

# CITY of NOVI CITY COUNCIL

**Agenda Item H**  
**August 22, 2011**

**SUBJECT:** Approval of Traffic Control Orders 11-21 through 11-28 for traffic control signage within Lochmoor Village subdivision.

**SUBMITTING DEPARTMENT:** Department of Public Services, Engineering Division *gpc*

**CITY MANAGER APPROVAL:** *[Signature]*

**BACKGROUND INFORMATION:**

On August 8, 2011, City Council approved a request by the Lochmoor Village Homeowners Association to remove the conditions under paragraph 7 of the agreement requiring the Association to pay the City for the cost of replacing the existing decorative signs with standard signs upon termination of the agreement and to terminate the Street Sign Agreement with the City of Novi dated March 12, 1998. Staff recommended approval of the request as an opportunity to upgrade the signage within the subdivision to meet the new sign requirements that are pending from the Federal Highway Administration (see attached Coburn memo dated July 26, 2011 for additional information).

In reviewing the existing signage, staff determined that traffic control orders were not adopted for many of the signs within the subdivision. Traffic Control Orders are required under the Uniform Traffic Code to enforce traffic control signs that have been installed. Therefore, staff has reviewed the existing signs for compliance with standards and prepared traffic control orders (as detailed below).

In addition, the intersections of the U-shaped street at the corner of Lochmoor and Groveland were determined to require stop signs due to sight distance concerns. The traffic control orders for these intersections are also included for consideration (see attached August 4, 2011 Birchler Arroyo Memorandum for additional information).

TCO No.	Description	TCO No.	Description
11-21	Northbound Groveland to Yield at Glenmoor	11-25	Westbound Glenmoor to Yield at Lochmoor Lane
11-22	Westbound Glenmoor to Yield at Mulberry Lane	11-26	Westbound Glenhurst to Yield at Groveland
11-23	Southbound Mulberry Lane to Yield at Groveland	11-27	Eastbound Woodruff to Yield at Lochmoor Lane
11-24	Northbound Mulberry Lane to Yield at Glenmoor	11-28	Northbound Lochmoor/Groveland U-street to Stop at Lochmoor Lane (2 locations)

**RECOMMENDED ACTION:** Approval of Traffic Control Orders 11-21 through 11-28 for traffic control signage within Lochmoor Village subdivision.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Gatt				
Council Member Fischer				
Council Member Margolis				

	1	2	Y	N
Council Member Mutch				
Council Member Staudt				
Council Member Wrobel				

7/11/11

To: Mayor and City  
Council members

FYI on work to comply with new signage standards and request from Lochmoor Village HOA to revert to City standard signs. We suggest that the City take on the cost (about \$1,400) for installing these and take the signage into City management/control, unless subs want to make their decorative signage reflective (at their cost).  
Clay

## MEMORANDUM

CLAY PEARSON, CITY MANAGER

BRIAN GOBURN, P.E.; ENGINEERING MANAGER *B.G.*

LOCHMOOR VILLAGE DECORATIVE SIGN AGREEMENT

JULY 26, 2011

  
cityofnovi.org

We are in receipt of the enclosed request from Lochmoor Village Homeowner's Association to terminate the Street Sign Agreement that was approved by the City in March 1998. The Association is requesting that the City remove and replace the existing wood decorative street signs with city standard signs at no cost to the Association.

The attached March 12, 1998 agreement allows either party to terminate the agreement, but specifically requires the Association to pay the City for the cost of replacing the signs in the subdivision with standard signs. Staff believes that the request presents an opportunity to upgrade the signage within the subdivision to meet the pending retroreflectivity requirements.

As reported over the past several years, the Federal Highway Administration (FHWA) has mandated new retroreflectivity requirements. Retroreflectivity is the ability of a surface to return light back to its source (i.e., signs and pavement markings reflecting light from headlights back toward the driver's eyes). The requirements were included in the latest revision to the Manual of Uniform Traffic Control Devices (MUTCD) and became effective in January 2008. The requirements include the following milestones:

- Agencies must establish and implement a sign assessment or management method to maintain minimum levels of sign reflectivity by January 2012.
- Agencies must meet the minimum retroreflectivity requirements on regulatory (such as stop, speed limit and no parking signs), warning and guide signs by January 2015.
- Agencies must meet the minimum retroreflectivity requirements for street name signs by January 2018.

An updated compliance plan for the City of Novi is attached showing the progress that has been made since 2009. Also enclosed is additional information from FHWA on retroreflectivity.

Many of the decorative signs that are currently installed within subdivisions under street sign agreements do not meet the new FHWA requirements, including the signs in Lochmoor Village. Within the coming months, staff plans to initiate communication with the representatives of subdivisions that currently have street sign agreements to inform/educate them on the new requirements and start working with the subdivisions toward compliance with the new standards. One option that would facilitate compliance would be for the City to waive the portion of the agreements requiring reimbursement for the installation of city standard signage. If the subdivision opts to maintain decorative signage, the subdivision would be required to make the necessary improvements to meet the new standards at their own cost.

City Council has approved \$50,000 in funding this fiscal year for retroreflectivity improvements to existing City signage. A portion of these funds could be used to replace the signs in Lochmoor Village (and other subdivisions) for compliance with the new requirements. The funding would provide an incentive for the subdivision to terminate existing street sign agreements in favor of city installation of standard signage.

We plan to present this for City Council consideration on a future agenda because they are requesting a modification of the terms for terminating the agreement.

cc: Victor Cardenas, Assistant City Manager  
Rob Hayes, P.E.; Director of Public Services

# Lochmoor Village Homeowner's Association

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## *Street Sign Agreement Termination Request*

Dear Esteemed Members of the Novi City Council,

The Lochmoor Village Homeowner's Association has voted to terminate the Street Sign Agreement entered with the City of Novi in March of 1998. According to paragraph seven of the Agreement, either party can terminate the Agreement with written notice.

