5 metres for both versions.

It should be noted that based on the specifications derived from the "Canadian Guide to Neighbourhood Traffic Calming" the lay-by parking throughout Block 40 South does not completely satisfy the definitions for traffic calming measures because the proposed roadway pavement widths exceed the preferred roadway width of 10 metres. For this reason, in order to enhance the effectiveness of the lay-by parking as a traffic calming measure the consultant has also proposed a number of other traffic calming measures along the roadways proposed for lay-by parking.

A minimum distance of the parking lay-bys from intersections is 5 metres (be they physically separated from the travel lanes or identified with only pavement markings).

Within the Block 40 South, lay-by parking is proposed at the following locations:

- west side of Lawford Avenue from Stanton Avenue to Gorman Avenue (disconnected only at intersections), identified with pavement markings
- west side of Lawford Avenue along District Park and Secondary School frontage, physically separated from the travel lanes
- west side of Street '4' along elementary school frontage (disconnected only at intersections), identified with pavement markings
- south side of Chatfield Drive along District Park frontage, physically separated from the travel lanes
- south side of Chatfield Drive along storm water management pond frontage, identified with pavement markings

The effectiveness of lay-by parking can be increased when used in combination with curb extensions as proposed for Block 40 South.

Textured Crosswalks

A textured crosswalk is a crosswalk incorporating a textured and/or pattern surface, which contrast with the adjacent roadway. The purpose of the textured crosswalk is to better define the crossing location for pedestrians and to reduce vehicle-pedestrian conflicts.

Within the Block 40 South, textured crosswalks are proposed at the following locations:

- on Stanton Avenue at Weston Road
- on Chatfield Drive at Weston Road
- on Lawford Road at Major Mackenzie Drive
- on Street '4' at Major Mackenzie Drive
- at the intersection of Stanton Avenue and Templewood Crescent/Lawford Road
- at the intersection of Stanton Avenue and Street '4'
- at the intersection of Street '4' and Chatfield Drive

- at the intersection of Chatfield Drive and Sedgewick Place/Dundonnell Place
- on all linear park crossings on Greenbrooke Drive, Street'4', Headwind Blvd and Ironside Drive
- on Lawford Road near Hansard Drive
- on Lawford Road near Gorman Avenue
- on Street'B' at Street '4'
- on Street '4' at street 'B'

Roundabout

A roundabout is a circular intersection where the entering traffic yields to the right-of-way to the circular traffic. There is raised island located in the centre, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island. Roundabout has also raised median islands on all approaches. They are distinguished from other circular intersection by yield on entry. Yielding takes place on all entries, so traffic is stored there rather than in the circle. Motorists are deflected around the central island, which slows traffic, promotes yielding, and increase safety. Roundabouts reduce vehicle speeds, delays, crash frequency and severity, and improve aesthetics.

The proposed roundabout at Chatfield Drive and Lawford Road in Block 40 South is consistent with the modified City of Vaughan roundabout design which has been constructed at intersections in Blocks 11 and 18. The design has been modified to accommodate Fire and Rescue Services vehicles, snow ploughs and garbage truck manoeuvres. This proposed design has also been subject to an AutoTURN review to ensure it can accommodate larger emergency vehicles which also involved a number of meetings with Fire and Rescue Services staff, Development / Transportation Engineering staff and traffic consultant. Lastly, the design has been reviewed and approved by the Fire Rescue Services.

Proposed Signage

The following traffic advisory/control signage is identified on the Block 40 South Transportation Management / Sidewalk Master Plan:

Traffic Calming Neighbourhood Sign

The purpose of a Traffic Calming Neighbourhood sign is to advise motorist that traffic calming measures are in place within a neighbourhood, and through increased drive awareness, discourage cut-through traffic and speeding. Within the Block 40 South, traffic calming neighbourhood sign has been proposed on roadways entering Block 40 South from Major Mackenzie Drive and Weston Road.