The Lochmoor Village Homeowner's Association has upheld all city requirements according to the agreement, and ask at this time that the City will erect standard street signs in place of the current decorative street signs previously placed and maintained by the Subdivision. We are requesting that the City complete the sign replacement at no cost to the Association as we have upheld the agreement and maintained the signs – at no cost to the city – since the date of the Agreement.

We thank you for your consideration in this matter and hope for an affirmative decision by the Council.

Regards,

Lochmoor Village Homeowner's Association Board:

Jason Smith; President  
Adam Snider; Vice President  
Tracey Weidner; Secretary  
Tracey Marzonie; Treasurer  
Patty Sheeran; Member At Large  
Yednesh Parniak; Member At Large

## STREET SIGN AGREEMENT

Made this 12 day of March, 1998 by and between the City of Novi, a Michigan municipal corporation, whose principal offices are located at 45175 West Ten Mile Road, Novi, Michigan 48375 ("City"), and the Lockwood Subdivision Homeowners Association, a Michigan non-profit corporation, the address of which is \_\_\_\_\_ ("Association").

WHEREAS, the Association desires to construct, pay for and maintain street signs and supports within the Lockwood Subdivision so that the signs will be more aesthetically, pleasing, and compatible with the subdivision than standard street signs.

WHEREAS, Section 31-55 of the Novi Code of Ordinances allows the placement of street signs within a subdivision by a subdivision association so long as the association placing them agrees to the terms and conditions of this Agreement.

NOW THEREFORE, the parties agree:

1. If the Association desires to construct and place street signs in the interior of its subdivision, it shall submit its proposed plans and specifications to the Superintendent of the City of Novi Department of Public Works ("Superintendent") and obtain approval for the signs before the placement of any signs. Only signs that have been approved for placement shall actually be placed and maintained in the right-of-way.

2. Any signs placed in the right-of-way pursuant to this Agreement shall be of the height, size, and design and be located as prescribed by the most recent edition of the Michigan Manual of Uniform Traffic Control Devices, as amended. The Superintendent shall require that all signs and their supports shall conform to the applicable City, State

and Federal standards in respect to safety. Any deviation from the standards of the Code shall only be from standards unrelated to safety, and only with the consent of the Superintendent.

3. Signs placed pursuant to this Agreement shall be at the sole cost of the Association. Once signs are placed, they shall be maintained, repaired and replaced, as necessary, at the sole cost of the Association.

4. The Association shall immediately repair, replace or re-erect any sign damaged, knocked down or destroyed. The City may at any time place a temporary standard traffic sign until the Association has acted to repair, replace or re-erect the sign. Any temporary sign shall be returned to the City by the Association.

5. If upon receiving notice to repair or replace a traffic sign erected pursuant to this Agreement, the Association fails to do so for a period of fourteen (14) days, the City may replace any or all of the signs in the subdivision with standard signs, and the right to place other signs as provided herein shall be lost.

6. The purposes of this Agreement in allowing the Association to place traffic signs in the right-of-way is as a privilege and shall not constitute any right to any compensation, damages or claims against the City for any cost associated with the traffic signs so erected. If the traffic signs erected by the Association are taken down and replaced by signs as provided herein, the City shall have no responsibility as far as any cost, payment or other obligation whatsoever.

7. The parties may at any time agree to terminate this Agreement, or the City, upon thirty (30) days written notice, may terminate the Agreement for reasons of safety or

poor maintenance of the signs by the Association, and the City shall have no responsibility to the Association other than to return the signs to the Association. The Association shall pay the City within-thirty (30) days of receiving a bill, the cost of replacing the signs with standard signs, which cost, if not paid, may be prorated among the lots in the subdivision and added to the assessment rolls. The Association shall demonstrate to the satisfaction of the City Attorney that there exists within the Association's by-laws, or within the restrictive covenants applicable to said subdivision, the authority for such assessment.

8. Upon approval by the City and completion of the installation of the signs, the Association agrees to save harmless, indemnify, represent and defend the City from any and all claims for bodily injury or property damage or any other claim relating to or arising out of the design, placement or existence of signs within City right-of-way, except for claims arising out of the sole negligence of the City, its employees and agents.

9. The provisions of this Agreement shall inure to the benefit of and be binding upon the parties hereto, their successors and assigns.

WITNESS:

CITY OF NOVI

Mary Ann Cabadas  
MARY ANN CABADAS

Kathleen McLallen  
KATHLEEN McLALLEN - MAYOR

Nancy A. Reutter  
NANCY A. REUTTER

Tonni Bartholomew  
TONNI BARTHOLOMEW - CITY CLERK



Lodamoor SUBDIVISION  
HOMEOWNER'S ASSOCIATION

Bryan P. Wallace  
Bryan P. Wallace  
C. Paul  
Cheryl Paulowski

Marianne P. Ralap  
BY: Marianne Ralap  
ITS: Board Member

STATE OF MICHIGAN )  
) SS  
COUNTY OF OAKLAND )

*Marianne Ralap* On this 19 day of March, 1998 before me, a Notary Public, personally appeared Marianne Ralap as the Board Member of the Lodamoor Homeowners Association, a Michigan non-profit corporation, who after being first duly sworn, acknowledged that foregoing Agreement to be the free act and deed of said corporation and further represents that he was authorized to execute the same on behalf of the corporation and that such execution was in the ordinary course of carrying on the corporation business.

Shirley Henry  
Notary Public  
Oakland County, Michigan  
My Commission Expires 03/27/00

STATE OF MICHIGAN )  
) SS  
COUNTY OF OAKLAND )

On this 16 day of April, 1998 before me, a Notary Public, personally appeared Kathleen McLallen and Tonni Bartholomew, respectively the Mayor and City Clerk of the City of Novi, Oakland County, Michigan, a Michigan municipal corporation, who after being first duly sworn, acknowledged the foregoing Agreement and executed same on behalf of the City.

Mary Ann Cabadas  
Notary Public  
Oakland County, Michigan  
My Commission Expires: \_\_\_\_\_

MARY ANN CABADAS  
NOTARY PUBLIC - OAKLAND COUNTY, MICH.  
MY COMMISSION EXPIRES 10-5-98

AUG. 20. 2002 8:48AM

NOVI CITY CLERKS OFFICE

*Old Village Signs*

NO. 0766 P. 7

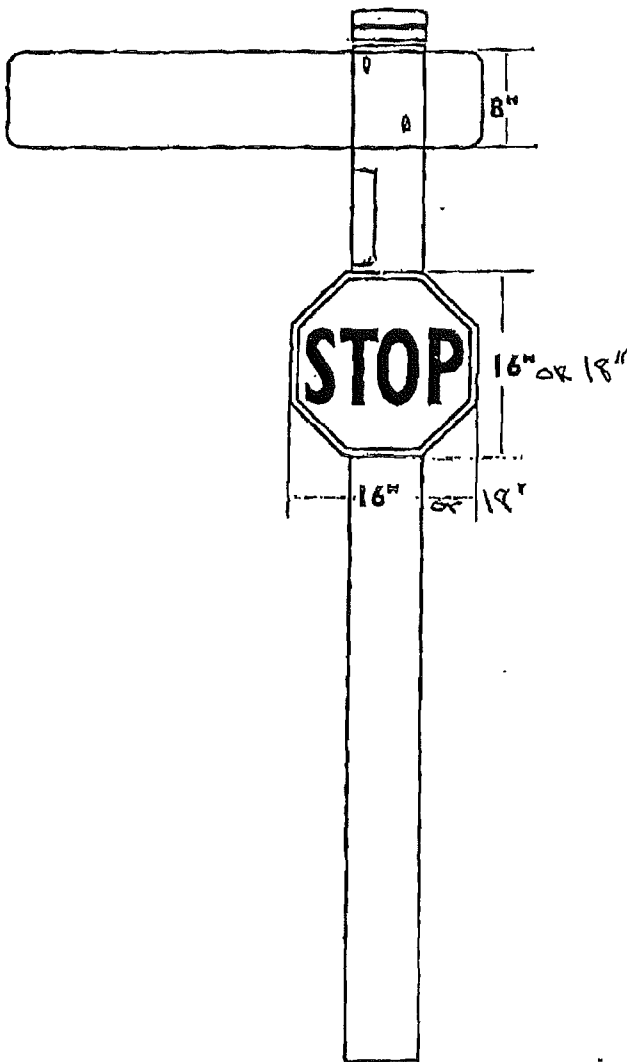
(313) 453-8136

fax 453-6515

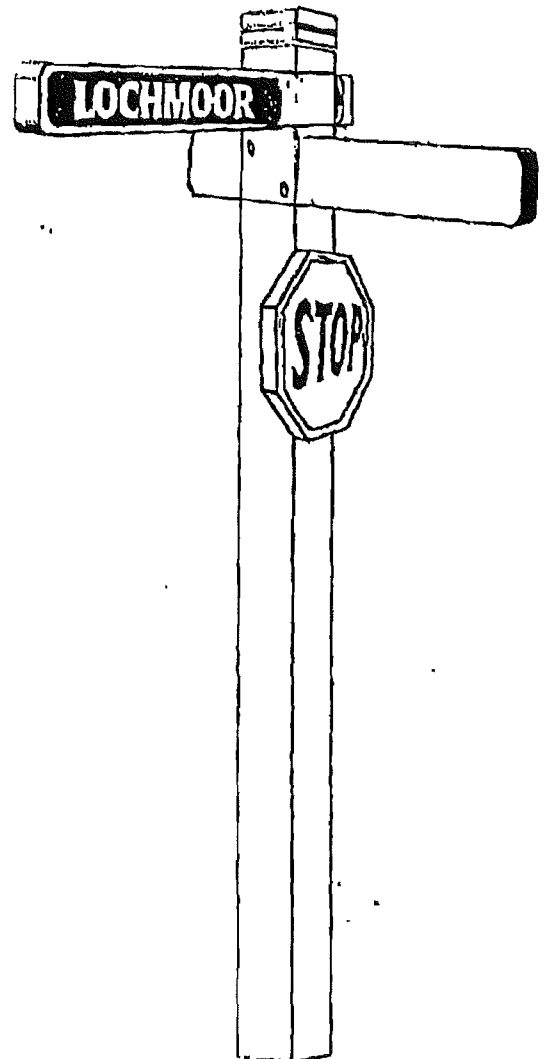
*Proposal*

41701 WILCOX RD.  
PLYMOUTH MI.

SUBMITTED	CONTACT	DATE
PHONE	ADDRESS	TERMS 50% deposit balance C.O.D.
DESCRIPTION <i>D STREET SIGN WITH 16"x16" OCTAGON "STOP" SIGN S/B &amp; INSTALLED</i>		
PRICE <i>\$685.00</i>		