Stop Signs

The purpose of a stop sign is to indicate to motorists that they must stop their vehicle completely, before entering an intersection, and not proceed until it is safe to do so. Stop signs are intended to regulate traffic and are not considered traffic calming measure as per the Ontario Traffic Manual. Unwarranted stop signs can lead to general disrespect of all stop signs, even those that are warranted and are in place for operational or safety reasons.

No Exit Sign

The purpose of a no Exit sign is to warn motorist at the entrance to a side road that the side road has no outlet. The sign is intended to divert through traffic and to prevent unnecessary and potentially back-tracking manoeuvres.

Yield Signs

The purpose of a Yield sign is to indicate that motorists must yield the right-of-way, stopping if necessary before entering the intersection, and must not proceed until it is safe to do so. They are intended to reduce conflicts.

Sidewalk Plan

The Block 40 South Transportation Management / Sidewalk Master Plan identifies the location of the proposed sidewalks in the community. The proposed network of sidewalks is consistent with the current Sidewalk Location Policy. Sidewalks have been provided on both sides of Stanton Avenue, Street '4', Lawford Road, Chatfield Drive and Dundonnell Place. Elsewhere, sidewalks are provided on one side of the road if there are between 40 and 100 units tributary to a pedestrian route and where pedestrian routes connect to local amenity areas such as parks, schools, transit routes, commercial areas, etc. Sidewalks are also provided throughout the linear park as they form part of the walkway system. This Block has more sidewalks than is typically found in a full block development because of the proposed district park, secondary school, linear park/trailway and surrounding open space lands.

Bike and Pedestrian Master Plan

The Block 40 Transportation Management / Sidewalk Master Plan identifies the proposed bike routes on Stanton Avenue, Street '4', and Lawford Road. These proposed bike routes are generally consistent with the approved Pedestrian and Bicycle Master Plan and are maintaining the original intent of the Plan. By incorporating signed bike routes on Block 40 South roadways it promotes the more efficient use of the transportation system and provides a greater balance in the travel modal-share by supporting alternative travel modes such as cycling.

School Zone Treatments

In addition to measures being implemented during the Block Plan stage, once schools are constructed and opening date is known, signage and other traffic control devices will be implemented. The location of school zone maximum signs (40 km/h) and school crossing guards in the vicinity of a school will be identified and implemented before schools are opened. These and other non-physical measures/treatments, even though not traffic calming measures improve conditions for non-motorized street users and may be effective measures in reducing speeding and congestion in vicinity of schools.

Potential Additional Traffic Calming Measures

Council, at its meeting of June 25, 2007, adopted the following recommendation of Item 4, Report No. 32, of the Committee of the Whole:

“That prior to the approval of any Plan of Subdivision, the Traffic Management Plan should be presented to Council for approval of all the proposed traffic calming measures for the subject Block/Draft Plan.

That prior to Assumption, if the implemented traffic calming measures as approved at the Block Draft Plan stage are not reliable and/or are ineffective as solution(s) for resident safety, then any additional constructed traffic calming measure will be the responsibility of the Developer.”

The latter requirement will be included in each subdivision agreement in the Block.

Relationship to Vaughan Vision 2020

This report is consistent with the Vaughan Vision 2020 strategic initiatives to enhance and ensure community safety, health and wellness. Accordingly, this report is consistent with the priorities previously set by Council.

Regional Implications

York Region Transit has approved the potential transit routes and bus stop locations as identified on the Block 40 South Transportation Management / Sidewalk Plan. The potential transit routes are located on Stanton Avenue and Street '4'.

Conclusion

The proposed Transportation Management / Sidewalk Plan for Block 40 South recommends the implementation of the combination of curb extensions, raised and mountable median islands, roundabout, textured crosswalks at mid-block and intersections and lay-by parking plus appropriate traffic calming, statutory and warning signage for traffic calming purposes. These measures are designed to reduce the negative effects of excessive traffic volume and speed within residential areas by attempting to alter driver behaviour and by improving conditions for pedestrians and other non-motorized travel.