6"X6" POSTS



AUG. 20. 2002 8:49AM

NOVI CITY CLERKS OFFICE  
*Via Village Signs.*

12:30 x

NO. 0766 P. 8

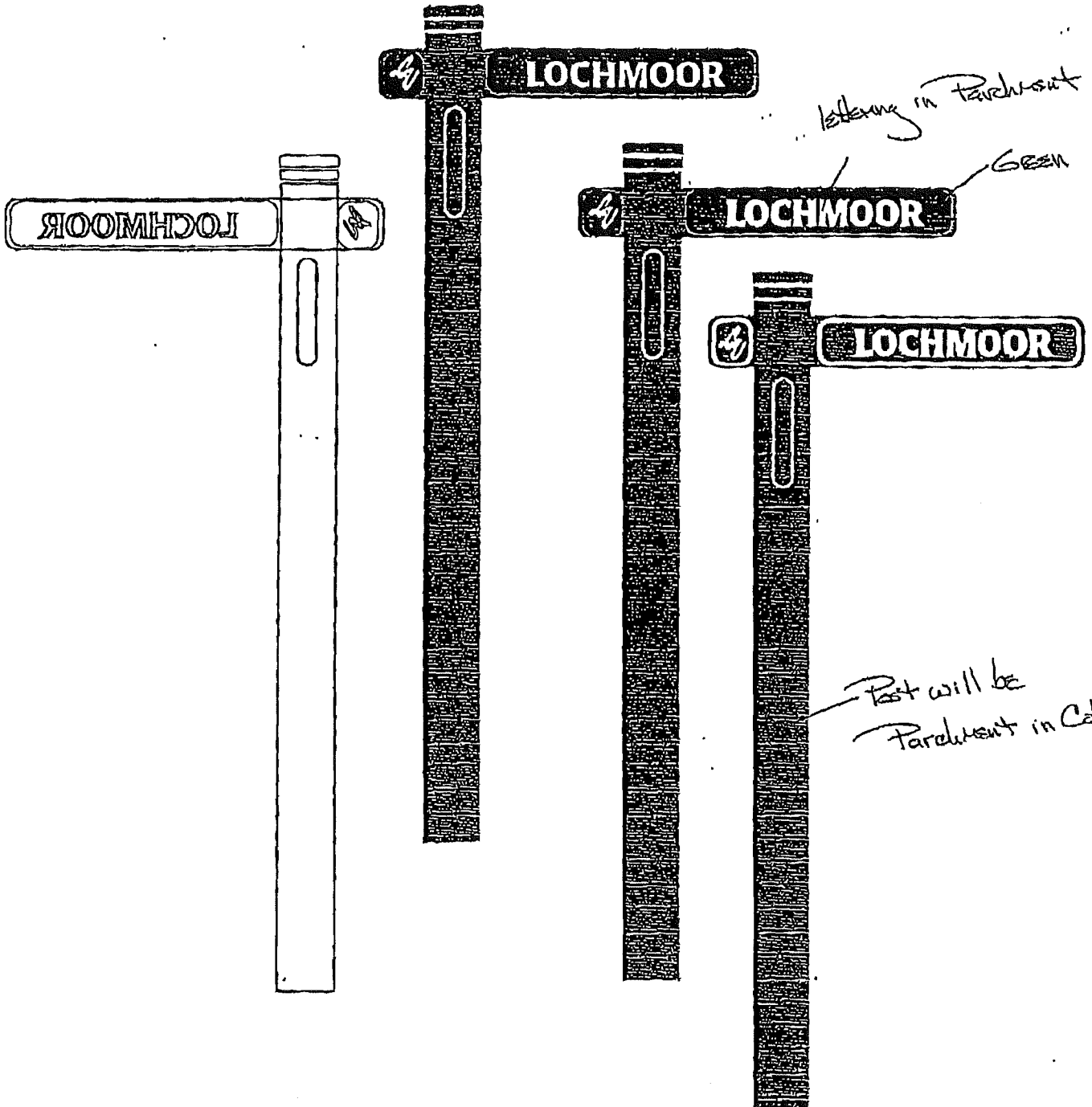
(313) 453-8136

fax 453-6515

# Proposal

41701 WILCOX RD.  
PLYMOUTH MI.

SUBMITTED TO <i>LOCHMOOR</i>	CONTACT	DATE <i>2/2/98</i>
PHONE	ADDRESS	TERMS 50% deposit balance C.O.D.
DESCRIPTION <i>2 STATED 2 PLAQUES INSTALLED ON 6" x 6" POSTS</i>		
PRICE <i>2,997.59 + TAX ON MATLS.</i>		



# SIGN INVENTORY RETROREFLECTIVITY COMPLIANCE PLAN

October 9, 2008  
Updated July 26, 2011

## Phase 1-Inventory Location of Existing Signs (October 2008-March 2009)

- Currently underway through contract with SMP
- Deliverable will include:
  - o Location, MMUTCD type and size in GIS
  - o Images of all signs
  - o Roadside image every 20 feet on all City public roads
- Final product delivered by March 31, 2009.

## Phase 2-Maintenance and Use of Sign Inventory (April 2009-September 2010)

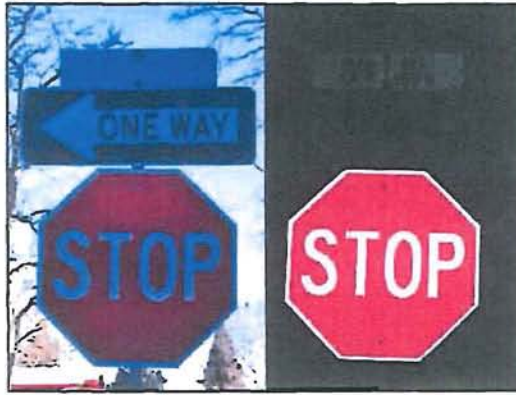
- Develop procedure to maintain the sign inventory
  - o DPS-Field Operations to notify GIS of new signs and removed signs
  - o New signs to be added to inventory upon acceptance of new streets
- Research the traffic control order for each regulatory sign to add to the GIS data. (This will serve as a good check to make sure that the sign has a TCO).
- Develop procedure to implement traffic control orders for signs on new streets
- Develop a multi-year plan and cost estimate for the replacement of nonconforming signs in time for budget discussion. (The pilot study proposed in FY2009-10 will provide cost information to determine feasibility of completing the work in house or by using contractors)
- Identify signs that do not comply with the MMUTCD.
- Use the database to identify opportunities for trailblazing signs to direct visitors to attractions, city facilities and freeways.

## Phase 3-Procedural, Policy and Ordinance Changes/Development of Compliance Plan (Complete by January 2012)

- Develop and implement ordinance revisions requiring developers to install signs that meet the requirements. **(IN PROGRESS)**
- Revise the decorative sign ordinance and agreements to meet the new requirements **(IN PROGRESS)**
- Develop public relations campaign with subdivisions to educate on new requirements and develop a compliance plan for non-conforming street name signs.
- Submit capital improvement project descriptions and budgets for sign replacements beginning with FY 2010-11.

## Phase 4-Implementation of Compliance Plan (June 2010-December 2015)

- Begin implementation of multi-year sign replacement plan to comply with requirements. **(IN PROGRESS)**



### It's All About Safety

Providing retroreflective delineation and signing is important as a means of reducing the higher nighttime crash rates. Signs that have sufficient retroreflectivity during nighttime conditions are especially beneficial to older road users. Safe and efficient highways are a benefit to the motoring public and the health and viability of a community.

### More Information

Additional information regarding nighttime visibility can be found at: [www.fhwa.dot.gov/retro](http://www.fhwa.dot.gov/retro).

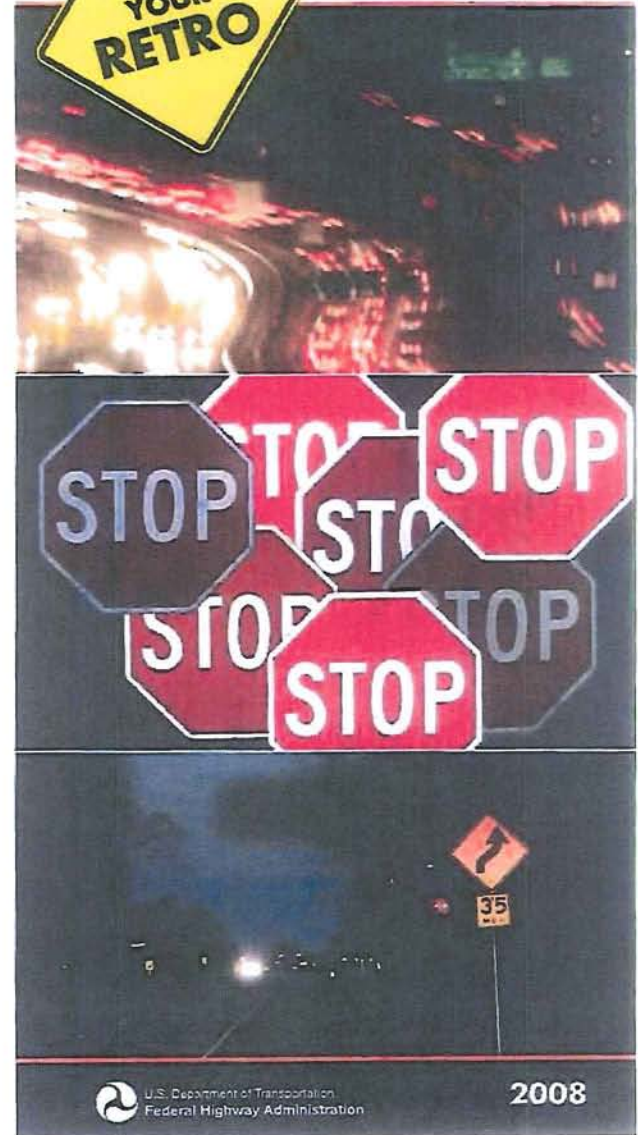
This web site includes:

- A sign sheeting ID guide
- FAQs
- Methods to maintain sign retroreflectivity
- Research reports
- Presentations



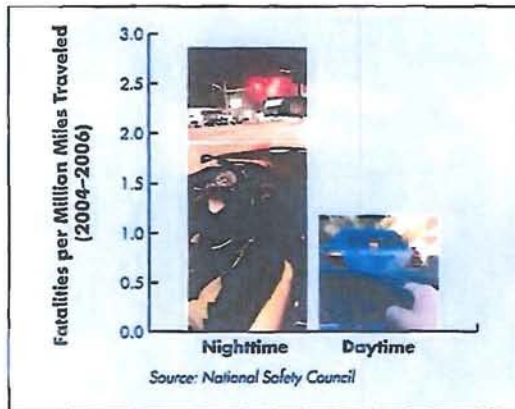
FHWA-SA-08-001

## New Sign Retroreflectivity Requirements



## Night Travel and Crashes

One of the Federal Highway Administration's (FHWA's) primary missions is to improve safety on the nation's roadways. Approximately 42,000 people have been killed on American roads during each of the past eight years. While only one-quarter of all travel occurs at night, about half of the traffic fatalities occur during nighttime hours. To address this disparity, the FHWA has adopted new traffic sign retroreflectivity requirements.



Nighttime visibility of traffic control devices is becoming increasingly important as our population ages. By the year 2020, about one-fifth of the U.S. population will be 65 years of age or older. In general, older individuals have declining vision and slower reaction times. Signs that are easier to see and read at night can help older drivers retain their freedom of mobility and remain independent.



Retroreflective sheeting degrades over time. Daytime visual inspections cannot be used to assess retroreflectivity.

## New National Requirements

The *Manual on Uniform Traffic Control Devices* (MUTCD) is the national standard for all traffic control devices on any street or highway open to public travel.

The MUTCD requires signs to be either illuminated or made with retroreflective sheeting materials. Most signs in the U.S. are made with retroreflective sheeting materials, which degrade over time and therefore have a limited life. Until now, there has been little information available to determine when signs need to be replaced based on retroreflectivity.

Revision number two of the 2003 Edition of the MUTCD introduces new language establishing minimum retroreflectivity levels that must be maintained for traffic signs. The new MUTCD language and changes are highlighted on the MUTCD web page: <http://mutcd.fhwa.dot.gov/>.