The Transportation Management / Sidewalk Plan for Block 40 South accomplish these goals, while maintaining full accessibility for residents as well as for municipal services, transit, and emergency vehicles. The proposed measures in the Plan may need to be refined or modified during the design stage in order to accommodate engineering constraints and opportunities.

It is recommended that the proposed Block 40 South Transportation Management / Sidewalk Plan be approved.

Attachment

1. Block 40 South Transportation Management / Sidewalk Plan

Report prepared by:

Selma Hubjer, Transportation Engineer, Ext. 8674

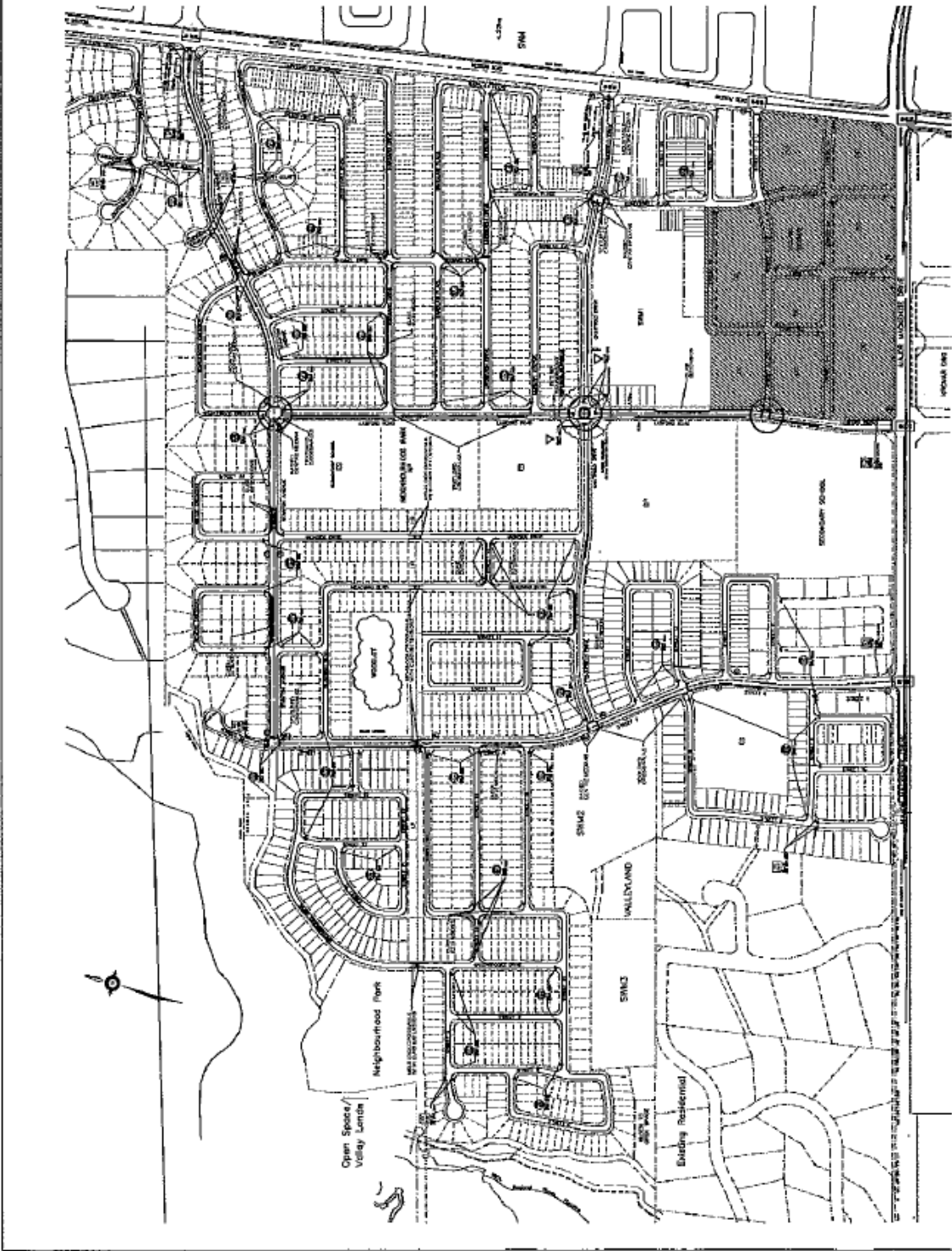
Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering
and Public Works