Sign weathering racks used to measure durability.

## Adding Flexibility

The MUTCD now requires that agencies maintain traffic signs to a set of minimum levels but provide a variety of maintenance methods that agencies can use to be in compliance with the new MUTCD requirements. The FHWA believes that the new MUTCD language will promote safety while providing flexibility for agencies to choose a maintenance method that best fits their specific conditions.

The minimum retroreflectivity requirements do not imply that an agency must measure every sign. Rather, the new MUTCD language describes methods that agencies can use to maintain traffic sign retroreflectivity at or above the minimum levels.



Agencies have until **January 2012** to **establish and implement a sign assessment or management method to maintain minimum levels of sign retroreflectivity.** The

compliance date for meeting the minimum retroreflectivity requirements on regulatory, warning, and ground-mounted guide signs is January 2015. For overhead guide signs and street name signs, the compliance date is January 2018.

## Retroreflective Sheeting Materials

ASTM D4956 describes the types of retroreflective sheeting materials that can be used on traffic signs. The new MUTCD minimum retroreflectivity requirements refer to sheeting types as defined in ASTM D4956. Sheeting types that can be used according to the new requirements are as follows (current as of March 2008):

- All prismatic sheeting materials may be used for all signs.
- High Intensity Beaded (Type III) and Super Engineer Grade (Type II) may be used for all signs except for the white legend on overhead guide signs.
- Engineer Grade (Type I) may be used for all signs except for:
  - the white legend on guide signs,
  - the white legend on street name signs, and
  - all yellow and orange warning signs.

Even though a particular type of sheeting might initially meet the minimum retroreflectivity levels when new, it might quickly degrade to below the minimum retroreflectivity levels.

The use of higher performance sheeting, even though it has a higher initial cost, might provide a better life-cycle cost for the agency.

The FHWA has developed a sheeting ID guide and has posted it at: [www.fhwa.dot.gov/retro](http://www.fhwa.dot.gov/retro)

# Proposed Traffic Control Orders

Lochmoor Village



Map Author: Brian Coburn  
 Date: 8/12/11  
 Project:  
 Version #: 2

**MAP INTERPRETATION NOTICE**

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

**Map Legend**

**Sign Locations in Lochmoor Village**

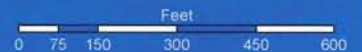
- EXISTING
- PROPOSED

Lochmoor Village



**City of Novi**

Engineering Division  
 Department of Public Services  
 26300 Delwal Drive  
 Novi, MI 48375  
[cityofnovi.org](http://cityofnovi.org)



1 inch = 364 feet

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011

CONTROL NUMBER: 11-21

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**GROVELAND**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**NORTHBOUND GROVELAND TO YIELD AT GLENMOOR**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-21 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**NORTHBOUND GROVELAND TO YIELD AT GLENMOOR**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk



**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011  
CONTROL NUMBER: 11-22

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**GLENMOOR**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**WESTBOUND GLENMOOR TO YIELD AT MULBERRY LANE**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-22 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**WESTBOUND GLENMOOR TO YIELD AT MULBERRY LANE**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

           SPEED  
           PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011

CONTROL NUMBER: 11-23

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**MULBERRY LANE**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**SOUTHBOUND MULBERRY LANE TO YIELD AT GROVELAND**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-23 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**SOUTHBOUND MULBERRY LANE TO YIELD AT GROVELAND**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011  
CONTROL NUMBER: 11-24

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**MULBERRY LANE**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**NORTHBOUND MULBERRY LANE TO YIELD AT GLENMOOR**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-24 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**NORTHBOUND MULBERRY LANE TO YIELD AT GLENMOOR**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011

CONTROL NUMBER: 11-25

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**GLENMOOR**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**WESTBOUND GLENMOOR TO YIELD AT LOCHMOOR LANE**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-25 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**WESTBOUND GLENMOOR TO YIELD AT LOCHMOOR LANE**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011

CONTROL NUMBER: 11-26


PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**GLENHURST**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**WESTBOUND GLENHURST TO YIELD AT GROVELAND**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-26 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**WESTBOUND GLENHURST TO YIELD AT GROVELAND**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011

CONTROL NUMBER: 11-27

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**WOODRUFF**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE YIELD SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**EASTBOUND WOODRUFF TO YIELD AT LOCHMOOR LANE**



\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-27 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**EASTBOUND WOODRUFF TO YIELD AT LOCHMOOR LANE**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

**CITY OF NOVI  
TRAFFIC CONTROL ORDER**

\_\_\_\_\_ SPEED  
\_\_\_\_\_ PARKING  
  X   OTHER

DATE OF ORDER: 08/12/2011

CONTROL NUMBER: 11-28

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, ENGINEERING MANAGER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

**LOCHMOOR/GLENMOOR U STREET**

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE STOP SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

**NORTHBOUND LOCHMOOR/GLENMOOR U-STREET TO STOP AT LOCHMOOR LANE (2 LOCATIONS)**

  
\_\_\_\_\_  
Brian Coburn, P.E. - Traffic Engineer

Dated: 08/12/2011

**APPROVED BY CITY COUNCIL**

TRAFFIC CONTROL ORDER NUMBER 11-28 HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDERED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COPY THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

**NORTHBOUND LOCHMOOR/GLENMOOR U-STREET TO STOP AT LOCHMOOR LANE (2 LOCATIONS)**

ADOPTED AT THE REGULAR MEETING OF  
CITY COUNCIL ON 08/22/2011.

By: \_\_\_\_\_  
David Landry, Mayor

By: \_\_\_\_\_  
Maryanne Cornelius, Clerk

# MEMORANDUM

DATE: August 4, 2011

TO: Brian T. Coburn, P.E.  
Engineering Manager, City of Novi

FROM: Rodney L. Arroyo, AICP, Vice President  
William A. Stimpson, P.E., Director of Traffic Engineering

SUBJECT: Lochmoor Village Subdivision

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BIRCHLER ARROYO  
ASSOCIATES, INC.

At your request, we have evaluated the nine internal intersections in Lochmoor Village to determine the appropriate type of right-of-way traffic control sign (STOP, YIELD, or none). This memo summarizes our recommendations and supporting analyses.

## Recommendations

1. A STOP (R1-1) sign should be installed on both the north and south U-street approaches to Lochmoor Lane. The north sign should be installed in an appropriate location on the island requiring very little if any pruning of nearby trees to ensure sign visibility. The south sign should be installed north of the street tree in front of #25702, so that its occupants will not see the sign most of the year.
2. The existing YIELD (R1-2) signs at the subdivision's other seven intersections are appropriate given the corner sight distance now present, and should be retained.
3. The City should ensure that traffic control orders are on file supporting the seven existing YIELD signs and two recommended new STOP signs.

## Supporting Analyses

**Criteria** – The *Michigan Manual on Uniform Traffic Control Devices (MMUTCD)* limits what the City can legally do with respect to traffic control signs. That manual, in Section 2B.05, states that "STOP signs shall not be used for speed control." Traffic engineering experience and past research have shown that installing STOP signs specifically to control speeds often results in an excessive number of such signs, greater disrespect for them, more rolling stops, a false sense of security for pedestrians, and higher speeds between signs as drivers attempt to "make up for lost time."

The MMUTCD lists four specific conditions that *can* be used to justify the installation of a STOP sign:

- A. Intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;
- B. Street entering a through highway or street;
- C. Unsignalized intersection in a signalized area; and/or
- D. High speeds, restricted view, or crash records indicate a need for control by [a] STOP sign.



Also, "STOP signs should be installed in a manner that minimizes the numbers of vehicles having to stop. At intersections where a full stop is not necessary at all times, consideration should be given to using less restrictive measures such as YIELD signs."

The Road Commission for Oakland County (RCOC) has recommended a procedure for choosing between stop and yield control on the minor approach(es) to a local intersection, based on the available corner sight distance and resulting "Critical Approach Speed." We applied that procedure in this case, as we have previously at numerous intersections throughout Novi.

According to the RCOC, Critical Approach Speeds of 0-10 mph warrant a STOP sign and 10-30 mph warrant a YIELD sign. However, we look carefully at intersections where the CAS is 10-15 mph and use professional judgment to determine if a STOP sign would be a better choice than a YIELD sign.

**Findings** – The six internal intersections in the northern portion of Lochmoor Village are shown in the birdseye aerial photo presented below as Figure 1. The three remaining intersections, including (as two separate intersections) each U street approach to Lochmoor Lane, are shown in Figure 2.

Our determinations of Critical Approach Speed are summarized in Table 1. As can be seen, these speeds vary remarkably little among the seven "conventional" intersections, ranging from 17-20 mph – all comfortably within the recommended range for the existing YIELD signs. No signing changes at these intersections are therefore warranted on the basis of intersection sight distance.

Street-level visibility conditions exiting the Lochmoor U street are illustrated in Figures 3-6. Relative to southbound traffic on Lochmoor, drivers exiting the south side of the U street have an estimated Critical Approach Speed of 13 mph. This finding, together with the very limited visibility across the heavily landscaped island between drivers potentially approaching Lochmoor Lane simultaneously, warrant the installation of a STOP sign on each U street approach.