Andrew Pearce, C.E.T.
Director of Development/
Transportation Engineering



- LEGEND**
- CS - ELEMENTARY SCHOOL
 - IS - INTERMEDIATE SCHOOL
 - NS - NEIGHBORHOOD PARK
 - UP - UPRIDE PARK
 - US - WALKWAY SIGNAL
 - 1 - PROPOSED TRAFFIC SIGNALS
 - 2 - PROPOSED TRAFFIC SIGNALS
 - 3 - TRAFFIC SIGNALS
 - 4 - IMPROVED TRAFFIC SIGNALS
 - 5 - IMPROVED TRAFFIC SIGNALS
 - 6 - IMPROVED TRAFFIC SIGNALS
 - 7 - IMPROVED TRAFFIC SIGNALS
 - 8 - IMPROVED TRAFFIC SIGNALS
 - 9 - IMPROVED TRAFFIC SIGNALS
 - 10 - IMPROVED TRAFFIC SIGNALS
 - 11 - IMPROVED TRAFFIC SIGNALS
 - 12 - IMPROVED TRAFFIC SIGNALS
 - 13 - IMPROVED TRAFFIC SIGNALS
 - 14 - IMPROVED TRAFFIC SIGNALS
 - 15 - IMPROVED TRAFFIC SIGNALS
 - 16 - IMPROVED TRAFFIC SIGNALS
 - 17 - IMPROVED TRAFFIC SIGNALS
 - 18 - IMPROVED TRAFFIC SIGNALS
 - 19 - IMPROVED TRAFFIC SIGNALS
 - 20 - IMPROVED TRAFFIC SIGNALS
 - 21 - IMPROVED TRAFFIC SIGNALS
 - 22 - IMPROVED TRAFFIC SIGNALS
 - 23 - IMPROVED TRAFFIC SIGNALS
 - 24 - IMPROVED TRAFFIC SIGNALS
 - 25 - IMPROVED TRAFFIC SIGNALS
 - 26 - IMPROVED TRAFFIC SIGNALS
 - 27 - IMPROVED TRAFFIC SIGNALS
 - 28 - IMPROVED TRAFFIC SIGNALS
 - 29 - IMPROVED TRAFFIC SIGNALS
 - 30 - IMPROVED TRAFFIC SIGNALS
 - 31 - IMPROVED TRAFFIC SIGNALS
 - 32 - IMPROVED TRAFFIC SIGNALS
 - 33 - IMPROVED TRAFFIC SIGNALS
 - 34 - IMPROVED TRAFFIC SIGNALS
 - 35 - IMPROVED TRAFFIC SIGNALS
 - 36 - IMPROVED TRAFFIC SIGNALS
 - 37 - IMPROVED TRAFFIC SIGNALS
 - 38 - IMPROVED TRAFFIC SIGNALS
 - 39 - IMPROVED TRAFFIC SIGNALS
 - 40 - IMPROVED TRAFFIC SIGNALS
 - 41 - IMPROVED TRAFFIC SIGNALS
 - 42 - IMPROVED TRAFFIC SIGNALS
 - 43 - IMPROVED TRAFFIC SIGNALS
 - 44 - IMPROVED TRAFFIC SIGNALS
 - 45 - IMPROVED TRAFFIC SIGNALS
 - 46 - IMPROVED TRAFFIC SIGNALS
 - 47 - IMPROVED TRAFFIC SIGNALS
 - 48 - IMPROVED TRAFFIC SIGNALS
 - 49 - IMPROVED TRAFFIC SIGNALS
 - 50 - IMPROVED TRAFFIC SIGNALS
 - 51 - IMPROVED TRAFFIC SIGNALS
 - 52 - IMPROVED TRAFFIC SIGNALS
 - 53 - IMPROVED TRAFFIC SIGNALS
 - 54 - IMPROVED TRAFFIC SIGNALS
 - 55 - IMPROVED TRAFFIC SIGNALS
 - 56 - IMPROVED TRAFFIC SIGNALS
 - 57 - IMPROVED TRAFFIC SIGNALS
 - 58 - IMPROVED TRAFFIC SIGNALS
 - 59 - IMPROVED TRAFFIC SIGNALS
 - 60 - IMPROVED TRAFFIC SIGNALS
 - 61 - IMPROVED TRAFFIC SIGNALS
 - 62 - IMPROVED TRAFFIC SIGNALS
 - 63 - IMPROVED TRAFFIC SIGNALS
 - 64 - IMPROVED TRAFFIC SIGNALS
 - 65 - IMPROVED TRAFFIC SIGNALS
 - 66 - IMPROVED TRAFFIC SIGNALS
 - 67 - IMPROVED TRAFFIC SIGNALS
 - 68 - IMPROVED TRAFFIC SIGNALS
 - 69 - IMPROVED TRAFFIC SIGNALS
 - 70 - IMPROVED TRAFFIC SIGNALS
 - 71 - IMPROVED TRAFFIC SIGNALS
 - 72 - IMPROVED TRAFFIC SIGNALS
 - 73 - IMPROVED TRAFFIC SIGNALS
 - 74 - IMPROVED TRAFFIC SIGNALS
 - 75 - IMPROVED TRAFFIC SIGNALS
 - 76 - IMPROVED TRAFFIC SIGNALS
 - 77 - IMPROVED TRAFFIC SIGNALS
 - 78 - IMPROVED TRAFFIC SIGNALS
 - 79 - IMPROVED TRAFFIC SIGNALS
 - 80 - IMPROVED TRAFFIC SIGNALS
 - 81 - IMPROVED TRAFFIC SIGNALS
 - 82 - IMPROVED TRAFFIC SIGNALS
 - 83 - IMPROVED TRAFFIC SIGNALS
 - 84 - IMPROVED TRAFFIC SIGNALS
 - 85 - IMPROVED TRAFFIC SIGNALS
 - 86 - IMPROVED TRAFFIC SIGNALS
 - 87 - IMPROVED TRAFFIC SIGNALS
 - 88 - IMPROVED TRAFFIC SIGNALS
 - 89 - IMPROVED TRAFFIC SIGNALS
 - 90 - IMPROVED TRAFFIC SIGNALS
 - 91 - IMPROVED TRAFFIC SIGNALS
 - 92 - IMPROVED TRAFFIC SIGNALS
 - 93 - IMPROVED TRAFFIC SIGNALS
 - 94 - IMPROVED TRAFFIC SIGNALS
 - 95 - IMPROVED TRAFFIC SIGNALS
 - 96 - IMPROVED TRAFFIC SIGNALS
 - 97 - IMPROVED TRAFFIC SIGNALS
 - 98 - IMPROVED TRAFFIC SIGNALS
 - 99 - IMPROVED TRAFFIC SIGNALS
 - 100 - IMPROVED TRAFFIC SIGNALS



ATTACHMENT No. 1
 SCALE 1:1000
BLOCK 40 (SOUTH)
 TRANSPORTATION
 MANAGEMENT/DESIGN PLAN