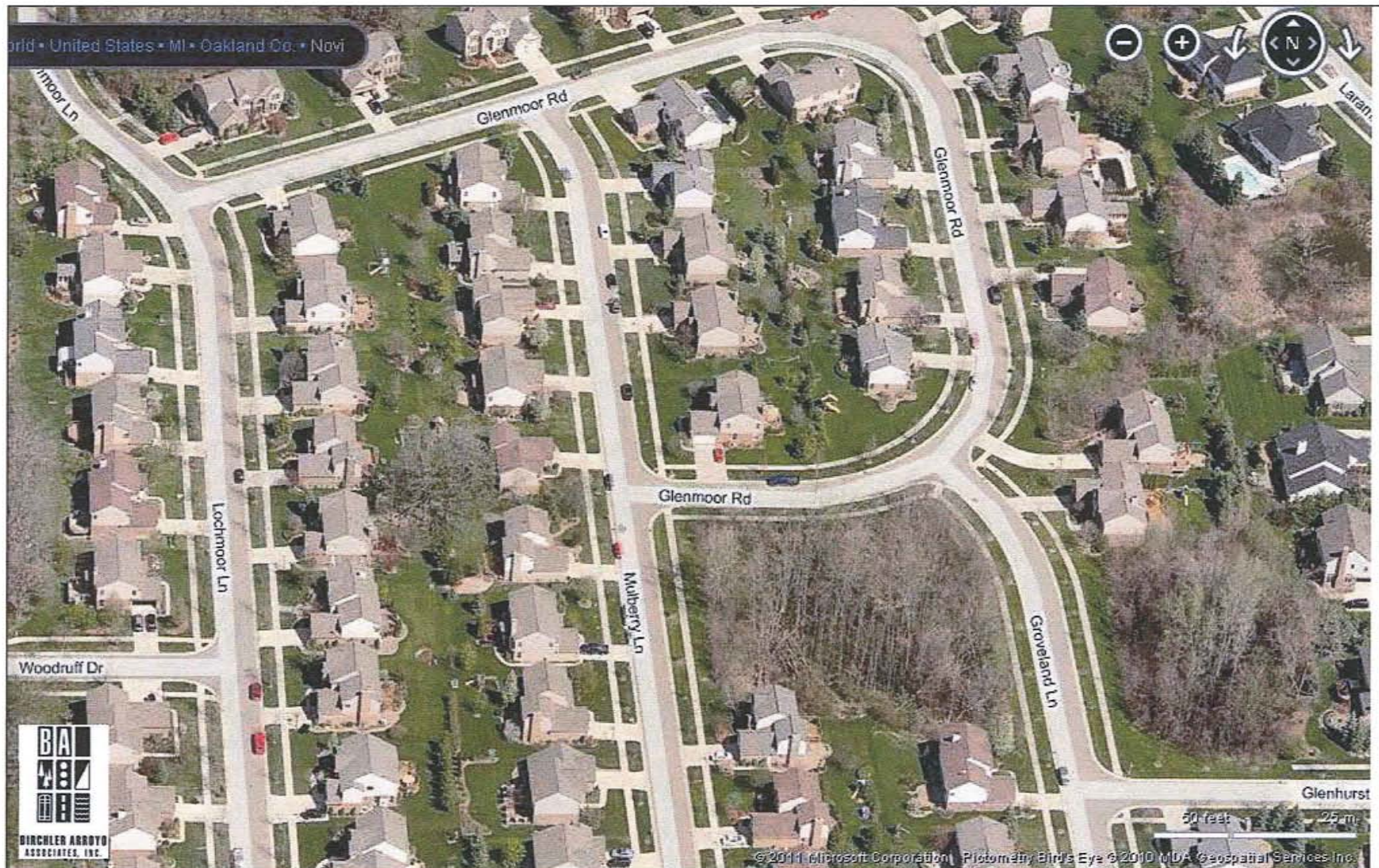


Figure 1. Northern Portion of Lochmoor Village Subdivision

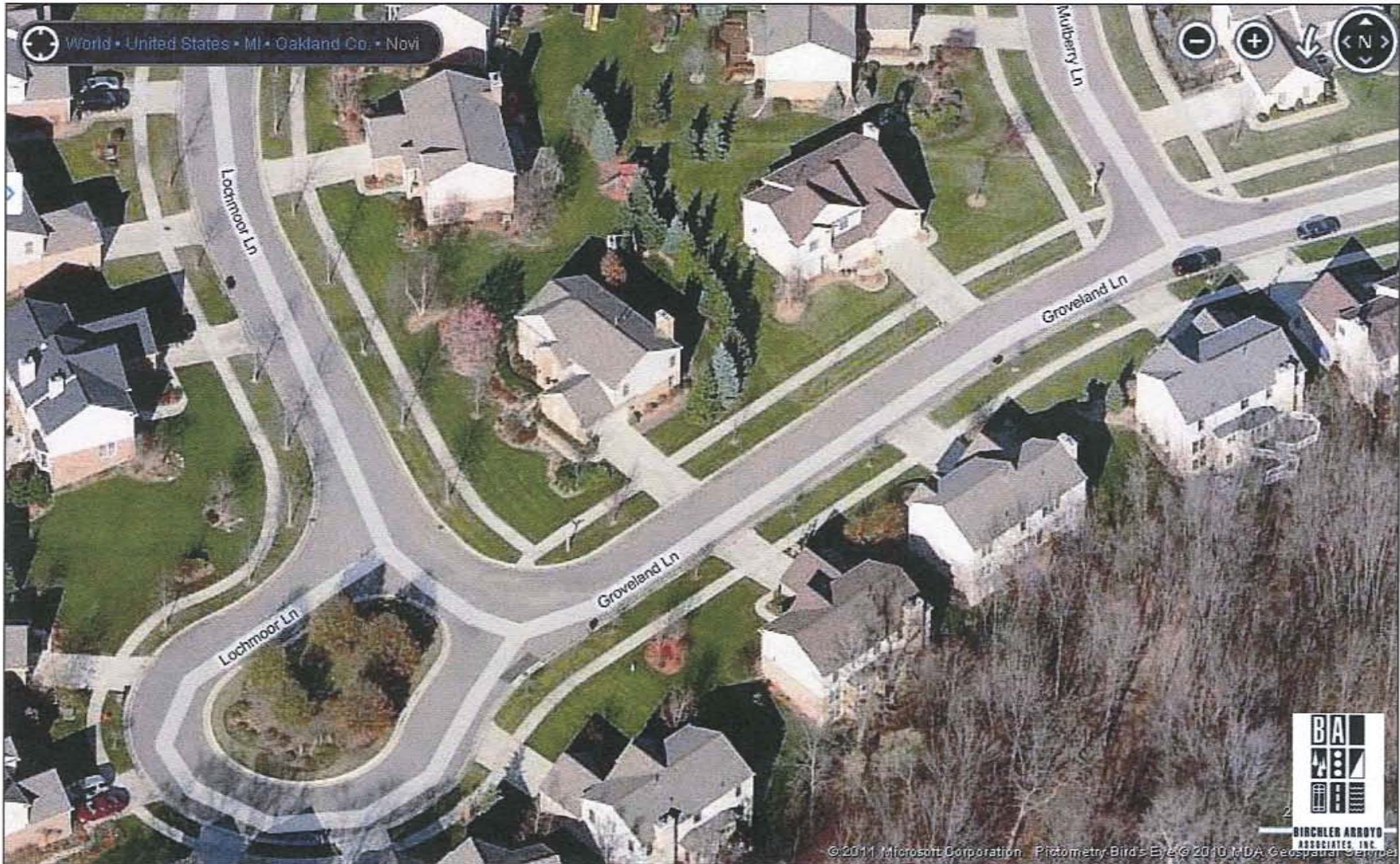


Figure 2. Southern Portion of Lochmoor Village Subdivision



Figure 3. Early View to North from South Side of Lochmoor U Street



Figure 4. Later View to North from South Side of Lochmoor U Street



Figure 5. Looking East from North Side of Lochmoor U Street



Figure 6. Looking South from North Side of Lochmoor U Street